

Global review of  
**aid** for  
trade



WTO OMC

# Skills and Export Competitiveness for Small and Medium-Sized Enterprises

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## I. INTRODUCTION

Global production is increasingly characterized by rapid changes in technology and a more integrated approach to employment. In this environment, skills at all levels of the firm become more and more critical for firm performance. Access to a skilled labour force makes it easier for firms to access new markets- both regionally and globally-, to survive and thrive in the domestic market and to adjust to changing conditions in global markets. Access to a skilled labour force facilitates easier connection to regional and global value chains as lead firms often expect suppliers to meet prevailing international quality standards.

Workers typically obtain skills through a combination of pre-employment education and training and on-the-job training (e.g. Almeida et al., 2012). Pre-employment education tends to be conducted by public or private education providers, often in collaboration with employers, in particular in the professional education segment. On-the-job training implies – as the name indicates – significant employer involvement, though it is also sometimes conducted in collaboration with external education institutions.

In markets characterized by rapid technological change and increased global integration, employers and education institutions are both facing a number of challenges. Workers need to be able to adapt to changing demands in the work place during the course of their employment cycle. This requires a work force with relatively high levels of cognitive skills, i.e. the basic mental abilities that allow individuals to think, remember and learn. These cognitive skills are crucial for the process of acquiring new knowledge and for applying this knowledge to different settings. Not surprisingly, therefore, these skills are a determinant of individuals' adaptability to new settings and have been found to be an important determinant of economic growth in the economic literature (Woessman, 2011). Working within global value chains also requires the availability of 'soft skills' such as presentation skills and communication skills (Cedefop, 2012), with the latter including language skills. In addition, the requirement to meet international quality standards often implies that employees along the entire value chain need to have profound sector or firm specific technical knowledge.

Providing this combination of skill sets at high levels and adapting the provision of skills to changing market demands is challenging for education institutions and employers. Failure to meet this challenge can have severe consequences for individual enterprises and ultimately for the country. Enterprises may find it difficult to grow or to remain competitive because they are unable to fill critical jobs with employees who have the right knowledge, skills, and abilities (ASTD, 2012). At the country level, the availability of skills gaps may result in lower growth and increased unemployment, in particular among the young and among women.

The study builds on results from a joint OECD-WTO survey, which has been conducted as part of the Fourth Global Review of Aid for Trade. The OECD-WTO survey provides information on the views of firms as well as aid-for-trade partners and donors regarding the barriers that developing country firms face to connect to value chains and the effectiveness of aid-for-trade flows. These results are combined with evidence from other firm level surveys to provide an overview of the role of skills for export competitiveness of small and medium enterprises.

## II. SKILLS ANTICIPATION AND ACCESS TO SKILLS: CHALLENGES FOR SMES

Small and medium-sized enterprises account for over 95% of firms and for 60-70% of employment in OECD countries (OECD, 2000; de Kok et al., 2011).<sup>1</sup> Using a different dataset and a more restrictive definition of SMEs, Ayyagari et al. (2011) find that the contribution to employment by SMEs is 51% in low income countries, 44% in lower-middle income countries and 38% in upper-middle income countries.<sup>2</sup> These averages mask significant differences across countries. In least developed countries (LDCs) like Mauritania and Niger, the contribution of SMEs to employment is 78% and 83%, respectively (Ayyagari et al., 2011). In Bangladesh, instead, SMEs represent less than 10% of employment. In Laos, another Asian LDC, SMEs account for 56% of employment.

SMEs are a dynamic but also a vulnerable element in the economy.<sup>3</sup> They are particularly vulnerable to changes in their competitive environment, both in terms of continuous shifts – like the rise of China and India as major global competitors - and in terms of unpredictable events – like the recent financial and economic crisis. Pal et al. (2013), for instance, report that in Sweden

all but a handful of textile companies that went bankrupt during the recent crisis were small with less than 50 employees.

Access to skills can play an important role in helping SMEs to adjust to changes in the competitive environment, in particular to changes that take the form of continuous shifts. Skill upgrading has notably been identified as a strategy used by firms to adjust to increasing market shares by foreign competitors. In the context of increased competition by low-wage countries, for instance, Belgian textile producers, increased the skill-content of their products and moved up the quality ladder (Montfort et al., 2008). Kumar Chugan and Rawani (2012) also emphasize the need to upgrade skills in Indian textile companies in the context of a situation where the industry is losing market share.

Workforce skills are also important in industries that want to grow by accessing new markets, either in terms of new market niches or new geographical destinations. Cadot et al. (2011) find that education has a significant impact on export diversification, i.e. on the diversity in countries' export portfolios. This finding is in line with evidence obtained from analyses at the cluster or value chain level. Shakya (2009), for instance, argues that lack of relevant labour skills are a major bottleneck for Sierra Leone's capacity to fully exploit its natural endowments and to move up the quality ladder in the tourism industry. Gereffi et al. (2011) emphasize the role of skills for upgrading within a value chain based on the analyses of four value chains and covering several countries.

1 Most OECD countries consider SMEs to be firms with less than 250 employees. Some countries set the limit at 200 employees and the United States considers SMEs to include firms with fewer than 500 employees (OECD, 2000).

2 Ayyagari et al. (2011) use data from the World Bank Enterprise Surveys for their analysis. In their study SMEs are defined as firms with less than 100 employees.

3 Evidence suggests that more than 50% of total employment creation in the formal business economy can be attributed to SMEs (de Kok et al., 2013) and that this is the case for the majority of developing and emerging economies.

The availability of skilled workers is, thus, highly important for firms' and industries' defensive and expansive strategies. Yet, it is notoriously difficult for countries to provide the workforce with the skills in demand, in particular in a context where the demand for skills is constantly changing. Robalino et al. (2012) describe a number of labour and capital market imperfections, co-ordination failures and decision making failures that can lead to significant mismatches in the supply and demand for skills.

One of the most relevant labour market imperfections is probably the existence of poaching externalities. If many employers demand a particular skill, then this skill is considered transferrable. Firms – in particular cash constrained ones – will be hesitant to invest in this skill, because trained workers may be poached by other competing firms and the investment in training is lost by the original employer. In such situations, workers can in theory appropriate the return on investment as they can demand a higher wage with the new employer. It would thus make sense for workers to invest in the training. But in low income countries, and in particular in LDCs, individual workers often do not have access to the required funding. In other words, the existence of poaching externalities combined with a capital market imperfections can lead to outcomes where insufficient training takes place.

