



WORLD TRADE
ORGANIZATION

WORLD TRADE REPORT 2016

Levelling the trading
field for SMEs



What is the World Trade Report?

The World Trade Report is an annual publication that aims to deepen understanding about trends in trade, trade policy issues and the multilateral trading system.

What is the 2016 Report about?

The 2016 World Trade Report examines the participation of small and medium-sized enterprises (SMEs) in international trade, how the international trade landscape is changing for SMEs, and what the multilateral trading system does and can do to encourage more widespread and inclusive SME participation in global markets.

Find out more

Website: www.wto.org
General enquiries:
enquiries@wto.org
Tel: +41 (0)22 739 51 11

Contents

Acknowledgements and Disclaimer	2
Foreword by the WTO Director-General	3
Executive summary	5
A Introduction	12
1. SMEs in domestic economies	14
2. SME participation in trade: opportunities and challenges	20
3. Structure of the report	25
B SMEs in international trade: stylized facts	28
1. SME involvement in direct trade	31
2. SME involvement in indirect trade and global value chains	39
3. SME participation in international e-commerce	46
4. MSME trade participation over time	51
5. Conclusions	54
C Dynamics of internationalization processes of SMEs	56
1. Forms of internationalization by SMEs	58
2. Which firms export and why does foreign market access matter for SMEs?	61
3. The impact of internationalization on SME performance	64
4. Conclusions	74
D Trade obstacles to SME participation in trade	76
1. SME perceptions of barriers to access international markets	78
2. Trade policy and SMEs	83
3. Other major trade-related costs	91
4. ICT-enabled trade: benefits and challenges for SMEs	98
5. SME access to GVC-enabled trade	102
6. Conclusions	106
E Cooperative approaches to promoting SME participation in trade	112
1. Why support SMEs and seek to cooperate on them in trade agreements?	114
2. SMEs in regional trade agreements	116
3. SMEs in other international organizations	126
4. SMEs in the WTO	130
5. Conclusions	146
F Conclusions	150
Bibliography	152
Technical notes	164
Abbreviations and symbols	169
List of figures, tables and boxes	171
WTO members	175
Previous World Trade Reports	176

Acknowledgements

The *World Trade Report 2016* was prepared under the general responsibility of Xiaozhun Yi, WTO Deputy Director-General, and Robert Koopman, Director of the Economic Research and Statistics Division. This year the report was coordinated by Marc Bacchetta and Cosimo Beverelli. The authors of the report are Marc Auboin, Marc Bacchetta, Cosimo Beverelli, Barbara D'Andrea, Christophe Degain, Alexander Keck, Andreas Maurer, José-Antonio Monteiro, Coleman Nee, Roberta Piermartini and Robert Teh (Economic Research and Statistics Division); and Antonia Carzaniga, Joscelyn Magdeleine, Juan Marchetti, Lee Tuthill and Ruosi Zhang (Trade in Services and Investment Division).

Other written contributions were provided by Robert Anderson (Intellectual Property, Government Procurement and Competition Division), John Hancock (Economic Research and Statistics Division), Erik Wijkström (Trade and Environment Division), Hans-Peter Werner (Development Division) and by Famke Schaap and Jobien Hekking-Peters of the Dutch Centre for the Promotion of Imports from developing countries (CBI). Research inputs were provided by Abdullah Aswat, Vikram Bahure, Ronald Bouman, Maria Liliana Olarte, Javier Osuna Lopez, Wanlin Ren, Sina Schön, Harry Smythe and Virginie Trachsel. Additional charts and data were provided by Laura Bloodgood of the USITC, Ingo Borchert of the University of Sussex, Lucian Cernat of the European Commission, Frederic Gonzales and Hildegunn Nordås of the OECD, Batshur Gootiiz of Sustainable Development Consulting LLC, and Aaditya Mattoo of the World Bank.

Several divisions in the WTO Secretariat provided valuable input and comments on drafts. In particular, colleagues from the Trade and Environment Division, including Serra Ayral, Sajal Mathur and Devin

McDaniels, under the supervision of Hoe Lim, were closely involved at various stages in the preparation of the report. The authors also wish to acknowledge colleagues in the Agriculture and Commodities Division (Lee Ann Jackson), in the Council and Trade Negotiations Committee Division (Stefania Bernabé, María Pérez-Esteve and Michael Thompson), in the Development Division (Rainer Lanz and Michael Roberts), in the Economic Research and Statistics Division (Mark Koulen), in the Intellectual Property, Government Procurement and Competition Division (Antony Taubman and Jayashree Watal), in the Legal Affairs Division (Graham Cook and Gabrielle Marceau), in the Market Access Division (Marti Darlan), in the Rules Division (Jesse Kreier and Clarisse Morgan), and in the Office of the Director General (David Tinline), for advice received.

The following individuals from outside the WTO Secretariat also provided useful comments on early drafts of the report: Lucian Cernat, Michael Finger, Caroline Freund, Marion Jansen and colleagues from the International Trade Centre, Iza Lejárraja, Mia Mikic, Gaurav Nayyar, Hildegunn Nordås, Marcelo Olarreaga, Michele Ruta, Ben Shepherd, Robert Staiger, Joachim Wagner, and Tunc Uyanik and colleagues from the World SME Forum.

The production of the report was managed by Paulette Planchette of the Economic Research and Statistics Division in cooperation with Anthony Martin, Heather Sapey-Pertin and Helen Swain of the Information and External Relations Division. Helen Swain edited the report. The translators in the Languages, Documentation and Information Management Division worked hard to meet tight deadlines.

Disclaimer

The *World Trade Report* and any opinions reflected therein are the sole responsibility of the WTO Secretariat. They do not purport to reflect the opinions or views of members of the WTO. The main authors of the report also wish to exonerate those who have commented upon it from responsibility for any outstanding errors or omissions.

Foreword by the WTO Director-General

Trade is sometimes viewed as an economic activity that only favours larger companies. Certainly it is undeniable that trading internationally is often much more costly and difficult for micro, small and medium-sized enterprises (SMEs). The smaller the business, the bigger the barriers can seem.

Micro firms and SMEs account for the majority of firms in most countries (95 per cent on average), and for the vast majority of jobs. They figure prominently in most governments' social and economic policies. They also feature prominently in the new UN Sustainable Development Goals, which seek to encourage the growth of SMEs in order to promote inclusive and sustainable growth, full and productive employment and decent work for all.

So the significance of SMEs is beyond question yet, to date, SMEs have been largely absent from the broad trade debate. It seems that we may be missing an opportunity to support this vital part of every economy.

Relatively little is known about SME participation in trade, the determinants of their decisions to start exporting, or the benefits they may derive from internationalization. In the WTO context, SMEs have not figured very prominently over the years. A relatively small number of agreements have provisions that refer explicitly to SMEs.

This situation may be changing, however. Technological progress, through the expansion of e-commerce and the evolution of global value chains, is opening up new trading opportunities for SMEs. Regional agreements increasingly include SME provisions. Therefore it comes as no surprise that SME issues are increasingly being raised by WTO members. This report aims to support an informed discussion of the topic.

The report finds that SME participation in trade is typically weak. According to WTO calculations based on World Bank Enterprise Surveys covering over 25,000 SMEs in developing countries, direct exports represent just 7.6 per cent of total sales of SMEs in the manufacturing sector. This compares with 14.1 per cent for large manufacturing enterprises. In developed countries, on average, firms with fewer than 250 employees account for 78 per cent of exporters but only 34 per cent of exports.

On average, SMEs are less productive than large firms. Analysis conducted for this report estimates that SMEs in developing countries are 70 per cent less productive than large firms, and the evidence available

for developed countries suggests a similar picture. The lower productivity of SMEs is often attributed to their inability to take advantage of economies of scale, the difficulties they face in getting access to credit or investment, the lack of appropriate skills, and their informality.

Governments around the world are interested in facilitating the participation of SMEs in trade. This is because there is a strong belief that this may raise productivity, helping to stimulate employment and growth, and reduce poverty. The report shows that indeed, participation in trade typically goes hand in hand with higher productivity and growth, but that the relationship is not automatic.

Participation in trade can raise productivity in a variety of ways. Internationalization helps SMEs learn, evolve and exploit economies of scale, reinforcing growth and employment. Internationalization also increases the probability of SMEs' survival by diversifying their markets.

The report identifies a number of obstacles to SME participation in trade. Fixed market entry costs, such as access to information about foreign distribution networks, border regulations and standards, are the main barriers hindering SMEs from engaging in exporting activities. However, recent evidence suggests that all trading costs, including those that increase with the size of shipments, impede SME participation in trade more than that of larger firms.

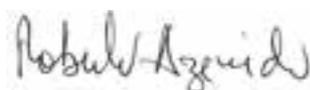
E-commerce and participation in global value chains are two ways in which SMEs can partially overcome these barriers and improve their participation in global trade. E-commerce allows SMEs to reach customers at much lower costs. Global value chains give SMEs a way to access foreign distribution networks and exploit economies of scale. Yet, SMEs face specific obstacles in seizing these opportunities. The main issues SMEs face with web sales relate to: the logistics of shipping a good or delivering a service; security and data protection; and payments. Among the major challenges SMEs face in joining global value chains are: logistic and infrastructure costs; regulatory uncertainty; and access to skilled labour.

So how can we remove the obstacles that seem to stand before SMEs? Although SMEs are not always specifically mentioned in WTO Agreements, multilateral rules have the effect of reducing trade costs that hinder SMEs from entering foreign markets. Evidence shows that without the disciplines of certain WTO agreements

(including the Agreement on Technical Barriers to Trade and the Agreement on the Application of Sanitary and Phytosanitary Measures), technical regulations and other standards would impose higher costs on firms to the detriment of SMEs. This is at least in part because it is easier and cheaper for large and potentially more efficient firms to comply with stringent technical requirements.

Evidence also suggests that trade facilitation holds particular benefits for SMEs, fostering their entry into international markets. By lowering a range of trade costs, in particular the cost of accessing information on rules and regulations in foreign markets, the WTO's Trade Facilitation Agreement addresses one of the main obstacles to SMEs exports. WTO rules also provide sufficient flexibility for national governments to take measures to remedy market failures that prevent these enterprises from participating in international trade. The WTO's capacity-building work, which tries to expand trading opportunities of its developing country members, puts a significant focus on SME internationalization. Other positive steps could be taken, for example to increase access to trade finance or to enhance transparency mechanisms to make it easier for SMEs to access essential information.

As WTO Director-General, I have always sought to make the work of the organization more inclusive but, over the years, I think that the interests of SMEs have sometimes been overlooked. This is an issue which members could seek to address and which could make a significant contribution to supporting growth, development and job creation. Whether further action is taken in favour of SMEs is for WTO members to determine. I hope this report will inform discussions and help to ensure that SMEs' interests are always remembered, so that we can continue building a more open and inclusive trading system, the benefits of which are available to all.



Roberto Azevêdo
Director-General

Executive summary

A. Introduction

The universe of small and medium-sized firms is very mixed.

In the majority of countries, small and medium-sized enterprises (SMEs) are defined as firms employing between 10 and 250 people. Firms with up to 10 employees are usually referred to as micro firms. There is, however, no commonly agreed definition of what micro firms and SMEs are. They are mixed by nature, ranging from producers of non-tradable services to “born global” suppliers of digital products, high-quality artisanal goods or sophisticated instruments.

In the majority of countries, SMEs account for a significant proportion of employment.

In a sample of firms from 99 emerging and developing countries (World Bank Enterprise Surveys), SMEs accounted for two-thirds of formal non-agricultural private employment. Similar, although not strictly comparable, evidence has been found for developed countries. In a sample of firms from 17 Organisation for Economic Co-operation and Development (OECD) countries plus Brazil, micro firms and SMEs accounted for 63 per cent of total employment. However, among SMEs, only new productive firms (“gazelles”) significantly contribute to net employment growth rates.

SMEs face challenges in terms of job quality and productivity.

In developing countries, there is some evidence that earnings rise with firm size for workers with similar characteristics. In developed economies, conversely, the relationship between wages and firm size is non-linear within the class of micro firms and SMEs, with micro enterprises paying on average higher wages than small firms. Empirical evidence further shows that jobs in SMEs are less stable and secure than jobs in larger enterprises, and that SMEs are less likely to offer training to their workers than larger firms. In addition, SMEs contribute comparatively less to GDP than to employment, because they are, on average, less productive than large firms.

SMEs can benefit significantly from innovation, and their entry into the market can stimulate innovation in others.

Large firms exhibit, on average, faster innovation rates than small firms. Even the oft-made argument that, within the universe of SMEs, start-ups are more innovative than established firms, does not rest on firm empirical evidence. Against this background, there is abundant evidence of the positive impact of innovation for SMEs that engage in it.

The contribution of SMEs to industry dynamics (the process of entry and exit) can have positive aggregate effects on productivity, not only because successful entrants have productivity growth rates that are usually higher than those of incumbents, but also because their entry can foster increased innovation by market incumbents.

See page 12

B. SMEs in international trade

Trade is the most common form of internationalization chosen by firms, including SMEs.

Internationalization may take various forms: (1) direct exports; (2) indirect exports; (3) non-equity contractual agreements; and (4) foreign direct investment (FDI) and other forms of equity agreements. Trade, direct or indirect, is often considered to be the first step towards engaging in international markets. Compared to trade, other forms of internationalization entail larger fixed costs which are more difficult to reverse, in particular for SMEs.

The direct trade participation of SMEs in developing countries is not in line with their importance at the domestic level.

According to WTO calculations based on World Bank Enterprise Surveys covering over 25,000 SMEs in developing countries, direct exports represent just 7.6 per cent of total sales of SMEs in the manufacturing sector, compared to 14.1 per cent for large manufacturing enterprises. Among developing regions, Africa has the lowest export share at 3 per cent, compared to 8.7 per cent for Developing Asia. Participation by SMEs in direct exports of services in developing countries is negligible, representing only 0.9 per cent of total services sales compared to 31.9 per cent for large enterprises.

SMEs in developed countries trade relatively little compared to larger firms, despite the fact that they make up the majority of exporters and importers.

Considering only direct participation in trade, micro firms and SMEs from developed countries represent the vast majority of trading firms, over 90 per cent in many countries. On average, firms with fewer than 250 employees account for 78 per cent of exporters in developed countries but only 34 per cent of exports. Trade flows of micro firms and SMEs are heavily tilted toward services (accounting for 68 per cent of total exports and 83 per cent of total imports).

Measuring indirect participation in trade is challenging. Existing datasets do not characterize precisely indirect exports (supply of goods and services to domestic firms that export) of SMEs, or their participation in global value chains (GVCs).

Trade in GVCs refers to the exchange of goods and services along the production and distribution networks that are fragmented across countries. Firms can participate in GVCs through backward linkages (where an enterprise uses imported inputs to produce and export intermediate or final goods and services) or forward linkages (where an enterprise exports intermediate or final goods through a production chain or distribution network). Forward linkages can be direct (where an enterprise exports the good itself) or indirect (where an enterprise provides intermediate or final goods to a domestic enterprise that exports).

In developing economies, indirect exports of manufacturing SMEs account for 2.4 per cent of total sales, compared to 14.1 per cent for large manufacturing enterprises. Although small, SMEs' indirect exports of services are larger than their direct exports (2.6 per cent, compared to 0.9 per cent). Conversely, indirect services exports are smaller than direct services exports in large firms (4.2 per cent compared with 31.9 per cent).

This report uses the percentage of sales exported directly/indirectly and the percentage of foreign inputs in production, respectively, as proxies for forward and backward linkages of SMEs from developing countries in GVCs. According to WTO calculations, even in the region with the highest forward and backward participation of SMEs in GVCs (Developing Asia), most manufacturing SMEs have both low forward and backward GVC participation rates compared to those of large enterprises. In Africa, both large firms and SMEs are largely cut off from GVCs.

The development of e-commerce promises to expand export opportunities for SMEs and give them a global presence that was once reserved for large multinational firms.

Data from eBay covering 22 countries show that the vast majority of technology-enabled small firms export – 97 per cent on average and up to 100 per cent in some countries. By comparison, only a small percentage of traditional SMEs export – between 2 per cent and 28 per cent for most countries. Not only do Internet-enabled commercial SMEs export at a high rate, they also reach a large number of foreign destinations. Furthermore, exports are less concentrated across online exporters than across offline ones.

Despite the promises of e-commerce, SMEs continue to be less well represented online than larger enterprises. SMEs lag behind large firms in measures such as the establishment of a website. In developing countries for instance, less than a quarter of those formally registered SMEs with less than ten employees, and less than half of those with 10-50 employees, have websites, as opposed to 85 per cent of firms with more than 250 employees.

There is no clear trend in the trade participation of SMEs over time, but smaller enterprises take longer to start exporting.

No clear trend can be discerned in the export participation of micro firms and SMEs in developed countries in the OECD TEC database. Slightly more than half of available countries recorded increases over a period of less than 10 years, but this evidence is far from conclusive. Modest increases were also observed, on average, for developing countries and least-developed countries (LDCs) between their first and their second World Bank Enterprise Surveys, but these changes varied widely across countries.

Analysis of World Bank Enterprise Survey data on SMEs in 85 developing economies reveals that there is a negative correlation between the number of employees when operations began and the number of years before exports started. In the case of large firms which started as micro-firms (one to four employees), it took 17 years on average before they exported, while the number of years decreased with higher initial levels of employment.

See page 28

C. Dynamics of SME internationalization

The strategies behind SMEs' decisions to be involved or not in internationalization are mixed.

The literature on SME internationalization is fragmented. No single theoretical framework is able to explain why and how SMEs engage in internationalization activities, because the strategies behind SMEs' decisions to be involved or not in internationalization through indirect exports, direct exports, international subcontracting (licensing, outsourcing) or investment remain heterogeneous.

The internationalization of traditional SMEs tends to be gradual, starting with sporadic exports. In contrast, many knowledge-based or so-called "born global" SMEs, are often internationally oriented from their creation or soon after, and are able to experience internationalization faster thanks to their higher market knowledge and international network. Similarly, some SMEs are able to integrate into GVCs by exporting either directly or indirectly through large exporting firms situated in their home countries.

Firm size constitutes an important dimension in the relationship between productivity and exporting.

Among exporting firms, SMEs are usually strongly represented in terms of numbers, but account for only a small share of a country's overall exports, and often export only a few products to a narrow range of destinations. To a large extent, the relationship between a firm's productivity, size and export experience explains the relatively limited participation of SMEs in international trade: the most productive firms are not only larger in size, but also find it easier to access foreign markets and grow even further through exporting.

Many trade barriers are particularly burdensome for SMEs, notably where they give rise to fixed costs. This is why several studies highlight that SMEs would benefit most from further trade liberalization and policy coordination, including on non-tariff measures. Another finding is that, when given the opportunity to enter new markets, SMEs tend to respond more swiftly and flexibly than large firms, and can therefore play a key role in the creation of new exports. In addition, although small firms tend initially to have a lower chance of surviving as exporters, they grow more quickly than large firms if they do survive.

While SMEs engaged in international markets tend to be more productive and innovative than those who are not, they can further improve their performance through internationalization.

Internationalization, and in particular exporting, is often considered to be an important strategic option to enable SMEs to expand. Although limited, empirical evidence suggests that the effects of internationalization on SMEs' performance measured by profit, productivity, innovation and growth in sales and employment tend to be firm-specific depending on the firm's size, productivity level, skill intensity and industry affiliation.

On the one hand, the probability that SMEs might decide to start exporting tends to increase with the level of productivity and innovation. On the other hand, SMEs engaged in exporting activities can experience higher growth and employment through economies of scale and enhance their productivity and innovation through learning effects. The prospect of larger revenues from exporting can also incentivize SMEs to invest more in innovation beforehand. The adoption of e-commerce strategies is also found to have a positive impact on SMEs' average sales growth rates.

There is some evidence that SMEs engaged in global value chains can potentially improve their performance by importing intermediate goods and mobilizing their resources on tasks in which they have particular advantages. In turn, SMEs participating in GVCs can benefit from commercial linkages with customers and suppliers, including foreign suppliers, as well as training and increased competition, which can further increase the likelihood of exporting. Ultimately, the opportunity for these SMEs to further internationalize will depend on their capacity to absorb the spillovers from participating in global value chains.

See page 56

D. Trade obstacles to SME participation in trade

Firm surveys conducted by several international organizations point to the particular importance of certain non-tariff measures (NTMs) for SMEs.

One way to get a sense of the main obstacles to trade for SMEs is through survey data. The International Trade Centre (ITC), the United States International Trade Commission (USITC), the European Commission,

the World Bank and the OECD-WTO have all conducted a number of surveys that allow firms to be distinguished by their size. These surveys show that poor access to information, costly requirements, burdensome customs procedures and lack of trade finance are major barriers to international trade for SMEs.

Unexpectedly, SMEs – even more than large firms – also perceive high tariffs as a major obstacle to trade.

Non-tariff barriers are particularly burdensome for SMEs, because they entail fixed costs independent of the size of the exporter. However, SMEs in the manufacturing sector also consider high tariffs to be a greater obstacle to exporting than large manufacturing firms do. One explanation is that SMEs are more sensitive to changes in tariffs than large firms, but it is also possible that SMEs disproportionately operate in sectors facing the highest tariffs in export markets.

The impact of tariffs and NTMs, such as regulations, on trade depends on the size of the exporters.

Higher tariffs in destination markets make it more difficult for firms to export profitably. Only the more productive firms will export in such an environment, whilst smaller and less productive firms will not. High tariffs do not only reduce SME participation in trade, they also reduce their volume of exports more than that of large firms.

Evidence also shows that tighter technical barriers to trade (TBT) and sanitary and phytosanitary (SPS) measures are particularly costly for smaller firms. When a new restrictive SPS measure is introduced in a foreign market, smaller exporting firms are those more likely to exit the foreign market as well as those that lose more in terms of volumes of trade. Large firms lose comparatively less because they are able to comply with more stringent requirements more easily and at lower costs than SMEs.

Lack of transparency and cumbersome border procedures appear to be major hurdles for SMEs.

There is evidence that trade facilitation, while fostering trade for both large and small firms, particularly boosts the entry into the export market of small firms that would otherwise only sell in the domestic market. A study on the expected impact of the Trade Facilitation Agreement (TFA) shows that the TFA will particularly benefit SMEs by enabling improved transparency of information on rules and regulations in the foreign market.

Access to information and distribution channels are also important trade obstacles for SMEs.

Gathering information about regulations and export opportunities in the destination market is costly, especially for SMEs. Having access to distribution networks is a crucial component to developing SMEs' business, in particular for diversifying their customers within a region or worldwide. Delivery and logistical aspects are an issue, and these particularly affect SMEs, given their relatively low "weight" in overall transactions, whether as producers or intermediaries.

Lack of, or insufficient access to, finance can strongly inhibit formal SME development and trade opportunities.

Selling to foreign markets involves developing marketing channels, adapting products and packaging to foreign tastes, and learning to deal with new bureaucratic procedures. To cover the costs associated with these activities, exporters are likely to need credit. Lending to SMEs is often inhibited by informational problems and transaction costs, which often translate into higher interest rates and fees for SMEs than for larger firms.

Difficulty in accessing affordable trade finance is one of the most cited constraints for SMEs, especially in developing countries.

According to a recent study by the Asian Development Bank, globally more than half of the requests made by SMEs for trade finance are rejected, compared to only 7 per cent for multinational companies. Access to trade finance tends to be the most difficult in developing countries. Part of the problem lies in the fact that local banks may lack the capacity, know-how, regulatory environment, international network and foreign currency to supply import and export-related finance. Banking and country risk can be problems too.

The reluctance of global banks, which are dominant in trade finance markets, to invest in developing countries, may not help either. Many such banks reduced their presence internationally after the 2009 financial crisis.

For SMEs operating in the services sector, restrictions to Modes 1 (cross-border supply of services) and 4 (movement of people across borders to supply services) of the General Agreement on Trade in Services (GATS) are likely to be particularly burdensome. So are barriers to entry/establishment relative to measures affecting operations.

Available empirical evidence suggests that, in spite of some sectoral variation, service SMEs generally lean towards “soft” forms of trade, exporting mainly via cross-border trade and movement of contractual service suppliers unlinked to commercial presence. Barriers to these modes of supply, such as requirements to establish a commercial presence when supplying services across borders, or quotas on the movement of independent professionals, are therefore likely to be especially burdensome for service SMEs.

Measures affecting service firms’ ability to enter a foreign market or establish therein usually involve fixed costs. Accordingly, they can also be expected to impose a relatively heavier burden on service SMEs relative to measures affecting their operations, as these are much more likely to imply variable costs only.

The benefits from the information and communication technology (ICT) revolution are particularly high for SMEs, especially if they can integrate in online commercial platforms that reduce IT costs and enhance buyer information and trust.

Recent research has shown that e-commerce reduces the costs associated with physical distance between sellers and consumers by providing both trust and information at a very low cost. Commercial platforms eliminate the need for a firm to buy its own e-commerce hardware and software. Consequently, firms conducting business on platforms such as eBay are smaller on average than traditional offline firms. E-commerce offers growth opportunities, especially to SMEs in developing countries.

SMEs, however, continue to be less well represented online than larger enterprises. The first hurdle to online sales is the affordability of, and access to, communications infrastructure.

In all countries, there is an Internet connectivity gap between small and large firms. This gap is especially large in LDCs. According to ITC estimates, small firms in LDCs only attain 22 per cent of the connectivity score of large firms in LDCs, compared to 64 per cent in developed countries.

Other hurdles concern access to online e-commerce platforms.

The platform providers may restrict the geographic scope of sellers or of buyers. Moreover, platforms often cannot fully serve markets where bank transfers are not accepted, or goods cannot be delivered. These constraints also restrict access to, and participation in, online trade.

SMEs in developed countries consider entry costs, logistics, payment systems, data protection and the legal framework to be the most relevant obstacles to online trading. In the case of developing countries, SMEs cannot always realize the full potential of e-commerce-enabling technologies and services because of a combination of factors such as lack of awareness, unavailability of funds or local restrictions on the international transfer of funds.

Involvement in GVCs is another way, beyond e-commerce, in which SMEs can improve their participation in global trade...

GVCs are a way for SMEs to access foreign distribution networks and exploit economies of scale. GVCs provide SMEs with the distribution network and their brand names. This significantly reduces SMEs’ distribution costs, thus making exporting profitable for SMEs that become suppliers of a GVC.

GVCs also reduce SMEs’ costs to acquire information on requirements in terms of products, processes, technology and standards in global markets.

...yet, there are specific obstacles that SMEs face in exploiting these opportunities.

SMEs face a number of challenges to participate in GVCs or move up to higher-value activities in the chain. These challenges are partially related to factors internal to the firms (such as lack of skills and technology) and partially to external factors.

When the production of a good relies intensively on imported intermediate inputs, timely delivery and reliability of these inputs are essential. Logistics and infrastructure are key factors affecting GVC participation. Low import tariffs, the implementation of trade facilitation and the enforcement of property rights are also key to GVC participation.

See page 76

E. Cooperative approaches to promoting SME participation in trade

SMEs are more adversely affected by market failures than larger firms.

Examples of these market failures include information asymmetry between lenders and borrowers in credit markets, imperfectly competitive product markets, and less than flexible labour markets.

Many governments, particularly in developing countries, lack the appropriate policy tools to correct these market failures. Instead, SME support programmes are used as second-best policy tools to remedy market failures. Governments may also have distributional goals that they want to achieve by supporting their SME sector. Consequently, governments are likely to want to preserve these programmes even as they sign up to international agreements.

SMEs are explicitly referred to in many regional trade agreements (RTAs).

Half of all the RTAs notified to the WTO, namely 136 agreements at time of writing, incorporate at least one provision explicitly mentioning SMEs. These SME-related provisions are highly heterogeneous, as they differ in terms of location in the RTA, language, scope and commitments. A limited but increasing number of RTAs incorporate specific provisions in dedicated articles or even chapters on SMEs. Although the number of detailed SME-related provisions included in a given RTA has tended to increase in recent years, most SME-related provisions remain couched in best-endeavour language by encouraging rather than requiring.

The two most common categories of SME-related provisions found in RTAs are provisions that (1) promote cooperation on SMEs and (2) specify that SMEs and/or programmes supporting SMEs are not covered by the RTAs' obligations, including in the context of government procurement.

Other SME-related provisions call on the parties to ensure that economic operators, including SMEs, are not negatively affected. Certain provisions recognise, affirm or agree on the importance of SMEs, for instance in the context of e-commerce. A limited number of RTAs set up institutional arrangements, such as committees, to discuss and oversee the implementation of certain commitments related to SMEs, including cooperative activities, or assess the RTA's impact on SMEs.

Several international organizations are active in the area of SMEs.

SMEs are not a new issue for the international community. SME-related activities by international organizations are clustered around two major themes of research/action: integration of SMEs into international trade, in particular GVCs, and more general SME support initiatives.

WTO agreements help SMEs by reducing the variable and fixed costs of trade and by increasing transparency.

Beyond reducing MFN tariffs, many WTO members (both developed and developing) have provided duty-free and quota-free (DFQF) market access to LDCs. WTO members also adopted new provisions on preferential rules of origin to facilitate LDCs' export of goods to both developed and developing countries which offer them preferential access.

The WTO has also allowed members to grant LDC services and services providers preferential access to their markets if they wish. These reductions in variable trade costs are likely to benefit SMEs more than larger enterprises.

The TBT and SPS Agreements contain disciplines that limit the trade cost-raising effects of measures that governments use to achieve public policy objectives, such as protection of human health, when these measures can have spillover effects on trade. The importance that the two agreements give to international standards is particularly pertinent to SMEs, as it is likely to be more burdensome for them to comply with a plethora of standards.

Furthermore, problems may arise in the implementation of these measures. For example, the regulation may be unclear, giving rise to uncertainty for suppliers or producers, or compliance may be difficult to assess and verify. The uncertainty may affect smaller firms more than larger ones. Work in the WTO's TBT and SPS Committees helps to resolve these issues, by increasing transparency and reducing the associated fixed costs of trade.

When it comes into force, the Trade Facilitation Agreement (TFA) will reduce some of the fixed costs arising from inefficient trade procedures once it is implemented, thereby increasing SME participation in trade.

The special situation of SMEs is acknowledged and addressed in a number of WTO agreements, plurilateral agreements and work programmes, and through technical cooperation.

Some provisions in the Anti-dumping (AD) Agreement reduce the burden of informational requirements for SMEs, and make it easier for a WTO member to make use of its rights to initiate an investigation when it acts on behalf of SMEs.

Under the Subsidies and Countervailing Measures (SCM) Agreement, SME support programmes which meet certain stipulations, and for which support is automatic upon meeting the stipulations, will generally be exempt from countervailing duties imposed by other members, and also from the disciplines of the SCM Agreement.

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement appears to give members greater leeway to promote the technological development of their SMEs through, among many other initiatives, lower patent filing fees and intellectual property-related consulting services.

The Government Procurement Agreement (GPA) encourages SME participation in international procurement in several ways. It improves procurement legislation and systems relating to transparency, integrity and competition, provides flexibility to implement measures relating to procurement practices that facilitate SME participation, and allows preferential measures to help SMEs obtain privileged access to procurement contracts.

The WTO work programmes on e-commerce and small economies have prominent SME components which involve, among other things, analytical work examining how SMEs might better take advantage of e-commerce or connect to GVCs.

Since the financial crisis, the WTO has been working to keep finance flowing for trade. Special attention has been devoted to the difficulties faced by traders in LDCs and developing countries where firms are generally small. In April 2016, WTO Director-General Roberto Azevêdo issued a call for action to help close the gaps in the availability of trade finance that affect

the trade prospects of SMEs, particularly in Africa and Asia. Among the actions recommended was to ramp up existing trade finance facilitation programmes by US\$ 50 billion.

Finally, many of the WTO's capacity-building efforts, such as the Aid for Trade initiative, the Enhanced Integrated Framework, and the Standards and Trade Development Facility, have a pronounced SME focus.

Progress can be made in various areas to help unlock SME trading potential.

Transparency mechanisms could be further enhanced with a view to making it easier for SMEs to access information. There is scope for further action in a number of areas, such as capacity building, specific steps to support SMEs from LDCs, and support to improve access to trade finance. More research would help to develop an even clearer picture of what works and what does not when it comes to SME-related provisions in trade agreements, including multilateral ones, providing valuable material for policy-makers and trade negotiators. Moreover, cooperation and coordination among international organizations should be increased, so as to make their efforts directed at SME internationalization more complementary.

See page 112

A

Introduction

Today's increasingly interconnected global economy is transforming not only what is traded and how it is traded, but also who is trading. Large companies continue to dominate international trade, because they have the critical mass, organizational reach and relevant technologies necessary to access and supply foreign markets. But thanks to the Internet, the emergence of new business platforms, and the increasing openness of the global economy, many small and medium-sized enterprises (SMEs) now have the potential to become successful and important global traders as well. The *World Trade Report 2016* examines the participation of SMEs in international trade. In particular, it looks at how the international trade landscape is changing for SMEs, where new opportunities are opening up and old challenges remain, and what the multilateral trading system does to ensure inclusive participation of firms in global markets.



Contents

1. SMEs in domestic economies	14
2. SME participation in trade: opportunities and challenges	20
3. Structure of the report	25



Some key facts and findings

- In every country's population of firms, most are small. Small and medium-sized enterprises – SMEs (excluding micro enterprises, non-employers and informal firms) – account for 93 per cent of enterprises in non-high income, non-OECD countries. Micro firms and SMEs account for over 95 per cent of all enterprises in OECD countries.
- Micro firms constitute the bulk of MSMEs in all countries. On average, 83 per cent of the more than 12 million firms covered by the IFC's MSME Country Indicators are micro firms. Information for five developing countries indicates that, among informal firms, the overwhelming majority (between 80 and 95 per cent) are micro firms.
- Most MSMEs (85 per cent of micro firms and 72 per cent of SMEs) operate in the services sector, and in particular in wholesale and retail trade.
- MSMEs account for around two-thirds of total employment in developing and developed countries alike. Their contribution to GDP is lower, at around 35 per cent in developing countries and around 50 per cent in developed countries; SMEs are 70 per cent less productive than large firms.

The world economy is changing rapidly – for companies, as well as for the goods and services they produce. In the nineteenth and twentieth centuries, scale was often critical to success in international trade. Firms needed to be big in order to create integrated production systems, build global distribution networks, and cover the relatively high transport, communications and border costs associated with international trade. But as the world economy enters the twenty-first century, a number of important changes are diminishing the advantages of scale in international trade, with the result that smaller, nimbler “micro-multinationals” are also beginning to succeed in a global marketplace once overwhelmingly dominated by big multinationals.

One important change is the dramatic lowering of trade costs. Traditionally, trade was often a costly, complex and time-consuming process. This meant that only large businesses – usually manufacturers or primary resource producers – could typically engage directly in global commerce because of the enormous organizational, financial and infrastructural investments required; smaller firms often lacked the resources to advertise in foreign markets, to ship and distribute overseas, and to navigate the complex and costly tariff and regulatory obstacles at the border. But today’s dramatically reduced trade barriers, improved transportation and telecommunications links, and breakthroughs in information technologies now make it possible for smaller companies – from software programmers to precision instrument manufacturers to boutique winemakers – to gain the global reach and market presence of larger companies at a significantly lower cost. This is symbolized by the rise of online marketplaces such as eBay or Alibaba which, by globally linking buyers and sellers, simplifying international payments, and leveraging express delivery systems, has allowed SMEs to enter markets and supply customers almost anywhere in the world.

Another important, and related, change is the disaggregation or “unbundling” of global production. In the past, most trade was in finished goods manufactured by large, vertically integrated conglomerates. But today almost two-thirds of world trade is in intermediate goods and services produced by firms specializing in just one stage of the production process – from components to assembly to back-office services. These value chains extend within countries, as well as between them, meaning that many small and medium-sized businesses are indirectly involved in international trade, even if their products are never directly exported. Not only are the competitive advantages of large-scale industrial integration, bureaucracy and infrastructure diminishing across a number of tradable sectors, but big multinational firms can often be at a disadvantage when fast-changing markets demand rapid innovation and organizational flexibility.

In many ways these changes are only in their infancy. While some SMEs may benefit considerably from access to global markets in general, and niche markets in particular, the reality is that large firms continue to dominate the global trade landscape. SMEs’ direct or indirect penetration of overseas markets is still limited to certain sectors and to a handful of countries. Connecting to world markets is important. SMEs that manage to sell abroad successfully can take advantage of increasing returns to scale, hone their competitive and innovative edge, and thereby increase their productivity – growing, if not into bigger firms, then into even more valuable small ones.

Small businesses continue to face disproportionate barriers to trade, whether in the form of tariffs and non-tariff measures, unnecessary regulatory burdens, customs red tape, financing gaps or information deficits – meaning that there is scope for coherent national and international policy actions that would enhance the ability of SMEs to participate in world markets more effectively. For open trade and global integration to benefit a larger share of the population, it is important to ensure that those SMEs with the potential to succeed – not just large corporations – gain access to the global marketplace.

This report documents SME participation in today’s fast-evolving trading system and contributes to a better understanding of the determinants and consequences of this participation, with the aim of adding to the debate on the role of SMEs in making growth more inclusive.

This introductory section consists of three parts. First, it defines SMEs for the purpose of this report and discusses why they matter in their domestic economies. Second, it explains what this report is about, why it is timely and how it contributes to the debate on the role of SMEs. Finally it presents the structure of the report and highlights some important findings.

1. SMEs in domestic economies

The objective of this section is to assess the contribution of micro firms and SMEs to their domestic economies. In every country, most firms fall in the category of micro, small or medium enterprises (MSMEs). Formally registered MSMEs account for a considerable share of total employment. This fraction becomes even larger if informal firms (which are mostly small) are taken into account. In developing countries especially, small firms can be critical vehicles of social inclusion, for instance, by providing opportunities for women to participate in economic activities. The United Nations’ Sustainable Development Goals emphasize the poverty-reduction dimension associated with micro firms and SMEs, thereby underlining the importance of this issue.

Micro firms and SMEs are, however, less productive than larger firms. Because of their low productivity, and as a result of higher failure rates among them, jobs in MSMEs are less stable and less well remunerated than jobs in large firms. Indeed, most of the jobs that are destroyed are in small firms. Furthermore, only a handful of SMEs engage in innovation, which is the ultimate source of economic growth.

(a) The size and characteristics of the “micro, small and medium enterprise” sector

The acronym SME – “small and medium-sized enterprise” – is used in most contexts as the generic term to qualify all enterprises that are not large. In most instances, the term is not defined precisely in the sense that no upper or lower size thresholds are indicated. In addition, the acronym MSME – “micro, small and medium enterprise” – is used to emphasize the inclusion of the smallest firms. This report follows the customary approach of using the acronym “SME” as the generic term. A distinction between SMEs and MSMEs, where the former concept excludes micro firms and the latter includes them, will only be made where precise definitions are necessary, that is when statistics are used or when the distinction is explicitly made by the source.¹

There is no commonly agreed definition of “micro” enterprises, “small” enterprises and “medium” enterprises. The different definitions used by national governments and international organizations generally set thresholds on the number of employees and/or annual turnover.² In some cases, these thresholds are sector-specific, further complicating comparisons across countries. Inspection of the International Finance Corporation’s (IFC) MSME Country Indicators (MSME-CI) – available for up to 132 economies at different level of economic development and mostly for the years 2007 or 2008

– suggests that the majority of countries use the following definitions:

- Micro enterprises are firms with up to ten employees
- Small enterprises are firms with a number of employees ranging between ten and 50
- Medium-sized enterprises are firms with a number of employees ranging between 50 and 250.^{3,4}

As shown in Table A.1, micro firms constitute the bulk of MSMEs in all countries. On average, 83 per cent of the more than 12 million firms covered by the MSME-CI are micro firms.⁵ The table suggests that there might be a “missing middle” phenomenon for least-developed countries (LDCs), with very few firms classified as “medium-sized” in the population of MSMEs. A recent study by Hsieh and Olken (2014), using microdata on the full distribution of both formal and informal sector manufacturing firms in India, Indonesia, and Mexico, documents, however, that there is no “missing middle”. Medium-sized firms are missing, but large firms are missing too, and the fraction of firms of a given size smoothly declines in firm size. Similar results emerge in Fernandes et al. (2016), who offer evidence of a “truncated top” – i.e. there are relatively more missing large firms than missing middle-sized firms in their sample of firms from 45 countries.

In every country’s population of firms, most are small. Criscuolo et al. (2014) shows that micro firms and SMEs account for over 95 per cent of all enterprises in 17 OECD (Organisation for Economic Co-operation and Development) countries⁶ plus Brazil. The share of MSMEs in the total enterprise population can be expected to be even higher in developing countries. Appendix Table 1 in ACCA (Association of Chartered Certified Accountants) (2010) suggests that for 14 non-high income, non-OECD countries,⁷ the average share of SMEs (defined differently across countries) in the total number of enterprises is 93 per cent. These statistics, however, exclude micro enterprises, non-employers and informal firms.

Table A.1: Share of micro, small and medium-sized firms in total number of MSMEs (%)

	% of micro firms	% of small firms	% of medium-sized firms
Developed	87.1	10.7	2.2
Developing	80.5	15.6	3.9
G20 developing	82.1	13.2	4.7
Other developing	80.5	14.9	4.5
LDCs	78.6	20.7	0.6
Total	82.9	13.8	3.3

Note: Country groups defined in Appendix Table B.1 of WTO (2014).

Source: IFC’s MSME Country Indicators.

The distinction between “formal” and “informal” firms is very important in this context. Formal MSMEs are usually defined as being officially registered while informal MSMEs are not. Data on the informal sector is notoriously patchy and hardly comparable across countries. The International Labour Office (ILO, 2015, Figure 2.3) reports that 26 per cent of MSMEs worldwide are formal; the remaining 74 per cent are constituted of informal (non-registered) firms and non-employers (one-person enterprises, either registered or non-registered). If high-income OECD countries are excluded, the share of formal MSMEs worldwide drops to 23 per cent and the share of informal firms and non-employers raises to 77 per cent. As noted by the ILO (2015), however, informality is overstated in these figures, because it includes also formal firms employing only the owner of the firm.

Information contained in the IFC’s MSME-CI for five developing countries (Chile, Ethiopia, Nigeria, Tanzania and Uganda) indicates that, among informal firms, the overwhelming majority are micro firms (80 per cent in Chile and Nigeria, 95 per cent or more in the other three countries). The same dataset also offers some limited insight on the number of informal firms, as opposed to formal ones. For example, in India in 2007, there were fewer than 1.6 million registered MSMEs and 26 million unregistered MSMEs, that is, about 17 unregistered MSMEs for every registered one (Kushnir et al., 2010). In Chile (725,000 registered MSMEs in 2006 and 1.5

million unregistered MSMEs in 2008) and Bangladesh (3 million registered MSMEs and 6 million unregistered MSMEs in 2003), the ratio is about 2. Due to data availability issues, unless explicitly stated otherwise, this report will focus on formally registered firms.

Table A.2 displays the distribution of micro firms (upper panel) and of small and medium-sized firms (lower panel) by country group across four sectors: manufacturing, trade (wholesale and retail), services and agriculture/other. Two major patterns emerge. First, across the 34 countries for which data are available, most MSMEs (85 per cent of micro firms and 72 per cent of SMEs) operate in the trade and services sectors. Eleven per cent of micro firms and 20 per cent of SMEs are in manufacturing; five per cent of micro firms and eight per cent of SMEs are in agriculture/other. SMEs are, therefore, over-represented in labour-intensive sectors characterized by a combination of relatively low entry barriers and relatively low fixed costs of production.

Second, developing countries have larger shares of micro firms and SMEs in agriculture/other sectors. This could be due to higher labour-intensity of agriculture in developing countries (especially in LDCs) as opposed to developed countries, coupled with the fact that small firms tend to be more labour-intensive than large firms, even within the same sector (Cabral and Mata, 2003; Yang and Chen, 2009).⁸

Table A.2: Sectoral distribution of MSMEs (%)				
	Manufacturing	Trade	Services	Agriculture/other
Share of micro enterprises				
Developed	8.0	35.0	56.0	1.0
Developing	11.5	44.3	38.9	5.3
G20 developing	14.0	33.0	40.0	14.0
Other developing	10.0	46.0	40.0	3.0
LDCs	15.0	45.0	31.0	9.0
Total	11.0	43.0	42.0	5.0
Share of small and medium-sized enterprises				
Developed	22.0	25.0	52.0	1.0
Developing	19.9	30.6	41.0	8.5
G20 developing	21.0	31.0	44.0	3.0
Other developing	18.0	32.0	41.0	8.0
LDCs	24.0	23.0	37.0	16.0
Total	20.0	30.0	42.0	8.0

Note: Country groups defined in Appendix Table B.1 of WTO (2014).

Source: IFC’s MSME Country Indicators.

(b) The contribution of SMEs to employment

In the majority of countries, SMEs account for a significant proportion of employment. Ayyagari et al. (2011) use the World Bank Enterprise Surveys⁹ to analyse the contribution of SMEs (defined as enterprises with at least five and at most 250 employees, therefore excluding most micro enterprises) to employment in the formal non-agricultural private economy. In their dataset of 99 emerging and developing countries (one wave per country, with years varying between 1996 and 2010), the median share of employment of the SME size class is 67 per cent. This means that in a majority of the 99 countries, SMEs account for more than two-thirds of formal non-agricultural private employment (see de Kok et al., 2013). Similar, although not strictly comparable, evidence has been found for developed countries. Using a sample of 17 OECD countries¹⁰ plus Brazil that includes micro enterprises, Criscuolo et al. (2014) find that MSMEs account for 63 per cent of total employment. The remaining 37 per cent is accounted for by large enterprises.

To date, there is no comprehensive study on the employment contribution of micro enterprises, especially informal ones, in developing countries. The World Bank (2012) reports that it is the micro and small enterprises subgroup that accounts for the largest share of employment in MSMEs, even in middle-income countries. Moreover, their share is often underestimated because available data rarely cover the informal segment of the economy, where businesses are especially small. Using survey data from 13 Sub-Saharan African countries, Fox and Sohnesen (2012) show that – after the agricultural sector, which accounts for close to 70 per cent of total primary employment – non-agricultural informal enterprises are the second-largest provider, with a share of 15 per cent. Formal enterprises in the non-agricultural private sector (SMEs as well as large enterprises) account for 9 per cent and public enterprises for 4 per cent of total primary employment.

Beyond their share in total employment, an important question is how, and how much, SMEs contribute to employment growth. The focus is on net job creation¹¹ because, if on the one hand new firms are born small,¹² and therefore jobs in new firms are overwhelmingly in SMEs, on the other hand the probability of exiting the market is higher for newly established firms (Haltiwanger et al., 2013). The evidence is mixed in this regard. Using World Bank Enterprise Survey data for 104 (mostly developing, a few high-income) countries, Ayyagari et al. (2014) show that more than 50 per cent of total net employment creation can be attributed to the smallest size classes of firms, i.e. enterprises with 5 to 99 employees. Data from the European Union analysed by de Kok et al. (2011) show that 85 per cent

of net employment creation is attributable to SMEs with between one and 250 employees.¹³

For the United States, Neumark et al. (2011), using data encompassing firms in the private sector from 1992 to 2004, find an inverse relationship between net growth rates and firm size. Their analysis also indicates that small firms contribute disproportionately to net job growth, contrary to Gibrat's Law.¹⁴ Haltiwanger et al. (2013), however, show that once firm age is controlled for, there is no systematic inverse relationship between net employment growth rates and firm size. What contributes most to both gross and net job creation is the birth of new firms, which, as explained above, tend to be SMEs. They therefore argue that any systematic inverse relationship between firm size and net employment growth rates is entirely attributable to most new firms being classified in small size classes. Similar results emerge in Rijkers et al. (2014), who analyse job creation in Tunisia over the period 1996–2010. In particular, the authors find a strongly negative correlation between firm age and growth, with young firms growing the fastest and contributing the most to net job creation, in spite of their higher exit rates. Accordingly, post-entry it is large firms, not SMEs, that contribute most to job creation (Rijkers et al., 2014).

Beyond size and age, other firm characteristics that have been found to correlate significantly (and positively) with employment growth are: i) a firm's export orientation, as well as the export's orientation of the sector in which the firm operates (see also Section C on this point); ii) product and process innovation; iii) capital intensity; iv) the level of skilled labour; v) foreign ownership; and vi) the age of the owner of the firm (de Kok et al., 2013, Table 4).¹⁵ Several characteristics of the business environment in which they operate also affect SMEs employment growth rates. In particular, access to finance, the quality of infrastructure (reliability of the power network) and the simplicity of business regulations positively affect employment growth rates firm (de Kok et al., 2013, Table 4).

A number of recent papers (Haltiwanger et al., 2010; Hurst and Pugsley, 2011; Mazzucato, 2013) suggest that successful start-ups and high-growth firms (HGFs) should be the focus of the job creation discussion. HGFs are defined as firms with at least 10 employees in the start year (not necessarily SMEs, but very likely so) and annualized employment growth exceeding 20 per cent over a three-year period (Eurostat and OECD, 2007). Daunfeldt et al. (2013) show that the 6 per cent of fastest-growing firms in the Swedish economy contributed to 42 per cent of the jobs created in Sweden between 2005 and 2008. According to the ILO (2015), HGFs are responsible for the creation of a quarter of all new jobs among SMEs in developing economies.

(i) *The quality and inclusiveness of employment in SMEs*

There is a perception that job quality is lower in several respects for employees of SMEs as compared with employees of larger firms. First, it is often claimed that SMEs pay lower wages than larger firms. For developing countries, the empirical evidence is quite limited in this respect. For 24 Sub-Saharan African countries, La Porta and Shleifer (2014) fail to find a clear correlation between size and wages.¹⁶ Conversely, Falco et al. (2011) find that, in the urban labour markets in Ghana and in Tanzania, there exists a firm-size wage gap. In other words, it is the size of the firm that determines the level of earnings of a worker, with earnings rising with firm size for workers with similar characteristics. Importantly, this result holds both for workers in the formal and in the informal sector.

In the case of developed countries, there is stronger evidence that employees in SMEs tend to receive lower wages than employees in large enterprises.¹⁷ As explained by de Kok et al. (2011), the factors explaining this firm size wage premium are: large firms' higher labour productivity; their larger financial resources; their lower monitoring ability (which increases efficiency wages); and the higher incidence of family ownership, which is seldom associated with performance-related pay systems, in smaller firms. However, the relationship between wages and firm size is non-linear within the class of MSMEs, with micro enterprises paying on average higher wages than small firms (see Butani et al., 2006 for the United States; de Kok et al., 2011 for the European Union).

A second important aspect of job quality in SMEs concerns job stability. Empirical evidence shows that MSME employees (especially those working in micro firms) have less stable and secure jobs compared to employees in larger enterprises. Third, in developed and developing countries alike, SMEs are less likely to offer training to their workers than larger firms.¹⁸

Finally, there is evidence that female entrepreneurship is skewed towards SMEs. For developing countries, the IFC (2011) estimates that there are 8 to 10 million formal SMEs owned by women, which represents 31 to 38 per cent of all formal SMEs in emerging markets. This implies that MSMEs can be vehicles of income generation and social inclusion for women. Female entrepreneurship, however, is concentrated in micro firms. A third of very small enterprises, and only 20 per cent of medium-sized enterprises, are owned by women (IFC, 2011). Since, as argued above, there is a negative correlation between firm size and the probability that the firm operates in the informal sector, it could be expected that female entrepreneurs are more likely to

operate in the informal economy. The evidence in this regard is scant. World Bank estimates reported by the ILO (2015) show that globally more than 30 per cent of women in the non-agricultural workforce are engaged in self-employment in the informal economy. This figure can be as high as 63 per cent in African economies.

(c) *The contribution of SMEs to GDP and economic growth*

The available data do not provide a full picture of the contribution of SMEs to GDP. The most comprehensive study to date is Ayyagari et al. (2007). They use a sample of 76 countries (33 developed, 43 developing), with data averaged over the 1990-99 period. Their sample only includes formal SMEs, mostly in the manufacturing sector, and excludes micro enterprises. The median GDP contribution of SMEs in Ayyagari et al. (2007) is 45 per cent (49 per cent in developed countries, 35 per cent in developing countries). Very similar descriptive statistics are obtained with a completely different dataset combining information from the following sources: ACCA (2010), the Economist Intelligence Unit (EIU) (2010), the Asian Development Bank (ADB) (2013), the Edinburgh Group (2013) and the European Commission (2013). In the resulting sample of 33 countries (10 developed, 23 developing), the median GDP contribution of SMEs is equal to 45 per cent (55 per cent in developed countries, 35 per cent in developing countries).

Two important caveats apply to the interpretation of these data. First, as highlighted above, the contribution of micro enterprises (both formal and informal) to GDP is not included. Second the contribution of SMEs operating in the informal sector is not accounted for. Ayyagari et al. (2007) also collect data on the share of the informal sector in GDP for 55 countries (29 developed, 26 developing). The median share of the informal sector in GDP is equal to 20 per cent (14 per cent in developed countries, 34 per cent in developing countries). If, in a given country, SMEs account for x per cent of the informal sector, the contribution of SMEs to overall (formal plus informal) GDP, relative to the contribution to formal GDP, will raise by x times the share of the informal sector in GDP.

Even with these caveats in mind, it can be noted that the median GDP contribution of SMEs, roughly equal to 45 per cent, is lower than their median share of employment, which, as argued above, is roughly equal to two-thirds. At least part of the explanation for this has to do with the fact that SMEs are, on average, less productive than large firms (Maksimovic and Phillips, 2002; Banerjee and Duflo, 2005; Bartelsman et al., 2013). Baldwin et al. (2002) provide the illustration of Canadian manufacturing plants. They show that output per employee in plants with 100 or fewer employees

makes up 62 per cent of the industry average, while output per employee in plants with more than 500 employees makes up 165 per cent of the industry average. Table A.3 displays total factor productivity (TFP) differentials between firms of different sizes in developing countries.¹⁹ There is a clear gap between productivity in large firms and SMEs (firms with at least five and at most 250 employees). As shown in Appendix Table A.1, this descriptive evidence is further confirmed by econometric analysis.

The lower productivity of SMEs is often attributed to their inability to take advantage of economies of scale, the difficulties they face in getting access to credit or investment, the lack of resources in terms of skilled labour, and the informality of their contracts with clients and suppliers (Alvarez and Crespi, 2003). Conversely, large firms are more efficient in production because they can use more specialized inputs (including through outsourcing), coordinate their resources better, invest more in machinery and skilled workers and enjoy the advantages of economies of scale (Alvarez and Crespi, 2003; ILO, 2015). In developing countries, the presence of a large informal sector populated by micro enterprises exacerbates the productivity differential across firms of different sizes. For 24 Sub-Saharan African countries, La Porta and Shleifer (2014) report a productivity gap of 120 per cent on average between unregistered firms and registered SMEs. This gap is still equal to 80 per cent when the comparison is between unregistered firms and registered firms in the micro sample (which includes 62 per cent of firms with fewer than five employees).

Innovation is the main way in which firms can increase their productivity (see Love and Roper, 2015; Zanella et al., 2015). In principle, SMEs enjoy flatter organizational structures and faster communication channels than large firms. These can be an advantage with respect to innovation when it comes to quickly responding to changes in customer needs and in the business environment (Rogers, 2004). However, given the fixed

costs associated with research and development (R&D), innovation based on R&D is only profitable if the results can be applied to sufficiently large production. Large firms, exploiting economies of scale, can more easily pay for such fixed costs than small firms. Moreover, small firms often lack the external financing sources for R&D investment and purchase of advanced technology. Therefore, in the vast majority of cases, SME innovation tends not to be based on R&D (Edler et al., 2003) and consists of minor adaptations to existing products, innovation in designs, modes of delivering services or management and marketing practices (Fernandez-Ribas, 2010). Overall, the literature shows that large firms exhibit, on average, faster innovation rates than small firms.²⁰

There is abundant evidence of the positive impact of innovation for SMEs that engage in it in developed countries. Engel et al. (2004) find a positive effect of innovation on sales growth for small firms in craft-dominated sectors of the German economy. Lumiste et al. (2004) find that innovation helped Estonian SMEs improve their performance in terms of market share and diversified range of goods and services. Coad and Rao (2008) show that innovation is of crucial importance for a handful of fast-growth firms in high tech sectors in the United States.²¹ The evidence for developing countries is more limited, but qualitatively similar. In a survey of 79 Indian SMEs, NKC (2007) reports that innovation in terms of new products, new processes and new services accounts for more than half of the increase in market share, competitiveness, profitability and reduction in costs. Donner and Escobari (2010) review 14 studies on the use of mobile telephony by micro and small enterprises in the developing world (mostly African economies and India). These studies generally point to significant benefits of mobile use, accruing mostly (but not exclusively) to existing rather than new firms.²²

Involvement in clusters of economic activity can allow SMEs to increase their productivity through knowledge spillovers. Romer (1986), Lucas (1988; 1993) and Grossman and Helpman (1991) have established that

Table A.3: Statistics on firm-level total factor productivity (TFP) in developing countries

	Large firms (+250 employees)		SMEs (<250 employees)	
	Average TFP	Observations	Average TFP	Observations
Developing	1.04	2,706	-0.12	21,455
G20 developing	1.06	1,226	-0.12	9,631
Other developing	1.03	1,123	-0.12	8,873
LDCs	1.03	357	-0.11	2,951

Notes: TFP is computed as the residuals of a firm-level regression of log(sales) on capital input, labour input and country-sector fixed effects from the World Bank Enterprise Surveys (last available survey per country).

Sources: World Bank Enterprise Surveys (last available survey per country), own calculations.

knowledge spillovers are an important mechanism underlying economic growth. Geographical proximity through clusters matters in transmitting knowledge by reducing the cost and commercialization of innovation (Autant-Bernard, 2001a; Autant-Bernard, 2001b; Orlando, 2000). Clusters may also enhance the productivity of a firm through its proximity to other firms that innovate (including through adopting Internet, as shown by Paunov and Rollo, 2016). While a number of studies have found that clusters enhance the probability of entry, survival, and growth of new firms (Beaudry and Swann, 2001; Dumais et al., 2002; Rosenthal and Strange, 2005; Pe'er and Vertinsky, 2006), other studies indicate that location in a cluster decreases the survival chances of new firms through hyper-competition for resources and personnel among firms (Beaudry and Swann, 2001; Sorenson and Audia, 2000; Folta et al., 2006).

As it will be argued further in Section C, involvement in value chains is another way for SMEs to increase their productivity. First, division of production based on comparative advantage can improve technical efficiency (Yang and Chen, 2009). Second, knowledge spillovers travel through global value chains (GVCs) (Piermartini and Rubínová, 2014). In developing countries, for instance, large exporting firms are typically the primary mechanisms from which technologies are transmitted from abroad to local industries. Outsourcing represents an important path to knowledge transfer and the acquisition of foreign technologies.

Finally, the contribution of SMEs to industry dynamics (the process of entry and exit) can have positive aggregate effects on productivity, through the impact on innovation by incumbents. It was argued above that newly established firms are born small and that they are the most likely to exit the market. The entrants that manage to survive demonstrate productivity growth rates that are usually higher than those of incumbents. This is because they tend to adopt the newest technologies (Leung et al., 2008). Incumbents are therefore stimulated to improve their productivity in order to preserve their market shares. This should contribute to aggregate productivity growth for the economy (Luttmer, 2007).

2. SME participation in trade: opportunities and challenges

The objective of this subsection is to explain what the *World Trade Report 2016* is about, why it is timely and how it contributes to the SME debate. The subsection is in three parts. The first argues that, despite the emergence of new opportunities for SMEs to connect to world markets, SME participation in trade remains

relatively limited. The second lists the main benefits of SME participation in trade. The third focuses on the challenges faced by SMEs in connecting to world markets and explains how trade policy-related costs impede SME participation in trade and how international cooperation can help the most efficient SMEs to harness the trade engine and benefit from the new opportunities offered by e-commerce and GVCs.

(a) New opportunities for SMEs to connect to world markets

E-commerce and more generally ICT-enabled services offer new opportunities to access international markets and help circumvent obstacles to trade. In recent years, digital technology and the Internet have provided many more avenues for SMEs to reach customers in both domestic and global markets. As will be shown in Section D, the benefits from the ICT revolution are particularly high for SMEs. First, access to telecommunications infrastructure is essential to reduce information and distribution costs, foster trade, improve market efficiency and keep pace with a changing business landscape. Recent research looking at exports of goods traded through eBay shows that e-commerce reduces the costs associated with physical distance between sellers and consumers by providing both confidence and information at a very low cost (Lendle et al., 2016). Online search costs are not necessarily correlated with how remote markets are and online technology increases importer trust in exporters (e.g. through seller-rating mechanisms). Second, through online platforms, smaller and less productive businesses can connect with distant customers. Indeed, and as noted by Lendle and Olarreaga (2014), firms that conduct business on eBay are smaller on average than traditional offline firms. These authors also find that e-commerce offers growth opportunities to SMEs which appear significant for developing countries.

The Internet is creating new opportunities for SMEs to engage in international trade, yet enterprise size is still a strong determinant of the use of e-commerce, with SMEs in most countries lagging behind their larger counterparts in online buying and selling (ITC, 2015c; UNCTAD, 2015). The Internet is sometimes portrayed as a global market place that knows no borders, where entrepreneurs can find customers globally. This, however, does not represent the whole story. Capturing a global niche market remains challenging. Some of the frictions that occur offline persist online as well. SMEs tend to find it harder than large firms to keep up with technological change, notably because they employ fewer technical specialists and because of the financial resources needed to continually upgrade technology. Micro and small enterprises face various

barriers to the adoption of e-commerce, such as lack of skills in identifying their e-commerce needs, the potential benefits they can draw from e-commerce, and how to engage in it (Sandberg and Hakansson, 2014). UNCTAD (2015) shows that small businesses still face barriers when attempting to leverage international e-commerce platforms and solutions. In LDCs, simple information and communications technology (ICT) solutions, such as access to the Internet or the creation of a business website, often represent a significant challenge for SMEs.

The ICT revolution has not only allowed for the development of e-commerce. Together with the lowering of trade barriers, it has also changed production and trade more deeply, leading to the rise of international production networks and to trade in GVCs – the exchange of intermediate goods and services along the vertical production chain. The emergence of GVCs also holds the potential to facilitate the internationalization of SMEs. GVCs allow companies to specialize in a small part of the supply chain, giving SMEs more opportunities to engage in international trade (Lim and Kimura, 2010; Arudchelvan and Wignaraja, 2015). While SMEs find it difficult to compete in an entire chain of activities, they can more readily integrate in GVCs by performing tasks in which they have a comparative advantage. Through GVCs, SMEs can overcome knowledge gaps, find customers and reduce the uncertainties and risks associated with operating in foreign markets (Terjesen et al., 2008). An SME that operates in a GVC may find it easier to access information on foreign markets or to locate customers abroad. For firms in developing countries, inclusion in a GVC not only provides new markets for their products, but also plays a growing and crucial role in access to knowledge and enhanced learning and innovation (Pietrobelli and Rabellotti, 2011). For small firms in LDCs, participation in value chains is a critical means of obtaining information about the type and quality of products and technologies required by global markets and of gaining access to those markets.

Despite the new opportunities to trade created by the ICT revolution, available evidence does not yet show clear signs of an increase in SME participation. This may in part be due to the fact that SME participation in trade – and, in particular, indirect forms of trade in the context of GVCs – is neither well documented nor well understood. As discussed in Section B, measuring SME – or, even more so, MSME – participation in trade and comparing it across countries raises serious difficulties. First, there is no consistent definition of MSMEs or SMEs. Second, there is a general lack of internationally comparable data. And, third, SME participation in trade through GVCs has not been adequately measured. Evidence based on traditional trade statistics, which

suggests that trade and GVCs mostly involve large firms, underestimates the participation in GVCs of smaller firms, which often supply intermediates to exporting firms in their country and are thus indirectly integrated into GVCs.

Subject to this caveat, available evidence suggests that in all economies – developing or developed – the participation of SMEs in international trade is low compared to that of large firms and to their share of employment. In developing economies, the direct participation of SMEs in international trade is far from commensurate with their importance at the domestic level. According to WTO estimates based on World Bank data, in developing countries, SMEs' direct exports represent on average just 7.6 per cent of total manufacturing sales, compared to 14.1 per cent for large manufacturing firms. As regards indirect SME participation in trade, data on SME trade taking place in GVCs is scarce. Estimates suggest that manufacturing SMEs in developing economies are not actively engaged in GVCs. SMEs' indirect exports in the manufacturing sector are estimated at only 2.4 per cent of total sales. Overall, in developing economies, the participation of SMEs in manufacturing exports – direct and indirect – is estimated at only 10 per cent of total sales compared to some 27 per cent in larger firms. In services, SMEs' share of indirect exports is estimated to be somewhat higher than that of direct exports, but overall SME participation in services exports (direct and indirect) remains marginal, at less than 4 per cent of total services sales. In developed economies, too, the share of SMEs in exports is relatively small. Direct exports of SMEs typically account for less than half the value of total exports. As for indirect exports, no general conclusion can be drawn from available evidence.

Along the same lines, the little evidence available on SME participation in trade through e-commerce does not show a clear picture. Data confirm that e-commerce is offering SMEs new opportunities to export and that it could potentially revolutionize SME participation. It does not, however, allow for any quantification of the effect that e-commerce has already had on SME export activities.

(b) Benefits from connecting to world markets

The relatively limited participation of SMEs in trade has attracted the attention of policy-makers because SMEs are seen as holding growth and employment potential and participation in trade is envisaged as one of the keys that could help unlock the potential of SMEs. Indeed, trading – directly or indirectly – is associated with higher productivity, higher wages and more innovation.²³

The main reason for the positive correlation between productivity and participation in trade, however, is that only the more productive firms can export. This is because exporting firms have to bear extra costs due to, among other factors, market research, adaptation of products to local regulations, or transport costs, which only the more productive firms can afford to pay. An important implication of the fact that higher productivity is more a determinant than a consequence of participation in trade is that there is no reason to expect the participation of SMEs to reach the same level as that of larger firms. As mentioned previously, SMEs are on average less productive than large firms, which explains their lower level of participation and, in any case, many of them are local by nature.

At the same time, though, there are good reasons to believe that exporting can improve firm productivity and growth. Engaging in international trade can certainly enhance firm performance and help SMEs through a number of mechanisms. Export participation enlarges the size of a firm's market, allowing it to exploit economies of scale, to absorb excess production capacity or output. It exposes firms to international best practices, promotes their learning, stimulates technology upgrading, or encourages the development of different or higher quality products (Baldwin and Gu, 2003). SME participation in GVCs can offer similar benefits (Avendano et al., 2013).

More specifically, economies of scale seem to be significant in explaining the productivity gap between exporters and non-exporters. Access to a larger market allows firms to sell more of their products and to spread the fixed cost of production over a larger number of units. In developing countries in particular, constraints in conducting business, such as credit constraints and contract enforcement problems, prevent firms that only produce for the domestic market from fully exploiting scale economies (Van Biesebroeck, 2005).

Innovation and exporting go hand in hand and together they can promote SME growth. Evidence suggests that SMEs that are familiar with innovation prior to internationalization are more likely to export, more likely to export successfully, and more likely to generate growth from exporting than non-innovating firms (see Section C). One study on Spanish firms captures a number of these factors and examines the complementarity between innovation and exporting as drivers of SMEs growth. The evidence provides strong support for the reinforcing impacts of innovation and exporting on SME growth and the potential for a "virtuous circle" in which innovation drives exports, and the external knowledge gained from export markets drives further innovation and growth (Golovko and Valentini, 2011). Along the same lines, it has been

shown that the reallocation of market share towards exporters following trade liberalization in partner countries can create an incentive for firms to adopt the latest technology in order to stay competitive (Bustos, 2011).

Although the evidence of learning-by-exporting is not large, the results of recent studies on African firms are consistent with this hypothesis. Atkin et al. (2014), focusing on rug producers in Egypt and adopting a careful empirical strategy to isolate causal effects, find evidence that exporting improves technical efficiency, with positive effects on profits and productivity. Using data on manufacturing firms in four African countries (Cameroon, Ghana, Kenya and Zimbabwe) over the period 1992-1995, Bigsten et al. (2004) show that, consistent with the learning-by-exporting mechanism, exporting impacts positively on productivity and argue that, in their sample, there is little direct evidence for self-selection hypothesis. Finally, in a panel of manufacturing firms in nine African countries,²⁴ Van Biesebroeck (2005) finds evidence consistent with both self-selection and learning-by-exporting. Exporters have higher productivity levels before entry, but also exhibit higher post-entry rates of productivity growth. In particular, exporting is found to raise productivity by between 25 per cent and 28 per cent.

The quality of SME products can also benefit from involvement in international trade. This effect can be driven by consumer preferences for higher quality when exporting to high-income countries. Goods are differentiated in quality, and consumers differ in income and hence in willingness to pay for product quality across countries, meaning that an exporting firm from a given poor country may produce higher-quality goods for export than for the domestic market. Indeed the literature has identified a positive relationship between quality and per capita income of trading partners (Hallak, 2010; Verhoogen, 2004; Kugler and Verhoogen, 2008).

Access to foreign intermediate inputs can also increase firms' efficiency, as it allows them to use more diverse and higher quality inputs (Bas and Strauss-Kahn, 2014). If importing increases productivity, it might help firms bear the entry cost of entering export markets and lead them to start exporting, and help them export more varieties and more generally improve their success in export markets (Kasahara and Lapham, 2006; Bas and Strauss-Kahn, 2014).

There is also empirical evidence of a positive correlation between imports and productivity, documented by a significant productivity differential between firms that import and firms that do not trade internationally (Vogel and Wagner, 2010). Another study using firm-level

data on Chile (Kasahara and Rodrigue, 2008) finds that switching from being a non-importer to being an importer of foreign intermediates can improve a firm's productivity by between 3.4 and 22.5 per cent. Further evidence shows that internationalization favours the import of higher quality intermediates, allowing SMEs to raise their productivity via learning, variety and quality effects (Amiti and Konings, 2007) or to upgrade the quality of their exports (Bas and Strauss-Kahn, 2012). The positive effect of sourcing imports of intermediate products abroad contributes to explaining the observation that two-way traders are the most productive firms on average (Castellani et al., 2010; Halpern et al., 2005; Muûls and Pisu, 2009).

The analysis performed for this report shows that exporting firms have a higher propensity to use foreign inputs. The hypothesis that exporters source more imports was tested using the Enterprise Survey dataset from the World Bank, which covers over 75,000 firms in 80 countries. The analysis examined whether exporting SMEs use imported intermediate goods and if so, whether their usage of inputs differs from that of other firms. The results suggest that being an exporter is positively and significantly associated with imports for all firm sizes. Indeed exporting firms use 14 per cent more foreign inputs than non-exporting ones on average, and exporting SMEs use 12 per cent more foreign inputs than non-exporting SMEs. This interaction between importing and exporting is interesting in relation to GVCs in the sense that integration into the global economy through both imports and exports can be seen as a feature of participation in GVCs. From this perspective, the results suggest that participation in GVCs might help SMEs increase their productivity compared to non-exporting SMEs but also to exporting firms, large and small, that do not take advantage of foreign inputs.

Beyond the efficiency benefits on the supply side that have been discussed so far, there are also a number of other benefits from SME participation in trade. Consumers, for example, may benefit from increased SME participation in trade due to the wider variety of available goods. In addition, SME production has more scope for artisanship and custom-made production. Sophisticated consumers are expected increasingly to prefer products tailored to their specific needs and made by small artisan companies, rather than mass-produced goods.

Last but not least, there is a strong belief that improving the performance of SMEs will improve the distribution of income. As reflected in the United Nation's Sustainable Development Goals (SDGs) and their targets (in particular targets 8.3 and 9.3), for example, the formalization and growth of SMEs are to be encouraged, as they are expected to play a key

role in "promoting sustained, inclusive and sustainable growth, full and productive employment and decent work for all" (Goal 8).

The question of whether SMEs play a major role in the creation of new jobs and the reduction of poverty in developing and emerging economies has not yet received a final answer (see subsection A.1 and de Kok et al., 2013). Moreover, even if it were clear that SMEs play a major role in job creation and poverty reduction, the question as to how their growth should be encouraged would arise. As discussed in Section E, the case for policy intervention in support of SMEs is predicated on the view that certain market failures, such as for example credit market imperfections, affect SMEs more adversely than others, and require public intervention, which means that policy interventions should be targeted at addressing those market failures. Therefore, actively promoting SME participation in trade may not be the most direct way to reduce poverty.

Nevertheless, eliminating the obstacles that prevent productive SMEs from participating in trade should allow more SMEs to start trading. Once they start trading, firms can enter a virtuous circle in which trade raises productivity and facilitates growth, which in turn increases the benefits from trade. If direct participation in trade is beyond the reach of many developing country firms, indirect participation in the form of integration in a value chain may be an option. In many developing countries, the domestic production sector has become increasingly "dual", with little interaction between, on the one hand, a limited number of internationally competitive companies and, on the other hand, a large number of SMEs that produce for the domestic market and face profound challenges to competition. Reinforcing the linkages between the SME sector and the large exporting firms would allow the benefits of being connected to world markets to be spread to a larger part of the economy.

An increase in SME participation in trade may promote formalization and create better paid jobs. For those SMEs that can connect to international markets, trade means enhanced productivity and growth, which in turn means higher wages. It may also mean higher quality jobs. As argued above, in many developing countries, three-quarters or more of workers are employed in MSMEs, and a large majority of those MSMEs are informal. Low levels of productivity and informality often coexist with poor working conditions. In many countries, the most significant determinant of access to social security for SME workers is whether they are employed in the formal or the informal economy. At the same time, informal jobs are often the last resort in the absence of social safety nets. SMEs that connect to international markets and grow are more likely to formalize.

Participation in a GVC does not automatically translate into improved working conditions and higher quality jobs. However, the new social and environmental requirements of consumers, governments, international organizations and non-governmental organizations on firms outsourcing their activities have led a growing number of multinational corporations to adopt voluntary codes of conduct and programmes for sustainable supply chain management. These codes of conduct and programmes regulate supplier performance in areas such as health and safety, labour rights, human rights and anti-corruption practices or pollution (Lennson et al., 2006).

It is also worth noting that, as mentioned earlier in this section, many SMEs are owned and operated by women, and the internationalization of those SMEs would multiply some of the above-mentioned benefits even further. Encouraging female entrepreneurship is key to tackling inequalities and poverty. Some of the benefits entailed by SME participation in trade could be magnified where SMEs are owned by women. For instance, it has been shown in a number of studies that jobs that bring more household resources under women's control lead to greater investments in health and education (see, among others, Korinek, 2005).

To conclude this subsection, an important note of caution is in order. If higher participation in trade is achieved through a reduction of trade costs, standard trade models (Melitz, 2003) predict that this may not only open new opportunities for the most productive SMEs, but may also increase import competition and put pressure on the least efficient SMEs. In other words, provided that adjustment costs are not too high, a reduction of trade costs would at the same time improve efficiency and improve distribution – replacing low-quality, low-paid jobs with more formal and higher-wage jobs. This is not only a theoretical possibility. It has been shown for example that agricultural productivity is enhanced when developing countries are integrated into GVCs, with a positive effect on reducing poverty (Maertens et al., 2011).

(c) Challenges faced by SMEs in connecting to world markets

Given the relatively weak participation of SMEs in trade despite the emergence of new opportunities, and the benefits that can be expected from the connection of SMEs to world markets, the question of the determinants of their internationalization arises. This report aims to contribute to a better understanding of the determinants of SME internationalization and in particular of the role played by international trade rules in this context. Because there are many ways for firms to internationalize and many factors that affect this

process, however, the report focuses on trade policy-related factors that affect SMEs' direct or indirect participation in trade.

Multiple factors determine a firm's participation in trade or GVCs, but the firm's productivity is the key to a successful connection to world markets. The determinants of SME participation in trade or GVCs may be either internal or external to the firm. Among the main internal factors that affect the level of productivity and that facilitate participation in trade or GVCs are formality, managerial skills and workforce capacity, and the capability to adopt new technologies and to innovate (OECD and World Bank, 2015). While it is important to keep in mind that productivity is the key to participation in trade and that it depends on multiple factors, a full-fledged discussion of the factors explaining SME productivity and of productivity-enhancing policies falls beyond the scope of this report.

External factors that determine the participation of SMEs in trade and GVCs range from trade policy – tariffs and non-tariff measures – to access to finance and ICT networks, and they include a variety of trade costs. Relatively little is known about how trade policy or other trade costs affect the participation of SMEs in trade and GVCs. This report reviews available evidence on these effects and discusses the opportunities and challenges associated with e-commerce and GVCs. It sheds some light not only on the various obstacles to SME participation, but also on why and how they affect SMEs more than larger firms. What seems to be clear is that trade policy and, more generally, trade costs tend to affect small firms more than the larger ones. This is obviously the case with costs that do not depend on the size of shipments – the so-called “fixed” costs – such as the cost of identifying a foreign partner or of certifying a product. More surprisingly, however, the report suggests that this is also the case with certain variable costs such as transport or logistics costs, or even with tariffs.

From a WTO perspective, an important question is how international trade rules and cooperation affect government policies that determine SME participation. As mentioned above, most trade and trade-related policies – tariffs and non-tariff measures – may affect SME participation, even if it is not their primary purpose. At the same time, however, governments also pursue “SME policies” which typically aim at improving the efficiency of SMEs or at addressing distribution issues, for instance by levelling the playing field for smaller versus larger firms. Trade agreements impose disciplines on governments' trade and trade-related policies, and they may also affect SME policies. The report examines how regional trade agreement (RTA) provisions and the multilateral trading system

affect trade costs through their effect on policies and, ultimately, whether these make it easier or more difficult for SMEs to participate in trade.

While the report also provides an inventory of flexibilities afforded to governments to pursue SME policies, its focus is on how trade agreements affect trade costs that penalize SMEs disproportionately. It shows that, while multilateral rules rarely mention SMEs explicitly, they may *de facto* affect the trade costs they face. It also shows that explicit references to SMEs have only become more frequent in RTAs in recent times. The report also describes the programmes, aimed at encouraging SME participation in trade, in which most international organizations active in the trade area are engaged.

3. Structure of the report

Section B of this report examines all available evidence on the various forms of SME participation in trade and how it has evolved in recent years, exploring in particular how it has been affected by new technologies (in particular ICT) and the development of GVCs. It provides an inventory of the main sources of information on SME participation in trade and a comprehensive characterization of this participation and its evolution over recent years. The inventory reveals important information gaps, in particular regarding participation in GVCs, while available evidence suggests that, overall, the share of SMEs in exports is relatively low.

Section C next considers how, when and why SMEs decide to export or to internationalize and how this affects their productivity and growth. It provides a comprehensive review of the economic literature on the determinants and consequences of SME participation in trade. It shows that only the more productive firms participate in trade but that, at the same time, participation in trade has a number of positive effects.

Section D explores the various obstacles that continue to impede the participation of SMEs in international trade, and in particular those which prevent SMEs

from seizing the new opportunities offered by the development of e-commerce and GVCs. This inventory and the analysis of trade policy-related determinants of SME participation suggest that trade costs are generally higher for SMEs than for larger firms. They nevertheless show that access to information about foreign distribution networks, border regulations and standards are among the main obstacles to SME participation in exports. More specifically, the main issues SMEs face with regard to web sales relate to: (i) the logistics of shipping a good or delivering a service; (ii) ICT security and data protection; and (iii) payments. On the other hand, the major challenges SMEs face in joining production networks are: (i) logistic and infrastructure costs; (ii) regulatory uncertainty; and (iii) access to skilled labour.

Finally, Section E examines how regional and multilateral trade disciplines and initiatives and international organizations affect policy-related obstacles to SME participation in trade. A systematic analysis of all provisions, including explicit references to SMEs in all RTAs notified to the WTO, shows that such provisions have been incorporated into an increasing number of RTAs; that the number of detailed SME provisions included in a given RTA has increased in recent years; and that the most frequent SME provisions are those which encourage cooperation between governments with regard to SMEs on the one hand, and which provide flexibilities for governments to pursue SME-friendly policies on the other. This analysis also shows that, although SMEs are not always specifically mentioned in WTO agreements, multilateral rules have *de facto* the effect of reducing trade costs that hinder SMEs from entering foreign markets. Other findings are that the rules provide flexibility for national governments to take measures to remedy market failures that prevent SMEs from participating in international trade, and that the WTO's work in the area of capacity-building, which tries to expand trading opportunities of its developing country members, includes significant components relevant to the internationalization of SMEs.

Endnotes

1 Section B of this report uses two different datasets to establish stylized facts about participation in international trade for firms in developed and in developing countries, respectively. While the OECD Trade by Enterprise Characteristics (TEC) database – used for developed countries – includes micro firms (classified as having between zero and nine employees), the World Bank Group

Enterprise Surveys – used for developing countries – exclude micro enterprises (classified as having between zero and four employees). Nevertheless, firms with at least five employees are included in the World Bank Group Enterprise Surveys. That is, not all “micro” firms are excluded, if one defines “micro” using the TEC definition.

