ENABLING PARTICIPATION OF SMEs IN INTERNATIONAL TRADE AND PRODUCTION NETWORKS:
TRADE FACILITATION, TRADE FINANCE AND COMMUNICATION TECHNOLOGY

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Trade and Investment
Working Paper Series

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Yann Duval and Chorthip Utoktham*

Abstract

This study aimed at identifying key factors affecting SME participation in direct export and international production networks (IPNs), both globally and in Asia and the Pacific. A global dataset of firm-level data from developing countries was analyzed to identify the main obstacles to establishment and operation of direct and indirect small and medium size exporters. Logit models of SME export and IPN participation revealed the importance of several trade facilitation and related factors. The importance of modern information technology and international quality certification appear to be particularly crucial to participation in IPNs with SMEs using both at least 13% more likely to be involved in such networks. Exporting SMEs both globally as well as in the Asia-pacific region reported access to finance as the key obstacle to their business operations. Almost 60% of Asia-Pacific exporting SMEs rely exclusively on internal financing, while only 40% do so globally. Access to a variety of external trade finance sources was found to be important to boost SME export participation, with bank financing and supplier credit found to increase likelihood of SME participation in both direct export and IPNs most. The results particularly highlighted the importance of supply chain financing to facilitate direct export participation of Asia-Pacific SMEs. Comparing the marginal effects of various factors on SMEs and large enterprises, a reduction in customs and trade clearance times was also found to increase SMEs likelihood of participation in export or IPNs relatively more than that of larger enterprises.

JEL Classification: F1, O5, C1

Keywords: export participation, international production network, firm-level data, Asia and the Pacific, trade facilitation, trade finance, small and medium-sized enterprises (SMEs)

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Introduction

Small and medium-sized enterprises (SMEs)[1] are key contributors to economic development, both in developed and developing countries. Kushnir et al. (2010) find that formal SMEs contribute up to 45 percent of the World's employment on average; and up to 33 percent of employment in developing countries. The fact that countries in higher income groups typically have higher SME employment or density, as shown in Figure 1, highlight the need to support development of such enterprises in lower income developing countries.

As shown in figure 2, a conducive domestic business environment, including easy access to business services (e.g., financial and information and communication technology services) and streamlined investment and business regulations and procedures (e.g., to start a business, pay taxes or hire employees), is essential for SME development. In particular, as international trade remains an important engine of growth and development in most developing economies, facilitating participation of SMEs in such trade, both through direct export or indirectly through participation in international production networks (IPNs), has become one of the keys to achieving more inclusive and sustainable development in these economies.

In that context, the objective of the analysis presented here is to identify trade facilitation related factors which affect the participation of SMEs in direct or indirect export, with particular attention to the efficiency of trade procedures, the firms use of different sources of financing, the use of modern information and communication technologies (ICTs), and the quality of the logistics infrastructure. We also assess how the importance of the various trade facilitation factors vary depending on whether firms engage in international trade through direct export or through a production network, and whether they are from the Asia-Pacific region.

The definition of SMEs usually varies across countries as well as international organizations. This paper follows the World Bank's Enterprise Survey definition: Small enterprises are firms with 5 to 19 employees; Medium enterprises are firms with 20-99 employees and; Large enterprises are firms with 100 employees or more[2]. For the purpose of this study, participation by SMEs in IPN follows Wignaraja (2012), i.e., firms are considered members of a production network if they export directly or indirectly.

Following a brief review of the existing empirical economic literature on determinants of SMEs participation in export (section 2) and a brief review of obstacles to SME establishment and operations based on the most recent World Bank enterprise survey data (section 3), empirical models of SME export participation are estimated and discussed in Section 4. Conclusion and policy recommendations that stem from the results are in Section 5.

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[1] Micro, Small and Medium Enterprises (MSMEs) are also widely used in the literature. Definition of micro enterprises is also discussed in International Finance Corporation (IFC) as SMEs definition is generally different across countries. In this context, the term SMEs is used.