Individuals may also not invest in training because they are insufficiently informed about or not aware of the future returns from such training or because they have limited information on the quality of training providers and therefore hesitate to make necessary investments. Both problems fall in the realm of decision making failures. Co-ordination failures typically arise at the high end of the skills spectrum because of the existence of innovation externalities (Robalino et al., 2012). This can lead to situations where workers do not invest enough in high-end skills because there are not enough companies that introduce innovations and demand them, and firms do

not innovate and create high-productivity jobs because there are not enough skilled workers.

SMEs are particularly prone to suffer from such imperfections and failures. Given their small size, they tend to lack the elaborate internal labour markets that might facilitate infirm on-the-job training (e.g. Okada, 2004). They are also likely to face more severe resource constraints than larger firms and thus find it harder to fund the strengthening of their own employees' skills. Indeed, the combination of labour market and capital market imperfections described above, that makes it too risky for employers to invest in training (because workers may leave) and unaffordable for workers to do so, is likely to be frequent among SMEs in developing countries. In a context where skilled labour is scarce because of underinvestment in training, SMEs will find it hard to attract skilled labour because they tend to pay lower wages than large enterprises (e.g. de Kok et al., 2011).

In addition, SMEs appear to lack the funding or ability necessary to assess future skill needs. In the European Union, for instance, only one quarter of all firms were found to assess future manpower and/or skills needs with this proportion being considerably lower in smaller-sized firms (Cedefop, 2012). Vos et al. (1998) argue that being fully occupied with solving short-term operational problems, it is often difficult for the management of SMEs to address the company's long-term strategy. They therefore propose that SMEs should receive assistance in identifying gaps in knowledge and skills that may jeopardize their attempts to achieve competitive advantage. In particular, the authors propose to focus on gaps related to:

- Knowledge and skills to put products successfully on the market;
- Knowledge and skills to solve technological problems regarding

product design and production technology;

- Knowledge and skills to solve managerial problems.

Taking into account the resource restrictions of SMEs, their capacity to find employees that constitute a good 'fit' for the company will depend critically on the ability of relevant education and vocational education and training (VET) systems to provide school leavers and graduates with the knowledge, skills and attitudes in demand (Cedefop, 2012). Low-income countries, and in particular LDCs, face a number of challenges in this context. The high incidence of informality, for instance, significantly constrains the capacity of governments to expand public investments in areas like education and professional training (Bacchetta et al., 2009). Strong VET systems require a continuous flow of information between the private sector and education providers about what kind and levels of training are needed (ILO, 2008). It is challenging to establish this type of information flow in countries where there is no strong tradition of employer-collaboration with public education and training providers. In addition, the high incidence of informality in low-income countries is likely to negatively affect the stability and quality of such information flows.

Firms involved in global markets tend to require higher skilled workers than firms that only serve the domestic market. Brambilla et al. (2012), for instance, find that Argentinean firms that export to high-income countries hire more skilled workers than firms that serve the domestic market only or export to markets that are similar to the home market. In the context of regional and global value chains, (global) lead firms, therefore, sometimes take the initiative to encourage investment in skills of local suppliers and to contribute to the delivery of training necessary for suppliers to meet product quality and services standards corresponding to those applied within the supply chain.

Okada (2004), for instance, reports that lead firms in the Indian car-manufacturing sector encouraged suppliers to obtain ISO9000/ISO9002 certification. Lead firms also contributed directly to skill strengthening, for instance, by providing technical guidance to colleagues in suppliers or by encouraging suppliers to conduct site-visits in the lead firm. However, such initiatives are more likely in countries and sectors, where the relevant education or VET system already provides workers with an adequate skill base.

### III. EVIDENCE REGARDING SKILLS GAPS AT THE ENTERPRISE LEVEL

An increasing body of firm level survey evidence indicates that access to skills is a critical issue across countries of different income levels and for enterprises of different sizes. A recent study by McKinsey (2012) based on surveys across nine countries<sup>4</sup>, for instance, finds that 40% of employers struggle to fill entry-level jobs because the candidates have inadequate skills and 45% of young people are engaged in jobs that are not related to their studies. McKinsey predicts that work supply will fall short of demand by 85 million medium – and high – skilled workers by 2020.

Survey evidence based on the 2009 wave of the European company survey (ECS) reveals that 36% of enterprises in Europe declare that they experience problems in finding staff for skilled jobs, while a smaller percentage (10%) has difficulty in attracting people for unskilled or low-skilled positions (Cedefop, 2012). Figures differ across countries and sectors with over 50% of firms in Cyprus, Luxemburg, Bulgaria, Belgium and Malta reporting that they face a shortage of skilled workers. Shortages appear to be more prominent in larger-sized firms and differ across sectors, with over 40% of firms declaring skills shortages in construction, hotels and restaurants and in manufacturing. Evidence reported by the American Society for Training and Development (ASTD, 2012) indicates that skill shortages may be particularly severe in dynamic sectors like information technology (IT). In particular, 93% of employers consider

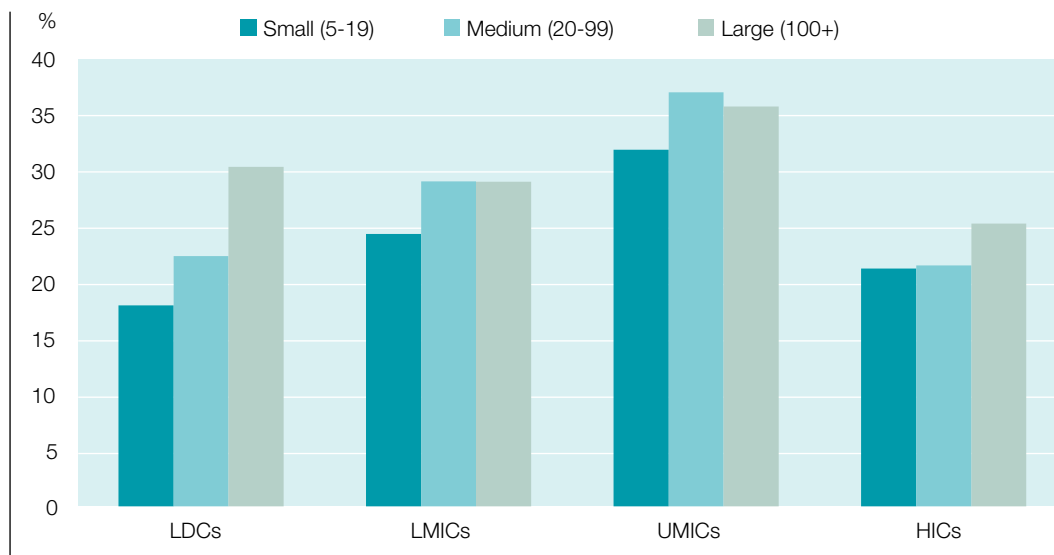
that there is an overall skills gap among their IT staff.