- 2 For instance, in the definition used in the European Union, there are employment thresholds (less than ten employees for micro firms, between ten and 50 for small firms, and between 50 and 250 for medium-sized firms) and turnover/balance sheet thresholds (a turnover or balance sheet of less than € 2 million for micro firms, a turnover or balance sheet of between € 2 and € 10 million for small firms, and a turnover of between € 10 and € 50 million, or a balance sheet of between € 10 and € 43 million, for medium-sized firms). See Table 1 in European Commission (2013).
- 3 The size bin up to ten employees for the definition of "micro" enterprises is used in 80 of the 121 countries for which this information is available. The size bin between ten and 50 employees for the definition of "small" enterprises is used in 63 countries. Finally, the size bin between 50 and 250 employees for the definition of "medium-sized" enterprises is used in 38 countries. In 27 other countries, the upper threshold for defining a firm as "medium-sized" is 100 employees.
- 4 See Gibson and van der Vaart (2008) for an overview of the definition of SMEs used by international organizations.
- 5 As explained by Kushnir et al. (2010), one has to be cautious when comparing these shares across countries, because of the different definitions used.
- 6 The 17 OECD countries included in the dataset are: Austria, Belgium, Canada, Finland, Italy, France, Hungary, Luxembourg, Japan, Netherland, Norway, New Zealand, Portugal, Spain, Sweden, the United Kingdom and the United States. The period covered is generally 2001-2011.
- 7 China; Ghana; Hong Kong, China; India; Indonesia; Malaysia; Mauritius; Pakistan; Russia; Singapore; Sri Lanka; Trinidad and Tobago; Ukraine; the United Arab Emirates.
- 8 The inclusion of informal enterprises would most likely increase the share of micro firms in agriculture.
- 9 World Bank Enterprise Surveys are firm-level surveys of a representative sample of an economy's private sector. Formal (registered) companies with five or more employees are targeted for interview. The sampling is stratified random sampling. The strata are firm size, business sector, and geographic region within a country. Firm size levels are 5-19 employees (small), 20-99 employees (medium), and 100+ employees (large). Since, in most economies, most firms are small and medium-sized, Enterprise Surveys oversample large firms (see <http://www.enterprisesurveys.org/methodology>).
- 10 The 17 OECD countries included in the dataset are: Austria, Belgium, Canada, Finland, Italy, France, Hungary, Luxembourg, Japan, Netherland, Norway, New Zealand, Portugal, Spain, Sweden, the United Kingdom and the United States. The period covered is generally 2001-2011.
- 11 Net job creation is defined as the difference between the jobs created by new or existing enterprises and the jobs destroyed either through contraction of existing enterprises or through business closures (ILO, 2015).
- 12 The literature has identified two main reasons why new firms are small. First, the entry process is surrounded with uncertainty (Nelson and Winter, 1978; Nelson and Winter, 1982; Jovanovic, 1982; Hopenhayn, 1992; Ericson and Pakes, 1995). Entrepreneurs may not know *a priori* how well they will perform in the market. Even if this imposes higher average costs, it may be rational to start out small to limit losses related to sunk costs in case of low performance, and to invest more after gathering information on the potential performance. Second, entrants may start out small because of capital market imperfections (Taymaz, 2005).
- 13 De Kok et al. (2011) also show that SMEs are less resilient to economic crises. During the Great Recession of 2007-09, the number of jobs in SMEs fell by an average of 2.4 per cent annually, as opposed to 1 per cent in large enterprises.
- 14 Gibrat's law states that the proportional rate of growth of a firm is independent of its absolute size.
- 15 Furthermore, informal SMEs tend to grow more slowly than do their formal counterparts. An empirical study for Côte d'Ivoire (Sleuwaegen and Goedhuys, 2002) found that formal status has a positive effect on firm growth, after controlling for the size, age and efficiency of firms.
- 16 Unregistered firms, however, consistently pay lower wages than small registered firms. On average, wages are 1.96 times per capita income in unregistered firms and 3.32 times per capita income in registered firms (La Porta and Shleifer, 2014).
- 17 The large amount of evidence that exporters pay higher wages than non-exporters (e.g. Bernard et al., 2007 report a 6% wage gap for US firms) is also in line with the idea that large firms pay higher wages than SMEs, since, as documented in Section B, the latter participate less in trade than the former.
- 18 See de Kok et al. (2013) for a review of the literature on stability and security of work and on employees training in SMEs.
- 19 Total factor productivity (TFP) is a measure of the efficiency of all inputs into a production process. In this case, for reasons of data availability, two inputs are considered: capital and labour.
- 20 See Pagano and Schivardi (2003) and the literature cited therein. Even the oft-made argument that, within the universe of SMEs, start-ups are more innovative than established firms does not rest on firm empirical evidence. Criscuolo et al. (2012) compare the innovative abilities of UK start-ups with those of a matched sample of established firms for the period 2002-04. Their results indicate that only in services do start-ups have an advantage over established firms. In manufacturing, start-ups are less likely to introduce innovative products than established firms.
- 21 See also Hoffman et al. (1998) for a survey of studies on UK SMEs. In a sample of Italian SMEs covering the period 1995-2003, Hall et al. (2009) find that both process and product innovation have a positive impact on firm's productivity, especially process innovation. Similar conclusions are drawn by Colombelli et al. (2016) for young French companies (aged five years or less). The authors find that such firms exhibit higher survival rates when they engage in innovation, particularly in the form of process innovation. Using a sample of Spanish firms for the period 2004-12, Coad et al. (2016) show that young firms face larger performance benefits from innovation (measured by R&D investment) at the upper quantiles of the growth rate distribution, but face larger decline at the lower quantiles. R&D investment by young firms (which are SMEs), therefore, tends to be riskier than R&D investment by more mature firms.
- 22 Other studies on the benefits of SME innovation in developing countries include Bala Subrahmanya et al. (2010) and Egbetokun et al. (2012), respectively for India and Nigeria.

23 Aw and Hwang (1995), Roberts and Tybout (1997), Clerides et al. (1998) and Bernard and Wagner (1997) show that exporting firms are on average more productive than non-exporting firms. López González et al. (2015) show that GVC participation is associated with higher productivity. See also the discussion in Section C.

24 Burundi, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Tanzania, Zambia and Zimbabwe.

Appendix Table

Subsection A.1 presents descriptive evidence showing total factor productivity (TFP) differentials between firms of different sizes in developing countries. This descriptive evidence is further confirmed by econometric analysis. Appendix Table A.1 shows the results of five regressions of TFP on firm size bins. The coefficients should be interpreted as the log difference in TFP between firms in a given size bin (10-50, 51-250 and more than 250 employees) and firms with at least five and less than 10 employees (the comparison group). TFP increases with firm size both in the overall sample of developing countries (column (1)) and in each country-group sub-sample.

The transformation $\exp(\beta) - 1$ gives the percentage difference in TFP between firms in a given size bin and

firms with less than 10 employees (the comparison group). To provide an example, the coefficient 0.739 on the 10-50 employees size bin in column (1) of Appendix Table A.1 implies that firms with 10-50 employees are 109 per cent more productive than firms with less than 10 employees.

The estimates of a regression of TFP on a dummy equal to one if a firm is an SME (less than 250 employees) further suggest that SMEs are 70 per cent less productive than large firms. All these results are qualitatively unaffected if a threshold of 100 employees is used to define SMEs, and they cannot be driven by compositional effects, since the coefficients are identified across firms within each country-sector combination.

Appendix Table A.1: TFP regressions on firm size groups, by income groups

	(1) Overall	(2) G20 developing	(3) Other developing	(4) LDCs
10-50 employees	0.739*** (0.027)	0.802*** (0.041)	0.762*** (0.039)	0.564*** (0.078)
51-250 employees	1.743*** (0.03)	1.885*** (0.044)	1.671*** (0.045)	1.517*** (0.108)
251+ employees	2.171*** (0.404)	2.270*** (0.06)	2.158*** (0.058)	1.932*** (0.126)
Observations	23,965	10,761	9,925	3,279
R ²	0.233	0.2315	0.249	0.207

Notes: Robust standard errors in parentheses. *p<.10, **p<.05, ***p<.00. Country-sector fixed effects included in all regressions. The transformation $\exp(\beta) - 1$ gives the percentage difference in TFP between firms in a given size bin and firms with less than 10 employees (the comparison group).

Source: World Bank Enterprise Surveys (last available survey per country), own calculations.

B SMEs in international trade: stylized facts

Every firm that contemplates expanding its operations in a foreign country has to choose a specific market entry strategy. As trade is the most common form of internationalization for small and medium-sized enterprises (SMEs), this section surveys available statistical evidence on the participation of SMEs in international trade in both developed and developing economies, and how their activities relate to traditional trade flows and to trade in the context of global value chains. The objective is to provide an accurate and detailed description of the SME trade landscape, but also to identify important gaps in information and data coverage.



Contents

1. SME involvement in direct trade	31
2. SME involvement in indirect trade and global value chains	39
3. SME participation in international e-commerce	46
4. MSME trade participation over time	51
5. Conclusions	54

Some key facts and findings

- Trade participation of SMEs in developing countries is low, with exports accounting for 7.6 per cent of manufacturing sales, compared to 14.1 per cent for larger firms.
- MSMEs account for 34 per cent of exports on average in developed countries. There is a positive relationship between enterprise size and export participation, with lower rates of participation for micro enterprises (9 per cent) and small enterprises (38 per cent) than for medium-sized (59 per cent) and large enterprises (66 per cent).
- In developing economies, indirect exports in the manufacturing sector of SMEs were estimated, on average, at 2.4 per cent of total sales, a level three times lower than the estimated share of direct exports. Most manufacturing SMEs in developing countries have low levels of integration in global value chains, with few backward and forward linkages in production.
- In developed economies, the direct contribution of SMEs to domestic value-added exports is predominant over indirect exports.
- Electronic commerce expands opportunities for SMEs to participate in international trade. On average, 97 per cent of internet-enabled small businesses export. Meanwhile export participation rates for traditional SMEs range between 2 per cent and 28 per cent in most countries.
- In developing countries, there is an inverse relationship between the number of employees that a firm has when it begins operations and the number of years before it starts to export. For large firms that started as SMEs, it took 17 years to export for those that began with five employees or less, compared to five years for those that had 60-100 employees.



Internationalization is often defined as the strategy adopted by firms engaged in overseas activities (Welch and Luostarinen, 1993).¹ Internationalization may take various forms, namely: (1) direct exports; (2) indirect exports (i.e. sales of goods through a third domestic party that exports); (3) non-equity contractual agreements; and (4) foreign direct investment (FDI) and other forms of equity agreements.

First, SMEs can directly serve international markets by beginning to export to distributors or to final consumers located in foreign markets. Second, SMEs may opt for an indirect internationalization strategy by providing parts and components or services to other domestic firms participating in regional or global value chains (GVCs) or by selling products or services to export intermediaries, such as wholesalers, export buying agents and brokers, situated in their own countries, who in turn export to international markets. Third, SMEs may opt for non-equity contractual modes, such as franchising, licensing or more structural alliances (e.g. export consortia). Fourth, SMEs can engage in FDI through green field investment (i.e. a type of FDI by which a parent company founds a new venture in a foreign country by constructing new operational facilities from scratch) and through mergers and acquisitions, as well as through co-investment with other firms, such as joint ventures, with different control levels (e.g. from minority shares to 100 per cent owned).

While SMEs can use one or more of these types of internationalization modes, trade, direct or indirect, is often considered to be the first step towards engaging in international markets, operating as a platform for greater future international expansion. Exporting indirectly is typically considered to be the least risky entry mode to international markets because it enables SMEs to gain access to international markets without having to bear the upfront costs (including “sunk” costs, i.e. costs that cannot be recovered once incurred) associated with searching for new customers and negotiating contracts. Export intermediaries or other firms which undertake transaction sales and/or services in overseas markets on behalf of SMEs benefit from market knowledge and negotiation skills that allow business risks to be pooled and diversified and that reduce the searching and matching costs associated with export transactions.

Exporting is viewed as less risky than contract- or investment-based internationalization strategies because it requires a lesser commitment of organizational resources, entails fewer financial and commercial risks, and allows for greater flexibility and managerial discretion (Lages and Montgomery, 2005). In practice, some SMEs export both directly and indirectly, highlighting the potential complementarity

between both foreign market entry modes (Nguyen et al., 2012).

Other forms of internationalization, such as non-equity contracts and FDI, entail larger fixed costs, which are more difficult to reverse in particular for SMEs. That is why SMEs that have chosen in recent years to expand their research and development (R&D), production and distribution into foreign markets, tend to resort to contractual arrangements, such as outsourcing, and minority share investment positions, rather than full ownership of foreign affiliates (Hollenstein, 2005; Nakos and Brouthers, 2002). Since SMEs tend to experience greater financial, human and management constraints than large companies, and are more adversely affected by higher market barriers, it is not surprising that exporting continues to be the most common internationalization form adopted by them (Riddle et al., 2007; Westhead, 2008). For instance, less than 3 per cent of SMEs located in the European Union have a foreign subsidiary overseas, which is significantly lower than the share of SMEs exporting within and outside the European Union (European Commission, 2014a).

The availability of data on international trade by enterprise size is limited in many respects. For the most part, researchers must rely on a mix of enterprise surveys and administrative data, with all of the compromises that using different data sources entail (e.g. incomplete country coverage, inconsistent definitions of SMEs across datasets, differences in reporting standards across countries, timeliness of data, etc.). Detailed firm-level data may also be inaccessible due to confidentiality concerns. The main datasets used in this section of the report are the Organisation for Economic Co-operation and Development (OECD)’s Trade by Enterprise Characteristics (TEC) database, which mostly deals with developed economies,² and the World Bank’s Enterprise Surveys, which provide detailed information on a range of developing economies.³ These data sources are supplemented with others as necessary, including existing studies on SMEs, national statistics and private sector reports.

A number of findings emerge from this section. We observe that the participation of SMEs in international trade varies considerably across countries, geographical regions, sectors and enterprise size classes in both developed and developing economies. In developed countries, shares of MSMEs in exports and imports are relatively small compared to those of large firms, but the trade participation of medium-sized firms is greater than that of micro or small enterprises. A relatively small fraction of SMEs in developing economies export, either directly or indirectly, compared to large firms. GVC participation of SMEs in developing countries is especially low in some regions,

and firms with fewer employees in developing regions also take longer to access international markets than larger firms.

Despite these disadvantages, new technologies are enhancing trade opportunities for smaller firms in developed and developing countries alike. Unlike traditional SMEs, a very high percentage of Internet-enabled SMEs engage in international trade. This suggests that increasing SMEs' access to online platforms could potentially raise exports of smaller enterprises, particularly in developing economies where Internet access is less widespread than in developed countries.

Finally, available data on SMEs and trade are insufficient to answer many outstanding questions, in particular questions about the extent of indirect participation in trade by SMEs and their role in GVCs.

1. SME involvement in direct trade

“Direct exports” occur whenever an enterprise sells goods or services directly to customers in another country. Since there is no intermediary, a major benefit of exporting in this way is that the exporting firm is in direct contact with its consumers, enabling a better understanding of their needs, thereby creating new business opportunities. In addition, direct exports provide firms with more protection of their trademarks or patents in case of innovative products.

SMEs can export directly if they have the means to reach foreign consumers or GVC partners located abroad. However, they may find it difficult to mobilize all the necessary human and financial resources to develop their international trade activities. Thus, exporting can be challenging for SMEs, especially in developing economies.

This subsection provides details on the direct participation of SMEs in international trade by firm size, sector, and, for developed economies, where possible, by partner country and region.

As noted in section A.1, there are no universally accepted definitions of enterprise size classes. By default in this report, firms with fewer than 10 employees are referred to as “micro” enterprises, firms with between 10 and 49 employees are classified as “small” enterprises, firms with between 50 and 249 employees are categorized as “medium-sized” enterprises, and firms with 250 or more employees are considered “large”. These size classes correspond to those used in the OECD TEC database, but different categories will be used in other contexts depending on the definitions used in particular databases or

studies. For example, the categories above differ from those employed by the World Bank in their Enterprise Surveys, in that the latter excludes firms with fewer than 5 employees and businesses with 100 or more employees from its definition of SMEs. Other definitions are also used in research and statistics on SMEs, but nearly all of these encompass businesses with fewer than 500 employees. Consequently, the reader should be aware that the terms SME may refer to differently sized firms in different contexts. The term MSME, referring to “micro, small and medium enterprises”, is also used in this section and elsewhere in the report to indicate the inclusion of micro enterprises in totals where possible.

The TEC database provides breakdowns of exports and imports by economic sector and by partner country/region. Trade values in the TEC database are recorded in current US dollars, facilitating aggregation, but country coverage is mostly limited to developed economies. One notable exception is Turkey, which is usually classified as a developing/emerging economy but is sometimes treated as developed because it is a member of the OECD.

The World Bank's Enterprise Surveys provide detailed information by sector and enterprise size for a wide range of developing countries, but the data suffer from some of the common shortcomings of surveys, such as incomplete answers from respondents. Another limitation of the Enterprise Surveys is that the trade values are in national currency terms and are lagged to the fiscal year prior to that during which the survey was carried out. Converting to dollars for aggregation purposes is a non-trivial exercise, but this has been carried out to arrive at aggregate estimates for least-developed countries (LDCs) and other developing regions.

Due to differences in coverage and data sources, it is currently not possible to compare the participation of SMEs in developed economies with those in the developing group.

(a) Direct participation of SMEs and MSMEs in trade of developed countries

Despite the fact that MSMEs make up the vast majority of firms in developed economies (98 per cent of industrial firms in OECD countries, according to the TEC database), their direct exports typically account for less than half of the value of gross exports. This is illustrated by Figure B.1, which shows shares of SMEs (i.e. excluding micro firms with fewer than 10 employees) and MSMEs (i.e. including micro firms) trading with OECD economies. Shares of SMEs in trade were below 50 per cent in every country on the export side, and all but one country on the import

side. Including micro firms with 0-9 employees boosts MSME shares in exports over 50 per cent in a few cases, but shares of most countries remain below 50 per cent.

(i) *Direct trade by enterprise size*

Export shares for MSMEs significantly exceed 50 per cent in a small number of countries, including Estonia (69 per cent), Turkey (63 per cent), Cyprus (61 per cent) and Ireland (57 per cent). With the exception of Turkey, all of the countries with the highest SME

shares in export values are members of the European Union. By comparison, shares for non-EU countries such as Canada (29 per cent) and the United States (28 per cent) are considerably lower (see Figure B.1).

Shares of MSMEs in gross imports tend to be somewhat larger than their shares in exports, with the largest shares belonging to small countries such as Estonia (78 per cent), Cyprus (75 per cent), Malta (74 per cent) and Latvia (63 per cent). However, these enterprises still account for less than half of the value of imports in the largest developed countries, including

Figure B.1: SME and MSME shares in the dollar value of exports and imports of selected developed countries, 2013 (or latest year) (percentage)



Note: Bulgaria, Canada, Ireland, Romania, Slovenia and Turkey refer to 2012, while Luxembourg refers to 2011.

Source: OECD TEC database.

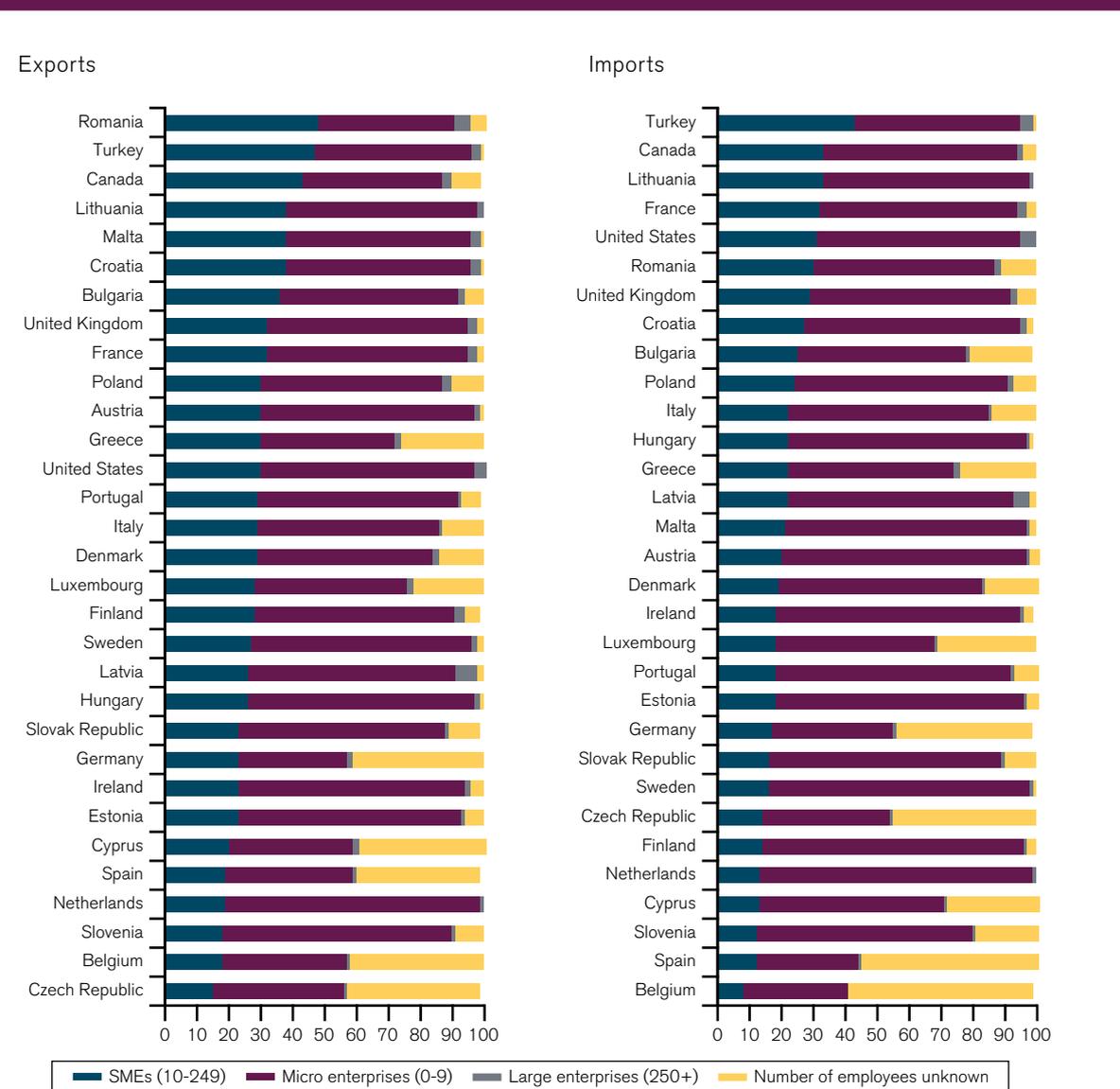
Germany (28 per cent) and the United States (26 per cent).

In aggregate, the share of MSME exports in total exports of developed countries in the TEC database in 2013 was 34 per cent. The equivalent share on the import side was 38 per cent. Note that these shares include Turkey, which is usually classified as a developing economy but is a member of the OECD.

Despite relatively small shares of SMEs in developed countries' exports and imports by value, MSMEs (and

micro firms in particular) represent the large majority of trading firms in most developed economies. This is illustrated by Figure B.2, which shows the percentage of exporting and importing firms that are MSMEs in selected developed economies by enterprise size in 2013 or the latest available year. Shares of MSMEs are lowest in countries with large numbers of firms of unknown size (e.g. Belgium, Czech Republic and Germany). However, MSMEs account for as much as 99 per cent of exporting and importing firms in the Netherlands and more than 95 per cent in Sweden. Shares are considerably smaller if micro firms

Figure B.2: Percentage of exporting and importing firms that are SMEs in selected developed economies by enterprise size, 2013 or latest year (percentage)



Note: Bulgaria, Canada, Ireland, Romania, Slovenia and Turkey refer to 2012, while Luxembourg refers to 2011.

Source: OECD TEC database.

(0-9 employees) are excluded, ranging from 8 per cent to 48 per cent. By comparison, small enterprises (10-249 employees) account for more than half of exporting and importing firms in most countries in the TEC database. In total, the share of MSMEs in the number of exporting and importing firms was 78 per cent on the export side and 76 per cent on the import side in 2013 (or latest year).

Small enterprises in the OECD TEC database may be more representative of SMEs than either micro or medium-sized firms, since the former frequently operate in non-tradable sectors while the latter sometimes resemble larger firms more closely. This is especially true when comparing TEC data to the World Bank's Enterprise Surveys, which classify establishments with more than 100 employees as large enterprises. Focusing on small enterprises exclusively, we see that their overall share in exports (9 per cent) is significantly less than their share in the number of exporting firms (21 per cent). Their share in imports (11 per cent) is also less than their share in importing firms (16 per cent), but not dramatically so. Meanwhile, medium-sized businesses account for a greater fraction of international trade (15 per cent of both exports and imports) than their numbers would suggest (7 per cent of enterprises that export and 5 per cent of those that import).

If we restrict our attention to industrial enterprises, we can see a positive association between enterprise-size SMEs and participation in international trade. This is shown for developed OECD countries in

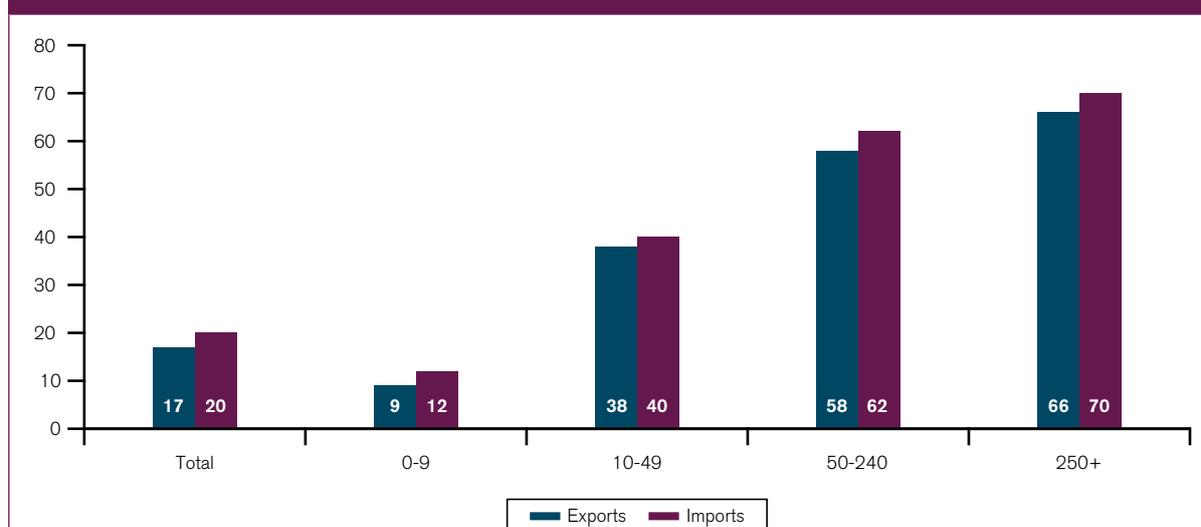
Figure B.3. The low shares for micro firms with fewer than 10 employees (9 per cent on the export side and 12 per cent on the import side) have dragged down average figures for all size classes due to the large number of micro firms in OECD economies. All of the other enterprise size classes (small, medium and large) have above-average shares of firms engaging in international trade, ranging from 38 per cent to 66 per cent on the export side and 40 per cent to 70 per cent on the import side. In particular, export and import participation rates for medium-sized enterprises approach those of large enterprises, while participation rates for small and micro enterprises are considerably smaller.

In summary, shares of SMEs and MSME's in trade flows of developed OECD countries are generally low, but there is considerable heterogeneity across enterprise size classes. In particular, rates of export and import participation for medium-sized enterprises are quite high, approaching those of large businesses.

(ii) Direct trade of MSMEs by sector and partner

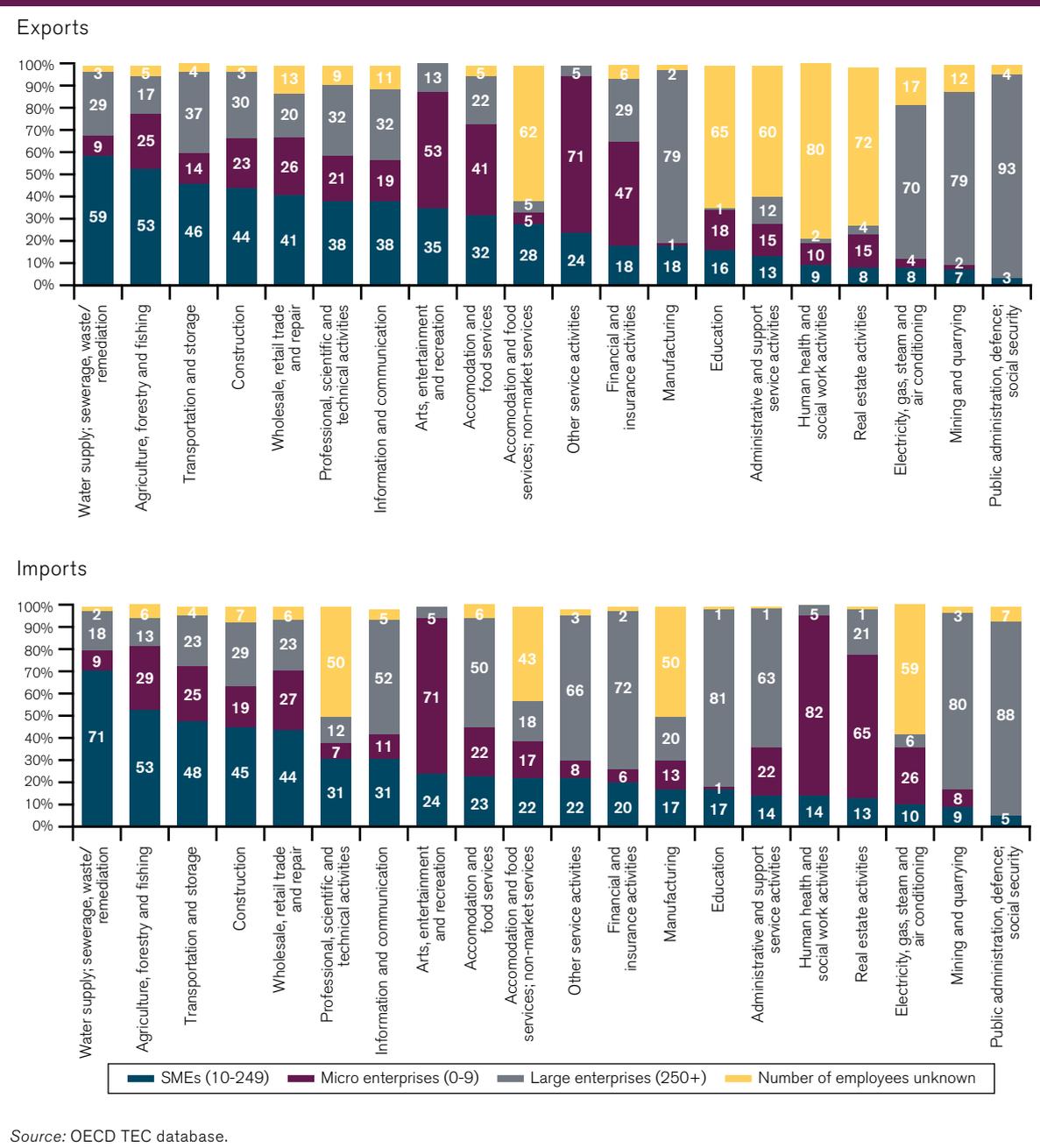
Dollar values of trade flows by firm size and sector are shown in Figure B.4 through 2012, the last year for which a complete sectoral breakdown was available in the TEC database for a sufficient number of countries. Micro enterprises appear to have the largest shares in exports in certain services categories including accommodation, arts/entertainment/recreation and other service activities, while large enterprises

Figure B.3: Percentage of industrial firms that are exporting and importing by enterprise size, 2013 or latest year (percentage)



Note: Data for Canada and Ireland refer to 2012. Turkey is excluded due to missing data.

Source: OECD TEC database.

Figure B.4: Trade values by sector, exports and imports, 2012 (percentage)


predominate in sectors such as manufacturing and mining/quarrying. On the import side, micro firms are dominant in service sectors, including health care, while large firms account for an outsized share of financial services imports. There does not appear to be any systematic relationship between economic sectors and enterprise size other than the fact that more capital-intensive sectors (mining, manufacturing, electricity and gas supply) tend to be dominated by large enterprises. At a higher level of aggregation, it appears that most MSME exports and imports in developed economies are in fact

services, with 68 per cent on the export side and 83 per cent on the import side (see Figure B.5, also with data through 2012).

Two findings regarding the services trade of SMEs are worthy of note. First, those SMEs that begin to export tend to persist in this behaviour, i.e. they have a high survival rate conditional upon exporting. Second, although a smaller fraction of SMEs engage in trade compared to large firms, those SMEs that do trade direct a larger share of their sales toward foreign

Figure B.5: Exports and imports of MSMEs by broad product category, 2012 (percentage)

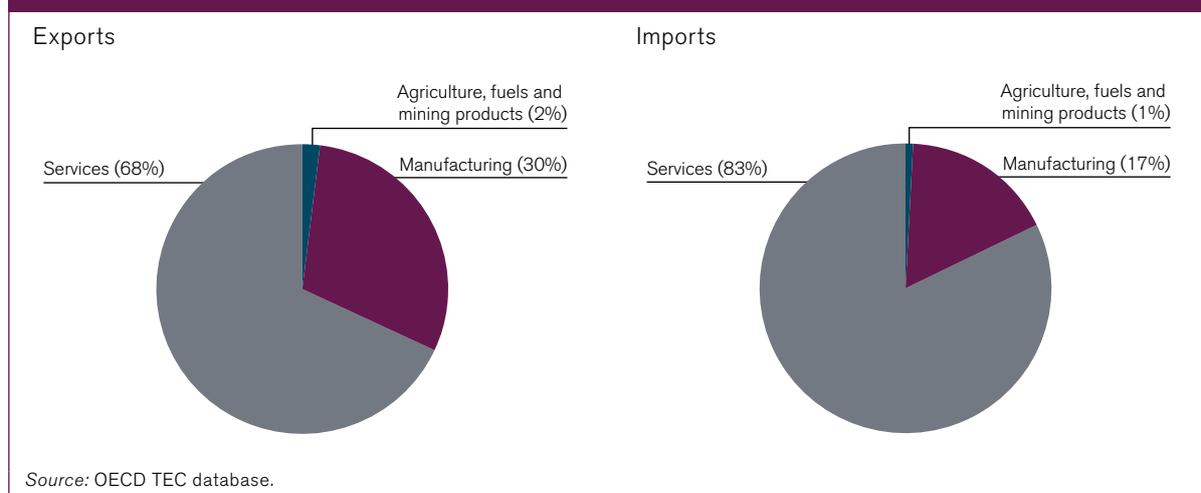
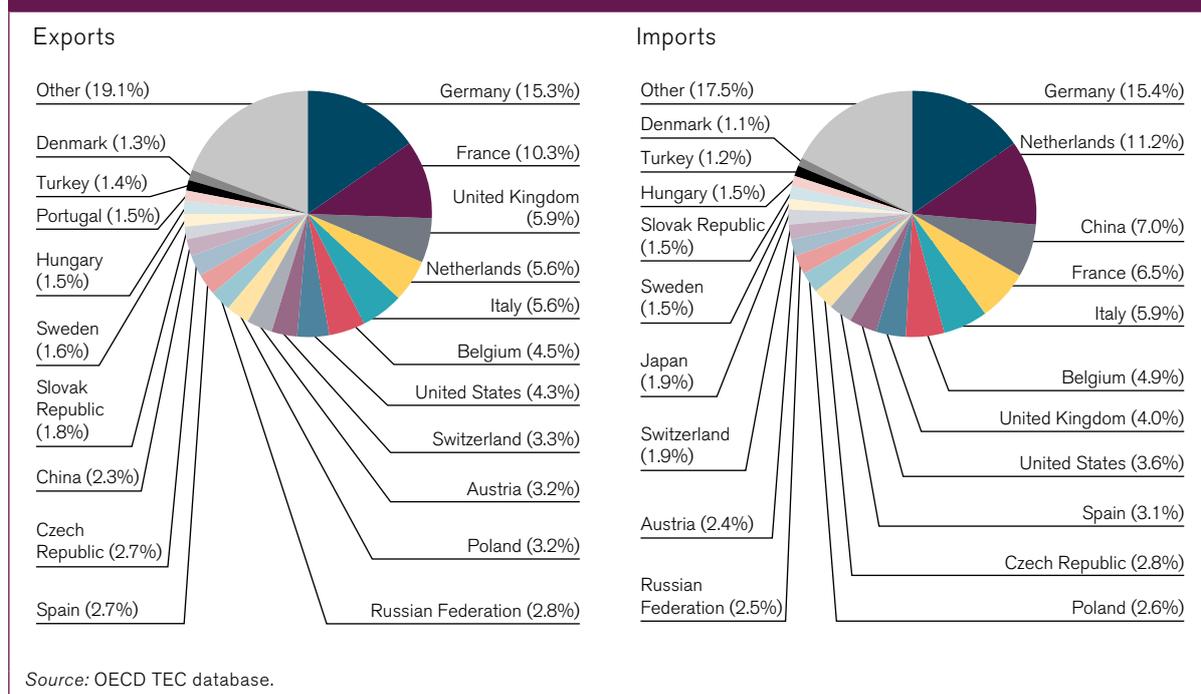


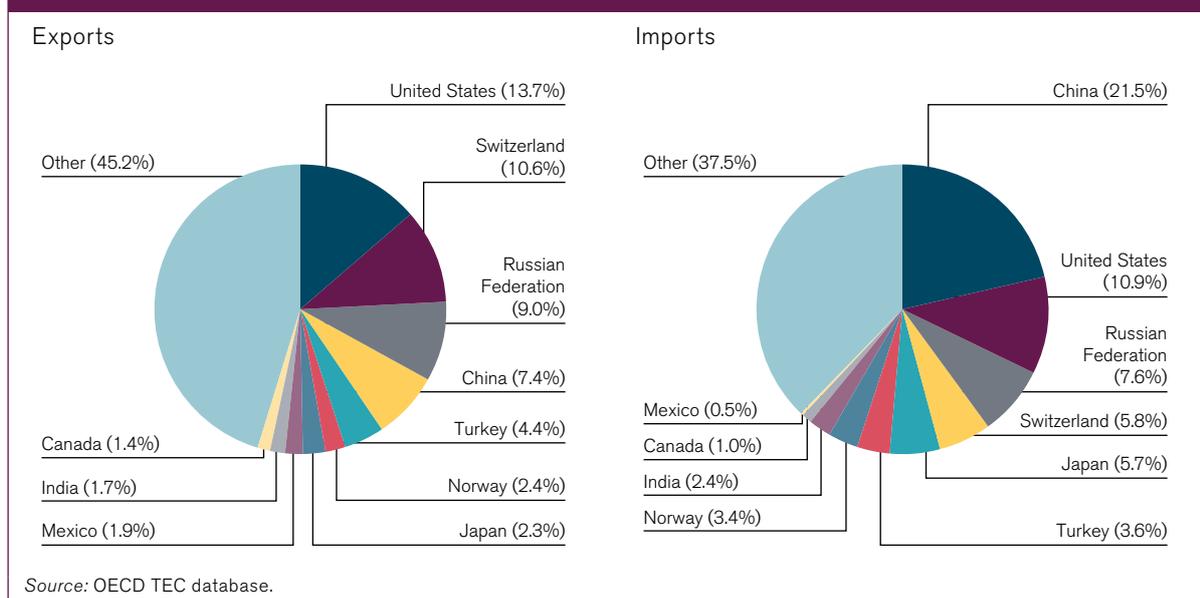
Figure B.6: Exports and imports of SMEs in developed countries by partner, 2012 (percentage)



markets than large firms. These findings by Lejárraga et al. (2014) could have important policy implications regarding the effectiveness of support for SMEs in accessing international markets.

The vast majority of MSME exports in developed countries are destined for other developed economies, and most MSME imports also originate in developed economies. China is the main exception, accounting for 2.3 per cent of developed country exports and 7 per cent of imports. This is shown in Figure B.6 for 2012,

the last year with sufficiently detailed data by partner. Shares of developed countries as partners of MSMEs may be exaggerated due to the fact that intra-EU trade is included in the chart. An alternative perspective is provided by Figure B.7, which shows the same data excluding trade between members of the European Union. In this case, China's shares in exports and imports of developed country SMEs rise substantially, to 7 per cent and 22 per cent, respectively, as do shares of other emerging markets such as India, the Russian Federation and Turkey.

Figure B.7: Extra-EU exports and imports of SMEs in developed countries by partner, 2012 (percentage)


One conclusion that might be drawn from the preceding charts is that MSMEs in developed countries, and particularly micro SMEs, have more difficulty in bridging the trade gaps between themselves and distant or dissimilar trading partners.

(b) Direct participation of SMEs in trade of developing countries

As noted in Section A, SMEs play an important role in economic and social development, particularly in poorer countries and LDCs. According to WTO calculations, based on data from World Bank Enterprise Surveys, out of more than 15,500 manufacturing and services firms in 41 LDCs, 88 per cent were SMEs, including some 59 per cent of small firms employing fewer than 20 people, and 29 per cent of medium-sized firms with 20-99 employees. In general, their direct participation in international trade is low. According to WTO estimates, based on data from World Bank Enterprise Surveys for over 25,000 SMEs in the manufacturing industry in developing economies, SMEs' direct exports represent on average just 7.6 per cent of total manufacturing sales.⁴ In contrast, large manufacturing firms, with more than 100 employees, directly exported 14.1 per cent of their total sales.

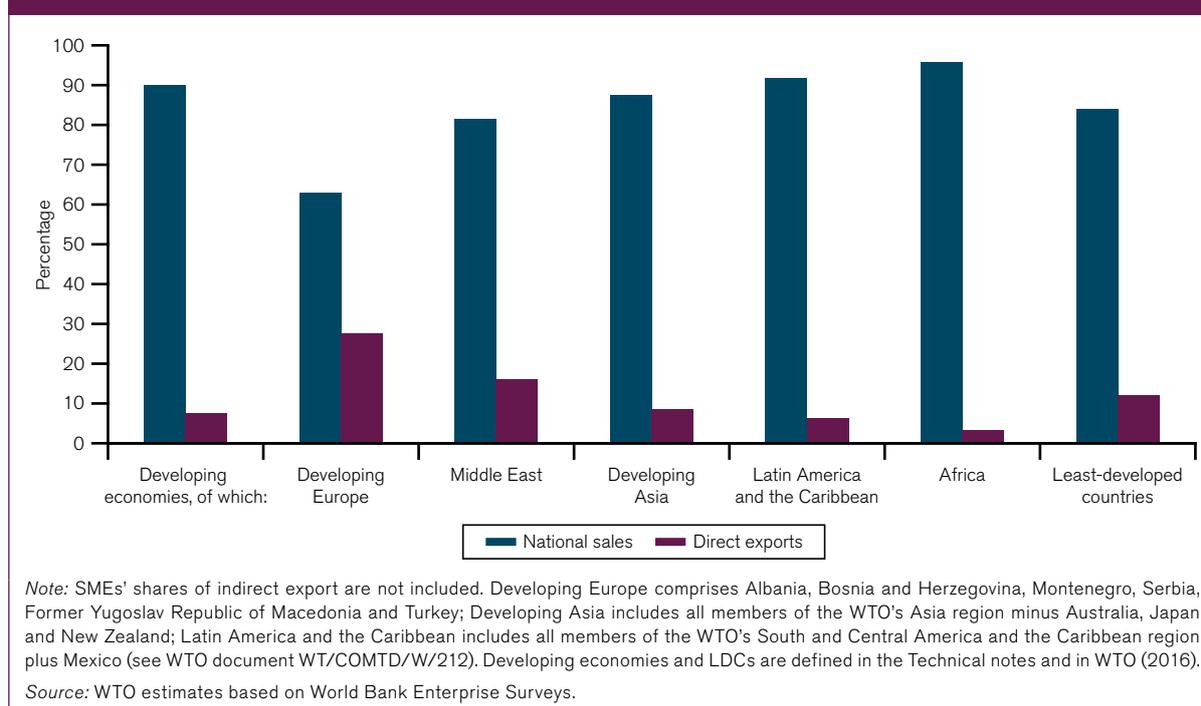
The involvement of SMEs in direct exports varies significantly across developing regions. The highest shares were recorded in Developing Europe, where they accounted for around 28 per cent of overall sales by SMEs, and in the Middle East (16 per cent). These shares are much higher than in SMEs in Developing

Asia (8.7 per cent). SMEs in Africa exported directly only 3 per cent of their total sales (see Figure B.8). As indicated above, the World Bank Enterprise surveys exclude micro enterprises (in the class size between zero and four employees). However, the World Bank has collected micro firm surveys in selected developing countries. Using these data, Box B.1 shows that in LDCs, direct involvement in trade of micro firms with less than five employees is marginal.

A sectoral analysis reveals that, in developing economies, SMEs' lower participation in direct exports than larger firms affects all manufacturing sectors, with the exception of the wooden furniture manufacturing industry and the publishing and printing industries (see Figure B.9). It should be noted that higher shares were in both cases predominantly due to SMEs in LDCs (66 and 30 per cent respectively). A considerable number of medium-sized firms in several LDCs, such as Bhutan, Mozambique, Myanmar, Tanzania, Uganda and Zambia, directly exported wooden sofas, beds, chairs, tables, etc. SMEs did not participate actively in the direct exports of textiles and garments. Their share of direct exports was often less than 5 per cent, well below the high percentages reported by large enterprises. Another example is manufacturing of office equipment and electronics, where large firms in developing economies exported directly, on average, around 43 per cent of their total sales, compared with 4 per cent by SMEs.

Participation by developing economies' SMEs in direct services exports was negligible, at less than 1 per cent

Figure B.8: SMEs' shares of direct exports in total sales in the manufacturing sector, by developing region and in the LDCs (percentage of total sales)



Box B.1: Participation of micro firms in exports in selected LDCs

Evidence from recent World Bank Micro firm surveys in selected LDCs confirms the marginalization of micro firms (i.e., less than five employees) in international trade. Micro firms were engaged in different sectors of the economy ranging from food manufacturing to the retail and wholesale trade and the leather goods industry, as well as restaurants and IT services. In 2013, out of the 412 surveyed micro firms in the Democratic Republic of the Congo, only 6 per cent were engaged in exports. The share of exporting micro firms, whether in manufacturing or services, in Bhutan and Ethiopia was even lower, at 3 per cent of the total. Finally, in Myanmar, less than one per cent of the 430 surveyed micro firms exported their products to foreign countries.

Micro firms were young, having started operations between 2004 and 2005, and several were run by females owners, with at least secondary education. In Myanmar, half of the owners held a university degree; in Ethiopia, one quarter.

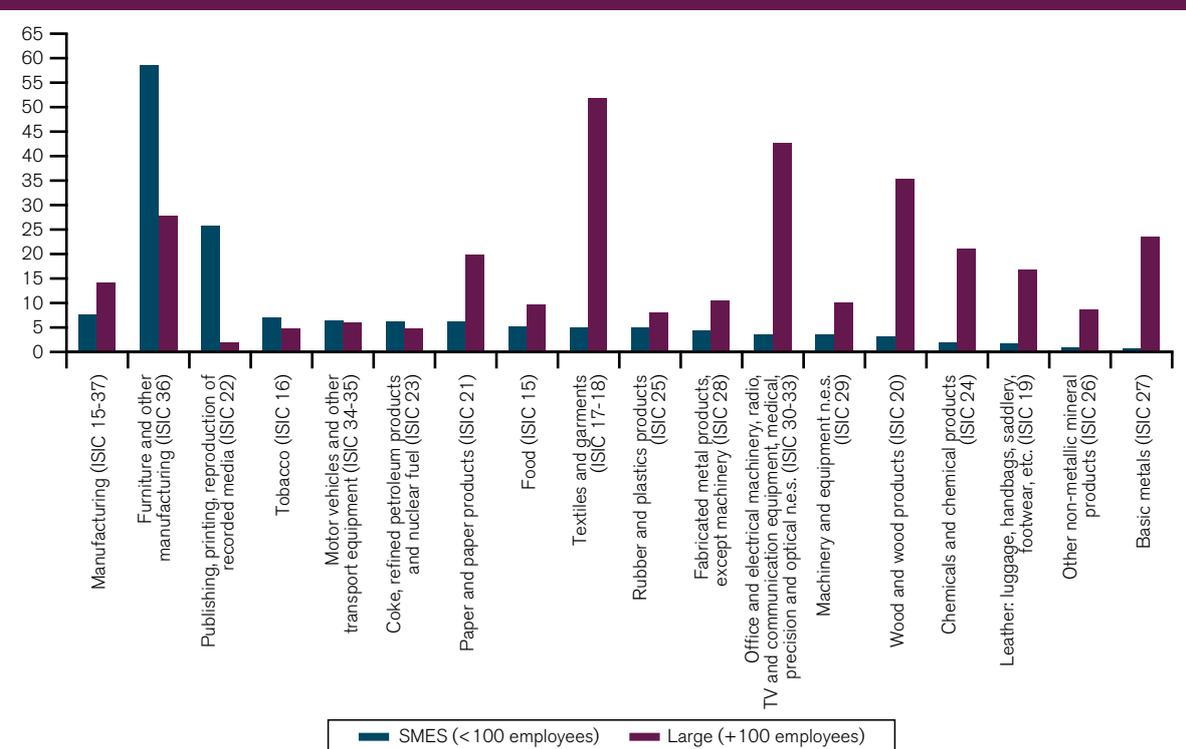
Virtually all micro firms were domestically-owned and targeted the local or national market. Only a handful in each country held international certificates of products and/or processes. While several micro-firms used the Internet to reach their clients or suppliers, only a few had their own websites, ranging from 2 per cent in Bhutan to 20 per cent in Ethiopia.

of total services sales, compared with 32 per cent of large firms. The difference in performance with large services firms is striking, ranging from 16 per cent in LDCs to peak to 40 per cent in large enterprises located in other developing economies (see Figure B.10).

In services, the highest share of direct exports by SMEs in developing economies was in transport (20 per cent of total sales). In communications, including

the provision of Internet access, the contribution was around 4 per cent. In the accommodation sector, the share of direct exports by SMEs was below one per cent. In LDCs, virtually all SMEs in construction activities, often foreign-controlled, supplied the national market. Finally, SMEs' participation in direct exports in higher-skilled services was marginal. Computer-related activities accounted for less than 1 per cent of their total sales compared with 23 per cent of large firms.

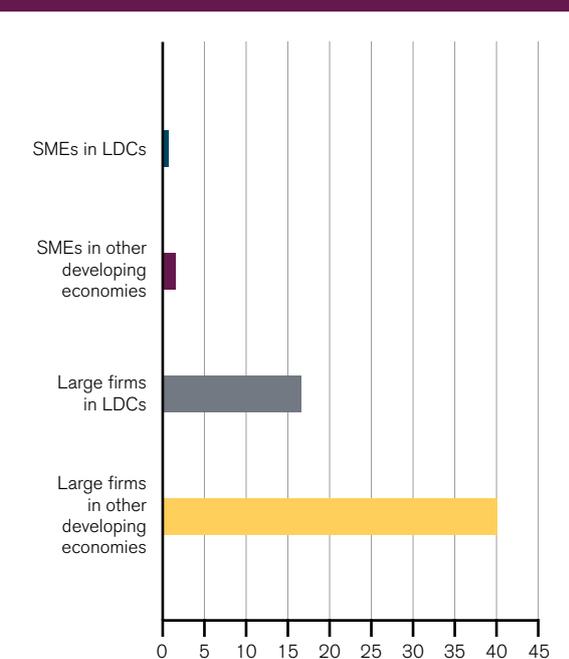
Figure B.9: Direct exports by manufacturing sector and firm size in developing economies (percentage of total sales)



Note: WTO estimates based on the International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 3.1. N.e.s. stands for "not elsewhere specified".

Source: World Bank Enterprise Surveys.

Figure B.10: Shares of direct services exports by firm size and developing group (percentage of total sales)



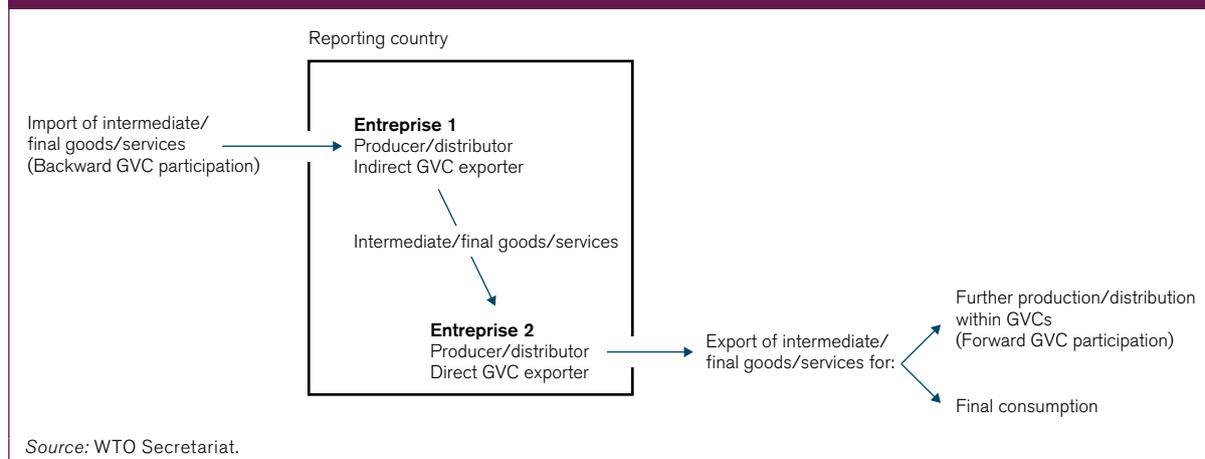
Source: WTO estimates based on World Bank Enterprise Surveys.

2. SME involvement in indirect trade and global value chains

Rather than exporting directly, SMEs may connect indirectly to global markets by supplying goods and services to other domestic firms that export. SMEs can use the services of domestic intermediaries such as agents or distributors to help market their products in foreign countries and reach new markets. However, goods and services produced by SMEs can also be indirectly exported as intermediate inputs incorporated in products exported through larger firms. In the manufacturing sector, for example, SMEs may be contracted to produce certain parts according to specifications of other companies, often larger ones, and enter value chains.

Over the last decades, rapid technological changes, coupled with more efficient and less costly transportation means, have significantly affected the ways goods and services are produced and sold. Thanks to lower barriers to international trade, the production of goods and services, rather than taking place in a single economy, is globalized and spread over firms located in different countries, along a chain. Trade in GVCs mainly refers to the exchange of goods

Figure B.11: Schematic presentation of GVC trade flows



and services along the production and distribution chains that are fragmented across countries. The production sequence is often supplemented by a logistics and distribution network in which intermediate and final products circulate within and across countries until they reach the final consumption market. Although GVC trade relates essentially to the exchange of intermediates, exports of final products always take place within the final stage of the chain. Based on the inputs produced by upstream suppliers, the ultimate enterprise in the production chain, which may or may not be the lead firm in the chain, completes the final product and sends it either to international distributors (wholesalers or retailers) or straight for consumption in the importing country.

Enterprises participate in GVCs in two ways related to the linkages with their foreign partners. *Backward linkages* correspond to the import of inputs from enterprises in order to produce intermediate or final goods and services for domestic consumption or further export. Enterprises may also import final products for further distribution through national or international networks. Backward linkages represent the “buyer’s” perspective or sourcing side in GVCs. *Forward linkages* represent the “seller-related” measure or supply side in GVC participation, when an enterprise exports intermediates through the international production chain or final products to distribution circuits.

It is also necessary to distinguish between direct and indirect forward linkages. An enterprise contributes directly to a GVC when it exports inputs to partner countries along the production chain for more processing (and subsequent domestic consumption) or further export through international networks. Direct exports of final products through international distribution chains are also part of GVC trade.

The indirect forward participation in GVCs mainly concerns enterprises that provide intermediate or final goods and services to larger domestic firms for exports through international networks. In this way, an enterprise behaves like an “indirect exporter” by contributing to the production or distribution of goods and services exported by other domestic enterprises. Direct and indirect forward participation in GVCs deal with exports of products for further exchanges within the production or distribution chains. Figure B.11 illustrates the above definitions and shows the domestic and international trade flows related to GVCs.

(a) Indirect exports and GVC participation of SMEs in developed countries

Only a few studies have examined the role of SMEs in indirect exports. In a report on the involvement of US companies in international supply chains, Slaughter (2013) stated that US multinational enterprises in a typical year purchase inputs valued at more than US\$ 3 billion from SMEs in the United States, equal to 25 per cent of total input purchases. Other estimates from the United States International Trade Commission (USITC) (2010) indicate that in 2007 the share of SMEs in gross exports rose from 28 per cent to 41 per cent once indirect exports were considered. A similar study on Canadian SMEs from Industry Canada (2011) produced estimates showing that 26 per cent of manufacturing enterprises sold inputs to other Canadian enterprises that were used in the production of final goods for export. However, Canadian SMEs were actually less likely than larger enterprises to export intermediate goods indirectly. Specifically, 26 per cent of small enterprises and 27 per cent of medium-sized firms exported intermediate goods indirectly, compared to 30 per cent of large enterprises.

Official enterprise surveys and business-related data sources such as Trade by Enterprise Characteristics (TEC), Services Trade by Enterprise Characteristic (STEC) or Structural and Demographic Business Statistics (SDBS) provide relevant information on SME trade and other domains like production, employment, productivity or consumption but they do not necessarily contain details to delineate the actual activity of SMEs indirect exports and within GVCs.

An alternative is to use the value added approach to trade, which allows the decomposition of gross exports into their domestic and foreign value added components, and tracking of trade in intermediates taking place within GVCs. Currently, the OECD-WTO Trade in Value Added (TiVA) database provides estimates on backward and forward linkages to GVCs for 61 reporters, 34 industries and seven historical years. For the time being, the global input-output table underlying TiVA and GVC participation data relies on the hypothesis of the homogeneity of firms and industries, meaning that all firms within a same industry are supposed to have the same production technology and the same share of imported inputs. This does not match the wide variety of enterprises engaged in GVCs (SMEs, multinational enterprises, processors, multinational affiliates).

An expert group on “Extended supply-use tables (E-SUT)” launched in 2015 by the OECD investigates ways to better reflect the heterogeneity of enterprises in the national Supply-Use Tables (SUTs) that are used to construct the global input-output table for

the TiVA database. The principle is to combine SUTs with business-related data sources, like TEC, SDBS or Foreign Affiliates Trade Statistics (FATS), to get E-SUTs that will expand the granularity of standard SUTs in several domains (see OECD, 2015b). Based on such developments, TiVA and related GVC indicators will be broken down by:

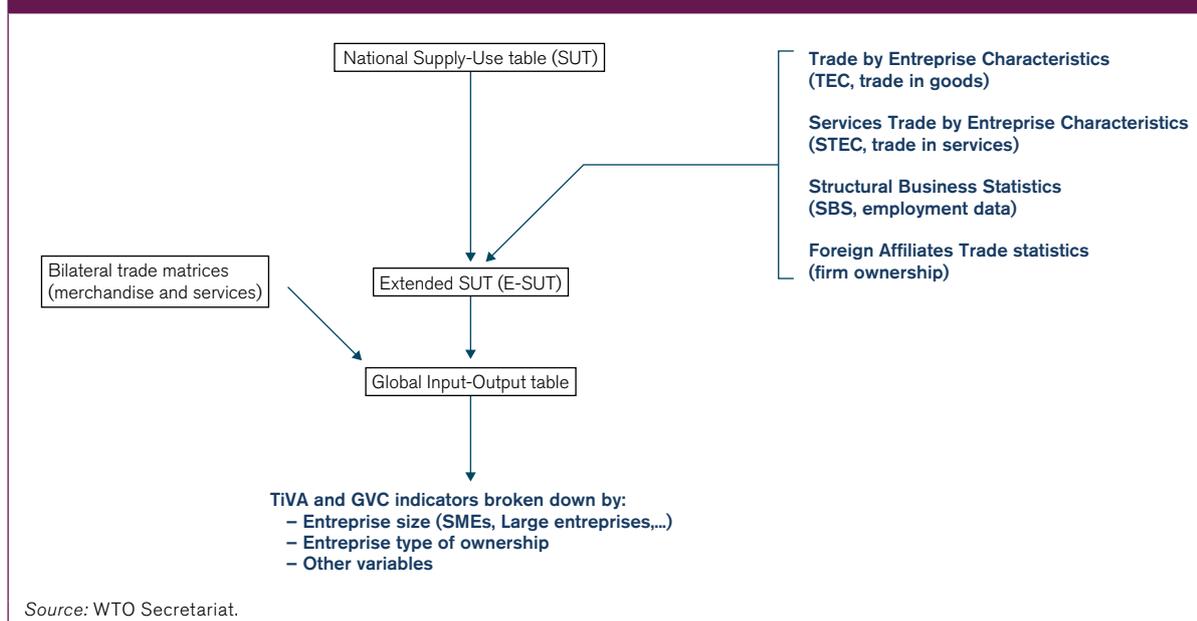
- Firm size (micro enterprises, SMEs, large enterprises, multinational enterprises).
- Ownership (domestic or foreign, using FATS).
- Export or processing intensity (companies involved or not in global production).

Figure B.12 presents the various data sources and production sequence that will be involved to produce trade in value added and GVC statistics by enterprise type.

The OECD carried out exploratory work to figure out the type of trade-in-value-added indicators that may result from the future extended-SUTs. The exercise consisted in linking national business statistics on SMEs with the global input-output tables developed for the OECD-WTO TiVA initiative. The results were presented in an OECD-World Bank Group report prepared for the G20 Trade Ministers Meeting held in Istanbul on 6 October 2015 (see OECD and World Bank, 2015).

The contribution of SMEs to GVCs is broken down into direct and indirect domestic value added contents

Figure B.12: Moving towards trade in value added and GVC participation by enterprise characteristics



of exports. The direct approach measures the contribution made by an SME in a sector of activity to the production of goods and services for export. The notion of indirect value added exports corresponds to the domestic value added originating from SMEs in upstream industries that provide inputs to the exporting industry.

For most of the OECD countries covered in the report, SMEs accounted for more than 50 per cent of the total domestic value added exports in 2009. Generally speaking, the direct contribution of SMEs to domestic value added exports is predominant over indirect exports. However, the proportion between direct and indirect exports varies greatly between industries. As shown in Figure B.13, the direct exports made by SMEs in the motor vehicles industry are marginal, whereas SMEs in other domestic sectors (manufacturing and services) contribute much more to the exports of this industry by providing components or intermediate services to motor vehicle exporters. Indeed, the direct contribution of SMEs to exports of the business services industry often exceeded 40 per cent of the total domestic value added

exported by the industry in 2009 for most of the reviewed countries (see Figure B.14). Overall, when cumulating the direct exports of SMEs with upstream supplies from other sectors, SMEs turn out to be the main exporters of business services in many OECD countries.

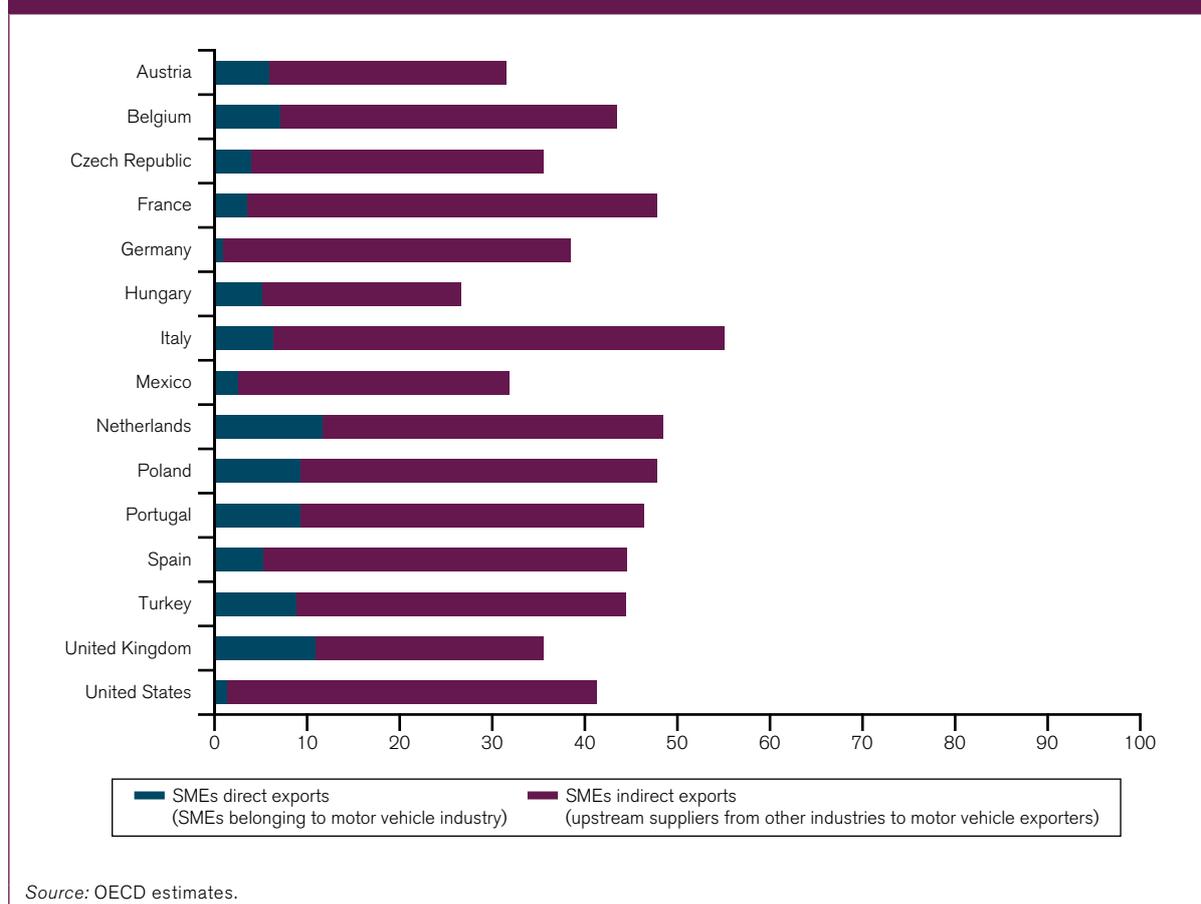
(b) Indirect exports and GVC participation of SMEs in developing economies

The World Bank Enterprise Surveys allow the indirect trade and potential activity of SMEs within GVCs to be quantified. This subsection exploits the available indicators to establish stylized facts for SMEs in developing economies.

(i) Indirect exports

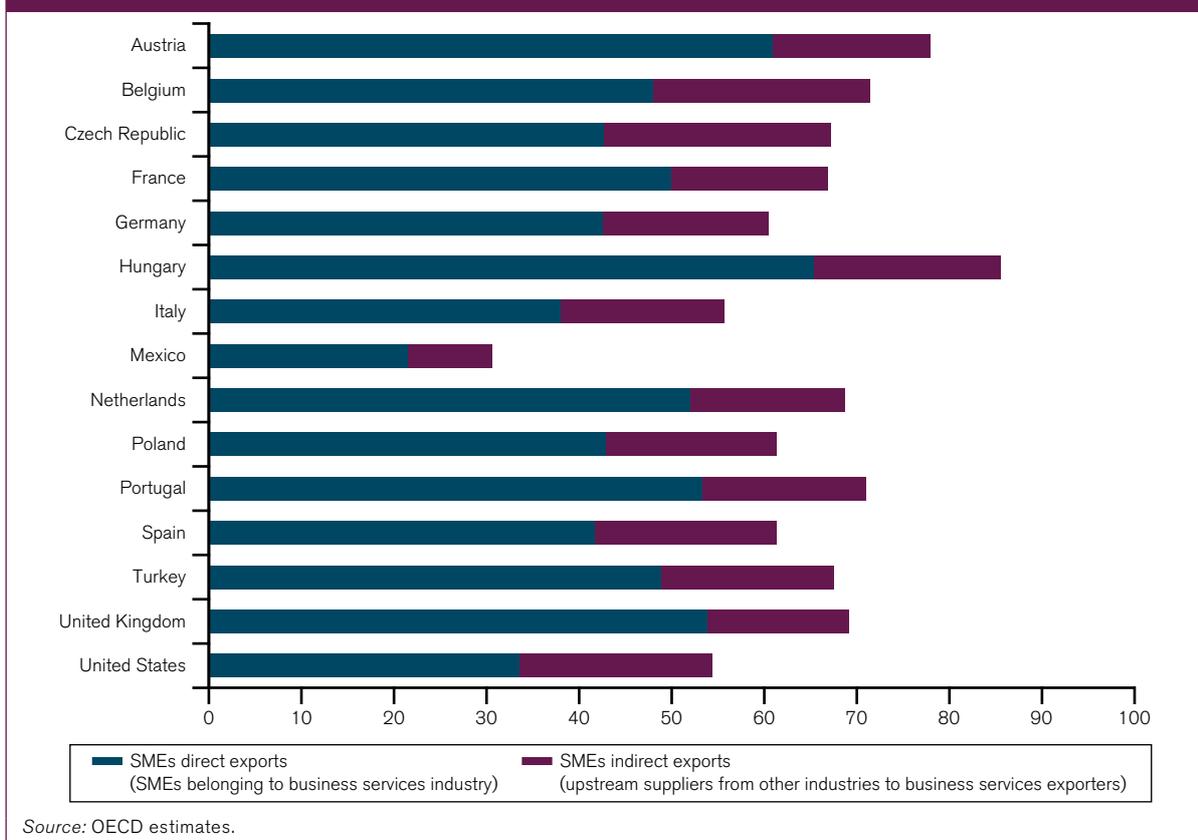
According to WTO estimates, in developing economies, the indirect exports in the manufacturing sector of SMEs were estimated, on average, at 2.4 per cent of total sales, a level three times lower than the estimated share of direct exports. Indirect exports account for

Figure B.13: SMEs' share of total domestic value added contained in exports of motor vehicles, 2009 (percentage)



Source: OECD estimates.

Figure B.14: SMEs' share of total domestic value added contained in exports of business services, 2009 (percentage)



a much larger share of sales in large firms (14.1 per cent), suggesting that they can adapt more easily to product requirements, such as standards and certification, made by other firms, or have a more efficient network of intermediaries (see Figure B.15). Overall, in developing economies, SME participation in exports, direct and indirect, was estimated at only 10 per cent of total manufacturing sales compared with some 27 per cent in larger firms.

SMEs in Developing Europe recorded the highest share of indirect participation in exports, estimated at around 9.3 per cent, followed by Developing Asia (3.7 per cent) and the Middle East (2.4 per cent), while African SMEs, excluding LDCs, saw only 1 per cent of their total sales exported indirectly (see Figure B.16).

At the product level, SMEs' highest shares of indirect exports were found in the manufacturing of various types of machinery, in the publishing and printing industry and in paper and paper products manufacturing, as well as in the automotive industry, where international production is widely organized. In all these sectors, the share of indirect exports in SMEs' total sales largely outpaced that of large firms (see Figure B.17). Large firms, by comparison, appeared

Figure B.15: Shares of direct and indirect manufacturing exports by firm size in developing economies (percentage of total sales)

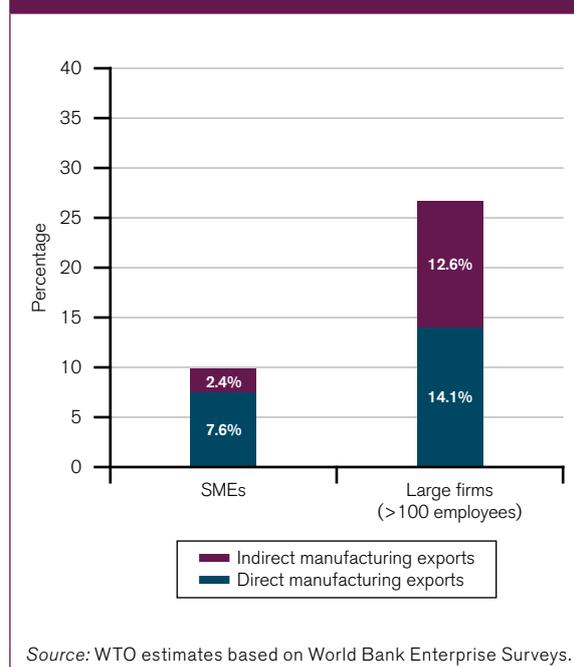
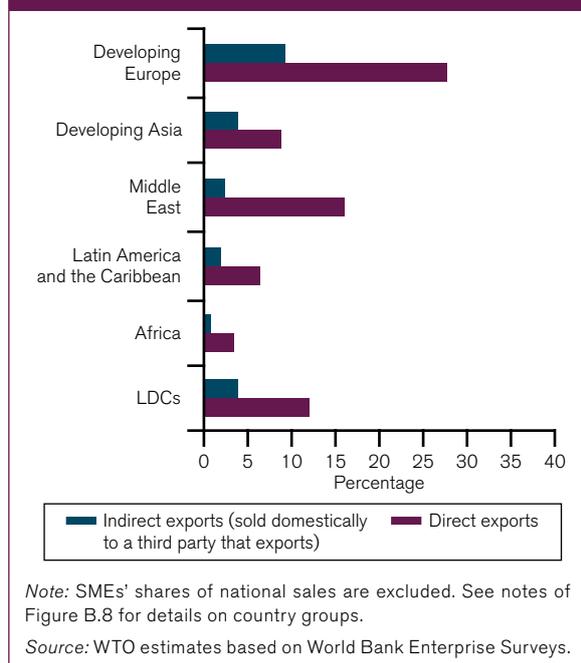


Figure B.16: SMEs' shares of indirect exports in total sales in the manufacturing sector, by developing region and in LDCs (percentage of total sales)



to be heavily engaged in the manufacturing of textiles and garments, office equipment and electronics, tobacco, glass and ceramics. And, especially in LDCs, leather goods and footwear.

Services SMEs in developing economies participated more in indirect exports than in direct exports. However, their overall participation in services exports is marginal, at 4 per cent of total services sales. It is interesting to note that large firms in developing economies supply services to foreign consumers predominantly through direct exports (see Figure B.18).

(ii) GVC participation

The opportunities for SMEs in global value chains are enormous. Participation in value chains exposes them to a large customer/buyer base, as well as to opportunities to learn from large firms and from engaging and surviving in the hotly contested sectors of the global marketplace. The penetration of global value chains, however, also presents huge and often daunting challenges for SMEs (ADB, 2015).

Unfortunately, data on SMEs trade in GVCs are scarce. Official business data sources, like TEC, STEC or

Figure B.17: Indirect exports by manufacturing sector and firm size in developing economies (percentage of total sales)

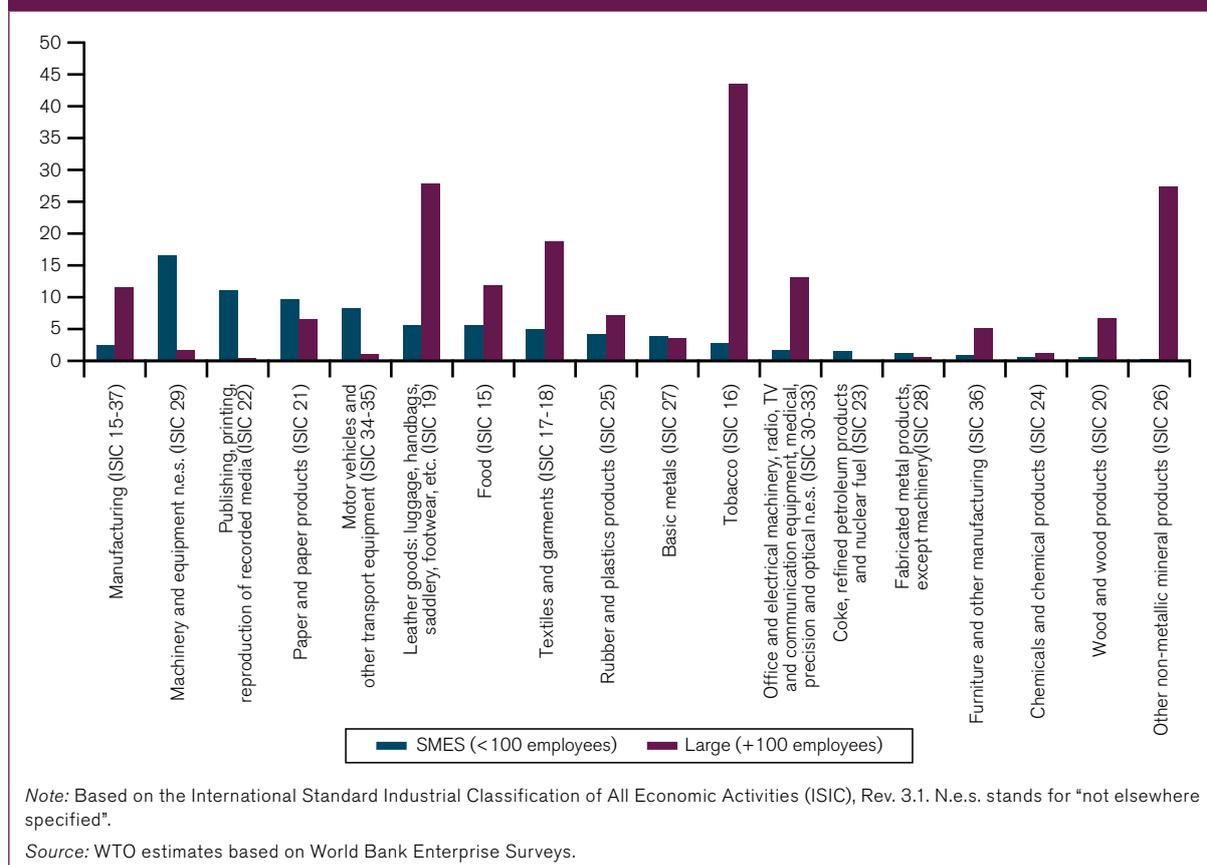
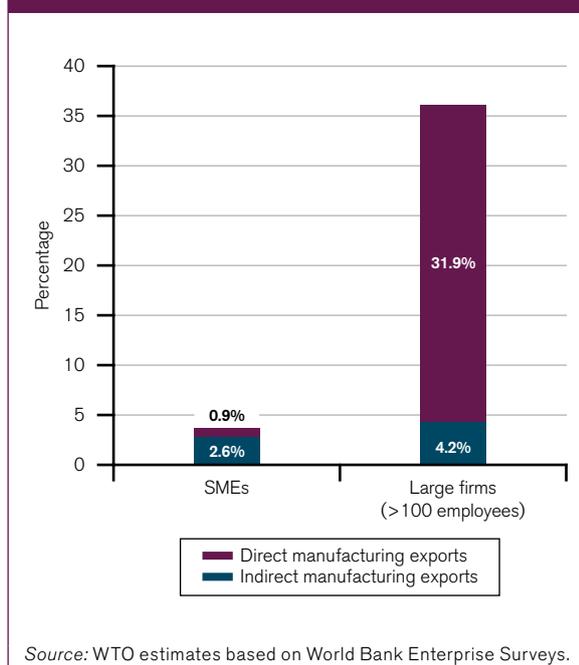


Figure B.18: Shares of direct and indirect services exports by firm size in developing economies (percentage of total sales)



SDBS, do not always cover GVC activity and they focus largely on developed economies.

The World Bank Enterprise Surveys shed light on SMEs' potential activity within GVCs in developing economies. The indicator within the Enterprise Surveys, "Percentage of material inputs and/or supplies of foreign origin" refers to the upstream linkages that SMEs set up with foreign partners to get inputs for their production and related exports. This indicator is used as a proxy for the backward participation in GVCs. Average backward participation was calculated as the average of foreign inputs used in the manufacturing process for each economy, by firm size and by manufacturing sector.

On the supplier side, two indicators are combined to approximate SMEs' forward participation to GVCs, namely the "Sales exported directly as percentage of total sales" and the "Sales exported indirectly as percentage of total sales". However, such indicators present some limits in outlining the actual role of SMEs in GVCs, as they do not give information on the end-use category of the exported goods and services. Although no distinction is made between exports of intermediate goods and services that are further used along the production chain, and products dedicated to final consumption, these two indicators are retained to estimate the potential of SMEs' downstream linkages to GVCs.

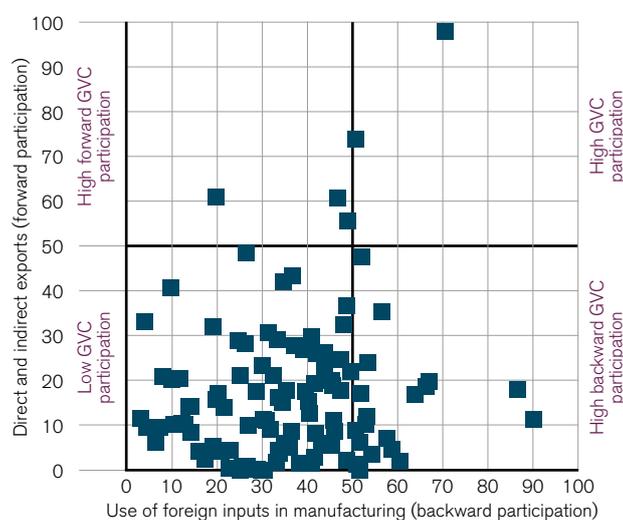
Over 33,000 surveyed establishments engaged in the manufacturing sector in developing economies reported the values of total sales, largely in local currencies, and their percentage breakdown into national sales, direct exports, and indirect exports. Values of direct exports and of indirect exports were calculated for each establishment then converted into US dollars. Direct exports and indirect exports data were then aggregated to provide average shares of direct exports and indirect exports for individual economies, further broken down by size of firm and by manufacturing sector.

According to WTO estimates, SMEs in the manufacturing sector in developing economies are not actively engaged in GVCs. Participation is mainly driven by upstream links (backward participation), with SMEs importing inputs needed in the manufacturing process from abroad. However, only a limited part of SMEs' production is exported to foreign countries, whether directly or indirectly. As shown in Figure B.19, the vast majority of SMEs in developing economies are located in the bottom left quadrant, suggesting a low GVC participation (low backward/forward participation).

The low levels of integration of SMEs into GVCs are evident especially if compared with large manufacturing firms (Figure B.20). In Developing Asia and in Latin America and the Caribbean, large firms are integrated into GVCs, as shown by some economies' very high values of backward/forward participation. By contrast, SMEs in the region have a low forward participation, with most countries concentrated in the bottom-left square in the chart, suggesting that they are not yet involved in GVCs. SMEs in Developing Asia also use on average fewer inputs of foreign origin (Figure B.21). This can be explained by the fact that Asia's industrial network is more advanced than in other developing regions. Asian firms are themselves the manufacturers of inputs/intermediate products, for foreign firms in particular, in developed economies. Necessary inputs are largely available domestically and so do not need to be imported from abroad.

Estimates suggest that in Africa, it is not only SMEs but also large firms that do not benefit from participation in GVCs. Both SMEs and large firms in several African economies show high backward participation. Compared with other regions, they import a large share of inputs from foreign countries in order to be able to manufacture their products. However, their forward participation is the lowest across all the developing regions. A sectoral analysis shows that, in general, SMEs' poor integration in GVCs affects all manufacturing industries, with the exception of the furniture-making sector, in which SMEs in LDCs have a high share of direct exports (as shown in the

Figure B.19: SMEs in developing economies: backward and forward participation in GVCs (share in total sales and share in total inputs, percentage)



Note: Each square represents the average GVC participation of SMEs in a given developing economy.

Source: WTO estimates based on World Bank Enterprise Surveys.

previous subsection). By contrast, large enterprises are relatively more connected to GVCs in several sectors, in particular in the textiles and garments industry and in the manufacturing of office equipment such as computers and electronic products. In these industries, developing economies have high levels of forward participation in GVCs. Large firms also show a good level of integration in GVCs in the leather goods manufacturing industry.