[2] Another widely-cited definition of SMEs (which is referred as micro, small and medium sized enterprises: MSMEs) is from European commission (http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm). However, this study follows the definition of SMEs from the World Bank's Enterprise Survey to reflect more on nature of size in developing countries. For country-specific SME definition, see IFC (online: http://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Financial+Markets/msme+finance/sme+banking/msme-countryindicators)

Figure 1: SME employment and SMEs per 1,000 people, by income group

Source: International Finance Corporation (online accessed in January 2014: http://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Financial+Markets/msme+finance/sme+banking/msme-countryindicators)

Note: Average of latest data available for each country is used; Low income: USD 975 or less; lower middle income: USD 976 to USD 3,855; upper middle income: USD 3,856 to USD 11,905; high income: USD 11,906 or more.

Figure 2: Ease of Doing Business and SME Density, by Income Group
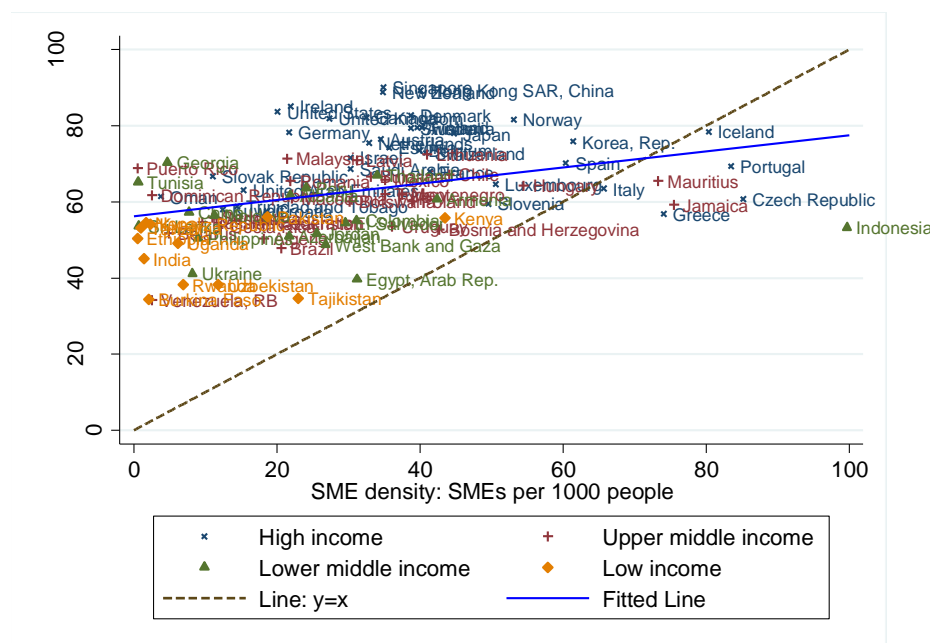
Source: International Finance Corporation (online accessed in January 2014) and Doing Business: Distance to Frontier (online: http://www.doingbusiness.org/data/distance-to-frontier)

Note: Latest data of SME density and doing business score in a corresponding year are used for scatterplot.

2

Review of Literature

The past empirical literature has identified a relatively large number of factors affecting firms' decision to export. These factors may be broadly categorized as firm characteristics, including measures of firm efficiency, and factors related to the external environment. Firm characteristics often cited in the literature are firm size, foreign ownership, productivity, human capital, and firm's technological adoption. Other firm characteristics that have been studied for their impact on participation in export – and typically used to infer firm efficiency - include firm's sourcing of input/raw material for production, business sector, access to knowledge and technology, capital stock, productivity and firm age.

External factors of importance to the participation of SMEs in trade typically relate to the quality of the domestic business climate, which may be referred to as behind-the-border factors from a trade facilitation perspective. Other external factors often referred to include access to finance, quality of institutions, transport connectivity, quality of technology and rate of adoption in the home country, as well as complexity of customs procedures.