Gimpelson et al. (2007) report evidence of skills shortages based on the Russia Investment Climate Survey (ICS). Surveyed firms ranked “lack of skilled and qualified workforce” as the number two investment climate constraint to enterprise growth and development (the number one constraint being taxation). Small enterprises with less than a 100 employees also ranked this skills constraint as major or severe, although not as highly as regulation or access and cost of finance. Gimpelson et al. (2007) also report that the extent to which skills shortages are a problem varies across units within firms. In particular, production units identify more frequently the lack of skilled workers as a bottleneck than research and development units.

The World Bank through its World Bank Enterprise Surveys has collected a large body of firm level information based on surveys in 130 countries of different income levels. In the context of these surveys, enterprises have been asked to identify major constraints to their operations. Figure 1 reveals that the percentage of firms identifying an inadequately educated workforce as a major constraint is highest in upper-middle-income countries (UMICs) where it reaches over 30%. In LDCs and lower-middle-income countries (LMICs) the share of large firms considering an inadequately educated workforce as a major constraint is also close to 30%.

<sup>4</sup> Brazil, Germany, India, Mexico, Morocco, Saudi Arabia, Turkey, United Kingdom and United States.

**FIGURE 1.**  
**SHARE OF FIRMS BY INCOME GROUP IDENTIFYING AN INADEQUATELY EDUCATED WORKFORCE AS A MAJOR CONSTRAINT TO THEIR OPERATIONS (%)**



Source: World Bank Enterprise Surveys.

Note: Indicators for income groups are computed using simple averages across countries and are based on 33 LDCs, 38 LMICs, 43 UMICs and 16 HICs.

Table 1 shows the percentage of firms that consider an inadequately educated workforce as the single biggest obstacle to their operations and growth. Two main facts are worth highlighting. First, the share of small firms that consider an inadequately educated workforce as their biggest constraint is lower than for larger firms. For instance, 5.5% of small firms in LMICs consider it as their biggest constraint compared to 6.7% and 9.2% of medium and large firms respectively. Second, the relative importance of inadequately educated

workforce is increasing with a country's development. While in LDCs only 3.7% of medium sized companies consider it as their biggest obstacle, in UMICs 11.3% of firms do so. In LDCs and LMICs, firms perceive electricity supply as their biggest constraint. Firms in wealthier countries cite electricity supply less frequently as a constraint, probably because of the lower incidence of electricity supply disruptions.

**TABLE 1.**  
**BIGGEST CONSTRAINTS TO THE OPERATIONS OF FIRMS BY FIRM SIZE AND INCOME**  
**GROUP (% OF FIRMS)**

	LDCs			LMICs			UMICs			HICs		
	small	medium	large	small	medium	large	small	medium	large	small	medium	large
<b>Inadequately educated workforce</b>	<b>2.4</b>	<b>3.7</b>	<b>5.2</b>	<b>5.5</b>	<b>6.7</b>	<b>9.2</b>	<b>9.2</b>	<b>11.3</b>	<b>13.0</b>	<b>17.2</b>	<b>17.2</b>	<b>23.4</b>
Access to finance	21.3	15.1	11.1	17.5	13.9	12.4	15.4	13.7	11.8	13.7	15.4	12.6
Access to land	4.9	5.6	3.8	3.4	2.5	2.0	2.2	2.0	2.2	1.1	2.4	1.4
Business licensing and permits	1.7	1.9	0.8	3.1	2.3	1.8	4.5	4.1	4.9	1.9	2.6	2.1
Corruption	6.6	8.7	6.6	7.0	7.2	7.4	7.0	7.8	5.5	4.6	3.9	2.5
Courts	0.5	0.7	1.1	1.0	0.9	1.4	1.0	1.1	1.1	1.5	3.9	3.8
Crime, theft and disorder	3.9	3.7	5.0	5.1	5.4	5.6	7.1	6.8	4.8	4.2	4.2	4.9
Customs and trade regulations	3.0	3.4	4.4	3.2	3.5	5.0	3.5	3.8	4.2	3.6	3.9	2.6
Electricity	22.8	24.4	22.5	15.0	15.3	14.9	7.7	7.1	7.3	6.6	3.0	4.0
Labor regulations	0.9	1.1	2.0	1.8	1.7	2.7	2.9	4.5	7.2	5.4	4.9	5.1
Political instability	8.4	8.5	11.7	9.4	11.0	12.5	6.9	8.3	7.6	7.7	7.3	12.4
Practices of the informal sector	8.9	8.3	8.9	13.3	14.5	10.6	12.2	11.6	12.4	12.9	9.2	9.1
Tax administration	2.7	4.2	3.6	3.2	3.4	2.4	3.2	4.1	3.1	3.4	4.2	4.0
Tax rates	7.7	7.1	9.2	8.3	9.0	8.4	14.8	11.5	11.0	14.0	14.8	9.9
Transportation	4.4	3.7	4.2	3.2	2.6	3.8	2.6	2.4	4.0	2.3	3.3	2.1
<b>Sum</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: World Bank Enterprise Surveys.

Note: Indicators for income groups are computed using simple averages across countries and are based on 31 LDCs, 37 LMICs, 41 UMICs and 10 HICs.

## IV. SKILLS AND COMPETITIVENESS OF SMES: FINDINGS FROM THE OECD-WTO SURVEY

As part of the Fourth Global Review of Aid for Trade, the OECD and the WTO jointly conducted a monitoring exercise aimed at assessing the main barriers developing country firms face when entering or moving up value chains and how development assistance can help firms overcome these barriers. The results of the questionnaires, which were sent to the private sector, to aid-for-trade partner countries and to donor countries and institutions, are assessed below with a focus on SMEs and labour force skills.