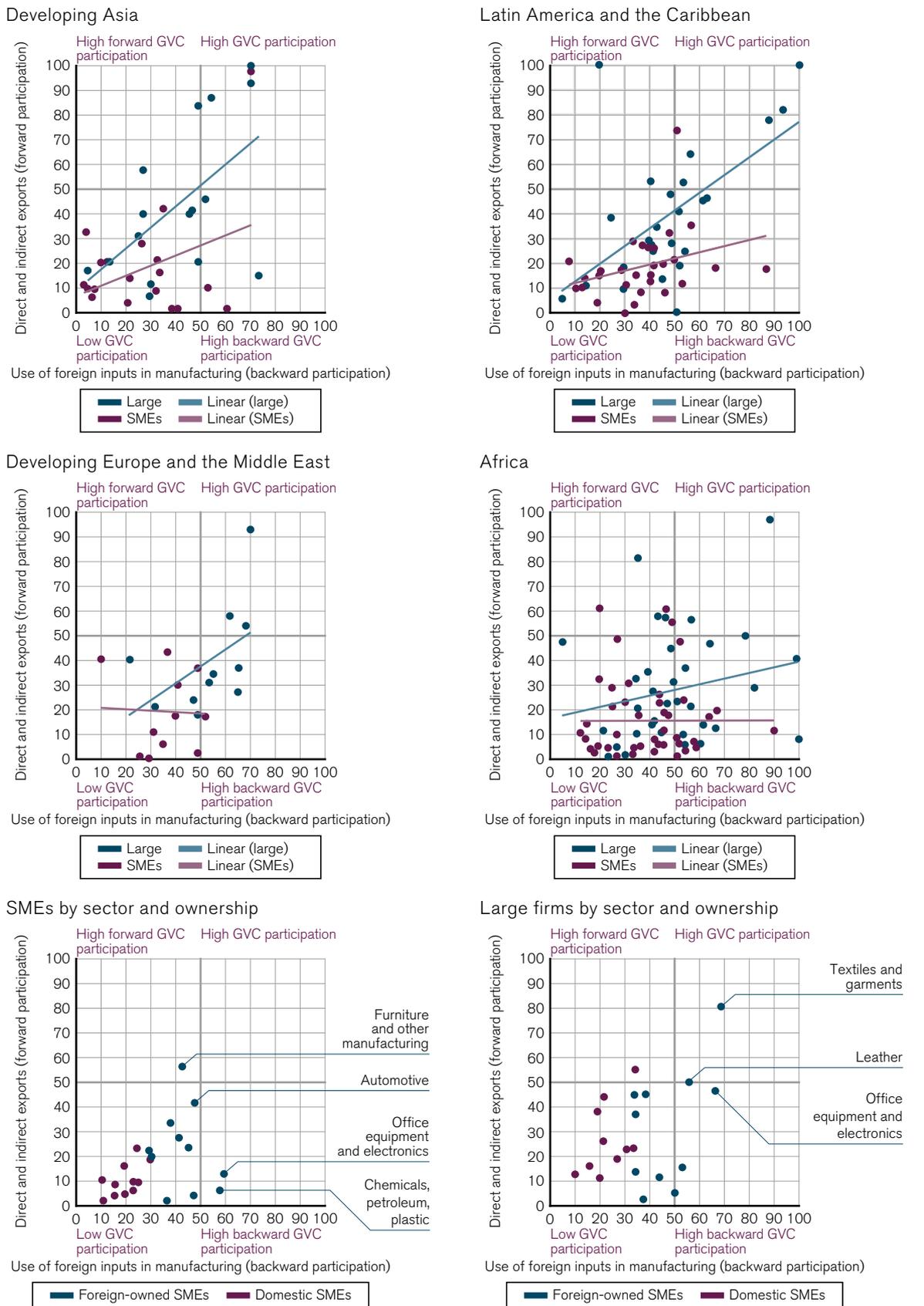
Figure B.20 also shows average backward/forward participation in GVCs by firm size, manufacturing sector and ownership. FDI plays an important role in firms' integration to GVCs, whether small or large. Estimates show that foreign-owned SMEs have more linkages to GVCs than domestic SMEs. These firms import more inputs to be used in the manufacturing process than domestic SMEs, showing higher levels of backward participation in GVCs. In addition, they can export a much larger share of their production (forward participation), and this applies to almost all manufacturing exports. For example, in the automotive sector, direct and indirect exports accounted for over 40 per cent of SMEs' total sales, while in domestic SMEs the share was around 10 per cent. Similarly, in the furniture manufacturing industry, which recorded the highest share of direct export to total sales, the contribution was essentially made by foreign-owned SMEs.

3. SME participation in international e-commerce

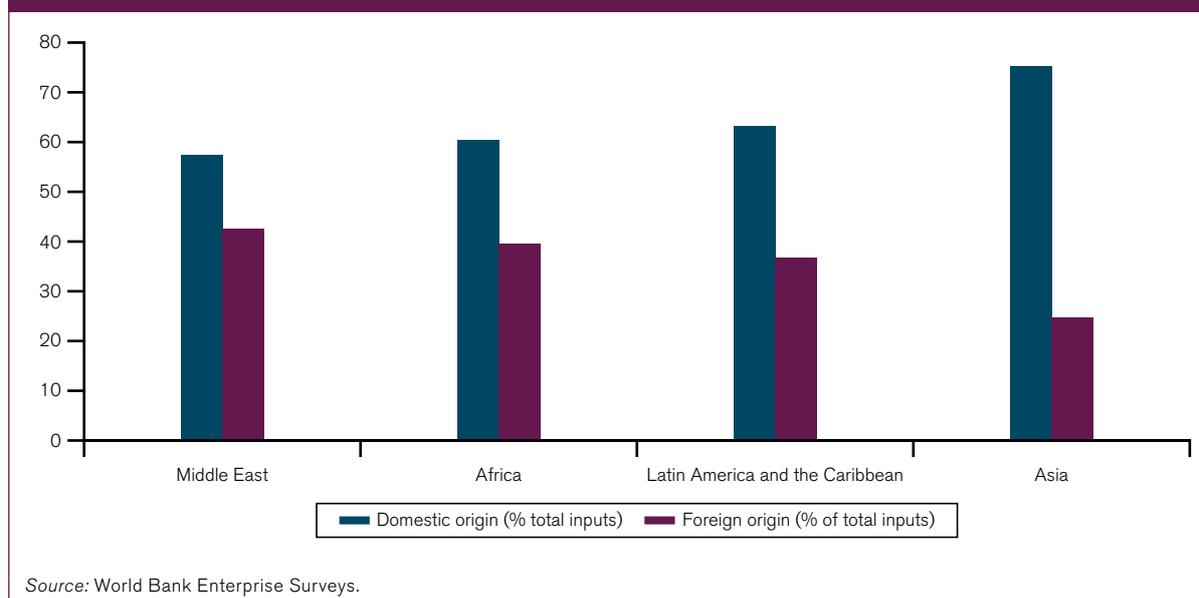
The development of electronic commerce as a means for firms to reach customers in overseas markets promises to dramatically expand export opportunities for SMEs if certain obstacles – including those related to information and communications technology (ICT) infrastructure, and to the legal and regulatory environment, discussed in Section D.4 – can be overcome. Retail businesses and service providers such as Amazon, eBay, PayPal and others now provide platforms and payment systems that facilitate exports by even the smallest firms. Digital technologies reduce trade costs for SMEs and give them a global presence that was once reserved for large multinational firms, allowing small businesses to compete directly with larger companies. Some of the services that the Internet-based technologies have made more accessible to SMEs include shipping/logistics, international payments, translation services, customer services and market research.

This section reviews available evidence on SME trade enabled by information technology. For the purposes of this report, e-commerce is defined as the production, advertising, sale and distribution of goods and services via telecommunication networks such as the Internet.

Figure B.20: SMEs and large enterprises: backward and forward participation in GVCs by region, ownership and manufacturing sector (share in total sales and share in total inputs, percentage)



Source: WTO estimates based on World Bank Enterprise Surveys.

Figure B.21: Use of foreign and domestic inputs in production of SMEs by developing region (percentage)

E-commerce can be broken down into sales (e-sales) and purchases (e-purchases). In its survey on ICT usage in enterprises survey, the European Union finds that purchases by companies are twice as frequent as sales.⁵ This section discusses cross-border online sales, as opposed to domestic online sales. It should be emphasized from the outset that most e-commerce today is reported to be domestic commerce, especially in large economies (McKinsey Global Institute, 2013a). Cross-border online transactions, as a share of total online sales to consumers, are significantly larger in some developing countries (e.g. more than 50 per cent in India and Singapore) than in developed countries (e.g. 20 per cent for Canada and 18 per cent for Japan) (McKinsey Global Institute, 2013a).

The Internet has proved to be significantly more amenable to SMEs than private business networks that predated it. The United Kingdom Office for National Statistics has estimated that between 2009 and 2013, SMEs web-based sales increased five times faster than sales via EDI (electronic data interchange) systems. eBay also published a series of studies (eBay, 2012; 2014; 2016) using data covering transactions on the eBay Marketplace since 2010. To ensure that the community of small commercial enterprises is properly captured, and that small individual sellers are excluded, the data are limited to transactions by sellers with annual sales of more than US\$ 10,000 (or local currency equivalents) on the eBay marketplace. These firms are referred to as “commercial sellers”, or small online businesses. To allow for comparisons with “traditional”, non-Internet-enabled SMEs, eBay has

used data from publicly available sources including the World Bank, Eurostat, and various national statistical agencies.

Broadly, these studies find that the vast majority of technology-enabled small firms export: 97 per cent of them on average, and up to 100 per cent in some countries. By comparison, only a small percentage of traditional SMEs exports (between 2 per cent and 28 per cent for all countries except Italy and Thailand, see Figure B.22). Not only do Internet-enabled commercial SMEs export at a high rate, they also reach a large number of foreign destinations. For example, SMEs in China typically export to 63 countries, and Korean SMEs typically export to 57 countries (Figure B.23).⁶

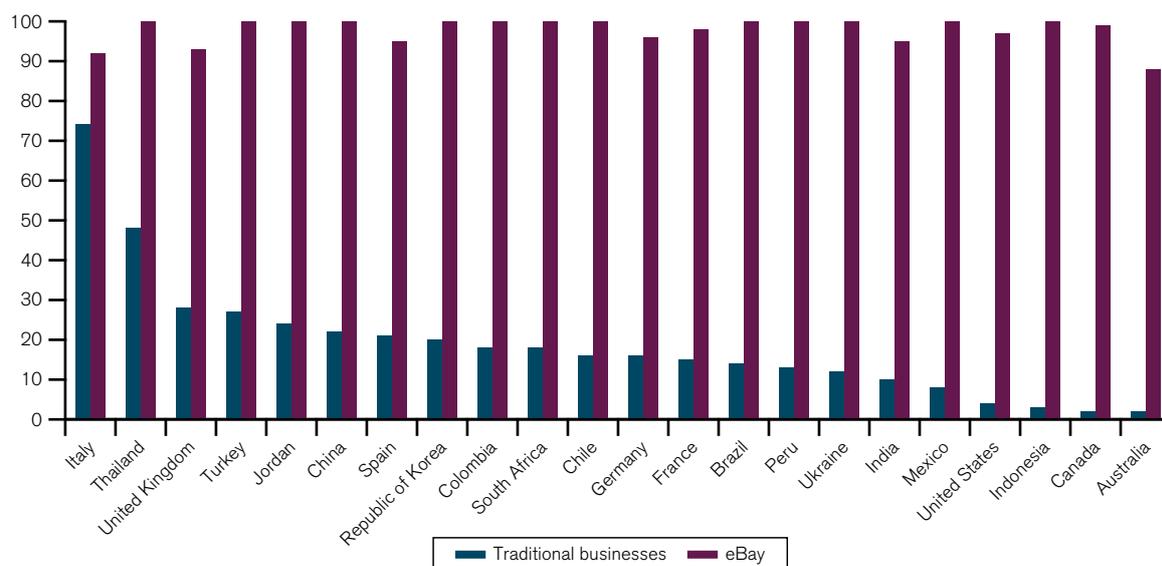
One difference between exporting SMEs and large exporters is that shipments from SMEs are often of low volumes and frequently consist of single items shipped through traditional mail or by express delivery companies. The rapid growth in shipments of parcels by post offices (Figure B.24) could signify growing shipments by SMEs. Growth has been fastest in developed countries (average annual growth of more than 10 per cent since 2005), but negative in Africa (-3.1 per cent) and stands at 0 per cent in Asia and the Pacific and in Latin America. One possible explanation for the low rates of postal delivery of packages in Africa, Asia and Latin America is that shipments in these regions may be conducted by express delivery companies and cost more than traditional mail. The 40 per cent rise in the index of international express delivery volumes registered by the Global Express

Association (DHL, FedEx, TNT, and UPS) between 2008 and 2013 is suggestive evidence in this regard.

Online buying and selling are relevant to trade in both goods and services. Even when trade in goods is involved, services also play a role. Online facilities, even those primarily offering merchandise, are also a form of retailing service. Moreover, online trade is

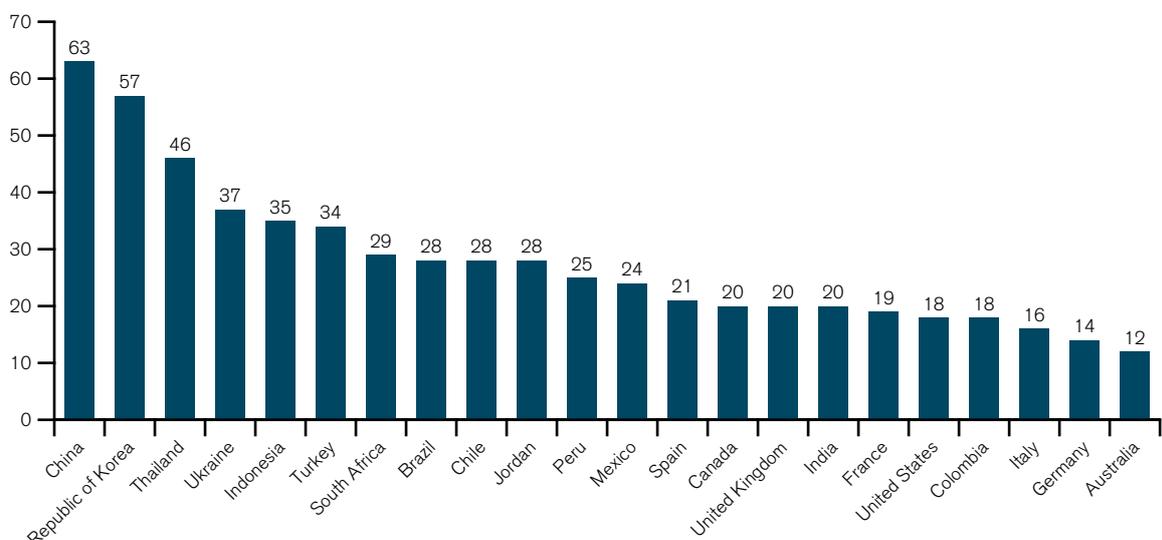
naturally relevant for services that can be delivered electronically. This encompasses such activities as professional services, business processing, back office services and digital products such as software, music, films, e-books and consultant reports. With the offer of online reservations, ticketing, tracking and customer service, tourism was among the first services sectors that engaged significantly in online business. As shown

Figure B.22: Share of eBay-enabled and traditional SMEs (percentage)



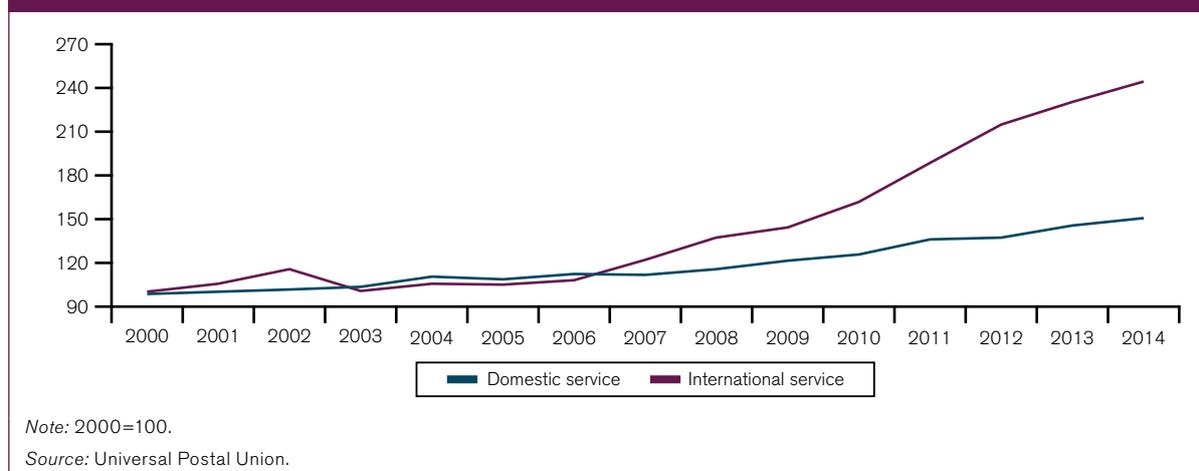
Source: Data for all countries were sourced from eBay (2016) except Jordan, Peru and Ukraine, which were sourced from eBay (2012), and Turkey, which was sourced from eBay (2014).

Figure B.23: Number of export destinations of eBay-enabled SMEs



Source: Data for all countries were sourced from eBay (2016) except Jordan, Peru and Ukraine, which were sourced from eBay (2012), and Turkey, which was sourced from eBay (2014).

Figure B.24: Index for worldwide number of ordinary parcels, domestic and international service, 2000-2014



in a case study on the sector in Egypt (Kamel and El Sherif, 2001), SMEs participated in this trend.⁷

An increasing number of e-commerce platforms are set up or adapted with the specific goal of assisting SMEs or even individual sellers, such as freelancers or designers of arts and crafts.⁸ For example, Etsy, an online market for artisans and small producers, recorded US\$ 2 billion in sales in 2014, with more than one-third of those representing international sales (McKinsey Global Institute, 2015). Large retail platforms and service providers such as Amazon, eBay and PayPal now provide or are developing ancillary services and payment systems to facilitate exports by even the smallest sellers. Such online marketplaces can offer SMEs a means to scale up at minimal cost, providing nearly instant solutions that include secure payment systems, logistics support, and global visibility of the kind once reserved for large firms.

Another promising development for SMEs engaging in all types of business activities is the growing number of independent commercial business-to-business (B2B) trade platforms. In the infancy of e-commerce, those that initially emerged were usually corporate procurement portals by large multinationals, permitting sellers to bid. The new models, however, offer sellers the possibility to market their wares to other businesses, and frequently tend to offer a wider range of goods and services than consumer-oriented platforms. Indiamart.com and Tradekey.com are two examples, offering on their websites a host not only of business supplies and equipment, but also a range of business, professional and financial (e.g. insurance) services.

Online sellers can also benefit from the possibility to analyse large volumes of data that is available from web-based applications, often referred to as Big Data.

By turning a series of discrete snapshots into a more holistic view of customer's behaviour and motivation, Big Data analysis can significantly boost online sales (Van Bommel et al., 2014). Such services are becoming more affordable for start-ups and SMEs (OECD, 2015a). Some e-commerce platforms offer such data to their sellers, while analytics software, often combined with cloud processing and storage, is also available for companies that sell via their own websites.

Even in situations where formal trading platforms are not easily accessible or affordable, social media are playing an important role in SME trade. Some commercial trade platforms, for example, require sellers to be registered businesses, whereas on social media, informal micro enterprises and even individual entrepreneurs can operate. Such sites may also be more readily accessible by means of mobile technologies for keeping in touch with customers as well as securing and organizing sales. Research by the McKinsey Global Institute (2016) shows that the number of SMEs with a Facebook page is growing, from 25 million in 2013 to 30 million in 2014 and 50 million in 2015. While local followers are currently in the majority, cross-border foreign exposure is significant (at 30 per cent). For example, more than 20,000 independent designers and artists showcase their work on Pinkoi, an online marketplace based in Chinese Taipei. The company has connected with customers in more than 47 countries, using Facebook to expand its reach throughout the Asia-Pacific region (McKinsey Global Institute, 2016).

Despite the promises of e-commerce, SMEs continue to be less well represented online than larger enterprises. One reason for this is the requirements involved in establishing a retail-ready website, which is a very important condition for facilitating online sales. In the United Kingdom (where 70 per cent of

individuals purchase products online, more than any other country according to Figure II.3 in UNCTAD, 2015) in 2013, nearly 77 per cent of firms with 49 or fewer employees had a website, whereas nearly 99 per cent of the largest firms surveyed had one (see Table B.1).⁹ Fewer SMEs in developing countries have a website, as shown in Table B.2. In a dynamic perspective, Table B.3 reports the share of enterprises receiving orders over the Internet, and its growth rate between 2010 and 2014. The table confirms that SMEs persistently rank behind larger firms in terms of online retail, despite moving toward online retail in most economies.

4. MSME trade participation over time

Very limited information is available on the evolution of MSME trade, either direct or indirect, in both developed and developing economies. No strong trend either up or down in export participation rates of MSMEs (0-250 employees) can be discerned from the

OECD TEC database, although slightly more than half of countries recorded increases over a relatively short period of less than 10 years, including large countries such as France and the United States (Figure B.24). Meanwhile, among developing countries and LDCs covered in the World Bank Enterprise surveys, one can observe a moderate growth of exports from SMEs (5-100 employees) between the first survey and the most recent one (see Figures B.25, B.26 and B.27). However, it is not possible to infer a significant trend, as sample data are too heterogeneous, having different benchmark years depending on countries.

Among LDC countries (see Figure B.26), Tanzania recorded the highest increase in exports for small enterprises between the two survey periods, with the share of exporting small enterprises moving from 2.8 per cent in 2006 to 11 per cent in 2013. This evolution is particularly due to the rise of indirect exports, most likely through larger enterprises. In general, the sample suggests that medium-sized enterprises in LDCs export more than smaller ones, with a greater increase in indirect exports between the two survey

Table B.1: Proportion of businesses in the United Kingdom with a website, by size of business, 2007-2013 (percentage)

Year	Employment size				
	10-49 employees	50-249 employees	250-999 employees	1,000+ employees	All size bands
2007	65.8	89.3	94.4	97.6	70.0
2008	70.6	91.3	95.2	97.9	74.5
2009	72.0	91.9	96.9	98.3	75.7
2010	75.3	92.3	96.0	98.7	78.5
2011	78.7	93.6	96.2	98.6	81.4
2012	77.6	92.9	95.7	98.7	80.3
2013	76.6	94.9	95.8	98.6	79.7

Source: UK Office for National Statistics.

Table B.2: Proportion of businesses in developing economies with a website, by size of business (percentage)

	Employment size				
	0-9 employees	10-50 employees	51-100 employees	101-250 employees	251+ employees
Developing	22.75	43.94	67.25	75.11	84.79
G20 developing	32.33	52.8	72.88	81.37	88.93
Other developing	23.62	43.79	65.88	73.66	84.88
LDCs	12.33	27.25	53.44	58.08	71.64

Source: World Bank Enterprise Surveys (last available survey per country), authors' own calculations.

Table B.3: Proportion of businesses receiving orders over the Internet (percentage)

Economy	10-49 employees			50-249 employees			+250 employees		
	2010	2014	% change	2010	2014	% change	2010	2014	% change
Countries with low proportion of orders received by firms with 10-49 employees in 2010									
Bulgaria	3.3	7.9	144%	6.0	11.5	92%	7.3	12.2	67%
Cyprus	5.9	8.7	46%	15.1	26.1	73%	14.8	33.5	126%
Estonia	8.7	12.5	44%	18.6	21.3	15%	29.7	32.0	8%
Greece	8.3	9.3	11%	13.0	18.7	44%	20.0	20.5	3%
Hungary	7.9	11.5	46%	12.9	17.9	39%	23.6	31.1	32%
Italy	4.5	7.3	62%	8.0	13.1	63%	16.6	26.0	57%
Latvia	6.2	7.5	21%	10.0	14.8	48%	15.5	22.8	47%
Poland	7.3	10.1	39%	11.8	16.1	37%	24.5	34.4	40%
Romania	6.4	7.4	15%	6.4	8.9	39%	8.2	15.1	84%
Slovak Republic	7.1	12.3	72%	10.0	19.5	95%	14.7	29.0	97%
Slovenia	10.0	15.1	50%	18.8	27.6	47%	39.0	50.2	29%
FYROM	3.7	6.8	87%	6.7	7.3	9%	6.0	10.7	77%
Countries with medium proportion of orders received by firms with 10-49 employees in 2010									
Austria	15.0	14.9	-1%	28.1	27.1	-3%	46.0	45.7	-1%
Belgium	25.9	22.1	-15%	42.6	32.8	-23%	53.3	49.1	-8%
Croatia	24.4	24.2	-1%	23.2	32.5	40%	29.9	51.9	74%
Czech Republic	18.8	26.1	39%	25.1	30.4	21%	38.7	45.1	17%
Denmark	27.8	25.8	-7%	33.6	35.4	5%	49.9	53.4	7%
Finland	15.8	15.4	-3%	30.9	32.4	5%	48.7	49.5	2%
France	12.3	12.4	1%	21.5	26.3	22%	34.7	44.2	27%
Germany	21.4	23.6	10%	30.2	30.3	0%	45.1	45.6	1%
Iceland	16.3	29.4	80%	34.7	53.8	55%	51.8	53.1	3%
Ireland	18.1	20.4	13%	33.6	40.4	20%	34.8	45.6	31%
Lithuania	21.3	17.9	-16%	24.0	24.6	2%	27.6	29.8	8%
Malta	15.1	15.9	5%	26.0	29.1	12%	27.8	30.7	10%
Netherlands	21.4	21.8	2%	30.5	31.5	3%	42.0	39.9	-5%
Portugal	18.3	12.6	-31%	24.8	24.3	-2%	36.5	40.6	11%
Spain	11.8	16.8	43%	18.9	26.6	41%	29.0	36.4	26%
Sweden	21.8	23.3	7%	39.6	39.7	0%	54.7	53.1	-3%
United Kingdom	14.3	19.3	36%	28.0	29.5	5%	43.8	47.9	9%
Countries with high proportion of orders received by firms with 10-49 employees in 2010									
Indonesia	26.1*	35.8	37%	57.8*	46.9	-19%	58.6*	54.6	-7%
Mauritius	35.7	35.4*	-1%	36.1	47.4*	31%	46.2	56.2*	22%
Norway	36.3	26.2	-28%	45.7	37.5	-18%	50.4	44.9	-11%
Singapore	42.0	56.3*	34%	61.0	62.9*	3%	57.1	69.2*	21%

Notes: * indicates 2013 data. Only economies for which time series data is available are included. FYROM is the former Yugoslav Republic of Macedonia.

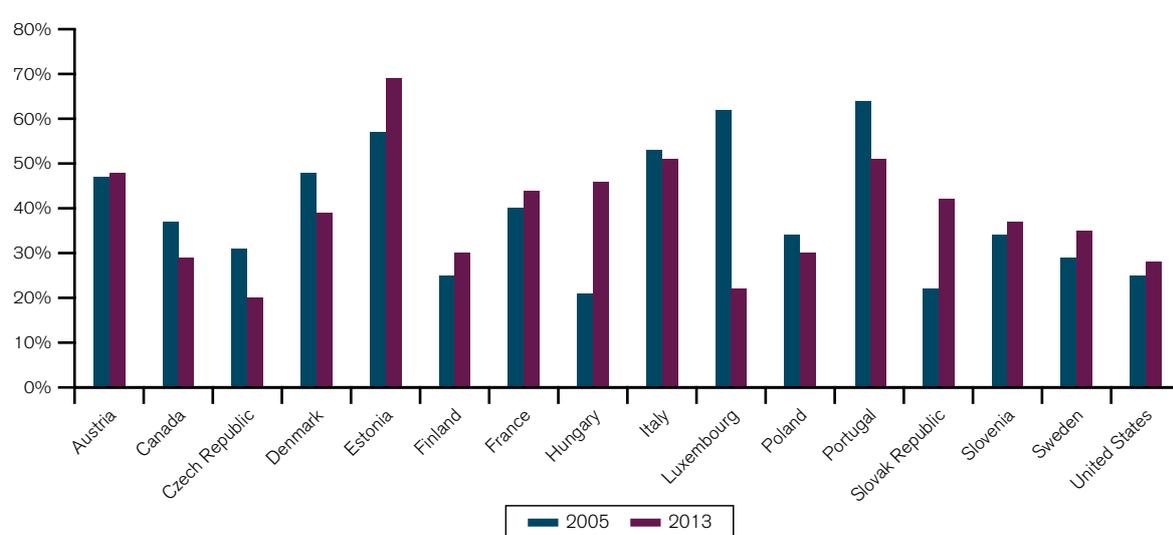
Source: Author's elaboration based on UNCTAD (2015) and additional data from UNCTAD.

periods. This is an indication of the rising integration into domestic value chains and maybe even global value chains, especially when enterprises act as local suppliers of foreign-owned corporations. Despite the increased contribution to international trade over time, the progression noticed for direct and indirect exports varies widely according to countries.

According to estimates based on the World Bank Enterprise Surveys, covering over 3,000 large firms

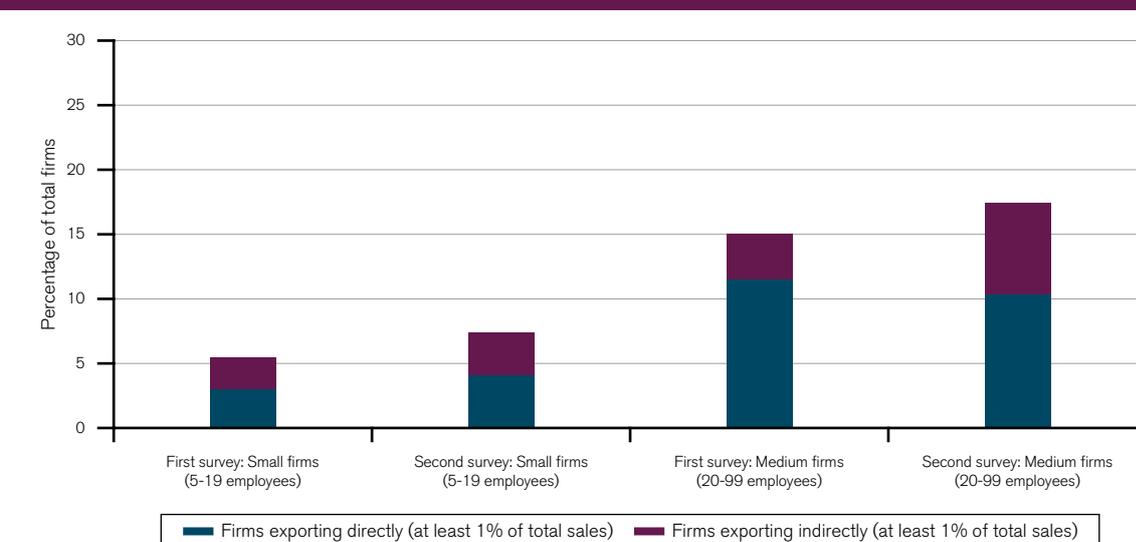
which started as SMEs in 85 developing economies, there is a negative correlation between the initial size of firms and the number of years they were in existence before they started to export. In the case of large firms which started as micro firms (one to four employees), it took on average 17 years before they exported, slightly less when the number of employees ranged between five and ten. The number of years drastically decreased for firms which started with a progressively higher number of employees (see Figure B.27).

Figure B.25: Share of MSMEs in exports of selected developed economies, 2005 and 2013 (percentage)



Source: OECD Trade by Enterprise Characteristics (TEC) database.

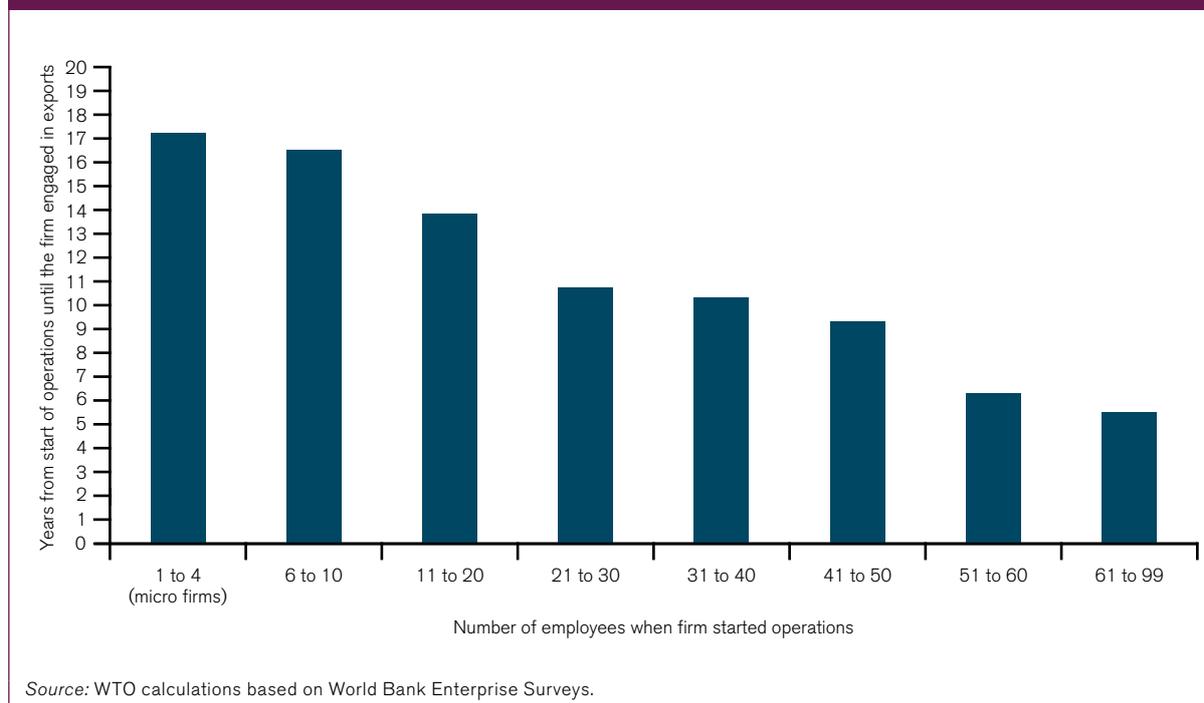
Figure B.26: Firms in LDCs that export directly and indirectly at least 1 per cent of total sales, by size of firm (percentage of total firms)



Note: First survey conducted between 2006 and 2010. Second survey conducted between 2011 and 2014.

Source: World Bank Enterprise Surveys.

Figure B.27: Time lag between firms' start of operations and engagement in exports by selected firm size in developing economies (years and number of employees)



On average it took less time for an SME in Developing Asia to start exporting compared with a firm of the same size in Africa or in Latin America. The longest time lag to export was found in the food sector, on average more than 14 years, twice the time necessary to begin exporting in the textiles and garments or office equipment and electronics manufacturing sectors. This applied to all developing regions, suggesting that SMEs in the food sector encounter additional difficulties to export if they do not comply with sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) standards (see Section D).

5. Conclusions

This section has surveyed statistical evidence on the participation of micro, small and medium-sized enterprises in international trade. It has found that the share of exporting SMEs is small when compared to that of large firms, and that the contribution of SMEs to total exports and imports is low. However, considerable heterogeneity exists across enterprise size classes, as well as along other dimensions. In developed countries in particular, the trade participation of medium-sized enterprises may approach that of large firms, whereas small and micro enterprises are less active in trade.

Meanwhile, SMEs in developing countries have low participation rates in both direct and indirect exporting, and SMEs with fewer employees take longer to access international markets than larger firms.

Internet-enabled SMEs are an exception to the rule of low trade participation, with very high rates of exporting approaching 100 per cent. The spread of online platforms promises to give small enterprises the ability to reach customers around the world. Reports from eBay find that, while only a small fraction of traditional SMEs (between 4 and 28 per cent) engage in exports, nearly all "Internet-enabled" SMEs do (97 per cent).

Since data limitations make it difficult to capture the full extent of indirect trade and GVC trade participation, this section of the report has also outlined new and better approaches to measuring SMEs' contributions to GVC trade in value added terms. The integration of SMEs in developing countries into global value chains is still relatively limited for reasons discussed in Sections C and D of this report, but new opportunities are becoming available.

Endnotes

- 1 For other definitions of internationalization, see for example Beamish (1999), Karlsen et al. (2003) or Zeng et al. (2008).
- 2 The OECD Trade by Enterprise Characteristics (TEC) database provides information on the value of exports and imports and the number of trading enterprises in 32 mostly developed countries (28 EU members plus Canada, Norway, Turkey and the United States) broken down by sector, size class and partner. Figures are produced by national statistical agencies by linking transactions data in merchandise trade statistics to business registries. Note that in international trade statistics, firm size is generally defined at the enterprise level, although these enterprises may still be part of a larger enterprise group.
- 3 The World Bank's Enterprise Surveys collect data from key manufacturing and service sectors in every region of the world. The surveys are conducted according to the global sampling methodology which uses stratified random sampling to minimize measurement error and to yield data that are comparable across economies. The sampling methodology generates a sample representative of the whole non-agricultural private economy, including services industries, and generates large enough sample sizes for selected industries to conduct statistically robust analyses with levels of precision at a minimum of 7.5 per cent for 90 per cent confidence intervals. This means that the population parameter is within the 7.5 per cent range of the observed sample estimate, except in 10 per cent of the cases.
- 4 Around 33,800 small, medium-sized and large firms surveyed by the World Bank reported the amount of their total sales and their breakdown into national sales, direct exports and indirect exports (sold through a domestic party that exports). The WTO Secretariat classified each establishment as a manufacturing or services enterprise on the basis of the reported main product/sector code according to the International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 3.1. In the surveys, the main product/sector was the one that represented the largest proportion of annual sales, which, following calculations, accounted on average for more than 83 per cent of annual sales of manufacturing SMEs and for 81 per cent of services SMEs. This information was corroborated by the description of the main two products/sectors of activity as reported by each establishment. It should be noted that only 17 per cent of all establishments surveyed by the World Bank in different countries and in different years were part of larger firms; the bulk were stand-alone firms.
- 5 The European Union Community survey on ICT usage and e-commerce in enterprises is an annual survey conducted since 2002, collecting data on the use of information and communication technology, the Internet, e-government, e-business and e-commerce in enterprises.
- 6 Recent research focusing on US firms (Lendle et al., 2013) has also found that exports are less concentrated in online exporters than in offline ones. The top 10 per cent of US online exporters capture less than 70 per cent of exports, whereas offline the top 10 per cent of US offline exporters capture more than 85 per cent of exports. This study, however, does not focus on SMEs.
- 7 Kamel and El Sherif (2001) argue that e-commerce offered Egyptian SMEs in the tourism industry "a competitive tool to increase profitability using the web technology as a promotion, marketing, and selling tool, with an immediate effect" by reducing dependency on costly travel intermediaries and attracting reservations from around the world.
- 8 Governments and international organizations have also set up platforms with the goal of facilitating participation by SMEs in e-commerce. Analysing the effectiveness of government-sponsored platforms in Australia, Gengatharen (2006) notes that, in some cases examined, it was only after six years of operation that some SMEs began to experience economic benefits. As a result, the study stresses that the factors contributing to successfully benefitting SMEs include a commitment to a long gestation period, and commensurate funding, not only for the development and maintenance of the platforms but also for their evaluation, as well as recognition of the need to devote specific attention to building the e-competencies of SMEs themselves. For an overview of e-commerce-related initiatives established by the ICT, see Section D of this report.
- 9 Table B.1, however, also shows that the smallest firms increased ownership of a website presence by ten percentage points between 2007 and 2013, and firms with 50 to 249 employees by five percentage points.

C

Dynamics of internationalization processes of SMEs

This section will discuss in detail the dynamics of SMEs' internationalization processes, in particular the role of firm size in engaging in and pursuing internationalization, as well as the impact of internationalization on firms' performance. As was explained in Section B, internationalization is often defined as how a firm conducts business activities in foreign countries through indirect exports, direct exports, international subcontracting (licensing or outsourcing) or investment.



Contents

1. Forms of internationalization by SMEs	58
2. Which firms export and why does foreign market access matter for SMEs?	61
3. The impact of internationalization on SME performance	64
4. Conclusions	74

Some key facts and findings

- There is no unique theoretical framework able to characterize and explain the dynamic process of internationalization of SMEs mainly because of the heterogeneity characterizing SMEs.
- Some SMEs experience a gradual internationalization, starting with sporadic exports. Conversely, certain SMEs engage in international business activities from the outset or soon after their creation. Other SMEs are able to integrate into global value chains.
- SMEs may be more strongly affected by barriers to foreign market entry than larger firms, which may deter them from participating in international trade. SMEs engaged in international markets tend to be more productive as they need to be able to incur the fixed cost component associated with exporting.
- Although internationalization, and in particular exporting, is often viewed as an important strategic development option for SMEs, empirical evidence on the impact of internationalization on SME performance is limited.
- Some recent studies on African firms show that participation of SMEs in international markets can result in higher growth and employment through economies of scale and in enhanced productivity and innovation through learning effects.



Internationalization is often considered as an important strategic option to enable firms to expand. Firms engaged in international activities, either through export, contractual modes or foreign production, can exploit economies of scale, improve labour productivity and enhance management efficiency with larger production and sales volumes. Internationalized firms can also exploit differences in production costs by (re)localizing their production locations so as to minimize their production costs. Internationalization offers also the possibility to diversify revenue sources from domestic and international markets.

Although much research in marketing, business management and international economics has been devoted to understanding SMEs' internationalization, it remains fragmented. First, there is no unified explanation for why and, most importantly, how SMEs engage in internationalization activities. Part of the fragmentation in the literature stems from the fact that the strategies underpinning SMEs' decisions whether or not to internationalize are heterogeneous. Second, the majority of empirical studies analyse SMEs' internationalization in developed economies. It is therefore unclear to what extent the results of the research apply to SMEs that operate from within developing countries and decide to engage in international markets.

Despite these two caveats, a literature review of the theoretical and empirical studies analysing the dynamics of SMEs' internationalization can still provide useful insights into important patterns.

This section is organized as follows. Section C.1 presents the main modes of internationalization identified in the literature. Some SMEs experience a gradual internationalization process. Other firms, the so-called "born global" or "born-again global" firms, are internationally oriented at their inception or following a specific event, respectively. Other internationalization modes include participation by SMEs in global value chains through direct or indirect exports. A large part of the heterogeneity that characterizes SMEs' internationalization modes stems from internal and external factors and drivers.

Section C.2 gives an overview of the trade theory and explains that firm size remains an important factor in international trade due to the central role of fixed exporting costs. The impacts on an SME's performance of adopting an internationalization strategy, in terms of profit, productivity, innovation and growth in sales and employment, are discussed. Empirical evidence, although limited, shows that the effects of the internationalization process on an SME's performance tend to be firm-specific, and depend on

the firm's size, productivity level, skill intensity and industry affiliation. On the one hand, the probability that SMEs will choose to pursue internationalization activities tends to increase as its levels of productivity and innovation rise. On the other hand, SMEs engaged in international markets can experience higher growth and employment through economies of scale and enhance their productivity and innovation through learning effects. Similarly, SMEs engaged in global value chains can benefit from commercial linkages with domestic and foreign customers and suppliers, as well as training and increased competition, which can create new opportunities to engage in internal markets. These are the reasons why internationalization, and in particular exporting, is often considered a key strategic option enabling SMEs to expand.

1. Forms of internationalization by SMEs

Although SMEs are often considered to be uniform entities, they remain highly heterogeneous, as shown in Section A. This is reflected in their diverse internationalization processes, and defining the full range of these processes is a daunting task due to their very diversity. In addition, the internationalization process is not necessarily sustained, but can be occasional or intermittent, while certain SMEs are domestically oriented and have no intention of ever engaging in international activities. Such firms are typically characterized by unfavourable attitudes or apathy regarding foreign market opportunities.

Different theoretical models and typologies in business management have been developed to explain SMEs' internationalization patterns. Some of the main patterns include:

- (a) the traditional gradual approach;
- (b) "born global";
- (c) "born-again global"; and
- (d) global value chain participation.¹

(a) The traditional gradual approach

The traditional gradual approach involves a series of stages in which SMEs gradually increase their international involvement over time from low and less risky to high and risky commitments overseas.

First, these SMEs start to internationalize through (1) sporadic exports followed by (2) the establishment of agreements with independent intermediaries and

distributors in order to acquire the information needed to export in international markets. It is only at a later stage that traditional SMEs decide to (3) establish their own sale branches overseas and then (4) set up foreign production facilities (Johanson and Vahlne, 1977). The incremental resource commitment and cumulative acquisition, integration and use of knowledge and experience about foreign markets tend first to take place in countries perceived as culturally, economically or geographically close. Traditional SMEs expand their export destinations to more distant countries only when they have learned from exporting activities in neighbouring countries. Similarly, traditional SMEs only engage in more commitment-intensive forms of internationalization, such as foreign direct investment (FDI), when they mature and attain sufficient resources, knowledge and experience to compete.

(b) The “born global” approach

The “born global” approach applies to technology- and knowledge-intensive SMEs – typically, high-technology start-ups in niche markets – that are able to start an internationalization process from inception or in their very early development (Moen, 1999). These “born global” firms, which can also be called “international new ventures”, consider the world as one market place. These start-ups may enter domestic and international markets (including very distant ones) simultaneously and expand into foreign markets, typically niche markets, through different forms, including subsidiaries. Some of these SMEs are able to experience faster non-incremental and radical internationalization patterns, thanks to superior market knowledge and to their managers’ networks. Formal and informal networks and alliances with other SMEs enable them to overcome financial, human and management resource constraints by benefiting from the spillovers from these networks and cooperative links, which may include wider access to a relatively high-skilled labour force and greater opportunities to learn about potentially profitable technologies and products.

(c) The “born-again global” approach

The “born-again global” approach characterizes different types of SMEs that decide to attain more commitment-intensive forms of internationalization following a specific event. In some cases, SMEs attempt to engage in international markets but experience limited success, which leads them to re-concentrate their activities in the domestic market. They later return to international markets by means of great “leaps” after experiencing a significant event. Other types of “born-again global” SMEs follow a gradual internationalization approach until a significant event radically modifies

their strategy, leading them to internationalize rapidly. Types of events that can lead SMEs to shift their internationalization mode include changes in the firms’ ownership and management, or a takeover by another company already involved in overseas activities.

(d) The global value chains approach

The “global value chains approach” refers to SMEs that are able to integrate into global value chains. Global value chains consist of a set of interrelated tasks or activities involved in the design, production, marketing, transport and support of a product or service. Global value chains and production networks are characterized by a lead firm, often larger in size than other involved firms, which is supplied with components and/or services by a number of other firms, including SMEs. These SMEs may participate in the global value chains by exporting directly to large firms located overseas, or, in many cases, indirectly to firms located in the home country. However, SMEs that have integrated global value chains as low-tier suppliers often find themselves in a volatile position, as competition is particularly high and new suppliers can replace the original supplier by proposing better comparative advantages, such as lower costs (Abonyi, 2005). Certain SMEs manage to move along the global value chains by increasing the added value of the products or services they supply. Participation in enterprise linkages facilitates information flows, which can place SMEs in a better position to enter more directly into international markets (Gumede, 2004).

Other SMEs’ international patterns discussed in the literature include “inward-outward connections”, “backsourcers” and “born regional”.

“Inward-outward connections” refer to SMEs that start their internationalization process by engaging in inward international business operations (Korhonen et al., 1996). Certain SMEs initially import goods, such as raw material, parts and components, or machinery needed for the production process of a given good or service. Other inward business operations include investment and technology transfer through non-equity agreements, such as licensing and franchising, and equity agreements, such as foreign direct investment and joint venture. Thanks to the experience gained from these inward operations, in particular the relationship and experience with foreign suppliers, forwarding agents and distributors, these SMEs then opt to expand their outward international business operations, such as direct exports. “Inward-outward connections” are closely linked to the concept of global value chains, but unlike many global or regional global value chains, they do not necessarily involve a lead firm.

Other SMEs, defined as “backsourcers”, are firms that have experienced failure or limited success in international markets, which has led them to withdraw from foreign operations, exit from international markets and turn back to serving only their domestic markets. Conversely, some SMEs, defined as “born regional”, manage to export to neighbouring countries but are unable to expand their internationalization commitments to other market destinations or to engage in commitment-intensive internationalization activities, such as FDI (Smolarski and Wilner, 2005).

The heterogeneity characterizing SMEs, including their internationalization modes, is linked to a number of factors and drivers that can be grouped into internal and external factors (Leonidou et al., 2007). Internal factors encompass various interrelated features specific to firms’ resources and competitiveness, namely management, firms’ characteristics and export marketing strategic capabilities (Nazar and Saleem, 2009). At the level of individual managers, attitudes (for instance towards risk), skills and behaviours influence SMEs’ internationalization patterns (see Box C.1). At the level of the firm, ownership type, firm age, firm size, labour productivity, skill intensity, technology level, foreign contacts and networking, as well as knowledge and experience have been found to have an impact on the internationalization strategy adopted by SMEs.² The last type of internal factors – knowledge and experience – relate to SMEs’ marketing skills, their use

of international market research, their ability to adapt easily to marketing to foreign markets, and their ability to segment and target their products, for instance by offering satisfactory prices to customers.

External factors consist of home- and host-country characteristics. Firms might be pushed to seek to expand their operations in international markets when the domestic market is limited (e.g. due to saturation or shrinkage). Intense domestic competition might also lead firms to adopt an internationalization strategy in order to generate greater revenues. Other home-country factors affecting the decision to engage in international activities include import and export regulations, transport infrastructure, costs and time involved in exporting, and export promotion programmes. On the other side of the border, host-country factors include tariffs, non-tariff measures, intense domestic competition, business climate conditions, political risk factors, and geographical and cultural distance. Section D discusses some of the major trade-related impediments to SMEs’ participation in trade. Overall, the interaction of these, often conflicting, internal and external factors can either enhance or reduce the impact of each one of these factors, depending on the stage of the internationalization process. As a result, the combined interactions of these factors can either stimulate and accelerate, or deter and decelerate, the internationalization process for SMEs.

Box C.1: Entrepreneurship

While recent economic literature on international trade considers firm-level differences in terms of productivity and size, other disciplines, such as management and institutional and organizational theories, point to individual-level aspects of entrepreneurs and managers that enable firms, including SMEs and start-ups, to be successful internationally. Entrepreneurial and management skills can be defined as the ability to capitalize on ideas and opportunities by successfully implementing a business strategy (Porter, 1990). Entrepreneurial skills and management capacity constitute important determinants of a firm’s competitiveness and of its decision whether or not to engage in international activities.

A large number of typologies of entrepreneurial motivation have been devised in the literature. One of the most common conceptualizations of entrepreneurial motivation distinguishes between necessity (push) and opportunity (pull) motivation (Stoner and Fry, 2016). Entrepreneurship can be the result of a positive choice made to take advantage of a business opportunity. For instance, an individual might decide to become involved in a (new) business in order to gain greater independence and freedom in his/her working life and/or to increase or maintain his/her personal income. Conversely, entrepreneurship can surge when the individual has no better choices for work, for instance, following a job loss.

Although necessity-driven entrepreneurship is often equated with lower entrepreneurial skills, this might be an oversimplification of reality (Stephan et al., 2015). The launch of a business on necessity grounds is not specific to individuals with lower entrepreneurial skills. Individuals who are skilled but discriminated against in their workplace might be motivated to pursue a new business opportunity. In addition, empirical evidence shows that motivation and skills can influence each other. As individuals learn how to start and run a business, this experience can, in turn, affect their entrepreneurship motivation (Estrin et al., 2013).

Box C.1: Entrepreneurship (continued)

Entrepreneurial orientation and international learning efforts tend to be positively related with internationalization (De Clercq et al., 2005). For instance, “born-global” SMEs tend to be founded by individuals who already possess international experience (Reuber and Fischer, 1997). International experience embodies knowledge that enables SMEs to better respond to opportunities and threats present in international markets. Similarly, the fact that individual entrepreneurs have a global mind-set can have a positive influence on management attitudes towards internationalization and the choice of internationalization mode (Kyvik et al., 2013). The proactive orientation of SMEs’ management towards initiating export activities appears to be highly correlated not only with the speed of initial exporting activities, but also the subsequent number of different foreign markets served (Ciravegna et al., 2014). Managerial motivation also seems to influence positively the initiation of exporting (Wood et al., 2015).

The role of entrepreneurship also differs depending on the type and structure of ownership, which may in turn affect the decision to internationalize. Most SMEs are managed by one or a few managers, who also happen to be the firm’s owner(s). Involvement of the owning family in the management of SMEs may result in a risk-averse strategy and difficulty in attracting professional and qualified managers. Empirical evidence suggests that family-owned firms are less likely to engage in commitment-intensive internationalization activities because of limited financial resources, willingness to establish relations with new partners and interest in international expansion (Fernandez and Nieto, 2005). Conversely, the presence of foreign shareholders in SMEs tends to have a positive impact on export propensity.

2. Which firms export and why does foreign market access matter for SMEs?

Section C.1 showed, from a business perspective, how small firms become involved in international trade and which factors may encourage them to look abroad. This subsection will examine the role of firm size in the economic literature. Section C.2(a) discusses recent trade theories and related empirical findings that have focused on firm differences, including size. On the basis of this discussion, Section C.2(b) investigates why barriers to foreign markets may be of particular concern to SMEs.

(a) Firm size and international trade

Traditional theories of international trade focus on country differences in endowments and productivity and the importance of comparative advantage to explain why countries trade with one another. New models developed in the 1980s, notably by Helpman and Krugman (1985), show how consumers’ love for variety and economies of scale can explain the observed levels of intra-industry trade and the large trade flows between countries that have similar characteristics. In the 1990s, detailed firm-level data became available which revealed a number of observations that had remained unexplained by previous theories. In particular, the new data showed significant differences in size and productivity between exporting and non-exporting firms. While most firms do not export at all, exporting firms are on average larger (and hire more workers), more productive (and pay higher wages) and older than non-exporters.³

A number of papers have since shown that size, productivity and experience are firm characteristics that may be closely related. For instance, Arndt et al. (2012) examines German micro-level firm data and finds that “size and productivity are the main determinants of foreign activities at the firm level”, confirming also that larger and more productive firms are more likely to export. Furthermore, Berthou and Vicard (2015), Love et al. (2015) and Majocchi et al. (2005), having studied a wide range of European firms, show not only that exporters are more productive than non-exporters, but also that this divergence increases with export experience, i.e. that long-standing, regular exporters are more productive than firms that started to export only recently. This implies that export experience reinforces the relationship between firm size and productivity, with the most productive firms not only being larger to begin with, but also becoming larger over time through exporting.

At the same time, for those SMEs (from both developing and developed economies) that engage in trade, foreign markets are more important in terms of the share of overall sales than for large firms, i.e. SMEs (if they export) rely more on international markets and are more export-intensive (Lejárraga et al., 2014).

Firm-level data have also revealed that important differences exist among firms concerning the range of products they export and the countries they trade with. Cebeci et al. (2012) analyse the Exporter Dynamics Database of the World Bank, which contains firm-level information from 45 mostly developing countries, and find that multi-product, multi-destinations exporters account for a major share of total exports (and are

also important players in the domestic market), while accounting for only a small share of the total number of exporting firms. Freund and Pierola (2015) confirm that the so-called “export superstars”, i.e. the top 1 per cent of exporting firms across 32 countries, were already large when entering export markets, grew fast and quickly reached the top 1 per cent range (on average after less than three years), were responsible for at least half of their home country’s total exports, and traded a wide range of product varieties. In fact, the authors highlight that these firms account for much of the variation in the sectoral distribution of exports across countries, demonstrating again the importance of large individual firms in determining international trade patterns and volumes.

By contrast, the vast majority of exporting firms are small and export only a few product varieties to a limited number of destinations (Wagner, 2015). In fact, single-product, single-destination firms on average represent more than a third of exporters and account for only a minimal share of total exports.⁴

The relationship between firm size and the likelihood of exporting or export performance in the services sector is relatively more ambiguous. Part of this ambiguity might be related to data limitations, but could also be explained, at least partially, by the fact that, unlike exporting manufactures, cross-border trade in services often does not entail large fixed costs. Some empirical studies challenge the assertion of any direct impact of firm size on the firm’s likelihood to enter foreign services markets or export intensity (Ebling and Janz, 1999; Engel et al., 2013; Love and Mansury, 2009). Conversely, several other studies have identified a linear positive relationship between firm size and the probability of exporting services (Gourlay et al., 2005). A few studies have found a “U”-shaped relationship between firm size and export intensity in services, suggesting that export intensity decreases initially with firm size but once the firm reaches a medium size, export intensity rises as the firm size increases (Chiru, 2007). Conversely, other studies suggest an inverted “U”-shaped relationship between firm size and export likelihood or export intensity, whereby export intensity increases as small-sized firm becomes a medium-sized one, but then decreases as the firm becomes larger (Lejárraga and Oberhofer, 2015; Love and Mansury, 2009). The specific evidence of an inversed “U”-shaped curve could be linked to the high incidence of “born global” SMEs operating in the services sector.

While small firms tend to have a lower chance of surviving as exporters initially, they grow more quickly than large firms if they do survive, and are highly persistent in foreign markets (Wagner, 2012; Lejárraga et al., 2015; Lejárraga and Oberhofer, 2015).⁵ Small

firms also appear to be more flexible, entering and exiting markets more rapidly and changing their export product composition (so-called “churning”) more quickly than large firms (Verwaal and Donkers, 2002). One of the principal reasons for this flexibility may be that a smaller firm size allows for faster decision-making and limited coordination costs (Vossen, 1998). Consequently, as Hummels and Klenow (2005) and Onkelinx and Sleuwaegen (2010) are able to demonstrate empirically, smaller firms play a dominant role in the creation of new exports. Argüello et al. (2013) shows that new exporters (the so-called “extensive margin” of trade) are important to generate export growth in the short run, while in the longer run, trade grows more strongly along the intensive margin, i.e. via increases in trade volumes from established exporters.

In summary, based on the main insights from recent firm-level trade data, SMEs participate less in trade, but can make a significant contribution to further export growth if they manage to access and survive in foreign markets. Section C.2(b) will examine why the reduction of market access barriers may be of particular importance for SMEs.

(b) Firm size and trade barriers

An important reason why it is harder for SMEs to begin to engage in international trade is related to market entry costs (see Box C.2 for more details). In his seminal paper, Melitz (2003) combines the presence of such costs with the existence of firm differences in order to model export dynamics. This framework cannot only explain which firms are more likely to export, but also what reductions in trade costs (and increased foreign market access) might entail for different types of firms.⁶

At the outset, only firms that have a productivity level above a certain threshold can afford to cover market entry costs, which exist in both the domestic and foreign markets, with the former being assumed to be lower than the latter. The productivity threshold required for exporting is thus higher than for local production. These productivity “cut-off levels” divide existing firms into two groups: those that produce for the domestic market only, and the most productive firms that are able to overcome export entry costs and sell products both domestically and abroad. This theoretical framework explains well the data on exporting firms which suggests that only a fraction of local producers also supply foreign markets. It is only the most productive firms that manage to pay the (higher) costs related to exporting. At the same time, sales overseas allow the most productive firms to further expand in size, confirming the observed pattern that the biggest producers are likewise the most productive firms and account for a large part of a country’s exports.⁷

Box C.2: Market entry costs

Market entry costs, also known as beachhead costs, refer to expenses a firm has to incur in order to gain access to a market. Examples of such costs are setting up a distribution network, complying with regulations, and obtaining brand recognition, patents and licences. As these examples show, such market entry costs can often be conceived of as fixed costs, as they have to be incurred regardless of the level of trade. As such, they entail higher costs per unit for lower trade volumes and may therefore be more burdensome for smaller firms. But trade costs can also be variable in nature, such as *ad valorem* tariffs, which increase in proportion to the volume of trade.

Melitz (2003) models these trade costs jointly and shows that a reduction in both variable and fixed costs lowers a firm's productivity threshold and allows more firms to become exporters, with the aforementioned effect of increasing the size and market share of the most productive and larger firms.

However, fixed trade cost reductions can have different impacts on different-sized firms, unlike reductions in variable costs, which impact all firms equally, independent of the level of output. This may not be the case when the responsiveness of import demand varies with the level of trade volumes. In fact, as detailed in the main text, the literature finds that firms producing at relatively higher costs and exporting smaller trade volumes (arguably, the smaller and less productive firms in the Melitz framework) react more strongly to changes in tariffs (Berman et al., 2012; Gopinath and Neiman, 2014; Spearot, 2013). In addition, tariffs can involve bureaucratic hurdles and extensive paperwork, and hence in practice entail an important fixed cost component, which is likely to be more cumbersome for SMEs to overcome (Henn and Gnutzman-Mkrtchyan, 2015).

It has also been argued that SMEs are more sensitive to trade barriers more generally, as they have fewer resources available to deal with such obstacles, for instance because they face higher borrowing costs than large firms (European Central Bank, 2013; Vossen, 1998).

The dynamics of the Melitz model come into play when countries open up to trade and become exposed to international competition (Melitz and Ottaviano, 2008). Trade liberalization (i.e. the reduction in foreign market entry costs) affects the composition of firms in the industry in two ways. First, reductions in trade costs lower the productivity threshold required for exporting, which allows more firms to start selling abroad and grow by exporting. The second effect comes from the tougher competitive environment in the domestic market. The increased potential for selling abroad, including for firms that have not exported before, allows exporting firms to attract more resources and increase their overall market share at the expense of the least productive domestic firms that are forced to exit the market. Hence, competition reinforces the link between productivity and size, as the most productive firms will survive and grow, while the least productive ones will stay small or go out of business.⁸

A large number of studies assess or simulate the effects of trade opening on overall trade volumes. While the responsiveness of trade to changes in trade costs has traditionally been found to vary by sector and trading partner, as well as over time,⁹ more recent work has also emphasized the importance of firm characteristics. Importantly, Gopinath and Neiman's (2014) empirical work has provided a strong indication that smaller firms respond more strongly to trade opening than larger

firms, and this even for reductions in trade barriers, rather than fixed costs, which naturally have a more than proportionally positive effect on SMEs.

At least two explanations have been given for this finding. First, empirically, it has been established that long-time market participants (i.e. arguably larger firms trading on the "intensive margin") are less sensitive to changes in trade costs than new or relatively recent exporters (Berman and Héricourt, 2010; Fitzgerald and Haller, 2014). Established firms have already committed time and resources to establishing familiarity with and relationships within foreign markets, and they are therefore likely to maintain such relations rather than pursuing new trading opportunities at first sight. Conversely, for firms at the "extensive margin" (i.e. new exporters), trade cost reductions may present an immediate opportunity to grow by building new trading relationships in foreign markets. As SMEs have been found to make up a large part of this "extensive margin", they can be expected to react more strongly to measures of trade opening.

In a similar vein, Spearot (2013) observes that large suppliers are likely to respond less to tariff opening than small firms, even for highly substitutable product varieties.¹⁰ The underlying rationale is that, for a range of assumptions about consumer behaviour, it has been shown that demand for low-cost varieties that already

earn large revenues is less responsive to changes in trade costs than demand for high-cost varieties (arguably produced by less productive, smaller firms) with limited amounts of sales (see Section D.2(a) for a more detailed discussion and empirical evidence).

To conclude, SMEs may be more strongly affected by barriers to foreign market entry and may therefore participate less in international trade than larger firms. At the same time, several studies have noted that SMEs embody an enormous potential for further export growth and may benefit disproportionately from trade opening. Section C.3 will further elaborate on these benefits by pointing out how exporting may positively affect the performance of SMEs and allow them to grow.

3. The impact of internationalization on SME performance

As discussed in Section C.2, empirical evidence suggests that internationally oriented firms tend to be larger and more productive compared to firms serving only domestic markets. Only the more productive firms can make a profit from serving international markets once they have covered the variable and fixed (often sunk, i.e. incurred and unrecoverable) costs associated with internationalization. As a result, the most efficient firms will, on average, become large companies serving international markets (i.e. multinationals) and the least efficient ones will only serve the domestic market. Firms exhibiting average performance will in turn opt to become exporters, given that export activities, compared to other international operations, require a lower commitment of organizational resources and involve fewer business risks.

In this context, determining the causal direction between the internationalization process and the firm's performance is of particular relevance. This relationship remains a controversial issue. Although some empirical studies report no relationship or even a negative relationship between internationalization and firms' performances (Lu and Beamish, 2004), a large body of empirical literature in business management, marketing and international trade economics suggests that internationalization tends to have a positive impact on firm's performance (Sapienza et al., 2006; Pangarkar, 2008). Firms engaged in international operations have to enhance their performance not only to bear the additional costs of internationalization, but also to remain competitive in increasingly competing international markets. In addition, the choice of international entry mode tends to have significant implication on the firm's performance. Once a given strategy is adopted, firms may find it difficult to change their internationalization strategy, at least in the short term.

Despite the fact that there is ample empirical evidence that internationalization tends to improve the performance of many firms, the evidence on the impact of internationalization on SMEs' performance is more nuanced (Hitt et al., 1997; Wright et al., 2007). SMEs are not simply smaller versions of large firms (Lu and Beamish, 2001). They are characterized by different ownership forms, resources, organizational structures and management systems. These factors define SMEs' internal constraints and ability to compete in international markets, which ultimately determine, at least partially, how internationalization can potentially impact on their performance.

The limited number of empirical studies analysing the effects of the internationalization process exclusively on SMEs' performance suggest that the impact of internationalization tends to be firm-specific and depends on a number of factors, including the firm's productivity level, skill intensity and industry affiliation. Part of the mixed evidence stems also from the variety of indicators used to measure the multidimensional nature of firms' performance:¹¹ (i) profits, (ii) productivity, (iii) innovation and (iv) growth (in sales and employment).

(a) Impact on SMEs' profits

The relationship between internationalization and financial performance has received particular attention in the business management literature. Despite extensive research, there remains no consensus on the impact of the internationalization process on firms' profitability when measured by return-on-assets, return-on-sales and return-on-equity. Different forms depicting the relationship between internationalization and financial performance have been proposed in the literature (Benito-Osorio et al., 2016). Some theoretical and empirical studies assert that the relationship between internationalization and financial performance is linear. This linear relationship is found to be positive in some studies and negative in others, when the benefits associated with the internationalization process, including economies of scale and risk diversification, are, respectively, larger or smaller than associated costs such as coordination and transportation.

Conversely, other studies challenge the assertion of a linear and monotonic impact of the degree of internationalization on financial performance and suggest a non-linear relationship. Some of these studies identify a "U"-shaped relationship in which the costs associated with internationalization initially outweigh the associated benefits. It is only beyond a given degree of internationalization that the benefits start to become larger than the associated costs, thus improving the firms' financial performance.

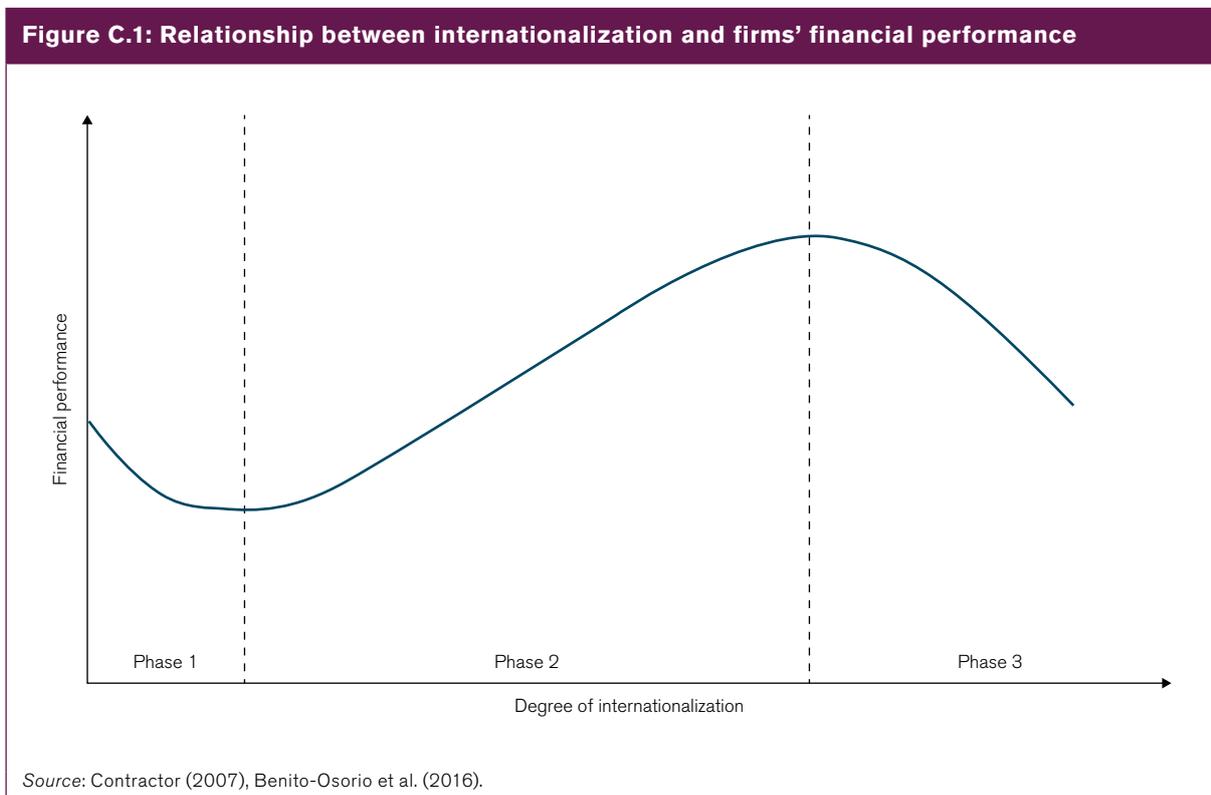
In other studies, the relationship between internationalization and financial performance is characterized by a bell-shaped curve (inverted “U”), according to which the benefits associated with internationalization outweigh at first the associated costs up to a certain degree of internationalization.

More recently, a number of studies have suggested a horizontal “S”-shaped relationship between internationalization and firms’ profitability. This horizontal “S”-shaped representation reconciles, to some extent, the apparent contradictory empirical findings by considering the linear, “U”-shaped and inverted “U”-shaped relationships as a subset of the general horizontal “S”-shaped relationship.

As depicted in Figure C.1, the horizontal “S”-shaped relationship is composed of three stages: (1) initially, the financial performance declines with early internationalization due to the additional costs resulting from limited local knowledge and difficulties in managing and coordinating the firms’ activities in foreign markets; (2) beyond a certain level of internationalization the financial performance improves thanks to the international competencies developed through intense foreign business activities; (3) up to another, greater, level of internationalization, financial performance starts again to decrease or stagnate because of increasing corporate coordination costs.

Overall, empirical evidence suggests that the relationship between internationalization and firm profitability is highly context-dependent (Bausch and Krist, 2007). Research and development (R&D) intensity, product diversification, country of origin, firm age and firm size are major factors affecting the firms’ profitability attributable to internationalization. Lower firm age tends to contribute positively to firms’ performance, irrespective of whether these firms are small or large. Younger firms, many of which are SMEs, may benefit from a learning advantage of newness, which enable them to deploy their internal resources more flexibly (Autio et al., 2000).

Empirical evidence on the relationship between internationalization and SMEs’ profitability is not only scanty but also mixed. Some studies find a positive and linear impact of internationalization on SMEs’ financial performance (Qian, 2002; Pangarkar, 2008). In some cases, SMEs’ profitability seems to be determined by the ability to gain access to specific markets, and not necessarily by export intensity (Majocchi and Zucchella, 2003). Several other studies uncover a “U”-shaped relationship, highlighting the fact that, although SMEs’ profitability tends to decline at first, greater levels of internationalization tend to be associated with higher SMEs’ profitability in the medium and long run (Lu and Beamish, 2001; 2006). Conversely, a few studies report an inverted “U”-shaped curve (Chiao et al.,



2006; Hsu et al., 2013). A limited number of studies have uncovered a greater horizontal “S”-shaped curve for SMEs compared to larger firms (Fisch, 2012). Some recent studies further suggest that the relationship between internationalization and SMEs’ profitability is also likely to be different according to firm size (Benito-Osorio et al., 2016).

(b) Impact on SMEs’ productivity

The relationship between productivity and internationalization, in particular exports, has also been the object of a large number of theoretical and empirical studies.¹² According to the “self-selection hypothesis”, only the more productive firms decide and start to export (Bernard and Wagner, 1997; Bernard and Jensen, 1999). Conversely, the “learning-by-exporting” hypothesis posits that firms become exporters and later become more productive by acquiring knowledge from their experiences (Clerides et al., 1998).

Firms’ productivity enhancement materializes through two main channels: (1) the exploitation of economies of scale, enabling firms to reduce average costs, and (2) the accumulation of new information and knowledge from international markets. Firms engaged in overseas markets may gain experience from customers’, as well as from competitors’, managerial and marketing know-how or production technology. As mentioned previously, empirical evidence confirms the self-selection hypothesis, given that more productive firms self-select themselves into foreign markets (Wagner, 2007).

Empirical evidence of the “learning-by-exporting” hypothesis is not only mixed, but the uncovered “learning-by-exporting effect” typically applies to firms that were already highly productive prior to exporting (Biesebroeck, 2005; De Loecker, 2007; Serti and Tomasi, 2008; Brambilla et al., 2014). A very limited number of studies finds some evidence of the “learning-by-exporting” effect for less productive firms (Albornoz and Ercolani, 2007; Golovko and Valentini, 2011). Firms with low or medium productivity levels were able to improve their productivity through either technological information obtained from their contacts abroad or great incentives to innovate (see Box C.3).

More generally, learning-by-exporting is likely to depend on a firm’s ability to process and integrate knowledge, which is based on various factors, including the firm’s export experience, level of highly skilled workers and share of imported inputs. That is why learning-by-exporting tends to be heterogeneous and occurs in limited circumstances, namely: (1) among younger firms, in particular in emerging and developing economies and in new entrants into international markets; (2) in firms operating at some distance from the technological frontier; (3) in firms exporting intensively; (4) in specific industries; and (5) in firms exporting to high-income countries (Silva et al., 2012; Ciuriak, 2013). In particular, empirical evidence suggests that, while exporting firms in developed countries do not tend to further improve their productivity, certain exporting firms in developing countries experience a “learning-by-exporting” effect.

Box C.3: Exporter viability

Part of the “learning-by-exporting” process stems from the fact that many firms discover their viability as exporters only after having actually started exporting. Despite the risk of high failure rates, some firms, including less productive ones, are willing to incur the sunk costs associated with exporting when international expansion is potentially highly profitable (Albornoz et al., 2012). This seems to be particularly the case in relatively larger export markets, considered by firms to be a source of potential large revenues. Firms with lower productivity, typically smaller firms, that decide to export to larger markets, are still able to make sufficient profits to overcome the fixed export costs by enjoying economies of scale (Bernard et al., 2011b). As a result, the number of exporting firms serving a specific market is higher if that market is larger (Cebeci, 2014).

Learning about local demand conditions is often viewed as an important driver of exporters’ dynamics (Buono and Fadinger, 2012). In parallel, firms that opt to export often have to find a local partner in each foreign market (Benguria, 2015). As a solution, some firms contract intermediaries located overseas in order to overcome knowledge gaps on the foreign markets conditions, find foreign customers more easily and mitigate risks and uncertainties involved in serving international markets. Choosing the most suitable distributor overseas often represents one of the issues that exporting firms, in particular SMEs, may face (Neupert et al., 2006).

In situations involving incomplete information and imperfect enforcement of contracts, reputation plays a key role and exporters are compelled to learn about the reliability of their trading partners (Aeberhardt et al., 2012). Learning to match exporters and importers often requires time (Eslava et al., 2015). The cost of searching for customers and ensuring a match between sellers and buyers can be particularly high for SMEs. In this context, tailored export promotion programmes can facilitate the learning process for SMEs and can contribute positively to their export performance (Alvarez, 2004; Wilkinson and Brouters, 2006; Durmusoglu et al., 2012).

Empirical studies analysing the impact of internationalization on SMEs productivity are limited. Many of the small firms that have been studied were able to enhance their productivity, often shortly after their entry into export markets (Andersson and Lööf, 2009; Eliasson et al., 2012). In some cases, the effect of exporting on productivity appears to be larger for small firms than larger companies, at least in the short run (Serti and Tomasi, 2008). In other cases, post-entry productivity gains seem to be relatively less significant for small firms than for large companies (Manez-Castillejo et al., 2010). Some small firms managed to improve their technical efficiency through knowledge transfers (Atkin et al., 2014), others by increasing investments in physical capital prior to exporting (Eliasson et al., 2012).

(c) Impact on SMEs' innovation

Innovation and productivity are intrinsically connected. Productivity enhancement often materializes through innovation (Lileeva and Trefler, 2010). As mentioned previously, internationally oriented firms tend to be larger and more productive. Similarly, firms that innovate are more likely to start exporting (Sterlacchini, 1999; Basile, 2001; Roper and Love, 2002; Lachenmaier and Woessmann, 2006; Crespi et al., 2008; Cassiman and Golovko, 2011). In some cases, the innovation of both products and processes, and in particular of their combination, appears to be a driver of firms' disposition to export (Van Beveren and Vandebussche, 2010; Caldera, 2010). In other cases, only product innovation has a significant impact on firms' propensity to export (Cassiman et al., 2010).

Empirical evidence of the role of internationalization on innovation remains limited, partly because of the difficulties in assessing the causal direction. A number of studies confirm that exporting firms, including in emerging and developing economies, are more likely to experience higher innovation activity (Salomon and Shaver, 2005; Crespi et al., 2008; Lileeva and Trefler, 2010; Golovko and Valentini, 2011; Bratti and Felice, 2012; Bas, 2012; Altomonte et al., 2013). Internationalization exposes firms to higher competition and international best practices, which provide them with the opportunity to learn and integrate new and innovative ways of doing business. In some cases, the positive effect of exporting seems to be limited to process innovation (Damijan et al., 2010). In other cases, the impact of R&D offshoring on firms' product innovation is greater than process innovation (Niето and Rodriguez, 2011).

In addition, the propensity to innovate products and processes via patent applications and R&D tends to be significantly larger for firms engaged in the most

commitment-intensive modes of internationalization, namely FDI (Castellani and Zanfei, 2007; Frenz and Ietto-Gillies, 2007; Criscuolo et al., 2010).

Part of the positive impact of internationalization on innovation can be explained by firms' expectations regarding their revenue. The prospect of exporting increases firms' incentives to improve their productivity and invest more in R&D, because economies of scale enable firms to make productivity gains more profitable (Lileeva and Trefler, 2010). In such situations, a reduction in trade barriers is likely to encourage both exports and innovation, while each activity by itself reinforces the payoff of engaging in the other (Atkeson and Burstein, 2010; Burstein and Melitz, 2011). The anticipation of trade opening can change a firm's expectations and bring forward the decision to innovate relative to its export market participation (Costantini and Melitz, 2008). Empirical evidence suggests that firms in sectors experiencing larger reductions in tariffs tend to invest faster in better technology due to the prospect of higher revenues (Bustos, 2011). Similarly, some firms take advantage of trade opening by using high-quality inputs to upgrade the quality of their exports (Bas and Strauss-Kahn, 2012).

Empirical evidence attesting that export activities spur SMEs to engage in product and/or process innovation is much more limited. Yet, as argued in Section A of this report, high-technology start-ups are traditionally important sources of innovation. This typically translates into a higher per-employee patenting rate than for large firms (Audretsch, 2002; Bresnahan and Gambardella, 2004). According to Aw et al. (2008), part of these small firms' relatively high propensity to innovate stems from their quicker decision-making process, willingness to take risks, and flexibility in responding to new market opportunities (Vossen, 1998; Autio et al., 2000).

Several studies confirm the complementary relationship between a SME's decision to export and its decision to innovate (Lu and Beamish, 2006; Musteen et al., 2010; Love et al., 2015). On the one hand, small firms with a track record of innovation are more likely to export than non-innovating firms (Love and Roper, 2015; Love et al., 2015). On the other, SMEs engaged in export activities are likely to increase their chances of investing in R&D activities, which, in turn, increases their likelihood of succeeding in export activities and of making innovation and complementary export strategies (Golovko and Valentini, 2011; Esteve-Perez and Rodriguez, 2013). As a result, the probability, as well as the benefits, of investing in R&D tend to increase if a firm has been active in foreign markets (Aw et al., 2008; Yang et al., 2004).

However, the impact of SME's internationalization process on innovation performance is likely to be

industry- and firm-specific. For instance, exposure to export markets tends subsequently to enhance high-tech SMEs' innovation, but without necessarily leading them to become more innovation-intensive. High-tech SMEs engaged in services seem also to be able to capitalize the benefits associated with exporting at a relatively earlier stage of the internationalization process than SMEs involved in manufacturing activities (Love and Ganotakis, 2013). Other forms of SMEs' internationalization, such as FDI, have also been found to have a positive impact on SMEs' innovation output (Siedschlag and Zhang, 2015).

(d) Impact on SMEs' growth

Extensive empirical literature confirms that exporting tends to lead to a rise in employment and sales (Bernard and Jensen, 1999; Wagner, 2002; Serti and Tomasi, 2008). Similarly, commitment-intensive forms of internationalization, such as offshoring and FDI, have a positive and large impact on sales and the value-added of domestic activities (Barba Navaretti et al., 2010; Debaere et al., 2010; Hijzen et al., 2011; Wagner, 2012).

Despite the fact that the internationalization of SMEs is often viewed in the literature as a growth strategy, little is in reality known about the relationship between SMEs' growth and export activities. A limited number of papers have analysed the impact of SMEs' export participation on subsequent employment and output growth. Although a number of earlier studies have concluded that SMEs' propensity to export did not seem to spur subsequent employment growth and/or sales, nor to improve firms' survival (Westhead et al., 2001), more recent empirical evidence suggests that exporting SMEs tend to have significantly higher employment and output growth than non-exporting SMEs (Lu and Beamish, 2006; European Commission, 2014; Boermans and Roelfsema, 2015).

The link between export and firm growth seems to vary significantly across sectors, including with respect to skill intensity. The positive impact of export on SMEs' performance tends to be particularly significant in fast-growing sectors (Rasheed, 2005). In addition, exporting SMEs engaged in manufacturing and business services tend to grow faster than SMEs active in other services industries (European Commission, 2014). Employment growth seems also to be higher for SMEs that are operating in export-oriented sectors belonging to regional value chains (Jung et al., 2011, see also Box C.4). Similarly, higher geographic diversification of export markets tends to lead to better SME performance, including sales return and growth (Pangarkar, 2008; Cieslik et al., 2012). A higher and more diversified number of export markets might accelerate firms' learning processes, especially

when firms experience success in some of these foreign markets (Lages et al., 2006). The few available empirical studies on the relationship between electronic commerce and SMEs' performance further suggest that the adoption of electronic commerce strategies tend to have a positive impact on SMEs' average sales growth rates. In addition, SMEs engaged in electronic commerce seem to experience significantly higher sale growth rate compared to firms that have not adopted electronic commerce technologies (Abebe, 2014).

The relationship between a firm's initial size and its subsequent growth has been the object of a large number of studies. It is argued in Section A that most empirical literature rejects Gibrat's Law, according to which a firm's growth is independent of its size (Sutton, 2012). Small firms do tend to grow faster than large firms. Similarly, empirical evidence suggests that young and small SMEs tend to grow faster than their larger and older counterparts (European Commission, 2014). However, the fact that smaller firms tend to grow faster than larger firms does not necessarily imply that the share of smaller firms in the economy is going to grow over time, in particular if SMEs are experiencing a low exporting survival rate. Empirical evidence shows that, although most firms stop exporting after a year, exporting survival rates tend to increase over time (Eaton et al., 2007; Freund and Pierola, 2010; Wagner, 2011; Cebeci, 2014). This explains why internationally oriented firms, both importers and exporters, tend to experience lower failure rates than firms engaged only in the production of goods and services for the domestic market (Bernard and Jensen, 1999; Muuls and Pisu, 2009).

SMEs that decide to engage in internationalization activities often need to allocate substantial investment, in terms of time and of financial and human resources, to identifying new customers, adapting their routines and creating new capabilities. Although these investments, along with higher risk and uncertainty characterizing most international markets, may in the short run decrease an SME's prospects of firm survival, internationalization provides SMEs with new growth opportunities.

However, the internationalization process is likely to have a different impact on SMEs' growth and survival depending on SMEs' age, managerial experience and resource availability (Sapienza et al., 2006). SMEs often require time to accumulate knowledge and experience of overseas market in order to internationalize successfully. Yet, recent empirical evidence suggests that international experience seems to be more important than age itself (Love et al., 2015).¹³ Once SMEs engaged in internationalization have acquired experience and built networks of partners and customers, this experience, in terms of information,

Box C.4**Case study****A Ugandan SME benefits from international trade participation**

This case study provides a concrete example of the direct and indirect benefits experienced by an SME in a developing country as a result of its participation in international trade.

On behalf of the Netherlands' Ministry for Foreign Trade and Development Cooperation, the Centre for the Promotion of Imports from developing countries (CBI) provides trade-related technical support to SME exporters in developing countries. Each year, the CBI's export expertise is delivered to more than 700 SMEs in over 24 sectors and subsectors by delivering company-level support through a value chain approach, strengthening the trade-enabling environment, and providing market intelligence.