A summary of recent empirical studies of firms' participation in export follows below.

Research/study	Methodology	Summary and findings related to SMEs, export participation, institutional arrangements, or inclusiveness
Amornkitvikai, Y., Harvie, C., and Charoenrat, T. (2012), Factor affecting the export participation and performance of Thai manufacturing small and medium sized enterprises	probit, logit linear probability and tobit regression Dependent variable: export participation dummy (1 if participating in export, 0 otherwise); export performance (measured by total exports to total sales)	The study uses cross-sectional data (year 2007) of Thai manufacturing SMEs to identify factors affecting export participation. Study finds that government assistance, foreign ownership, municipal location, R&D and skilled labor to have a positively significant effect on the participation of a firm in export market. However, firm size (small or medium), firm age, and labor productivity had mixed effect on export participation depending on models.
Amrouk, E. M., Poole, N., Mudungwe, N., and Muzvondiwa E. (2013), The impact of commodity development projects on smallholders' market access in developing countries: Case studies of FAO/CFC projects	Logit regression Dependent variable: market participation dummy (1 if participating in agriculture market or value chain; 0 otherwise)	The study finds that extension services, provided credit and change in agricultural assets are crucial determinants for market access of smallholders. Smallholders with better wealth endowment and location tend to be ones who get access to market. Improvement of credit support activities is essential in enabling market participation by in particular poorer smallholders.
Bellone, F. et al (2008),	random-effect probit and	The study assesses the link between financial

Research/study	Methodology	Summary and findings related to SMEs, export participation, institutional arrangements, or inclusiveness
Financial constraints as a barrier to export participation	fixed effect linear probability model Dependent variable: export participation dummy (1 if participating in export; 0 otherwise)	constraints and export participation of French manufacturing firms in 1996-2004. The result supports that financial constraints are barriers to export participation. Firm characteristics, namely, firm size, wage and productivity have positive effect on export participation. Firms with either domestic or foreign subsidiaries tend to export more. In addition, export starters do not exhibit ex-ante financial advantages and there is no significant evidence that firms who become exporters will face less financial constraints.
Cardoza, G., Fornes, G., and Xu, N. (2012), Institutional determinants of Chinese SMEs' internationalization: the case of Jiangsu Province	OLS regression Dependent variable: export intensity (measured by international sales to total sales)	The study assesses factors affecting export intensity (ratio of international sales to total sales) in Jiangsu Province in China. Estimated using OLS, the model suggests limited access to finance, domestic inefficiencies in logistics and distribution, costs of internationalization (including international transport costs and payment collection costs), and adverse regulatory frameworks affect decision to participate in export market. Three other factors, namely, government assistance, state participation, and public procurement, are not statistically significant.
Harvie, C., Narjoko, D., and Oum, S. (2010), Firm characteristic determinants of SME participation in production network	maximum likelihood estimation Dependent variable: production network participation dummy (1 if participating in production network; 0 otherwise)	This study identifies determinants of participation in production network in 2009 in some ASEAN countries and China. Productivity, foreign ownership, financial characteristics, innovation efforts, and managerial/entrepreneurial attitudes are important firm characteristics in determining SME participation in the network. Firm size also matters.
Hessels, J., and Terjesen, S. (2007), SME choice of direct and indirect export modes: resource dependency and institutional theory perspectives	binomial/multinomial logistic regression Dependent variable export involvement (categorical variable with 0 if no export, 1 if indirect export and, 2 if direct export); export mode dummy (1 if participating in indirect export; 0 otherwise)	The study examines participation in export market in the Netherlands. It finds that institutional theory (which describes how firms adopt legitimate business/industry practices) may be relevant in explaining choice of whether or not to export, whereas resource dependency theory (which describes how firms in the industry access resources) may be relevant in explaining the choice between becoming direct or indirect exporters.