### A. SUPPLIER AND LEAD FIRM VIEWS ON THE IMPORTANCE OF LABOUR FORCE SKILLS IN VALUE CHAINS

The OECD-WTO private sector questionnaires were sent to suppliers from developing countries and lead firms in the five value chains: agrifood (257 replies), information and communication technology (ICT) (125 replies), textiles and apparel (106 replies), tourism (113 replies) and transport and logistics (96 replies).<sup>5</sup>

According to suppliers, the lack of skills of the labour force is one of the most important national supply side constraints affecting their ability to enter or move up value chains (Figure 2). Labour force skills are highlighted as a main constraint by about 45% of suppliers in the tourism, textiles and apparel and ICT value chains, and by 38% of suppliers in the agrifood chain. Only in the

transport and logistics chain, do skills seem to be less important.<sup>6</sup>

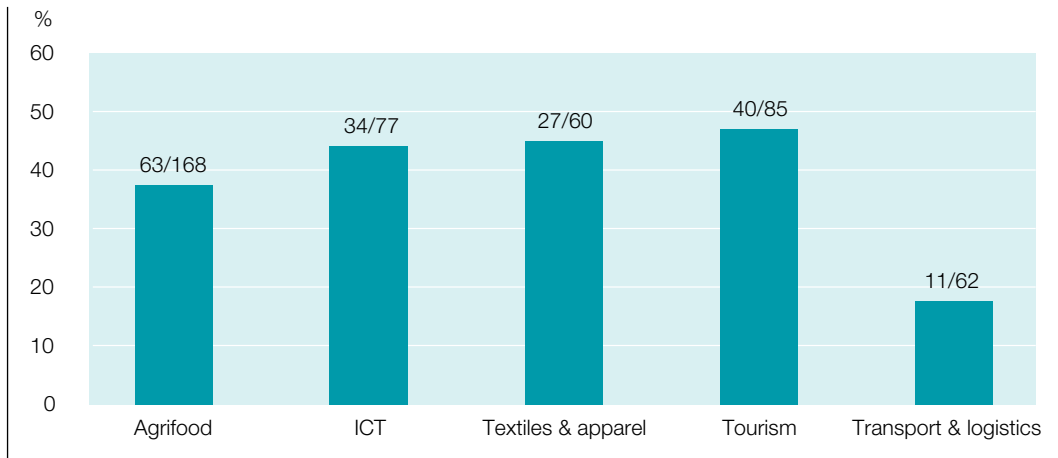
When answers are broken down by firm size (Figure 3), one can see that the share of suppliers reflecting low labour skills as a main constraint is higher for SMEs than for micro and large firms in all sectors except for tourism. However, differences between the firm groups are not very pronounced and given the few number of respondents, in particular for micro and large suppliers, these results should be interpreted with caution.

Focusing on SMEs only, Table 2 provides detail regarding the importance of labour force skills relative to other supply side constraints. In particular, labour force skills are among the three most often mentioned constraints in the four value chains: agrifood, ICT, textiles and apparel and tourism. Moreover, in tourism and ICT, labour force skills are ranked first, highlighted by 58% and 48% of suppliers respectively.

<sup>5</sup> Replies were received by both firms and associations.

<sup>6</sup> Gereffi et al. (2011) provides detailed information on the role of skill for upgrading in four global value chains: apparel, tourism, fruit and vegetables and offshore services. The study contains interesting information on the type of skills that play a role in helping local suppliers to move up the value chain.

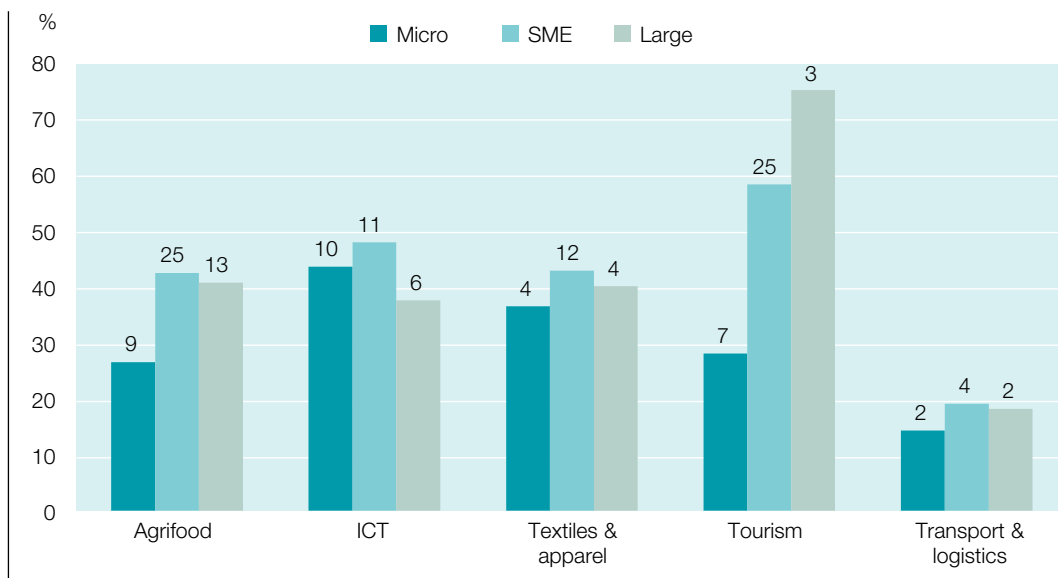
**FIGURE 2.**  
**SHARE AND NUMBER OF SUPPLIERS INDICATING LABOUR FORCE SKILLS AS A MAIN NATIONAL SUPPLY SIDE CONSTRAINT AFFECTING THEIR ABILITY TO ENTER, ESTABLISH AND MOVE UP VALUE CHAINS**



Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

Notes: Labels indicate the number replies mentioning skills relative to overall replies to the question. Replies from both firms and associations are included.

**FIGURE 3.**  
**BY FIRM SIZE: SHARE AND NUMBER OF SUPPLIERS INDICATING LABOUR FORCE SKILLS AS A MAIN NATIONAL SUPPLY SIDE CONSTRAINT AFFECTING THEIR ABILITY TO ENTER, ESTABLISH AND MOVE UP VALUE CHAINS?**



Source: Source: OECD-WTO aid-for-trade (AFT) monitoring survey: private sector questionnaire.

Notes: Labels indicate the number replies mentioning labour force skills. Replies from associations are not included as no breakdown by size is possible.