In recent years, the CBI has started to monitor more closely the direct, as well as indirect, benefits experienced by exporting SMEs from developing countries participating in CBI programmes. Although quantitative and qualitative assessments of SME experiences are not yet fully available, preliminary results from interviews of managers in SMEs in developing countries highlight the direct benefits of increased sales and growth resulting from SMEs' engagement in international trade. In addition, a number of indirect benefits, resulting from the re-investment (of part) of the export earnings into the firms studied, and the improvement in their overall competitiveness have been highlighted, such as:

- enhanced product quality;
- professionalization of supply chain management, production processes and business operations (including human resources);
- more strategic use of market research and intelligence;
- development of new products and services (based on a better understanding of target markets);
- improved credibility and reputation for potential importers and buyers as well as investors;
- greater investor attention and commitments as result of enhanced credibility;
- enhanced motivation and confidence amongst company staff to expand or enter new markets or introduce new products and services to existing markets.

Ugandan SME's experience in the coffee sector

In this respect, the experience from Uganda's Ankole Coffee Producers Cooperative Limited (ACPCU) is revealing. In 2010, with the support provided by different international agencies, the company decided to change its export model from supplying domestic buyers to exporting Fair Trade-certified high quality washed Arabica coffee via international buyers.

According to the cooperative, the direct benefits resulting from exporting to the international market represent on average about 6.5 per cent of additional earnings. With the firm's improved credibility, stemming from its export activities, investors became more interested in investing in the company than when the firm used to supply to domestic buyers. The participation of a foreign investor, along with savings and support from banks and a non-governmental organization, enabled the firm to build a more efficient processing plant in three years' time. As a result, the firm now exports approximately five to six times more quantities of high quality Arabica washed coffee and was also able to secure contracts for the coming years.

Box C.4 (continued)

The re-investment of all the export earnings in the company brought other additional indirect benefits. The cooperative was able to hire eight technical and fifteen non-technical workers to run the new plant. In addition, salaries and wages paid to its workers have been raised by about 15 per cent. The final price paid to the farmer has been increased to almost 89 per cent of the world market prices. Furthermore, the cooperative undertakes a number of training activities in good agronomical practices, leadership skills, resource management, quality control, bookkeeping and financial management. The company is also in the process of diversifying its production by supplying washed Robustas and Arabica coffee to the international market and roasted coffee to the local market.

For ACPCU, sustaining benefits and business success in international markets demands continuous investment, including in staff skills and expertise, product quality and compliance management, as well as marketing. For example, Mr Nuwagaba (General Manager at ACPCU) mentions that direct relations with foreign buyers require a very different approach from those with local buyers, with increased attention given to market research. “We used to be price-takers, accepting mostly offers from buyers that came to our offices. However, nowadays we need to monitor market prices continuously, so as to stand strong in negotiations with potential foreign sourcing partners. The advantages are manifold, especially given that the returns of our export sales are based on transaction value, and not on pre-defined and untransparent prices set by buyers. Above all, we feel proud and have gained a stronger sense of identity as a result of the fact that our exports are successful and benefit our workers and families in the cooperative.”

Source: Schaap and Hekking (2016).

becomes an intangible resource. In this context, the acquisition of new experiences and the improvement of knowledge play an even more important role than experience accumulated over many years (Majocchi et al., 2005).

Exporting constitutes an important step in internationalization by enabling SMEs to accumulate knowledge and experience. This is particularly important as initial and prior international mode choices seem to have a relatively lasting impact on subsequent internationalization strategy. Firms often learn and develop specific internationalization routines based on specific entry modes in international markets that are subsequently used (Oehme and Bort, 2015). SMEs that manage to leverage their capabilities, including through enhanced innovation, can further expand their activities in international markets, while at the same time strengthening their activities in the domestic market. In this context, relevant internationalization strategies adopted by SMEs can drive their long-term growth.

(e) Global value chains and SMEs' performance

Global value chains, in particular backward value-chain links through local sourcing, can stimulate the demand for more and better inputs from local suppliers, including SMEs. The lead firm may also assist local suppliers through knowledge and technology sharing and advance payments. Both demand and assistance effects spurred by the lead firm can facilitate the diffusion of knowledge and technology among local suppliers, including SMEs (OECD and World Bank, 2015).

Yet empirical evidence on the impact on SMEs' performance of participating in global value chains, in particular through indirect exports, remains almost non-existent. Part of the reason for the limited availability of empirical evidence might stem from the difficulty in compiling detailed information on forward and backward linkages between SMEs participating indirectly in global value chains for a relatively long period of time. That being said, a number of relevant empirical findings – reviewed below – could apply to SMEs involved in global value chains. In addition, Box C.5 presents a case study which illustrates the effect of integrating into a value chain for an SME.

Box C.5**Case study****A Moroccan SME engaged in global value chains**

This case study provides a concrete example of what it implies for an African SME to integrate into a global value chain.

From family workshop to multinational enterprise partnership

Tuyauto is a Moroccan SME that has been specializing in automotive equipment since 1960. Originally, this small family-run workshop of spare parts, located in Casablanca, produced exhaust systems (mufflers, connection tubes and collectors) for SOMACA (Société marocaine de constructions automobiles), the local market assembly plant.

Between 1995 and 2005, demand for Tuyauto's products declined dramatically. Exhaust system technology evolved to integrate antipollution functionalities and the use of more robust materials, such as stainless steel and the after-sales market for spare exhaust pipes shrank. This period also coincided with the opening of Morocco's automobile market and the resulting diversification of car imports. Maintaining an updated catalogue of spare parts for all models sold on the Moroccan market became extremely difficult.

In 2005 Tuyauto became the main supplier of exhaust systems to the SOMACA Renault factory in Casablanca – which produced a successful model – and it recovered its financial health. Simultaneously, Tuyauto extended its expertise in the field of stamping (pressing activities) to become, in 2010, Renault's original equipment manufacturer for a set of parts for the French manufacturer's new assembly plant located in the Tangiers Free Zone.

The partnership with Renault created other international contract opportunities and fostered business acquisitions to diversify production capacity. In 2012, Tuyauto bought Ettel Maroc, a company with nearly 20 years' experience in precision mechanics, with the view to capitalizing on the synergies between the two companies and consolidating its expertise in the design and development of cutting and stamping tools. From 2012 to 2014, new orders of stamping parts were received by other Renault factories in Europe, Morocco and India. In the near future, Tuyauto is well positioned to contribute to the assembly lines of the future PSA (Peugeot) group plant currently under construction in the city of Kénitra.

Operational outcome and accession to international markets

Table C.1 presents the main indicators of Tuyauto's activity.

The company saw its workforce shrink from 160 to 120 employees by 2015 as a result, mainly, of the automation of its processes and productivity gains. The rejuvenation of the workforce, combined with a more dynamic management structure and new equipment, resulted in a more than fourfold rise of the turnover-per-employee ratio between 2005 and 2015, which coincides with the period when the company joined the Renault group.

Additionally, the high levels of growth observed during the last two decades in both turnover and the number of vehicles produced reveal the positive impact of the international partnership with Renault for Tuyauto.

Box C.5 (continued)

Table C.1: Tuyauto main indicators, 1995-2015

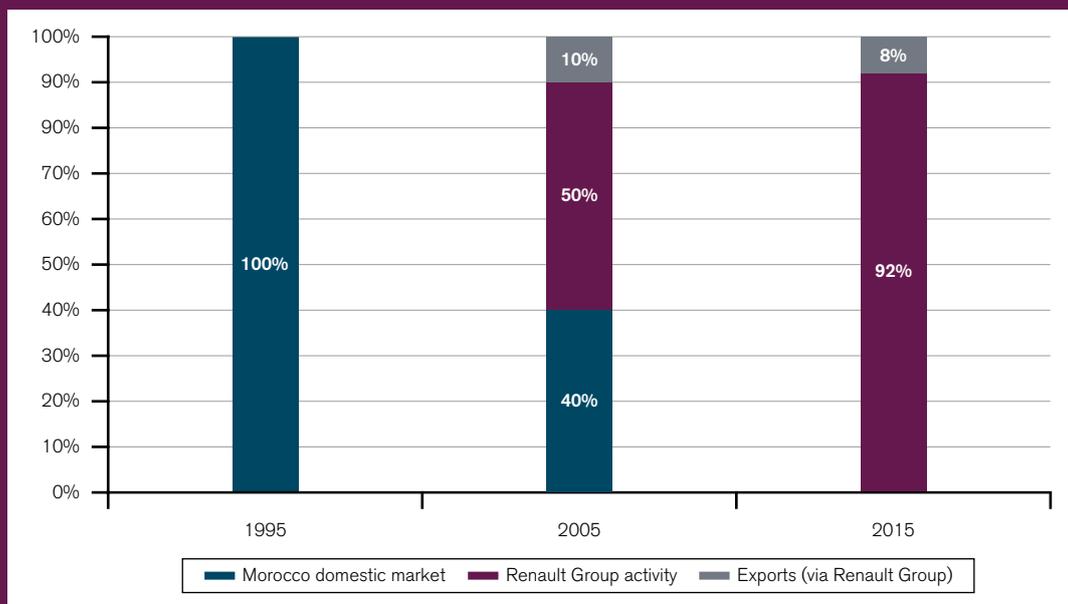
	1995	2005	2015
Employees (number)	160	120	120
Turnover (million €)	2.5	3.0	13.0
Productivity (turnover per employee, million €)	0.02	0.03	0.11
Number of vehicles manufactured in Morocco, with components from Tuyauto (number)	30,000	60,000	220,000

Source: Tuyauto enterprise data.

As shown in Figure C.2, Tuyauto's sources of revenue have changed over time, as it has moved from being oriented toward the local market to progressively becoming one of Renault's key partners in Morocco. In 2015, 92 per cent of Tuyauto's turnover related to its production activities with the Renault group, rising to 100 per cent if the indirect exports of Tuyauto's components via Renault are taken into account.

Overall, Tuyauto acts like an "indirect exporter", as its components are integrated into Renault cars assembled in the Tangier Free Zone and exported globally. Tuyauto also exports some of its parts and components indirectly via Renault, which sends parts for various car models to its overseas subsidiaries and production sites in Asia, Europe, and other regions. The indirect exports of components amounted to 8 per cent of Tuyauto's turnover in 2015.

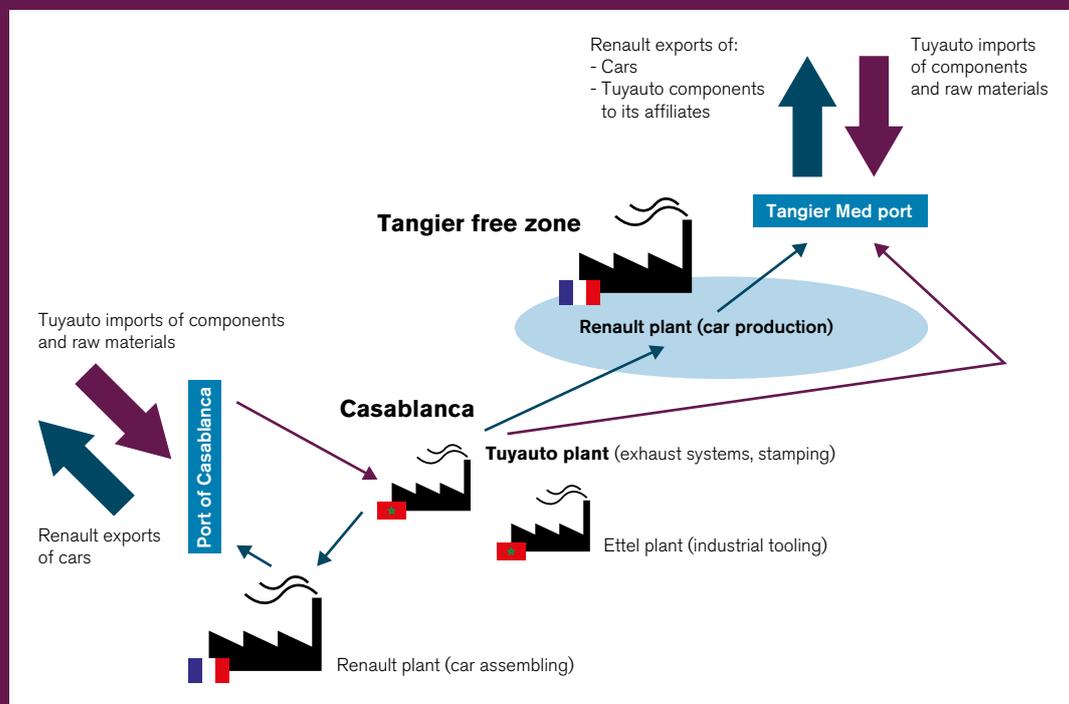
Figure C.2: Distribution of Tuyauto turnover by main source of revenue, 1995-2015 (percentage of total turnover)



Source: Tuyauto enterprise data.

Box C.5 (continued)

Figure C.3: Schematic presentation of Tuyauto's production chain



Source: WTO, based on Tuyauto enterprise information.

On the supply side, Tuyauto imports components and raw materials from Spain. Figure C.3 illustrates the various transport and trade flows involved as well as the roles and positions of Tuyauto and its industrial partners in the automotive production chain of Renault in Morocco.

Key elements to joining and remaining in international production chains

Over the years, Tuyauto has taken decisive steps to expand its business and become an active member of an international production chain. By adopting a strategy focused on quality industrial performance and customer service, Tuyauto was able to establish a sustainable partnership with the Renault Group and accompany the French automaker in pursuing its strategy and expansion to Morocco.

For an SME in a developing country, joining a global value chain requires that the SME meet the technical and managerial requirements of the parent industrial group. In 1997, Tuyauto commenced a set of certifications by obtaining the ISO 9002 standard that endorses the manufacturing process of SMEs engaged in subcontracting activity. This certification was accompanied in 1999 by a literacy plan for its workers in order to initiate a culture of quality internally. In 2006, Tuyauto obtained the ISO 16949 standard for quality in the automotive industry, and in 2015, it received certification under ISO 14001 relating to environmental management standards. These standards and the related standardization of its industrial processes have greatly facilitated the selection and integration of Tuyauto within the Renault group production chains.

Beyond the scope of the production phase, the company has developed its ability to integrate large-scale international projects. Thus, in 2015 Tuyauto adopted an R&D plan, with the aim of doubling the number of its engineers and technicians by 2019 in order to intensify its innovation capacity and its ability to develop products and industrial processes.

Box C.5 (continued)

In 2010-11, Tuyauto launched an investment phase to cover the costs associated with its integration into the Renault Group production chain. Three sources of funding were deemed necessary, starting with investments in capital equipment (€ 1 million), funded by private capital and supplemented by a classic loan type line of credit. The financing of the working capital mainly relied, not without issues (see next section), on the banking partners of the SME. The third source of funding was a capital investment received from the Renault Group (€ 1.5 million) for specific equipment necessary for vehicle production, primarily stamping tools and assembling apparatus. In 2015, Tuyauto also benefited from the “IMTIAZ-CROISSANCE” programme, launched by the Government of Morocco to support the development of Moroccan SMEs, particularly with regard to productive investment.

First, a number of studies have uncovered positive links between importing and firm productivity. Importing firms tend to display higher productivity than firms that do not engage in import activities. Importing intermediate goods enables firms to specialize in and mobilize their resources for tasks in which they have particular advantages. Imports of high quality intermediaries and capital goods can also constitute a channel for knowledge and technology transfer, by enabling firms to improve their productivity (Wagner, 2012). In addition, importing can extend international contact networks with operators involved in the importing chain, which has been found to lead in some cases to export inquiries or unexpected orders (Korhonen et al., 1996). Although not a requisite for international expansion, import activities can therefore act as springboard for exporting by enhancing SMEs' attitudes towards internationalization and knowledge of international markets.

Second, studies analysing the impact of foreign multinational enterprises on domestic firms' export activity suggest that domestic firms' likelihood of exporting can increase thanks to commercial linkages with customers and suppliers, including foreign suppliers, as well as training and increased competition (Hessels and Terjesen, 2010). However, spillover benefits from internationalization can only materialize if the absorptive capacity of domestic firms is sufficient to enable them to internalize these spillovers. In addition, the potential for export spillovers is likely to be more limited when SMEs participate in low-technology or labour-intensive tasks within global value chains, or when supply contracts are not formalized and long-term (OECD and World Bank, 2015).

4. Conclusions

The reasons underpinning SMEs' decisions to pursue specific internationalization strategies – such as indirect exports, direct exports, international subcontracting (licensing, outsourcing) or investment – remain highly heterogeneous. In some cases, the internationalization process of SMEs is gradual, starting with sporadic exports. In other cases, certain SMEs, often referred to as being “born global”, are engaged in overseas markets since or soon after their creation. Other SMEs are able to integrate global value chains by exporting directly or indirectly through large exporting firms.

The participation of SMEs in international trade remains, however, limited. Among exporting firms, SMEs are usually strongly represented in terms of numbers, but account for only a small share of a country's overall exports and often export only a few products to a narrow range of destinations. To a large extent, this observation is explained by the relationship between productivity, size and export experience, where the most productive firms are not only larger, but also find it easier to access foreign markets and grow even further through exporting. Many trade barriers, notably those giving rise to fixed costs, are particularly burdensome for SMEs, which commonly have limited financial, human and technological resources. This is why several studies have highlighted that SMEs would benefit most from further trade opening and policy coordination, including on non-tariff measures. When given the opportunity to enter new markets, SMEs tend to respond more swiftly and flexibly than large firms, and they can therefore play a key role in the creation of new exports.

Internationalization, and in particular exporting, is often considered to be an important strategic option to enable SMEs to expand. Yet empirical evidence of the impact of internationalization on SMEs' performance is limited, since its effects tend to be firm-specific. On the one hand, the probability that SMEs may decide to start exporting tends to increase with the level of productivity and innovation. On the other hand, SMEs engaged in export activities can experience higher growth and employment through economies of scale and enhance their productivity and innovation through learning effects. The prospect of larger revenues from

exporting can also incentivize SMEs to invest more in innovation beforehand. Although many SMEs start exporting sporadically, over time, SMEs that manage to remain exporters experience higher survival rates than non-exporting firms. In this context – in addition to the importance of improving the framework conditions enabling SMEs to acquire firm-specific advantages, such as innovation and productivity – trade opening and facilitation may have particularly important policy objectives of supporting SMEs that have the potential to become successful exporters.

Endnotes

- 1 Gabrielson et al. (2008); Kalinic and Forza (2012).
- 2 Firm size is a firm characteristic that has received considerable attention in the literature. Different units of measure can be used to measure firm size, such as the number of employees, sales volume, sales employees' ratio, the level of assets, or the level of investment in research and development (R&D). The next subsection discusses in greater detail the role of firm size in internationalization dynamics.
- 3 See among others Bernard and Jensen (1999), Brambilla et al. (2014), Cebeci et al. (2012), Cebeci (2014), Falk and Hagsten (2015), Greenaway and Kneller (2008), Tybout (2004) and Wagner (2015). The link between firm productivity and size emerges in much empirical work, but does not always hold. In this section it is assumed that large firms are on average more productive than small firms.
- 4 See also Amador and Opromolla (2008), Arkolakis and Muendler (2010), Bernard et al. (2011a), and Van Beveren and Vandenbussche (2010).
- 5 However, Bernard et al. (2014) find that the negative relationship between firm growth and firm size is biased upwards due to partial year effects. Firms seldom start exporting precisely at the beginning of the year, meaning that annual growth rates are overstated when comparing it to the second full year of exporting.
- 6 As Krugman's model (Krugman, 1979; 1980) has become known as the "new trade theory", Melitz (2003) provided the foundations for the so-called "new new trade theory". For a very accessible and intuitive introduction to the latter, see Baldwin (2005).
- 7 For papers empirically testing the predictions from the Melitz model see, for instance, Wagner (2007), Aw et al. (2009), Manez-Castillejo et al. (2010), Alfaro and Chen (2012), and Brambilla et al. (2014).
- 8 A key result of the Melitz model is of course the welfare-improving nature of trade opening, which, on top of other established benefits of trade, also increases overall industry productivity (and potentially even firm productivity, as demonstrated, for instance, by Bustos (2011)). Mayer et al. (2011) and Bernard et al. (2006) further elaborate on these effects, pointing out that when competition increases due to trade opening, the surviving firms have smaller average mark-ups, leading to lower prices and higher welfare, with multi-product firms also concentrating their exports on the best performing products and most profitable destinations.
- 9 See Rubini (2011), Arkolakis et al. (2011), Feenstra et al. (2014), and Imbs and Mejean (2015). Measuring the responsiveness to trade volumes at an elevated level of aggregation has been criticized by an increasing number of papers (Bas and Strauss-Kahn, 2012; Head et al., 2014; Melitz and Redding, 2015).
- 10 Another potential reason for the higher responsiveness of certain firms to trade opening relates to quality differences in product varieties. Low-quality product varieties have been found to be more price-sensitive than high-quality items, as the latter may be more exclusive, diversified and harder to replace, making consumers less sensitive to price changes (Lashkaripour, 2013). However, it is not clear whether smaller firms, on average, produce higher or lower quality products.
- 11 Analysing firms' performance is challenging in terms of defining uniform and valid performance measures. Firm's performance can be measured using quantitative indicators, such as profits or sales, but also (subjective) qualitative indicators, such as the manager's satisfaction or success in achieving firms' objectives (e.g. higher market share) (Pangarkar, 2008).
- 12 Although empirical evidence on "learning by importing" remains limited and inconclusive, a number of studies have also uncovered a positive link between importing and firm productivity. It could then be the case that importing firms, which managed to improve their productivity through high quality intermediaries and capital goods imports, would ultimately self-select into exporting. This process could explain, at least partially, why firms that both import and export simultaneously tend to be the most productive, followed by importing firms, and then exporting firms (Wagner, 2012).
- 13 Similar to other issues discussed in this section, empirical evidence on the relationship between firm age and exporting likelihood or performance is nuanced. Some studies conclude that size, and not age, has an impact on SMEs' exporting likelihood and performance (Williams, 2011). Conversely, other studies suggest that older small firms experience a higher likelihood of being successful in export markets (Brouthers and Nakos, 2005). Other studies further consider international experience to be more relevant than age itself (Love et al., 2015).

D Trade obstacles to SME participation in trade

Section D investigates the major trade-related impediments to SMEs' participation in trade. A key finding in this section is that all types of trade costs, whether they are fixed or variable, adversely affect the ability of SMEs to participate in trade, to a greater extent than large enterprises. Since SMEs are more sensitive to trade barriers than large firms, removing obstacles to trade benefits SMEs disproportionately. It is therefore important to understand what these major obstacles are.



Contents

1. SME perceptions of barriers to access international markets	78
2. Trade policy and SMEs	83
3. Other major trade-related costs	91
4. ICT-enabled trade: benefits and challenges for SMEs	98
5. SME access to GVC-enabled trade	102
6. Conclusions	106

Some key facts and findings

- Tariffs and non-tariff restrictions affect the ability to participate in trade of SMEs more adversely than that of large enterprises.
- Trade facilitation promotes the entry of SMEs into export markets. Small exporting firms profit relatively more when trade facilitation improvements relate to information availability, advance rulings and appeal procedures.
- Services SMEs are relatively more impacted by barriers on “establishment” than by barriers on “operations”, notably when these concern mode 4 trade.
- Logistics tend to cost more for SMEs than for large enterprises. For example, in Latin America, domestic logistics costs can add up to more than 42 per cent of total sales for SMEs, as compared to 15-18 per cent for large firms.
- SMEs face more credit rationing, higher “screening” costs and higher interest rates than larger enterprises. SMEs are also the most credit constrained. It is estimated that half of their requests for trade finance are rejected, compared to only 7 per cent for multinational corporations.
- The benefits from the ICT revolution are particularly high for SMEs. However, there are some unique costs of online trade, such as the costs of accessing ICTs and the need for certainty and predictability in regimes governing global data transfers. Small firms in LDCs only attain 22 per cent of the connectivity score of large firms in LDCs, compared to 64 per cent in developed countries.
- GVCs help SMEs to overcome some of the difficulties they face in accessing international markets. However, lack of skills and technology, together with poor access to finance, logistics and infrastructure costs and regulatory uncertainty make it difficult for SMEs to participate in GVCs.



Section D.1 identifies the obstacles to trade that firms perceive as major challenges for their access to international markets.¹ Sections D.2 and D.3 provide a sense of the magnitude of these barriers to trade and their effects on SMEs, looking at tariff and non-tariff barriers and other trade-related barriers, respectively. Sections D.4 and D.5 explain how SMEs can overcome some of these barriers through trade, particularly online trade and global value chains (GVCs). These subsections also explore the obstacles faced by SMEs as they exploit the opportunities offered by online trade and GVCs to access international markets.

1. SME perceptions of barriers to access international markets

One way to get a sense of the main obstacles to trade for SMEs is through survey data. The United States International Trade Commission (USITC), the European Commission, the World Bank, the International Trade Centre (ITC) and the Organisation for Economic Co-operation and Development (OECD), in conjunction with the WTO, have conducted a number of surveys that allow firms to be classified by their size. The results of these surveys help to identify some of the SME-specific obstacles that are explored in this chapter.

It is important to stress at the outset that the results of surveys are very sensitive to the design of the survey itself. A survey designed to identify trade costs should typically ask the firm surveyed to indicate what costs, out of a predefined set of options, the firm perceives as a major obstacle to trade. If a cost is not included in the predefined multiple choice set of costs, it will not appear as a major trade cost. For this reason, different surveys are not really comparable. However, ranking the listed trade costs in each survey may still help to understand which trade costs are the most and the least significant for firms, and, more importantly for the purpose of this report, which trade costs are relatively more important for SMEs relative to large enterprises.

Most of the information on obstacles to trade as perceived by SMEs in developing countries does not allow a comparison between the relative importance of obstacles to trade between small and large firms, because studies tend to focus on SMEs only.² One notable exception is the series of business surveys on non-tariff measures (NTMs) undertaken by the ITC,³ which suggests that SMEs are more affected by NTMs than large firms.

All these studies point us to some of the major perceived obstacles to trade. Table D.1 offers a review of selected empirical investigations conducted in developing

countries. The main obstacles to international trade emerging from this review are:

- (i) limited information about the working of the foreign markets, and in particular difficulties in accessing export distribution channels and in contacting overseas customers;
- (ii) costly product standards and certification procedures, and, in particular, a lack of information about requirements in the foreign country;
- (iii) unfamiliar and burdensome customs and bureaucratic procedures; and
- (iv) poor access to finance and slow payment mechanisms.

In order to get a sense of the relative importance of the obstacles to trade for small and large firms in developing countries, the database of the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) is used. This survey looks at a slightly different question: that is, obstacles to enter and move up value chains rather than the obstacles to trade. However, as discussed in Section B, internationalization of SMEs mostly takes place through indirect channels, through the contribution that SMEs make to exports as upstream producers in value chains. Direct exports are almost exclusively done by large firms. In developed and developing countries alike, the top 5 per cent of firms account on average for 80 per cent of exports. Therefore, the perceived obstacles to participating in a supply chain provide important clues into the more general question of what are the major obstacles to trade.

Table D.2 reports the ranking of the major obstacles to enter and move up value chains as perceived by interviewed firms by sectors. In the OECD and WTO (2013) publication, a survey of 122 questions was completed by 524 firms and business associations in developing countries, presenting the binding constraints these firms face in entering, establishing or moving up value chains.⁴ In addition, 173 lead firms, mostly from OECD countries, also completed the questionnaire to highlight the obstacles they face in integrating developing country firms into their value chain.⁵

The questionnaire focused on businesses integrated into value chains in five key sectors: agrifood, information and communication technology (ICT), textiles and apparel, tourism, and transport and logistics.⁶ The original questionnaire divided responses into five categories: micro firms with less than 10 employees; small firms, with 10 to 49 employees; medium-sized firms, with 50 to 250 employees; large

Table D.1: A review of export barriers as emerging in selected studies on developing countries

Ethiopia	Iran	Jordan	Mauritius	Nigeria	Sri Lanka
Lakew and Chiloane-Tsoka (2015) surveyed nine SMEs based in Addis Ababa producing leather and leather products.	Kabiri and Mokshapathy (2012) surveyed 76 SMEs producing fruit and vegetables in Tehran.	Al-Hyari et al.(2012) surveyed 135 Jordanian manufacturing SMEs.	Dusoye et al.(2013) surveyed 41 SMEs exporters in Mauritius.	Okpara (2009) surveyed 72 manufacturing SMEs in Nigeria	Gunaratne (2009) undertook a postal questionnaire survey of SMEs in Sri Lanka.
MAJOR TRADE BARRIERS					
<ul style="list-style-type: none"> - Lack of finance - Tariff and non-tariff barriers - Unfamiliar with export procedures - Slow collection of payment from abroad - Foreign distribution - Complex export document - Political instability in foreign markets - Foreign exchange rate 	<ul style="list-style-type: none"> - Exporting procedures/documentation - Communication with foreign customers - Collection of payments from abroad - Export restrictions - Political instability in foreign markets - Tariff and non-tariff barriers - Unfamiliar foreign business practices - Sociocultural differences - Language - Lack of information on foreign market - Distribution channels - Logistic cost 	<ul style="list-style-type: none"> - Transportation costs - Government regulations and rules - Foreign rules and regulations - Collection of payments from abroad - Cost of capital to finance export - Foreign currencies risk - Insufficient information about overseas markets - Currency fluctuations 	<ul style="list-style-type: none"> - High transportation cost - Cost of establishing an office abroad - Currency fluctuations - Lack of finance - Government bureaucracy - Obtaining reliable foreign representation - Exchange rate policies 	<ul style="list-style-type: none"> - Lack of export market knowledge - Lack of export finance - Difficulty in handling export documentation requirement - Transportation and insurance costs - Language differences 	<ul style="list-style-type: none"> - Lack of finance - Corrupt bureaucratic practices in the home country - Tariff and non-tariff barriers - Language - Lack of reliable data on foreign market - Difficulty in managing advertising and promotion
OECD and APEC countries		ALADI countries		CBI⁷ Export Coaching Programmes	
OECD (2008) surveyed 978 SMEs' perception of the barriers to their internationalization across 47 countries.		A report by the OECD (2005) presents the findings of a study on 30 SMEs in 12 ALADI (Asociación Latinoamericana de Integración – Latin American Integration Association) countries on the barriers to accessing foreign markets perceived by firms in ALADI countries.		Vonk et al. (2015) evaluated five of CBI's Export Coaching Programmes (ECPs). These programmes aim to increase exports from developing countries into Europe. The evaluation was conducted through interviews and questionnaires submitted to selected SMEs. Thirty-three responses were received (24 were Indian firms) indicating "the most important reason for not exporting (more) to the EU".	
TRADE BARRIERS					
<ul style="list-style-type: none"> - Identifying foreign business opportunities - Limited information with which to locate/analyse markets - Inability to contact potential overseas customers - Obtaining reliable foreign representation - Lack of managerial time to deal with internationalization - Inadequate quantity of personnel and/or untrained personnel for internationalization - Excessive transportation costs 		<ul style="list-style-type: none"> - Lack of information and requirements - Customs and bureaucratic procedures - Finance and payment mechanisms - Non-tariff barriers - Transportation: costs, frequency, and insecurity; inadequate logistics - Marketing regulations and regional agreements - SPS and heterogeneous technical measures - Asymmetric physical and technological infrastructure of countries - Political and economic instability - Subsidies 		<ul style="list-style-type: none"> - Lack of business contact - Lack of market information 	

Notes: These studies looked at obstacles to trade both internal and external to the firm, the table however only reports trade barriers. For example, difficulty in obtaining information on rules and regulations in a foreign market is a barrier to export because it involves extra costs that the firms have to meet in order to export. Lack of personnel to look into the rules and regulation in the foreign market is an internal problem of the firm.

Table D.2: SMEs' top five perceived constraints in entering, establishing or moving up value chains

Agriculture	ICT	Textile
Access to business finance	Access to trade finance	Access to trade finance
Transportation costs	Lack of transparency in regulatory environment	Customs paperwork or delays
Certification costs	Unreliable and/or low band internet access	Shipping costs and delays
Access to trade finance	Inadequate national telecommunications networks	Supply chain governance issues (e.g. anti-competitive practices)
Customs paperwork and delays	Customs paperwork or delays	Other border agency paperwork or delays

Note: The specific question for Agriculture, ICT and Textile sectors is: "What difficulties do you face in entering, establishing or moving up the value chains? Please select up to 5 from the following list."

Source: OECD and WTO (2013).

firms, with more than 250 employees; and multinational firms, with more than 250 employees and operating in more than one country. In Appendix Figures D.1-3, the survey data from large and multinational firms is combined and presented as "large firms" whereas "MSMEs" represents the combined data from micro, small and medium-sized firms.

Access to finance and trade finance, lack of transparency in the regulatory environment and customs paperwork, and delays are among the major obstacles to enter and move up the value chains for SMEs in developing countries. Certification costs for SMEs in agriculture and inadequate telecommunication networks in ICT also prevent SMEs from entering supply chains and upgrading.

Figures D.1 and D.2 show the main perceived obstacles to trade in manufacturing and services based on a survey of US firms (USITC, 2010). The questionnaire concerning the leading impediments to engaging in global trade employs a stratified random sample to survey more than 8,400 US firms. The results are weighted on the basis of the proportion of firms in the overall population and the response rates of various categories of firms. Firms with between 0 and 499 employees in the United States are categorized as SMEs whilst those with 500 or more employees are categorized as large firms. Responding firms rated the severity of 19 impediments on a 1-to-5 scale, with 1 indicating no burden and 5 indicating a severe burden. Figures D.1 and D.2 show responses of 4 or 5 on the 1 to 5 scale, illustrating the share of SMEs and large firms rating impediments as burdensome.⁸

Interestingly, access to a foreign country's distribution network is perceived as the major obstacle by US SMEs in the manufacturing sector. Conversely, this is perceived as a relatively minor obstacle by large firms. Similarly, high tariffs and difficulties in accessing finance and processing payments appear to be

relatively more important obstacles for SMEs' trade than for large firms' trade.

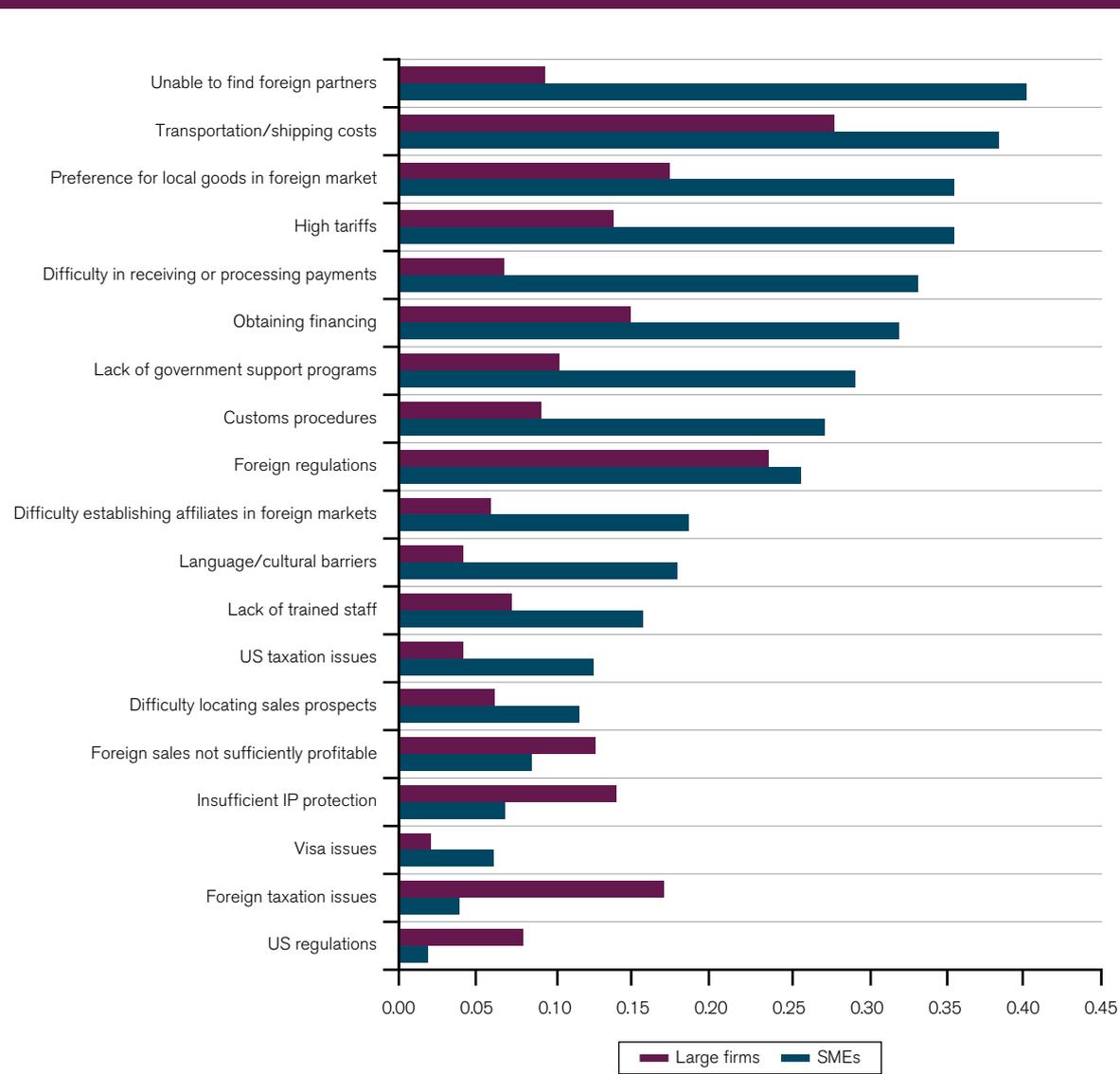
In the services sector, US SMEs reported insufficient IP protection as the major obstacle to export. For example, exporters of film and television programming reported that seeking remedies to IP infringement was often too expensive for SME producers (Independent Film & Television Alliance, 2010).

Figure D.3 from the European Commission's Report *Small and Medium Sized Enterprises and the Transatlantic Trade and Investment Partnership* reports the main obstacles to trade for EU firms exporting to the United States (European Commission, 2014b). The figure presents the results of an online survey of 869 European companies carried out with the support of the Enterprise Europe Network from July 2014 until January 2015.

The companies were asked whether they felt they faced barriers in the US market and to identify the nature of those barriers based on a standard list of non-tariff measures. The respondents included micro firms employing one to nine people, small firms with 10 to 50 employees, medium-sized firms with 51 to 250 employees, and big firms with more than 250 employees. This survey provides a broad view of the issues that are most important for SMEs, such as compliance with regulation and standards, customs procedures, and restrictions on the movement of people and of distribution channels. It also suggests that many of these issues represent larger barriers for SMEs than for larger firms, given that small companies have to spread fixed costs of compliance over smaller revenues than those of larger firms.

Regulations, i.e. sanitary and phytosanitary (SPS) and technical barriers to trade (TBT) measures, are perceived to be the most important obstacle to trade for all firm sizes. More than 50 per cent of firms

Figure D.1: Leading impediments to engaging in global trade in manufacturing, US firms survey



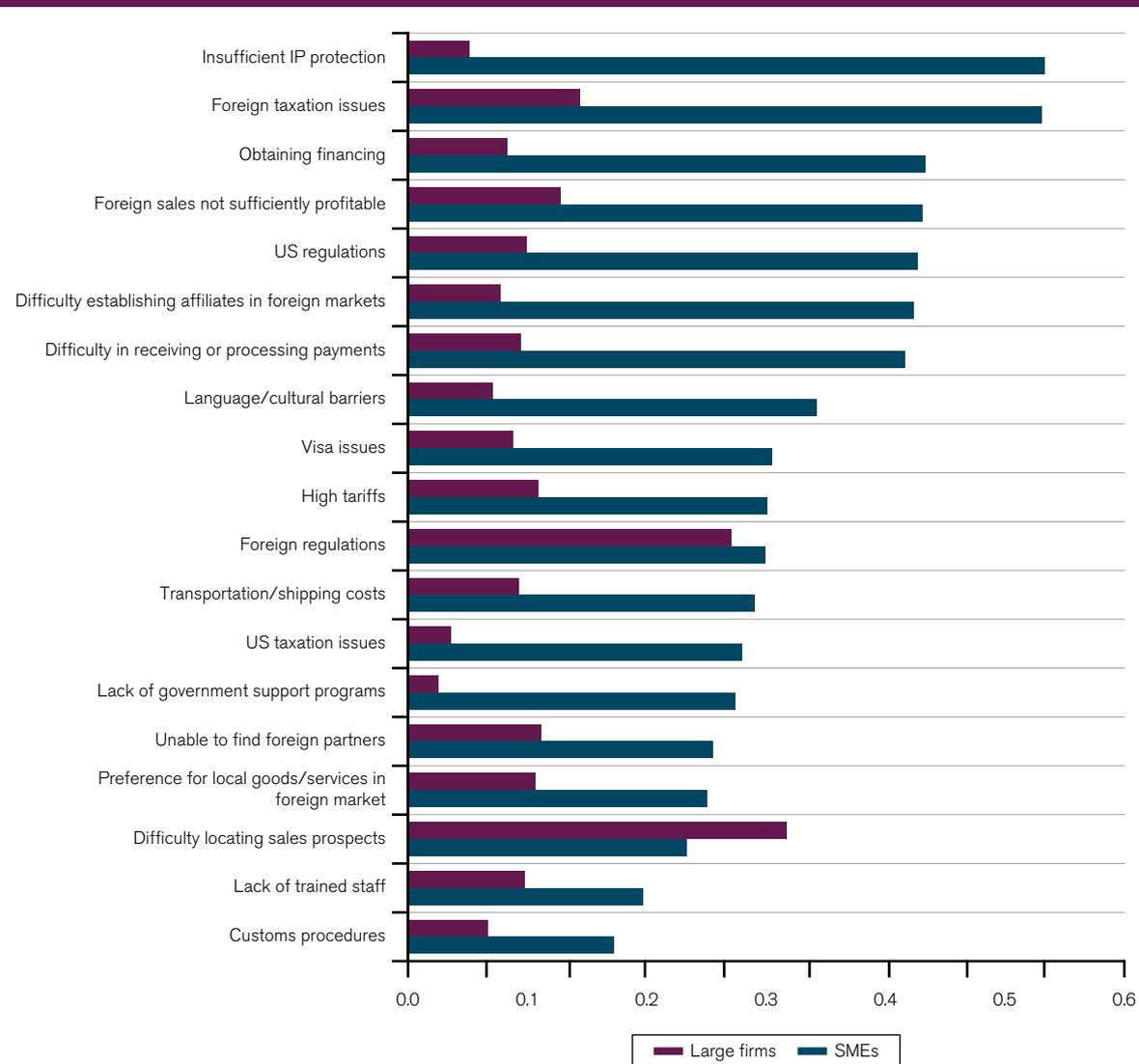
Source: US International Trade Commission (2010).

identified regulation as the main obstacle to accessing foreign markets. Border procedures are next with 30 to 40 per cent of SMEs. Price, licences and quantity controls, as well as measures on competition are next with 20 to 30 per cent of SMEs perceiving these to be major barriers to access the US market. These measures are also relatively more important obstacles for SMEs than for large firms. Interestingly, standards and regulations are also listed by US SMEs as major trade barriers for accessing the EU market according to USITC (2014). The report highlights that the different regulatory approaches, the lack of participation of US firms in development of EU standards, and the costs of compliance with standards and procedures, as well

as the lack of national treatment of US certification bodies, are all significant barriers encountered by the US SMEs.

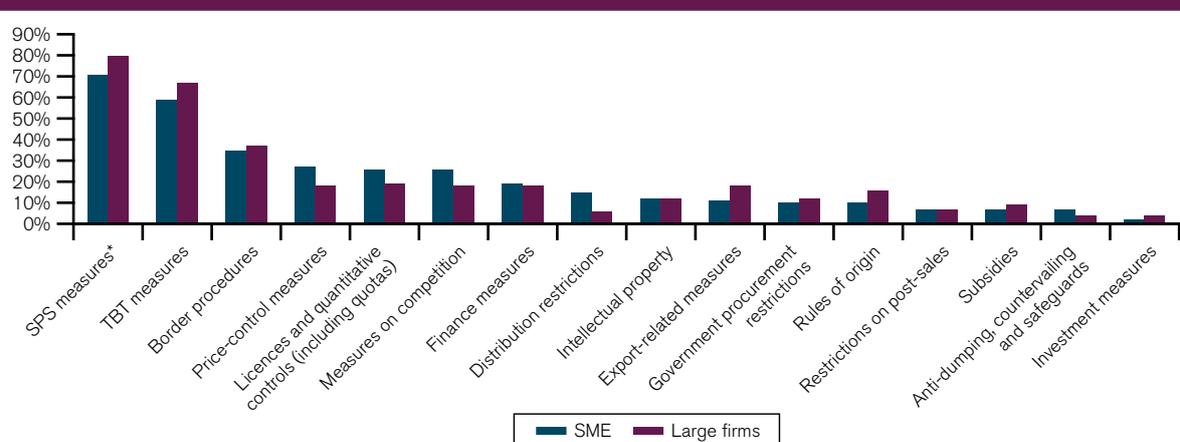
In sum, drawing from the existing evidence, the costs of accessing a foreign distribution network, transportation costs, high tariffs, access to finance and trade finance, customs procedures, and foreign regulations, both in goods and in services, appear to be the major obstacles to trade for SMEs. The next subsections will explore in more depth the reasons why these costs matter particularly for SMEs and how e-commerce and participation in GVCs can help to overcome some of these costs.

Figure D.2: Leading impediments to engaging in global trade in services, US firms survey



Source: US International Trade Commission (2010).

Figure D.3: Trade barriers in accessing US goods markets reported by EU firms by firm size



*Only for exporters of food, drink, animal feed and products that come into contact with food (e.g. packaging, cooking utensils).

Source: Authors' calculation based on European Commission (2014b).

2. Trade policy and SMEs

This subsection looks at tariff and non-tariff obstacles to trade, their magnitude and their effects on SME participation in trade in goods. It also discusses barriers that may be particularly burdensome for SMEs operating in the service sector.

(a) Tariff barriers may matter more for SMEs

As shown in Figure D.1, SMEs in the manufacturing sector consider high tariffs to be a greater obstacle to exporting than large manufacturing firms do. What explains this perception?

One explanation is the effect that higher tariffs have on the participation of SMEs in trade. Higher tariffs in destination markets make it more difficult for firms to profitably export. Only the more productive firms will export in such an environment, whilst smaller and less productive firms will not. As tariffs are reduced, smaller firms progressively enter in the market. Using firm-level information for Ireland, Fitzgerald and Haller (2014) estimate that reducing tariffs from 10 per cent to zero increases participation of medium-sized firms (firms with 100-249 employees) from 11.5 per cent to 14.2 per cent. But they do not find significant effects on firms of smaller size.

A second explanation is provided by the effect that higher tariffs have on the volume of exports of a firm. A growing body of theoretical literature emphasizes how the impact of trade policy depends on firm

characteristics such as size and productivity.⁹ Small firms are more sensitive to tariff changes because they produce goods whose demand is more sensitive to price changes or they pay lower costs to reach additional consumers than large firms (see Box D.1 for a more detailed explanation).

Heterogeneous effects of tariffs across firms of different sizes can also be explained by the presence of non-*ad valorem* tariffs. Specific tariffs (per unit tariffs) and tariff rate quotas (through the imposition of a quota licence price) act as additive trade costs, that is a cost that is independent of the unit price of the good. An additive trade costs has systematically a different impact between firms that produce low-priced and high-priced good. Clearly, adding a US\$ 1 tariff on a good for which the price is US\$ 1 is a much more restrictive measure than adding US\$ 1 tariff on a good for which the price in the market is US\$ 100. If low-priced firm are small firms, the prevalence of additive trade costs can also explain the perceived importance of high tariffs as barriers to trade for small firms (Irrarrazabal et al., 2015).¹⁰

A third explanation behind small firms' perception that tariffs affect them disproportionately could actually be that there is an anti-SMEs-bias in conditions of market access. That is, SMEs face higher tariffs on average in their export market destinations than large firms, and this is why SMEs perceive tariffs to be a major barrier to trade. Political economy provides some arguments that explain this potential outcome.

In a world where governments negotiating agreements are influenced by strong lobbying powers, large firms

Box D.1: Firms' responses to higher tariffs

Spearot (2013) explains the differential effects across firms of a given tariff increase (reduction) with the fact that firms face different demand elasticities. In particular, low revenue goods exhibit a higher demand elasticity. For this reason, the traditional negative effect of higher trade costs on trade flows is amplified for low-revenue varieties (firms with a low value of exports prior to the new restrictive measure).¹¹ The opposite is true when tariffs are cut. In fact, Spearot finds that after 1994, following the Uruguay Round, for the same tariff cut, US imports of low revenue varieties increased disproportionately more than imports of high revenue varieties. In some cases, imports of high revenue varieties fall after liberalization.

Another study (Arkolakis, 2011) explains the differential impact of higher tariffs between small and large firms on the basis of differences in market penetration costs. Paying higher costs allows firms to reach an increasing number of consumers in a country. But the cost of reaching more consumers increases when a firm has already reached a high volume of sales. That is, reaching more and more consumers becomes increasingly more difficult. In this set-up, all firms lose from an increase in tariffs, but firms differ in their supply response depending on the costs they face in reaching more consumers. These additional costs are large for large firms and small for small firms. Exports of small firms grow more following tariff liberalization than do those of large firms, because small firms face lower costs than large firms to reach additional consumers; and *vice versa*, large firms respond less to tariff increases, because for each unit of export reduction they save more than small firms in terms of the costs to reach consumers.

are more likely to engage in lobbying than small firms. Large firms have more resources and are better able than SMEs to engage in lobbying. Moreover, sectors with few large firms are likely to be more effective than sectors with many small firms in influencing trade policy outcomes. Therefore, a country's sectoral tariff profile is likely to depend on the size of firms in that sector. While in a unilateral set-up, this would lead to higher tariffs in sectors dominated by large firms (Olson, 1965; Bombardini, 2008), when tariffs are set in a cooperative environment, export-oriented large firms will lobby for trade liberalization and will succeed in lowering tariffs (Plouffe, 2012).¹² Therefore, to the extent that large firms are present in the same sectors, they are likely also to face lower tariffs.

Available data does not allow for a systematic assessment of tariffs faced by individual firms in their destination market. Ideally, in order to calculate the average tariff faced by small firms, one would need to know what product small firms export in each market and average the tariff faced across markets. This type of data is not publicly available for all countries.

To get a sense of the tariffs firms face in their export markets, Figure D.4 shows the distribution of tariffs faced by French manufacturing exporting firms. Interestingly, the figure shows that (i) the bulk of both small and large firms exporting manufacturing goods from France face tariffs lower than 10 per cent, and that (ii) small firms are more concentrated in sectors facing relatively higher tariffs (the blue line is above the red line in the figure), while large firms are more concentrated in sectors facing relatively lower tariffs. The difference between tariffs faced by small and large firms in France is not all that large and, as discussed in Section C, causality may be reversed. That is, it may actually be the case that firms operating in sectors facing lower tariffs grow faster. Nevertheless, these findings do raise the question of the potential importance for some countries to look at whether tariffs faced by firms in the export market are particularly harsh for SMEs.

One can attempt to get a sense of a potential anti-SMEs bias in tariff profiles for a large sample of countries using firm-level trade flows from the OECD's Trade by Enterprise Characteristics (TEC) database. However,

Figure D.4: French firms' distribution by size and tariff faced in the exporting country

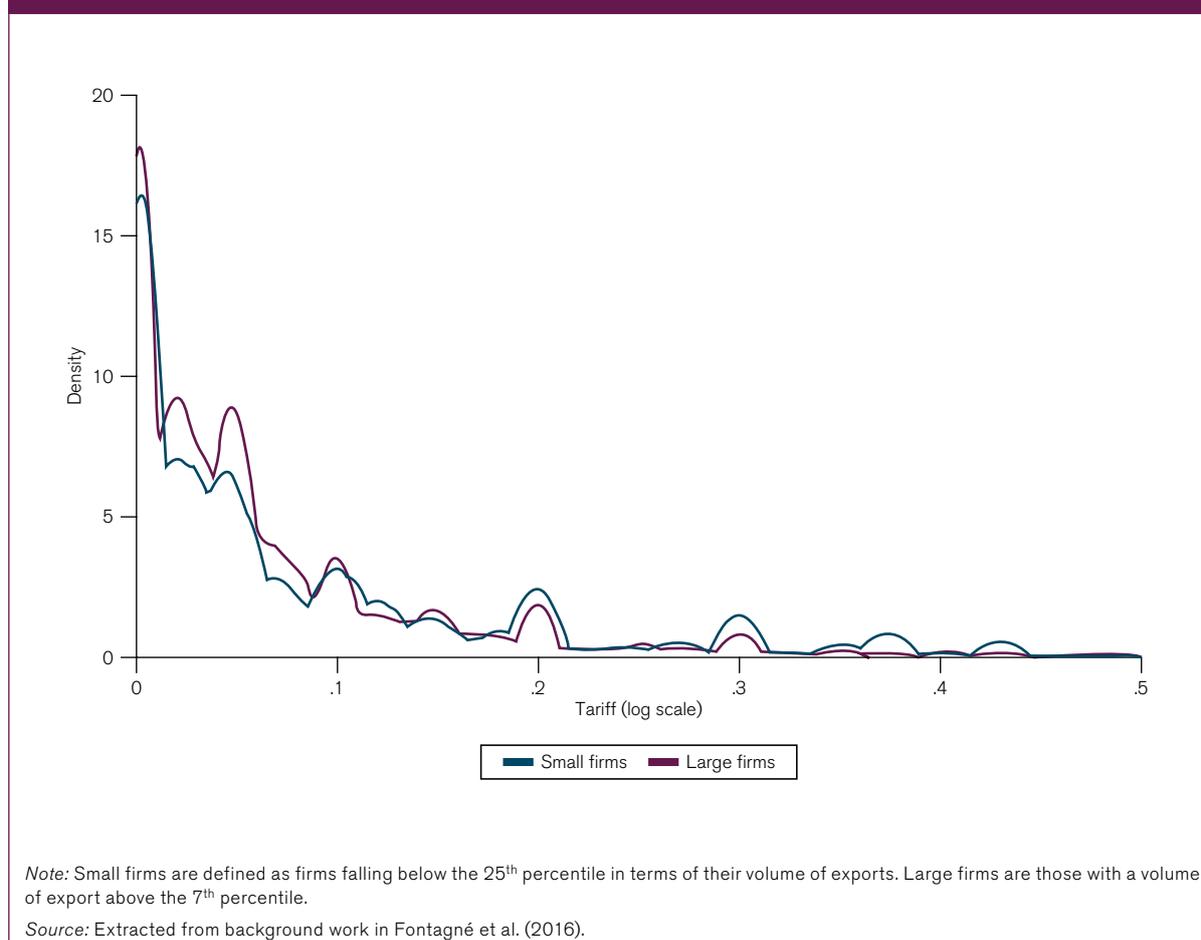
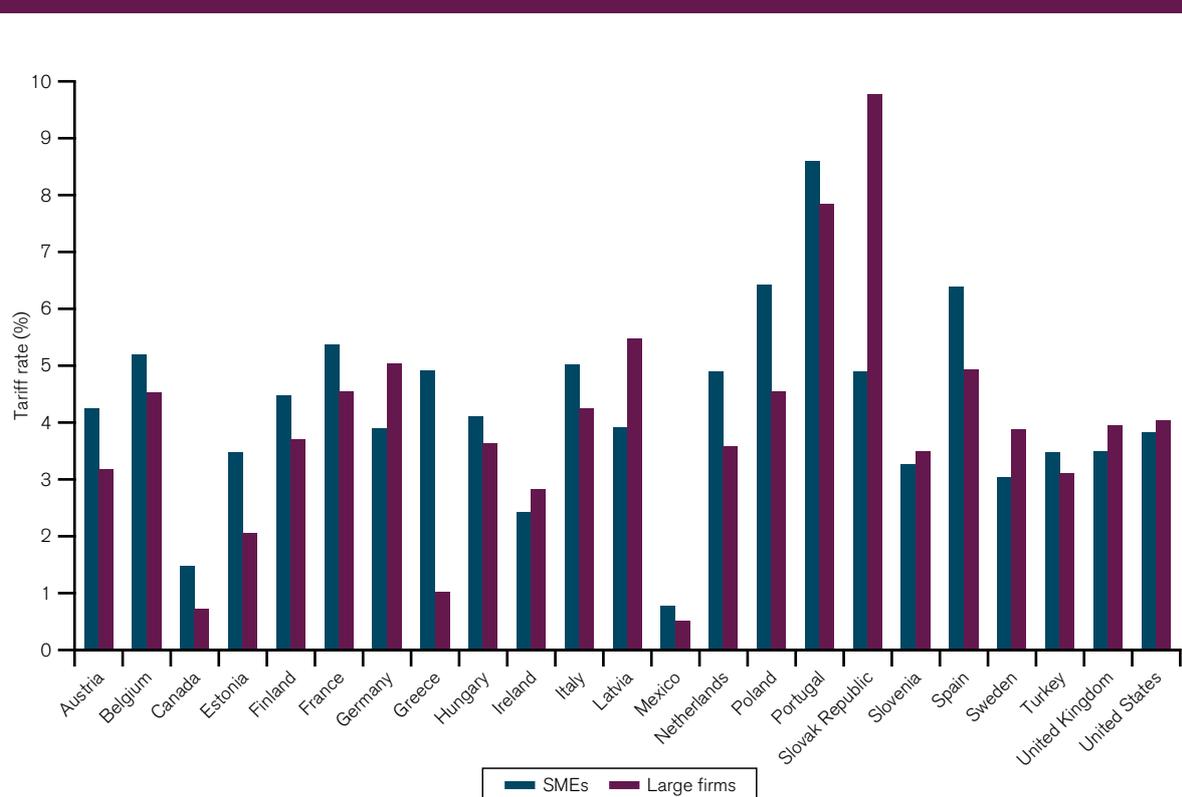


Figure D.5: Average applied tariff faced by firm size (excluding intra-EU trade), 2011


Note: Trade weighted averages by firm size are calculated aggregating sectoral (firm-size) tariffs across sectors using as weights firm-size level's export distribution across sectors. For EU countries, tariff figures refer to tariffs faced in non-EU markets.

Source: Authors' calculations based on TEC database and UNCTAD's Trade Analysis Information System.

note that the TEC database provides information on total trade flows by firm size (according to five categories: 1-9 employees, 10-49 employees, 50-249 employees, 250+ employees and unknown) and not by individual firm. Furthermore, sectoral information is aggregated at the 2-digit level (ISIC Rev. 4) and trade flows are not simultaneously broken down by sector and partner. This significantly limits the precisions of the estimations of tariff faced by firms' size.

Notwithstanding these limitations, Figure D.5 shows the weighted average effectively applied tariff that SMEs face in their export markets for a subset of OECD countries. In order to calculate the average tariff faced by firms by size, data on firm-level trade flows from the TEC database were combined with tariff data from UNCTAD's Trade Analysis Information System (TRAINS). Data from 2011 are used because of better data availability for this year. The figure does not show a clear monotonic trend between size and tariffs, but in 17 out of the 23 countries in the sample, large firms face lower average tariffs than at least one of the other three categories of firms of smaller size (micro, small or medium enterprises).

(b) Non-tariff measures hinder SMEs trade in goods

NTMs are perceived to be a major obstacle to trade by both small to medium and large firms,¹³ and appear to be the most relevant obstacle for EU firms wanting to access the US market (Figure D.3), as well as being a major obstacle for US firms (Figure D.1). According to a study by the ITC (International Trade Center (ITC), 2015c), small firms in developing countries appear to be hit the hardest. The ITC survey, based on responses from 11,500 exporters and importers in 23 developing countries, shows that small firms are perceived to be most affected by NTMs. Conformity and pre-shipment requirements in the export market, and weak inspection or certification procedures at home, appear to be the major hurdles. In agriculture, certification costs are among the hardest obstacles to move up the value chain in developing countries, particularly for SMEs (Table D.2). Box D.2 provides some examples – drawn from the CBI technical assistance experience – of what type of obstacles SMEs face in dealing with non-tariff barriers.

Box D.2: SMEs and non-tariff barriers: the importance of transparency and predictability

Each year, the CBI (Centre for the Promotion of Imports from developing countries, part of the Netherlands Enterprise Agency and commissioned by the Ministry of Foreign Affairs of the Netherlands) provides trade-related technical support to over 700 SME exporters in developing countries. An important lesson from SMEs in CBI programmes concerns the predictability and transparency of standards and regulations.

In Kenya's tea sector, for example, CBI has supported the product and market diversification into value-added teas with special flavours and processed into tea bags. As CBI Expert Phoebe Owuor says: "Whereas market access barriers in the EU markets are often high and costly to comply with for the tea-exporting SMEs, the exports to regional and emerging markets have proved more difficult as a result of lack of information about actual conditions".

CBI's experience in company-level technical assistance has shown that exporting SMEs from developing countries increasingly invest in staff skills and knowledge pertaining to market access requirements. Increasingly, exporting SMEs also establish clear internal processes and guidelines to ensure compliance with domestic as well as internationally agreed regulations.

Conducting market research is key for SMEs wishing to target new markets, by looking at worldwide and local demand, competitors, and market access conditions (including both tariff and non-tariff barriers). Useful tools include paid services (often with a sector focus), as well as "global public goods" such as those offered by ITC Market Access tools (including Trademap, Macmap and Standardsmap), as well as BI's Market Intelligence platform on the European markets, which contains content based on a combination of quantitative and qualitative research, including inputs from 24 sectoral sounding boards consisting of experts and entrepreneurs from European importing industries (www.cbi.eu/market-information). But SME exports continue to be hampered by changing regulations, lack of clarity, and unpredictability.

Source: Schaap and Hekking (2016).

Very few studies provide an indication as to how NTMs affect exporters of different sizes. Yet, the trade impact of SPS/TBT measures is likely to depend on the size of the exporter. NTMs are commonly regarded as having an important fixed cost component, which significantly differentiates them from tariffs. For example, a large initial investment may be required for a firm to comply with a certain foreign standard, but once the new technology is acquired there may be no additional variable costs.¹⁴ Similarly, a qualification or certification requirement for service-providing personnel may involve an initial cost of obtaining the qualification or certification, but no additional variable costs. Fixed costs, independent of the volume/value of trade, are relatively more burdensome for SMEs because they represent a higher share of their volume of affairs.

Evidence shows that tighter TBT/SPS measures are particularly costly for smaller firms. Focusing on the electronics sector, Reyes (2011) examines the response of US manufacturing firms to the harmonization of European product standards to international norms. He finds that harmonization increases the entry of non-exporting firms to the EU market, and that the effect is stronger for US firms that already export to developing countries but not to the EU. These firms are on average smaller than firms exporting to the EU. Focusing on

Senegal, Maertens and Swinnen (2009) show that vegetable exports to the European Union have grown sharply between 1991 and 2005 despite increasing SPS requirements, resulting in important income gains and poverty reduction. But tightening food regulation has induced a shift from small farmers to large-scale integrated estate production.

When a new restrictive SPS measure is introduced in a foreign market, smaller exporting firms are those exiting the foreign market as well as those that lose more in terms of volumes of trade. The paper by Fontagné et al. (2016) is the only one to provide some evidence on how markets adjust to the introduction of more restrictive SPS measures. Using individual export data on French firms provided by the French Customs, Fontagné et al. find that restrictive SPS measures (as measured by specific trade concerns) negatively affect both small firms' *participation* in trade and their *volume* of trade. In particular, they estimate that restrictive SPS measures that have triggered the exporting country to raise a concern at the WTO SPS Committee, reduce on average a firm's probability to export by 4 per cent. The mean effect of a restrictive SPS measure on the value of exports (the intensive margin) is approximately 18 per cent. However, this negative impact of restrictive SPS is reduced for larger players.

As shown in Fontagné et al. (2016), larger firms lose less than smaller firms from the introduction of restrictive SPS measures into the export market because they are able to absorb part of the higher costs.¹⁵ Prices increase follow the introduction of a restrictive measure in the export market, but this is less the case for larger firms. This is because large and potentially more efficient firms are likely to comply with more stringent requirements more easily and at lower cost. Large exporters with higher market shares and lower demand elasticities also pass less of the cost increase on to the consumer.

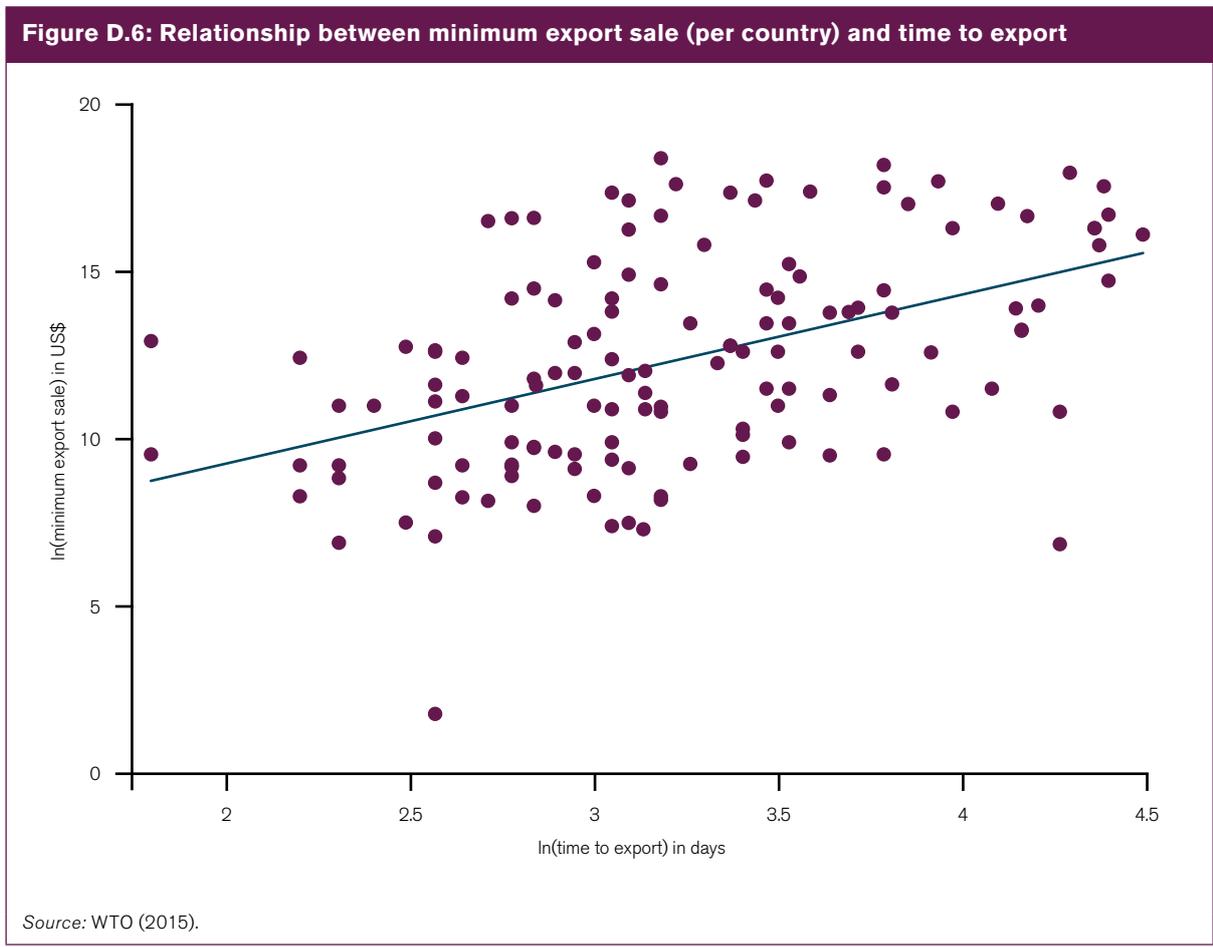
There is also some case-specific evidence that the impact of NTMs on trade depends on the size of the exporters. The impact of certification on the sourcing strategy of firms in asparagus exports from Peru is an example of the potential negative impact that NTMs can have on small firms. Peru is the largest exporter of fresh asparagus worldwide and the sector has significantly increased in the last decade both in terms of volumes of exports and number of exporters. This happened at the same time that the number of private standards in the sector multiplied. This success story, however, goes together with the evidence that the proliferation

of private standards has affected the sourcing strategy of firms, at the expense of small producers. Certified export firms currently source less from smallholder producers (1.5 per cent) than do non-certified firms (25 per cent). Before becoming certified (in 2001), instead, export firms sourced more from smallholder producers (20 per cent) (Maertens and Swinnen, 2015).

(c) Customs procedures

Gains from trade facilitation are likely to be larger for SMEs. As trade costs fall, more and more firms, increasingly less productive, will start to export (see Section C). Trade facilitation can, therefore, promote the entry of SMEs into export markets. The simple correlation between the minimum size of exporting firms by country and export time support this possibility. As shown in Figure D.6, the lower time to export is associated with smaller exporting firms. But empirical evidence on the heterogeneous effect of trade facilitation on trade by firm size is limited.

Existing econometric evidence on the impact of trade facilitation on exports at the firm level supports the view that both large firms and small firms benefit from



trade facilitation, and that, in particular, small firms benefit the most in term of exports, when the effect of trade facilitation on fostering the entry of new firms in the export market is also taken into account. Using the World Bank Enterprise Surveys database, Han and Piermartini (2016) show that the effect of trade facilitation on trade depends on a firm's size. When both exporting and non-exporting firms are included in the sample of analysis, micro, SMEs profit more than large firms from reduced time to export. Han and Piermartini estimate that trade facilitation measures that reduced export time for all firms at the median regional level may boost the share of SME exports by nearly 20 per cent and that of large firms by 15 per cent. This is because small firms are more likely to start exporting. When only exporting firms are taken into account, (Hoekman and Shepherd, 2015) find, however, that reduced time to export does boost firms' export shares, but it does this equally for small and large firms.

There is also evidence that different provisions of the Trade Facilitation Agreement affect small and large firms differently. Using the firm-level customs data of French exports, and looking at the effects on a firm's export of improving trade facilitation in the importing country rather than in the exporting country itself, Fontagné et al. (2016) show that while, in general, all exporting firms gain from improved trade facilitation in the importing country, the relative effects on small and large firms vary according to the type of facilitation measure.

The study finds that small exporting firms profit relatively more when trade facilitation improvements relate to information availability, advance rulings and appeal procedures. For example, if all East Asian and Pacific countries adopted the region's best practices in measures that improve information availability, small exporting firms would export 48 per cent more than they currently do and medium-sized firms would export 25 per cent more (there would be no significant effect for big firms). Large exporting firms profit relatively more when the importing country's facilitation reforms relate to the simplification of formalities. One possible explanation, provided by the authors, is that the simplification of formalities reduces corruption at the border and that this, in turn, has a positive effect on the propensity of large firms to trade. Large firms are, in fact, empirically found to be more sensitive than small firms to corruption.

(d) Trade policy and services SMEs

Assessing which trade barriers are particularly burdensome for SMEs' services exports presents a number of challenges. First, services trade as defined in the GATS is multimodal: it encompasses

not only cross-border transactions (mode 1), but also consumption of a service in a foreign territory (mode 2) and the movement of the supplier abroad, either to establish a commercial presence (mode 3) or in person (mode 4).¹⁶ Most services may be traded via more than one mode of supply. As such, the impact of barriers to trade in one particular mode is likely to depend on whether or not the mode in question is a service supplier's preferred export avenue. Second, there are no theoretical analyses and few empirical studies directly addressing this question. Third, little is known about the characteristics of services exporting SMEs, and what information exists is largely based on experiences in developed countries.

Nevertheless, available empirical literature on the export behaviour of services SMEs (Lejárraga and Oberhofer, 2013) provides a useful background against which to assess this question. Service SMEs that export employ relatively more highly skilled workers, pay higher wages and are more innovative, but are not necessarily always larger. The positive relationship between firm size and export likelihood is in fact inconclusive in the case of services, whereas it is firmly established for manufacturing.

Using firm-level data for France, Lejárraga and Oberhofer (2013) find that firm size has a positive effect on the export probability for suppliers of financial, ICT and professional services, but no impact for travel service providers, for instance. Importantly, as already discussed in Section B.1 and evidenced by the survey results presented in Section D.1, the one element that emerges strongly from available research is the substantial heterogeneity in traders' characteristics across services industries (Lejárraga et al., 2015). Drawing firm conclusions about "service-exporting SMEs" as one monolithic category is, therefore, rather difficult.

In terms of how to export, services SMEs' choice of mode of supply depends on the comparative cost and expected revenue involved. They may choose one mode, or may wish, or need, to rely on several modes to serve foreign markets. Mode 1 trade in ICT services, for instance, will be facilitated by associated mode 4 movements that enable the supplier to be physically close to its customers. Moreover, not all modes are equally feasible ways of exporting services: hotel services can be supplied essentially via mode 2 only, for instance, while exports of construction services are hardly possible cross-border.

Persin (2011) argues that service SMEs tend to lean towards "soft" forms of internationalization, because of size constraints, and export essentially via mode 1 and mode 4. Kelle et al. (2013) analyse firms' choices of exporting across borders or through the establishment

of a commercial presence. Relying on firm-level data for Germany, they empirically confirm SMEs' preferences for mode 1. In a study by Henten and Vad (2001), Danish SMEs are also found to export services by relying more on cross-border trade than on the establishment of a commercial presence, except in the case of financial services.

In addition to direct exports, SMEs have recourse also to indirect forms of internationalization. These include indirect exports through intermediaries, which were discussed as part of the GVC analysis in Section B.2, technological cooperation with foreign enterprises or non-equity contractual modes such as franchising and licensing. Nordås (2015) observes that manufacturers often rely on franchises with services SMEs, such as car dealerships, petrol stations, pubs or hairdressers, to distribute their goods.

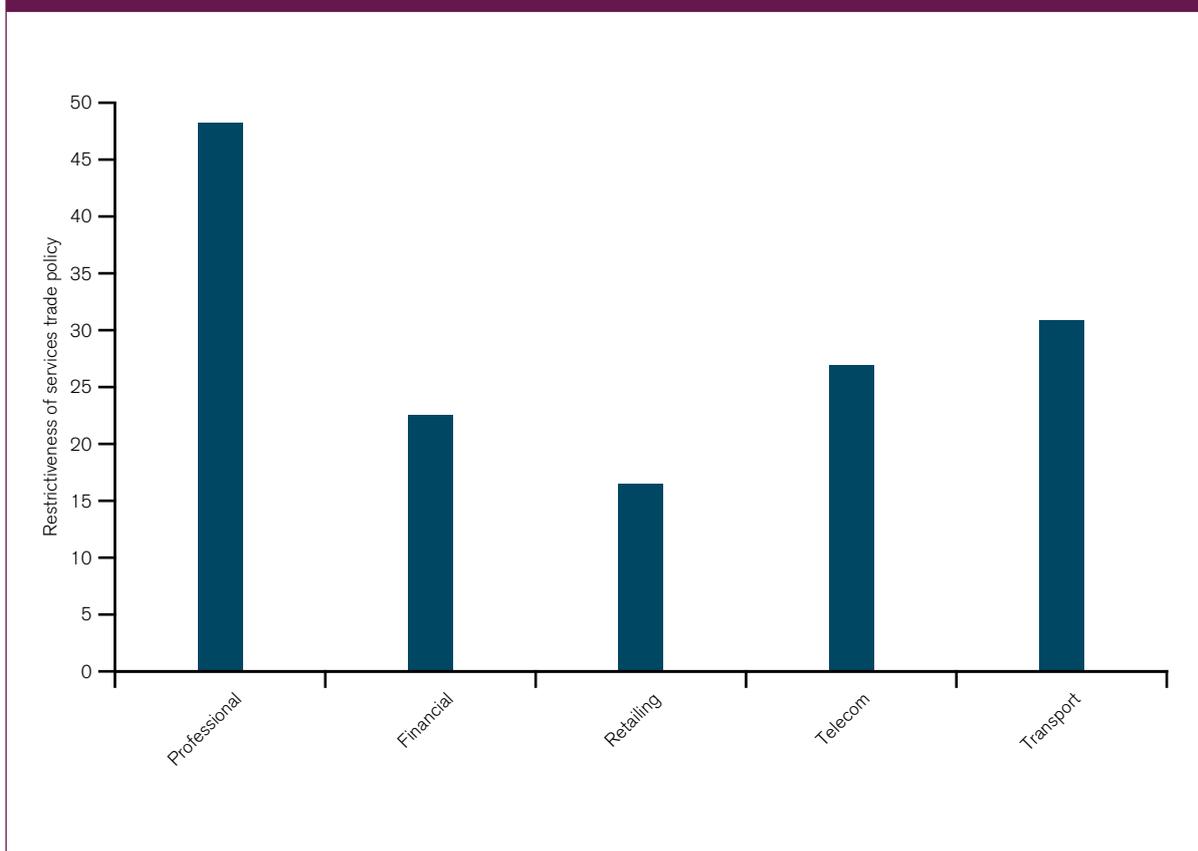
Barriers to services trade are virtually all of a regulatory nature, but some are likely to affect SMEs more than others. A useful distinction in this sense is between measures that affect firms' ability to enter or become established in a foreign market ("establishment" measures), and those that have an impact on their

operations once they are present in that market ("operation" measures) (see WTO, 2012 for a fuller discussion). As the former usually designate fixed costs, whereas the latter are more likely to imply variable costs, it may be assumed that, for SMEs, "establishment" measures will be relatively more burdensome (Deardorff and Stern, 2008).

Given how heterogeneous traders are across services industries, differences in the openness of regimes in different sectors need to be considered. Figure D.7, which is based on the World Bank's Services Trade Restrictiveness Index (WB STRI), provides information about the restrictiveness of services policies across five sectors. It shows that the steepest barriers are found in professional services and transportation and, to a slightly lesser extent, in telecommunication services.

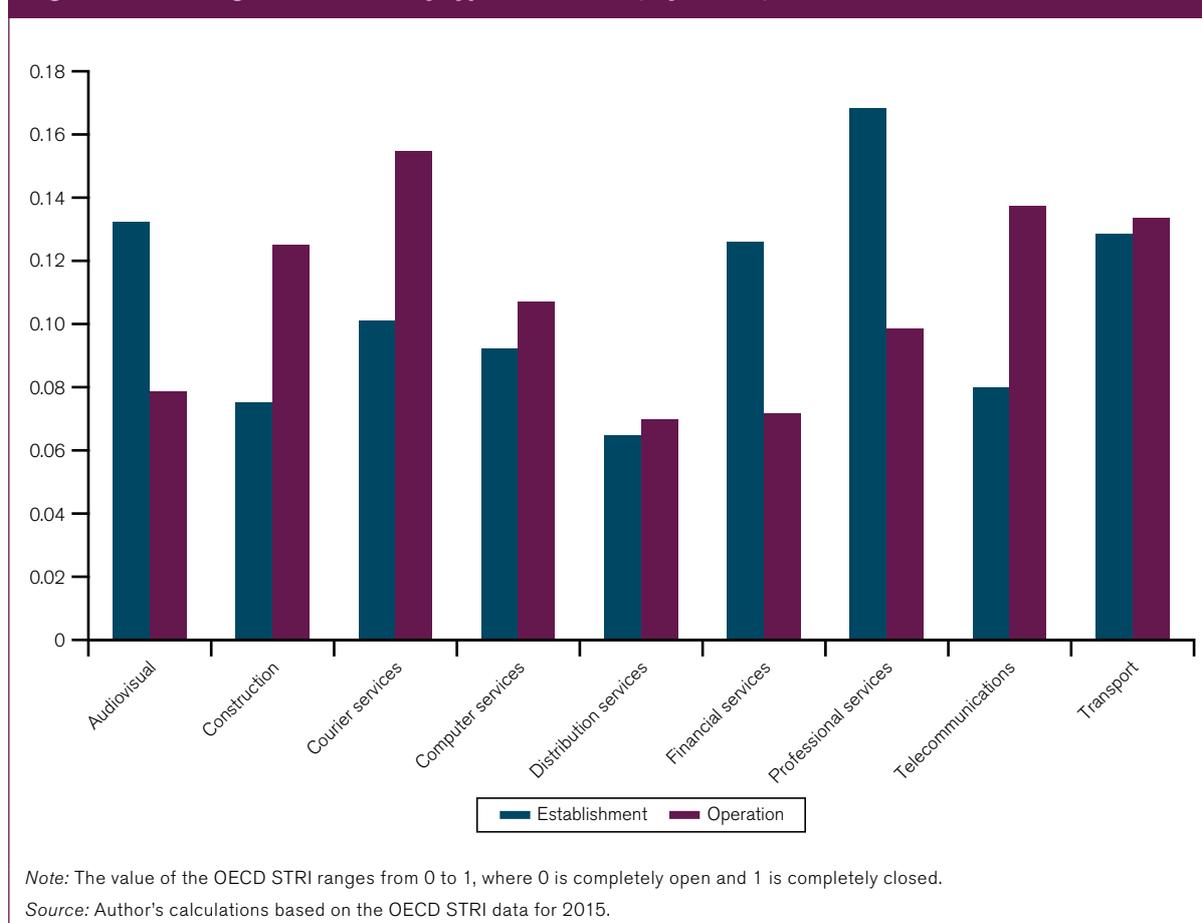
In light of the discussion above, it is useful to differentiate further, across different sectors, between measures that restrict firms' ability to establish in a foreign market and those that affect their operations once abroad. Using the data underlying the OECD Services Trade Restrictiveness Index (OECD STRI), Figure D.8 presents the relative importance of such

Figure D.7: Restrictiveness of services trade policy by sector, 2009



Source: Authors' calculations based on World Bank STRI data for 2009.

Figure D.8: Average OECD STRI by type of measure, by sector, 2015



measures for the sectors and economies covered by the index in 2015. It should be noted that, although the titles of the World Bank and OECD indices are the same, the two are different in scope, methodology and country coverage. The OECD STRI is more recent and covers a greater number of sectors, while the World Bank STRI is much wider in terms of country coverage but does not offer a ready-made distinction between “operation” and “establishment” measures.¹⁷

As Figure D.8 illustrates, “establishment” barriers are most important for professional services, followed by audiovisual, transport and financial services. This would suggest that, in these sectors, SMEs will find it relatively more challenging to export.

Trade barriers impact the mode(s) of supply which firms rely on to serve foreign markets. As discussed, SMEs depend more on certain modes than on others. Although no empirical analysis exists that can disentangle the specific impact of trade policies on SMEs' choice of export mode, obstacles in those modes clearly affect SMEs' participation in services trade more severely, relative to large companies in the same situation.

Still, one may assume that, as least as far as small and micro enterprises are concerned, mode 3 would not be viable even in the absence of any meaningful restrictions, in light of the significant costs involved in establishing a commercial presence abroad. Barriers to mode 3 may therefore affect the smallest firms relatively less than barriers to other modes of supply. Indeed, most of the discussion of the measures that affect the export ability of services SMEs focuses on trade via modes 1 and 4, and, to a much more limited extent, mode 3 (see, for instance, Adlung and Soprana, 2012; Nordås, 2015).¹⁸

When it comes to mode 3, SMEs are impacted in particular by measures that prescribe commercial presence in the form of a subsidiary. As it is cheaper and administratively less burdensome if firms are allowed to become established through representative offices or branches, SMEs are likely to be significantly more impacted by requirements to be locally incorporated. Other measures that can be assumed to have similar effects include minimum capital requirements, training obligations, residency requirements and the granting of subsidies to domestic SME suppliers only.

The most relevant barriers, as far as mode 1 is concerned, are measures requiring firms to establish a commercial presence in the host market in order to supply cross-border services. Similarly, measures imposing data localization requirements in foreign markets are bound to impose a higher burden on SMEs.