Research/study	Methodology	Summary and findings related to SMEs, export participation, institutional arrangements, or inclusiveness
Hoekman, B. and Shepherd, B. (2013), Who profits from trade facilitation initiatives	Fractional logit regression Dependent variable: percentage of direct exports	The study finds that export time – as a measure of trade facilitation -, size of firms and ownership are positively related to participation in direct export. Trade facilitation matters for all firm sizes.
Li, Y., and Wilson, J. S. (2009), Trade facilitation and expanding the benefits of trade: evidence from firm level data	Probit and tobit regression Dependent variable: export participation dummy (follow definition of Enterprise Surveys 1 if at least 10% are exported directly; 0 otherwise)	The study shows the improvement in trade facilitation tends to increase probability of SMEs to export. In particular, better ICT services, streamlined clearance, and less transportation obstacles increases chance of export participation.
Ottaviano, G. I. P., and Martincus, C. V. (2009), SMEs in Argentina: Who are the exporters?	Probit regression Dependent variable: export participation dummy (1 if participating in export; 0 otherwise)	The study examines the determinants of export participation in Argentina. Number of employees, sourcing input from abroad, investment in product improvement and average productivity (measured by sales per employee) are associated with higher exporting probability.
Roberts, M. J., and Tybout, J. R. (1997), The decision to export in Colombia: an empirical model of entry with sunk costs	Method of simulated moments and maximum likelihood Dependent variable: export participation dummy (1 if participating in export; 0 otherwise)	The study finds sunk costs (measured by past export participation), firm-specific characteristics (measured by industry dummy, ownership structure, location), efficiency of firms (measured by capital stock and age of firms) are significant factors determining current export participation.
Wignaraja, G. (2012), Engaging Small and Medium Sized Enterprises in Production Networks: Firm-level Analysis of Five ASEAN Economies	Probit regression Dependent variable: production network dummy (1 if more than 0% are exported either directly or indirectly, 0 otherwise); sustained export dummy (1 if more than 40% of sales are directly exported; 0 otherwise)	The study analyzes the determinants of export participation in ASEAN. Firm size, foreign ownership and higher worker's education, obtaining international-agreed certificates (such as ISO) or foreign technology and having access to bank's credit induces SMEs to participate in export. Firm age is negatively associated with the participation in export. Practices of competitors in informal sectors, political instability, access to finance, tax rates and corruption are also found to be top 5 obstacles in conducting SME business.

Research/study	Methodology	Summary and findings related to SMEs, export participation, institutional arrangements, or inclusiveness

Overall, while a relatively large number of studies have been conducted on determinants of export participation, few have focused explicitly on SMEs, in particular in developing countries. Unlike in the study presented here, the past literature also does not distinguish between determinants of direct export and IPN participation, nor does it examines differences between firms globally and in the Asia-Pacific region. Finally, while access to finance is often highlighted as an important factor, the literature provides no analysis of the relative importance of different forms of financing. The importance of other trade facilitation related factors included in this study have also been largely ignored in previous studies.

Exporting SMEs: Preliminary insights from firm-level data

Given the global and regional scope of our analysis, we rely on the standardized dataset of the World Bank's Enterprise Survey (2006-2014, version 5, February 2014) for data on enterprises and their characteristics in 122 countries (see Annex 1 for more details).[3] Enterprise surveys are firm-level surveys of a representative sample of an economy's private sector. Eighty percent of the 53,500 firms included in the standardized dataset are SMEs. Demographic description of export participation of SMEs and large enterprises (LEs) in the dataset is provided in Annex 2, for reference.

An overwhelming majority of SMEs do not engage in either direct or indirect exports. Those who do export, however, do so directly rather than indirectly.[4] Figure 3 illustrates the percentage of SME firms engaged in direct export or in an IPN (i.e., defined here as engaged in direct and/or indirect export) in each country included in the dataset. On average, only 14 and 19 percent of SMEs in Enterprise Survey participate in direct export and IPN, respectively. These proportions are similar in Asia-Pacific (see Annex 4).