**TABLE 2.**  
**TOP THREE NATIONAL SUPPLY SIDE CONSTRAINS FOR SME SUPPLIERS**

Value chain	Top three national supply side constraints	Replies by suppliers	
		Share (%)	Number
Agrifood	1. Access to finance	59	35
	2. Insufficient local supply capacity	42	25
	<b>3. Labour force skills</b>	<b>42</b>	<b>25</b>
ICT	<b>1. Lack of labour force ICT skills</b>	<b>48</b>	<b>11</b>
	2. Access to finance	43	10
	3. Unreliable power infrastructure	35	8
Textiles and apparel	1. Domestic business environment	57	16
	2. Access to finance	43	12
	<b>3. Labour force skills</b>	<b>43</b>	<b>12</b>
Tourism	<b>1. Low labour skills</b>	<b>58</b>	<b>25</b>
	2. Business environment	53	23
	3. Airport or port capacity and infrastructure	35	15
Transport and logistics	1. Inadequate airport, rail, road or maritime infrastructure	57	12
	2. Lack of transparency in regulatory environment	48	10
	3. Informal controls and corrupt practices	43	9
	<b>10. Labour skills</b>	<b>19</b>	<b>4</b>

Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

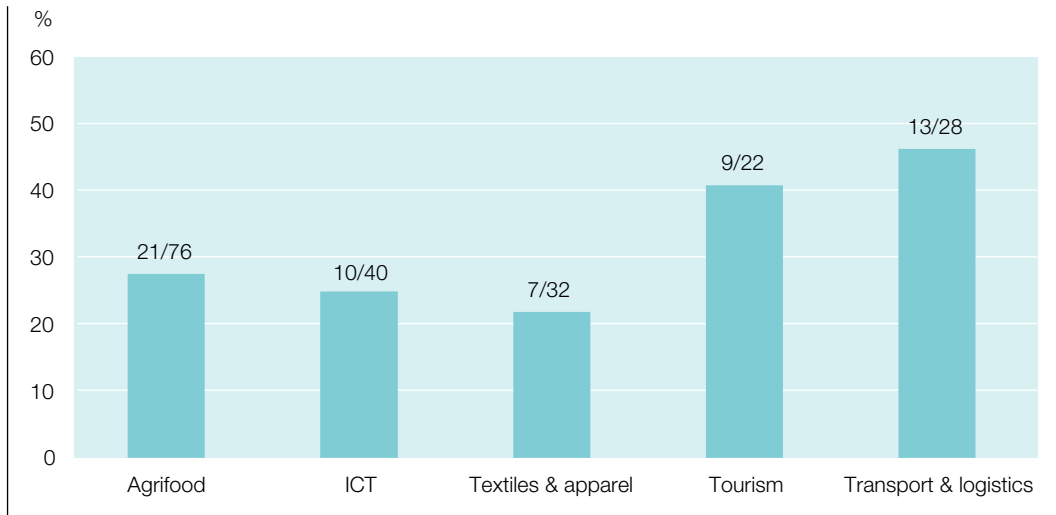
Notes: Based on 59 replies of SMEs for agrifood, 23 for ICT, 28 for textiles and apparel, 43 for tourism and 21 for transport and logistics.

Comparing the replies of SME suppliers (Figure 2) and lead firms (Figure 4) offers some interesting insights. While labour skills are mentioned by more than 40% of lead firms in tourism as typical obstacles when establishing a commercial presence in developing countries, labour skills are of lower importance for lead firms operating in agrifood, ICT and textiles and apparel value chains. Furthermore, in contrast to suppliers, many lead firms in the transport and logistics sector, i.e. 46%, perceive labour skills as an obstacle. One possible explanation of this relatively high importance of labour skills for lead firms in transport and logistics might be that, by providing shipments between

and within countries, lead firms are bound to operate in many countries compared to lead firms in other value chains.

Labour skills are among the top three most often mentioned obstacles by lead firms in tourism and transport and logistics value chains (Table A.1, Annex A), while lead firms in agrifood, ICT and textiles and apparel, more frequently encounter other obstacles. In particular, lead firms across all five value chains highlight the business and regulatory environment as an obstacle.

**FIGURE 4.**  
**SHARE AND NUMBER OF LEAD FIRMS INDICATING LABOUR SKILLS AS TYPICAL OBSTACLE WHEN ESTABLISHING A COMMERCIAL PRESENCE IN DEVELOPING COUNTRIES AND LDCS**



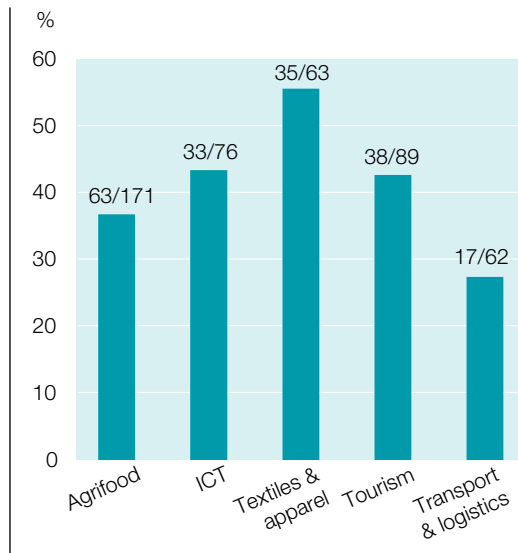
Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

Notes: Labels indicate the number replies mentioning skills relative to overall replies to the question. Replies from both firms and associations are included.

The differing perceptions of suppliers and lead firms reflect the fact that skill requirements do not only vary across value chains but also within value chains. Each value chain consists of different activities such as research, design, manufacturing or distribution and these activities vary in both their value added content, which is often depicted as a “smiley” curve, and their skill requirements. Hence, developing country SMEs might struggle to find the right skills when attempting to move up domestic or international value chains. Differently, lead firms might find it easier to attract talent in developing countries or might, depending on the value chain, be more interested to save on labour costs for low skilled work.

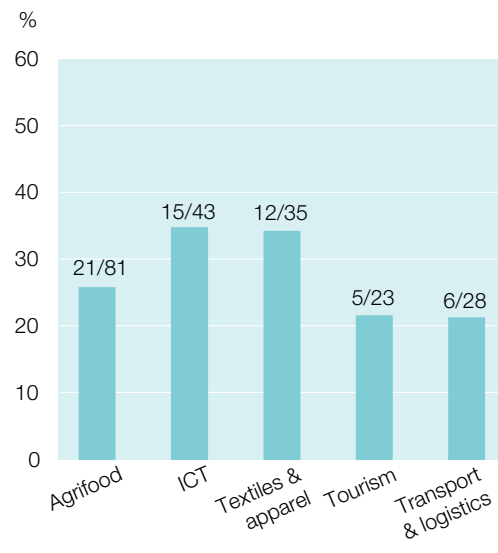
Figure 5 and Figure 6 provide evidence on the extent to which suppliers and lead firms consider labour skills as influencing factors in their respective value chains. In line with the results on barriers to integrate into value chains, it is developing country suppliers in particular that regard skills as a determining factor. While lead firms recognise labour skills as a typical obstacle when establishing a commercial presence, they seem to attribute lower weight to labour force skills when making their sourcing and investment decisions.