Finally, barriers to mode 4 trade would appear to be of particular relevance for SMEs. For starters, the mode 4 category of “independent professionals” (i.e. self-employed individuals supplying a service abroad) concerns SMEs by definition. As such, all barriers to the movement of independent professionals impose a burden wholly, and solely, on SMEs. This is especially crucial when considering the relevance that mode 4 is likely to have for exports from these “ultra-micro” enterprises, and in view of the higher probability that, given their relatively more highly skilled workforce, smaller services firms may be contracted to supply services internationally.

Barriers applicable to the mode 4 category of “contractual service suppliers” can also be particularly burdensome for SMEs. Contractual service suppliers are employees of a service firm who enter the export market pursuant to a contract concluded between their employer and a local consumer. Similarly to independent professionals, services exported by contractual service suppliers are not contingent on the establishment of a commercial presence, and are, therefore, less costly to provide. Therefore, market access limitations such as quotas or economic needs tests, as well as any relevant discriminatory measures such as residency requirements, non-eligibility under subsidy schemes, discriminatory tax treatment or obligations to train domestic workers that are applicable to these two mode 4 categories, disproportionately affect SMEs.

There are a number of other services measures that, although not trade barriers *per se* (i.e. not falling under the six measures that are defined as market access limitations under the GATS and not violating the GATS national treatment disciplines), may nevertheless restrict trade opportunities for SMEs in particular. Amongst these are licensing and qualification requirements and procedures, and technical standards, to the extent that these are particularly costly or administratively complex to fulfil and, as such, significantly increase the fixed cost of entering a foreign market. It should be noted, however, that, provided that these measures are non-discriminatory, their effect is not only felt only by foreign SMEs, but also by domestic ones. By raising the cost of serving the domestic market, such measures disproportionately affect small firms of any origin.

Still, it is true that, for those firms that export, domestic regulatory measures are a cost to be borne in each

individual foreign market. SMEs are therefore less likely than larger firms to export to multiple markets, thus potentially reducing the extensive margin of trade. This seems to be corroborated by empirical research. Lejárraga and Oberhofer (2013) and Lejárraga et al. (2014) find that SMEs’ export decisions are very persistent, i.e. firms which enter a foreign market are likely to continue to export services to that market over the years. Their research also shows that, once they sell abroad, services SMEs tend to export a higher share of their total output compared to larger firms. As such, they are disproportionately affected by trade-restricting measures.

Lack of recognition of foreign work experience, education or qualifications is also likely to prove a relatively more burdensome hurdle for SMEs wishing to export regulated services. In the absence of recognition arrangements that “fast-track” the authorization to supply a service in a foreign market, suppliers of regulated services are required to embark in costly and lengthy processes to demonstrate that they are qualified to supply the service in question. Again, suppliers will need to do so for every market they wish to enter. To the extent that firms have the resources to set up a commercial presence abroad, they may obviate this obstacle by hiring locally qualified professionals, but this is likely to prove prohibitively expensive for SMEs.

Visa and work permit requirements and procedures can also be assumed to impose a relatively higher burden on SMEs, in light of the greater relevance mode 4 has for their exports. This is likely to be especially true for developing country SMEs, as their employees (who are usually nationals) tend to be subjected to comparatively more stringent visa requirements, particularly so when they are seeking to access other developing country markets.¹⁹ The introduction of programmes to streamline entry formalities for businesses accredited as “premium visa traders”, i.e. usually large concerns, is also likely to put SMEs at further relative disadvantage compared to bigger firms.

3. Other major trade-related costs

This section focuses on those firm-perceived obstacles to trade identified in Section D.1 that go beyond the strict definition of trade policies (tariff, non-tariff and regulatory barriers discussed in Section D.2). Many of the trade costs discussed in this section are those arising from the services needed to do trade, such as distribution costs, transportation costs and cost to finance trading activity. In this respect, the analysis here differs from the discussion in Section D.2(d), which discussed obstacles to trade in services and not

the costs related to the use of services necessary to the trading activity.

(a) Information and distribution channels

Beyond market access and regulatory barriers for goods and services, additional trade costs that are higher for SMEs can be identified in relation to information and distribution channels. There are intermediary companies, besides producers and consumers of goods and services, which participate in creating the structure of a distribution network, with a specific function to fulfil. Distribution channels can, therefore, take various forms: (i) direct sales of producers to clients; (ii) sales through a retailer; (iii) sales through wholesaler(s) and retailer, or (iv) sales using an agent working on a commission basis (who can eventually bridge gaps between producers and wholesalers/retailers or clients). There are also some important functions that support an efficient distribution network which may or may not be fulfilled by these intermediaries, e.g. market analysis, advertising, transport/logistics or after-sales services.

For SMEs, having access to distribution networks may be a crucial component to develop their business, in particular for diversifying their customers within a region or worldwide. As shown in Section D.1, reaching clients in other economies may be challenging for SMEs without access to relevant distribution channels and related functions. This is reflected in the high proportion of responses citing trade-related impediments for SMEs in Figure D.1 (“Unable to find foreign partners” and “Transportation/shipping costs”) for the goods trade. For services, this can to a certain extent be illustrated by the number of responses citing “Difficulty establishing affiliates in foreign markets” in Figure D.2, which reflects the need in many cases for proximity with the client given the intangibility of the products being traded and, in some instances, adapt to the culture/language of the destination market. Access to information by potential SME exporters on distribution channels and destination markets can, therefore, also be related to all that is described above.

Items in the distribution channel that can be identified as hurdles for SME exporters are: having and choosing goods or services fit for the export market, whether targeting specific countries, regions or worldwide; making their products known to potential clients; delivery of products and associated risks (e.g. transport and physical delivery of goods and services; online delivery of products, ensuring that eventual property rights are not at threat). In that context, it is important to note that some intermediaries, such as those engaged in e-commerce, may themselves be SMEs. In addition, SME exporters also need to face the cost of gathering

market information, as well as access to regulatory information in export destinations.

A firm that wants to export goods or services needs to know about the regulations in the economy to which it intends to export (for example, technical regulations about the characteristics that a product needs to meet, rules and regulations relating to trade). That firm also needs information about export opportunities in the destination market. Lack of knowledge about regulations could result in the product not complying with the importing country regulations, which, in turn, could cause the firm to face the costs of the product's rejection at the border of the target country. Lack of knowledge about the demand in the export market may also induce profit losses. Gathering information is costly. Anderson and van Wincoop (2004) estimate that approximately 6 per cent of total trade barriers are information costs. These are broadly defined to include information flows generated by migration networks Rauch and Trindade (2002), volume of telephone traffic and number of branches of the importing country's banks located in the exporting country.

Gathering information is a crucial factor in determining export decisions, but it bears a cost. This cost is to a large extent independent of how much a firm will export. Therefore, it is a cost that affects especially small firms that are less capable than large firms of spreading information costs across output. A recent survey by the Conférence permanente des chambres consulaires africaines et francophones (CPCCAF), asking “When exporting, what are the main types of information you need?”, shows that trade contacts and business opportunities are the most significant information barrier faced by small firms in Africa, followed by information on relevant regulations, and on export support measures (see Table D.3).

Delivery and logistical aspects are also an issue in trade, in particular for SMEs, whether as producers or intermediaries. SMEs often have to rely on existing solutions to have their products delivered to clients. These include services offered by postal systems, express delivery services, cloud services, or

Table D.3: Main information barriers faced by SMEs in Africa

Information on	Average %
Trade contacts and business opportunities	69
Relevant regulations	41
Export support measures	41
Target markets	34
Others	2

Source: Adapted from WTO and ITC (2014), based on CPCCAF survey data.

downloading platforms through licensing arrangements. For this reason, it is important to ensure that an effective solution is chosen. Alternatively, SMEs may decide to be creative. For example, in e-commerce “while larger businesses like the online retailer Ozon.ru may choose to build their own distribution networks, this option is out of reach for micro and small businesses that may need to explore other innovative solutions, e.g. the motorbike delivery system used in Viet Nam. Out-of-home delivery – involving collection points, delivery at work, parcel lockers and in-store pickup – is one option to increase the attractiveness of e-commerce in developing countries” (UNCTAD, 2015).

The support of intermediaries in a distribution channel is most often used by companies that cannot sell products by themselves. Although direct contact with clients helps to establish prices, the participation of an intermediary ensures that the product will be provided more efficiently by means of their networks, contacts, experience, specialization or lower costs borne by the intermediary. For example, some intermediaries hold directories of potential clients and/or (specialized) distribution firms, conduct in-country market research, help to address language barriers (e.g. via translation services), or offer assistance for travel arrangements or follow-up support. For SMEs, direct contact with clients has traditionally been seen as more effective than use of intermediaries in the distribution channel, and this is particularly true for services, with which exclusive distribution strategies, a single product, clearly defined clients and episodic sales are the rule. When it comes to exporting its products, this “direct” model may be more difficult to implement for SMEs, in particular if they want to reach a wider set of clients. For SMEs, using go-between services reduces the portion of tasks that they would do themselves if they decided not to use such intermediaries.²⁰ It also reduces part of the associated risks or clients’ fears, by providing advice/interactivity, trust with payments, or the perception that purchases are not so complex. In addition, using intermediaries may be a lighter solution for SMEs than establishing affiliates in services (or eventually goods) export markets, unless the size of business is big enough to justify such an establishment.

In the context of distribution networks, marketing through the Internet (e.g. through the use of search engines) or email, social networking platforms (e.g. Facebook) and e-commerce have had an important role in recent years. Whether using the direct channel (i.e. direct sales of producers to clients) or indirect means (i.e. intermediaries), these distribution network instruments have enabled a greater participation of SMEs in international trade by increasing the visibility of their products and allowing the establishment of links with clients in potential overseas markets (see

Section D.4 below). They have also helped enterprises, in particular SMEs, to obtain information more easily on foreign markets (e.g. analytical solutions such as those offered by search engines or e-commerce companies), as well as to access information on regulatory matters or standards. Finally, these distribution networks have assisted SMEs to obtain information on the network itself, to understand how best they can approach clients (i.e. via the ideal agent/dealer/distributor, payment systems, marketing resources, shipping and receiving logistics, etc.).

(b) Transport and logistics

Trade logistics goes beyond shipping goods across borders; it covers a wide range of services from the pick-up of goods, consolidation of shipment, procurement of transportation, customs clearance, warehousing and distribution, to the delivery of goods to final consumers. SMEs often lack international freight shipment experiences, and their cargos are usually smaller and of more irregular frequency. SMEs’ imports and exports therefore rely on services provided by logistics providers.

Compared to big firms, SMEs face particular logistics challenges arising from higher logistics costs and the inability of accessing efficient logistics services, which are two sides of the same coin. This is even more the case for SMEs in developing countries, due to poor logistics infrastructure and underdeveloped logistics markets. The World Bank Logistics Performance Index consistently shows that logistics costs in low-performance countries (mainly developing countries) are higher than in high-performance countries (mainly developed countries). Logistics challenges constitute an important impediment to SMEs’ participation in trade.

SMEs trade smaller quantities than big enterprises do. This implies that fixed trade costs, including logistics costs, often make up a greater share of the unit cost of their goods when compared to rivals exporting larger volumes. In other words, logistics tend to cost more for SMEs than for large enterprises. For example, in Latin America, domestic logistics costs, including stock management, storage, transport and distribution, can add up to more than 42 per cent of total sales for SMEs, as compared to 15-18 per cent for large firms. In Nicaragua, logistics costs for small beef producers, from farm to abattoir, are more than double of what they are for large producers. For a small exporter to move a kilogramme of tomatoes from a Costa Rican farm to the final point of sale in Managua, Nicaragua, transport represents the main cost, at almost a quarter of the total cost (23 per cent), followed by customs (11 per cent) and taxes (6 per cent). In contrast, for large exporters,

the main costs are customs (10 per cent), followed by transport (6 per cent) and taxes (5 per cent) (OECD, 2014). Hence, reducing logistics costs is crucial for the improvement of SMEs' trade opportunities.

Geographical distance clearly affects SMEs' participation on export. Evidence shows that, compared to large firms, SMEs are discouraged from entering distant markets. For instance, research conducted on French firms indicates that small firms export on average 3.7 per cent less to export destinations that are 10 per cent further away from France. For those SMEs exporting to distant markets, the average shipments per product and per firm are greater in order to overcome the transportation costs.

According to a study undertaken by the USITC (USITC, 2014), the low reliability and high costs of shipping represent significant barriers for US-based SMEs' exporting to the European Union. Cost and reliability problems of EU postal systems have forced companies to use private couriers for shipping, which results in higher costs that are harder for small businesses to absorb. Shipping costs are also a major obstacle for EU SMEs' exports to the United States, "because of the distance to the US market, business owners are concerned that the cost of transportation will increase the price of their products to a point where they can no longer compete with products manufactured locally" (UPS, 2014).

In order to reduce logistics costs, firms (especially big manufacturers or big retailers) tend to outsource logistics functions (transport, warehousing, inventory management, freight forwarding, etc.) to specialized providers, i.e. providers of "third-party logistics" (3PL). "Outsourcing in logistics is a sign of strong logistics performance and of a mature logistics market, and is often a direct marker of logistics sophistication" (World Bank, 2014). Partnerships with 3PL providers not only allow firms to focus on their core business; it also means access to advanced logistics services and supply chain management. Advanced logistics services are ICT-intensive and adapt quickly to new technologies, which often require the integration of supply chain management platforms with customers' internal systems. Due to resource constraints, SMEs often lag behind in adapting to technological advances and are reluctant to tap into the 3PL market. The small size of their businesses is also a disadvantage for SMEs wishing to negotiate affordable contracts with 3PL.²¹

SMEs face disproportionately high logistics costs (Straube et al., 2013). For manufacturing firms with less than 250 employees, on average their logistics costs account for 14.7 per cent of their overall revenue. Conversely, firms with more than 1,000 employees state that the logistics costs only account for 6.7 per

cent of their total revenue. This figure is similar for firms with 250 to 1,000 workers, which report that logistics costs account for 6.4 per cent of their total revenue. The research includes 113 industrial firms across the world, and the break-up figures on regional or national levels affirm the above findings. For example, in China, SMEs reported spending 15 per cent of their overall revenue on logistics costs, whereas large firms (more than 1,000 workers) reported spending only 5.2 per cent. In South America, SMEs reported spending 15.3 per cent of overall revenue and large firms reported spending 9.4 per cent (OECD and World Bank, 2015).

(c) Financing difficulties

International activities are more dependent on external capital than domestic activities. Moreover, credit constraints are particularly reflected in access to trade finance. This subsection discusses access to finance for firms that are involved in trade, with a focus on trade finance in the second part.

(i) Access to finance

Selling to foreign markets involves specific fixed and variable costs: developing marketing channels, adapting products and packaging to foreign tastes, and learning to deal with new bureaucratic procedures. The time lag from production to the realization of the corresponding revenues is longer for international than for domestic sales. Moreover, international sales contracts are more complex, more risky and less enforceable, thus often requiring some forms of external credit insurance. For all these reasons, exporters are more likely to need external credit.

Lack of, or insufficient access to, finance can strongly inhibit formal SME development, regardless of the level of per capita income of countries. Lending to SMEs, especially for longer maturity dates, is often inhibited by informational problems and transaction costs, including the absence of records of firm's past performance (required when requesting a loan), lack of collateral, and high fixed costs of financial transactions, all of which often translate into higher lending costs and greater risks for financial institutions, and hence higher interest rates and fees for SMEs than for larger firms. Indeed, recent research found that market failures, notably in financial markets (due to either financial crises or "information asymmetries"), fall disproportionately on SMEs, resulting in more credit rationing, higher "screening" costs and higher interest rates from banks than for larger enterprises (Stiglitz and Weiss, 1981; Beck and Demircuc-Kunt, 2006).

Financial exclusion, by forcing small firms to rely exclusively on their own resources to meet their

financial needs, reduces economic opportunity. Beck et al. (2008) find that small firms use less external finance, especially bank finance. SMEs rely more on trade credit and informal sources and less on equity and formal debt than large firms. Availability of external finance is positively associated with the number of start-ups – an important indicator of entrepreneurship – as well as with firm dynamism and innovation; and allows existing firms to exploit growth and investment opportunities, and to achieve larger equilibrium size.

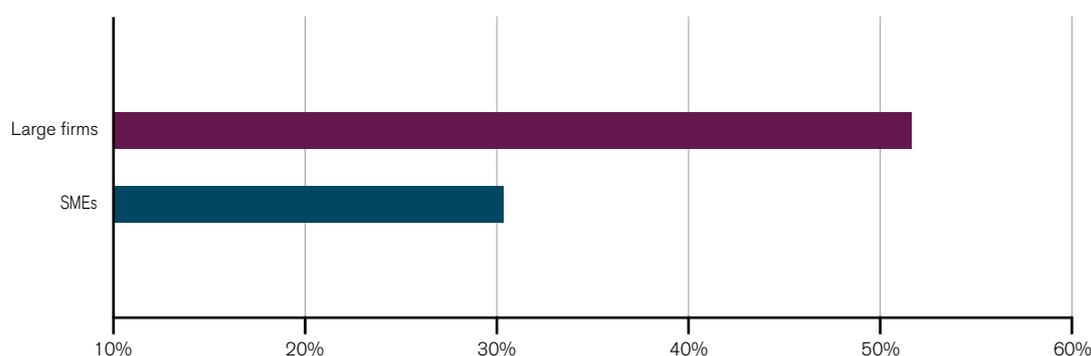
Figure D.9 provides some indicators of the degree to which SMEs are able to access formal financial systems.

Poor access to finance affects the structure of international trade. Beck (2002) explored, from a theoretical and empirical point of view, the link between

the level of financial development and the structure of international trade. The empirical exercise (estimation from a 30-year panel with 65 countries) gives support to the predictions of the model, namely that countries with a higher level of financial development (measured by credit to the private sector by deposit money banks and other financial institutions as a share of GDP) have higher shares of manufactured exports in GDP and in total merchandise exports and have a higher trade balance in manufactured goods.

Barriers in access to finance also inhibit SMEs' ability to use the Internet to engage in international trade. In fact, one of the most difficult barriers to overcome when selling abroad relates to the difficulty or impossibility of processing online payments. Box D.3 discusses barriers to online payments and the e-payment alternatives to bank cards that have emerged worldwide.

Figure D.9: Firms with a bank loan/line of credit (percentages)



Note: SMEs are defined based on local banking context. If there is no local definition, the World Bank Group definition may be used as a guideline. The World Bank Group defines a firm as an SME if it meets two of the following three requirements: (i) it has less than 300 employees, (ii) it has less than US\$ 15 million in assets, and (iii) it has less than US\$ 15 million in annual sales. As some financial institutions are unable to report data based on any of these three criteria, loan size is also used as a proxy. In that case, a firm is considered an SME if the size of its outstanding loan from a financial institution is less than US\$ 1 million.

Source: World Bank Group Enterprise Surveys, data refer to the most recent year available for each country.

Box D.3: Barriers to the internationalization of SMEs: the case of online payments

A 2009 survey of 9,480 SMEs in 33 European countries found that only 28 per cent of firms' websites allow for orders to be placed online and only 14 per cent of SMEs have websites that allow online completion of the entire transaction, including payments (European Commission, 2010). Another survey of 352 SMEs across the European Union (ECommerce Europe, 2015) revealed that 25 per cent of merchants considered online payments a problematic area.²² When asked for concrete examples of persistent barriers linked to online payments across the European Union, online merchants specifically mentioned outdated regulations impeding the roll-out of innovative online payment methods, high costs (e.g. burdensome interchange fees and processing fees of banks and third-party payment providers), the lack of a uniform electronic identification system of consumers, thus obliging consumers and merchants to go through burdensome authentication and identification processes, and complicated check-out processes, prompting consumers to leave the process prematurely when authorization and authentication requires too many steps.

Box D.3: Barriers to the internationalization of SMEs: the case of online payments (continued)

The situation is not different in other regions. For example, the vast majority of payments for online retail in ASEAN countries are still made offline, in methods such as cash-on-delivery. A survey conducted in 2013 found that only 2 to 11 per cent of digital buyers use online payments in ASEAN countries, with the exception of Singapore, where, according to the CIMB ASEAN Research Institute (CARI, 2015), the rate of online payment use stands at 50 per cent. Financial exclusion (i.e. concerning the large “unbanked” population), concerns about data security and burdensome know-your-customer processes are usually cited as the root causes of deficient online payment penetration.

Many e-payment alternatives to bank cards have emerged worldwide and are now widely, although not yet universally, accessible to Internet users, such as PayPal, Amazon Payments, and Alipay (CARI, 2015). Mobile banking, i.e. the use of mobile phones to send and receive payments and conduct other banking transactions, has been soaring throughout Africa. Kenya is at the forefront of Africa’s mobile money market, due to the success of M-PESA, a mobile banking system launched in 2007 by the country’s leading mobile service provider, Safaricom. Mobile banking is even acquiring a cross-border dimension. Last year, for example, Vodafone (Safaricom’s largest shareholder) launched M-PESA services between Kenya and Tanzania. Cross-border mobile solutions like this one might contribute to financial inclusion and provide a low-cost option for SMEs engaging in international trade.

(ii) Trade finance

Difficulty in accessing affordable trade finance is one of the most cited constraints for SMEs engaging in international trade, affecting small businesses in both developed and developing countries.

Regarding developed countries, the 2010 USITC survey, covering 2,350 SMEs and 850 large firms, concluded that 32 per cent of SMEs in the manufacturing sector and 46 per cent of SMEs in services sectors considered the process of obtaining finance for conducting cross-border trade “burdensome”. Only 10 per cent of large firms in the US manufacturing sector and 17 per cent in the services sector experienced the same difficulties.

The USITC study also revealed that, for SMEs looking to start exporting or expanding into new markets, the lack of access to credit was the number one constraint for manufactured firms, and number three for services firms, out of 19 constraints listed in the survey. Sectors which generally show significant levels of creditworthiness and collateral (such as transport equipment, information technology and professional services) considered that securing trade finance was as “acute” a problem for them as for other sectors.

Finally, the survey highlights that while US banks considered the SME market segment as having a large potential for profitability, SMEs were not their preferred borrowers in view of the higher transactional and informational costs of dealing with such companies (relative to larger corporations). In turn, US-based SMEs complained about bank’s “excessive” oversight, failure to meet their specific borrowing needs, and lack of flexibility regarding the use of alternative sources of finance, rather than the proposed ones.

One may also mention the OECD-APEC study on *Removing Barriers to SME Access to International Markets*, surveying SMEs’ perception of the barriers to their internationalization (OECD, 2008). The shortage of working capital to finance exports is ranked as the number one constraint to the internationalization of SMEs. Surveys and studies found similar results in Europe and Japan. In a study covering data on 50,000 French exporters, it was found that, during the financial crisis of 2008-09, credit constraints on smaller exporters were much higher than on larger firms, to the point of reducing the range of destination for business or of leading the SME to stop exporting altogether (Bricongne et al., 2012). It was found that in Japan, SMEs are also more likely to be associated with troubled banks, and hence exporting SMEs are as a result more vulnerable in periods of financial crises (Amiti and Weinstein, 2011). In general, credit-constrained firms, mostly likely to be found among SMEs, are also less likely to export (Bellone et al., 2010; Manova, 2013).

Access to trade finance tends to be the most difficult in developing countries. Part of the problem lies with the fact that local banks may lack the capacity, know-how, regulatory environment, international network and foreign currency to supply import and export-related finance. Equally, traders may not know the products available to them, or how to use them efficiently. Banks in some developing countries may be more risk-averse, in view of their smaller capital base and ability to handle international trade-related credit risk.

According to a recent study by the Asian Development Bank (ADB, 2014), small and medium-sized enterprises (SMEs) are the most credit-constrained; it is estimated that half of their requests for trade finance are rejected, compared to only 7 per cent for multinational

corporations. With 68 per cent of surveyed companies reporting that they did not seek alternatives for rejected transactions, trade finance gaps appear to be exacerbated by a lack of awareness and familiarity among companies – particularly smaller ones – about the many types of trade finance products and innovative options which exist on the market (such as supply-chain financing, bank payment obligations and forfaiting). A large majority of firms stated that they would benefit from greater financial education.

Other obstacles in developing countries include banking or country risks, particularly in the context of regional and global financial crises; exports from Asian countries, in particular during the Asian financial crises, which led in certain cases to interruptions of imports and exports when confirming banks did not trust letters of credit issued in crisis-stricken countries (Auboin and Meier-Ewert, 2004). More recently, exports from Sub-Saharan and other low-income countries have been particularly affected by the global financial crisis because they are more dependent on bank-intermediated finance than other regions (German Development Institute, 2015).

The high level of concentration of global trade finance markets may not help SMEs either. A recent study by DiCaprio et al. (2015) revealed that a large share of international trade finance is supplied by a relatively small group of globally active international banks. This group of about 40 banks accounts for some 30 per cent of trade finance supplied internationally, with local and regional banks supplying the rest of the market. In a seminal paper, Amiti and Weinstein (2011) demonstrate that the health of banks influence the trade finance conditions offered to companies and hence the export

growth of these companies. Hence, the availability of trade finance is largely influenced by the strength of international banks at any point in time (Auboin and Engemann, 2013; DiCaprio et al., 2015).

The main trade finance banks are also dominant in other segments of financial services. As a result, financial crises originating in other segments of these banks, changes in prudential rules, and any recalibration of their balance sheets have a direct impact on the provision of trade finance globally and locally. For example, the largest banks maintain some presence in more than 100 countries, and several hundreds of correspondent banks on which they are prepared to confirm letters of credit. Since the end of the 2009-10 financial crisis, some global banks have reduced their size as well as their presence internationally, in particular in the poorest countries (Auboin and Engemann, 2013). In other words, the downsizing of global banks after the financial crisis is likely to have had a negative effect on the ability of SME traders in developing countries to receive credit, have their letters of credit confirmed, and have access to US dollars, the most used currency in international trade (DiCaprio et al., 2015).

Box D.4 contains a case study illustrating the difficulties faced by SME traders in new “frontier” countries for trade. It describes in a nutshell the challenges mentioned above: the limited appetite of international banks to approach new and promising markets, the lack of ability and know-how in local banks to support new traders, and the obligation to resort to second-best solutions that either maintain producers and traders downstream or carry significant costs in terms of opportunity.

Box D.4: Lack of trade finance as an obstacle to trade in Myanmar

Myanmar is a new “frontier” country for trade. According to the local garment industry association, two new garment factories financed by an array of local, Chinese and Indian investors open each day. New export-oriented investors have also appeared in the agro-food and consumer products sectors. Nevertheless, SMEs face difficulties in financing their imports and exports, resulting in lost trading opportunities. They are symptomatic of constraints found in countries with similar levels of development. Such constraints may include a reduced capacity for the local banking sector to support the trade sector, a dearth of information about trade finance products offered by the local banking sector, and a lack of awareness about appropriate regulation for trade finance products.

In such a difficult environment, Myanmar's main traders have resorted to second-best solutions, mainly by paying for imports via bank accounts located overseas, or by opening letters of credit through brokers in offshore centres such as Singapore and Hong Kong, China. Even so, only the largest companies can afford to resort to such solutions. New small garment exporters do not hold off-shore cash reserves with which to pay their suppliers, nor do they have sufficient credit records for brokers to find foreign banks to open letters of credit. They can only rely on Myanmar's local banks, which have limited risk management capacity, still charge a US\$ 1,500 fee for opening letters of credit, and require a minimum of 30 per cent collateral. No open account facility is available in Myanmar, and trade credit insurance is not allowed.

Box D.4: Lack of trade finance as an obstacle to trade in Myanmar (continued)

The lack of efficient and affordable trade financing tends to relegate new exporters of garment and food products to downstream operations that do not require purchase of imports or credit on export receipts. The Government of Myanmar is reform-minded. Reforms in the financial sector are gradual, and it might indeed take some time for trade finance regulation to change, as well as for local banks to take more risks and propose a wider range of competitive trade finance products to local clients. International banks are increasingly allowed to operate locally, although they are confined to providing services only to foreign-owned companies operating in the country.

Myanmar currently receives technical assistance on upgrading its trading and financial systems from the international community. Recently, the diagnosis for trade finance has improved, with joint missions and reports by several international organizations, including the International Trade Centre, the World Bank and the WTO, the latter taking place in the context of the Enhanced Integrated Framework.

4. ICT-enabled trade: benefits and challenges for SMEs

As shown in Section B.3, information and communication technologies (ICTs), such as the Internet, have provided more avenues for SMEs to internationalize. The benefits from the ICT revolution are particularly high for SMEs, especially if they can integrate in online commercial platforms that enhance buyer information and trust. Online search costs are not necessarily correlated with how remote markets are, and online technology increases importer trust in exporters (e.g. through seller-rating mechanisms). Recent research looking at exports of goods traded through eBay confirms that e-commerce reduces the costs associated with physical distance between sellers and consumers by providing both trust and information at a very low cost (Lendle et al., 2016). Moreover, online platforms can provide ready-made marketing and infrastructure, vastly lower the costs and technical obstacles to establishing an online presence (compared with stand-alone websites), and make it possible to offer integrated fulfilment, hosting, translation, customer services and data analytics.

For rural, geographically remote and less productive sellers, online sales can significantly reduce trade costs associated with distance and allow connecting with distant customers. Lendle and Olarreaga (2014) find that firms conducting business on eBay are smaller on average than traditional offline firms. These authors also note that e-commerce offers growth opportunities to SMEs which appear significant for developing countries. Furthermore, selling through digital channels can produce productivity gains that the McKinsey Global Institute (2013) has estimated at between 6 and 15 per cent.

Despite the promise, data show that SMEs continue to be less well represented online than larger enterprises. Online markets supplying goods and services depend

on the affordability of, and access to, communications infrastructure. The underlying communications means that contribute to this phenomenon include fixed networks for Internet and private networks, mobile telephony and Internet and satellite networks. Without connectivity, however, there is a lower likelihood of reducing information and distribution costs, increasing participation in trade, improving market efficiency and, consequently, increasing export revenues.

(a) ICT infrastructure and access – the first hurdle

In order for SMEs to more fully realise the benefits of online trade, an ICT infrastructure needs to be in place, the quality of services offered needs to be adequate and the prices must be affordable for SMEs. Such issues are generally referred to as connectivity and access. The introduction of competition in the telecommunications sector, which is nearly a global phenomenon, combined with the introduction of ICT, rendering communication both more efficient and more global, have reduced prices and increased penetration levels. However, this section shows that significant gaps persist between developed and developing economies and, within economies, between small and large firms.

Key ICT indicators on mobile and fixed-line technologies are illustrated in Table D.4. Regions such as Africa, the Middle East, and Asia and the Pacific, have low levels of fixed telephone access (at 1.2, 7.3 and 11.3 per cent respectively), but relatively high levels of mobile phone penetration (73.3, 108.2 and 91.6 per cent). Fixed broadband access is correspondingly low, given the low levels of fixed-line access. However, in many of these regions, mobile phones, rather than desktop computers, may well become the principle means of access to the Internet. With regard to mobile broadband, there is still a gap across countries at different levels of development, with nearly 87 per cent access in developed countries

**Table D.4: Key ICT indicators, 2015
(penetration rates)**

	Fixed telephone subscriptions	Fixed broadband subscriptions	Mobile cellular telephone subscriptions	Mobile broadband subscriptions	Households with Internet access at home	Individuals using the Internet
World	14.5	10.8	96.8	47.2	46.4	43.4
Developed	39	29	120.6	86.7	81.3	82.2
Developing	9.4	7.1	91.8	39.1	34.1	35.3
Africa	1.2	0.5	73.5	17.4	10.7	20.7
Middle East	7.3	3.7	108.2	40.6	40.3	37
Asia-Pacific	11.3	8.9	91.6	42.3	39	36.9
Commonwealth of Independent States (CIS)	23.1	13.6	138.1	49.7	60.1	59.9
Europe	37.3	29.6	120.6	78.2	82.1	77.6
The Americas	25.4	18	108.1	77.6	60	66

Notes: Estimates per 100 inhabitants.

Source: ITU World Telecommunication/ICT Indicators database.

compared with 39 per cent the average in the developing world. Africa, at 17.4 per cent, is well below the average for mobile broadband penetration in developing countries. However, as noted in an ICT report, although Africa lags behind, its continuing advances in mobile telephony may to some extent offset the larger gap in fixed broadband connections, and mobile telephone adoption is rising rapidly in some countries. Moreover, a number of African countries recently initiated fixed broadband development programmes (ITC, 2015a).

The *SME Competitiveness Outlook 2015* (ITC, 2015b) provides a perspective based on firm size. The report finds that the biggest gap between small and large firms performance is in “e-connectivity”. The connectivity gap between small and large firms is especially large in least-developed countries (LDCs). Small firms in LDCs only attain 22 per cent of the connectivity score of large firms in LDCs, compared to 64 per cent in developed countries.

Broadband access to the Internet, and other data networks, has now become nearly essential. The significance of broadband technologies is that they offer the higher speeds needed to take advantage of newer technologies, such as cloud computing, and to use or offer services that require the transfer of large files or quantities of data. The quality of connections is particularly critical for SMEs supplying, for example, business process outsourcing services in business-to-business (B2B) markets. Even in countries such as the United States where access to fixed-line Internet and computers is high, the advent of smartphones and high broadband mobile networks has led to a significant

shift toward using mobile phones for e-commerce (McKinsey Global Institute, 2015). Research has shown that increases in broadband Internet access can increase openness to international trade. According to one analysis:

“... large increases in broadband use translate into increases in trade-to-GDP ratios equal to several percentage points. The model suggests that the historical growth in broadband use between 2000 and 2011 *did increase* the countries’ openness to trade (measured by the ratio of their total trade to their GDP) by 4.21 percentage points on average, with larger effects in the high income countries (a 10.21 percentage point increase on average) than in the developing countries (a 1.67 percentage point increase on average). The increases in broadband users that we project through 2016 suggest that the countries’ trade-to-GDP ratios *will increase* by an additional 6.88 percentage points on average in the high income countries and by an additional 1.67 percentage points on average in the developing countries”. (Riker, 2014, emphasis added).

As noted above, pricing is nearly as important as access, once services are available. However, mobile broadband is also an area in which developing countries remain further behind the developed countries than in other forms of ICT access. As shown in Tables D.5 and D.6, even in regions such as Africa, the Commonwealth of Independent States (CIS), the Middle East and Asia, where mobile phone penetration is impressive compared

Table D.5: Fixed broadband prices as a percentage of GNI per capita, by region, 2014

	Average	Standard deviation	Minimum	Maximum	Median
Europe	1.3	0.7	0.5	3.5	1.1
Commonwealth of Independent States (CIS)	3.6	2.9	0.7	10.7	3.2
Americas	7.4	11.8	0.4	63.5	4.5
Middle East	9.2	17.5	0.3	71.3	2.8
Asia-Pacific	16.0	39.1	0.3	221.7	4.4
Africa	178.3	398.3	1.4	2194.2*	39.2

Notes: Based on 165 economies for which 2013 data on fixed-broadband prices were available.

*The high maximum value for Africa is due to a few outliers.

Source: ITU (2015).

Table D.6: Average mobile broadband prices and ranges by region, as a percentage of GNI per capita, 2014

	Post-paid handset-based 500MB			Prepaid handset-based 500MB			Post-paid computer-based 1GB			Prepaid computer-based 1GB		
	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.
Europe	0.09	1.99	0.81	0.14	2.62	0.82	0.16	3.99	0.90	0.16	17.46	1.56
CIS	0.45	16.44	3.35	0.45	16.44	3.70	0.57	16.44	4.83	0.57	16.44	4.92
Americas	0.85	32.80	4.55	0.59	32.80	4.39	0.37	32.80	4.88	0.49	32.80	6.24
Asia-Pacific	0.17	30.54	4.39	0.26	27.99	4.28	0.35	68.60	7.53	0.49	55.99	6.77
Middle East	0.23	37.81	5.15	0.30	37.81	5.22	0.23	56.71	7.93	0.38	37.81	6.07
Africa	1.43	58.60	15.77	1.43	58.60	15.20	0.82	172.86	30.33	1.43	172.86	29.50

Notes: Based on 149 countries for which price data for all mobile-broadband services were available.

Source: ITU (2015).

with fixed services, prices remain significantly higher than in Europe, where the cost is less than 1 per cent of gross national income (GNI) for pre or post-paid service. Prices are at between 4 and 5 per cent of GNI in the CIS, the Americas, the Middle East, and Asia and the Pacific, and over 15 per cent in Africa. The proportion of GNI of the cost of fixed broadband is substantially higher than for mobile broadband in most of these regions, except the CIS, compared with Europe where, at 1.3 per cent, the cost is roughly similar to mobile broadband. Tables D.5 and D.6 also illustrate, by showing minimum and maximum price levels, that the averages belie large differences in affordability at the national level.

(b) Other obstacles and trade costs SMEs face in ICT-enabled trade

SMEs participating or hoping to engage in online trade face most of the same obstacles as any other businesses, whether online or offline. In addition, however, there are some unique costs, aside from the costs of gaining access to ICTs, which become

relevant. One example concerns access to online e-commerce platforms. The platform providers may restrict the geographic scope of sellers or of buyers. Constraints on countries in which bank accounts are accepted also restrict access to, and participation in, online trade. In some cases, the full range of associated platform services is not available to sellers in all countries. Listings that viewers can access may be limited to sellers or products for which delivery is available in their country. The need to invest in consumer trust mechanisms and tools is another example. Concern about cybercrime and data breaches among consumers and client businesses is global, but may hamper developing countries more acutely.

According to the ITC, for countries where there is a lack of reliable information about the identities and activities of companies, or where the cost of obtaining such information is high, many of the international firms that issue trust or security tools are unable or unwilling to provide their services (ITC, 2015a). Another example is where legal frameworks do not adequately

deal with issues related to electronic transactions and contracting, e-signatures, online consumer and intellectual property protection, or where they restrict data flows, increasing the cost of processing and acquiring data. There is cross-country evidence that significant firm-level benefits are to be had from free or marginal cost pricing in this area, with SMEs benefiting most from less expensive data (OECD, 2015). Uncertainty in these respects imposes costs on firms and can hamper the growth of e-commerce in general, but impact SMEs in particular, as they are less capable of bearing the costs of associated risks if problems arise.

In a study on digital trade, USITC (2014) identified a number of measures which surveyed US companies said could pose obstacles specific to global trade online. These included measures such as data or firm localization requirements, data privacy and protection requirements, intellectual property rights (IPR) infringement, uncertain legal liability rules and censorship, as well as issues common to online and offline trade, such as market access conditions and customs procedures. The results also showed some variation in perceived obstacles to digital trade by firm size:

“Large firms in digital communications and SMEs in finance had the highest percentages that viewed localization, data privacy and protection, uncertain legal liability and censorship as ‘substantial or very substantial’ obstacles to digital trade. Large firms and SMEs in the retail sector had the largest portions that viewed customs requirements as ‘substantial or very substantial’ obstacles. By contrast, large firms in the content sector and SMEs in digital communications had the highest percentages that viewed IPR infringement as a ‘substantial or very substantial’ obstacle.” (USITC, 2014).

Further developed-country evidence of business perceptions of obstacles to online trade is provided by an EU survey on “ICT usage and e-commerce in enterprises”. This survey identifies obstacles enterprises face in selling online through a website. For 2013, Table D.7 shows the percentage of enterprises by size among those selling online via websites. One-fifth of small and medium-sized enterprises in the European Union deem their products not suitable for online trading. This implies that 80 per cent of these enterprises possess products that can potentially be traded online or are already traded. However, the survey identifies a number of obstacles related to infrastructure. Logistics, payment systems, data protection and the legal framework are named. Entry costs to online trading or e-commerce are also mentioned by SMEs. Table D.8 refers to enterprises that do not have their own websites, i.e. potential traders

in e-commerce platforms. Here, the share of enterprises that consider entry costs to be an important obstacle is twice as high as for enterprises that already own a website. More importantly, of the surveyed enterprises, around 60 per cent do not consider their products suitable for online trading.

In developing countries, SMEs cannot always realize the full potential of e-commerce-enabling technologies and services because of a combination of factors such as lack of awareness, unavailability of funds or local restrictions on the international transfer of funds. E-commerce support services such as cloud-based solutions for analysing web traffic and targeting customers, facilitating product listings on multiple e-commerce sites, and general business tools for customer relationship and financial management may sometimes be inaccessible if payment methods are not available to the entrepreneur. For example, although many cloud-based solutions are initially free of charge, they may still require either a credit card to register for the free version, or payment for the more advanced applications (ITC, 2015a).

A survey of Tunisian SMEs conducted by ITC (2015a) identified the following common difficulties in relation to e-commerce, in descending order of magnitude:

- promoting awareness of goods and services internationally;
- receiving international payments;
- paying value-added tax (VAT) and custom duties in export markets;
- sending goods internationally;
- managing the return of goods internationally, and storing goods internationally; and
- domestic payments.

Some of the obstacles to online trade cited by SMEs are related to doing business in general, but a significant number of them involve government measures contributing to a supportive framework for SME internationalization through e-commerce, or the lack thereof. For instance, a study by the ITC noted that in the case of the “Cadenas Productivas” programme offering online services for SMEs and run by the national development bank (NAFIN) in Mexico (ITC, 2015b), the existence of a supportive legal and regulatory environment – brought by electronic signature and security laws, and favourable taxation treatment – was critical in bringing a secure and Internet-based reverse factoring platform to SME suppliers.

**Table D.7: Obstacles that limit/prevent enterprises from selling via a website, 2013
(percentage of enterprises with web sales)**

	The enterprise's goods or services are not suitable – enterprises selling via website	Problems related to logistics (shipping of goods or delivery of services) – enterprises selling via website	Problems related to payments – enterprises selling via website	Problems related to ICT security or data protection – enterprises selling via website	Problems related to the legal framework – enterprises selling via website	The costs of introducing web sales too high compared to the benefits – enterprises selling via website
Small enterprises (10-49 persons employed)						
European Union (28)	20	15	14	10	9	13
Iceland	29	13	12	12	7	12
Norway	31	17	18	11	9	22
The Former Yugoslav Republic of Macedonia	8	14	29	24	18	22
Medium-sized enterprises (50-249 persons employed)						
European Union (28)	20	13	12	9	9	12
Iceland	27	3	13	13	6	14
Norway	35	15	13	8	7	16
The Former Yugoslav Republic of Macedonia	14	8	14	4	4	13
SMEs (10-249 persons employed)						
European Union (28)	20	14	14	10	9	13
Iceland	28	11	12	12	7	12
Norway	32	16	17	10	9	21
The Former Yugoslav Republic of Macedonia	9	13	27	21	16	21

Source: EU survey on "ICT usage and e-commerce in enterprises", http://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics

Another important factor is the ease with which companies can electronically access government services (often referred to as e-government) that are needed by traders. Another significant policy issue includes the need for certainty and predictability in regimes governing global data transfers, which touch on all forms of online trade in goods and services. Such measures will, inevitably, need to strike a balance between traders' interests – i.e. the business costs involved, particularly for cost-sensitive SMEs – and legitimate policy concerns for dealing effectively with cybercrime, the protection of privacy and intellectual property rights.

5. SME access to GVC-enabled trade

As discussed in previous sections of this report, SMEs may connect to international markets either by exporting directly or by integrating into GVCs and by exporting indirectly through other firms. This subsection examines how GVCs may make it easier for SMEs to connect to international markets and how certain policy-related obstacles may impede SMEs from seizing this opportunity.

**Table D.8: Obstacles that limit/prevent enterprises from selling via a website, 2013
(percentage of enterprises without web sales)**

	The enterprise's goods or services are not suitable – enterprises not selling via website	Problems related to logistics (shipping of goods or delivery of services) – enterprises not selling via website	Problems related to payments – enterprises not selling via website	Problems related to ICT security or data protection – enterprises not selling via website	Problems related to the legal framework – enterprises not selling via website	The costs of introducing web sales too high compared to the benefits – enterprises not selling via website
Small enterprises (10-49 persons employed)						
European Union (28)	59	26	19	17	16	26
Iceland	49	18	10	9	8	25
Norway	60	30	24	19	17	36
The Former Yugoslav Republic of Macedonia	43	25	25	20	14	24
Medium-sized enterprises (50-249 persons employed)						
European Union (28)	65	25	17	16	15	24
Iceland	57	26	12	13	11	15
Norway	67	28	18	13	15	27
The Former Yugoslav Republic of Macedonia	44	24	23	19	13	23
SMEs (10-249 persons employed)						
European Union (28)	60	26	18	17	16	26
Iceland	50	19	10	9	8	23
Norway	61	30	23	19	17	35
The Former Yugoslav Republic of Macedonia	43	24	24	20	14	24

Source: EU survey on "ICT usage and e-commerce in enterprises", http://ec.europa.eu/eurostat/statistics-explained/index.php/E-commerce_statistics

(a) GVCs increase the opportunity for SMEs to trade

GVCs benefit SMEs because they allow finer specialization and allow trade in tasks that require less fixed capital. While it is difficult for SMEs to export in capital-intensive sectors, such as transport equipment, or in sectors that require significant branding, SMEs are well represented in services sectors characterized by low fixed costs of entry. In fact, in many OECD countries, SMEs are the main exporters of business services. In low-income countries, SMEs produce labour-intensive products, low-value added manufactures and low-entry-cost and non-capital-intensive services activity. They often operate in the informal sector. In middle- and higher-income countries, SMEs are found operating in both the low-value and highly skilled niche activities (OECD and World Bank, 2015).

The opportunities for SMEs to exploit high value-added niches in GVCs arise particularly in situations where the

input costs are low. An example is organic agriculture production (Staritz and Reis, 2013). In these markets, the fact that pesticides cannot be used decreases key input costs, and the fact that production often takes place in small plots reduces the disadvantage of small-scale production.

GVCs not only favour SMEs' participation in trade because they provide a market for what SMEs can do better, they also provide a channel for SMEs to overcome some of their major obstacles to trade. For example, a major obstacle to trade that the analysis in the previous sections has highlighted is the difficulty for SMEs to make contact with local distributors in foreign markets. Accessing foreign distribution networks and facing the necessary costs for marketing their products abroad can be too costly for SMEs. GVCs provide SMEs with distribution networks and brand names. This significantly reduces SME's distribution costs, thus making exporting profitable for SMEs that become suppliers of a GVC.

Another major obstacle for SMEs to access foreign markets highlighted in existing surveys is the cost of acquiring information on the global markets requirements in terms of products, processes, technology and standards (Pietrobelli and Rabellotti, 2011). GVCs offer SMEs a better position to overcome the complexity and heterogeneity of the adoption of international standards. Normally firms in GVCs tend to set and transmit information on standards and enforce their application as a condition of purchase, and often have a role in their formulation. Affiliation with a GVC with local knowledge provides advantages for firms that plan to explore overseas markets. Furthermore, GVCs are a powerful channel for technology transfer, as foreign outsourcing firms are more willing to transfer the know-how and technology required for an efficient production of the outsourced input because they will eventually be the consumer of that input and because they need to assure compatibility with their own production processes.²³

As discussed in the *World Trade Report 2014* (WTO, 2014), this information is so valuable that local firms striving to become suppliers to multinational corporations in GVCs often enter into loss-making contracts initially with those multinationals. During these initial contracts, they learn to produce to the specifications of the multinational. This type of investment in capabilities yields two pay-offs: (i) productivity gains, allowing the local firm to produce at lower prices (Blalock and Gertler, 2008); and (ii) the positive reputation effects of being a preferred supplier to a well-known multinational, which facilitates the establishment of other business relationships (Sutton, 2012). These investments in capabilities naturally require capital while not generating tangible collateral. Consequently, it is not surprising that availability of financing is perceived as a main obstacle to GVC integration by many firms.

Besides distribution networks, access to information, and credit, smaller firms encounter other difficulties that prevent their development. The insufficient scale of SMEs can hardly support the costs of research and development and of staff training; the lack of lobbying power compared with larger firms may give SMEs a disadvantage in certain situations; their limited ability to diversify and absorb local and global shocks make SMEs more vulnerable. SMEs' small scale usually increases the period for recovery of investments in the fixed cost or in information acquisition, as well as restricting their scope to reallocate the labour force among their operations compared with larger firms. Entering GVCs can also at least partially help SMEs address these internal constraints.

Although SMEs' participation into GVCs can provide great opportunities for SMEs to access global markets

and development, a key issue in the assessment of the potential gains for SMEs of GVC participation is how gains are distributed along the supply chain. The share of gains for SMEs depends on the relative bargaining power of leading and supplying firms, and the degree of competition at different points in the chain. The relative bargaining power in turn depends on how rare the capabilities of the supplier are and whether the transaction can easily be shifted to a different supplier.

If the task that the supplier performs can be codified and it is not very complex, suppliers operate in fierce competition with each other, leading to large gains by lead firms vis-a-vis SME suppliers. Multinational enterprises often benefit from a stronger bargaining position than small suppliers, because they have proprietary know-how and technology and they face a multitude of potential suppliers. Improving income distribution along the supply chain is therefore key to reducing barriers to entry in certain segments of the chain.

(b) What are the challenges and constraints of participation in GVCs for SMEs?

SMEs face a number of challenges with regard to participating in GVCs or moving up the value chain. These challenges may be related to factors internal to the SMEs (such as lack of skills and technology) or external factors (such as access to finance, standards and infrastructures) (see Box D.5).

According to a survey conducted for the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) (see Table D.2), access to finance and trade finance, customs paperwork, and transport costs (airport and shipping costs for tourism and apparel and textile, respectively) and inadequate telecommunication infrastructure (in the ICT sector) are among the major obstacles for SME suppliers to enter and move up a value chain.

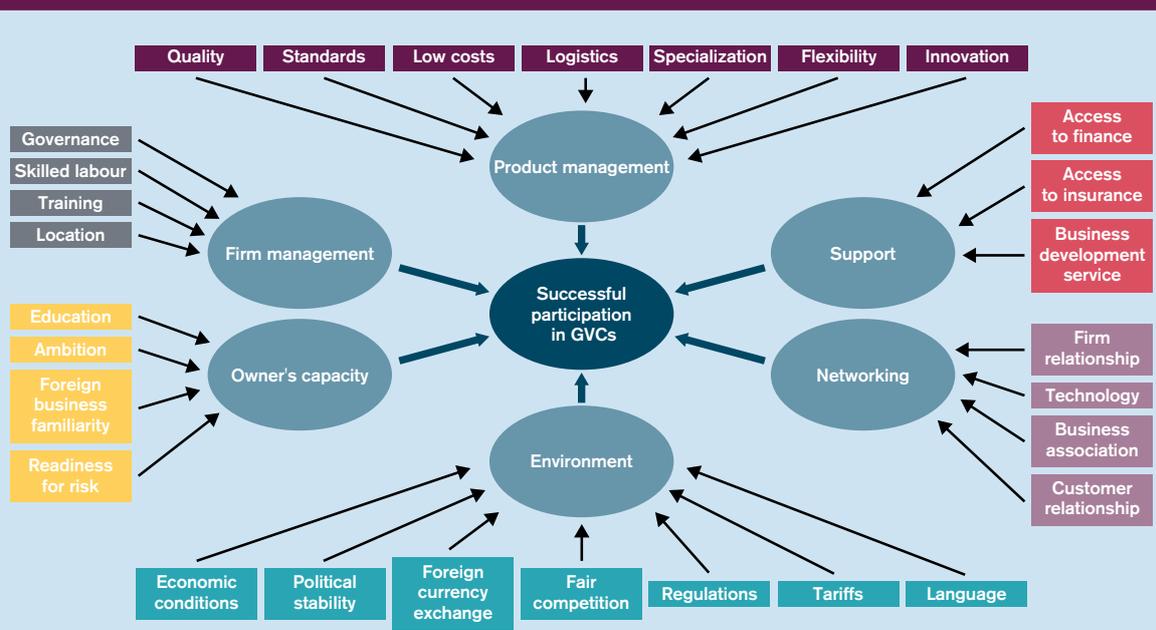
Meanwhile, the survey also shows that from the perspective of the lead firms that want to bring new suppliers into GVCs, customs procedures, compliance with the international standards and quality, and logistics are major difficulties highlighted by the leading firms in four sectors (see Table D.9). Research conducted by the ADB (ADB, 2015) stressed four major factors affecting SME participation in GVCs. These are the quality of the products and services they are able to provide, education, economic conditions in the market, and access to finance.

Empirical evidence supports these factors. When the production of a good relies intensively on imported intermediate inputs, the timely delivery and reliability of these inputs are essential. Lanz and Piermartini (2016) show that countries with better institutions and trade

Box D.5: Factors affecting SME participation in GVCs

In the context of a study project to outline the main drivers of SMEs integration into GVCs, in 2014-15 the Asian Development Bank (ADB) and the Asian Development Bank Institute (ADBI) launched a survey of enterprises in four Asian developing economies (Kazakhstan, Papua New Guinea, the Philippines and Sri Lanka) (see Arudchelvan and Wignaraja, 2015). The results are summarized in Figure D.10, which shows that a long series of factors drive the participation of SMEs in GVCs, which mainly relate to capability, competitiveness, international business facilitation and macro-economic policies and conditions.

Figure D.10: Factors affecting SME participation in GVCs



Source: Arudchelvan and Wignaraja (2015).

facilitation measures (better infrastructure, reduced time to export and timely delivery) tend to specialize in supply chains. In fact, institutional environment and trade facilitation matter more than capital and labour in determining exports within supply chains. As discussed above, poor transport and logistic infrastructure makes it particularly hard for SMEs to participate in GVCs.

Trade policy is a strategic area for ensuring the success of SMEs within GVCs. Low import tariffs, the

implementation of trade facilitation and the enforcement of property rights are key to GVCs' participation in GVCs. Since SMEs, especially those from developing countries, often operate in the low value-added segment of the production chain, trade restrictions (especially if additive) are disproportionately applied to them, because they represent a larger percentage of the value of the output. By the same token, the barriers to export identified above are also obstacles to the participation of SMEs in GVCs.

Table D.9: Firms' top five perceived difficulties in bringing new suppliers from developing or LDCs into their supply chain(s)

Agriculture	ICT	Textile	Tourism
Inadequate airport, maritime or transport capacity or links	Lack of transparency in regulatory environment	Customs procedures	Access of suppliers to finance
Transportation costs and delays	Export or import licensing requirements	Export or import licensing requirements	Business environment
Customs procedures	Inadequate telecommunications networks	Inability of suppliers to meet order delivery times	Insecurity
Export or import licensing requirements	Customs procedures	Border procedures	Inadequate sanitary or quality controls of local food suppliers
Irregular supply and/or inconsistent quality	Import duties	Shipping costs and delays	Visa regimes for foreign tourists

Notes: Question: "What are the most typical difficulties that you face in bringing new suppliers from developing or LDCs into your supply chain(s)? Please select up to 5 from the following list."

Protection of IPR is important because it is one factor that increases the attractiveness of a market for franchising arrangements. Franchisors typically contact local services for marketing and selling products. Hairdressers, management consulting and real estate are just some examples where franchises are common in services. Car dealers operating for a carmaker or a gas/oil stations operating for an oil company are examples within the manufacturing sector. Franchises are important channels in which SMEs can participate in international markets. They provide market solutions for some barriers that SMEs face when entering foreign markets, such as access to supplier networks and access to finance and know-how. But a franchiser's main asset is its brand. This needs to be adequately protected for the franchiser to be of interest in an arrangement with a local supplier (Nordås, 2015).

Finally, one additional obstacle to the participation of SMEs, especially from developing countries, in GVCs that is worth mentioning is the difficulty for multinational enterprises of locating SME suppliers. This is particularly difficult in developing countries where SMEs often operate in the informal sector. The process of identifying suppliers involves specific local knowledge that may not be easily available to foreign firms. There is evidence that FDI affiliates with joint domestic and foreign ownership face lower costs than wholly foreign-owned firms in identifying local suppliers (Javorcik and Spatareanu, 2008). SME participation in GVCs could be facilitated by the provision of such information. Both business associations and specific government agencies could be of assistance with this.

6. Conclusions

Obstacles to trade are particularly burdensome for SMEs. Evidence suggests that a lack of information about foreign distribution networks, border regulations and standards represent the main obstacles to trade for SMEs.

Unexpectedly, SMEs also perceive high tariffs as a more significant obstacle to trade than large firms. This section has shown two reasons why this may be true. First, SMEs' trade flows are more sensitive (elastic) to tariff changes. Second, SMEs appear to be relatively more concentrated in sectors facing higher tariff barriers than large firms.

Non-tariff barriers are also particularly burdensome for SMEs. Large firms can more easily adapt to new costly requirements, but small firms are driven out of business if a new restrictive standard is introduced into a market. Lack of transparency and differences in standards across markets and costly certification procedures are also major hurdles for SMEs.

Finally, cumbersome customs procedures stop SMEs from exporting. Trade facilitation, while fostering trade for both large and small firms, particularly boosts the entry into the export market of small firms that would otherwise only sell in the domestic market. The Trade Facilitation Agreement has been shown to remove a major obstacle to trade for SMEs, that of lack of information on rules and regulation in the foreign market.

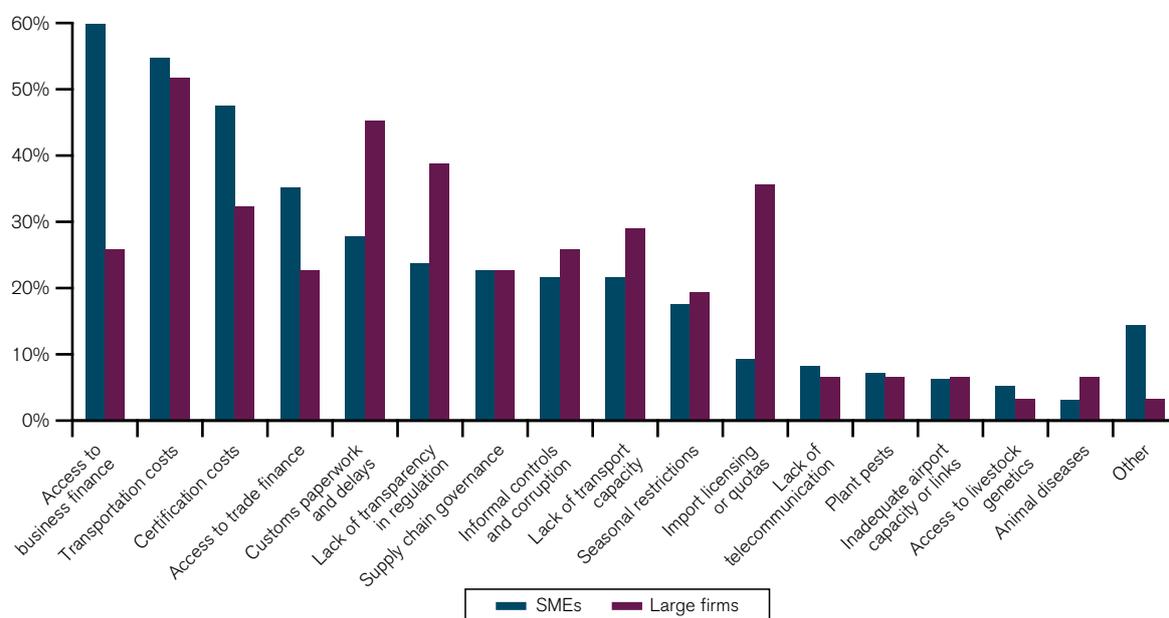
E-commerce and GVC participation are two ways by which SMEs can partially overcome these barriers and improve their participation in global trade. E-commerce allows SMEs to match with their customers at much lower costs. GVCs give SMEs a way to access foreign distribution networks and exploit some economies of scale they could not otherwise access. Yet, SMEs face specific obstacles in exploiting these opportunities. Problems related to the logistics of shipping a good or delivering a service, ICT security, data protection and payment-related problems are major issues SMEs face with regard to web sales. Logistics and infrastructure costs, regulatory uncertainty and access to skilled labour are among the major challenges for SMEs wishing to join production networks.

Endnotes

- 1 SMEs' challenges to access international market include a poor business environment, poor labour skills, a lack of bargaining power, restricted access to market data, difficulties in accessing technology and limited access to finance beyond high trade costs (see WTO document WT/COMTD/AFT/W/53).
- 2 See Leonidou (2004) and Narayanan (2015).
- 3 The ITC Business Surveys on NTMs are available at <http://ntmsurvey.intracen.org/publications/itc-series-on-ntms>
- 4 Detailed results are available in Appendix Figures D.1, D.2 and D.3.
- 5 Results from the questionnaire completed by firms in OECD countries are available in Appendix Figures D.4, D.5, D.6 and D.7.
- 6 Only three sectors are reported in Table D.2 and in Appendix Figures D.1-3 because there is no equivalent question on trade barriers to enter and move up the value chain for tourism and transport services.
- 7 CBI is the Centre for the Promotion of Imports from developing countries, an agency of the Ministry of Foreign Affairs of the Netherlands.
- 8 The "Unable to find foreign partners" category implies that a firm lacks the resources and business networks to find a reliable local representative, business partner, or distribution agent in the foreign market, whilst the "Difficulty in receiving or processing" category includes foreign law and enforcement practices that do not adequately ensure payment for delivered goods and services. The "Obtaining finance" category, on the other hand, implies difficulties in securing trade finance, particularly pre-shipment financing to cover large exports, and in obtaining working capital for daily operations and expansion into new business areas.
- 9 Traditional economic theory predicts an identical effect of a tariff increase (decrease) on the volume of export for small and large firms (Melitz, 2003). An increase in tariffs decreases the total value of exports (across all firms). At the firm level, on the one hand higher tariffs will tend to reduce exports. On the other hand, the exit of small firms from the export market will lower competition and increases export of firms staying in the market. The effect on the average value of export per firm is ambiguous, but equal across firms of different size.
- 10 Other works that study firm-level responses to price shock (rather than tariff changes) also find that firms change their import/export behaviour depending on their size. Berman et al. (2015b) and Gopinath and Neiman (2014) find that firm-level elasticity depends negatively on the size of the firm. Berman et al. (2015a) explain the heterogeneous effect by firm size, showing that large firms absorb part of the shock by reducing price mark-ups rather than the volumes of trade. Gopinath and Neiman (2014) explain the reduced responsiveness of large firms trade to price shocks by showing that large firms reduce but do not stop importing intermediate inputs. Therefore, firms of different sizes experience a different change in unit costs.
- 11 Also see Feenstra and Weinstein (2010).
- 12 Levy (1994) makes a similar argument for export-oriented sectors in a set-up where export subsidies are prohibited.
- 13 This perception is confirmed by the evidence. On average, NTMs almost double the overall level of trade restrictiveness imposed by tariffs, thus meaning that they are on average as important as tariffs. In several countries, though, the contribution of NTMs to the overall level of trade restrictiveness is actually higher than that of tariffs (WTO, 2012).
- 14 Fixed costs are independent of the amount produced or exported, while variable costs increase with the level of production or exports.
- 15 Analysing firms export decisions from 42 developing countries in response to pesticide standards in 63 importing countries, Fernandes et al. (2015) show that restrictive importing countries' standards deter firms, especially small firms, from entering new markets.
- 16 Mode 4 of the General Agreement on Trade in Services (GATS) only covers the temporary presence of foreign natural persons to supply services.
- 17 The OECD STRI covers 42 countries (OECD members plus Brazil, China, India, Indonesia, Latvia and the Russian Federation), while the World Bank STRI comprises 102 economies (24 OECD countries and 78 developing and transition economies).
- 18 It is quite reasonable to discard mode 2, as, with the exception of education and health services, there are, in practice, very few restrictions to this mode of supply.
- 19 Although focused only on tourist visas, the World Tourism Organization's 2015 "Visa Openness Report" (UNWTO, 2015) notes that 89 per cent of country pairs do not request a visa of each other's nationals if the countries involved are both advanced economies. By contrast, this share drops to 21 per cent for relationships between emerging and advanced countries and to a mere 10 per cent if both countries are emerging economies.
- 20 See http://web.alt.uni-miskolc.hu/als/cikkekek/2010/ALS4_p130_136_Urbanska.pdf
- 21 Some large, well-established 3PL providers (e.g. FedEx, UPS, DHL) have launched small business logistics solutions which may provide export assistance to SMEs.
- 22 Ecommerce Europe is an association representing 25,000+ companies selling products and/or services online to consumers in the European Union.
- 23 There is evidence that there are productivity gains associated with supply chains. Javorcik (2004) finds productivity gains for Lithuanian firms that provide inputs to foreign multinationals. Newman et al. (2015) provide evidence of productivity gains both for firms that provide inputs to, and firms that source inputs from, foreign firms located in Viet Nam. Piermartini and Rubínová (2014) show that supply chains can work as a channel for knowledge transfers, but the scope of spillovers depends on the type of relationship between the knowledge exporter and knowledge importer in the supply chain.

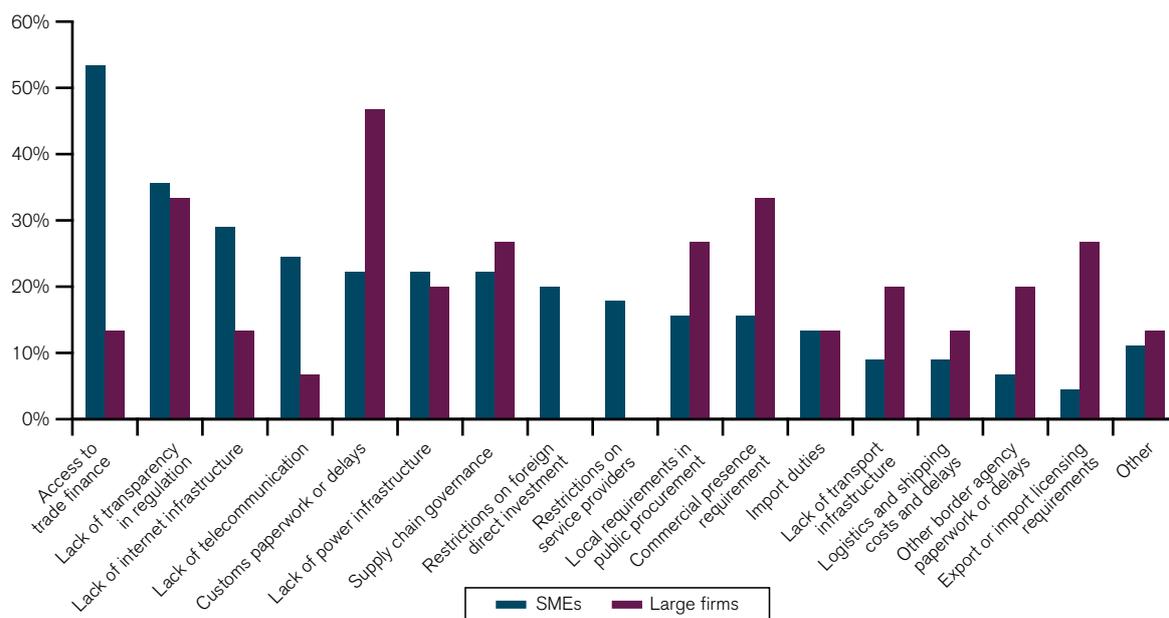
Appendix Figures

Appendix Figure D.1: Difficulties in entering, establishing or moving up agrifood value chains



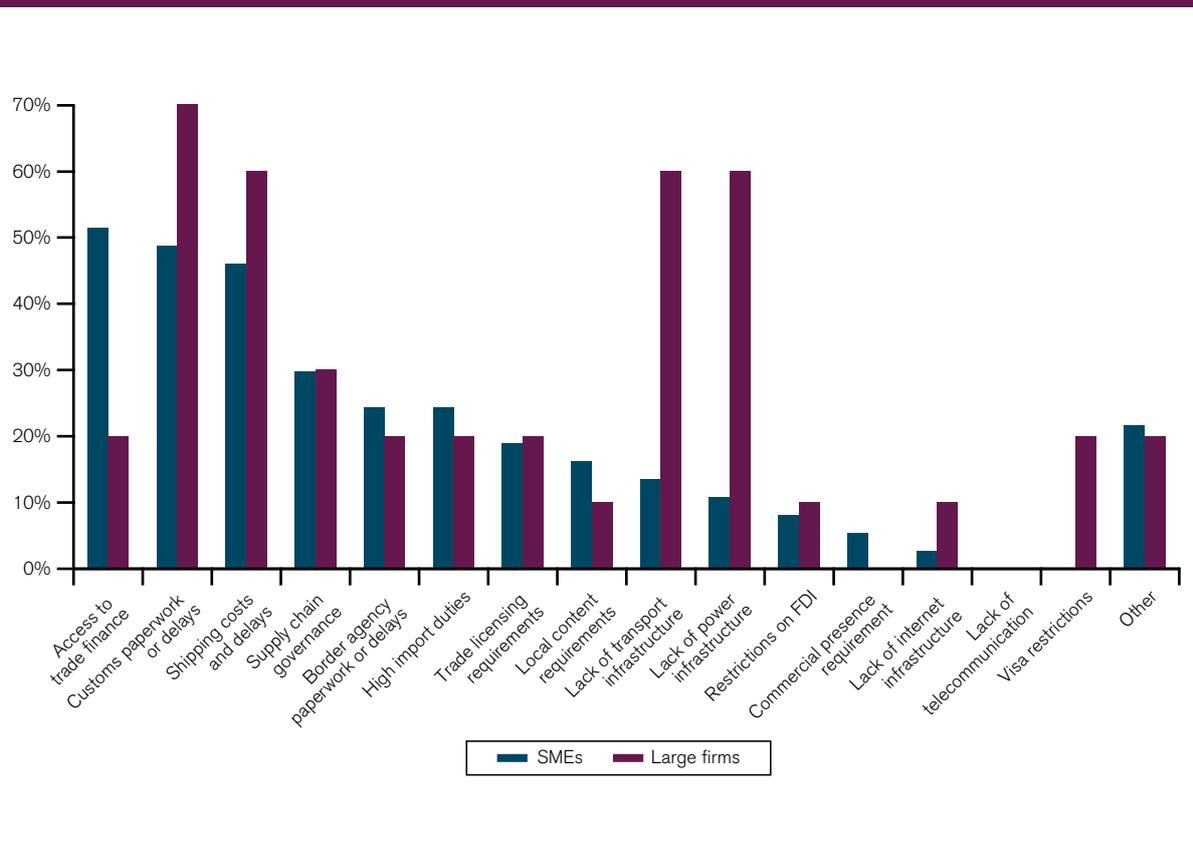
Note: Question No. 15 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What difficulties do you face in entering, establishing or moving up agrifood value chains? Please select up to 5 from the following list."

Appendix Figure D.2: Difficulties in entering, establishing or moving up information and communications technology value chains



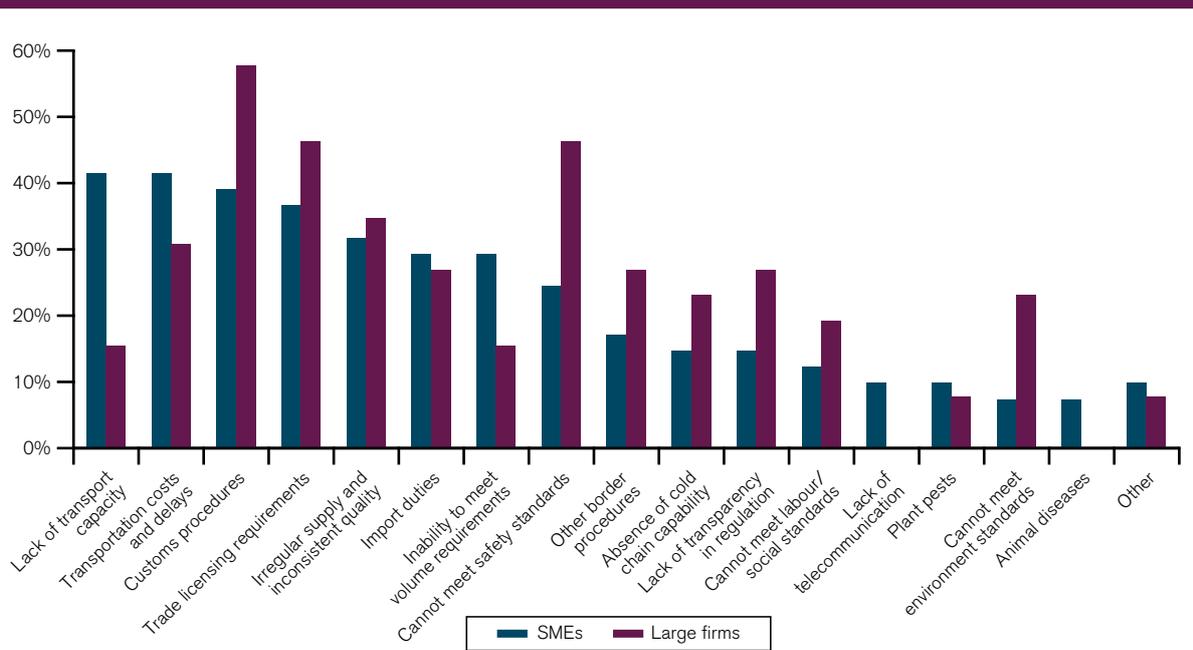
Note: Question No. 35 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What difficulties do you face in entering, establishing or moving up ICT value chains? Please select up to 5 from the following list."

Appendix Figure D.3: Difficulties in entering, establishing or moving up textiles and apparel value chains



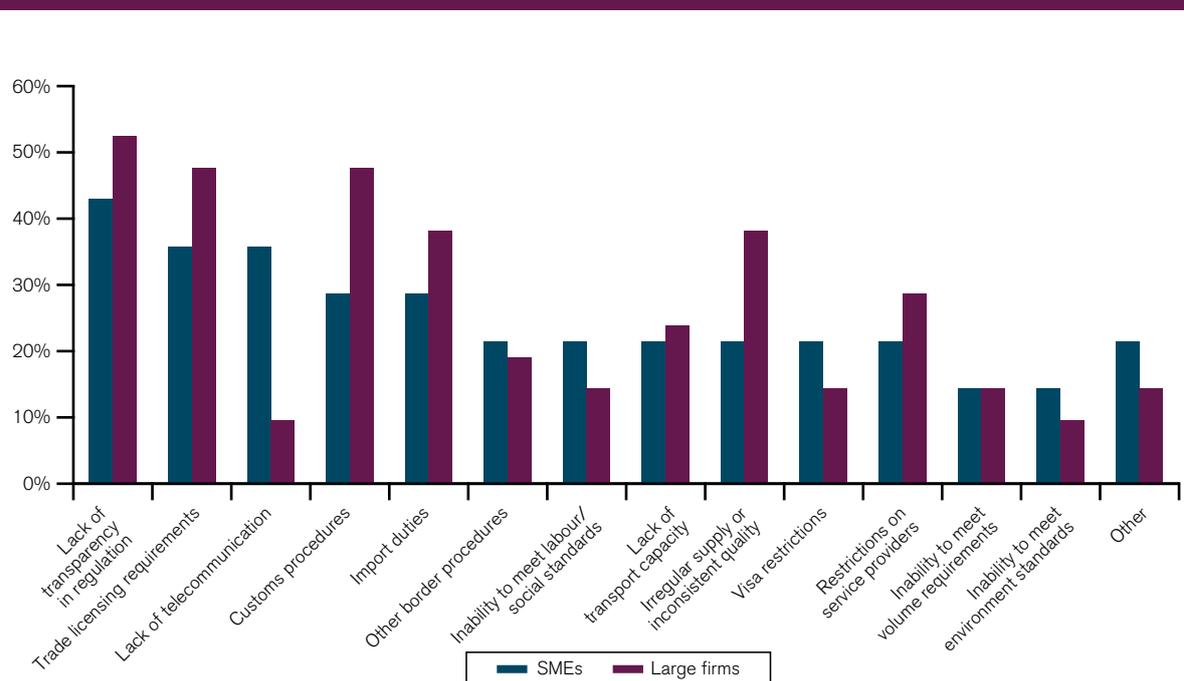
Note: Question No. 56 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What difficulties do you face in entering, establishing or moving up textiles and apparel value chains? Please select up to 5 from the following list."

Appendix Figure D.4: Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – agriculture



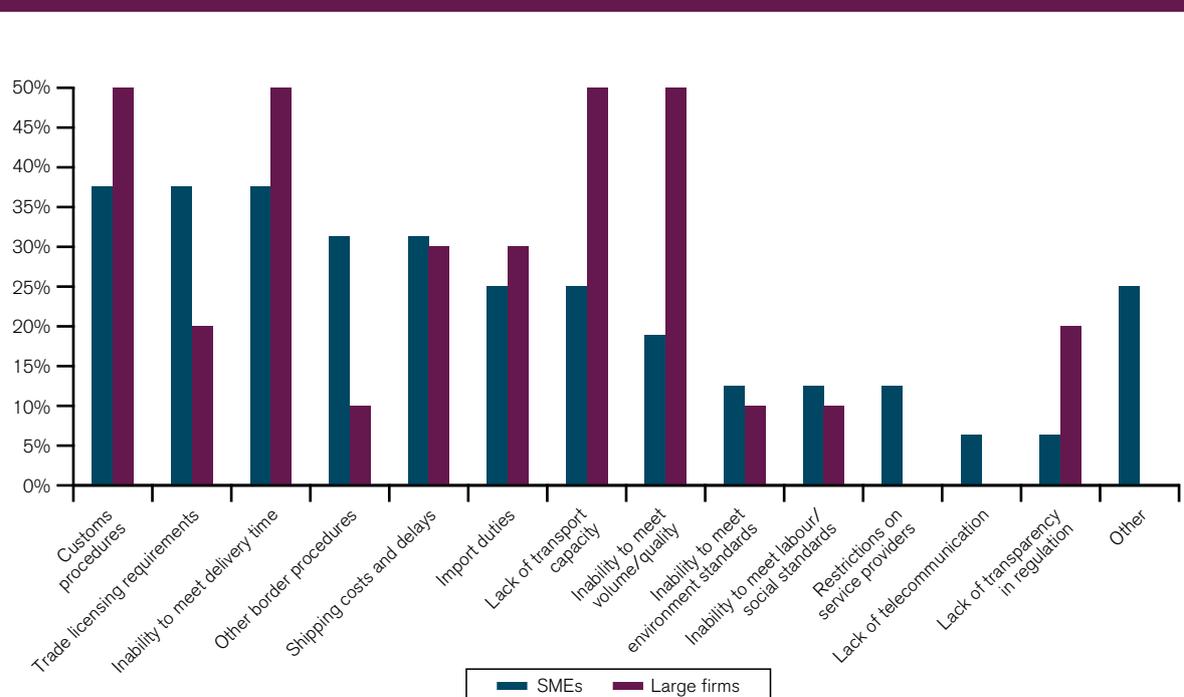
Note: Question No. 22 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What are the most typical difficulties that you face in bringing new suppliers from developing countries or LDCs into your supply chain(s)? Please select up to 5 from the following list."

Appendix Figure D.5: Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – information and communications technology



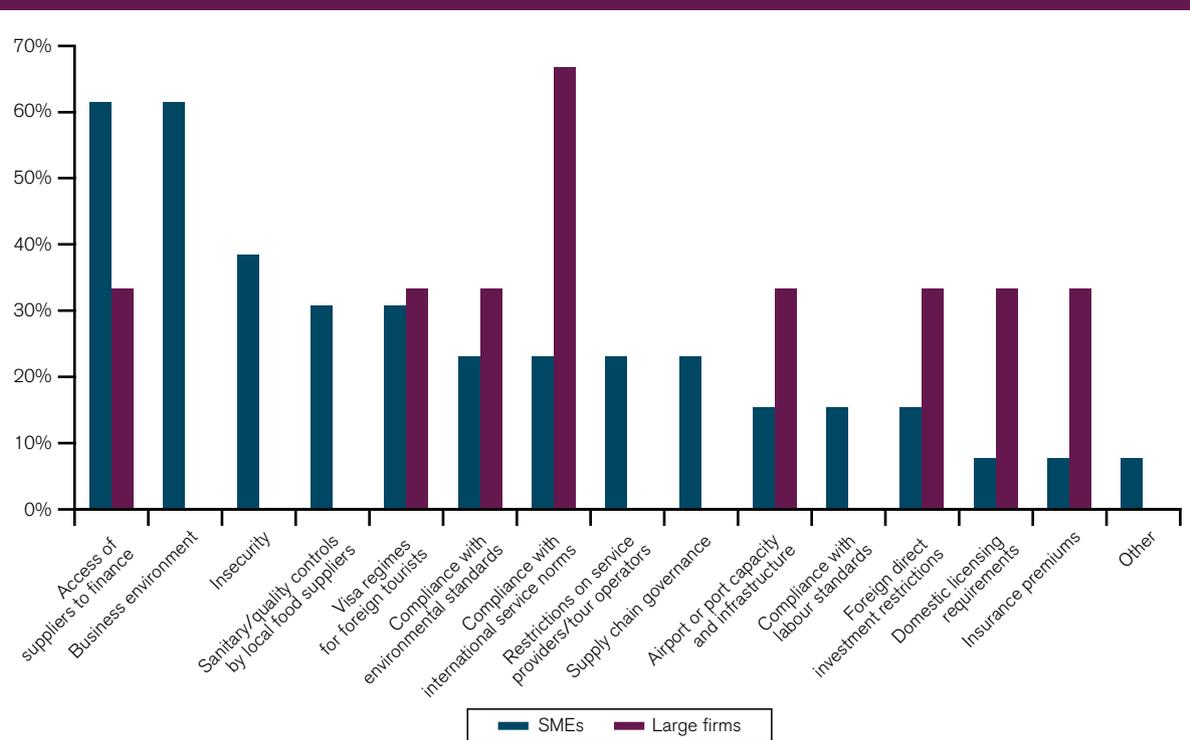
Note: Question No. 43 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What are the most typical difficulties that you face in bringing new suppliers from developing or LDCs into your supply chain(s)? Please select up to 5 from the following list."

Appendix Figure D.6: Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – textiles



Note: Question No. 63 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What are the most typical difficulties that you face in bringing new suppliers from developing or LDCs into your supply chain(s)? Please select up to 5 from the following list."

Appendix Figure D.7: Difficulties in bringing new suppliers from developing countries or LDCs into tourism product value chains



Note: Question No. 84 in the Fourth Global Review of Aid for Trade (OECD and WTO, 2013) survey: "What are the most typical difficulties that you face in bringing new suppliers from developing or LDCs into your tourism product value chain(s)? Please select up to 5 from the following list."

E Cooperative approaches to promoting SME participation in trade

The previous sections of this report identified the benefits that SMEs derive from participating in international trade (Section C) and the obstacles they face (Section D). This section discusses existing international cooperative approaches that directly or indirectly facilitate SMEs' participation in trade. These include SME-related initiatives in regional trade agreements (RTAs), in regional institutions (e.g. the African Development Bank) and in multilateral institutions (e.g. the World Bank), as well as in the WTO.



Contents

1. Why support SMEs and seek to cooperate on them in trade agreements?	114
2. SMEs in regional trade agreements	116
3. SMEs in other international organizations	126
4. SMEs in the WTO	130
5. Conclusions	146

Some key facts and findings

- Reference to SMEs in RTAs has increased over the years. Almost half of the notified RTAs currently in force include at least one provision relating explicitly to SMEs.
- The importance and scope of SME-related provisions has also increased in recent years. The two most common categories of SME-related provisions are cooperation activities and exemptions for SMEs from certain provisions of the RTA.
- Although SMEs are not always specifically mentioned in WTO Agreements, multilateral rules have the effect of levelling the trading field, alleviating some major constraints faced by SME traders and thereby fostering SME participation in international trade.
- Multilateral rules reduce both the variable and fixed costs of trade that hinder SMEs from entering foreign markets. Since the establishment of the WTO, members have successfully reduced average MFN applied tariffs to an average of 9 per cent, representing a cut of nearly a third since 1998. The SPS and TBT agreements, among other WTO Agreements, include information-related provisions that reduce the fixed costs of accessing foreign markets and thereby help smaller firms.
- WTO rules include a number of flexibilities that, in a similar fashion to the exemptions included in RTAs, address the public policy concerns of governments wishing to support SMEs. They make it easier for a member to exercise its rights when it acts on behalf of SMEs; allow them to continue providing financial contributions to SMEs; give members greater leeway to promote the technological development of their SMEs; and allow members to provide preferential treatment to their SMEs.