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[3] This dataset is based on national surveys conducted in different countries in different years and not in consecutive manner. Firm-level panel data also cannot be constructed as there is no information (such as a firm identification number) indicating whether a firm participated in several surveys over time. While these characteristics make panel data analysis more challenging, no other and better enterprise-level dataset of this scope is currently available.

[4] This is also true for LEs, as shown in Annex 3.

Figure 3: Percentage of SMEs involved in direct export or IPNs
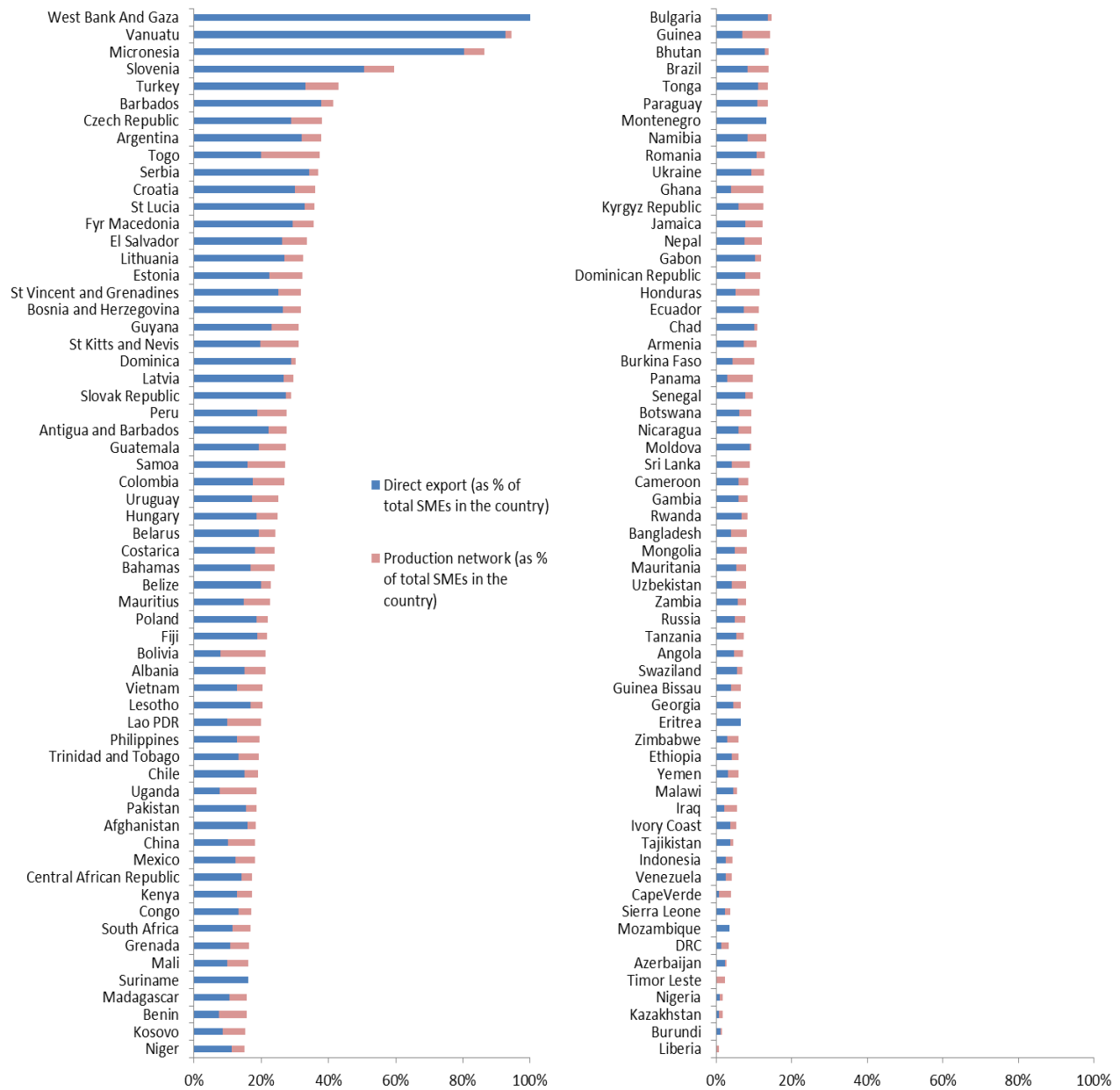
Source: Authors, calculated from Enterprise Surveys (Version 5, February 2014: http://www.enterprisesurveys.org/)