**FIGURE 5.**  
**SHARE AND NUMBER OF SUPPLIERS**  
**INDICATING LABOUR SKILLS AND**  
**PRODUCTIVITY AS IMPORTANT**  
**FACTORS INFLUENCING SOURCING**  
**AND INVESTMENT DECISIONS IN THEIR**  
**RESPECTIVE VALUE CHAIN**



Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

**FIGURE 6.**  
**SHARE AND NUMBER OF LEAD FIRMS**  
**INDICATING LABOUR SKILLS AS AN**  
**IMPORTANT FACTOR POSITIVELY**  
**INFLUENCING SOURCING AND**  
**INVESTMENT DECISIONS IN THEIR**  
**RESPECTIVE VALUE CHAIN**

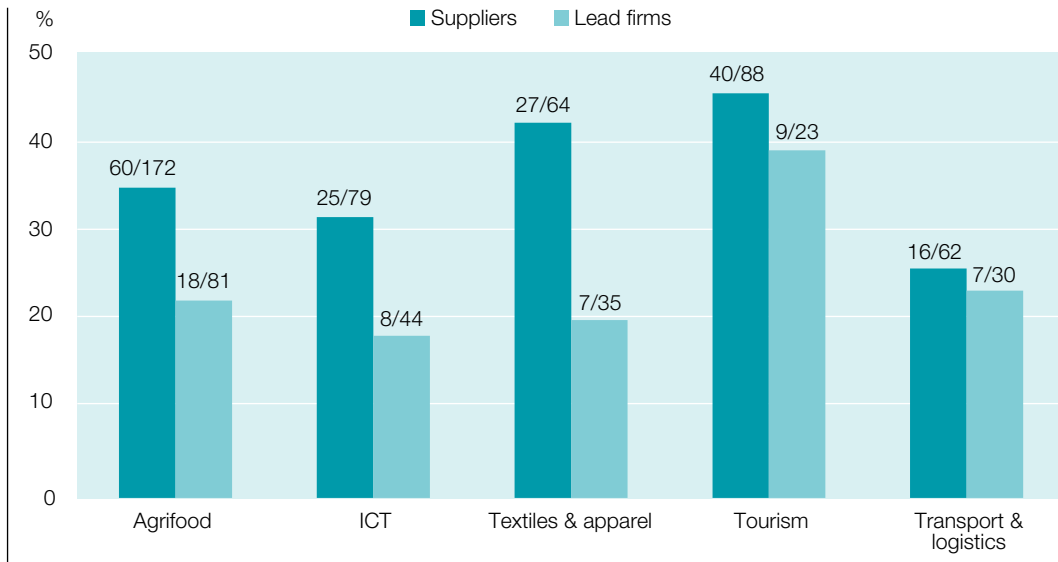


Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

Figure 7 and Figure 8 illustrate to what extent suppliers and lead firms consider labour force training an effective type of support in the context of technical assistance. Several facts are worth highlighting. First, a higher share of suppliers than lead firms regard labour force training as one of the most effective types of support. Second, across the five value chains, labour force training is valued most highly in the tourism value chain

by both suppliers and lead firms. Third, even though labour force skills are perceived as key barriers by suppliers, they regard other types of support such as incentives for investment, better market access and access to finance as more effective than labour force training schemes (Figure 8).

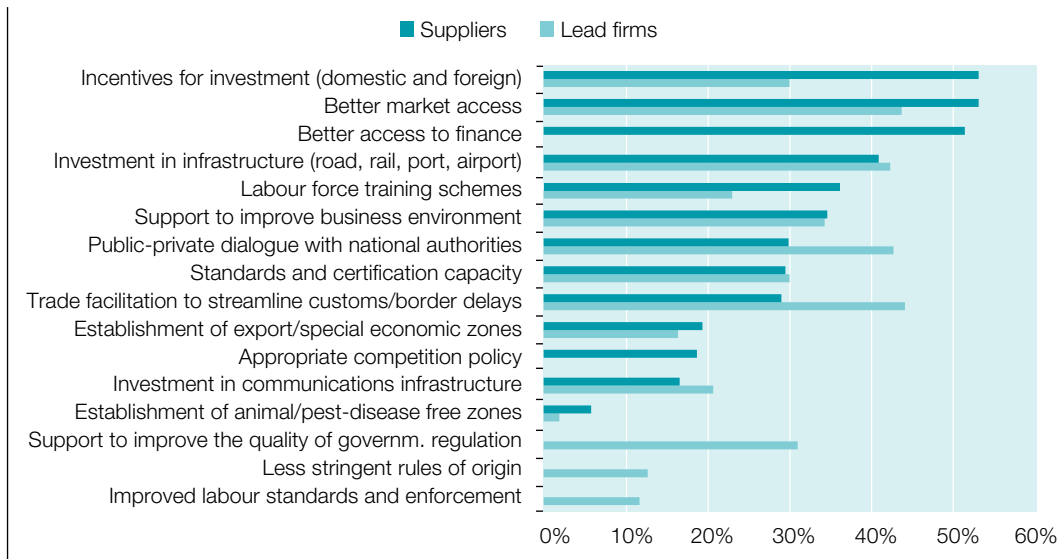
**FIGURE 7.**  
**PERCENTAGE AND NUMBER OF SUPPLIERS AND LEAD FIRMS MENTIONING LABOUR FORCE TRAINING SCHEMES AS THE MOST EFFECTIVE TYPE OF SUPPORT**



Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

Note: Rank of labour force training schemes in comparison to other support types for suppliers/lead firms in terms of number of replies: Agrifood (6/8), ICT(5/11), textiles & apparel (4/9), tourism (4/5) and transport and logistics (9/9).