This section is organized as follows. Section E.1 seeks to answer why governments intervene to support SMEs and include provisions on SMEs in trade agreements. Section E.2 analyses how RTAs have addressed the issue of SMEs. This is followed, in Section E.3, by a discussion of the activities of international organizations that are active on the SME front. Section E.4 then examines how the issue of SMEs features in WTO agreements, work programmes and technical cooperation activities. Section E.5 concludes.

1. Why support SMEs and seek to cooperate on them in trade agreements?

This section begins by asking two questions. First, why would governments intervene to support their SMEs? Second, what reasons are there for countries to cooperate on SMEs and in particular in the context of trade agreements?

To answer the first question, there are at least two motivations for government intervention and support. One involves the belief that supporting SMEs will improve the distribution of income, although it is fair to point out that some researchers find no evidence that the existence of a large number of SMEs in a given economy alleviates poverty or decreases income inequality (Beck et al., 2005). The second involves the view that certain market failures more adversely affect SMEs and require public intervention.

To take one example of market failure, credit markets are prone to imperfections where lenders do not have good information about borrowers (e.g. asymmetric information), particularly if the enterprises concerned are small and have no track record (van der Schans, 2012). Some lenders try to get around the problem of information asymmetry by imposing collateral requirements on borrowers. However, this is unlikely to work for SMEs that have few assets to begin with. As a result, smaller enterprises struggle to obtain financing to meet their working capital requirements or to expand the scale of their production. Many governments in both developing and developed countries attempt to remedy the consequences of this market failure by establishing credit facilities dedicated to SMEs.¹

Small firms often lack the resources, scale, experience or wherewithal to stay abreast of the latest emerging technologies, manufacturing processes, or business management practices (Ezell and Atkinson, 2011). In principle, the “market” — in this case the business services sector — can provide valuable information and advisory services to SMEs.

However, a number of factors are likely to raise hurdles to the ability of the market to respond. For example, the extent or scale of the needs of an SME may not be known in full by a provider of business services. Alternatively, the SME may not have complete information about the available business services in the market. Other hurdles include adverse selection, presence of public goods, presence of mixed goods (a partly public and partly private good) and externalities (Atherton et al., 2002). These failures justify the government’s provision of “extension services” to their SMEs, to train them on innovation, how to develop new products, and how find new customers and new markets (Ezell and Atkinson, 2011).

Markets may be imperfectly competitive, where a few large enterprises dominate, while small firms occupy the fringe. Ideally, governments should use competition policy tools to curb anti-competitive practices, but some countries, especially developing ones, may not yet have the legislation and institutional capacity to effectively use these instruments.² In cases like these, SME support programmes act as an imperfect substitute for competition policy by tilting the conditions of competition in favour of the smaller enterprises.

A major problem that plagues developing countries is unemployment and underemployment, leaving a large fraction of their labour force not productively utilized. This represents a huge waste of human resources that governments in poor countries may be unable to tackle effectively because they lack the appropriate policy tools. In industrial countries, there is often an array of policy instruments available — from macroeconomic policies to education and skills enhancement programmes — to boost employment. Given that SMEs are a large source of employment, SME support policies act as (second-best) policy responses to acute employment challenges in the face of a scarcity of good policy instruments.

Because SME support programmes respond in part to underlying market failures, the governments concerned have a reason to want to preserve them even if they sign up to international agreements.

Moving on to the second question, at present the literature on trade agreements provides us with at least three explanations for why countries need to cooperate on trade policy. It enables countries to avoid terms-of-trade wars (Bagwell and Staiger, 2003); it provides weak governments with a means to overcome domestic opposition to trade reforms (Maggi and Rodriguez-Clare, 1998); and in some cases it may help solve a coordination problem (Hoekman, 2014). There are papers that look at the implications of firm heterogeneity for trade policy and international trade

cooperation (see Box E.1 for a short survey). This literature can provide some insights into why countries cooperate on SMEs in trade agreements. As shall be documented in Section E.2, more and more regional

trade agreements now include provisions on SMEs. Hopefully, this trend will fuel interest in the question so that trade theorists devote more attention to the issue in the future.

Box E.1: Firm heterogeneity, optimal trade policy and trade agreements

Trade theorists have begun to look at the implications of firm heterogeneity for a country's trade policy (Demidova and Rodriguez-Clare, 2009; Ossa, 2011; Felbermayr et al., 2013; Costinot et al., 2015). Given that firm productivity is correlated with firm size, this literature may provide some insights, albeit indirectly, on the reasons for cooperation on SMEs in trade.

It is useful to summarize the reasons why a welfare-maximizing government might be led to impose a tariff on imports (the *optimal tariff*). In the standard perfect competition and constant returns to scale model of trade, countries impose protection to capture terms-of-trade benefits (Johnson, 1953). If one allows for imperfect competition and increasing returns to scale, as in the new trade theory, welfare-maximizing policy-makers have two additional reasons to want to erect barriers against imports: (i) they can induce additional entry or supply that leads to lower prices in the tariff-imposing country (Venables, 1987), and (ii) they can reduce the wedge between price and marginal cost (the mark-up) created by imperfect competition (Flam and Helpman, 1987). The first effect comes from increasing returns to scale in production so that any perturbation that increases the volume of production in a given country, such as the imposition of a tariff on imports, can lead to *lower* prices. The second effect, the reduction in the mark-up or in the market power held by domestic firms, occurs because the tariff leads to a switch in demand to domestic varieties even though their prices may remain fixed.³

How does the existence of firm heterogeneity affect these various motives to increase the level of protection? To put it simply, one must work out how productivity and selection effects interact with the three motivations for protection (terms of trade, entry and mark-up). Demidova and Rodriguez-Clare (2009) show that, with firm heterogeneity and selection, the mark-up and entry motives lead to a higher optimal tariff. Felbermayr et al. (2013) show that by combining all three motivations, the optimal tariff will be higher in a world where firms are more heterogeneous and self-select than in a world where firms are more similar. Furthermore, the magnitude of the optimal tariff is positively related to a country's relative size as well as to relative average productivity, so small and poor economies set lower optimal tariffs than large or rich ones. Lower transportation costs or smaller fixed market entry costs also induce higher tariffs.

While this discussion offers no explanation for why cooperation in SMEs should be inscribed in trade agreements, one implication that deserves to be highlighted is that the authors see the WTO as even more important in a world characterized by firm heterogeneity.

These answers are obtained in a very specific environment: constant elasticity of substitution utility functions, fixed costs of exporting that are constant across firms, firm-level productivity that has a Pareto distribution and trade taxes that are uniform across firms. Costinot et al. (2015) relax all these assumptions and derive almost the opposite conclusions. The optimal tariff, on average, is lower with firm heterogeneity and selection. Perhaps more strikingly, if a country is allowed to apply firm-specific tariffs, the optimal tariff *schedule* would be one that applies a lower tariff rate on less productive firms, which, given the positive correlation between productivity and firm size, one can assume to be SMEs. This reflects the importing country's need to promote the entry of unproductive foreign producers (since variety increases consumer welfare), who, if they were to face the same tariff, would prefer not to export at all.

The result is intriguing because it suggests that a country would find it optimal to give more favourable treatment to foreign goods produced by less productive or small and medium-sized firms. While the paper's result is confined to tariffs, it might apply more generally to other trade policy instruments and rules.

The answer to the question of whether firm heterogeneity leads to a higher optimal tariff appears to be sensitive to the specification of the trade model. More analytical work is needed in the future to help differentiate robust from non-robust outcomes.

2. SMEs in regional trade agreements

Trade agreements, including RTAs, can benefit SMEs by reducing or eliminating tariff and non-tariff barriers, simplifying customs procedures, promoting electronic commerce (e-commerce), and enhancing the transparency of trade-related domestic regulation. Yet the literature is silent on the different approaches adopted to explicitly address SMEs in RTAs.⁴ This subsection aims to fill this gap by identifying both commonalities and the differences involved in addressing explicitly the issue of SMEs in RTAs.

The following analysis covers the 270 RTAs currently in force that were notified to the WTO between 1957 and May 2016 under Article XXIV (“Territorial Application – Frontier Traffic – Customs Unions and Free Trade Areas”) of the General Agreement on Tariffs and Trade 1994 (GATT 1994), the Enabling Clause (officially called the “Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries” and adopted under the GATT in 1979), Article V (“Economic Integration”) of the General Agreement on Trade in Services (GATS) or the Transparency Mechanism for Regional Trade Agreements.⁵ The main text of the

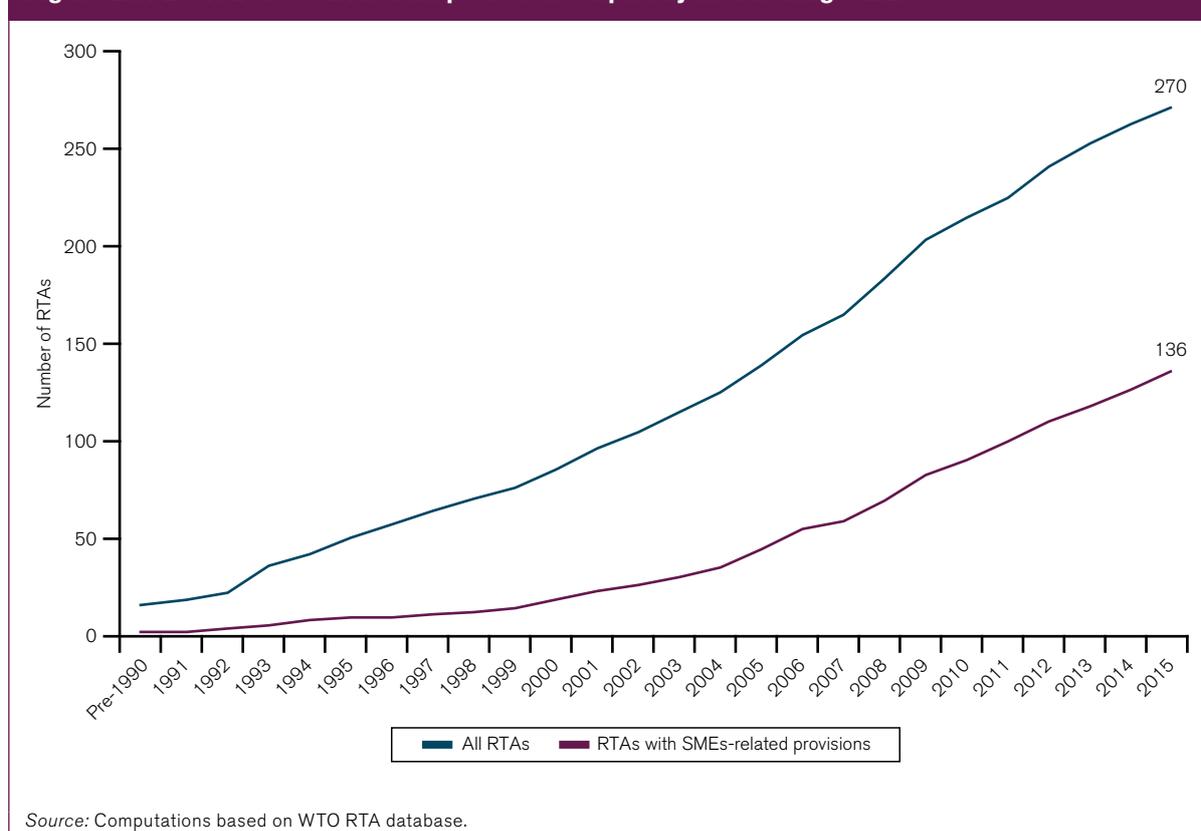
RTAs, but also a number of side documents, such as protocols, annexes, communication letters and other documents associated with the RTAs, have been considered in the analysis.

Unless specified otherwise, SME-related provisions are defined as any provisions mentioning explicitly micro, small and medium enterprises (MSMEs). The following keywords have been used to identify SME-related provisions: small, medium, micro, SME, and start-up. In addition to SME-related provision, there are many provisions in RTAs potentially relevant to SMEs, even though these provisions do not make explicit reference to SMEs. Some of the provisions relevant to SMEs will be discussed in Section E.2(b), which presents the typology of SME-related provisions.

(a) Overview and trends of SME-related provisions

As highlighted in Figure E.1, the number of RTAs with SME-related provisions has increased steadily since the late 1990s and early 2000s. As of May 2016, 136 RTAs, representing half of all the notified RTAs, have included at least one provision explicitly mentioning SMEs. This trend mirrors the expansion of RTAs in the last 25 years, both in terms of number and

Figure E.1: Evolution of RTAs with provisions explicitly mentioning SMEs



scope (WTO, 2011). While only 17 RTAs entered into force between 1970 and 1990, RTAs have proliferated between 1990 and May 2016 with the entry into force of 256 RTAs.

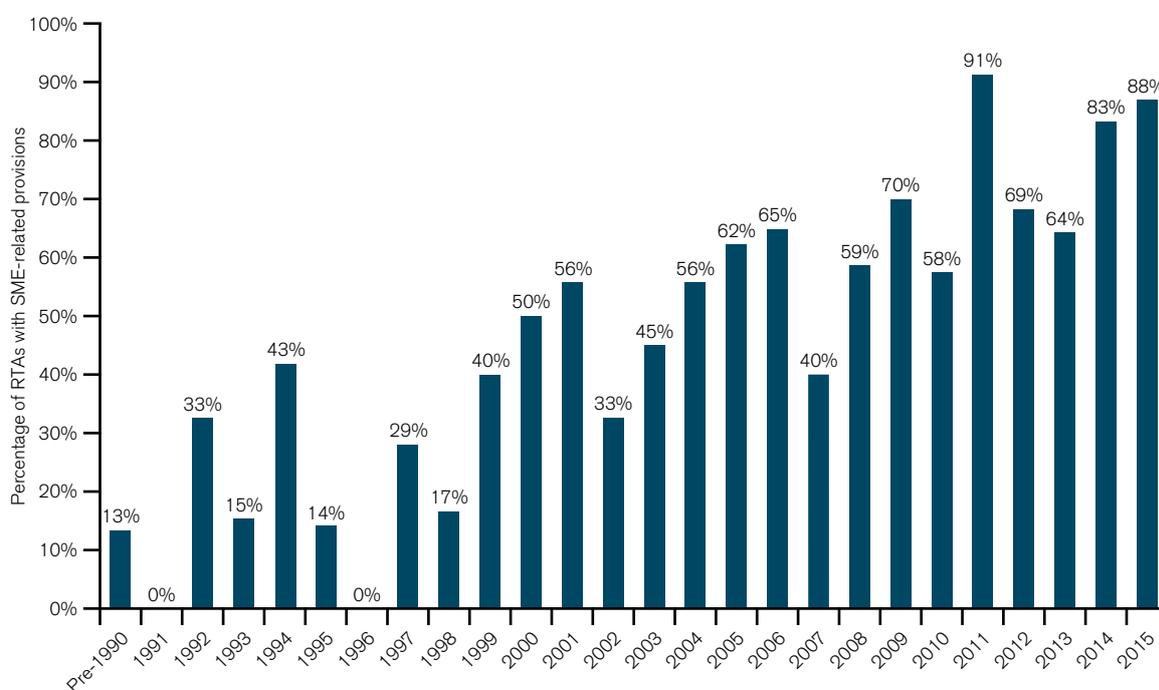
In addition, and as depicted in Figure E.2, the share of RTAs incorporating SME-related provisions has been trending upward to the point where provisions on SMEs are included in almost 80 per cent of all the RTAs that entered into force over the last five years (2011-15). This trend is in line with the growing discussions in the policy agenda of many regional and multilateral forums and organizations of the participation of SMEs in international trade.

As shown in Figure E.3, the evolution of RTAs with SME-related provisions can be characterized by three distinct periods. Prior to 1990, only two RTAs with SME-related provisions were negotiated. The South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) is the first RTA to ever include a provision explicitly referring to SMEs. The agreement specifies that Australia and New Zealand's bilateral and regional development assistance measures and programmes may include those which contribute

to investment in industries, including agro-based industries, with a particular emphasis on those of a smaller or medium size. The Cartagena Agreement establishing the Andean Community is the second RTA with SME-related provisions stipulating, *inter alia*, that the Commission and General Secretariat shall consider, in the application of industrial integration programmes and projects, the situation and requirements of small and medium-sized industries.

Between 1990 and 1999, the number of RTAs with SME-related provisions increased slightly, but the number of specific provisions on SMEs remained limited, with a few exceptions, such as the North American Free Trade Agreement (NAFTA) and the Common Market for Eastern and Southern Africa (COMESA). From 2000, the number of RTAs with SME-related provisions has accelerated significantly. This increase in the total number of RTAs with SME-related provisions is driven by the surge in the number of such agreements involving developing countries. As of May 2016, 65 per cent and 31 per cent of the RTAs incorporating SME-related provisions were agreements negotiated, respectively, between developed and developing countries (88 North-South RTAs) and

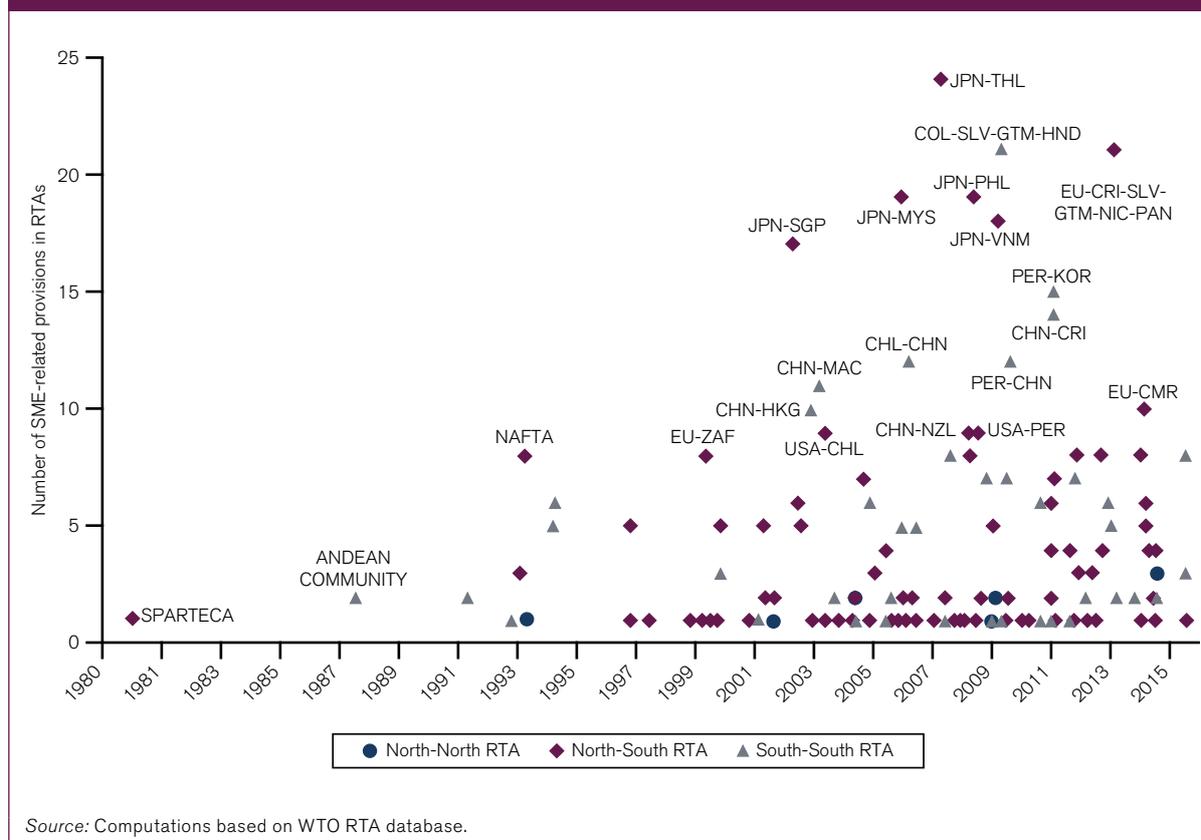
Figure E.2: Percentage of RTAs with provisions explicitly mentioning SMEs



Note: The total number of RTAs with SME-related provisions per year is the sum of RTAs incorporating SME-related provisions that entered into force that year. Figures are not cumulative.

Source: Computations based on WTO RTA database.

Figure E.3: Evolution of the number of SME-related provisions in RTAs



between developing countries (42 South-South RTAs). Only six RTAs negotiated between developed countries incorporate SME-related provisions.

In addition to the rise in the number of RTAs with provisions mentioning explicitly SMEs, the number and level of detail of the SME-related provisions in these agreements has also increased significantly since 2000. The Japan-Thailand economic partnership agreement is currently the agreement with the highest number of SME-related provisions. These provisions are found in the RTA's chapters on intellectual property and cooperation, as well as in the chapter on cooperation in the field of SMEs included in the associated implementing agreement. The RTAs to which Japan is a party with Malaysia, the Philippines, Singapore and Viet Nam also incorporate a relatively high number of provisions on SMEs. Similarly, the free trade agreement between Colombia, El Salvador, Guatemala and Honduras includes detailed SME-related provisions in the chapters on e-commerce, cooperation, administration of the treaty and annexes to the chapters on government procurement and cooperation. More recently, the EU-Central America association agreement also incorporates several provisions on SMEs, including a specific article on cooperation. The RTAs negotiated by the European

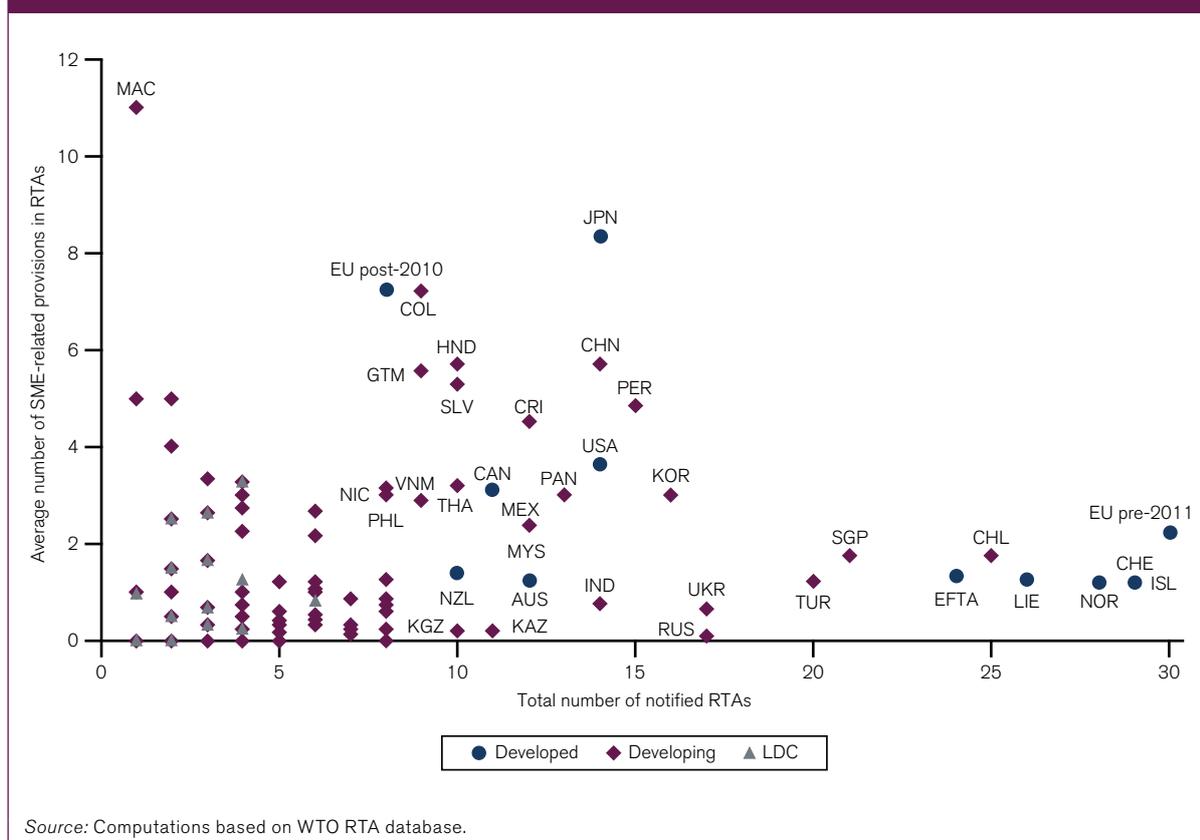
Union with South Africa and Cameroon also contain several SME-related provisions, mainly on cooperation. Other RTAs with various SME-related provisions mainly involve China.

As depicted in Figure E.4, the RTAs negotiated by China, Colombia, El Salvador, Guatemala, Honduras, Japan and Panama have, on average, a higher number of SME-related provisions. The inclusion of SME-related provisions remains, however, a dynamic process. For instance, the RTAs concluded by the European Union prior to 2011 tended to include a limited number of provisions on SMEs, while the most recent agreements to which the European Union is a party incorporate, on average, relatively more SME-related provisions. Ultimately, the decision to include SME-related provisions in RTAs depends highly on the parties negotiating the agreement, as well as on the actual content of these provisions.

(b) Typology of SME-related provisions

RTA provisions are known to be heterogeneous across agreements (WTO, 2011), and SME-related provisions are no exception. Although there is, in recent years, an increasing number of RTAs, namely 38 agreements,

Figure E.4: Number of RTAs with provisions referring to SMEs by country



incorporating specific article(s) on SMEs, the most common structure of SME-related provisions consists of an article referring to an issue or issues that mention SMEs as a particular case. For instance, a large number of cooperation provisions list SMEs, among other themes, as a (potential) area of cooperation. The RTAs to which Japan is a party with Malaysia, the Philippines, Viet Nam, Singapore and Thailand are the only agreements to include a specific chapter on cooperation in SMEs.

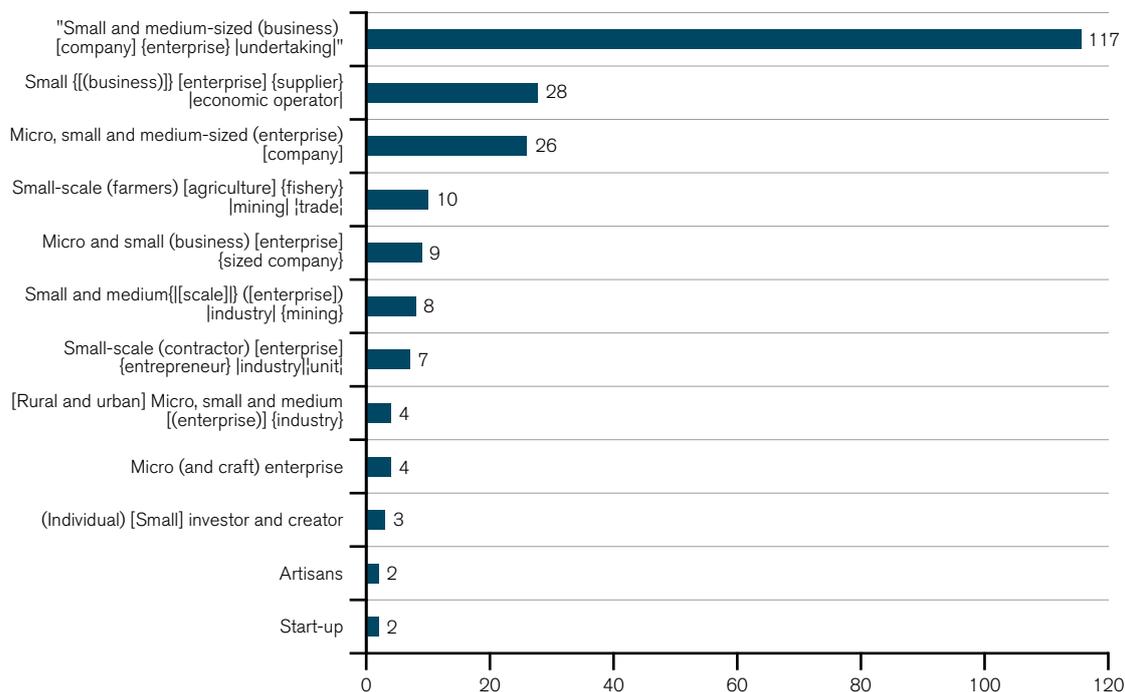
SME-related provisions differ considerably not only in terms of structure and location in the agreement, but also in terms of language, scope and legal commitments. More than 460 different SME-related provisions have been identified. This large number of SME-related provisions is partly explained by the terminology used to identify SMEs. More than 50 different expressions have been devised to refer to SMEs, including artisans, start-up, individual creators and micro enterprises.

As shown in Figure E.5, the scope of most SME-related provisions refers to small and medium-sized enterprises, businesses or companies, although an increasing number of provisions also cover explicitly micro enterprises. In some cases, the terminology used stems from the provision's location in the RTAs. For

instance, the concept of individual or small investors and creators is only mentioned in a specific article on intellectual property of the Japan-Thailand RTA, which commits the parties to stimulate the creation and development of intellectual property by each party's persons, particularly individual inventors and creators and SMEs. In certain cases, the SME-related provisions refer to a specific sector. For instance, the implementing agreement associated with the Japan-Peru economic partnership agreement identifies sustainable development of small-scale agriculture and rural area as a potential area of cooperation.

Despite the high heterogeneity characterizing most SME-related provisions, the comparative analysis of the 136 RTAs with provisions referring explicitly to SMEs allows eight main forms of provisions to be identified. As highlighted in Figure E.6, SME-related provisions range from the recognition of the important role of SMEs to cooperation activities to firmer commitments and exemptions. Cooperation is the most common form of SME-related provisions, incorporated in 92 agreements. The second most common forms of SME-related provisions, found in 57 RTAs, consists of specifying that SMEs or domestic programmes aimed at supporting SMEs are either not covered by or assumed to be consistent with the obligations set forth in the RTA.

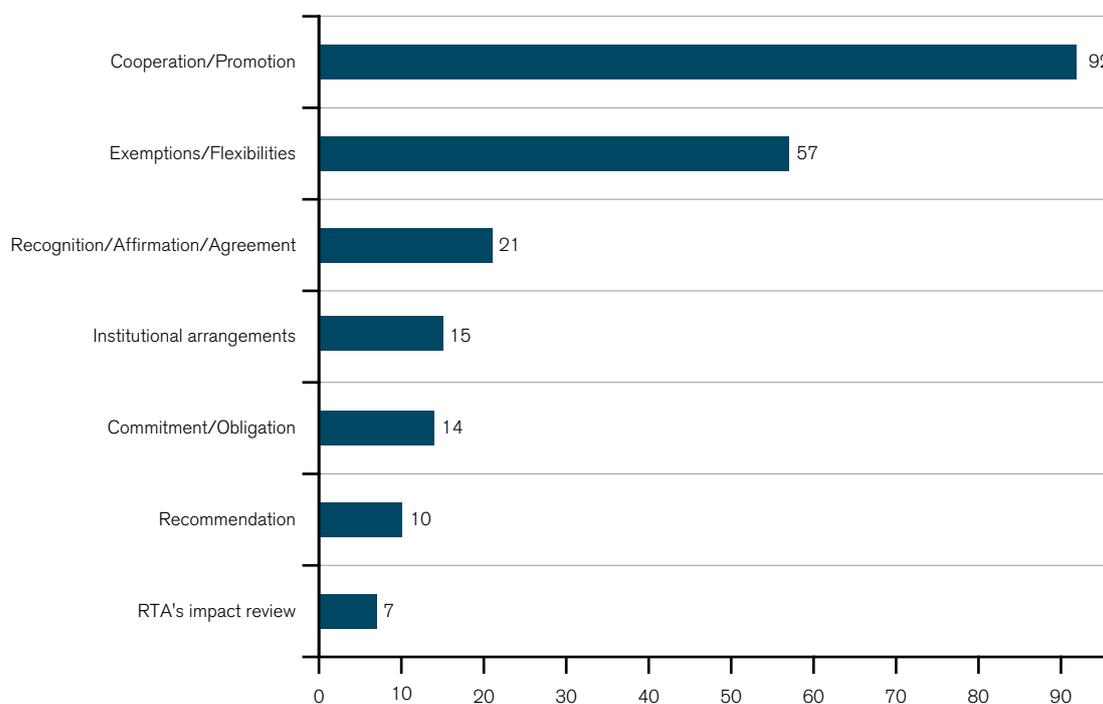
Figure E.5: SME terminology used in RTAs



Note: Total number of RTAs with at least one SME-related provision referring to the respective terminology. Each type of parentheses refers to a different term used. For instance, four RTAs mention micro-enterprise or micro- and craft- enterprise.

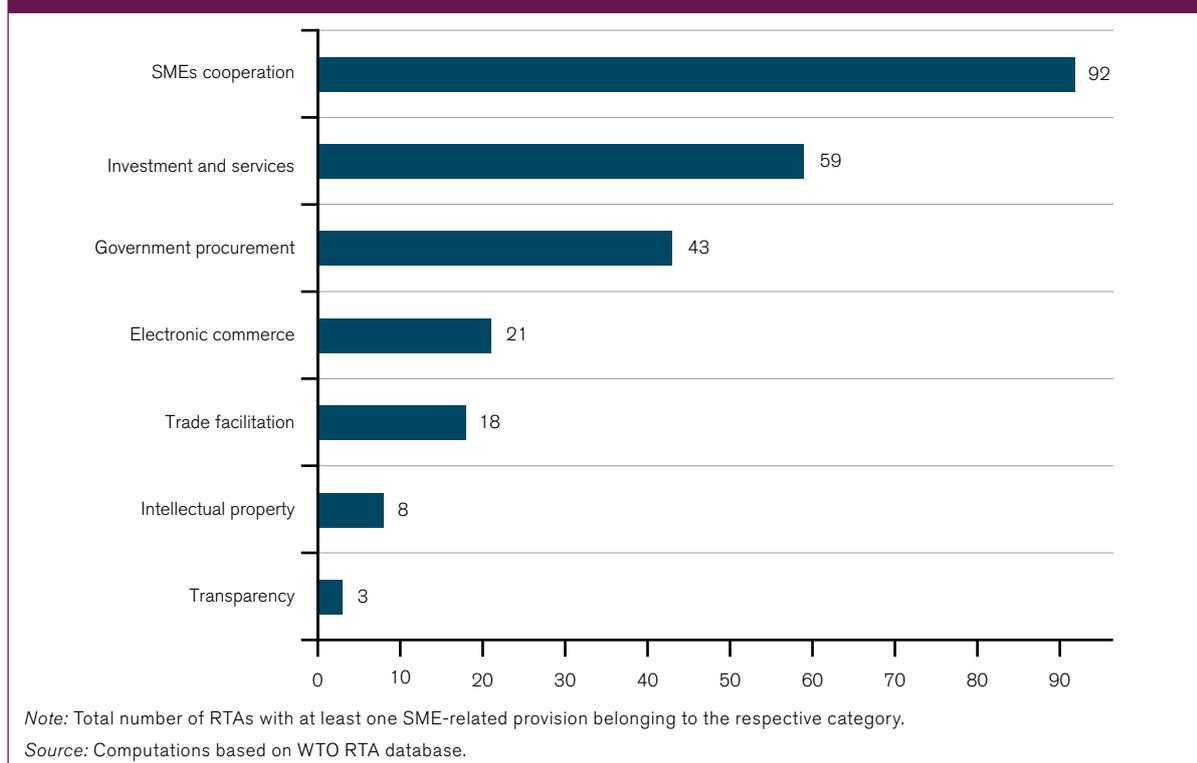
Source: Computations based on WTO RTA database.

Figure E.6: Main forms of SME-related provisions in RTAs



Note: Total number of RTAs with at least one SME-related provision belonging to the respective category.

Source: Computations based on WTO RTA database.

Figure E.7: Main areas of SME-related provisions in RTAs


The remaining forms of SME-related provisions are only incorporated in a limited number of RTAs. Several SME-related provisions, included in 14 RTAs, are formulated in mandatory terms. Some of these provisions, found in the chapters on trade facilitation, transparency and intellectual property, call on the parties to take measures to ensure economic operators, including SMEs, are not negatively affected. SME-related provisions included in four RTAs, aimed at establishing a customs union, tend to be the most far-reaching in supporting SMEs. For instance, the Economic Community of West African States (ECOWAS) specifies that the economic community shall, by stages, ensure the adoption of measures for the integration of the private sectors, particularly the creation of an enabling environment to promote SMEs.

Other SME-related provisions are couched in best endeavour language by encouraging rather than requiring. Certain provisions recognise, affirm or agree on the importance of SMEs. Few provisions are worded as a recommendation.

Finally, a limited number of RTAs establish institutional arrangements related to SMEs, such as a committee, to discuss and oversee the implementation of the agreement's commitments, including cooperative activities. In that context, several RTAs review the possibility for the institutional body to review the RTA's impact on MSMEs, including any resulting benefits.

Some of the different forms of SME-related provisions can be explained by different locations of these provisions in RTAs, including agreements negotiated by the same country. A different location in the agreement usually also implies different areas addressed. As highlighted in Figure E.7, SME-related provisions refer mainly to (1) cooperation on SMEs, followed by (2) services and investment, (3) government procurement, (4) e-commerce, (5) trade facilitation, (6) intellectual property and (7) transparency.

(i) Cooperation on SMEs

Aid for Trade (Aft) cooperation provisions are not only the most common form of SME-related provisions, but are also by far the most heterogeneous type of SME-related provisions across agreements. Ninety-two RTAs include at least one provision on cooperation mentioning SMEs. Part of this high heterogeneity stems from the scope of these cooperation provisions in terms of issues addressed and cooperation form. Certain Aft cooperation provisions address general issues which are not limited to SMEs. Other Aft cooperation provisions address more specific issues, for which SMEs receive a particular focus.

Similarly, some cooperation provisions refer to SMEs in general, while a limited number of provisions apply specifically to SMEs engaged in export activities. For instance, the EU-Central America association

agreement specifies that cooperation and technical assistance on technical barriers to trade may include activities to facilitate the comprehension and compliance with the European Union's requirements, in particular by SMEs. In other provisions, SMEs are only listed as a general area of cooperation without providing any additional details. Conversely, other AfT cooperation provisions are more specific and mention explicitly the topic and/or form of cooperation activities related to SMEs.

Promoting and facilitating investments, including joint ventures, between SMEs of the parties is one of the most frequently covered issues in cooperation provisions. Other issues addressed in cooperative activities include the development of opportunities for business partnerships, alliances and clusters, information networks, innovation, including in some cases technology transfer, and competitiveness. Access to finance for SMEs and the development of financial intermediaries are also the object of cooperation in several RTAs. In terms of cooperation form, the most common cooperation activity consists of exchanging relevant information between the parties, including among SMEs. Other AfT cooperation forms include training, exchanges of experiences, visits and exchanges of professionals, as well as organization of conferences, workshops and trade fairs.

The RTA between the European Union and Central America includes the most detailed provisions on AfT cooperation related to SMEs. The agreement foresees cooperation and technical assistance on SMEs in the context of employment and social protection, services, technical barriers to trade, artisanal goods and organic goods. In addition, a specific article on cooperation on MSMEs identifies a number of cooperation actions, such as the promotion of the productive linkages process, an exchange of experiences and best practices, encouragement of joint investments, partnerships and business networks, the identification and reduction of obstacles to access financial sources, and the creation of new financing mechanisms.

Other RTAs with relatively detailed SME-related provisions on AfT cooperation include the agreement between Colombia and the Northern Triangle (El Salvador, Guatemala, and Honduras), as well as several agreements negotiated by China with Chile, Costa Rica, Hong Kong (China), Macao (China) and Peru. The economic partnership agreements concluded by Japan with Malaysia, Singapore, Thailand and Viet Nam list also various topics and forms of cooperation. These RTAs further establish a joint committee, sub-committee or working group on SMEs in charge of, *inter alia*, reviewing and discussing issues concerning the chapter on cooperation on SMEs, exchanging views

and information on the promotion of SME cooperation, as well as identifying and recommending avenues of further cooperation.

(ii) *Services and investment*

An increasingly large number of RTAs includes provisions on services. While most services commitments in RTAs go beyond those established under the GATS, these RTAs share relatively similar disciplines to those set forth in the GATS. A limited but growing number of RTAs have gone beyond the GATS with provisions on domestic regulation and transparency (WTO, 2011). Small and medium-sized service providers can potentially benefit from increasing market access in sectors in which restrictions have been eliminated.

In addition to these provisions, some of the services commitments undertaken by the parties in 30 RTAs are subject to certain limitations or reservations explicitly related to SMEs set out in the annexes of the parties' services schedules. In many cases, these SME-related reservations are limited to financial services. For instance, the annex to the services chapter of the trade agreement between Canada and the Republic of Korea explains that the measure requiring Korean insurance companies to extend loans to SMEs is not inconsistent with the article on market access for financial institutions. Fishing and mining are other sectors for which a limited number of RTAs include SME-related reservation measures. For instance, the free trade agreement between Chile and the United States specifies that access to small-scale fishing activities shall be subject to a type of registration only granted to Chilean natural persons and foreign natural persons with permanent residency, or to Chilean juridical persons constituted by the aforementioned persons. Similarly, the RTA between Morocco and the United States specifies that the mining of lead, zinc, and barite ores in the Tafilalet and Figuig regions of Morocco is reserved for small-scale miners from that region.

Besides reservation measures, 33 RTAs also incorporate cooperation provisions focused either on investment for SMEs and/or SMEs providing services. As explained above, the level of detail in cooperation provisions differs considerably between agreements. For instance, the EFTA-Egypt RTA specifies that cooperation may include the development of mechanisms for joint investments, in particular with SMEs. The economic partnership agreement between the Caribbean Forum (CARIFORUM) states and the European Union stipulates that the parties agree to cooperate and facilitate support in the development of Internet marketing strategies for SMEs in the tourism services sector.

(iii) Government procurement

Provisions on government procurement have been increasingly covered in RTAs, and access to, and participation in, public procurement markets by SMEs has been identified by many governments as a crucial element in fostering sustainable economic development and prosperity worldwide. From a general point of view, when RTAs contain detailed chapters on government procurement, the RTA procedural rules and disciplines broadly track those of the WTO Agreement on Government Procurement (GPA). As a result, in the area of government procurement, RTAs generally introduce relatively little in the way of “spaghetti-bowl” effects and, overall, are favourable to the proliferation of procurement reforms and common rules (Anderson et al., 2015).

Specific SME-related provisions on government procurement, included in 43 RTAs, range from the recognition of the importance of SMEs’ participation in government procurements, to the exemption of programmes aimed at supporting SMEs from the RTA’s obligations, to cooperation in the establishment of a specific committee on small businesses. Several SME-related provisions on government recognise the importance of the participation of MSMEs in government procurement. A related provision further recognises the importance of business alliances between suppliers, and in particular of SMEs, including the joint participation in tendering procedures.

Several RTAs include cooperation provisions aimed at facilitating access of MSMEs to government procurement market. For instance, the RTA between the Republic of Korea and Peru specifies that the parties shall endeavour to work jointly towards exchanging information and facilitating access for SMEs to government procurement procedures, methods and contracting requirements, focusing on their special needs. A limited number of RTAs, namely two agreements, also establish an institutional body dedicated to SMEs under the government procurement chapter, with the aim of facilitating activities related to the promotion of SMEs’ participation in government procurement opportunities. Under NAFTA and the Colombia-Mexico RTA, a committee on SMEs is in charge, *inter alia*, of facilitating the identification of SMEs interested in becoming trading partners of the other party’s SMEs, as well as developing databases of SMEs in each party’s territory for use by entities of the other party wishing to procure from these SMEs. Instead of establishing a specific institutional body on SMEs, six other RTAs establish a specific committee on government procurements to address any matters pertaining to the implementation of the government procurement chapter, including SMEs.

Furthermore, the annexes to the government procurement chapters of 38 RTAs include provisions explaining that the chapter does not apply to procurement programmes on behalf of SMEs. For instance, the annex listing the government procurement schedules of the trade agreement between Costa Rica and Peru explains that the government procurement chapter does not apply to procurement programmes to support MSMEs. Similarly, most RTAs negotiated by the United States and Canada include at least one provision specifying that the government procurement chapter does not apply to set-asides on behalf of small and minority businesses, where set-asides may consist of any form of preferences to benefit SMEs, such as the exclusive right to provide a specific good and/or service or a price preference.

Several RTAs with a similar provision, to which Colombia is a party, further consider measures conducive to facilitating the transfer of technology and sub-contracting. Other provisions are more specific, such as the article on SMEs in the government procurement chapter of the RTA between the Cooperation Council for the Arab States of the Gulf (GCC) and Singapore, which stipulates that the parties reserve the right to apply a 10 per cent price preference for SMEs in their respective countries.

(iv) E-commerce

Over the last 15 years, provisions on e-commerce have increasingly been incorporated in RTAs, in particular in a specific chapter on e-commerce. The type of issues and commitments covered in RTAs differ substantially across agreements. A moratorium on customs duties on electronic transmissions between the parties, transparency commitments and cooperation activities are among the most common provisions on e-commerce. A limited but increasing number of RTAs also address specific domestic regulation issues, such as regulatory barriers, electronic authentication, online consumer protection, online personal data protection and unsolicited commercial electronic messages (Herman, 2010). Provisions promoting and facilitating the development of e-commerce can potentially help SMEs to reach new customers. Besides these provisions that apply to firms of any size, a limited but increasing number of RTAs also incorporate different provisions explicitly mentioning SMEs in the e-commerce chapter.

SME-related provisions on e-commerce, included in 21 RTAs, refer to facilitating the use of e-commerce by SMEs, or overcoming obstacles encountered by SMEs in the use of e-commerce. Many of these provisions are specific to one or a couple of trade agreements. The most common type of SME-related provisions on e-commerce specifies that the parties recognise the

importance of facilitating the use of e-commerce by MSMEs. The remaining types of SME-related provisions on e-commerce refer to cooperation among the parties.

For instance, the parties to the trade agreement between Singapore and Chinese Taipei recognise the importance of working together to overcome the obstacles encountered by SMEs. A relatively similar provision, included in the RTAs to which Canada is a party with the Republic of Korea and Peru, affirms the importance of working together to facilitate the use of e-commerce by MSMEs. The provision included in the free trade agreement between Canada and Panama is slightly more detailed, stating that the parties recognise the importance of sharing information and experiences on laws, regulations and programmes in order to facilitate the use of e-commerce by MSMEs.

The language of other SME-related provisions on e-commerce is firmer. For instance, the RTA between the Republic of Korea and Peru mentions the parties' commitment to working together to facilitate the use of e-commerce by SMEs. Similarly, the free trade agreements to which Japan is a party with Australia and Switzerland stipulate that the parties shall cooperate to overcome obstacles encountered by SMEs in using e-commerce.

The trade agreement between the European Union, Colombia and Peru is the only agreement that explicitly foresees the possibility for the agreement's trade committee to establish, to the extent necessary and justified, a working group with the aim of recommending mechanisms to assist MSMEs in overcoming obstacles faced by them in the use of e-commerce, among other tasks.

(v) Trade facilitation

The number of RTAs with trade facilitation provisions has not only increased very rapidly since the 1990s, but the coverage of trade facilitation measures has also expanded in the last 10 years. Similar to other areas covered by RTAs, provisions on trade facilitation display important disparities across agreements in terms of language, coverage and levels of commitment (WTO, 2015). Despite the heterogeneity characterizing most provisions on trade facilitation, SMEs can benefit from the reduction in transport costs and delays resulting from the implementation of the RTAs' provisions on SMEs, by making it easier and faster to export, as discussed in Section D.2. The reduction in transaction costs can also potentially make SMEs more competitive in international markets.

In addition to these trade facilitation provisions, which apply indifferently to SMEs or large firms, several

different SME-related provisions on trade facilitation have been included in 18 RTAs, mainly in the trade facilitation chapter. The most common type of SME-related provisions on trade facilitation, found in 10 RTAs, recommends taking into account the interests of SMEs. For instance, eight agreements negotiated by the EFTA states, including with Canada, Hong Kong (China), Serbia and Ukraine, stipulate that the parties shall consult their respective business communities on their needs with regard to the development and implementation of trade facilitation measures, noting that particular attention should be given to the interests of SMEs. In a broader context, the provision in the interim agreement between Cameroon and the European Union stipulates that the customs procedures should be transparent, efficient and simplified in order to reduce costs and increase predictability for economic operators, including SMEs.

Other SME-related provisions on trade facilitation are worded in firmer language. The association agreements to which the European Union is a party with the Republic of Moldova and Ukraine specifies the parties' agreement that their trade and customs legislation, provisions and procedures shall, *inter alia*, aim to reduce costs and increase predictability for economic operators, including SMEs. The provisions on trade facilitation, included in the RTAs negotiated by the European Union with Colombia and Peru, Côte d'Ivoire and the Republic of Moldova, are more specific and stipulates that procedures guaranteeing the right of appeal against customs administrative (actions,) rulings and decisions affecting imports, exports or goods in transit shall be easily accessible, including to SMEs.

The remaining types of SME-related provisions on trade facilitation refer to cooperation. Under the RTA between Colombia and the Northern Triangle, the parties agree to develop information exchange and internship programmes for officials and technicians in the field of trade facilitation as part of the cooperation activities on SMEs. In a different context, the Association of Southeast Asian Nations (ASEAN) Free Trade Area commits its member states to develop and implement a comprehensive ASEAN Trade Facilitation Work Programme. This programme sets out all concrete actions and measures with clear targets and timelines of implementation necessary for creating a consistent, transparent, and predictable environment for international trade transactions that increases trading opportunities and helps businesses, including SMEs, to save time and reduce costs.

(vi) Intellectual property

The number of RTAs with intellectual property provisions has accelerated since the WTO's creation and the entry

into force of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Similar to other types of provisions, the number and type of intellectual property provisions vary widely across RTAs. Although most RTAs contain intellectual property provisions of a general nature, a limited but increasing number of agreements include explicit provisions on specific fields of intellectual property law, such as trademarks, copyrights, patents, and geographical indications (Valdès and McCann, 2014).

Similar to other areas, the first and most common type of SME-related provisions relates to cooperation aimed at stimulating innovation and intellectual property. For instance, the RTA between the Republic of Korea and Peru stipulates that the parties agree to exchange views and information on the legal framework concerning protection and enforcement of intellectual property rights in accordance with their respective laws, regulations, and policies to stimulate the creation and development of intellectual property by persons of each party, particularly SMEs. Other related provisions are couched in slightly firmer language. The economic partnership agreement between the European Union and the CARIFORUM States mentions that research centres, higher-education institutions, and other stakeholders, including MSMEs, located in the parties shall be involved in cooperation on science and technology as appropriate.

The Japan-Thailand economic partnership agreement is the only RTA notified to the WTO to include a specific article on SMEs in the intellectual property chapter. The article on assistance for acquisition of intellectual property rights for SMEs stipulates that each party shall, in accordance with its laws and regulations, take appropriate measures to provide assistance to SMEs for acquisition of intellectual property rights, which may include reduction of official fees.

In addition, the agreement establishes a sub-committee on intellectual property in charge of, *inter alia*, discussing any issues related to intellectual property with a view to enhancing protection of intellectual property and enforcement of intellectual property rights and to promoting the efficient and transparent administration of the intellectual property system, such as the utilization and commercialization of intellectual property rights for SMEs.

(vii) Transparency

In recent years, an increasing number of RTAs have included a dedicated chapter on transparency with provisions that aim to promote transparency and due process in policy-making. Such transparency chapters are often complemented by more specific

transparency commitments included in other chapters, such as technical barriers to trade (TBT) (Molina and Khoroshavina, 2015).

The RTAs to which the European Union is a party with Georgia, the Republic of Korea and Ukraine are the only agreements notified to the WTO to include a specific provision related to SMEs in the transparency chapter. Although the language of this provision included in the article on the transparency chapter's objective differs across the three agreements, it stipulates that the parties shall provide an efficient and predictable regulatory environment for economic operators doing business in their territories, especially small operators, including SMEs.

(c) Upcoming SME-related provisions

RTAs are sometimes viewed as a laboratory enabling countries to devise new provisions and address new issues and challenges. As a matter of fact, several new types of SME-related provisions have been incorporated in recent mega-regional trade agreements that have not yet entered into force and/or not been notified to the WTO.

(i) *The Trans-Pacific Partnership*

As discussed in Section D, access to information remains a challenge for many SMEs. This may explain why the Trans-Pacific Partnership (TPP), negotiated by 12 countries in the Pacific region and yet to come into force,⁶ incorporates several new types of SME-related provisions on transparency in a chapter dedicated to SMEs.

In particular, each party commits to establish or maintain a publicly accessible website containing information regarding the TPP, including a summary of the agreement and explanations of key provisions of particular relevance to SMEs. In addition, the website may provide any other pieces of information that could be useful to any person interested in trading, investing or doing business in its territory, such as customs regulations and procedures; regulations and procedures concerning intellectual property rights; technical regulations, standards, and sanitary and phytosanitary measures relating to importation and exportation; foreign investment regulations; business registration procedures; employment regulations; and taxation information. A committee on SMEs is further established and tasked, *inter alia*, with discussing and exchanging best practices in supporting and assisting SME exporters and facilitating the development of programmes to assist SMEs in participating in and integrating effectively into global supply chains.

The text of the government chapter of the TPP also contains a specific article aimed at facilitating the participation of SMEs in government procurement with many new provisions.⁷ According to the TPP, if a party maintains a measure that provides preferential treatment for SMEs, that party shall ensure that the measure, including the criteria for eligibility, is transparent. The agreement further encourages parties to provide comprehensive procurement-related information via a single electronic portal; make all tender documents available free of charge; conduct procurement by electronic means; and consider the size, design and structure of the procurement to facilitate participation by SMEs.

(ii) *Additional Protocol to the Pacific Alliance Framework Agreement*

The Additional Protocol to the Pacific Alliance Framework Agreement between Chile, Colombia, Mexico and Peru, which entered into force on 1 May 2016, incorporates in its government procurement chapter a specific article on facilitating the participation of MSMEs. Many of the provisions in this specific article are relatively similar to the ones found in the TPP. For instance, the party maintaining measures providing preferential treatment to domestic MSMEs is committed to ensuring that such measures, including eligibility criteria, are transparent and objective. Another novel and unique SME-related provision further stipulates that each party shall endeavour to reduce measures maintained to give preferential treatment to its MSMEs with respect to MSMEs of the other parties.

(iii) *Comprehensive Economic and Trade Agreement between Canada and the European Union*

The Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union includes new types of SME-related provisions on the resolution of investment disputes between investors and states, where the investor is a SME, such as the possibility to hold consultations via videoconference or other means and the possibility of having a sole member of the tribunal hear the claim. The joint committee established under the CETA shall also consider supplemental rules aimed at reducing the financial burden on claimants who are natural persons or SMEs.

(d) Conclusions

Provisions mentioning explicitly SMEs have been incorporated into an increasing number of RTAs. In parallel, the number of detailed SME-related provisions included in a given RTA has tended to increase in recent

years. Most provisions explicitly mentioning SMEs do not follow a specific template.

As a result, SME-related provisions are very heterogeneous in terms of structure, location, language and scope. The two most common categories are, in order of frequency, provisions: (1) cooperation provisions on SMEs in a general or in a specific context, such as e-commerce and government procurement; and (2) exemptions for SMEs and/or programmes supporting SMEs from the RTAs' obligations, related, for instance, to services, investment and government procurements. The remaining types of SME-related provisions are included in a limited number of RTAs and cover-specific issues, such as government procurement, e-commerce, trade facilitation, intellectual property and transparency.

A review of recent mega-regional trade agreements, such as the TPP and the CETA between Canada and the European Union, that have yet to be notified to the WTO, further confirms the dynamic nature of SME-related provisions with new types of provisions on government procurement, transparency and the resolution of investment dispute between investors and states. In this dynamic context, SME-related provisions in RTAs are likely to keep evolving and be increasingly pragmatic.

3. SMEs in other international organizations

Several international organizations are active in the area of SMEs. This subsection discusses their activities and shows how they complement the role of the WTO. The focus is on the following organizations: the International Trade Centre (ITC); the World Bank; UN regional commissions and development banks; the United Nations Conference on Trade and Development (UNCTAD); the Organisation for Economic Co-operation and Development (OECD); the International Chamber of Commerce (ICC); the International Telecommunication Union (ITU); the European Bank for Reconstruction and Development (EBRD); the World SME Forum (WSF); and the Asia-Pacific Economic Cooperation (APEC). SME-related activities by these international organizations are clustered around two major themes of research/action: integration of SMEs in international trade, in particular global value chains (GVCs), and more general SME support initiatives.

(a) Integration of SMEs into international trade

There has been a lot of work and collaboration at the international level to help SMEs to integrate into the

global economy, including through GVC participation. The ITC, which was established in 1964 as a joint agency of the WTO and the United Nations, is “fully dedicated to supporting the internationalization of small and medium-sized enterprises (SMEs)”.⁸ That is, all ITC activities are oriented toward the integration of SMEs into the world economy. Moreover, they naturally complement those WTO-administered multilateral rules, discussed in Section E.3, that have the effect of reducing both the variable and fixed costs of trade, reducing information asymmetries between small and large firms and alleviating some of the major constraints faced by SME traders.

In 2015, the ITC launched a new annual flagship publication focusing on SME competitiveness (ITC, 2015b). Current work in the framework of the 2016 report focuses on standards and regulations, and on how they can be made to work in favour of SME competitiveness. The ITC Trade and Environment Programme (TEP) also supports SMEs in participating in environmental markets and with compliance with environment-related standards.⁹

As stated in ITC (2015a), in the future ITC will continue to support SMEs in order that they may prosper in international trade, as well as benefit from available opportunities such as e-commerce, GVCs and emerging markets. The ITC also intends to develop initiatives to remove barriers to trade and assist SMEs to cope with risks related to international trade. A new African-Indian programme is the model for ITC's programmes targeted to expanding South-South possibilities for SMEs. The ITC is also active on the e-commerce side. A recent publication (ITC, 2016) aims to start public-private dialogue to address e-commerce bottlenecks, especially for small firms in developing countries. Other initiatives relevant for e-commerce by SMEs are detailed in Box E.2.

In the framework of the Turkish presidency of the G20, the OECD and the World Bank (2015) produced a report on the inclusion of SMEs and Low-Income Developing Countries (LIDCs) in GVCs. The report shows two key facts: i) participation in GVCs is heterogeneous and uneven, across and within countries; and ii) SME participation in GVCs is mostly taking place through

Box E.2: ITC e-commerce solutions for SMEs

The ITC, with partners in the private and public sectors, offers training courses and advisory services to help SMEs in developing countries overcome barriers to e-commerce trade (see Section D.4 for a review of these barriers). The approach is modular, being aimed to solve specific challenges. The modules can be distinct or combined and include:

- eMall: Online shop which allows the costs of payment solutions, logistics and marketing to be shared.
- ePayment: Payment modules ready to integrate into e-commerce sites and market places; compliance with foreign exchange rate regulations.
- eLogistics: Access to cost-effective outbound logistics, storage and management of goods delivery within target markets and returns management.
- eTrade: Permit representation services ensuring conformity with legal and fiscal requirements in markets such as the European Union, Japan and the United States.
- eTrust: Internationally recognized qualified digital signature and SSL certificates for SMEs.
- eCRM: Cloud-based solutions and support for sales and customer service to the standards expected by international customers.

Recent examples include support for “Made in Morocco”, an economic interest group comprising more than 300 SMEs, and for IT services in Kenya and Uganda. “Made in Morocco” benefits from an online marketplace (www.made-in-morocco.ma), shared payment solutions, logistics and marketing.

In the case of the IT services sector in Kenya and Uganda, the ITC has elaborated a shared online platform (eMall). The objective is to enable IT services companies to compete more effectively for higher value international business by: i) consolidating the resources of the various small vendors; ii) developing shared marketing approaches; iii) implementing a platform for quality control; iv) promoting direct interaction with potential clients; v) building trust in the target markets; and vi) enabling receipt of international payments.

indirect contribution to exports, rather than through exporting directly. It further argues that policy action through G20 leadership can help to achieve more inclusive GVCs through: i) a holistic approach to reform spanning trade, investment and domestic policies both in G20 nations and in trade partner countries; and ii) investment in expanding the statistical basis and analysis of GVCs and in sharing knowledge on best practices on enabling policies and programmes.

The series of annual reports presented by the World Bank's "Doing Business" programme is also relevant in this area. Some work has been done on the regulations that affect SMEs in particular (World Bank, 2013). In the latest "Doing Business" Report (World Bank, 2015), high importance was given to the issue of trading across borders, including new categories such as trade over land between neighbouring countries and, in particular, regional trade agreements. The World Bank also has several country-specific projects – such as the Trade Promotion and Quality Infrastructure project in Armenia, the Third Export Development Project in Tunisia and the Lao PDR Second Trade Development Facility Project. Among their objectives, they seek to benefit SMEs by improving the trade infrastructure and by enhancing the competitiveness of SMEs.

UN regional commissions have programmes and initiatives aimed at fostering SME internationalization. For instance, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) convened an advisory group meeting on trade facilitation for SMEs in September 2014 as part of a larger project aimed towards developing a guide for paperless trade facilitation for SMEs and building the capacity of national governments to implement paperless systems for cross-border trade and transport facilitation.

The activity of regional development banks is also worth mentioning. The Inter-American Development Bank (IADB) helps businesses with operational and financial support. This includes export promotion, investment attraction, trade facilitation and cross-border integration, support in negotiating and implementing trade agreements, and management of foreign trade (IADB, 2014a). The IADB has also conducted research which concludes that a new set of trade policies along with changes in operational practices of SMEs are required for internationalization (IADB, 2014b). Multiple country-specific projects to help micro firms and SMEs are in place.¹⁰ The African Development Bank (AfDB) seeks to facilitate market access for small farmers and MSMEs (AfDB, 2013). The Asian Development Bank (ADB) has several projects and initiatives to help SMEs in Asian countries. These include different studies on the importance of SMEs and the challenges and

policies of integrating SMEs into GVCs (ADB, 2015). Other initiatives include seminars with other regional banks on SME internationalization,¹¹ as well as specific projects, such as the establishment of an online platform to share information at the regional level on SME exports.¹²

UNCTAD has several initiatives to support trade competitiveness of SMEs. During the eighth session of the Commission on Enterprise, Business Facilitation and Development, on the topic of "Policy options for strengthening SME competitiveness", it was decided to continue work on the export competitiveness, particularly through possible links to international supply chains (UNCTAD, 2004). Joint research with the OECD was conducted on the obstacles that SMEs face in entering GVCs. Among these are: (i) the need to upgrade technology and innovation capacity; (ii) the lack of adequate finance and human capital for this process; (iii) the lack of capabilities to meet standards and certification requirements; (iv) the necessity to better manage intellectual assets, including the protection of intellectual property rights (IPRs) when appropriate; (v) the difficult bargaining position SMEs face with large contractors; and (vi) the need for diversification to reduce dependence on one or a few customers (UNCTAD, 2007). UNCTAD has developed guidelines for SMEs in developing and least-developed countries willing to sell business process services (i.e. offshore) to organizations in the developed world (UNCTAD, 2005).

More recent initiatives include the UNCTAD Entrepreneurship Policy Framework and Implementation Guidance and the Business Linkage Programme, implemented in collaboration with UNCTAD's EMPRETEC network to promote entrepreneurship and SME upgrading (UNCTAD, 2013). Both seek to help policy development and improve the business environment to help SMEs increase their competitiveness. Another important contribution by UNCTAD has focused on e-commerce opportunities for SMEs. A recent report (UNCTAD, 2015) shows that although small enterprises have difficulties in using such services, there are several options available to them. Additionally, it also provides some options for achieving improvements in the area of e-commerce regulation, which might help SMEs overcome the obstacles they face in this area.

The ITU has several key areas of action, such as cybersecurity, broadband access, the digital divide and the Internet, that are relevant to SME connectivity and participation in international markets. The BASIS (Business Action to Support the Information Society) initiative of the ICC also deserves a mention in this context. The purpose of such initiative is to serve as the voice of business in the global discussions on the

information society, with special attention devoted to SMEs (ICC, 2010).

Beyond the joint study with the World Bank under the aegis of the G20 (OECD and World Bank, 2015), the OECD has conducted various studies on the barriers to SME internationalization. The main finding of this research is that multilateral, regional or bilateral agreements can help SMEs overcome trade barriers (Fliess and Busquets, 2006). Moreover, as part of a joint BIAC (Business and Industry Advisory Committee to the OECD)-OECD initiative to facilitate SME access to international markets, several proposals have been made. These include the creation of a BIAC SME Web portal to improve information flows to SMEs and a members-only password-protected website to allow SME-multinational enterprise interaction (OECD, 2008). More recently, the OECD published a report (OECD, 2013) aimed at identifying and suggesting ways to overcome barriers to SME internationalization.

The World SME Forum (WSF), established in 2015 as an outcome of the Turkish G20 presidency, has started working on two separate yet interlinked initiatives that, among their objectives, include SMEs' access to GVCs: i) the creation of a one-stop-shop digital aggregator for SMEs, e-WSF; and ii) a technical assistance programme for SMEs on certification and standards. e-WSF is being designed as an online platform and aggregator targeted at SMEs. It includes an online "GVC Matchmaking Service". The WSF Certification Program will include a comprehensive, country-delivered one-stop-shop endorsement system that leverages existing national, regional and international standards to accelerate the connectivity of SMEs with GVCs.

As discussed in Section D of this report, access to trade finance is one of the major obstacles on the road to SME internationalization. The World Bank, together with the WTO and ICC, as well as other international financial institutions, has some programmes to promote action on trade finance, such as the Global Trade Liquidity Programme (ITC and WTO, 2014). Regional banks such as the AfDB, the ADB and the IADB are also active in this area.

The AfDB seeks to help enterprises wishing to trade secure financing, since they report high difficulties acquiring financing, especially of the long-term type. The ADB established the Trade Finance Program to address the lack of access to trade finance for developing member countries. The Trade Finance Program provides loans and guarantees to commercial bank partners in support of trade, helping banks offer importers and exporters reliable access to trade finance. A similar initiative is the IADB's Trade Finance Facilitation Program (TFFP), created in 2005 to

support Latin American and Caribbean banks wishing to access international trade finance markets by offering technical cooperation, knowledge creation and financial products (guarantees and loans).

(b) Other SME support

As shown in Section A of this report, SMEs especially contribute to their domestic economies in terms of employment. The International Labour Organization (ILO) has as its primary goal the encouragement of decent employment opportunities. Therefore, SMEs are among the topics of ILO interest. The ILO provides advisory services on SME policies, as well as research on the quantitative aspects of job creation. Its Small and Medium Enterprises Unit provides training, support services, advisory services and in-factory counselling on four different areas: i) building entrepreneurship and management skills;¹³ ii) providing access to markets (value chain development); iii) reforming the enabling environment; and iv) productivity and working conditions.¹⁴

The ILO's Job Creation in Small and Medium-Sized Enterprises Recommendation was adopted by the International Labour Conference in 1998. The purpose of this recommendation is to guide members in the design and implementation of policies to promote job creation in SMEs. Its latest report (ILO, 2015) highlights that working conditions tend to be worse in SMEs than in larger enterprises – with significant heterogeneity across sectors. Accordingly, Target 8.3 of the United Nations' new Sustainable Development Goals (SDGs) is related to SMEs and employment. The goal is to "Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services".

Other international organizations also have initiatives that support SMEs in general (i.e., that are not exclusively targeted at internationalization). The EBRD has a Small Business Initiative, which supports SMEs by helping them to acquire financial resources through financial institutions as well as through direct financing, offering business advice, and conducting policy discussions with policy-makers in order to foster a good economic environment for small enterprises. The ICC recently issued a guide (ICC, 2015) to help SMEs fulfil due diligence requirements. The OECD adopted the Bologna charter on SME policies in 2000, with the purpose of fostering SME competitiveness and growth.

The broad mission of the WSF is to help SMEs to achieve sustainable efficiency and competitiveness. Beyond

its internationalization dimension discussed above, the e-WSF initiative broadly aims to increase access for SMEs to skills, training, knowledge, innovation, networks, expertise, information, and to improve their access to finance. The WSF is also conducting research on the impact of global financial regulations on the development and growth of SMEs and has initiated work to strengthen SME credit reporting systems globally. The APEC has a Small and Medium Enterprises Working Group. Its 2013-2016 Strategic Plan provides a roadmap to address critical issues pertaining to the growth of MSMEs in the APEC region, based on three pillars: i) building management capability, entrepreneurship and innovation; ii) financing; and iii) business environment, market access and internationalization.

To conclude, it can be argued that SMEs are not a new issue for the international community. There are multiple undertakings, with a substantial number of these efforts being focused on the internationalization of SMEs. It is hoped that increased coordination among international organizations will reduce unnecessary duplication and make these efforts more complementary with one another.

4. SMEs in the WTO

Section D of this report identified the obstacles SMEs face in increasing their participation in international trade. This part of the report examines how multilateral trade cooperation helps reduce these obstacles. It does so in a number of ways: by reducing both the variable and fixed costs of trade; reducing the information burden of some WTO agreements on SMEs; making it easier for a member to exercise its rights when it acts on behalf of SMEs; allowing members to continue providing financial contributions to SMEs; giving members greater leeway to promote the technological development of their SMEs; allowing members to provide preferential treatment to their SMEs; alleviating major constraints faced by SME traders; and increasing the “supply-side” capacity of SMEs.

(a) WTO agreements help SMEs by reducing the variable and fixed costs of trade and increasing transparency

One of the main findings from Section D is that trade costs, whether they are variable or fixed, adversely affect SMEs more than larger enterprises in their ability to participate in trade. The same applies to lack of transparency about trading rules and regulations. Multilateral cooperation that lowers trade costs and increases transparency should reduce the burden of all trading firms (as well as firms on the verge of exporting) irrespective of size, but the benefits may be felt more by SMEs.

(i) Reducing variable costs of trade

Since the establishment of the WTO more than 20 years ago, its members have successfully reduced tariff barriers to the current average of 9 per cent, which corresponds to a cut of nearly a third since 1998 (see Table E.1). The average applied most-favoured nation (MFN) tariff is 8.1 per cent on non-agriculture goods and 14.9 per cent on agriculture goods.

There is one small blemish in this picture: bound tariffs continue to be set at very high levels. The gap between applied and bound rates creates trade policy uncertainty since it is always possible for a WTO member to increase its applied rate to the bound rate. This policy uncertainty can be a source of trade costs (Osnago et al., 2015) harming all firms, but perhaps SMEs more acutely.¹⁵

Beyond reducing MFN tariffs over the last two decades, many WTO members (both developed and developing) have provided duty-free and quota-free (DFQF) market access to least-developed countries (LDCs).¹⁶ To the extent that these initiatives reduce tariffs faced by enterprises located in LDCs, these reductions in variable trade costs are likely to benefit SMEs more than larger enterprises.

Table E.1: Applied and bound MFN tariffs

Products	Applied MFN		Bound Tariffs	
	Average: 2012-14	Decrease from 1998*	Average duty	Binding coverage
Agriculture	14.9	2.9	55.7	100
Non-agriculture	8.1	4.1	29.6	76.4
All	9.0	3.9	38.8	79.5

*Percentage points.

Sources: World Tariff Profiles, various issues; WTO Integrated Database.

The decision on DFQF treatment for LDC exports was spelled out in the 2005 Hong Kong Ministerial Declaration. Developed countries, and developing countries in a position to do so, are to provide DFQF market access on a lasting basis for all products originating from all LDCs. WTO members that face difficulties in trying to meet this mandate are to provide DFQF market access for at least 97 per cent of products originating from LDCs, defined at the tariff line level.

There are very few studies that assess the causal impact of these decisions on LDC exports. A relatively recent study by Vanzetti and Peters (2012) simulates the effect of more widespread adherence to the DFQF decision by WTO members. It provides evidence that preferential treatment can have significant effects on LDC exports, and presumably also on SME exports from LDCs, although this matter is not directly addressed in the paper. First, Vanzetti and Peters note that about 30 per cent of LDC exports in 2010 already receive preferential treatment, while another 54 per cent were (MFN) duty free (see Figure E.8). The remaining one-sixth of LDC exports faced an average tariff rate of 7 per cent. Vanzetti and Peters use the Global Trade Analysis Project (GTAP) model to simulate the effect of developed countries and some big developing countries (Brazil, China, India and South Africa) providing duty-free treatment to all imports from LDCs. They estimate that it could increase LDC exports by between US\$ 4 billion and US\$ 6 billion, with all the developing regions gaining, although the bulk of these gains are concentrated in two LDCs.

Restrictive rules of origin have sometimes made it difficult for LDCs to take advantage of preferential schemes. So at the WTO's Tenth Ministerial Conference in December 2015, WTO members adopted new

provisions on preferential rules of origin to facilitate least-developed countries' export of goods to both developed and developing countries which offer them preferential access. The provisions provide detailed directions on specific rules-of-origin issues, such as methods for determining when a product qualifies as "made in an LDC", and when inputs from other sources can be cumulated into the consideration of origin. For instance, the provisions call on preference-granting members to consider allowing the use of non-originating materials up to 75 per cent of the final value of the product.

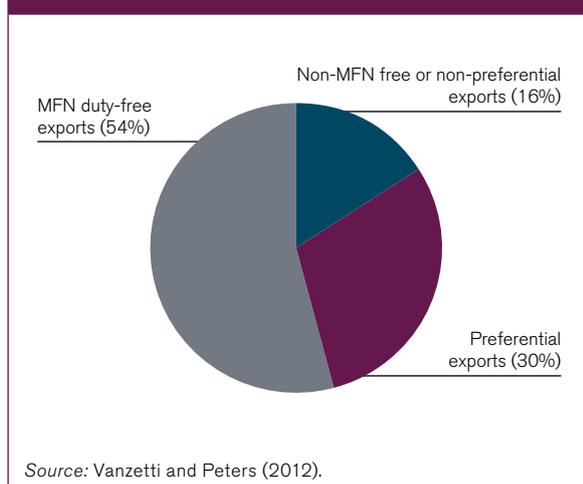
Beyond goods, the WTO has also allowed members who were willing to grant LDC services and services providers preferential access to their markets to do so. At the WTO's Eighth Ministerial Conference in 2011, members adopted a decision allowing WTO members to grant LDC services and services providers preferential access to their markets for 15 years. This was followed in 2013 by a decision to grant a waiver to these members since by granting these preferences they will be departing from their MFN obligations. Subsequently, at the WTO's Tenth Ministerial Conference in 2015, the lifespan of the 2011 decision was extended for an additional four years, until 31 December 2030.

By the end of 2015, the WTO had received a total of 21 notifications of preferential treatment to LDC services and service suppliers on the part of 48 members (counting EU member states individually). In their assessment of the notifications, LDCs noted that a significant number of the sectors and modes of supply in which they had sought preferences were reflected in the notifications. However, there was a sense that more needed to be done to address requests on preferential measures related to Mode 4 (referring to the presence of persons originating in one WTO member in the territory of another for the purpose of providing a service) of the GATS, and on related measures regarding visas, work permits, residence permits and recognition of professional qualifications and accreditation. It bears noting that such measures have been identified in other portions of this report as constituting issues of particular concern for SMEs in their efforts to participate in trade.

(ii) Reducing the fixed costs of trade

Besides reducing variable trade costs, WTO agreements reduce the fixed costs of trade, and by doing so, help smaller firms. This discussion focuses on three WTO agreements but the discussion could apply more broadly to other agreements. In addition, work in existing committees overseeing these agreements on the issue of transparency provides further insights into how SMEs might be benefitted.

Figure E.8: Exports and MFN tariffs facing LDCs, 2010



While it is not yet in force, implementation of the Trade Facilitation Agreement can reduce some of the fixed costs arising from inefficient trade procedures, thereby increasing SME participation in trade. As discussed in Section D, one finds a positive correlation between the minimum size of exporting firms and export times (WTO, 2015). Additionally, SMEs are more likely to export and increase their export shares than larger firms if the length of time needed to export is shortened. SMEs also profit relatively more with trade facilitation improvements that increase the availability of customs information and allow for advance rulings and improve appeal procedures (Fontagné et al., 2016).

The other WTO Agreements to highlight are the Agreement on Technical Barriers to Trade (TBT) and the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures. Governments use TBT and SPS measures to achieve important domestic policy objectives such as the protection of human health, but they can have spillover effects on trade. One possibility is that complying with such measures only increase trade costs and therefore reduces trade opportunities. Another is that such measures – when they address an existing market failure, such as lack of certainty in consumers' minds about the quality or safety of a product – can increase the demand for the product, even if compliance raises costs, thereby increasing trade instead. This ambiguity is reflected in the empirical literature. There is a large body of empirical literature showing that, at the aggregate level, such measures might not reduce trade (Swann et al., 1996; Temple and Urga, 1997; Kox and Nordås, 2007). On the other hand, firm-level studies tend to show that TBT and SPS measures reduce trade both through lower trade volume and market entry, particularly for small firms (Maertens and Swinnen, 2009; Reyes, 2011; Fontagné et al., 2015).

An important point to make is that the TBT and SPS Agreements contain disciplines that limit the trade cost raising effects of these measures. The TBT Agreement stipulates that technical regulations shall not be more trade-restrictive than necessary to fulfil members' policy objective(s). It encourages members to use international standards where these are appropriate. Similarly, the SPS Agreement encourages WTO members to base their measures on international standards, guidelines and recommendations. If they maintain or introduce measures which result in higher standards, there should be scientific justification for them, or they should be based on an appropriate risk assessment.

The importance that the two agreements give to international standards is particularly pertinent to SMEs, as it is likely to be more burdensome for them to

comply with a plethora of different national standards. More generally, in the absence of the disciplines of the TBT and SPS agreements, national authorities would have greater discretion to determine the stringency of technical regulations and SPS measures, which would impose higher fixed costs on trade.

(iii) Increasing transparency

As noted above, standards and regulations also have welfare-enhancing effects, to the extent that they further legitimize policy objectives (such as to protect human health and safety and environment). Nevertheless, despite good intentions, many of these non-tariff measures may be opaque and inefficient in achieving otherwise legitimate objectives (WTO, 2012). Problems may arise in implementation, for example: the regulation may be unclear, giving rise to uncertainty for suppliers/producers; the impact may be different, affect smaller firms more than larger ones; or compliance may be tricky to assess and verify. These are typical concerns that are regularly discussed in the WTO's TBT and SPS Committees. Whether in isolation or combined, factors such as these may create unnecessary costs and cause friction in international trade. Two anecdotal examples flowing from work at the Committee level follow.

In the TBT Committee the potential impact on SMEs of the European Union's regulation on the "Registration, Evaluation, Authorisation and Restriction of Chemicals" (REACH) was discussed at length. Several members said that SMEs exporting chemicals to the European Union would have difficulty complying with the complex, burdensome, costly chemical registration rules in light of their financial and human resource capacity limitations. The requirement for importers – including SMEs – to maintain a representative in the EU market (the so-called "Only Representative" provision) was especially prohibitive for SMEs, since they lacked the means to find appropriate representatives.

SMEs were also disadvantaged in terms of participation in bodies established to share REACH compliance costs between firms (in substance information exchange forums).¹⁷ The European Union undertook a review of REACH in 2013, and, subsequently, reduced registration fees for SMEs and launched a technical assistance and outreach programme to engage with SMEs on this specific regulation.¹⁸

On the SPS side, some members raised concerns about an EU regulation affecting trade in "novel foods". The potential adverse impacts of this new regulation on SMEs in developing countries was highlighted, including with respect to the amount of information needed and the cost implications for small-scale farmers and exporters in undertaking the required

scientific studies. Revisions to the regulation were introduced and, in December 2013, a new regulation on novel foods was adopted. The proposed new regulation focused on easing market access for traditional foods, including those produced by small producers through simplification of approval procedures. The European Union also undertook several other initiatives aimed at helping firms comply with the regulation, including SMEs, e.g. the preparation of a Novel Food Catalogue, a document indicating how interested operators could establish whether a food or food ingredient had a history of consumption in the European Union.¹⁹

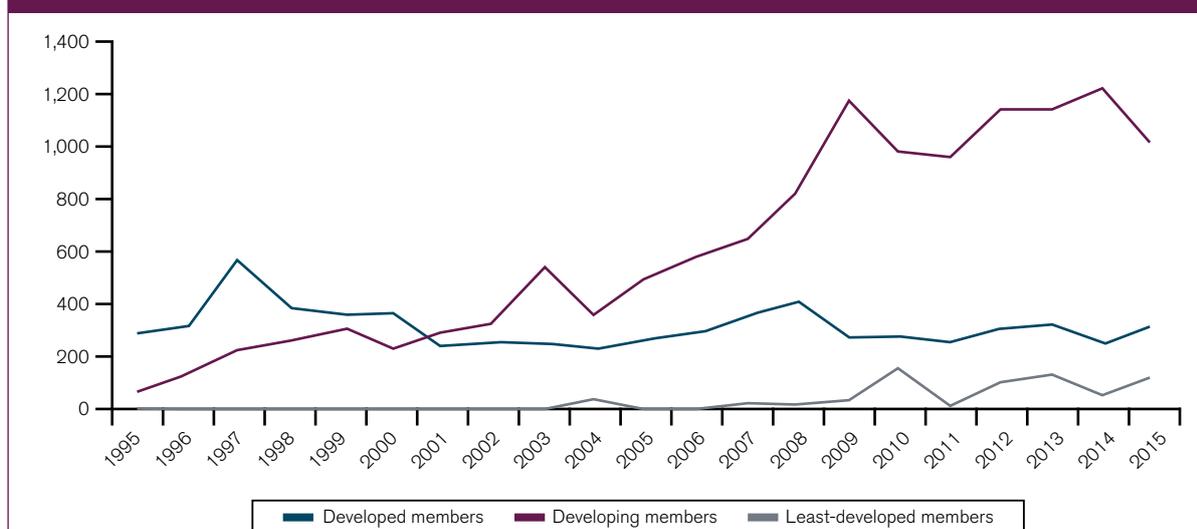
Obstacles arising from standards and regulations are particularly pernicious for small firms. For example, smaller firms may lack the necessary resources: i) to seek information about foreign regulations that may affect their trade (see enquiry points below); ii) to engage with trading partners with the aim of ensuring that new regulations do not unnecessarily affect their exports; iii) to engage in standard-setting activities at home or in an international contexts to ensure that standards being developed take into account their commercial interests; or finally iv) to comply: smaller firms may simply lack the capacity (human and/or financial) to adapt to regulations (irrespective of their legitimacy). In short, small firms may often be left in the dark, may not have a collective/coherent voice in international settings or trade fora – and are more likely to end up as standards-takers rather than makers.