Obstacles to business operations

Table 1 shows the percentage of firms in the dataset identifying one of 15 obstacles as most important in their business operations. Access to finance is the top obstacle (among 15) reported by SME exporters both globally and in Asia-Pacific, followed by electricity and tax rates. Inadequately educated work force ranks as one of the main obstacles for LEs – more so than for SMEs. Both Customs and trade regulations and Transportation also feature among the Top 10 main obstacles in exporters' operation.

Even though obstacles may not vary much among SMEs and large enterprises, an interesting finding is that SME exporters in Asia and the Pacific seem to be relatively more affected than LEs by political instability, transportation, tax administration and access to land, as well as, to a lesser extent, by practices of the informal sector, Customs and trade regulations, and tax rates. This differs somewhat from the global overall situation, where SME exporters seem to be relatively more affected than LEs by access to finance, corruption, and Customs and trade regulations.

Table 1: Most important obstacle in business operation*

	Export status	Access to finance		Electricity		Tax rates		Practices of the informal sector		Political instability	
		LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs
Overall	exporter	13.2%	15.6%	12.1%	12.2%	10.3%	10.2%	9.9%	10.1%	10.7%	9.7%
	non-exporter	11.5%	17.0%	13.7%	13.1%	9.0%	10.8%	11.9%	12.2%	11.0%	8.3%
Asia-Pacific	exporter	15.4%	14.0%	11.1%	10.9%	12.1%	12.5%	8.7%	9.4%	11.4%	12.5%
	non-exporter	13.1%	16.2%	7.7%	10.4%	11.7%	13.1%	9.8%	10.9%	17.8%	11.2%
Others	exporter	12.6%	16.0%	12.4%	12.6%	9.8%	9.6%	10.2%	10.3%	10.6%	8.9%
	non-exporter	11.1%	17.2%	15.2%	13.9%	8.3%	10.1%	12.4%	12.5%	9.3%	7.5%

	Export status	Inadequately educated workforce		Corruption		Customs and trade regulations		Transportation		Crime, theft and disorder	
		LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs
Overall	exporter	12.6%	8.2%	5.3%	6.6%	4.3%	5.9%	5.5%	5.1%	2.9%	3.4%
	non-exporter	10.8%	7.7%	5.2%	6.6%	4.0%	3.1%	4.0%	3.3%	6.0%	5.6%
Asia-Pacific	exporter	9.7%	8.6%	9.5%	7.9%	4.2%	4.6%	5.3%	6.8%	1.7%	2.0%
	non-exporter	11.9%	9.0%	5.7%	6.4%	3.8%	2.3%	4.2%	4.6%	3.9%	3.9%
Others	exporter	13.4%	8.1%	4.1%	6.3%	4.4%	6.3%	5.6%	4.6%	3.2%	3.8%
	non-exporter	10.6%	7.3%	5.1%	6.6%	4.1%	3.3%	3.9%	2.9%	6.6%	6.0%

	Export status	Tax administration		Access to land		Business licensing and permits		Labor regulations		Courts	
		LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs	LEs	SMEs
Overall	exporter	3.5%	3.3%	2.4%	3.0%	2.4%	2.8%	4.0%	2.7%	0.8%	1.1%
	non-exporter	3.2%	3.2%	2.9%	3.3%	2.0%	2.5%	3.4%	2.5%	1.4%	1.0%
Asia-Pacific	exporter	1.8%	2.8%	1.4%	3.0%	3.5%	2.1%	4.2%	2.7%	0.2%	0.1%
	non-exporter	2.2%	3.1%	3.5%	3.3%	1.4%	3.1%	2.9%	1.8%	0.3%	0.5%
Others	exporter	4.0%	3.5%	2.7%	3.0%	2.2%	3.0%	4.0%	2.7%	0.9%	1.4%
	non-exporter	3.5%	3.2%	2.7%	3.2%	2.1%	2.3%	3.5%	2.7%	1.7%	1.2%