**FIGURE 8.**  
**MOST EFFECTIVE TYPES OF SUPPORT AS INDICATED BY SUPPLIERS AND LEAD FIRMS (%)**



Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

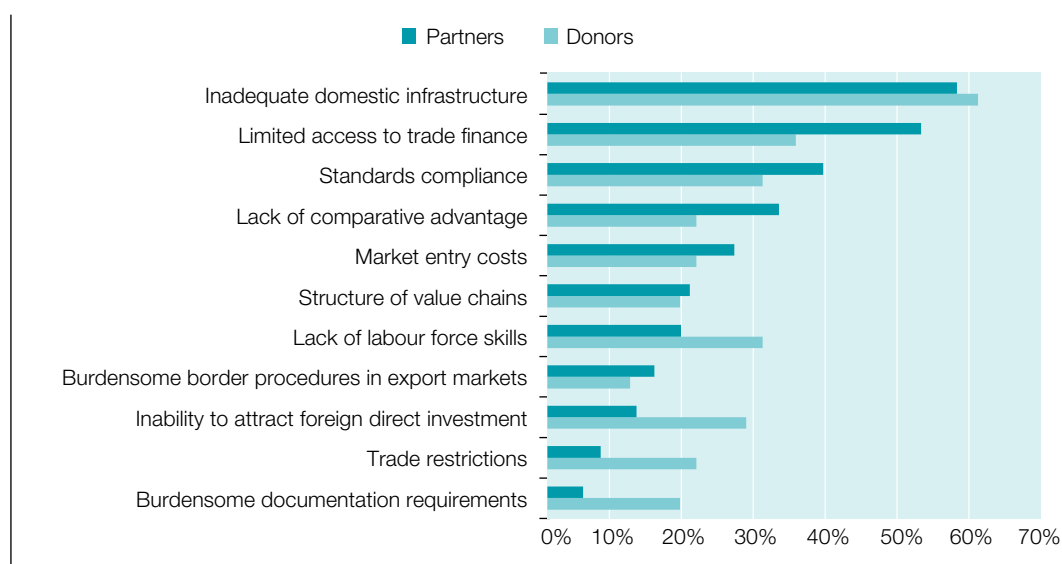
Notes: Based on 465 replies from suppliers and 213 replies from lead firms.

## B. PARTNER COUNTRY AND DONOR VIEWS ON THE IMPORTANCE OF LABOUR FORCE SKILLS IN VALUE CHAINS

For aid-for-trade partner countries, the lack of labour force skills is not considered to be one of the main obstacles to greater participation of developing country firms in value chains as it is mentioned by less than 20% of partners (Figure 9). However, it is also the case that other obstacles highlighted in the survey, such as standards compliance or lack of comparative advantage are likely to be related to the presence of relevant skills in

the work force. For the majority of partners, inadequate domestic infrastructure and limited access to trade finance constitute the main obstacles. Similarly, donor countries and institutions also regard inadequate domestic infrastructure and limited access to trade finance as the two main obstacles for developing country firms. However, donors attribute a higher priority to the lack of labour force skills than partners.

**FIGURE 9.**  
**MAIN OBSTACLES TO GREATER PARTICIPATION OF DEVELOPING COUNTRY FIRMS IN VALUE CHAINS (%)**



Source: OECD-WTO AFT monitoring survey: partner and donor country questionnaires.

By providing a breakdown by income group of partner responses, Table 3 reveals that it is primarily LDCs and LMICs that consider the lack of labour force skills as a second order priority problem. On the contrary, skills are a priority for more developed countries. In particular, 38% of UMICs consider the lack of labour force skills as a main obstacle for their firms. They allocate the same level

of priority to the lack of labour force skills as they allocate to inadequate domestic infrastructure. Access to trade finance, however, is considered to be the main obstacle with 71% of UMICs highlighting this particular constraint.

**TABLE 3.**  
**PARTNER COUNTRIES – MAIN OBSTACLES TO GREATER PARTICIPATION OF DEVELOPING COUNTRY FIRMS IN VALUE CHAINS BY INCOME GROUP**

Obstacle	All partner		LDCs		LMICs		UMICs	
	Number	%	Number	%	Number	%	Number	%
Inadequate domestic infrastructure	46	58	26	72	11	58	8	38
Limited access to trade finance	42	53	17	47	9	47	15	71
Standards compliance	31	39	17	47	7	37	6	29
Lack of comparative advantage	26	33	11	31	7	37	8	38
Market entry costs	21	26	7	19	5	26	5	24
Structure of value chains	16	20	6	17	5	26	3	14
<b>Lack of labour force skills</b>	<b>15</b>	<b>19</b>	<b>4</b>	<b>11</b>	<b>2</b>	<b>11</b>	<b>8</b>	<b>38</b>
Burdensome border procedures in export markets	12	15	5	14	3	16	4	19
Inability to attract foreign direct investment	10	13	5	14	2	11	2	10
Trade restrictions	6	8	1	3	3	16	2	10
Burdensome documentation requirements	4	5	3	8	0	0	1	5

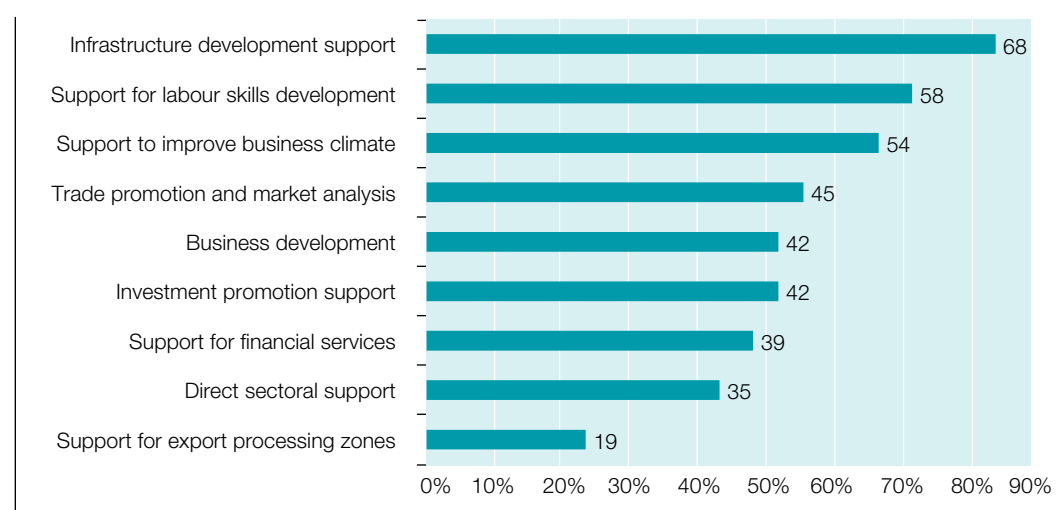
Source: OECD-WTO AFT monitoring survey: partner country questionnaire.