Aside from actually complying with the standards and regulations, SMEs also face a heavy burden in *demonstrating* compliance with regulations and standards, through conformity assessment procedures

such as testing and certification. Indeed, a growing number of concerns in the TBT Committee are related to these types of procedures – rather than the underlying requirements themselves. In a submission to the TBT Committee, Chinese Taipei presented the results of a survey highlighting issues faced by SMEs from conformity assessment procedures in foreign markets, including lack of information and uncertainties over the time and costs to complete the procedures, which imposes extra costs on SME exporters who in many cases use a rapid turnover rate of goods to remain competitive.²⁰

Both the WTO SPS and TBT Committees have put much emphasis on developing procedures that enable all members to make full use of the transparency disciplines contained in their respective agreements. These provisions are essentially about enabling members, through “notifications”, to become aware of regulations in the pipeline before they enter into force. Indeed, lack of information about regulatory barriers – or uncertainty about their effects – is the main reason measures are raised for discussion in the SPS or TBT Committees in the first place. Receiving information about new regulations or standards at an early stage, before they are finalized and adopted, gives trading partners an opportunity to provide comments either bilaterally or in the Committee, and to receive feedback from stakeholders. This dialogue can assist in improving the quality of draft regulations and avoiding potential unnecessary trade costs further down the road. The submission of TBT notifications, for instance, has increased steadily since 1995 with a growing proportion of notifications coming from developing countries, while those from developed countries have remained relatively stable (see Figure E.9).²¹

Figure E.9: New TBT Committee notifications by development status, 1995-2015



Source: WTO official document G/TBT/38/Rev.1, Chart 7, p.8 (24 March 2016).

While large firms may invest in human resources to gather information about TBT/SPS measures (dedicated regulatory affairs staff), SMEs lack the resources to do so. Both the TBT and SPS Agreements require members to establish Enquiry Points – to provide information and answer questions from other members and interested parties on proposed or adopted TBT or SPS measures. In this manner, the services provided by TBT and SPS Enquiry Points help to level the playing field for SMEs in terms of access to information about TBT and SPS measures.

Recently there has been a push to further enhance the reach of information on standards and regulations through an “Alert System for SPS and TBT Notifications”. This stems directly from a mandate given to members in the TBT Committee at the end of 2015.²² The Alert System (detailed in Box E.3) will be a publicly available and self-subscribing service aimed at providing timely access to SPS and TBT notifications of particular interest to users, based on criteria such as product coverage or notifying members. It will help public and private stakeholders to track, consult and comment on measures that are being developed and/or adapt as necessary to changing regulatory conditions. It is particularly aimed at ensuring a reliable and sustainable source of information for developing countries and LDCs.

The mechanism, which will be launched in November 2016, is a joint effort between the WTO, the data provider, the United Nations Department for Economic and Social Affairs (UN DESA), which was responsible for the initial design and pilot, and ITC, which will host and manage the service.

It is worth mentioning that transparency obligations are included in most WTO agreements, and that the SPS and the TBT Agreements are not the only ones requiring members to establish enquiry points. Article 3.1 of the Trade Facilitation Agreement, for instance, mandates members to “establish or maintain [within its available resources] one or more enquiry points to answer reasonable enquiries of governments, traders, and other interested parties on matters covered by paragraph 1.1” (procedures, rules, duties, fees and charges and other provisions related to importation, exportation and transit). In addition, the enquiry points shall provide forms and documents required for importation, exportation, and transit procedures if requested by an interested party. As it was argued in Section D.2 with reference to the results of Fontagné et al. (2016), small exporting firms profit relatively more than large firms from these trade facilitation improvements relating to information availability.²³

Box E.3: Alert system for WTO SPS and TBT notifications

The significant increase in the number of SPS and TBT notifications submitted by WTO members, especially developing countries, in recent years has been a welcome development in terms of the transparency and availability of information on standards and regulations. However, this has also posed a new challenge: that of monitoring and tracking this information, and reacting in a timely fashion to the evolving regulatory landscape. Therefore, there has recently been a push to improve the awareness of information on regulations through an alert system for WTO SPS and TBT notifications. As argued in Section C.3(a), this stems directly from a mandate given to the WTO Secretariat in the TBT Committee at the end of 2015. At the same time, in its work focusing on institutional capacity building in LDCs, UN DESA has identified access to relevant trade-related information as one of the challenges faced by LDCs and has launched an initiative to facilitate dissemination of SPS and TBT notifications. The two organizations have now joined forces and also reached out to ITC, which already offers a series of online information tools on trade, in particular for the benefit of SMEs. While some members have already developed their own alert systems, a global system, drawing on the expertise of the three agencies, will ensure reliability of data and sustainability while avoiding unnecessary duplication of effort, especially for developing countries and LDCs.

The notification alert system (to be launched in November 2016) will be a publicly available and self-subscribing service, whereby users will be able to receive email (eventually SMS) alerts regarding SPS and TBT notifications covering particular products or markets of interest to them. In addition, it will offer an Enquiry Point Management Tool to facilitate domestic as well as international information sharing and discussion. The system is expected to help public and private stakeholders, in particular SMEs, to track, consult and comment on measures that are being developed and/or adapt as necessary to changing regulatory conditions. When accompanied by complementary efforts with regards to coordination and capacity building, it may constitute a significant contribution to the UN's Sustainable Development Goals (SDGs), for example Goal 17, objective 11 on significantly increasing the exports of developing countries, in particular with a view to doubling LDCs' share of global exports.

(b) The role of other WTO agreements, plurilateral agreements and work programmes

The special situation of SMEs is acknowledged and addressed in a number of WTO agreements, plurilateral agreement and work programmes. This section describes the relevant provisions in the agreements or work programmes and explains the context or difficulty being dealt with. Although there is some danger involved in attempting to categorize the provisions and work programmes that have a bearing on SMEs, it also has some value as it enhances our understanding of how the WTO tries to alleviate the difficulties faced by SMEs.

- WTO agreements often impose information requirements on members that trickle down to the enterprise level. Some provisions in WTO agreements (e.g. the Anti-dumping Agreement) reduce the burden of these requirements for SMEs.
- Some provisions make it easier for a member to make use of its rights under a WTO agreement (e.g. the Anti-dumping Agreement) when it acts on behalf of SMEs.
- Under certain specified conditions, WTO agreements allow members to provide financial contributions to SMEs (e.g. the Agreement on Subsidies and Countervailing Measures (SCM)).
- Some provisions in WTO Agreements give members greater leeway to promote the technological development of their SMEs (e.g. the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)).
- Some plurilateral agreements (e.g. Government Procurement (GPA)) allow members to provide preferential treatment to their SMEs.
- Some WTO work programmes (e.g. electronic commerce, small economies) have a prominent SME focus examining how best SMEs might take advantage of e-commerce or connect to GVCs.
- Some WTO initiatives, such as that on trade finance, alleviate a major constraint faced by SME traders in LDCs and developing countries.
- Finally, many of the WTO's capacity-building efforts benefit SMEs in poor countries by enhancing their productive capacity or helping them to connect to markets.

While this report is able to identify and highlight these provisions and work programmes, it is not in a position

to evaluate the effectiveness of these provisions in assisting SMEs. However, given the interest by policy-makers on the subject of SMEs and trade, further analytical work along these lines would be welcome.

(i) *Anti-dumping*

The Anti-dumping Agreement recognizes how size may affect enterprises' ability to obtain recourse to anti-dumping when they are injured by dumped imports or, in the case where they are the targets of an anti-dumping investigation, when they are burdened by informational requirements of investigators.

It is likely that an industry populated by a host of small firms ("fragmented industry") will have greater difficulty in obtaining anti-dumping protection than an industry that is composed of a few large enterprises. Not only will the cost of organizing be much higher in the former case, but firms are likely to be burdened by a free rider problem. No individual firm will want to take the lead since even in the best case scenario, that its initiative leads to a successful anti-dumping duty applied to foreign imports, the benefits of anti-dumping protection will accrue to every other rival domestic firm. Every firm will prefer to take no action and free ride on the initiative taken by another firm.

Another difficulty that is likely to be encountered by a fragmented industry in initiating an anti-dumping investigation is the requirement for national authorities to have determined that the application for an investigation has been made by the "domestic industry". From an informational perspective, such a determination is easier to make when the domestic industry is made up of a few large firms than when it is made up of a large number of small firms. While there is probably very little that the Anti-dumping Agreement can do to remedy the free rider problem, at least on this second point, the Agreement allows national authorities to determine support or opposition to an investigation through the use of (statistically valid) sampling techniques,²⁴ which will reduce the hurdle for firms in a fragmented industry.

Article 5.6 of the Anti-dumping Agreement allows national authorities to initiate an anti-dumping investigation even in the absence of a written application from domestic industry under "special circumstances". Although the Anti-dumping Agreement does not clarify the nature of these special circumstances, the negotiating history of the Anti-dumping Agreement suggests that one of those situations is precisely when the domestic industry is highly fragmented.²⁵

Where exporters are the subjects of an anti-dumping investigation, information will be required from them by investigating authorities. They are also entitled to

present evidence to authorities which they consider relevant to the investigation. The information and evidentiary burden of an investigation may weigh more heavily on small exporters. The Anti-dumping Agreement thus provides for authorities to “take due account of any difficulties experienced by interested parties, in particular small companies, in supplying information requested, and shall provide any assistance practicable”.²⁶

(ii) *Subsidies and countervailing measures*

Many governments have programmes that support their SME sector, including through the provision of subsidies. Under the Subsidies and Countervailing Measures (SCM) Agreement, subsidies that are not specific are exempt from being subject to countervailing duties imposed by other members, or from being challenged at the WTO (provided they are not contingent on export performance or the use of domestic over imported goods). A subsidy is not considered specific if (i) there are objective criteria or conditions governing the

eligibility for and amount of a subsidy and (ii) eligibility to receive the subsidy is automatic.

The SCM Agreement clarifies that “objective criteria or conditions mean criteria or conditions which are neutral, which do not favour certain enterprises over others, and which are economic in nature and horizontal in application, such as *number of employees or size of enterprise*” (italics added).²⁷ This would suggest that SME support programmes which meet the stipulations specified in the footnote – neutral, economic in nature, and horizontal in application – and for which support would then be automatic on meeting the stipulations, will generally be exempt from countervailing duties imposed by other members, and also from the disciplines of the SCM Agreement.²⁸

The issue of SMEs has also surfaced in the Doha Round negotiations on WTO rules. Box E.4 provides some details of how exemptions for SMEs are being sought in certain areas of the current rules negotiations on fishery subsidies.

Box E.4: Fishery subsidies and SMEs

At the WTO's Fourth Ministerial Conference, which was held in Doha, Qatar in 2001, WTO members agreed on negotiations to clarify and improve WTO disciplines on fisheries subsidies. Subsequently, at the WTO's Sixth Ministerial Conference, held in Hong Kong, China, in 2005, members came to a broad agreement on strengthening those disciplines, including through a prohibition of certain forms of fisheries subsidies that contribute to overcapacity and overfishing.

The scope of the prohibitions of subsidies would be modulated by general exceptions, access to which would be conditional upon compliance with certain fisheries management provisions. For developing members, in addition to the general exceptions, there would be special and differential treatment, consisting of a sliding scale of further exceptions from particular prohibitions, calibrated to the nature, scale and geographic scope of the activities involved. As with general exceptions, access to most special and differential treatment exceptions would be conditional upon implementing certain fisheries management obligations.

One type of fishery subsidy that has been highlighted for possible exemption from prohibition is that benefiting the artisanal or small-scale fisheries of members. While there appears to be general support for the idea, members are divided on whether the exemption should apply to the artisanal or small-scale fisheries of *all* members or only to those of developing country members.

Advocates of exemption from any prohibition argue that regardless of the development status of a member, small-scale or artisanal fisheries tend to be conducted by individuals who are economically and socially disadvantaged and who, due to their small scale, have little or no possibility to contribute to global overcapacity or overfishing.

Others, however, see no justification for such an exception for developed members, considering that their artisanal and small-scale fisheries are much wealthier and better equipped than the artisanal and small-scale fisheries of developing countries. These members take the position that there are no clear descriptions or criteria for identifying small-scale fisheries of developed members, nor any convincing reasons why those fisheries need subsidization. Their view therefore is that any exceptions for subsidies to artisanal and small-scale fisheries should be strictly limited to the special and differential treatment provisions.

Box E.4: Fishery subsidies and SMEs (continued)

A somewhat related issue that has been raised in several proposals is a *de minimis* general exception, with a higher threshold for developing members, possibly differentiated according to their size and/or share of global capture. Under this approach, members would be able to provide subsidies of any type, up to the threshold (expressed either in absolute terms or as a percentage of total catch value or some other indicator). Advocates of this approach argue that it would be a simple, easily administered way to address the concerns of developed as well as developing members in respect of their artisanal or small-scale fisheries, without having to grapple with the difficult-to-resolve definitional issues.

Source: Communication from the Chairman of the Negotiating Group on Rules, WTO official document number TN/RL/W/254, dated 21 April 2011.

(iii) Agreement on Trade-Related Intellectual Property Rights (TRIPS)

Even in the case of OECD countries, evidence suggests that SMEs are not always able to use the intellectual property (IP) system effectively (WIPO, 2010). There appear to be a number of reasons for this: they have limited knowledge of the system, they have high costs, and they lack the legal, business and technical know-how to leverage their IP assets into a successful business plan (WIPO, 2010).

The situation for SMEs in developing countries is likely to be even more challenging. This may explain why many WTO members, whether developed or developing

often have programmes that try to assist SMEs better access the intellectual property system. Article 8 of the TRIPS Agreement allows WTO members “to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of [the] Agreement”.

Discussions at a number of meetings of the TRIPS Council, the WTO body responsible for monitoring the operation of the TRIPS Agreement, provide a rich vein of information about the many IP-related initiatives taken by WTO members to support their SMEs.²⁹ Table E.2 provides several examples of the initiatives described by the members.

Table E.2: IP-related initiatives to support SMEs

WTO member	IP-related programmes for SMEs
Chile	<p>A new law had been introduced on research and development (R&D), which provided for tax incentives to enhance the competitiveness of Chilean SMEs, with a view to encouraging development and the use of new technologies. Under that law, the cost of the resources used by SMEs for R&D might be reduced by 35 per cent through tax benefits.</p> <p>Start-Up Chile encourages high-potential entrepreneurs with companies in the start-up phase to come to Chile and use the country as a platform for international business. In 2010, the programme, then in its pilot phase, brought the first 22 start-ups to Chile from 14 countries, providing each of them with US\$ 40,000 of capital and a one-year visa to develop their projects in the country for six months.</p>
Republic of Korea	<p>The Republic of Korea IP Office had provided a 70 per cent reduction in fees to SMEs. In addition, various measures had been implemented in Korea aimed at simplifying the requirements for the filing of evidentiary documents of each application for SMEs and extending their validity to a maximum of four years.</p> <p>IP-related consulting for SMEs.</p> <p>Assistance for SMEs to develop their brands.</p> <p>Customized support for patent training for SMEs.</p>

Table E.2: IP-related initiatives to support SMEs (continued)	
WTO member	IP-related programmes for SMEs
Chinese Taipei	<p>The Intellectual Property Management System provides consultation services to SMEs, such as experience-sharing sessions, workshops, training courses, and the like.</p> <p>An IP service platform for SMEs called the Innovative SMEs IP Value Project had been established. The platform is dedicated to sharing IP consultation methods, enlarging SMEs' knowledge and capacity, and enhancing the quality of their IP decisions. Tailor-made IP consultations and diagnoses were also provided to individual SMEs, with a view to strengthening their patent deployment in the R&D phase, shortening the R&D process.</p>
United States	<p>Under the America Invents Act, which was signed into law in 2012, a <i>pro bono</i> programme assists financially under-resourced independent inventors and small businesses.</p> <p>The "Startup America" initiative of the US administration aims to:</p> <ul style="list-style-type: none"> ▪ expand access to capital for high-growth start-ups; ▪ expand entrepreneurship education and mentorship programmes; ▪ strengthen commercialization of federally-funded research and development which can generate innovative start-ups; ▪ identify and remove unnecessary barriers to high-growth start-ups; and ▪ expand collaboration between large companies and start-ups.

Another measure that some members have taken is to charge SMEs much lower fees than larger enterprises for filing patent applications and other services provided by their patent offices. The information contained in Table E.3, while far from being comprehensive, shows which WTO members have provided such assistance to their SMEs. This assistance lowers the costs faced by SMEs of applying for intellectual property protection for their inventions. The discounts can be quite substantial – in the order of 50 per cent for "small" enterprises and as much as 75 per cent for enterprises considered "micro".

(iv) Services

A host of issues have been identified by WTO members, in submissions and in oral interventions, as posing problems to SMEs' services exports. The issues most commonly cited include discriminatory and non-transparent regulatory frameworks, insufficient information about regulations, commercial presence requirements, lack of recognition of qualifications, difficulties in the movement of personnel, onerous licensing requirements, uncertainties regarding applicable laws, limited access to payment mechanisms, lack of clarity regarding rules

Table E.3: Special patent filing fees for SMEs of selected WTO members		
Country	Special patent fees for SMEs	Links
Argentina	Yes, for renewal SMEs get discount	http://www.inpi.gov.ar/index.php?id=107&criteria=2
Brazil	Yes, discount for microenterprises	http://www.inpi.gov.br/arquivos/patentes.pdf
Canada	Yes, discount for small entities	http://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr00142.html?Open&wt_src=cipo-patent-main
France	Yes, discount for SMEs	https://www.inpi.fr/fr/services-et-prestations/aides-aux-pme-et-aux-centres-de-recherche
India	Yes, distinction for small firms	http://ipindia.nic.in/ipr/patent/patent_FormsFees/Fees.pdf
United States	Yes, special fees for small and micro enterprises	http://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule

for the electronic delivery of services, and difficulties in obtaining access to much-needed supporting services such as the Internet, legal services, advertising and accounting. As such, it emerges that members' observations regarding obstacles and challenges to SMEs in services trade are largely consistent with those identified in economic research, surveys and other material cited in Section D of this report.

Throughout the early years of the Doha Development Agenda negotiations, SME-related issues in relation to trade in services were often raised by members. There were also voices, especially from developing countries, advocating negotiating approaches that took into account the size of the supplier as well as the type of economy involved; and approaches such as providing preferential treatment for SMEs from developing countries. Further discussion surfaced occasionally between 2001 and 2005. Some delegations cautioned that negotiating perspectives based on firm size, for example, that might discriminate between enterprises of different sizes, might hinder competition and the efficient allocation of resources. More recently, in 2011 and 2012, the Swiss Delegation tabled submissions on the role of SMEs in the Swiss services economy and on the electronic delivery of services by SME exporters. Turkey also shared information on trade by its SMEs. However, the focus of services discussions increasingly turned to proposals that the GATS should have a mechanism to extend preferential treatment to LDCs, similar to the enabling clause of the GATT. The two topics were not mutually exclusive as many of the ultimate beneficiaries of such a mechanism would likely be SMEs active in or hoping to enter export markets for services.

Classification talks to improve the certainty of market access undertakings

The GATS Committee on Specific Commitments deals with, among other things, classification and scheduling issues that might enhance the clarity and predictability of members' schedules of commitments of market access and national treatment undertakings on services trade.

For some time, the GATS Committee on Specific Commitments has considered the issue of "new services". Background information provided by the Secretariat to assist members in their discussion contained, for example, an illustrative list of services identified by members in their previous discussions as not being explicitly referred to in the GATS classification system. In many cases such examples are information technology (IT) services or IT-enabled services that have become tradable, or more easily tradable than in the past, by virtue of new technologies. Further, in a few

cases, such services can be linked to activities such as business process outsourcing services, wherein SMEs have often successfully entered global value chains in recent years.

The GATS classification system did not necessarily attain a level of specificity that would permit members to clearly indicate sectors in their schedules where such activities might benefit from commitments. Call centre services and cloud computing were among some of the examples discussed. Despite the importance of more adequately capturing some such services in the classification most often used for scheduling, members expressed divergent views. Some delegations suggested that few services were actually "new" because most could fit somewhere within existing classification categories. Other delegations worried about the implication of such an approach for a possible backward re-interpretation of existing GATS commitments.

Meanwhile, some governments, such as those participating in a plurilateral negotiating group on cross-border supply, led by India, have tried to identify specific activities within the GATS classification system, as well as some more updated versions, which would be likely candidates for outsourcing to SMEs in developing countries. Similar efforts were conducted to identify services subject to request in the context of the LDC waiver.

Ongoing work on GATS rules

SME-related issues have also been raised in the Working Party on GATS Rules, which addresses the possibility of completing "unfinished" GATS rules in the areas of safeguards, subsidies and government procurement. In statements promoting the desirability of an emergency safeguard mechanism (ESM) in services trade, delegations from ASEAN economies cited potential examples whereby the viability of SMEs in retail trade might be threatened by the sudden entry of large retail competitors taking advantage of GATS commitments under Mode 3 (commercial presence); foreign chains might then replace small independent stores, causing injury to the small businesses.

According to the proponents, an emergency safeguard mechanism would provide breathing space for the SME suppliers to adapt and survive. Other delegations remained unconvinced of the need for safeguard action to address what they considered to be mostly a structural problem for which, if necessary, other instruments might be available.

(v) Work programme on e-commerce

When the WTO launched its work programme on e-commerce in 1998, ministers agreed to a

provisional moratorium on customs duties on electronic transmissions and directed the WTO General Council to define the work. Shortly thereafter, the General Council circulated a background note on e-commerce and WTO agreements and designated issues to be examined by the WTO Councils for trade in goods, services and intellectual property rights, as well as the Committee on Trade and Development. The work programme has continued since that time, most recently extended by the Ministerial Decision taken in Nairobi in December 2015, which also maintained the moratorium on customs duties.

Since the inception of the work programme, development was clearly among the issues designated for discussion and, in that context, the relevance to SMEs did not go unheeded. SMEs were first explicitly cited at the ministerial level as an issue for discussion in the Decision on Electronic Commerce of the Seventh WTO Ministerial Conference in 2009 (i.e. to extend the moratorium on import duties on electronic transmissions until the Eighth Ministerial Conference).

Although no formal conclusions have yet been issued by the bodies conducting the work programme, an emerging consensus was that the provisions of their respective agreements appear to be technology-neutral, hence, applying to trade in all its forms, including trade via the Internet. There has also been broad recognition of the importance of the work on e-commerce for SMEs in various bodies, particularly the Committee on Trade and Development (CTD) and the Services Council.

With the reinvigoration of the Work Programme in 2011, services discussions on the subject resumed. During this period, members submitted some new material for consideration under the discussions. These included, for example, possible ICT trade principles, the role of SMEs, the evolution of cloud computing and mobile apps, licensing practices, consumer protection and authentication. In particular, Switzerland made a submission of the experience of SMEs and their activities related to e-commerce in Switzerland.³⁰ Among its findings are that, the larger the company, the more it sells via the Internet. SMEs and large companies face the same obstacles to cross-border e-commerce, which is lack of knowledge about the foreign market (consumer preferences, language, regulatory environment, etc.). However, larger companies are better in acquiring the required knowledge.

The Council for Trade in Services considered a variety of submissions made by members over the course of 2015, including one that aimed to increase focus on SMEs. In that submission, China proposed that the Council embark on a structured information-sharing

exercise on topics relevant to the work programme, and suggested that challenges to SME participation in e-commerce was a topic that such an exercise could cover. China's proposal was subsequently accepted and, by the end of the year, interventions on were contributed by China and Nigeria covering their countries' progress in e-commerce, including by SMEs.

On other issues, members reverted to a US communication on cross-border information flows, localization requirements, privacy protection and cloud computing, which aimed at fostering a dialogue and information-sharing exercise on these topics. As noted in Section D, some of these topics, such as cloud computing and localization requirements, can be relevant to reducing trade costs incurred by SMEs as they seek to employ new technologies to increase their participation in trade.

In 2015, the IP-related issues discussed by the Council for TRIPS included latest technologies and their uses, and how IPRs can promote innovation in IT technologies. Accordingly, one of the recurring agenda items of the TRIPS Council is "IP and Innovation". In particular, a meeting focusing on this topic discussed "entrepreneurialism and new technologies". Under this item, members shared experiences and detailed examples of SMEs and start-up enterprises in the area of new and mobile technologies to illustrate the role that IP played in bringing innovation to the market. The focus lay, in particular, on start-ups commercializing mobile technologies and apps, including the benefits these can have for developing countries.

Other topics of interest managed by the Council for TRIPS, including discussion that took place in 2015, included the transfer of technology to developing countries and overseeing technical assistance to developing countries.

At the April 2012 meeting of the CTD, members discussed the 2011 Ministerial Decision on E-commerce, which instructed members to "emphasize and reinvigorate the development dimension in the Work Programme, particularly through the CTD, and to examine and monitor development-related issues such as technical assistance, capacity building, and the facilitation of access to electronic commerce by micro, small and medium-sized enterprises, including small producers and suppliers, of developing countries and particularly least-developed members". In July 2012, Ecuador and Cuba presented a paper titled "Terms of Reference: Workshop on E-commerce, Development and Small and Medium-sized Enterprises". In February 2013, the Secretariat and the CTD produced a background note in response to this request for a workshop. The note focused on the relationship between e-commerce

development and SMEs, and on how some SMEs have used e-commerce to promote, market, service and sell their products nationally and internationally.

At the conference on E-commerce, Development and SMEs organized by the CTD in April 2013, it was highlighted that international organizations can promote and address some e-commerce issues, for example issues relating to technical assistance and capacity building, taking into account country-specific needs. It was also suggested that international organizations, including the WTO and the ITC, could help disseminate knowledge and understanding and explain the issues and challenges, and which models and approaches have worked best.

At the CTD's meetings held in 2014, the Chair asked members to consider how to address some of the issues emerging in the discussions on e-commerce, such as how to enhance economic and development opportunities, with special consideration of the situation in developing countries, particularly in LDC members and least-connected countries. Members were also asked to continue to examine opportunities and challenges for access to e-commerce by micro, small and medium-sized enterprises, including small producers and suppliers.

(vi) Trade finance

As noted in Section D, lack of access to finance tends to fall disproportionately on SMEs and these credit constraints are particularly reflected in access to trade

finance. The WTO has been working to keep finance flowing for trade. Special attention has been devoted to the difficulties faced by traders in LDCs and developing countries where firms are generally small.

In 2011, the WTO Director-General and the President of the World Bank, along with the heads of multilateral development banks, drew the attention of the international community to trade finance difficulties, an important concern among SMEs in low-income countries. The main thrust of this initiative was to support multilateral development banks in establishing a global network of trade finance facilitation programmes. All in all, multilateral trade finance facilitation programmes helped facilitate over US\$ 30 billion in trade in low-income countries in 2014 (see Table E.4).³¹ Almost one-third of the International Finance Corporation's total operations took place in sub-Saharan Africa, and the ADB's risk-mitigation support mainly caters to the poorest regions in Asia, such as Bangladesh, Nepal, Pakistan, Sri Lanka, Uzbekistan and Viet Nam.

Despite these efforts, over half of trade finance requests by SMEs are rejected, against just 7 per cent for multinational companies (DiCaprio et al., 2015). SMEs in developing countries face even greater challenges in accessing trade finance. The estimated value of unmet demand for trade finance in Africa was US\$ 120 billion in the year 2012 (AfDB, 2014) and US\$ 700 billion in developing Asia (DiCaprio et al., 2015).

In an effort to mitigate these problems, the WTO Director-General issued a call in April 2016 for action

Table E.4: Overview of the main multilateral development bank trade facilitation programmes

	European Bank for Reconstruction and Development	International Finance Corporation	Inter-American Development Bank	Asian Development Bank
Programme title	Trade Facilitation Programme	Global Trade Finance Program (GTFF)	Trade Finance Facilitation Program (TFFP)	Trade Finance Program
Number of countries in operation	23	96	21	18
Programme commencement	1999	2005	2005	2004
Number of transactions since commencement (year ending 31 December 2012)	15,508	31,600	4,457	8,338
Value of transactions in 2013	€ 1.2 billion	US\$ 22 billion	US\$ 1.2 billion	US\$ 4 billion
Number of confirming banks	800+	1,100	297	124
Claims to date	2 – no losses	zero	zero	zero

Source: ICC (2014), p. 75.

to help close the gaps in the availability of trade finance that affect the trade prospects of small and medium-sized enterprises (SMEs), particularly in Africa and Asia. Among the additional steps that the Director-General encouraged multilateral lending agencies, the private sector and financial regulators to take are:

- enhancing existing trade finance facilitation programmes to reduce the financing gap by US\$ 50 billion;
- reducing the knowledge gap in local banking sectors for handling trade finance instruments by training at least 5,000 professionals over the next five years;
- maintaining an open dialogue with trade finance regulators to ensure that trade and development considerations are fully reflected in the implementation of regulations; and
- improving monitoring of trade finance provision to identify and respond to gaps, particularly relating to any future financial crises.

(vii) *Government procurement*

The WTO Agreement on Government Procurement (GPA) is a plurilateral instrument regulating the conduct of international trade in government procurement markets. The GPA was recently renegotiated and the revised Agreement came into force in April 2014. The GPA intends to bring more competition, transparency and procedural fairness in the procurement markets it covers (as specified in the annexes to its Appendix I). The GPA also serves broader purposes of promoting good governance, the efficient and effective management of public resources, and the attainment of best value for money in national procurement systems.

In its approach, the GPA encourages the widest possible participation in procurement markets and is therefore designed to help governments attract the best possible suppliers offering their goods and services at the most competitive prices. It aims to help governments achieve the best value for money, and suppliers to gain access to markets that were previously closed to them, whether because of formal reasons such as discriminatory policies, or practical obstacles, such as a lack of transparency regarding opportunities and conditions for participation.

The GPA's role in facilitating the integration of SMEs into procurement markets is important in two respects (Nicholas and Müller, 2016). First, the GPA, like RTAs, ultimately derives its *raison d'être* from its usefulness in facilitating private sector suppliers' access to procurement markets abroad. In that regard,

SMEs contribute to rendering it effective, as SMEs represent a large majority of firms worldwide. Second, the GPA is part of, and is derived from, an emerging standard of international best practices in government procurement, and seeks to increase good governance and the efficiency of public procurement systems for the benefit of governments and their citizens. In order for these goals to be achieved, and to increase the effectiveness of procurement systems worldwide, the barrier-reducing measures that the GPA proposes need to work in tandem with SME support measures. While the GPA does not contain specific provisions on the issue as part of its core provisions, the Committee on Government Procurement has adopted a Decision establishing a Work Programme on SMEs.³²

This Decision recognizes the importance of facilitating SME participation in government procurement and the need to avoid introducing or continuing discriminatory measures that distort open procurement. The overall objective of the Work Programme is to review measures and policies for SMEs that parties to the Decision may use to assist, promote or facilitate participation by SMEs in government procurement, and to prepare a report of the results of the review.

The Decision also contains a number of important elements. One is transparency, as it requires parties maintaining specific provisions on SMEs in their Appendix I schedules to notify such measures and policies to the Committee on Government Procurement. A second element of the SME Work Programme involves the conduct of an SME survey to collect information on the measures and policies used to assist, promote, encourage or facilitate participation by SMEs in government procurement. The SME survey will be used by parties to the GPA to identify the measures and policies that they consider to be best practices for promoting and facilitating the participation of SMEs in government procurement. Parties to the GPA will be encouraged (i) to adopt the best practices identified in the assessment of the survey and (ii) to review the other remaining measures with a view to either eliminating them or applying them to the SMEs of the other parties to the Agreement.

The Committee on Government Procurement initiated its work on the Work Programme on SMEs in June 2014 and several dedicated discussions have taken place since then. The great majority of the parties to the GPA have provided their responses to the SME survey, and a compilation of all responses received was circulated to the parties in February 2016. The Work Programme is expected to be an important focus for the Committee in 2016 and subsequently.

As a whole, the GPA encourages SME participation and related measures in a number of ways. First, it is helpful

in identifying measures by which the general features of procurement legislation and systems relating to transparency, integrity and competition may be improved. These “level the playing field” for all potential suppliers, and can be expected to remove obstacles to participation, of particular relevance to SMEs, as a first step. Important synergies therefore exist between SME policies and the objectives, rules and principles of the GPA.

The GPA actively encourages measures related to transparency, openness and integrity necessary in order for SMEs to overcome barriers to participation in public procurement: in this regard, SMEs are very similar to international suppliers, whose participation in procurement markets SME policies and the GPA are designed to facilitate. Consequently, the goals and specific procedural rules established by SME policies and the GPA, in encouraging broad participation and competition in procurement markets, are fully compatible with the goal to favour the inclusion of SMEs in the supplier base of governments by such means.

The GPA also provides flexibility for parties to implement specific measures relating to procurement practices, which can be taken in the application of general rules in order to facilitate SME participation. Examples include the disaggregation of demand, the appropriate use of framework agreements and e-procurement systems, the creation of opportunities for subcontracting and joint bidding, the prompt payment of suppliers, and the provision of training. Such measures may be needed to overcome potential barriers to SME participation that may persist despite a generally open and transparent system.

In this regard, the basic approach of the GPA is to leave options for each government to decide on, as long as general principles of transparency and non-discrimination are complied with. The choices and solutions adopted can have a significant impact on SME procurement and on the efficiency of the procurement system as a whole, and therefore need to be reflected upon. While the text of the GPA, as binding legal instrument, carefully carves out policy space in this regard, the Work Programme on SMEs established by the GPA Committee permits related policy discussions.

The third area of interaction concerns preferential measures or programmes designed to give SMEs privileged access to procurement contracts. In that regard, some parties have scheduled targeted exceptions to the non-discrimination requirements and other provisions of the GPA in their Appendix I schedules.

(viii) Development

No explicit references to SMEs are to be found in Part IV of the GATT, on “Trade and Development”. However,

the development discussions and activities in the WTO have unavoidably had a prominent SME focus.

As discussed above, SMEs in developing countries were a main focus of work in 2013 when the WTO's Committee on Trade and Development (CTD) examined links and challenges for SMEs in the area of e-commerce. A wide variety of challenges linked to infrastructure, skills-building and the services sectors were identified. They were seen as crucial elements for governments to address in order to help SMEs take advantage of this new and growing technology.

SMEs were one of the subjects examined in the CTD's discussions of non-tariff measures in the Work Programme on Small Economies. Here, the focus was on how industrial and agricultural products from businesses in small economies can meet the technical regulations and sanitary measures required in key developed country markets. Work in this area has continued in 2016 with a focus not only on how small businesses can meet international and private standards, but on how they can use such standards to integrate into and move up global value chains in both goods and services.

The WTO, in collaboration with other agencies, has several capacity-building initiatives designed to assist developing countries and LDCs overcome their constraints and take advantage of trading opportunities. Strengthening productive capacity and helping exporters access or increase their presence in foreign markets are some of the main aims of the AfT initiative. For LDCs, a specific programme exists in the form of the Enhanced Integrated Framework (EIF), which helps governments mainstream trade into their development strategies. A third initiative is the Standards and Trade Development Facility (STDF), which helps exporters to meet SPS standards in their fruit and vegetable, spices and livestock sectors.

Each of these initiatives underscores the wide array of assistance efforts available to governments, and through them to SMEs and the private sector in general, so that they can realise benefits from trading and development opportunities. These are further discussed below.

Aside from examining issues related to AfT support for SMEs, governments also negotiate new multilateral agreements which make it easier for small businesses to export, especially from LDCs. As discussed earlier, these include the duty-free and quota-free initiative, the Ministerial Decision on Preferential Rules of Origin Requirements for Least-Developed Countries, concluded at the Tenth Ministerial Conference in 2015, and the services waiver which allows developed and

developing countries to grant preferences to LDC services providers, thereby giving them greater access to their markets.

Work programme on small economies

During the Fourth Ministerial Conference in Doha in 2001, members agreed to a work programme on issues relating to the trade of small economies. The objective of this programme is to frame responses to the trade-related issues identified, for the fuller integration of small, vulnerable economies into the multilateral trading system.

At the Ninth Ministerial Conference in 2013, WTO members instructed the WTO Secretariat to provide relevant information and factual analysis for discussion among members in the CTD's Dedicated Session on, among other things, the challenges and opportunities experienced by small economies when linking into global value chains for trade in goods and services.

In October 2014, the ITC and the WTO issued a joint communication note on the constraints that SMEs face in engaging in international trade, notably those highlighted by SMEs in LDCs, and reviewed how AfT is addressing these obstacles. Discussion focused on the fact that development finance institutions and AfT alone cannot bridge the SME funding gap or address all of the trade-related constraints of SME. The joint note recalled the need for close collaboration with partner country governments and with the private sector, both in implementation and in finding long-term solutions to market failures.

The joint ITC-WTO workshop on AfT and SME competitiveness, held in October 2014, was the first of a series of workshops foreseen by the 2014-15 AfT Work Programme. It built on the joint ITC-WTO background note and dealt specifically with the issue of the integration of SMEs into GVCs.

At the CTD Dedicated Session in May 2015, the WTO issued a background note on the challenges and opportunities experienced by small economies when linking into GVCs in trade in goods and services. This background note highlighted challenges faced by SMEs in small economies, such as access to finance, workforce skills, market information and small markets that prevent them from growing. Several challenges faced by small economies point to the important role of WTO-related initiatives and policies, such as AfT and trade facilitation.

(ix) Capacity building

The WTO seeks to ensure that all its members effectively participate and benefit from world trade.

One of its challenges is to get the many existing development assistance mechanisms to work together more effectively to help developing and LDC members. In that sense, the WTO has a catalytic role to play – ensuring that the agencies responsible for development understand the trade needs of WTO members, and encouraging them to deliver solutions.

The following subsection will provide SME case studies or stories falling under the umbrellas of AfT, the EIF, and the STDF, all of which help SMEs increase their supply-side capacity.

Aid for Trade (AfT)

The Aid for Trade initiative helps developing countries, especially LDCs, to improve their trade capacities when engaging with global markets. It is part of overall Official Development Assistance (ODA) targeted at trade-related programmes and projects. It includes technical assistance, infrastructure and adjustment assistance. The initiative has raised awareness among LDCs, developing countries and donors about the positive role that trade can play in promoting economic growth and development. Box E.5 provides a case study of a project targeting micro enterprises in Jamaica.

The Enhanced Integrated Framework (EIF)

The EIF is a multi-donor programme, involving the WTO, International Monetary Fund (IMF), ITC, UNCTAD, United Nations Development Programme (UNDP) and World Bank, which helps LDCs play a more active role in the global trading system. It operates in 48 of the world's poorest economies, as well as three which have graduated from LDC status, across Asia, the Pacific, Africa and the Americas. It is supported by a multi-donor trust fund with a funding target of US\$ 250 million.

Its Diagnostic Trade Integration Study (DTIS) helps LDCs identify, prioritize and address constraints to competitiveness, growth potential or supply chain weaknesses. These constraints include those faced by SMEs, such as access to logistic infrastructures and services, finance, technologies and skills. Box E.6 highlights two projects that show how the EIF has been addressing these SME constraints in Burkina Faso and Zambia.

The Standards and Trade Development Facility (STDF)

The STDF was established in 2002 by the WTO, the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE), the World Bank and the World Health Organization (WHO) to support SPS capacity-building

Box E.5: Productive integration of micro enterprises in the Jamaican craft and agro-processing sectors

Micro and small enterprises in Jamaica account for 80 per cent of all businesses and 36 per cent of employment. In both the agro-processing and craft sectors, some micro enterprises are engaged in export, acting as the suppliers to larger enterprises. The government sees these sectors as having great potential for economic development. It was for this reason that a project was developed targeting the agro-processing and craft sectors and launched in 2006 to help them become more competitive and sell more products abroad.

The specific objective of the project was to implement an integrated programme for 14 groups of micro enterprises in the craft and agro-processing subsectors, utilizing a sustainable model of productive integration. The target group comprised community-based organizations or informal groups, often operating at a subsistence level and cooperatively producing and selling a range of agro-processing products (jams, jellies, confectionary, fermented foodstuffs) and craft items (made of wood, straw and natural fibres). The project sought to work with producers to address challenges that inhibited the groups from operating efficiently and profitably. These included product design, product development, business management and marketing.

At the conclusion of the project in 2011, the technical assistance provided resulted in 14 improved products and the introduction of three new products. Three groups from the community have improved significantly the quality and standards of their products. These producers are now producing goods which are commercially marketable. Most of the remaining groups are working towards having their products ready for the market. Finally, all of the groups have increased their level of sales.

Box E.6: Small-scale sesame value chain in Burkina Faso, and honey and beekeepers in Zambia

The EIF project in Burkina Faso seeks to bring improvements to the sesame sector and its actors, many of whom are small-scale operators, by setting up inter-professional organizations, increasing the technical capabilities of producers, and facilitating access to financing. It also seeks to contribute to the growth of the sesame export revenues and improve the incomes of rural farmers, producers and entrepreneurs who are involved in the sesame value chain. The sesame project strongly emphasizes employment of female farmers, who represent 43 per cent of the sector.

The project has allowed Burkinabe sesame operators to explore market opportunities and develop business relationships with countries from Africa, the Americas, Asia, Europe and the Middle East. It has improved the crop yield of more than 5,000 producers and extension agents, leading to an increase in sesame yield per hectare of from 521 kg in 2012 to 602 kg in 2014, and a more than three-fold expansion in sesame seed production between 2012 and 2014. The capacity of 102 female stakeholders to comply with SPS measures has been improved. In addition, seven SMEs were helped to develop their business plans for 2014 and 2015, and meetings were organized during 2015 with local financial institutions and sesame sector stakeholders to discuss issues related to access to finance.

In the EIF project in Zambia, which commenced in January 2013, training was provided to more than 5,000 small-scale honey producers across the country, with a focus on young people and women. This has enabled them to be linked with the main buyers of bee products. In addition, the project has facilitated the construction of bulking centres used for storage and as selling points, which have significantly reduced transaction costs and improved honey marketing and productivity. The honey and beekeeping project also looks at the investments possible in eco-friendly business solutions for rural households, with the potential to build their ability to trade while managing the forest environment, and to stimulate and increase yields of various crops, trees and plants through bee pollination. So far the project has increased the production capacity of beekeepers from 500 tonnes of honey to 753 tonnes.

in developing countries. It offers project grant financing up to a maximum of US\$ 1 million.

Over the years, it has evolved from being a financing mechanism to a coordination and knowledge platform.

By bringing together the SPS expertise and skills of its founding partners and other organizations and donors, the STDF provides a unique forum to raise awareness, exchange information, identify and disseminate good practice, encourage collaboration and synergies, and

generally enhance the effectiveness of SPS capacity-building. Recent examples of topics addressed by the STDF include: (i) assessment and prioritization of SPS needs; (ii) public-private partnerships to build SPS capacity; and (iii) enhancing the effectiveness and efficiency of SPS border controls, in the broader context of trade facilitation. Results of this and other STDF work are summarized in short practical briefing notes highlighting recommendations and lessons learned, including for SMEs.

As an example, based on regional research in Southeast Asia and Southern Africa and other projects, the STDF issued a briefing note in 2015 that identified good practices to improve the implementation of SPS controls and reduce trade costs.³³ Simplifying SPS procedures may also entice more small-scale traders to utilize formal channels, which may have additional health benefits. In October 2015, Zambia reported to the WTO SPS Committee on how some of the findings and recommendations of the STDF work are being implemented, and that benefits included increased participation of Zambian SMEs and small traders in international trade and more support for integration into global agro value chains.

Box E.7 gives an example of a SME-focused project in the cocoa sector in Southeast Asia.

5. Conclusions

This section has documented the multiple layers of international cooperation directed at SME trade participation. The overarching conclusion is that SMEs figure prominently in multilateral and preferential trade agreements and in the work programmes of international organizations.

The analysis of 269 RTAs currently in force and notified to the WTO as of March 2016 suggests that almost half of all the notified RTAs (133 agreements) incorporate at least one provision mentioning explicitly SMEs, mostly couched in best endeavour language. In parallel, the number of detailed SMEs-related provisions included in a given RTA has tended to increase in recent years. A limited but increasing number of agreements incorporate specific provisions in dedicated articles or even chapters on SMEs. If the Trans-Pacific Partnership and EU-Canada Comprehensive Economic and Trade Agreement are any indication, the language and forms of SMEs-related provisions in RTAs are likely to continue to evolve and become more pragmatic.

The most common category of SMEs-related provisions is that which promotes cooperation on SMEs in general or in a specific context, such as e-commerce and government procurement. Provisions exempting

Box E.7: CocoaSafe: SPS capacity-building and knowledge-sharing in the cocoa sector in Southeast Asia

The production and export of cocoa provides a livelihood for thousands of smallholder farmers in Southeast Asia. In Indonesia, the third-largest producer and exporter of cocoa in the world, 500,000 smallholder farmers account for approximately 87 per cent of cocoa production. However, producers face three main problems. First, most of the cocoa beans produced in Southeast Asia are of a moderate grade. Second, the productivity of smallholder farmers is typically low. Third, these SMEs tend not to implement the best production practices. As a result cocoa beans can be contaminated during the production process as well as during the drying, storage and processing procedures.

Ensuring continued access by Southeast Asian cocoa producers to high-value markets such as the European Union, Japan and the United States requires them to minimize contamination of cocoa beans and comply with an increasing number of food safety and SPS measures. To help them achieve these goals, the STDF, along with a number of partner organizations, established the CocoaSafe project. The project promotes good agricultural and manufacturing practices and other best practices at all stages of the cocoa value chain, so that high-quality cocoa beans, which comply with food safety and international SPS standards, are produced. In addition, the safety of farmers is also expected to improve thanks to the provision of training in how to handle produce, apply chemicals more safely and integrate better storage practices.

Added to this is the expectation that, by developing the knowledge base and capacity of producers, even other non-producer SME stakeholders along the value chain, such as agriculture dealers, will benefit from the project's training programme because their ability to offer effective advice to farmers and to sell targeted inputs to farmers will be improved. In Indonesia, for instance, facilitators are providing training events for small processors, while project experts from Malaysia are supporting medium-scale processors and traders in Indonesia. The experience and knowledge gained from this cocoa project can be applied to support SMEs operating in other commodity sectors, such as coffee and rice.

measures relating to SMEs and/or programmes supporting SMEs with regard to RTA obligations are the second most common. This is not surprising, given that SMEs are more adversely affected by trade costs and market failures than larger firms. Many governments, particularly in developing countries, may lack the appropriate policy tools to correct these market failures. Instead, SME support programmes are used as second-best policy tools to remedy market failures. Consequently, governments prefer to preserve these programmes even as they sign international agreements.

Although SMEs are not always specifically mentioned in WTO Agreements, multilateral rules have the effect of levelling the trading field, alleviating some major constraints faced by SME traders and thereby fostering SME participation in international trade. Multilateral rules reduce both the variable and fixed costs of trade that hinder SMEs from entering foreign markets, and they help reduce the information burden of some WTO Agreements on SMEs. The WTO's work in the area of capacity building, which tries to expand the trading opportunities of its developing country members, has a prominent SME component.

WTO rules also include a number of flexibilities that, in a similar fashion to the exemptions included in RTAs, address the public policy concerns of governments wishing to support 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. They give members greater leeway to promote the technological development of their SMEs. They allow members to provide preferential treatment to their SMEs.

There are a number of areas in which cooperation at the multilateral level could contribute to unlock SMEs' trading potential.

One area where there is progress to be made is that of transparency. This report has shown that transparency would be of particular benefit to SMEs.³⁴ While almost every WTO Agreement includes transparency provisions, their objective is not necessarily to inform SMEs. Providing relevant information to firms in the private sector and SMEs in particular is the responsibility of the ITC (see Section E.3). There are, however, a number of areas in which changes in the transparency mechanisms could help SMEs participate in trade. The Alert System for SPS and TBT Notifications discussed in this section is one example of an important step in the direction of increased transparency, notably on standards and regulations, with the potential to foster SME trade participation. The Alert System could be further improved by specifically facilitating the

involvement of small firms in tracking, consulting and commenting on draft regulations of interest.

Also, transparency procedures could be further enhanced. Currently, only draft technical regulations and standards that are not based on international standards have to be notified. The SPS and TBT Committees have recommended notifying even those regulations that are based on international standards. Members could agree to move in this direction, and also to notify their final regulations.

Moreover, as argued in this section, various WTO Agreements include the obligation to provide information on relevant measures through enquiry points. There is already a *de facto* expansion in the use of enquiry points. Domestic enquiry points, for instance, are more and more used by home firms (large and small) to obtain market access information, i.e. enquiry points are progressively becoming repositories of information about export markets. This is useful for firms, in particular SMEs, wanting to diversify across export destinations. Instead of seeking information from each enquiry point in the targeted export market, they can collect all this information from their own country's enquiry point.

A second area for improvement is cooperation among international organizations that deal with SMEs, and in particular, with their participation in trade. The WTO Director-General's initiative of April 2016 – aimed at enhancing existing trade finance facilitation programmes to reduce the financing gap that particularly affects SMEs – is a prime example of how the WTO can serve as a catalyst for enhanced inter-agency cooperation. Other such examples are the aforementioned Alert System for SPS and TBT Notifications, involving the WTO and UN DESA; the EIF, involving the WTO, IMF, ITC, UNCTAD, UNDP and World Bank; and the STDF, involving the WTO, FAO, OIE, World Bank and WHO.

Even in areas where there are no formal collaboration arrangements or joint work programmes, increased coordination among international organizations is desirable to reduce unnecessary duplication and make efforts more complementary with one another. For instance, in e-commerce, which has the potential to greatly increase SME participation, there is a natural division of labour between the WTO and the ITC. The former is a forum for national governments to negotiate commitments based on the basic principles of non-discrimination. The latter is directly engaged with the business sector, in particular with SMEs in developing countries.

Finally, further research would be welcome in at least two areas. First, it is important to better understand how

SMEs could benefit more from technical assistance aimed at fostering their internationalization. Second, studies are needed to analyse the effectiveness of the provisions related to SMEs in RTAs and WTO

agreements, in other words, to determine what provisions work and what provisions do not. The outcome of this research would be invaluable to policy-makers and to trade negotiators.

Endnotes

- 1 One should emphasize that both developing and developed countries offer targeted financing assistance to their SMEs. To take an example of an industrial country, the UK Government has a range of policies for increasing the supply of finance to SMEs and addressing the market failures preventing some viable SMEs from raising finance. One such facility is the Enterprise Capital Funds, which are commercially managed venture capital funds that provide equity finance to high growth potential SMEs initially seeking up to £2m of finance. See van der Schans (2012).
- 2 Consider the case of the Philippines which just established its competition authority in January 2016. See <http://www.wsj.com/articles/philippines-hopes-to-unleash-its-entrepreneurial-upstarts-1460574000>.
- 3 This effect requires a much more extended explanation which can be found in Flam and Helpman (1987) or in Helpman and Krugman (1989).
- 4 The only exception is a recent study by Cernat and Lodrant (Cernat and Lodrant, 2016) analysing SME-related provisions in 28 regional trade agreements negotiated by the European Union and the United States between 1990 and 2014.
- 5 The WTO's RTA database (<http://rtais.wto.org>) contains detailed information on all the RTAs notified to the GATT/WTO. As of May 2016, some 629 notifications of RTAs (counting goods, services and accessions separately) have been received by the GATT/WTO. Of these, 423 are in force. These WTO figures correspond to 458 physical RTAs (counting goods, services and accessions together), of which 270 are currently in force. Accessions to an existing RTA are excluded from the analysis in this report.
- 6 The parties to the TPP are Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Viet Nam.
- 7 The TPP's government procurement chapter is closely aligned with the GPA (Anderson and Pelletier, 2016).
- 8 See <http://www.intracen.org/itc/about>.
- 9 See <http://www.intracen.org/itc/projects/trade-and-environment>.
- 10 An example is the export promotion programme in Argentina (2011). One of its goals was to develop export promotion instruments for SMEs.
- 11 The ADBI-IDB (Asian Development Bank Institute-Inter-American Development Bank) 2015 Latin America/Caribbean and Asia/Pacific Economics and Business Association (LAEBA) Seminar on SME Internationalization, for instance, took place in Tokyo in January 2015.
- 12 See <http://www.adb.org/projects/48342-001/main>.
- 13 Start and Improve your Business (SIYB); Women's Entrepreneurship Development (WED); Know your Business (KYB).
- 14 Sustaining Competitive and Responsible Enterprisers (SCORE).
- 15 The authors also provide estimates of the *ad valorem* tariff equivalent of the uncertainty created by the gap between applied and bound rates.
- 16 According to Annex F of the Hong Kong Ministerial Declaration, "developed-country Members ... and developing-country Members declaring themselves in a position to do so ... shall provide duty-free and quota-free market access for at least 97 per cent of products originating from LDCs, defined at the tariff line level".
- 17 A SIEF is a forum to share data and other information on a given substance.
- 18 The REACH regulation was discussed over several years in the TBT Committee – from 2003 till 2014. For more detail on the latest exchanges see for example G/TBT/M/61 (5 February 2014) paras 2.44-2.48.
- 19 For more detail see WTO official documents G/SPS/GEN/733; G/SPS/GEN/735; G/SPS/R/69 and G/SPS/R/74.
- 20 See WTO official documents G/TBT/417/Rev.1 and RD/TBT/123.
- 21 As of March 2016, a total of 45,000 SPS and TBT notifications has been received.
- 22 Seventh Triennial Review of the Operation and Implementation of the Agreement on Technical Barriers to Trade (G/TBT/37, para. 5.12.d).
- 23 The establishment of enquiry points is also a requirement of the Agreement on Preshipment Inspection (Article 7). Article III of the GATS also includes the obligation on all members to maintain one or more enquiry points.
- 24 Article 5.4 and footnote 13 of the Anti-dumping Agreement.
- 25 See GATT SCM/162 of 19 February 1993.
- 26 Article 6.13 of the Anti-dumping Agreement.
- 27 Footnote 2 of the SCM Agreement.
- 28 As discussed at the beginning of Section E, some market failures disproportionately impact SMEs and may provide an economic justification for this provision in the SCM Agreement.
- 29 See WTO documents IP/C/M/71 and IP/C/M/72.

- 30 See WTO documents S/C/W/340 and S/C/W/345.
- 31 Trade finance facilitation programmes carry a maximum "limit" of guarantees and financing for trade that each institution is willing to extend at any point in time. However, these guarantees and direct financing only apply to short-term trade transactions with typical maturities of 60 to 90 days. Hence, within a year the value of trade transactions financed and guaranteed by these institutions is larger than the overall limit, since, for example, guarantees for 90-day transactions can be used four times per annum (90 days X 4 = 360 days).
- 32 See GPA/113, Annex C of Appendix 2, pp. 439-441.
- 33 The note, as well as the reports and other relevant documentation, is available on the STDF website: <http://www.standardsfacility.org/facilitating-safe-trade>.
- 34 Note that transparency is no free lunch – in the sense that not every domestic constituency is likely to benefit from it (see WTO, 2012, subsection E.4).

F. Conclusions

Micro firms and SMEs are heterogeneous by nature, ranging from small producers of non-tradable services to born-global suppliers of digital products, from low-productivity farmers to producers of fine specialty crops, and from informal tailor shops to formal garment assembly factories.

International trade has long been dominated by large companies, because they have the critical mass, organizational reach and relevant technologies needed to access and supply foreign markets. But thanks to the Internet and the rise of international production networks, many innovative and productive small firms now have the potential to become successful international traders as well. Participation in international trade, once exclusive, can therefore progressively become more inclusive.

The opportunities to connect to world markets created by the information and communication technology (ICT) revolution are particularly relevant for SMEs. E-commerce reduces the costs related to physical distance between sellers and consumers by providing information at a very low cost. Through online platforms, smaller businesses, including from developing countries, can connect with distant customers. The rise of international production networks and of trade in global value chains (GVCs), which has, to a large extent, been made possible by the ICT revolution, also holds great potential to facilitate the internationalization of SMEs. While SMEs may find it difficult to compete along an entire line of activities, they can more readily integrate into GVCs by performing tasks in which they have a comparative advantage.

There are benefits from more inclusive firm participation in international trade. Exporting can improve firm productivity. This is especially true in African countries, where exporting has been found to raise productivity by between 25 per cent and 28 per cent. The quality of SME products can also benefit from involvement in international trade. Furthermore, access to foreign intermediate inputs can increase firms' efficiency, as it allows them to use more diverse and higher quality inputs. Consumers may also benefit from more inclusive firm participation in international trade, due to the wider variety of available goods, including artisanal and custom-made products. And SME participation is a way to share the gains from trade more broadly across society, generating distributional benefits from trade.

Indirect forms of internationalization, through GVC participation, can also greatly benefit SMEs. Through

GVCs, SMEs can overcome knowledge gaps about the type and quality of products and technologies required by global markets. They can find customers and reduce the uncertainties and risks associated with operating in foreign markets. This is particularly relevant for SMEs in developing countries, which tend to be more information-constrained. The prospect of participating in GVCs provides incentives to innovate. Furthermore, to become suppliers of large multinationals, SMEs are increasingly required to adhere to codes of conduct and programmes for sustainable supply chain management, including best practices on issues such as health and safety, labour rights, human rights, anti-corruption practices and environmental impact. This can create benefits for society at large.

New trade theories suggest that only the most productive firms export and that exporting is concentrated, with a few very large firms accounting for most exports. SMEs are, on average, less productive than large firms. Accordingly, this report has shown that relatively few SMEs export (compared to large firms) and that they account for a relatively small fraction of overall exports. In developing countries, the sum of direct and indirect exports by SMEs represents on average just 10 per cent of total manufacturing sales, compared to 27 per cent for large manufacturing firms. In developed economies, the share of SMEs in gross exports ranges from 28 per cent (taking only direct exports into account) to 41 per cent (including indirect exports).

This report has argued, however, that SME participation in trade is neither well documented nor well understood. First, there is no consistent definition of SMEs. Second, there is a general lack of internationally comparable data. Third, SME participation in trade through GVCs can be underestimated if the direct or indirect sales of intermediates by SMEs to exporting firms in their home countries – a form of indirect GVC integration along domestic value chains – are not appropriately taken into account. Fourth, existing data on e-commerce do not allow for quantification of the effects of e-commerce on SME export activities. Better data collection and more research are therefore needed to be able to characterize the various forms of SME participation in trade.

Various obstacles hinder the participation of SMEs in trade, despite the emergence of new opportunities and the benefits that can be expected from the connection of SMEs to world markets. Most obstacles are internal to firms, as they are related to managerial skills, workforce capacity and the capability to adopt new technologies,

to innovate and, ultimately, to increase productivity. Other obstacles are external. Access to information about foreign distribution networks, border regulations and standards are among the main obstacles to SME participation in exports. All these trade costs mostly include a fixed component. It is not surprising that they fall disproportionately on small, rather than large, firms. More surprisingly, this report has presented evidence suggesting that variable costs – such as transport and logistic costs and tariffs – also disproportionately affect SMEs.

There are also obstacles specific to access to e-commerce and GVC participation. Problems related to the logistics for shipping a good or delivering a service, ICT security and data protection, and payment-related problems are the major issues SMEs face relative to web sales. Logistics and infrastructure costs, regulatory uncertainty and access to skilled labour are among the major challenges for SMEs attempting to join production networks.

While the literature on trade agreements has only recently started to consider firm heterogeneity, in reality SMEs figure prominently in multilateral and preferential trade agreements and in the work programmes of international organizations. Many governments, particularly in developing countries, use SME support programmes as second-best policy tools to remedy those market failures that particularly affect SMEs. Governments may want to preserve such programmes even as they sign up to international agreements. This is reflected in the various SME-related exemptions found both in regional trade agreements and in WTO agreements.

The primary objective of international cooperation on SMEs, however, is the creation of a more inclusive trading system that contributes to unlocking SMEs' trading potential. Multilateral rules that reduce both the variable

and fixed costs of trade, such as those contained in the WTO Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures, the Technical Barriers to Trade (TBT) Agreement and the Trade Facilitation Agreement (TFA), have the effect of levelling the trading field, alleviating some major constraints faced by SME traders. Transparency provisions help reduce the information burden of most WTO agreements on SMEs, from developing and developed countries alike. The WTO's work in the area of capacity-building, which tries to expand trading opportunities of its developing country members, has a prominent SME component. As argued in Section E, internationally-oriented SMEs from least-developed countries (LDCs) are also likely to particularly benefit from duty-free and quota-free market access, the preferential rules of origin for LDC exports and the services waiver adopted at the Tenth WTO Ministerial Conference in Nairobi in 2015, and the recently launched initiative aimed at enhancing existing trade finance facilitation programmes.

This report has argued that progress can be made in a number of areas. Transparency mechanisms could be further enhanced with a view to make it easier for SMEs to access information. More research is needed to establish clearly what works and what does not when it comes to SME-related provisions in trade agreements, including multilateral ones. The outcome of this research would be invaluable to policy-makers and to trade negotiators. Last, but certainly not least, cooperation and coordination among international organizations should be deepened, so as to make their efforts directed at SME internationalization more complementary with one another.

Bibliography

- Abebe, M. (2014), "Electronic commerce adoption, entrepreneurial orientation and small- and medium-sized enterprise (SME) performance", *Journal of Small Business and Enterprise Development* 21(1): 100-116.
- Abonyi, G. (2005), "Transformation of Global Production, Trade and Investment: Global Value Chains and International Production Networks", Expert Group Meeting on SMEs Participation in Global and Regional Supply Chains, UNESCAP, Bangkok.
- Adlung, R. and Soprana, M. (2013), "SMEs in Services Trade – A GATS Perspective", *Intereconomics* 48(1): 41-50.
- Aeberhardt, R., Buono, I. and Fadinger, H. (2012), "Learning, incomplete contracts and export dynamics: theory and evidence from French firms", Discussion Topic No. 883, Banca D'Italia, Roma.
- African Development Bank (AfDB) (2013) *Supporting the Transformation of the Private Sector in Africa: Private Sector Development Strategy, 2013-2017*, Abidjan: AfDB.
- African Development Bank (AfDB) (2014) *Trade Finance in Africa*, Abidjan: AfDB.
- Al-Hyari, K., Al-Weshah, G. and Alnsour, M. (2012), "Barriers to internationalisation in SMEs: evidence from Jordan", *Marketing Intelligence & Planning* 30(2): 188-211.
- Albornoz, F. and Ercolani, M. (2007), "Learning by exporting: do firm characteristics matter? Evidence from Argentinian panel data", available at <http://ssrn.com/abstract=1023501>
- Albornoz, F., Pardo, H. F. C., Corcos, G. and Ornelas, E. (2012), "Sequential exporting", *Journal of International Economics* 88(1): 17-31.
- Alfaro, L. and Chen, M. X. (2012), "Selection and Market Reallocation: Productivity Gains from Multinational Production", NBER Working Paper No. 18207, National Bureau of Economic Research, Cambridge MA.
- Altomonte, C., Aquilante, T., Bekes, G. and Ottaviano, G. I. P. (2013), "Internationalization and innovation of firms: evidence and policy", *Economic Policy* 28(76): 663-700.
- Alvarez, R. (2004), "Sources of Export Success in Small and Medium-Sized Enterprise: The Impact of Public Programs", *International Business Review* 13(3): 383-400.
- Alvarez, R. and Crespi, G. (2003), "Determinants of technical efficiency in small firms", *Small Business Economics* 20(3): 233-244.
- Amador, J. and Oromolla, L. D. (2008), "Product and Destination Mix in Export Markets", Working Paper No. 17, Banco de Portugal, Lisbon.
- Amiti, M. and Konings, J. (2007), "Trade liberalization, intermediate inputs, and productivity: Evidence from Indonesia", *American Economic Review* 97(5): 1611-1638.
- Amiti, M. and Weinstein, D. (2011), "Exports and Financial Shocks", *Quarterly Journal of Economics* 126(4): 1841-1877.
- Anderson, J. E. and van Wincoop, E. (2004), "Trade Costs", *Journal of Economic Literature* 42(3): 691-751.
- Anderson, R. D., Müller, A. C. and Pelletier, P. (2015), "Regional Trade Agreements and Procurement Rules: Facilitators or Hindrances?", RSCAS Working Paper No. 2015/81, European University Institute, Florence.
- Anderson, R. D. and Pelletier, P. (2016), "The Government Procurement Chapter of the Trans-Pacific Partnership (TPP) Agreement: Initial Assessment and Synergy with the WTO Government Procurement Agreement", unpublished working paper.
- Andersson, M. and Löf, H. (2009), "Learning by exporting revisited: the role of intensity and persistence", *Scandinavian Journal of Economics* 111(4): 893-916.
- Argüello, R., Garcia, A. and Valderrama, D. (2013), "Information Externalities and Export Duration at the Firm Level", Working Paper No. 011035, Universidad del Rosario, Bogota.
- Arkolakis, C. (2011), "A Unified Theory Of Firm Selection And Growth", NBER Working Paper No. 17553, National Bureau of Economic Research, Cambridge MA.
- Arkolakis, C., Eaton, J. and Kortum, S. (2011), "Staggered Adjustment and Trade Dynamics", Working Paper No. 1322, Society for Economic Dynamics, Stonybrook NY.
- Arkolakis, C. and Muendler, M.-A. (2010), "The Extensive Margin of Exporting Products: A Firm-level Analysis", NBER Working Paper No. 16641, National Bureau of Economic Research, Cambridge MA.
- Arndt, C., Buch, C. M. and Mattes, A. (2012), "Disentangling Barriers to Internationalization", *Canadian Journal of Economics* 45(1): 41-63.
- Arudchelvan, M. and Wignaraja, G. (2015), "SME Internationalization through Global Value Chains and Free Trade Agreements: Malaysian Evidence", Working Paper No. 515, Asian Development Bank Institute, Tokyo.
- Asian Development Bank (ADB) (2013) *Asia SME Finance Monitor*, Manila: ADB.
- Asian Development Bank (ADB) (2014) *ADB Trade Finance Gap, Growth, and Jobs Survey*, Manila: ADB.
- Asian Development Bank (ADB) (2015) *Integrating SMEs into Global Value Chains: Challenges and Policy Actions in Asia*, Manila: ADB.
- Association of Chartered Certified Accountants (ACCA) (2010) *Small business: a global agenda*, London: ACCA.
- Atherton, A., Phillpott, T., and Sear, L. (2002) *A Study of Business Support Services and Market Failure*, Foundation for SME Development at the University of Durham.
- Atkeson, A. and Burstein, A. (2010), "Innovation, Firm Dynamics and International Trade", *Journal of Political Economy* 118(3): 433-486.
- Atkin, D. G., Khandelwal, A. K. and Osman, A. (2014), "Exporting and Firm Performance: Evidence from a Randomized Trial", NBER Working Paper No. 20690, National Bureau of Economic Research, Cambridge MA.
- Auboin, M. and Engemann, M. (2013), "Trade finance in periods of crisis: what have we learned in recent years?", Staff Working Paper ERSD-2013-01, WTO, Geneva.
- Auboin, M. and Meier-Ewert, M. (2004), "Improving the Availability of Trade Finance during Financial Crises", Discussion Paper No. 6, WTO, Geneva.

- Audretsch, D. B. (2002), "The Dynamic Role of Small Firms: Evidence from the US", *Small Business Economics* 18(1/3): 13-40.
- Autant-Bernard, C. (2001a), "Science and knowledge flows: evidence from the French case", *Research Policy* 30(7): 1069-1078.
- Autant-Bernard, C. (2001b), "The geography of knowledge spillovers and technological proximity", *Economics of Innovation and New Technology* 10(4): 237-254.
- Autio, E., Sapienza, H. J. and Almeida, J. G. (2000), "Effects of age at entry, knowledge intensity, and imitability on international growth", *Academy of Management Journal* 43(5): 909-924.
- Avendano, R., Daude, C. and Perea, J. (2013), "SME Internationalization through Value Chains: What Role for Finance?", *Revista Integración y Comercio (Integration and Trade Journal)* 37(17): 71-80.
- Aw, B. Y., Roberts, M. J. and Yi Xu, D. (2009), "R&D Investment, Exporting, and Productivity Dynamics", NBER Working Paper No. 14670, National Bureau of Economic Research, Cambridge MA.
- Aw, B. Y., Roberts, M. J. and Xu, D. Y. (2008), "R&D investments, exporting, and the evolution of firm productivity", *American Economic Review* 98(2): 451-456.
- Aw, B.-Y. and Hwang, A. R. (1995), "Productivity and the export market: A firm-level analysis", *Journal of Development Economics* 47(2): 313-332.
- Ayyagari, M., Beck, T. and Demirgüç-Kunt, A. (2007), "Small and medium enterprises across the globe", *Small Business Economics* 29(4): 415-434.
- Ayyagari, M., Demirgüç-Kunt, A. and Maksimovic, V. (2011), "Small vs. Young Firms across the World", Policy Research Working Paper No. 5631, World Bank, Washington DC.
- Ayyagari, M., Demirgüç-Kunt, A. and Maksimovic, V. (2014), "Who creates jobs in developing countries?", *Small Business Economics* 43(1): 75-99.
- Bagwell, K. and Staiger, R. W. (2003), *The Economics of the World Trading System*, Cambridge MA: MIT Press.
- Bala Subrahmanya, M. H., Mathirajan, M. and Krishnaswamy, K. N. (2010), "Importance of technological innovation for SME growth: evidence from India", Working Paper No. 2010/03, UNU-WIDER, United Nations University.
- Baldwin, J. R. and Gu, W. (2003), "Export-market participation and productivity performance in Canadian manufacturing", *Canadian Journal of Economics* 36(3): 634-657.
- Baldwin, J. R., Hanel, P. and Sabourin, D. (2002), "Determinants of innovative activity in Canadian manufacturing firms", in Kleinknecht, A. and Mohen, P. (eds), *Innovation and Firm Performance*, Houndmills (UK) and New York: Palgrave.
- Baldwin, R. E. (2005), "Heterogenous Firms and Trade: Testable and Untestable Properties of the Melitz Model", NBER Working Paper No. 11471, National Bureau of Economic Research, Cambridge MA.
- Banerjee, A. V. and Duflo, E. (2005), "Growth Theory through the Lens of Development Economics", in Aghion, P. and Durlauf, S.N. (eds), *Handbook of Economic Growth, Volume 1A*, Amsterdam: Elsevier/North Holland: 473-552.
- Barba Navaretti, G., Castellani, D. and Disdier, A. C. (2010), "How does investing in cheap labour countries affect performance at home? Firm-level evidence from France and Italy", *Oxford Economic Papers* 62(2): 234-260.
- Bartelsman, E., Haltiwanger, J. and Scarpetta, S. (2013), "Cross-country differences in productivity: the role of allocation and selection", *American Economic Review* 103(1): 305-334.
- Bas, M. (2012), "Input-trade liberalization and firm export decisions: evidence from Argentina", *Journal of Development Economics* 97(2): 481-493.
- Bas, M. and Strauss-Kahn, V. (2012), "Trade liberalization and export prices: the case of China", Working Paper, Paris: ESCP-Europe.
- Bas, M. and Strauss-Kahn, V. (2014), "Does importing more inputs raise exports? Firm-level evidence from France", *Review of World Economics* 150(2): 241-275.
- Basile, R. (2001), "Export behaviour of Italian manufacturing firms over the nineties: the role of innovation", *Research Policy* 30(8): 1185-1201.
- Bausch, A. and Krist, M. (2007), "The effect of context-related moderators on the internationalization-performance relationship: evidence from meta-analysis", *Management International Review* 47(3): 319-347.
- Beamish, P. W. (1999), "The role of alliances in international entrepreneurship", *Research in Global Strategic Management* 7(1): 43-61.
- Beaudry, C. and Swann, P. (2001), "Growth in industrial clusters: a bird's eye view of the United Kingdom", Discussion Paper No. 00-38, Stanford Institute for Economic Policy Research, Stanford.
- Beck, T. (2002), "Financial development and international trade: is there a link?", *Journal of International Economics* 57(1): 107-131.
- Beck, T., Demirguc-Kunt, A. and Soledad Martinez Peria, M. (2008), "Bank Financing for SMEs around the World: Drivers, Obstacles, Business Models, and Lending Practices", Policy Research Working Paper No. 4785, World Bank, Washington DC.
- Beck, T. and Demirguc-Kunt, A. (2006), "Small and Medium-Size Enterprises: Access to Finance as a Growth Constraint", *Journal of Banking and Finance* 30(11): 2931-2943.
- Beck, T., Demirgüç-Kunt, A. and Levine, R. (2005), "SMEs, growth, and poverty: cross-country evidence", *Journal of Economic Growth* 10(3): 199-229.
- Bellone, F., Musso, P., Nestaz, L. and Schiavo, S. (2010), "Financial Constraints and Firm Export Behaviour", *The World Economy* 33(3): 347-373.
- Benguria, F. (2015), "The matching and sorting of exporting and importing firms: theory and evidence", available at <http://ssrn.com/abstract=2638925>
- Benito-Osorio, D., Colino, A., Guerras-Martin, L. A. and Zuniga-Vicente, J. A. (2016), "The international diversification-performance link in Spain: does firm size really matter?", *International Business Review* 25(2): 548-558.
- Berman, N., Berthou, A. and Héricourt, J. (2015a), "Export dynamics and sales at home", *Journal of International Economics* 96(2): 298-310.
- Berman, N. and Héricourt, J. (2010), "Financial Factors and the Margins of Trade: Evidence from Cross-Country Firm-Level Data", *Journal of Development Economics* 93(2): 206-217.
- Berman, N., Martin, P. and Mayer, T. (2012), "How do Different Exporters React to Exchange Rate Changes?", *Quarterly Journal of Economics* 127(1): 437-492.

- Berman, N., Rebeyrol, V. and Vicard, V. (2015b), "Demand learning and firm dynamics: evidence from exporters", Working Paper No. 551, Banque de France, Paris.
- Bernard, A. B. and Jensen, J. B. (1999), "Exceptional exporter performance: cause, effect, or both?", *Journal of International Economics* 47(1): 1-25.
- Bernard, A. B., Jensen, J. B., Redding, S. J. and Schott, P. K. (2011), "The Empirics of Firm Heterogeneity and International Trade", *Annual Review of Economics* 4: 283-313.
- Bernard, A. B., Jensen, J. B., Redding, S. J. and Schott, P. K. (2007), "Firms in International Trade", *Journal of Economic Perspectives* 21(3): 105-130.
- Bernard, A. B., Massari, R., Reyes, J.-D. and Taglioni, D. (2014), "Exporter Dynamics, Firm Size and Growth, and Partial Year Effects", NBER Working Paper No. 19865, National Bureau of Economic Research, Cambridge MA.
- Bernard, A. B., Redding, S. J. and Schott, P. K. (2006), "Multi-Product Firms and Trade Liberalization", NBER Working Paper No. 12782, National Bureau of Economic Research, Cambridge MA.
- Bernard, A. B. and Wagner, J. (1997), "Exports and success in German manufacturing", *Weltwirtschaftliches Archiv* 133(1): 134-157.
- Berthou, A. and Vicard, V. (2015), "Firms' Export Dynamics: Experience Versus Size", *The World Economy* 38(7): 1130-1158.
- Biesebroeck, V. (2005), "Exporting raises productivity in Sub-Saharan African manufacturing firms", *Journal of International Economics* 67(2): 373-391.
- Bigsten, A., Collier, P., Dercon, S., Fafchamps, M., Gauthier, B., Gunning, J. W., Oduro, A., Oostendorp, R., Pattilo, C., Söderbom, M., Teal, F. and Zeufack, A. (2004), "Do African Manufacturing Firms Learn from Exporting?", *Journal of Development Studies* 40(3): 115-141.
- Blalock, G. and Gertler, P. J. (2008), "Welfare gains from foreign direct investment through technology transfer to local suppliers", *Journal of International Economics* 74(2): 402-421.
- Boermans, M. A. and Roelfsema, H. (2015), "The effects of internationalization on innovation: firm-level evidence for transition economies", *Open Economies Review* 26(2): 333-350.
- Bombardini, M. (2008), "Firm heterogeneity and lobby participation", *Journal of International Economics* 75(2): 329-348.
- Brambilla, I., Depetris-Chauvin, N. and Porto, G. G. (2014), "Wage and Employment Gains from Exports: Evidence from Developing Countries", Working Paper No. 2015-28, CEPII, Paris.
- Bratti, M. and Felice, G. (2012), "Buyer-Supplier Relationships, Internationalization and Product Innovation", EFIGE Working Paper No. 54, European Firms in a Global Economy, Brussels.
- Bresnahan, T. and Gambardella, A. (2004), *Building High-Tech Clusters: Silicon Valley and Beyond*, London, UK: Cambridge University Press.
- Bricongne, J.-C., Fontagné, L., Gaulier, G., Taglioni, D. and Vicard, V. (2012), "Firms and the global crisis: French exports in the turmoil", *Journal of International Economics* 87(1): 134-146.
- Brouthers, L. E. and Nakos, G. (2005), "The role of systematic international market selection on small firms' export performance", *Journal of Small Business Management* 43(4): 363-381.
- Buono, I. and Fadinger, H. (2012), "The micro dynamics of exporting: evidence from French firms", Discussion Topic No. 880, Banca d'Italia, Roma.
- Burstein, A. and Melitz, M. J. (2011), "Trade liberalization and firm dynamics", NBER Working Paper No. 16960, National Bureau of Economic Research, Cambridge MA.
- Bustos, P. (2011), "Trade liberalization, exports, and technology upgrading: Evidence on the impact of MERCOSUR on Argentinian firms", *American Economic Review* 101(1): 304-340.
- Butani, S. J., Clayton, R. L., Kapani, V., Spletzer, J. R., Talan, D. M. and Werking, G. S., Jr. (2006), "Business employment dynamics: tabulations by employer size", *Monthly Labor Review* 129(1): 3-22.
- Cabral, L. M. B. and Mata, J. (2003), "On the evolution of the firm size distribution: facts and theory", *American Economic Review* 93(4): 1075-1090.
- Caldera, A. (2010), "Innovation and exporting: evidence from Spanish manufacturing firms", *Review of World Economics* 146(4): 657-689.
- Cassiman, B. and Golovko, E. (2011), "Innovation and internationalization through exports", *Journal of International Business Studies* 42(1): 56-75.
- Cassiman, B., Golovko, E. and Martinez-Ros, E. (2010), "Innovation, exports and productivity", *International Journal of Industrial Organization* 28(4): 372-376.
- Castellani, D., Serti, F. and Tomasi, C. (2010), "Firms in international trade: importers and exporters heterogeneity in Italian manufacturing industry", *The World Economy* 33(3): 424-457.
- Castellani, D. and Zanfei, A. (2007), "Internationalisation, Innovation and Productivity: How do firms differ in Italy?", *The World Economy* 30(1): 156-176.
- Cebeci, T. (2014), "Impact of export destinations on firm performance", Policy Research Working Paper No. 6743, World Bank, Washington DC.
- Cebeci, T., Fernandes, A. M., Freund, C. and Pierola, M. D. (2012), "Exporter Dynamics Database", Policy Research Working Paper No. 6229, World Bank, Washington DC.
- Cernat, L. and Lodrant, M. (2016), "SME Provisions in Trade Agreements and the Case of TTIP", in Rensmann, T. (ed.), *SMEs in International Economic Law*, Oxford University Press (forthcoming).
- Chiao, Y.-C., Yang, K.-P. and Yu, C.-M. J. (2006), "Performance, internationalization, and firm-specific advantages of SMEs in a newly-industrialized economy", *Small Business Economics* 26(5): 475-492.
- Chiru, R. (2007), "Innovativeness and Export Orientation among Establishments in Knowledge-Intensive Business Services (KIBS), 2003", Working Paper, Science and Innovation Surveys Section, Statistics Canada.
- Cieslik, J., Kaciak, E. and Welsh, D. (2012), "The impact of geographic diversification on export performance of small and medium-sized enterprises (SMEs)", *Journal of International Entrepreneurship* 10(1): 70-93.
- CIMB ASEAN Research Institute (CARI) (2015) *Lifting the Barriers to E-commerce in ASEAN*, Chicago: AT Kearney.
- Ciravegna, L., Majano, S. B. and Zhan, G. (2014), "The inception of internationalization of small and medium enterprises: the role of activeness and networks", *Journal of Business Research* 67(6): 1081-1089.

- Ciuriak, D. (2013), "Learning by exporting: a working hypothesis", Working Paper, Ciuriak Consulting Inc., Ottawa.
- Clerides, S. K., Lach, S. and Tybout, J. R. (1998), "Is learning by exporting important? Micro-dynamic evidence from Colombia, Mexico, and Morocco", *Quarterly Journal of Economics* 113(3): 903-947.
- Coad, A. and Rao, R. (2008), "Innovation and firm growth in high-tech sectors: a quantile regression approach", *Research Policy* 37(4): 633-648.
- Coad, A., Segarra, A. and Teruel, M. (2016), "Innovation and firm growth: does firm age play a role?", *Research Policy* 45(2): 387-400.
- Colombelli, A., Krafft, J. and Vivarelli, M. (2016), "To be born is not enough: the key role of innovative start-ups", *Small Business Economics* : 1-15.
- Contractor, F. J. (2007), "Is international business good for companies? The evolutionary or multi-stage theory of internationalization vs. the transaction cost perspective", *Management International Review* 47(3): 453-475.
- Costantini, J. and Melitz, M. (2008), "The Dynamics of Firm-Level Adjustment to Trade Liberalization", in Helpman, E., Marin, D., and Verdier, T. (eds), *The Organization of Firms in a Global Economy*, Cambridge MA and London: Harvard University Press: 107-141.
- Costinot, A., Rodriguez-Clare, A. and Werning, I. (2015), "Micro to macro: optimal trade policy with firm heterogeneity", NBER Working Paper No. 21989, National Bureau of Economic Research, Cambridge MA.
- Crespi, G., Criscuolo, C., Haskel, J. E. and Slaughter, M. (2008), "Productivity growth, knowledge flows, and spillovers", NBER Working Paper No. 13959, National Bureau of Economic Research, Cambridge MA.
- Criscuolo, C., Gal, P. N. and Menon, C. (2014), "The dynamics of employment growth: new evidence from 18 countries", OECD Science, Technology and Industry Working Paper No. 14, Paris: Organisation for Economic Co-operation and Development.
- Criscuolo, C., Haskel, J. E. and Slaughter, M. J. (2010), "Global Engagement and the Innovation activities of firms", *International Journal of Industrial Organization* 28(2): 191-202.
- Criscuolo, P., Nicolaou, N. and Salter, A. (2012), "The elixir (or burden) of youth? Exploring differences in innovation between start-ups and established firms", *Research Policy* 41(2): 319-333.
- Damijan, J. P., Kostevc, C. and Polanec, S. (2010), "From innovation to exporting or vice versa?", *The World Economy* 33(3): 374-398.
- Daunfeldt, S. O., Lang, Å., Macuchova, Z. and Rudholm, N. (2013), "Firm growth in the Swedish retail and wholesale industries", *The Service Industries Journal* 33(12): 1193-1205.
- De Clerq, D., Sapienza, P. and Crijns, H. (2005), "The Internationalization of Small and Medium Sized Firms: The Role of Organizational Learning Effort and Entrepreneurial Orientation", *Small Business Economics* 24(4): 409-419.
- de Kok, J., Deijl, C. and Veldhuis-Van Essen, C. (2013), "Is Small Still Beautiful? Literature Review of Recent Empirical Evidence on the Contribution of SMEs to Employment Creation", Report prepared for the International Labour Organization (ILO), Geneva.
- de Kok, J., Vroonhof, P., Verhoeven, W., Timmermans, N., Kwaak, T., Snijders, J. and Westhof, F. (2011), "Do SMEs create more and better jobs?", Report prepared by EIM for the European Commission DG Enterprise and Industry.
- De Loecker, J. (2007), "Do exports generate higher productivity? Evidence from Slovenia", *Journal of International Economics* 73(1): 69-98.
- Deardorff, A. V. and Stern, R. M. (2008), "Empirical Analysis of Barriers to International Services Transactions and the Consequences of Liberalization", in Mattoo, A., Stern, R.M., and Zanini, G. (eds), *A Handbook of International Trade in Services*, Oxford Scholarship Online.
- Debaere, P., Lee, H. and Lee, J. (2010), "It matters where you go: outward foreign direct investment and multinational employment growth at home", *Journal of Development Economics* 91(2): 301-309.
- Demidova, S. and Rodriguez-Clare, A. (2009), "Trade policy under firm-level heterogeneity in a small economy", *Journal of International Economics* 78(1): 100-112.
- DiCaprio, A., Beck, S. and Daquis, J. C. (2015), "Trade Finance Gap, Growth, and Jobs Survey", Brief No. 45, Asian Development Bank, Manila.
- Donner, J. and Escobari, M. X. (2010), "A review of evidence on mobile use by micro and small enterprises in developing countries", *Journal of International Development* 22(5): 641-658.
- Dumais, G., Ellison, G. and Glaeser, E. L. (2002), "Geographic concentration as a dynamic process", *Review of Economics and Statistics* 84(2): 193-204.
- Durmugoglu, S. S., Apfelthaler, G., Nayir, D. Z., Alvarez, R. and Mughan, T. (2012), "The effect of government-designed export promotion service use on small and medium-sized enterprise goal achievement: a multidimensional view of export performance", *Industrial Marketing Management* 41(4): 680-691.
- Duso, I., Mahadeo, J. D. and Aujayeb-Rogbeer, A. (2013), "Small firm internationalisation and export barriers: the case of Mauritius", Working Paper, University of Mauritius, Moka.
- Eaton, J., Eslava, M., Kugler, M. and Tybout, J. (2007), "Export dynamics in Colombia: Firm-level evidence", NBER Working Paper No. 13531, National Bureau of Economic Research, Cambridge MA.
- eBay (2012) *Small Online Business Growth Report 2012*, San Jose CA: eBay Inc.
- eBay (2014) *Small Online Business Growth Report 2014*, San Jose CA: eBay Inc.
- eBay (2016) *Small Online Business Growth Report 2016*, San Jose CA: eBay Inc.
- Ebling, G. and Janz, N. (1999), "Export and innovation activities in the German service sector: empirical evidence at the firm level", ZEW Discussion Paper No.99-53, Mannheim: Centre for European Economic Research.
- ECommerce Europe (2015) *Analysis of the Survey "Barriers to Growth"*, Brussels: European Commission.
- Economist Intelligent Unit (EIU) (2010) *SMEs in Japan. A new growth driver?*, London: EIU.
- Edinburgh Group (2013) *Growing the Global Economy through SMEs*, Glasgow: Edinburgh Group.
- Edler, J., Kuhlmann, S. and Behrens, M. (2003), *Changing Governance of Research and Technology Policy: The European Research Area*, Cheltenham (UK): Edward Elgar.
- Egbetokun, A. A., Adeniyi, A. A., Siyanbola, W. O. and Olamide, O. O. (2012), "The types and intensity of innovation in developing country SMEs: evidences from a Nigerian subsectoral study", *International Journal of Learning and Intellectual Capital* 9(1-2): 98-112.