Note: Based on replies from 80 partners of which 36 are LDCs, 19 are LMICs and 21 are UMICs.

Although partner countries do not regard the lack of labour force skills as priority, they consider aid-for-trade support for upgrading labour skills as very effective (Figure 10). With more than 70% of partner countries highlighting support for labour skills development as effective, it is ranked

second after infrastructure development support. Labour skills development is the most often mentioned support type by UMICs (81%), and more than 70% of LDCs and LMICs consider it effective (Table 4).

**FIGURE 10.**  
**AID-FOR-TRADE SUPPORT TYPES THAT ARE CONSIDERED AS VERY EFFECTIVE BY PARTNER COUNTRIES IN ASSISTING FIRMS TO ENTER OR MOVE UP VALUE CHAINS (% AND NO. OF PARTNERS)**



Source: OECD-WTO AFT monitoring survey: partner country questionnaire.

Note: Based on replies from 80 partner countries. Support types could be marked as very effective, effective, ineffective and very ineffective.

**TABLE 4.**  
**AID-FOR-TRADE SUPPORT TYPES THAT ARE CONSIDERED AS VERY EFFECTIVE BY**  
**PARTNER COUNTRIES IN ASSISTING FIRMS TO ENTER OR MOVE UP VALUE CHAINS BY**  
**INCOME GROUP**

Support type	All partner		LDCs		LMICs		UMICs	
	Number	%	Number	%	Number	%	Number	%
Infrastructure development support	68	85	35	97	19	100	12	57
<b>Support for labour skills development</b>	<b>58</b>	<b>73</b>	<b>26</b>	<b>72</b>	<b>14</b>	<b>74</b>	<b>17</b>	<b>81</b>
Support to improve business climate	54	68	24	67	15	79	13	62
Trade promotion and market analysis	45	56	18	50	11	58	13	62
Investment promotion support	42	53	22	61	8	42	10	48
Business development	42	53	18	50	8	42	14	67
Support for financial services	39	49	23	64	9	47	7	33
Direct sectoral support	35	44	18	50	7	37	8	38
Support for export processing zones	19	24	10	28	6	32	3	14

Source: OECD-WTO AFT monitoring survey: partner country questionnaire.

Note: Based on replies from 80 partner countries of which 36 are LDCs, 19 are LMICs and 21 are UMICs. Support types could be marked as very effective, effective, ineffective and very ineffective.

## V. CONCLUSION: SKILLS, SME EXPORT COMPETITIVENESS AND THE ROLE OF TECHNICAL ASSISTANCE

Small and medium-sized enterprises, represent the overwhelming majority of enterprises in any economy. They represent a flexible and dynamic segment of their economies but their size can represent an impediment when it comes to integrating global markets. Smaller firms notably find it difficult to overcome the fixed costs related to entering new markets or to entering new product segments. Increasingly, though, SMEs participate indirectly or directly in trade through their involvement in regional and global value chains.

Integrating value chains often requires local suppliers to be able to meet product and services standards prevailing within the chain. Numerous studies have shown that workforce skills at the level of local suppliers are crucial in order to meet these requirements. Because of resource constraints, SMEs tend to find it harder to invest in necessary training of their workforce than their larger counterparts. They also find it harder to identify their skill needs or to anticipate future skill demand. A well-functioning education and vocational education and training (VET) system is, therefore, crucial in order for them to recruit workers that have the ability to adapt to changing working environments and that have the technical skills that SMEs need to successfully connect to value chains.

The OECD-WTO AFT monitoring survey confirms that skills are a major supply side constraint for SMEs. This is in particular the case in the ICT sector that is characterized by rapid technological change and in the tourism sector that is characterized by frequent employee-client contact. Also lead firms report labour skills as a typical

obstacle when establishing a commercial presence in developing countries. This is in particular the case in the tourism sector and in the transport and logistics industry. These findings are in line with evidence obtained from other surveys like the World Bank Enterprise Surveys or from other studies in the relevant literature (e.g. Gereffi et al. 2011, Almeida et al. 2012; Froy et al. 2012).

Technical assistance towards education and training is not per se considered 'aid for trade' according to the statistical definitions commonly used. Yet, evidence from the OECD-WTO AFT monitoring survey indicates that technical assistance in this field can play a powerful role in helping suppliers in developing countries to increase competitiveness and to connect to value chains. Indeed, the survey evidence suggests that where labour skills development efforts are delivered as an element of aid-for-trade support, private and public sector actors consider them to be effective in helping local suppliers to connect to or to move up within value chains. Further efforts towards coordinating assistance directed towards skills upgrading with assistance directed towards entering or moving up value chains should therefore be encouraged.

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## ANNEX A. TABLES

**TABLE A.1.**  
**TOP THREE OBSTACLES FOR LEAD FIRMS TO ESTABLISH A COMMERCIAL PRESENCE IN DEVELOPING COUNTRIES**

Value chain	Top three national supply side constraints	Replies by lead firms	
		Share (%)	Number
Agrifood	1. Lack of transparency in regulatory environment	50	38
	2. Business environment	49	37
	3. Inadequate standards infrastructure	42	32
	<b>7. Labour skills</b>	<b>28</b>	<b>21</b>
ICT	1. Business environment	58	23
	1. Lack of transparency in regulatory environment	58	23
	3. Inadequate standards infrastructure	38	15
	<b>7. Labour skills</b>	<b>25</b>	<b>10</b>
Textiles and apparel	1. Business environment	59	19
	2. Inadequate airport, maritime or transport capacity or links	38	12
	3. Poor quality or safety management in local supply chain	34	11
	<b>7. Labour skills</b>	<b>22</b>	<b>7</b>
Tourism	1. Business environment	50	11
	2. Inadequate hospitality standards	46	10
	<b>3. Labour skills</b>	<b>41</b>	<b>9</b>
Transport and logistics	1. Lack of transparency in regulatory environment	61	17
	2. Inadequate airport, maritime or transport capacity or links	50	14
	<b>3. Labour skills</b>	<b>46</b>	<b>13</b>

Source: OECD-WTO AFT monitoring survey: private sector questionnaire.

Notes: Based on 76 replies of lead firms for agrifood, 40 for ICT, 32 for textiles and apparel, 22 for tourism and 28 for transport and logistics.