- Eliasson, K., Hansson, P. and Lindvert, M. (2012), "Do firms learn by exporting or learn to export? Evidence from small and medium-sized enterprises", *Small Business Economics* 39(2): 453-472.
- Engel, D., Procher, V. and Schmidt, C. M. (2013), "Does firm heterogeneity affect foreign market entry and exit symmetrically? Empirical evidence for French firms", *Journal of Economic Behavior & Organization* 85: 35-47.
- Engel, D., Rothgang, M. and Trettin, L. (2004), "Innovation and their impact on growth of SME. Empirical evidence from craft dominated industries in Germany", paper presented at the EARIE 2004 Conference, 2-5 September, Berlin.
- Ericson, R. and Pakes, A. (1995), "Markov-perfect industry dynamics: a framework for empirical work", *Review of Economic Studies* 62(1): 53-82.
- Eslava, M., Tybout, J. R., Jinkins, D., Krizan, C. J. and Eaton, J. (2015), "A search and learning model of export dynamics", Meeting Papers No. 1535, Society for Economic Dynamics, Stonybrook NY.
- Esteve-Perez, S. and Rodriguez, D. (2013), "The dynamics of exports and R&D in SMEs", *Small Business Economics* 41(1): 219-240.
- Estrin, S., Mickiewicz, T. and Stephan, U. (2013), "Entrepreneurship, Social Capital, and Institutions: Social and Commercial Entrepreneurship Across Nations", *Entrepreneurship Theory and Practice* 37(3): 479-504.
- European Central Bank (ECB) (2013) *Survey on the Access to Finance of Small and Medium-sized Enterprises in the Euro Area*, Frankfurt: ECB.
- European Commission (2010) *Internationalisation of European SMEs*, Brussels: European Commission.
- European Commission (2013) *A Recovery on the Horizon? Annual Report on European SMEs*, Brussels: European Commission.
- European Commission (2014a) *European Competitiveness Report 2014: Helping Firms Grow*, Brussels: European Commission.
- European Commission (2014b) *Small and Medium Sized Enterprises and the Transatlantic Trade and Investment Partnership SMEs*, Brussels: European Commission.
- Eurostat and Organisation for Economic Co-operation and Development (OECD) (2007), *Eurostat-OECD Manual on Business Demography Statistics*. Luxembourg, Office for Official Publications of the European Communities.
- Ezell, S. J. and Atkinson, R. D. (2011) *International Benchmarking of Countries' Policies and Programs Supporting SME Manufacturers*, The Information Technology and Innovation Foundation.
- Falco, P., Kerr, A., Rankin, N., Sandefur, J. and Teal, F. (2011), "The returns to formality and informality in urban Africa", *Labour Economics* 18(S1): S23-S31.
- Falk, M. and Hagsten, E. (2015), "Exporter productivity premium for European SMEs", *Applied Economics Letters* 22(12): 930-933.
- Feenstra, R. C., Luck, P., Obstfeld, M. and Russ, K. (2014), "In Search of the Armington Elasticity", NBER Working Paper No. 20063, National Bureau of Economic Research, Cambridge MA.
- Feenstra, R. C. and Weinstein, D. (2010), "Globalization, Markups and U.S. Welfare", NBER Working Paper No. 15749, National Bureau of Economic Research, Cambridge MA.
- Felbermayr, G. J., Jung, B. and Larch, M. (2013), "Optimal tariffs, retaliation, and the welfare loss from tariff wars in the Melitz model", *Journal of International Economics* 89(1): 13-25.
- Fernandes, A. M., Ferro, E. and Wilson, J. S. (2015), "Product standards and firms' export decisions", Policy Research Working Paper No. 7315, World Bank, Washington DC.
- Fernandes, A. M., Freund, C. and Pierola, M. D. (2016), "Exporter behavior, country size and stage of development: evidence from the exporter dynamics database", *Journal of Development Economics* 119: 121-137.
- Fernandez, Z. and Nieto, M. J. (2005), "Internationalization Strategy of Small and Medium Sized Family Businesses: Some Influential Factors", *Family Business Review* 18(1): 77-89.
- Fernandez-Ribas, A. (2010), "International patent strategies of small and large firms: an empirical study of nanotechnology", *Review of Policy Research* 27(4): 457-473.
- Fisch, J.-H. (2012), "Information costs and internationalization performance", *Global Strategy Journal* 2(4): 296-312.
- Fitzgerald, D. and Haller, S. (2014), "Pricing-to-market: evidence from plant-level prices", *Review of Economic Studies* 81(2): 761-786.
- Flam, H. and Helpman, E. (1987), "Industrial policy under monopolistic competition", *Journal of International Economics* 22(1): 79-102.
- Fliess, B. and Busquets, C. (2006), "The role of trade barriers in SME internationalisation", OECD Trade Policy Working Paper No. 45, Paris: Organisation for Economic Co-operation and Development.
- Folta, T. B., Cooper, A. C. and Baik, Y. S. (2006), "Geographic cluster size and firm performance", *Journal of Business Venturing* 21(2): 217-242.
- Fontagné, L., Orefice, G. and Piermartini, R. (2016), "Making (Small) Firms Happy: The Heterogeneous Effect of Trade Facilitation", WTO Staff Working Paper No. ERSD-2016-03, World Trade Organization, Geneva.
- Fontagné, L., Orefice, G., Piermartini, R. and Rocha, N. (2015), "Product standards and margins of trade: firm-level evidence", *Journal of International Economics* 97(1): 29-44.
- Fox, L. and Sohnesen, T. P. (2012), "Household enterprises in Sub-Saharan Africa: why they matter for growth, jobs, and livelihoods", Policy Research Working Paper No. 6184, World Bank, Washington DC.
- Frenz, M. and Ietto-Gillies, G. (2007), "Does multinationality affect the propensity to innovate? An analysis of the third UK Community Innovation Survey", *International Review of Applied Economics* 21(1): 99-117.
- Freund, C. and Pierola, M. D. (2010), "Export Entrepreneurs: Evidence from Peru", Policy Research Working Paper No. 5407, World Bank, Washington DC.
- Freund, C. and Pierola, M. D. (2015), "Export Superstars", *Review of Economics and Statistics* 97(5): 1023-1032.
- Gengatharen, D. E. (2006), "Assessing the success and evaluating the benefits of government-sponsored regional internet-trading platforms for small and medium enterprises: a Western Australian perspective", PhD Dissertation, School of Management Information Systems, Edith Cowan University, Joondalup, Australia.
- German Development Institute (2015) *Financing Global Development: The Potential of Trade Finance*, Bonn: DIE.

- Gibson, T. and van der Vaart, H. J. (2008), "Defining SMEs: A Less Imperfect Way of Defining Small and Medium Enterprises in Developing Countries", *Brookings Global Economy and Development*, Washington DC.
- Golovko, E. and Valentini, G. (2011), "Exploring the complementarity between innovation and export for SMEs growth", *Journal of International Business Studies* 42(3): 362-380.
- Gopinath, G. and Neiman, B. (2014), "Trade Adjustment and Productivity in Large Crises", *American Economic Review* 104(3): 793-831.
- Gourlay, A., Seaton, J. and Suppakitjarak, J. (2005), "The determinants of export behaviour in UK service firms", *The Service Industries Journal* (25): 879-888.
- Greenaway, D. and Kneller, R. (2008), "Exporting, productivity and agglomeration", *European Economic Review* 52(5): 919-939.
- Grossman, G. M. and Helpman, E. (1991), "Quality ladders in the theory of growth", *Review of Economic Studies* 58(1): 43-61.
- Gumede, V. (2004), "Export Propensities and Intensities of Small and Medium Manufacturing Enterprises in South Africa", *Small Business Economics* 22(5): 379-389.
- Gunaratne, K. A. (2009), "Barriers to internationalisation of SMEs in a developing country", available at <http://www.duplication.net.au/ANZMAC09/papers/ANZMAC2009-336.pdf>
- Hall, B. H., Lotti, F. and Mairesse, J. (2009), "Innovation and productivity in SMEs: empirical evidence for Italy", *Small Business Economics* 33(1): 13-33.
- Hallak, J. C. (2010), "A product-quality view of the linder hypothesis", *Review of Economics and Statistics* 92(3): 453-466.
- Halpern, L., Koren, M. and Szeidl, A. (2005), "Imports and productivity", CEPR Discussion Paper No. 5139, Center for Economic Policy Research, London.
- Haltiwanger, J., Jarmin, R. S. and Miranda, J. (2013), "Who creates jobs? Small versus large versus young", *Review of Economics and Statistics* 95(2): 347-361.
- Haltiwanger, J., Scarpetta, S. and Schweiger, H. (2010), "Cross-country differences in job reallocation: the role of industry, firm size and regulations", Working Paper No. 116, London: European Bank for Reconstruction and Development.
- Han, H. and Piermartini, R. (2016), "Trade facilitation does benefit SMEs", forthcoming working paper, Geneva: WTO.
- Head, K., Mayer, T. and Thoenig, M. (2014), "Welfare and Trade Without Pareto", *American Economic Review* 104(5): 310-316.
- Helpman, E. and Krugman, P. R. (1985), *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition, and the International Economy*, Cambridge MA: MIT Press.
- Helpman, E. and Krugman, P. R. (1989), *Trade Policy and Market Structure*, Cambridge MA: The MIT Press.
- Henn, C. and Gnuzman-Mkrtchyan, A. (2015), "The Layers of the IT Agreement's Trade Impact", Staff Working Paper No. ERSD-2015-01, Geneva: WTO.
- Henten, A. and Vad, T. (2001), *Services Internationalisation - Characteristics, Potentials and Barriers*, Copenhagen: Technical University of Denmark, Center for Tele-Information.
- Herman, L. (2010), "Multilateralising Regionalism: The Case of E-Commerce", OECD Trade Policy Working Paper No. 99, Paris: Organisation for Economic Co-operation and Development.
- Hessels, J. and Terjesen, S. (2010), "Resource dependency and institutional theory perspectives on direct and indirect export choices", *Small Business Economics* 34(2): 203-220.
- Hijzen, A., Pisu, M., Upward, R. and Wright, P. W. (2011), "Employment, job turnover, and trade in producer services: UK firm-level evidence", *Canadian Journal of Economics* 44(3): 1020-1043.
- Hitt, M. A., Hoskisson, R. E. and Kim, H. (1997), "International diversification: effects on innovation and firm performance in product-diversified firms", *Academy of Management Journal* 40(4): 767-798.
- Hoekman, B. (2014), "The Bali Trade Facilitation Agreement and rulemaking in the WTO: milestone, mirage, or mistake?", RSCAS Working Paper No. 2014/102, Florence: European University Institute.
- Hoekman, B. and Shepherd, B. (2015), "Services Productivity, Trade Policy, and Manufacturing Exports", Working Paper RSCAS 2015/07, Florence: European University Institute.
- Hoffman, K., Parejo, M., Bessant, J. and Perren, L. (1998), "Small firms, R&D, technology and innovation in the UK: a literature review", *Technovation* 18(1): 39-55.
- Hollenstein, H. (2005), "Determinants of International Activities: Are SMEs Different?", *Small Business Economics* 24(5): 431-450.
- Hopenhayn, H. A. (1992), "Entry, exit, and firm dynamics in long run equilibrium", *Econometrica* 60(5): 1127-1150.
- Hsieh, C. T. and Ilken, B. A. (2014), "The Missing 'Missing Middle'", *Journal of Economic Perspectives* 28(3): 89-108.
- Hsu, W.-T., Chen, H.-L. and Cheng, C.-Y. (2013), "Internationalization and firm performance of SMEs: the moderating effects of CEO attributes", *Journal of World Business* 48(1): 1-12.
- Hummels, D. L. and Klenow, P. J. (2005), "The variety and quality of a nation's exports", *American Economic Review* 95(3): 704-723.
- Hurst, E. and Pugsley, B. W. (2011), "What do small businesses do?", NBER Working Paper No. 17041, National Bureau of Economic Research, Cambridge MA.
- Imbs, J. and Mejean, I. (2015), "Elasticity Optimism", *American Economic Journal: Macroeconomics* 7(3): 43-83.
- Independent Film & Television Alliance (2010), Written testimony to the USITC, 26 March 2010.
- Industry Canada (2011) *Canadian Small Business Exporters, Special edition: Key small business statistics*, Ottawa: Industry Canada.
- Inter-American Development Bank (IADB) (2014a) *Going Global: Promoting the Internationalization of Small and Mid-Size Enterprises in Latin America and the Caribbean*, Washington DC: IADB.
- Inter-American Development Bank (IADB) (2014b) *Supporting Trade, Integration, and Regional Cooperation in Latin America and the Caribbean*, Washington DC: IADB.
- International Chamber of Commerce (ICC) (2010) *ICC BASIS Submission to Enhanced Cooperation Consultation*, Paris: ICC.
- International Chamber of Commerce (ICC) (2014) *Rethinking Trade and Finance, ICC Global Survey on Trade and Finance*, Paris: ICC.

- International Chamber of Commerce (ICC) (2015) *ICC Anti-Corruption Third Party Due Diligence: A Guide for Small and Medium Size Enterprises*, Paris: ICC.
- International Finance Corporation (IFC) (2011) *Strengthening Access to Finance for Women-Owned SMEs in Developing Countries*, Washington DC: IFC.
- International Finance Corporation (IFC) (2016), "MSME Country Indicators", available at www.ifc.org/msmecountryindicators
- International Labour Organization (ILO) (2015) *Small and medium-sized enterprises and decent and productive employment creation*, Geneva: ILO.
- International Telecommunication Union (ITU) (2015) *Measuring the Information Society*, Geneva: ITU.
- International Trade Center (ITC) (2015a) *50 Years of Unlocking SME Competitiveness: Lessons for the Future*, Geneva: ITC.
- International Trade Center (ITC) (2015b) *International E-Commerce in Africa: The Way Forward*, Geneva: ITC.
- International Trade Center (ITC) (2015c) *SME Competitiveness Outlook 2015: Connect, Compete and Change for Inclusive Growth*, Geneva: ITC.
- International Trade Center (ITC) (2015d) *The Invisible Barriers to Trade - How Businesses Experience Non-tariff Measures*, Geneva: ITC.
- International Trade Center (ITC) (2016) *Bringing SMEs onto the e-Commerce Highway*, Geneva: ITC.
- International Trade Center (ITC) and World Trade Organization (WTO) (2014) *SME Competitiveness and Aid for Trade: Connecting Developing Country SMEs to Global Value Chains*, Geneva: ITC and WTO.
- Irrazabal, A., Moxnes, A. and Opmolla, L. D. (2015), "The Tip of the Iceberg: A Quantitative Framework for Estimating Trade Costs", *Review of Economics and Statistics* 97(4): 777-792.
- Javorcik, B. S. (2004), "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers Through Backward Linkages", *American Economic Review* 94(3): 605-627.
- Javorcik, B. S. and Spatareanu, M. (2008), "To Share or Not to Share: Does Local Participation Matter for Spillovers from Foreign Direct Investment?", *Journal of Development Economics* 85(1): 194-217.
- Johanson, J. and Vahlne, J. E. (1977), "The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments", *Journal of International Business Studies* 8(1): 23-32.
- Johnson, H. G. (1953), "Optimum tariffs and retaliation", *Review of Economic Studies* 21(2): 142-153.
- Jovanovic, B. (1982), "Selection and the Evolution of Industry", *Econometrica* 50(3): 649-670.
- Jung, A., Plottier, C. and Francia, H. (2011), "Firm growth: regional, industry & strategy effects in a Latin American economy", available at <http://www.sre.wu.ac.at/ersa/ersaconfs/ersa11/e110830aFinal01502.pdf>
- Kabiri, F. and Mokshapathy, S. (2012), "A Survey of Export Barriers Faced by Small and Medium Sized Enterprises in Iran", *Indian Journal of Innovation and Developments* 1(7): 549-553.
- Kamel, S. and El Sherif, A. (2001), "The Role of SMEs in Developing Egypt's Tourism Industry using e-commerce", *Management of Engineering and Technology* 2: 60-68.
- Karlsen, T., Silseth, P. R., Benito, G. R. G. and Lawrence, S. W. (2003), "Knowledge, Internationalization of the Firm, and Inward-outward Connections", *Industrial Marketing Management* 32(5): 385-396.
- Kasahara, H. and Lapham, B. J. (2006), "Import protection as export destruction", Working Paper No. 20062, University of Western Ontario.
- Kasahara, H. and Rodrigue, J. (2008), "Does the use of imported intermediates increase productivity? Plant-level evidence", *Journal of Development Economics* 87(1): 106-118.
- Kelle, M., Kleinert, J., Raff, H. and Toubal, F. (2013), "Cross-border and foreign-affiliate sales of services: evidence from German micro-data", *The World Economy* 36(11): 1373-1392.
- Korhonen, H., Luostarinen, R. and Welch, L. (1996), "Internationalization of SMEs: inward-outward patterns and government policy", *Management International Review* 36(4): 315-329.
- Korinek, J. (2005), "Trade and Gender: Issues and Interactions", OECD Trade Policy Working Paper No. 24, Paris: Organisation for Economic Co-operation and Development.
- Kox, H. and Nordås, H. K. (2007), "Services Trade and Domestic Regulation", OECD Trade Policy Working Paper No. 49, Organisation for Economic Co-operation and Development, Paris.
- Krugman, P. R. (1979), "Increasing returns, monopolistic competition, and international trade", *Journal of International Economics* 9(4): 469-479.
- Krugman, P. R. (1980), "Scale economies, product differentiation and pattern of trade", *American Economic Review* 70(5): 950-959.
- Kugler, M. and Verhoogen, E. (2008), "The quality-complementarity hypothesis: theory and evidence from Colombia", IZA Working Paper No. 3932, Bonn: Institute for the Study of Labor.
- Kushnir, K., Mirmulstein, M. L. and Ramalh, R. (2010), "Micro, Small, and Medium Enterprises Around the World: How Many Are There, and What Affects the Count?", MSME Country Indicators Analysis Note, available at www.ifc.org/msmecountryindicators
- Kyvik, O., Saris, W., Bonet, E. and Felicio, J. (2013), "The internationalization of small firms: The relationship between the global mindset and firms' internationalization behavior", *Journal of International Entrepreneurship* 11(2): 172-195.
- La Porta, R. and Shleifer, A. (2014), "The Unofficial Economy in Africa", in Edwards, S., Johnson, S., and Weil, D.N. (eds), *African Successes: Government and Institutions*, Chicago, IL: University of Chicago Press.
- Lachenmaier, S. and Woessmann, L. (2006), "Does innovation cause exports? Evidence from exogenous innovation impulses and obstacles using German micro data", *Oxford Economic Papers* 58(2): 317-350.
- Lages, L. F., Lages, C. and Lages, C. R. (2006), "Main consequences of prior export performance results: an exploratory study of European exporters", *Journal of Euromarketing* 15(4): 57-75.
- Lages, L. F. and Montgomery, D. B. (2005), "The relationship between export assistance and performance improvement in Portuguese export ventures. An empirical test of the mediating role of pricing strategy adaptation", *European Journal of Marketing* 39(7-8): 755-784.

- Lakew, Y. D. and Chiloane-Tsoka, G. (2015), "Internationalisation Barriers of Small and Medium-sized Manufacturing Enterprises in Ethiopia: Leather and Leather Products Industry in Focus", *International Journal of Business and Development* 3(3): 68-80.
- Lanz, R. and Piermartini, R. (2016), "Comparative advantage in supply chains", forthcoming working paper, Geneva: WTO.
- Lashkaripour, A. (2013), "Remodeling Trade Elasticities: Price and Quality in the Global Economy", The Pennsylvania State University, available at <http://www.econ.psu.edu/classes-seminars/seminar-documents/Ahmad%20Lashkaripour%20-%20Remodeling%20Trade%20Elasticities%20Price%20and%20Quality%20in%20the%20Global%20Economy.pdf/view>
- Lejárraga, I. and Oberhofer, H. (2013), "Internationalisation of services SMEs: evidence from France", available at <http://www19.iadb.org/intal/intalcdi/PE/2013/12982a07.pdf>
- Lejárraga, I. and Oberhofer, H. (2015), "Performance of small- and medium-sized enterprises in services trade: evidence from French firms", *Small Business Economics* 45(3): 673-702.
- Lejárraga, I., Rizzo, H. L., Oberhofer, H., Stone, S. and Shepherd, B. (2014), "Small and Medium-Sized Enterprises in Global Markets: A Differential Approach for Services?", OECD Trade Policy Working Paper No. 165, Paris: Organisation for Economic Co-operation and Development.
- Lendle, A. and Olarreaga, M. (2014), "Can Online Markets Make Trade More Inclusive?", Discussion Paper No. 349, Washington DC: Inter-American Development Bank.
- Lendle, A., Olarreaga, M., Schropp, S. and Vézina, P.-L. (2013), "eBay's anatomy", *Economic Letters* 121(1): 115-120.
- Lendle, A., Olarreaga, M., Schropp, S. and Vézina, P.-L. (2016), "There goes gravity: eBay and the death of distance", *Economic Journal* 126(591): 406-441.
- Lenzson, G., Gasparski, W., Rok, B., Lacy, P., Lerberg Jorgensen, A. and Steen Knudsen, J. (2006), "Sustainable competitiveness in global value chains: how do small Danish firms behave?", *Corporate Governance: The International Journal of Business in Society* 6(4): 449-462.
- Leonidou, L. C. (2004), "An Analysis of the Barriers Hindering Small Business Export Development", *Journal of Small Business Management* 42(3): 279-302.
- Leonidou, L. C., Katsikeas, D., Palihawadana, D. and Spyropoulou, S. (2007), "An Analytical Review of the Factors Stimulating Smaller Firms to Export", *International Marketing Review* 24(6): 753-770.
- Leung, D., Meh, C. and Terajima, Y. (2008), "Firm size and productivity", Working Paper No. 2008-45, Ottawa: Bank of Canada.
- Levy, P. I. (1994), "Lobbying and international cooperation in tariff setting", Discussion Paper No. 717, Yale University.
- Lileeva, A. and Trefler, D. (2010), "Improved access to foreign markets raises plant-level productivity... for some plants", *Quarterly Journal of Economics* 125(3): 1051-1099.
- Lim, H. and Kimura, F. (2010), "The internationalization of small and medium enterprises in regional and global value chains", Working Paper No. 231, Tokyo: Asian Development Bank Institute.
- López González, J., Kowalski, P. and Achard, P. (2015), "Trade, global value chains and wage-income inequality", OECD Trade Policy Working Paper No. 182, Paris: Organisation for Economic Co-operation and Development.
- Love, J. H. and Ganotakis, P. (2013), "Learning by exporting: Lessons from high-technology SMEs", *International Business Review* 22(1): 1-17.
- Love, J. H. and Mansury, M. A. (2009), "Exporting and productivity in business services: Evidence from the United States", *International Business Review* 18: 630-642.
- Love, J. H. and Roper, S. (2015), "SME innovation, exporting and growth: a review of existing evidence", *International Small Business Journal* 33(1): 28-48.
- Love, J. H., Roper, S. and Zhou, Y. (2015), "Experience, Age and Exporting Performance in UK SMEs", *International Business Review*.
- Lu, J. W. and Beamish, P. W. (2001), "The internationalization and performance of SMEs", *Strategic Management Journal* 22(6-7): 565-586.
- Lu, J. W. and Beamish, P. W. (2004), "International diversification and firm performance: the S-curve hypothesis", *Academy of Management Journal* 47(4): 598-609.
- Lu, J. W. and Beamish, P. W. (2006), "SME internationalization and performance: growth vs. profitability", *Journal of International Entrepreneurship* 4(1): 27-48.
- Lucas, R. E. (1988), "On the mechanics of economic development", *Journal of Monetary Economics* 22(1): 3-42.
- Lucas, R. E. (1993), "Making a miracle", *Econometrica* 61(2): 251-272.
- Lumiste, R., Lumiste, R. and Kilvits, K. (2004), "Estonian manufacturing SMEs innovation strategies and development of innovation networks", Proceedings of 13th Nordic Conference on Small Business Research.
- Luttmer, E. G. J. (2007), "Selection, growth, and the size distribution of firms", *Quarterly Journal of Economics* 122(3): 1103-1144.
- Maertens, M., Colen, L. and Swinnen, J. F. M. (2011), "Globalisation and poverty in Senegal: a worst case scenario?", *European Review of Agricultural Economics* 38(1): 31-54.
- Maertens, M. and Swinnen, J. (2009), "Trade, Standards and Poverty: Evidence from Senegal", *World Development* 37(1): 161-178.
- Maertens, M. and Swinnen, J. (2015), "Agricultural Trade and Development: A Value Chain Perspective", Staff Working Paper No. ERSD-2015-14, Geneva: WTO.
- Maggi, G. and Rodriguez-Clare, A. (1998), "The value of trade agreements in the presence of political pressures", *Journal of Political Economy* 106(3): 829-857.
- Majocchi, A., Bacchiocchi, E. and Mayrhofer, U. (2005), "Firm size, business experience and export intensity in SMEs: A longitudinal approach to complex relationships", *International Business Review* 14(6): 719-738.
- Majocchi, A. and Zucchella, A. (2003), "Internationalization and performance findings from a set of Italian SMEs", *International Small Business Journal* 21(3): 249-268.
- Maksimovic, V. and Phillips, G. (2002), "Do conglomerate firms allocate resources inefficiently across industries? Theory and evidence", *Journal of Finance* 57(2): 721-767.
- Manez-Castillejo, J. A., Rochina-Barrachina, M. E. and Sanchis-Llopis, J. A. (2010), "Does Firm Size Affect Self-selection and Learning-by-exporting?", *The World Economy* 33(3): 315-346.

- Manova, K. (2013), "Credit Constraints, Heterogeneous Firms, and International Trade", *Review of Economic Studies* 80(2): 711-744.
- Mayer, T., Melitz, M. J. and Ottaviano, G. I. P. (2011), "Market Size, Competition, and the Product Mix of Exporters", NBER Working Paper No. 16959, National Bureau of Economic Research, Cambridge MA.
- Mazzucato, M. (2013), "Financing innovation: creative destruction vs. destructive creation", *Industrial and Corporate Change* 22(4): 851-867.
- McKinsey Global Institute (2013a) *Disruptive technologies: Advances that will transform life, business, and the global economy*, San Francisco: McKinsey Global Institute.
- McKinsey Global Institute (2013b) *Disruptive technologies: Advances that will transform life, business, and the global economy*, San Francisco: McKinsey Global Institute.
- McKinsey Global Institute (2015) *Digital America: A tale of the Haves and Have-Mores*, San Francisco: McKinsey Global Institute.
- McKinsey Global Institute (2016) *Digital Globalization: The New Era of Global Flows*, San Francisco: McKinsey Global Institute.
- Melitz, M. J. (2003), "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity", *Econometrica* 71(6): 1695-1725.
- Melitz, M. J. and Ottaviano, G. I. (2008), "Market size, trade, and productivity", *Review of Economic Studies* 75(1): 295-316.
- Melitz, M. J. and Redding, S. J. (2015), "New Trade Models, New Welfare Implications", *American Economic Review* 105(3): 1105-1146.
- Moen, Ø. (1999), "The Relationship Between Firm Size, Competitive Advantages and Export Performance Revisited", *International Small Business Journal* 18(1): 53-72.
- Molina, A. C. and Khoroshavina, V. (2015), "TBT provisions in Regional Trade Agreements: To what extent do they go beyond the WTO TBT Agreement?", WTO Staff Working Paper No. ERSD-2015-09, World Trade Organization, Geneva.
- Musteen, M., Francis, J. and Datta, D. K. (2010), "The influence of international networks on internationalization speed and performance: A study of Czech SMEs", *Journal of World Business* 45(3): 197-205.
- Muûls, M. and Pisu, M. (2009), "Imports and Exports at the Level of the Firm: Evidence from Belgium", *The World Economy* 32(5): 692-734.
- Nakos, G. and Brouthers, K. D. (2002), "Entry Mode Choice of SMEs in Central and Eastern Europe", *Entrepreneurship Theory and Practice* 27(1): 47-63.
- Narayanan, V. (2015), "Export Barriers for Small and Medium-sized Enterprises: A Literature Review based on Leonidou's Mode", *Entrepreneurial Business and Economics Review* 3(2): 105-123.
- National Knowledge Commission (NKC) (2007) *Innovation in India*, New Delhi: Government of India.
- Nazar, M. S. and Saleem, H. M. N. (2009), "Firm-Level Determinants of Export Performance", *International Business & Economics Research Journal* 8(2): 105-112.
- Nelson, R. R. and Winter, S. G. (1978), "Forces generating and limiting concentration under Schumpeterian competition", *Bell Journal of Economics* 9(2): 524-548.
- Nelson, R. R. and Winter, S. G. (1982), "The Schumpeterian tradeoff revisited", *American Economic Review* 72(1): 114-132.
- Neumark, D., Wall, B. and Zhang, J. (2011), "Do small businesses create more jobs? New evidence for the United States from the National Establishment Time Series", *Review of Economics and Statistics* 93(1): 16-29.
- Neupert, K. E., Baughn, C. C. and Lam Dao, T. T. (2006), "SME exporting challenges in transitional and developed economies", *Journal of Small Business and Enterprise Development* 13(4): 535-545.
- Newman, C., Rand, J., Talbot, T. and Tarp, F. (2015), "Technology transfers, foreign investment and productivity spillovers", *European Economic Review* 76: 168-187.
- Nguyen, D. C., Nguyen, N. A., Li, H. A. and Nguyen, T. P. M. (2012), "Innovation and Choice of Exporting Modes under Globalization", in Hahn, C. H. and Narjoko, D.A. (eds), *Dynamics of Firm Selection Process in Globalized Economies*, ERIA Research Project Report 2011, No. 3.
- Nieto, M. J. and Rodriguez, A. (2011), "Offshoring of R&D: looking abroad to improve innovation performance", *Journal of International Business Studies* 42(3): 345-361.
- Nordås, H. K. (2015) *Services SMEs in International Trade: Opportunities and Constraints*, Geneva: The E15 Initiative.
- Oehme, M. and Bort, S. (2015), "SME internationalization modes in the German biotechnology industry: the influence of imitation, network position, and international experience", *Journal of International Business Studies* 46(6): 629-655.
- Okpara, J. O. (2009), "Strategic choices, export orientation and export performance of SMEs in Nigeria", *Management Decision* 47(8): 1281-1299.
- Olson, M. (1965), *The Logic of Collective Action: Public Goods and the Theory of Groups*, Cambridge MA: Harvard University Press.
- Onkelinx, J. and Sleuwaegen, L. E. (2010), "Internationalization strategy and performance of small and medium sized enterprises", Working Paper No. 197, Brussels: National Bank of Belgium.
- Organisation for Economic Co-operation and Development (OECD) (2005) *SME and Entrepreneurship Outlook*, Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2008) *Removing Barriers to SME Access to International Markets*, Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2013) *Fostering SMEs' Participation in Global Markets: Final Report*, Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2014) *Latin American Economic Outlook*, Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2015a) *Data-Driven Innovation: Big data for growth and well-being*, Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) (2015b), "Firm Heterogeneity and Trade in Value Added", Paris: OECD.
- Organisation for Economic Co-operation and Development (OECD) and World Bank (2015) *Inclusive Global Value Chains: Policy options in trade and complementary areas for GVC Integration by small and medium enterprises and low-income developing countries*, Paris and Washington DC: OECD and World Bank.

- Organisation for Economic Co-operation and Development (OECD) and World Trade Organization (WTO) (2013) *Aid for Trade at a Glance: Connecting to Value Chains*, Paris and Geneva: OECD and WTO.
- Orlando, M. J. (2000), "On the importance of geographic and technological proximity for R&D spillovers: an empirical investigation", Working Paper No. 00-02, Federal Reserve Bank of Kansas City.
- Osnago, A., Piermartini, R. and Rocha, N. (2015), "Trade policy uncertainty as barrier to trade", Staff Working Paper No. ERSD-2015-05, Geneva: WTO.
- Ossa, R. (2011), "A 'New Trade' Theory of GATT/WTO Negotiations", *Journal of Political Economy* 119(1): 122-152.
- Pagano, P. and Schivardi, F. (2003), "Firm Size Distribution and Growth", *Scandinavian Journal of Economics* 105(2): 255-274.
- Pangarkar, N. (2008), "Internationalization and performance of small-and medium-sized enterprises", *Journal of World Business* 43(4): 475-485.
- Paunov, C. and Rollo, V. (2016), "Has the Internet fostered inclusive innovation in the developing world?", *World Development* 78: 587-609.
- Pe'er, A. and Vertinsky, I. (2006), "Determinants of Survival of De Novo Entrants in Clusters and Dispersal", available at <http://ssrn.com/abstract=940477>
- Persin, D. (2011), "Market Access for Small versus Large Service Enterprises: The Preferential and Multilateral Trade Liberalization Tracks Compared", *Journal of World Trade* 45(4): 785-819.
- Piermartini, R. and Rubínová, S. (2014), "Knowledge spillovers through international supply chains", Staff Working Paper No. ERSD-2014-11, Geneva: WTO.
- Pietrobelli, C. and Rabellotti, R. (2011), "Global value chains meet innovation systems: are there learning opportunities for developing countries?", *World Development* 39(7): 1261-1269.
- Plouffe, M. (2012), "Liberalization for Sale: Heterogeneous Firms and Lobbying over FTAs", available at <http://ssrn.com/abstract=2105262>
- Porter, M. E. (1990), *The Competitive Advantage of Nations*, New York, NY: Basic Books Publishing.
- Qian, G. (2002), "Multinationality, product diversification, and profitability of emerging US small- and medium-sized enterprises", *Journal of Business Venturing* 17(6): 611-633.
- Rasheed, H. S. (2005), "Foreign Entry Mode and Performance: The Moderating Effects of Environment", *Journal of Small Business Management* 43(1): 41-54.
- Rauch, J. E. and Trindade, V. (2002), "Ethnic Chinese networks in international trade", *Review of Economics and Statistics* 84(1): 116-130.
- Reuber, A. R. and Fischer, E. (1997), "The Influence of the Management Team's International Experience on the Internationalization Behaviors of SMEs", *Journal of International Business Studies* 28(4): 807-825.
- Reyes, J.-D. (2011), "International Harmonization of Product Standards and Firm Heterogeneity in International Trade", Policy Research Working Paper No. 5677, Washington DC: World Bank.
- Riddle, L., Eusebio, R., Andreu, J. L. and Pilar López Belbeze, M. (2007), "Internal Key Factors in Export Performance. A Comparative Analysis in the Italian and Spanish Textile-Clothing Sector", *Journal of Fashion Marketing and Management* 11(1): 9-23.
- Rijkers, B. M. J., Arouri, H., Freund, C. and Nucifora, A. (2014), "Which firms create the most jobs in developing countries? Evidence from Tunisia", *Labour Economics* 31: 84-102.
- Riker, D. (2014), "Internet Use and Openness to Trade", Working Paper No. 2014-12C, Washington DC: US International Trade Commission.
- Roberts, M. J. and Tybout, J. R. (1997), "The decision to export in Colombia: an empirical model of entry with sunk costs", *American Economic Review* 87(4): 545-564.
- Rogers, M. (2004), "Networks, firm size and innovation", *Small Business Economics* 22(2): 141-153.
- Romer, P. M. (1986), "Increasing returns and long-run growth", *Journal of Political Economy* 94(5): 1002-1037.
- Roper, S. and Love, J. H. (2002), "Innovation and export performance: evidence from the UK and German manufacturing plants", *Research Policy* 31(7): 1087-1102.
- Rosenthal, S. S. and Strange, W. C. (2005), "The geography of entrepreneurship in the New York metropolitan area", *Economic Policy Review* 11(2): 29-53.
- Rubini, L. (2011), "Innovation and the Elasticity of Trade Volumes to Tariff Reductions", EFIGE Working Paper No. 31, Brussels: European Firms in a Global Economy.
- Salomon, R. M. and Shaver, J. M. (2005), "Learning by exporting: new insights from examining firm innovation", *Journal of Economics & Management Strategy* 14(2): 431-460.
- Sandberg, K. W. and Hakansson, F. (2014), "Barriers to adapt eCommerce by rural microenterprises in Sweden: a case study", *International Journal of Knowledge and Research in Management and E-Commerce* 4(1): 1-7.
- Sapienza, H. J., Autio, E., George, G. and Zahra, S. A. (2006), "A capabilities perspective on the effects of early internationalization on firm survival and growth", *Academy of Management Review* 31(4): 914-933.
- Schaap, F. and Hekking, J. (2016), "SMEs in international trade: perspectives from developing country SMEs export success in global markets", Background case studies for the World Trade Report 2016, The Hague, Netherlands: Centre for the Promotion of Imports from developing countries (CBI).
- Serti, F. and Tomasi, C. (2008), "Self-selection and post-entry effects of exports: evidence from Italian manufacturing firms", *Review of World Economics* 144(4): 660-694.
- Siedschlag, I. and Zhang, X. (2015), "Internationalisation of firms and their innovation and productivity", *Economics of Innovation and New Technology* 24(3): 183-203.
- Silva, A., Afonso, O. and Africano, A. P. (2012), "Learning-by-exporting: what we know and what we would like to know", *The International Trade Journal* 26(3): 255-288.
- Slaughter, M. J. (2013) *American Companies and Global Supply Networks: Driving US Economic Growth and Jobs by Connecting with the World*, Washington DC: Business Roundtable with the United States Council for International Business and the United States Council Foundation.
- Sleuwaegen, L. and Goedhuys, M. (2002), "Growth of firms in developing countries, evidence from Côte d'Ivoire", *Journal of Development Economics* 68(1): 117-135.
- Smolarski, J. M. and Wilner, N. (2005), "Internationalisation of SMEs: a micro-economic approach", *Journal of Business Chemistry* 2(2): 55-70.

- Sorenson, O. and Audia, P. G. (2000), "The social structure of entrepreneurial activity: geographic concentration of footwear production in the United States, 1940-1989", *American Journal of Sociology* 106(2): 424-462.
- Spearot, A. C. (2013), "Variable demand elasticities and tariff liberalization", *Journal of International Economics* 89(1): 26-41.
- Staritz, C. and Reis, J. G. (2013) *Global Value Chains, Economic Upgrading, and Gender: Case Studies of the Horticulture, Tourism, and Call Center*, Washington DC: World Bank.
- Stephan, U., Hart, M., Mickiewicz, T. and Drews, C.-C. (2015), "Understanding Motivations for Entrepreneurship: A Review of Recent Research Evidence", BIS Research Paper No. 212, London: UK Department for Business, Innovation & Skills.
- Sterlacchini, A. (1999), "Do innovative activities matter to small firms in non-R&D-intensive industries? An application to export performance", *Research Policy* 28(8): 819-832.
- Stiglitz, J. E. and Weiss, A. (1981), "Credit Rationing in Markets with Imperfect Information", *American Economic Review* 71(3): 393-410.
- Stoner, C. and Fry, F. (2016), "The Entrepreneurial Decision: Dissatisfaction or Opportunity?", *Journal of Small Business Management* 20(2): 39-44.
- Straube, F., Handfield, R., Pfohl, H.-C. and Wieland, A. (2013), *Trends und Strategien in Logistik und Supply Chain Management*, Hamburg, Germany: Deutscher Verkehrs-Verlag.
- Sutton, J. (2012), *Competing in Capabilities: The Globalization Process*, Oxford: Oxford University Press.
- Swann, P., Temple, P. and Shumer, M. (1996), "Standards and Trade Performance: the UK Experience", *Economic Journal* 106(438): 1297-1313.
- Taymaz, E. (2005), "Are small firms really less productive?", *Small Business Economics* 25(5): 429-445.
- Temple, P. and Urga, G. (1997), "The competitiveness of UK manufacturing: evidence from imports", *Oxford Economic Papers* 49(2): 207-227.
- Terjesen, S., O'Gorman, C. and Acs, Z. J. (2008), "Intermediated mode of internationalization: new software ventures in Ireland and India", *Entrepreneurship and Regional Development* 20(1): 89-109.
- Tybout, J. R. (2003), "Plant and Firm-level Evidence on New Trade Theories", in Choi, E. K. and Harrigan, J. (eds), *Handbook of International Trade*, Malden, MA: Blackwell Publishing: 388-415.
- United Nations Conference on Environment and Development (UNCTAD) (2004) *Promoting the Export Competitiveness of SMEs*, Geneva: UNCTAD.
- United Nations Conference on Environment and Development (UNCTAD) (2007) *Enhancing the Participation of Small and Medium-sized Enterprises in Global Value Chains*, Geneva: UNCTAD.
- United Nations Conference on Environment and Development (UNCTAD) (2013) *Expert Meeting on Assessing the Impact of Public-Private Partnerships on Trade and Development in Developing Countries: Public-Private Sector Partnerships to Promote SME Participation in Global Value Chains*, Geneva: UNCTAD.
- United Nations Conference on Environment and Development (UNCTAD) (2015) *Information Economy Report 2015. Unlocking the Potential of E-commerce for Developing Countries*, Geneva: UNCTAD.
- United Nations Conference on Trade and Development (UNCTAD) (2005) *Business Process Offshore Outsourcing: Untapped Opportunities for SMEs*, Geneva: UNCTAD.
- United Nations Conference on Trade and Development (UNCTAD) (2015) *Information Economy Report 2015. Unlocking the Potential of E-commerce for Developing Countries*, Geneva: UNCTAD.
- United Parcel Service (UPS) (2014) *European SME Export Insights*, Feltham (UK): UPS.
- United States International Trade Commission (2014) *Digital Trade in the U.S. and Global Economies*, Washington DC: USITC.
- United States International Trade Commission (USITC) (2010) *Small and Medium-Sized Enterprises: Characteristics and Performance*, Publication No. 4189, Washington DC: USITC.
- United States International Trade Commission (USITC) (2014) *Trade Barriers That U.S. Small and Medium-Sized Enterprises Perceive As Affecting Exports to the European Union*, Washington DC: USITC.
- Valdès, R. and McCann, M. (2014), "Intellectual Property Provisions in Regional Trade Agreements: Revision and Update", Staff Working Paper No. ERSD-2014-14, Geneva: WTO.
- Van Beveren, I. and Vandebussche, H. (2010), "Product and Process Innovation and Firms' Decision to Export", *Journal of Economic Policy Reform* 13(1): 3-24.
- Van Biesebroeck, J. (2005), "Exporting raises productivity in sub-Saharan African manufacturing firms", *Journal of International Economics* 67(2): 373-391.
- Van Bommel, E., Edelman, D. and Ungerman, K. (2014), "Digitizing the consumer decision journey", McKinsey.com Insights & Publications.
- van der Schans, D. (2012), "SME access to external finance", BIS Economics Paper No. 16, London: UK Department for Business, Innovation & Skills.
- Vanzetti, D. and Peters, R. (2012), "Nothing to declare: duty-free access to imports from LDCs", Presented at the 56th Australian Agricultural and Resource Economics Society Annual Conference, 7-10 February 2012, Freemantle, Australia.
- Venables, A. J. (1987), "Trade and trade policy with differentiated products: a Chamberlinian-Ricardian model", *Economic Journal* 97(387): 700-717.
- Verhoogen, E. (2004), "Trade, quality upgrading and wage inequality in the Mexican manufacturing sector: theory and evidence from an exchange rate shock", Working Paper No. 67, University of California, Berkeley: Center for Labor Economics.
- Verwaal, E. and Donkers, B. (2002), "Firm Size and Export Intensity: Solving an Empirical Puzzle", *Journal of International Business Studies* 33(3): 603-613.
- Vogel, A. and Wagner, J. (2010), "Export und Import im Verarbeitenden Gewerbe", *Wirtschaftsdienst* 90(12): 848-850.
- Vonk, J., Haar, S. v. d. and Jong, P. d. (2015), "Evaluation of five Export Coaching Programmes (2008 - 2013)", The Hague: Ape Project no. 1297.
- Vossen, R. W. (1998), *Combining Small and Large Firm Advantages in Innovation: Theory and Examples*, Groningen: University of Groningen.
- Wagner, J. (2002), "The causal effects of exports on firm size and labor productivity: first evidence from a matching approach", *Economic Letters* 77(2): 287-292.

- Wagner, J. (2007), "Exports and Productivity: A Survey of the Evidence from Firm-level Data", *The World Economy* 30(1): 60-82.
- Wagner, J. (2011), "International trade and firm performance: a survey of empirical studies since 2006", *Review of World Economics* 148(2): 235-267.
- Wagner, J. (2012), "International trade and firm performance: a survey of empirical studies since 2006", *Review of World Economics* 148(2): 235-267.
- Wagner, J. (2015), "A Note on Firm Age and the Margins of Exports: First Evidence from Germany", *The International Trade Journal* 29(2): 93-102.
- Welch, L. S. and Luostarinen, R. K. (1993), "Inward-Outward Connections in Internationalization", *Journal of International Marketing* 1(1): 44-56.
- Westhead, P. (2008), "International Opportunity Exploitation Behaviour Reported by "Types" of Firms Relating to Exporting Experience", *Journal of Small Business and Enterprise Development* 15(3): 431-456.
- Westhead, P., Wright, M. and Ucbasaran, D. (2001), "The internationalization of new and small firms: A resource-based view", *Journal of Business Venturing* 16(4): 333-358.
- Wilkinson, T. J. and Brouters, L. E. (2006), "Trade promotion and SME export performance", *International Business Review* 15(3): 233-252.
- Williams, D. A. (2011), "Impact of firm size and age on the export behaviour of small locally owned firms: fresh insights", *Journal of International Entrepreneurship* 9(2): 152-174.
- Wood, A., Logar, C. M. and Riley, W. B. (2015), "Initiating Exporting: The Role of Managerial Motivation in Small to Medium Enterprises", *Journal of Business Research* 68(11): 2358-2365.
- World Bank (2012) *World Development Report 2013: Jobs*, Washington DC: World Bank.
- World Bank (2013) *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises*, Washington DC: World Bank.
- World Bank (2014) *Connecting to Compete 2014: Trade Logistics in the Global Economy*, Washington, DC: World Bank.
- World Bank (2015) *Doing Business 2016: Measuring Regulatory Quality and Efficiency*, Washington DC: World Bank.
- World Intellectual Property Organization (WIPO) (2010) *Intellectual Property (IP) Rights and Innovation in Small and Medium-Sized Enterprises*, Geneva: WIPO.
- World Tourism Organization (UNWTO) (2015) *Visa Openness Report 2015*, Madrid: UNWTO.
- World Trade Organization (WTO) (2011) *World Trade Report 2011: the WTO and Preferential Trade Agreements: from co-existence to coherence*, Geneva: WTO.
- World Trade Organization (WTO) (2012) *World Trade Report 2012: Trade and Public Policies*, Geneva: WTO.
- World Trade Organization (WTO) (2014) *World Trade Report 2014. Trade and Development: Recent Trends and the Role of the WTO*, Geneva: WTO.
- World Trade Organization (WTO) (2015) *World Trade Report 2015: Speeding up trade: benefits and challenges of implementing the WTO Trade Facilitation Agreement*, Geneva: WTO.
- World Trade Organization (WTO) (2016) *World Trade Statistical Review 2016*, Geneva: WTO.
- Wright, M., Westhead, P. and Ucbasaran, D. (2007), "Internationalization of small and medium-sized enterprises (SMEs) and international entrepreneurship: a critique and policy implications", *Regional Studies* 41(7): 1013-1030.
- Yang, C. H., Chen, J. R. and Chuang, W. B. (2004), "Technology and export decision", *Small Business Economics* 22(5): 349-364.
- Yang, C. H. and Chen, K. H. (2009), "Are small firms less efficient?", *Small Business Economics* 32(4): 375-395.
- Zanello, G., Fu, X., Mohnen, P. and Ventresca, M. (2015), "The creation and diffusion of innovation in developing countries: a systematic literature review", *Journal of Economic Surveys* : 1-29.
- Zeng, S. X., Xie, X. M., Tam, C. M. and Wan T.W. (2008), "Competitive Priorities of Manufacturing Firms for Internationalization: an Empirical Research", *Measuring Business Excellence* 12(3): 44-55.

Technical notes

Composition of regions and other economic groupings				
Regions				
North America				
Bermuda	Canada*	Mexico*	United States of America*	
Other territories in the region not elsewhere specified (n.e.s.)				
South and Central America and the Caribbean				
Antigua and Barbuda*	Chile*	El Salvador*	Panama*	Trinidad and Tobago*
Argentina*	Colombia*	Grenada*	Paraguay*	Uruguay*
Aruba (the Netherlands with respect to)	Costa Rica*	Guatemala*	Peru*	Venezuela, Bolivarian Republic of*
Bahamas**	Cuba*	Guyana*	Saint Kitts and Nevis*	
Barbados*	Curaçao	Haiti*	Saint Lucia*	
Belize*	Dominica*	Honduras*	Saint Vincent and the Grenadines*	
Bolivia, Plurinational State of*	Dominican Republic*	Jamaica*	Sint Maarten	
Brazil*	Ecuador*	Nicaragua*	Suriname*	
Other territories in the region n.e.s.				
Europe				
Albania*	Czech Republic*	Hungary*	Malta*	Slovak Republic*
Andorra**	Denmark*	Iceland*	Montenegro*	Slovenia*
Austria*	Estonia*	Ireland*	Netherlands*	Spain*
Belgium*	Finland*	Italy*	Norway*	Sweden*
Bosnia and Herzegovina**	France*	Latvia*	Poland*	Switzerland*
Bulgaria*	FYR Macedonia*	Liechtenstein*	Portugal*	Turkey*
Croatia*	Germany*	Lithuania*	Romania*	United Kingdom*
Cyprus*	Greece*	Luxembourg*	Serbia**	
Other territories in the region n.e.s.				
Commonwealth of Independent States (CIS)***				
Armenia*	Georgia***	Moldova, Republic of*	Turkmenistan	
Azerbaijan**	Kazakhstan*	Russian Federation*	Ukraine*	
Belarus**	Kyrgyz Republic*	Tajikistan*	Uzbekistan**	
Other territories in the region n.e.s.				
Africa				
Algeria**	Congo*	Guinea*	Morocco*	South Africa*
Angola*	Côte d'Ivoire*	Guinea-Bissau*	Mozambique*	South Sudan
Benin*	Democratic Republic of the Congo*	Kenya*	Namibia*	Sudan**
Botswana*	Djibouti*	Lesotho*	Niger*	Swaziland*
Burkina Faso*	Egypt*	Liberia*	Nigeria*	Tanzania*
Burundi*	Equatorial Guinea**	Libya**	Rwanda*	Togo*
Cabo Verde*	Eritrea	Madagascar*	São Tomé and Príncipe**	Tunisia*
Cameroon*	Ethiopia**	Malawi*	Senegal*	Uganda*
Central African Republic*	Gabon*	Mali*	Seychelles*	Zambia*
Chad*	The Gambia*	Mauritania*	Sierra Leone*	Zimbabwe*
Comoros**	Ghana*	Mauritius*	Somalia	
Other territories in the region n.e.s.				

*WTO members

**Observer governments

*** Georgia is not a member of the Commonwealth of Independent States but is included in this group for reasons of geography and similarities in economic structure.

Middle East				
Bahrain, Kingdom of*	Israel*	Lebanese Republic**	Saudi Arabia, Kingdom of*	Yemen*
Iran**	Jordan*	Oman*	Syrian Arab Republic**	
Iraq**	Kuwait, the State of*	Qatar*	United Arab Emirates*	
Other territories in the region n.e.s.				
Asia				
Afghanistan*	Hong Kong, China*	Malaysia*	Papua New Guinea*	Tonga*
Australia*	India*	Maldives*	Philippines*	Tuvalu
Bangladesh*	Indonesia*	Mongolia*	Samoa*	Vanuatu*
Bhutan**	Japan*	Myanmar*	Singapore*	Viet Nam*
Brunei Darussalam*	Kiribati	Nepal*	Solomon Islands*	
Cambodia*	Korea, Republic of*	New Zealand*	Sri Lanka*	
China*	Lao People's Democratic Republic*	Pakistan*	Chinese Taipei*	
Fiji*	Macao, China*	Palau	Thailand*	
Other territories in the region n.e.s.				
Regional integration agreements				
Andean Community (CAN)				
Bolivia, Plurinational State of	Colombia	Ecuador	Peru	
ASEAN (Association of South East Asian Nations) / AFTA (ASEAN Free Trade Area)				
Brunei Darussalam	Indonesia	Malaysia	Philippines	Thailand
Cambodia	Lao People's Democratic Republic	Myanmar	Singapore	Viet Nam
CACM (Central American Common Market)				
Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
CARICOM (Caribbean Community and Common Market)				
Antigua and Barbuda	Belize	Guyana	Montserrat	Saint Vincent and the Grenadines
Bahamas	Dominica	Haiti	Saint Kitts and Nevis	Suriname
Barbados	Grenada	Jamaica	Saint Lucia	Trinidad and Tobago
CEMAC (Economic and Monetary Community of Central Africa)				
Cameroon	Chad	Congo	Equatorial Guinea	Gabon
Central African Republic				
COMESA (Common Market for Eastern and Southern Africa)				
Burundi	Egypt	Libya	Rwanda	Swaziland
Comoros	Eritrea	Madagascar	Seychelles	Uganda
Democratic Republic of the Congo	Ethiopia	Malawi	South Sudan	Zambia
Djibouti	Kenya	Mauritius	Sudan	Zimbabwe
ECCAS (Economic Community of Central African States)				
Angola	Central African Republic	Democratic Republic of the Congo	Gabon	São Tomé and Príncipe
Burundi	Chad	Equatorial Guinea	Rwanda	
Cameroon	Congo			
ECOWAS (Economic Community of West African States)				
Benin	Côte d'Ivoire	Guinea	Mali	Senegal
Burkina Faso	The Gambia	Guinea-Bissau	Niger	Sierra Leone
Cabo Verde	Ghana	Liberia	Nigeria	Togo
EFTA (European Free Trade Association)				
Iceland	Liechtenstein	Norway	Switzerland	

European Union (28)				
Austria	Denmark	Hungary	Malta	Slovenia
Belgium	Estonia	Ireland	Netherlands	Spain
Bulgaria	Finland	Italy	Poland	Sweden
Croatia	France	Latvia	Portugal	United Kingdom
Cyprus	Germany	Lithuania	Romania	
Czech Republic	Greece	Luxembourg	Slovak Republic	
GCC (Gulf Cooperation Council)				
Bahrain, Kingdom of	Oman	Qatar	Saudi Arabia, Kingdom of	United Arab Emirates
Kuwait, the State of				
MERCOSUR (Southern Common Market)				
Argentina	Brazil	Paraguay	Uruguay	Venezuela, Bolivarian Republic of
NAFTA (North American Free Trade Agreement)				
Canada	Mexico	United States		
SAFTA (South Asia Free Trade Agreement)				
Afghanistan	Bhutan	Maldives	Pakistan	Sri Lanka
Bangladesh	India	Nepal		
SADC (Southern African Development Community)				
Angola	Lesotho	Mauritius	Seychelles	Tanzania
Botswana	Madagascar	Mozambique	South Africa	Zambia
Democratic Republic of the Congo	Malawi	Namibia	Swaziland	Zimbabwe
WAEMU (West African Economic and Monetary Union)				
Benin	Côte d'Ivoire	Mali	Senegal	Togo
Burkina Faso	Guinea-Bissau	Niger		
Other groups				
ACP (African, Caribbean and Pacific countries)				
Angola	Côte d'Ivoire	Guyana	Nauru	Somalia
Antigua and Barbuda	Cuba	Haiti	Niger	South Africa
Bahamas	Democratic Republic of the Congo	Jamaica	Nigeria	Sudan
Barbados	Djibouti	Kenya	Niue	Suriname
Belize	Dominica	Kiribati	Palau	Swaziland
Benin	Dominican Republic	Lesotho	Papua New Guinea	Tanzania
Botswana	Equatorial Guinea	Liberia	Rwanda	Timor-Leste
Burkina Faso	Eritrea	Madagascar	Saint Kitts and Nevis	Togo
Burundi	Ethiopia	Malawi	Saint Lucia	Tonga
Cabo Verde	Fiji	Mali	Saint Vincent and the Grenadines	Trinidad and Tobago
Cameroon	Gabon	Marshall Islands	Samoa	Tuvalu
Central African Republic	The Gambia	Mauritania	São Tomé and Príncipe	Uganda
Chad	Ghana	Mauritius	Senegal	Vanuatu
Comoros	Grenada	Micronesia	Seychelles	Zambia
Congo	Guinea	Mozambique	Sierra Leone	Zimbabwe
Cook Islands	Guinea-Bissau	Namibia	Solomon Islands	
Africa				
<i>North Africa</i>				
Algeria	Egypt	Libya	Morocco	Tunisia

Sub-Saharan Africa				
<i>Western Africa</i>				
Benin	The Gambia	Guinea-Bissau	Mauritania	Senegal
Burkina Faso	Ghana	Liberia	Niger	Sierra Leone
Cabo Verde	Guinea	Mali	Nigeria	Togo
Côte d'Ivoire				
<i>Central Africa</i>				
Burundi	Central African Republic	Congo	Equatorial Guinea	Rwanda
Cameroon	Chad	Democratic Republic of the Congo	Gabon	São Tomé and Príncipe
<i>Eastern Africa</i>				
Comoros	Ethiopia	Mauritius	South Sudan	Tanzania
Djibouti	Kenya	Seychelles	Sudan	Uganda
Eritrea	Madagascar	Somalia		
<i>Southern Africa</i>				
Angola	Lesotho	Mozambique	South Africa	Zambia
Botswana	Malawi	Namibia	Swaziland	Zimbabwe
Territories in Africa n.e.s.				
Asia				
<i>East Asia (including Oceania)</i>				
Australia	Indonesia	Malaysia	Samoa	Tuvalu
Brunei Darussalam	Japan	Mongolia	Singapore	Vanuatu
Cambodia	Kiribati	Myanmar	Solomon Islands	Viet Nam
China	Korea, Republic of	New Zealand	Chinese Taipei	
Fiji	Lao People's Democratic Republic	Papua New Guinea	Thailand	
Hong Kong, China	Macao, China	Philippines	Tonga	
<i>West Asia</i>				
Afghanistan	Bhutan	Maldives	Pakistan	Sri Lanka
Bangladesh	India	Nepal		
Other countries and territories in Asia and the Pacific n.e.s.				
APEC (Asia-Pacific Economic Cooperation)				
Australia	Hong Kong, China	Mexico	Russian Federation	Thailand
Brunei Darussalam	Indonesia	New Zealand	Singapore	United States
Canada	Japan	Papua New Guinea	Chinese Taipei	Viet Nam
Chile	Korea, Republic of	Peru		
China	Malaysia	Philippines		
BRIC				
Brazil	Russian Federation	India	China	
Developed economies				
North America (except Mexico)	European Union (28)	EFTA (Iceland, Liechtenstein, Norway, Switzerland)	Australia, Japan and New Zealand	
Developing economies				
Africa	South and Central America and the Caribbean, Mexico	Europe except the European Union (28) and EFTA; Middle East	Asia except Australia, Japan and New Zealand	

LDCs (least-developed countries)				
Afghanistan	Comoros	Kiribati	Nepal	Tanzania
Angola	Democratic Republic of the Congo	Lao People's Democratic Republic	Niger	Timor-Leste
Bangladesh	Djibouti	Lesotho	Rwanda	Togo
Benin	Equatorial Guinea	Liberia	São Tomé and Príncipe	Tuvalu
Bhutan	Eritrea	Madagascar	Senegal	Uganda
Burkina Faso	Ethiopia	Malawi	Sierra Leone	Vanuatu
Burundi	The Gambia	Mali	Solomon Islands	Yemen
Cambodia	Guinea	Mauritania	Somalia	Zambia
Central African Republic	Guinea-Bissau	Mozambique	South Sudan	
Chad	Haiti	Myanmar	Sudan	
Six East Asian traders				
Hong Kong, China	Malaysia	Singapore	Chinese Taipei	Thailand
Korea, Republic of				

WTO members are frequently referred to as "countries", although some members are not countries in the usual sense of the word but are officially "customs territories". The definition of geographical and other groupings in this report does not imply an expression of opinion by the Secretariat concerning the status of any country or territory, the delimitation of its frontiers, nor the rights and obligations of any WTO member in respect of WTO agreements. The colours, boundaries, denominations and classifications in the maps of the publication do not imply, on the part of the WTO, any judgement on the legal or other status of any territory, or any endorsement or acceptance of any boundary.

Throughout this report, South and Central America and the Caribbean is referred to as South and Central America. Aruba; the Bolivarian Republic of Venezuela; Hong Kong Special Administrative Region of China; the Republic of Korea; and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu are referenced as: Aruba, the Netherlands with respect to; Bolivarian Rep. of Venezuela; Hong Kong, China; Korea, Republic of; and Chinese Taipei respectively.

The data supplied in the *World Trade Report 2016* are valid as of 31 July 2016. The statistical data in this publication are supplied by and under the responsibility of the relevant statistical authorities. The use of such data by the WTO is without prejudice to the status of or sovereignty over any territory, or to the delimitation of international frontiers and boundaries.

Abbreviations and symbols

3PL	Third-party logistics
ACCA	Association of Chartered Certified Accountants
ADB	Asian Development Bank
ADBI	Asian Development Bank Institute
AfDB	African Development Bank
AfT	Aid for Trade
ALADI	Latin American Integration Association
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BASIS	Business Action to Support the Information Society
CARI	CIMB ASEAN Research Institute
CARIFORUM	Caribbean Forum
CBI	Centre for the Promotion of Imports from developing countries
CETA	Comprehensive Economic and Trade Agreement
CIS	Commonwealth of Independent States
COMESA	Common Market for Eastern and Southern Africa
CPCCAF	Conférence permanente des chambres consulaires africaines et francophones
CTD	Committee on Trade and Development
DFQF	duty-free and quota-free
EIF	Enhanced Integrated Framework
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GNI	gross national income
GPA	Government Procurement Agreement
GVCs	global value chains
IADB	Inter-American Development Bank
ICC	International Chamber of Commerce
IFC	International Finance Corporation
ILO	International Labour Organization
IMF	International Monetary Fund
IP	Intellectual Property
IPR	intellectual property rights
IT	information technology
ITC	International Trade Centre
ITU	International Telecommunication Union
LDCs	least-developed countries
MFN	most-favoured nation
MSME	micro, small and medium enterprise
MSME-CI	MSME Country Indicator
NAFTA	North American Free Trade Agreement

NBER	National Bureau of Economic Research
NKC	National Knowledge Commission
NTMs	Non-tariff measures
OECD	Organisation for Economic Co-operation and Development
OIE	World Organisation for Animal Health
R&D	Research and development
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RTAs	regional trade agreements
SCM	subsidies and countervailing measures
SME	small and medium-sized enterprise
SOMACA	Société marocaine de constructions automobiles
SPARTECA	South Pacific Regional Trade and Economic Cooperation Agreement
SPS	sanitary and phytosanitary
STDF	Standards and Trade Development Facility
TBT	technical barriers to trade
TEC	Trade by Enterprise Characteristics
TFP	total factor productivity
TPP	Trans-Pacific Partnership
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UN DESA	United Nations Department for Economic and Social Affairs
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNWTO	UN World Tourism Organization
UPS	United Parcel Service
USITC	United States International Trade Commission
VAT	value-added tax
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WSF	World SME Forum
WTO	World Trade Organization

The following symbols are used in this publication:

...	not available
0	figure is zero or became zero due to rounding
-	not applicable
US\$	United States dollars
UK£	UK pound

List of figures, tables and boxes

A Introduction

Tables

Table A.1:	Share of micro, small and medium-sized firms in total number of MSMEs	15
Table A.2:	Sectoral distribution of MSMEs	16
Table A.3:	Statistics on firm-level total factor productivity (TFP) in developing countries	19

Appendix tables

Appendix Table A.1:	TFP regressions on firm size groups, by income groups	27
---------------------	---	----

B SMEs in international trade: stylized facts

Figures

Figure B.1:	SME and MSME shares in the dollar value of exports and imports of selected developed countries, 2013 (or latest year)	32
Figure B.2:	Percentage of exporting and importing firms that are SMEs in selected developed economies by enterprise size, 2013 or latest year	33
Figure B.3:	Percentage of industrial firms that are exporting and importing by enterprise size, 2013 or latest year	34
Figure B.4:	Trade values by sector, exports and imports, 2012	35
Figure B.5:	Exports and imports of MSMEs by broad product category, 2012	36
Figure B.6:	Exports and imports of SMEs in developed countries by partner, 2012	36
Figure B.7:	Extra-EU exports and imports of SMEs in developed countries by partner, 2012	37
Figure B.8:	SMEs' shares of direct exports in total sales in the manufacturing sector, by developing region and in the LDCs	38
Figure B.9:	Direct exports by manufacturing sector and firm size in developing economies	39
Figure B.10:	Shares of direct services exports by firm size and developing group	39
Figure B.11:	Schematic presentation of GVC trade flows	40
Figure B.12:	Moving towards trade in value added and GVC participation by enterprise characteristics	41
Figure B.13:	SMEs' share of total domestic value added contained in exports of motor vehicles, 2009	42
Figure B.14:	SMEs' share of total domestic value added contained in exports of business services, 2009	43
Figure B.15:	Shares of direct and indirect manufacturing exports by firm size in developing economies	43
Figure B.16:	SMEs' shares of indirect exports in total sales in the manufacturing sector, by developing region and in LDCs	44
Figure B.17:	Indirect exports by manufacturing sector and firm size in developing economies	44
Figure B.18:	Shares of direct and indirect services exports by firm size in developing economies	45
Figure B.19:	SMEs in developing economies: backward and forward participation in GVCs	46

Figure B.20:	SMEs and large enterprises: backward and forward participation in GVCs by region, ownership and manufacturing sector	47
Figure B.21:	Use of foreign and domestic inputs in production of SMEs by developing region	48
Figure B.22:	Participation of technology-enabled small firms and traditional firms in exports, 2004-14	49
Figure B.23:	Number of export destinations of technology-enabled small firms, 2007-14	49
Figure B.24:	Index for worldwide number of ordinary parcels, domestic and international service, 2000-2014	50
Figure B.25:	Share of MSMEs in exports of selected developed economies, 2005 and 2013	53
Figure B.26:	Firms in LDCs that export directly and indirectly at least 1 per cent of total sales, by size of firm	53
Figure B.27:	Time lag between firms' start of operations and engagement in exports by selected firm size in developing economies	54

Tables

Table B.1:	Proportion of businesses in the United Kingdom with a website, by size of business, 2007-2013	51
Table B.2:	Proportion of businesses in developing economies with a website, by size of business	51
Table B.3:	Proportion of businesses receiving orders over the Internet	52

Boxes

Box B.1:	Participation of micro firms in exports in selected LDCs	38
----------	--	----

C Dynamics of internationalization processes of SMEs

Figures

Figure C.1:	Relationship between internationalization and firms' financial performance	65
Figure C.2:	Distribution of Tuyauto turnover by main source of revenue, 1995-2015	72
Figure C.3:	Schematic presentation of Tuyauto's production chain	73

Tables

Table C.1:	Tuyauto main indicators, 1995-2015	72
------------	------------------------------------	----

Boxes

Box C.1:	Entrepreneurship	60
Box C.2:	Market entry costs	63
Box C.3:	Exporter viability	66
Box C.4:	Case study – A Ugandan SME benefits from international trade participation	69
Box C.5:	Case study – A Moroccan SME engaged in global value chains	71

D Trade obstacles to SME participation in trade

Figures

Figure D.1:	Leading impediments to engaging in global trade in manufacturing, US firms survey	81
Figure D.2:	Leading impediments to engaging in global trade in services, US firms survey	82

Figure D.3:	Trade barriers in accessing US goods markets reported by EU firms by firm size	82
Figure D.4:	French firms' distribution by size and tariff faced in the exporting country	84
Figure D.5:	Average applied tariff faced by firm size (excluding intra-EU trade), 2011	85
Figure D.6:	Relationship between minimum export sale (per country) and time to export	87
Figure D.7:	Restrictiveness of services trade policy by sector, 2009	89
Figure D.8:	Average OECD STRI by type of measure, by sector, 2015	90
Figure D.9:	Firms with a bank loan/line of credit	95
Figure D.10:	Factors affecting SME participation in GVCs	105

Tables

Table D.1:	A review of export barriers as emerging in selected studies on developing countries	79
Table D.2:	SMEs' top five perceived constraints in entering, establishing or moving up value chains	80
Table D.3:	Main information barriers faced by SMEs in Africa	92
Table D.4:	Key ICT indicators, 2015	99
Table D.5:	Fixed broadband prices as a percentage of GNI per capita, by region, 2014	100
Table D.6:	Average mobile broadband prices and ranges by region, as a percentage of GNI per capita, 2014	100
Table D.7:	Obstacles that limit/prevent enterprises from selling via a website, 2013	102
Table D.8:	Obstacles that limit/prevent enterprises from selling via a website	103
Table D.9:	Firms' top five perceived difficulties in bringing new suppliers from developing or LDCs into their supply chain(s)	105

Boxes

Box D.1:	Firms' responses to higher tariffs	83
Box D.2:	SMEs and non-tariff barriers: the importance of transparency and predictability	86
Box D.3:	Barriers to the internationalization of SMEs: the case of online payments	95
Box D.4:	Lack of trade finance as an obstacle to trade in Myanmar	97
Box D.5:	Factors affecting SME participation in GVCs	105

Appendix figures

Appendix Figure D.1:	Difficulties in entering, establishing or moving up agrifood value chains	108
Appendix Figure D.2:	Difficulties in entering, establishing or moving up information and communications technology value chains	108
Appendix Figure D.3:	Difficulties in entering, establishing or moving up textiles and apparel value chains	109
Appendix Figure D.4:	Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – agriculture	109
Appendix Figure D.5:	Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – information and communications technology	110
Appendix Figure D.6:	Difficulties in bringing new suppliers from developing countries or LDCs into supply chains – textiles	110
Appendix Figure D.7:	Difficulties in bringing new suppliers from developing countries or LDCs into tourism product value chains	111

E Cooperative approaches to promoting SME participation in trade

Figures

Figure E.1:	Evolution of RTAs with provisions explicitly mentioning SMEs	116
Figure E.2:	Percentage of RTAs with provisions explicitly mentioning SMEs	117
Figure E.3:	Evolution of the number of SME-related provisions in RTAs	118
Figure E.4:	Number of RTAs with provisions referring to SMEs by country	119
Figure E.5:	SME terminology used in RTAs	120
Figure E.6:	Main forms of SME-related provisions in RTAs	120
Figure E.7:	Main areas of SME-related provisions in RTAs	121
Figure E.8:	Exports and MFN tariffs facing LDCs, 2010	131
Figure E.9:	New TBT Committee notifications by development status, 1995-2015	133

Tables

Table E.1:	Applied and bound MFN tariffs	130
Table E.2:	IP-related initiatives to support SMEs	137
Table E.3:	Special patent filing fees for SMEs of selected WTO members	138
Table E.4:	Overview of the main multilateral development bank trade facilitation programmes	141

Boxes

Box E.1:	Firm heterogeneity, optimal trade policy and trade agreements	115
Box E.2:	ITC e-commerce solutions for SMEs	127
Box E.3:	Alert system for WTO SPS and TBT notifications	134
Box E.4:	Fishery subsidies and SMEs	136
Box E.5:	Productive integration of micro enterprises in the Jamaican craft and agro-processing sectors	145
Box E.6:	Small-scale sesame value chain in Burkina Faso, and honey and beekeepers in Zambia	145
Box E.7:	CocoaSafe: SPS capacity-building and knowledge-sharing in the cocoa sector in Southeast Asia	146

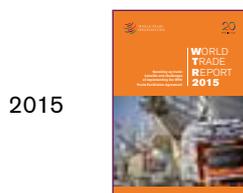
WTO members

(As of 1 August 2016)

Afghanistan	Greece	Oman
Albania	Grenada	Pakistan
Angola	Guatemala	Panama
Antigua and Barbuda	Guinea	Papua New Guinea
Argentina	Guinea-Bissau	Paraguay
Armenia	Guyana	Peru
Australia	Haiti	Philippines
Austria	Honduras	Poland
Bahrain, Kingdom of	Hong Kong, China	Portugal
Bangladesh	Hungary	Qatar
Barbados	Iceland	Romania
Belgium	India	Russian Federation
Belize	Indonesia	Rwanda
Benin	Ireland	Saint Kitts and Nevis
Bolivia, Plurinational State of	Israel	Saint Lucia
Botswana	Italy	Saint Vincent and the Grenadines
Brazil	Jamaica	Samoa
Brunei Darussalam	Japan	Saudi Arabia, Kingdom of
Bulgaria	Jordan	Senegal
Burkina Faso	Kazakhstan	Seychelles
Burundi	Kenya	Sierra Leone
Cabo Verde	Korea, Republic of	Singapore
Cambodia	Kuwait, the State of	Slovak Republic
Cameroon	Kyrgyz Republic	Slovenia
Canada	Lao People's Democratic Republic	Solomon Islands
Central African Republic	Latvia	South Africa
Chad	Lesotho	Spain
Chile	Liberia	Sri Lanka
China	Liechtenstein	Suriname
Colombia	Lithuania	Swaziland
Congo	Luxembourg	Sweden
Costa Rica	Macao, China	Switzerland
Côte d'Ivoire	Madagascar	Chinese Taipei
Croatia	Malawi	Tajikistan
Cuba	Malaysia	Tanzania
Cyprus	Maldives	Thailand
Czech Republic	Mali	The former Yugoslav Republic of Macedonia (FYROM)
Democratic Republic of the Congo	Malta	Togo
Denmark	Mauritania	Tonga
Djibouti	Mauritius	Trinidad and Tobago
Dominica	Mexico	Tunisia
Dominican Republic	Moldova, Republic of	Turkey
Ecuador	Mongolia	Uganda
Egypt	Montenegro	Ukraine
El Salvador	Morocco	United Arab Emirates
Estonia	Mozambique	United Kingdom
European Union	Myanmar	United States of America
Fiji	Namibia	Uruguay
Finland	Nepal	Vanuatu
France	Netherlands	Venezuela, Bolivarian Republic of
Gabon	New Zealand	Viet Nam
The Gambia	Nicaragua	Yemen
Georgia	Niger	Zambia
Germany	Nigeria	Zimbabwe
Ghana	Norway	

Previous World Trade Reports

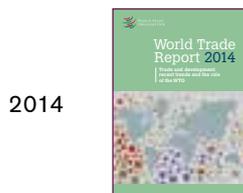
Speeding up trade: benefits and challenges of the WTO Trade Facilitation Agreement



2015

The WTO Trade Facilitation Agreement (TFA), agreed by WTO members at the Ministerial Conference in December 2013, is the first multilateral trade agreement concluded since the establishment of the WTO in 1995. The 2015 *World Trade Report* is the first detailed study of the potential impacts of the TFA, based on a full analysis of the final agreement text.

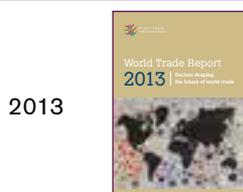
Trade and development: recent trends and the role of the WTO



2014

The *World Trade Report 2014* looks at four major trends that have changed the relationship between trade and development since the start of the millennium: the economic rise of developing economies, the growing integration of global production through supply chains, the higher prices for agricultural goods and natural resources, and the increasing interdependence of the world economy.

Factors shaping the future of world trade



2013

The *World Trade Report 2013* looks at what has shaped global trade in the past and reviews how demographic change, investment, technological progress, developments in the transport and energy/natural resource sectors, as well as trade-related policies and institutions, will affect international trade.

Trade and public policies: a closer look at non-tariff measures in the 21st century



2012

Regulatory measures for trade in goods and services raise challenges for international cooperation in the 21st century. The *World Trade Report 2012* examines why governments use non-tariff measures and services measures and the extent to which these measures may distort international trade.

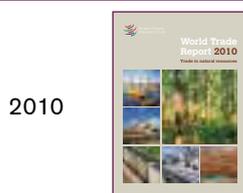
The WTO and preferential trade agreements: From co-existence to coherence



2011

The ever-growing number of preferential trade agreements (PTAs) is a prominent feature of international trade. The Report describes the historical development of PTAs and the current landscape of agreements. It examines why PTAs are established, their economic effects, the contents of the agreements themselves, and the interaction between PTAs and the multilateral trading system.

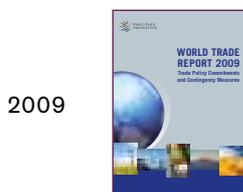
Trade in natural resources



2010

The *World Trade Report 2010* focuses on trade in natural resources, such as fuels, forestry, mining and fisheries. The Report examines the characteristics of trade in natural resources, the policy choices available to governments and the role of international cooperation, particularly of the WTO, in the proper management of trade in this sector.

Trade Policy Commitments and Contingency Measures



2009

The 2009 Report examines the range and role of contingency measures available in trade agreements. One of the Report's main objectives is to analyse whether WTO provisions provide a balance between supplying governments with the necessary flexibility to face difficult economic situations and adequately defining these in a way that limits their use for protectionist purposes.

Trade in a Globalizing World

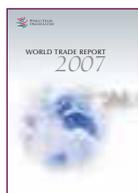
2008



The 2008 Report provides a reminder of what we know about the gains from international trade and highlights the challenges arising from higher levels of integration. It addresses the question of what constitutes globalization, what drives it, what benefits it brings, what challenges it poses and what role trade plays in this world of ever-growing inter-dependency.

Sixty Years of the Multilateral Trading System: Achievements and Challenges

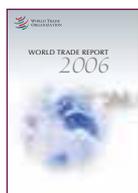
2007



On 1 January 2008 the multilateral trading system celebrated its 60th anniversary. The World Trade Report 2007 celebrates this landmark anniversary with an in-depth look at the General Agreement on Tariffs and Trade (GATT) and its successor the World Trade Organization — their origins, achievements, the challenges they have faced and what the future holds.

Exploring the Links between Subsidies, Trade and the WTO

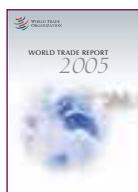
2006



The *World Trade Report 2006* focuses on how subsidies are defined, what economic theory can tell us about subsidies, why governments use subsidies, the most prominent sectors in which subsidies are applied and the role of the WTO Agreement in regulating subsidies in international trade. The Report also provides brief analytical commentaries on certain topical trade issues.

Trade, Standards and the WTO

2005



The *World Trade Report 2005* seeks to shed light on the various functions and consequences of standards, focusing on the economics of standards in international trade, the institutional setting for standard-setting and conformity assessment, and the role of WTO agreements in reconciling the legitimate policy uses of standards with an open, non-discriminatory trading system.

Coherence

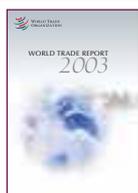
2004



The *World Trade Report 2004* focuses on the notion of coherence in the analysis of interdependent policies: the interaction between trade and macroeconomic policy, the role of infrastructure in trade and economic development, domestic market structures, governance and institutions, and the role of international cooperation in promoting policy coherence.

Trade and Development

2003



The *World Trade Report 2003* focuses on development. It explains the origin of this issue and offers a framework within which to address the question of the relationship between trade and development, thereby contributing to more informed discussion.

World Trade Organization
154, rue de Lausanne
CH-1211 Geneva 21
Switzerland
Tel: +41 (0)22 739 51 11
www.wto.org

WTO Publications
Email: publications@wto.org

WTO Online Bookshop
<http://onlinebookshop.wto.org>

Cover designed by Audrey Janvier.
Report designed by Services Concept.
Printed by the World Trade Organization.

Image credits:
Cover: © Lynn Gail/Getty Images.
Pages 12-13: © Ami Vitale/Panos.
Pages 28-9: © Kris Pannecoucke/Panos.
Pages 56-7: © Tim Bewer/Getty Images.
Pages 76-7: © Kelvin Murray/Getty Images.
Pages 112-3: © MickyWiswedel/Shutterstock.com

© World Trade Organization 2016
ISBN 978-92-870-4076-3
Published by the World Trade Organization.

World Trade Report 2016

Today's increasingly interconnected global economy is transforming what is traded and who is trading. International trade has long been dominated by large companies. But thanks to dramatically reduced trade barriers, improved transportation links, information technologies and the emergence of global value chains, many small and medium-sized enterprises – SMEs – now have the potential to become successful global traders as well. Participation in international trade, once exclusive, can progressively become more inclusive.

The *World Trade Report 2016* examines the participation of SMEs in international trade. In particular, it looks at how the international trade landscape is changing for SMEs, where new opportunities are opening up and old challenges remain, and what the multilateral trading system does and can do to encourage more widespread and inclusive SME participation in global markets.

The Report finds that small businesses continue to face disproportionate barriers to trade and highlights the scope for coherent national and international policy actions that would enhance the ability of SMEs to participate in world markets more effectively. It underlines that participation in trade has an important role to play in helping SMEs become more productive and grow. For open trade and global integration to fully benefit everyone, it is crucial to ensure that all firms – not just large corporations – can succeed in today's global marketplace.

ISBN 978-92-870-4076-3