Source: Authors, calculated from Enterprise Surveys (Version 5, February 2014:
http://www.enterprisesurveys.org/CustomQuery) *Each firm was asked which of 15 obstacles was most important to its operation.

Figure 4 and 5 shows which obstacle SMEs exporters identify as the most important obstacle in their business operations. On average, SME exporters report similar obstacles regardless of whether all sectors are considered (including agriculture and services) or only the manufacturing sector: Access to finance, tax rates and electricity remain the top 3 obstacles at the global level. However, Asia-Pacific SME exporters appear to be relatively more concerned than others about tax rates, political instability and corruption, and relatively less so about access to finance and electricity.

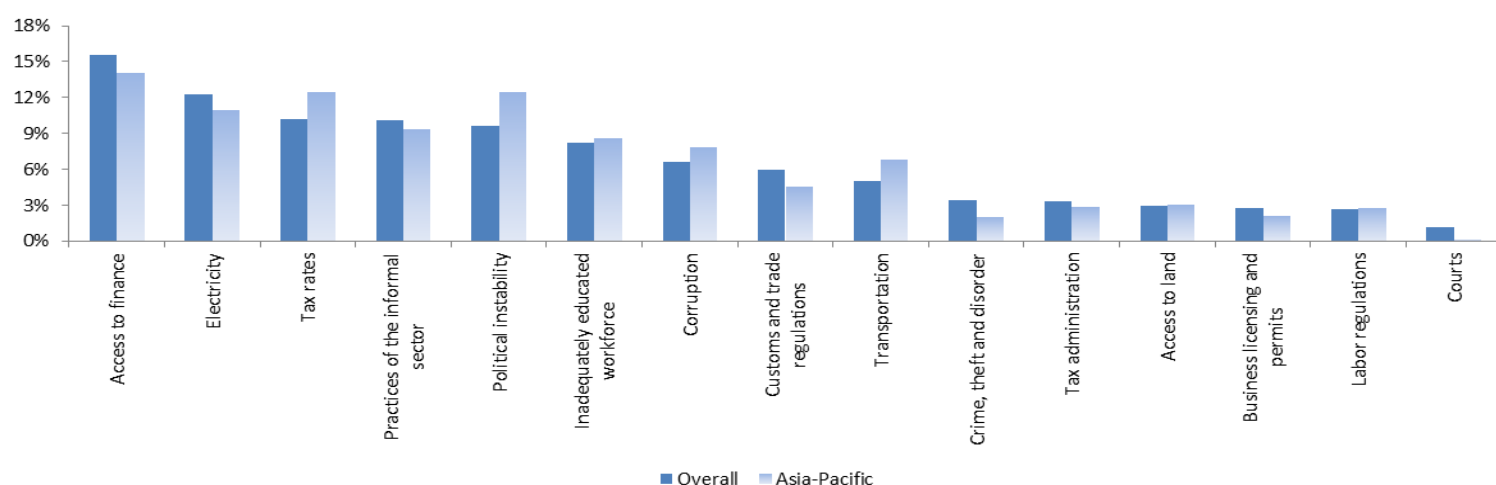**Figure 4: Most important obstacle in export SMEs' business operations (All Sectors)***

Figure 5: Most important obstacle in export SMEs' business operations (Manufacturing Sector)*

Customs and trade regulations are identified by Asia-Pacific SME manufacturing exporters as a more important obstacle than transportation, although transportation is found to be more important than trade regulations when SME exporters from the agriculture and services sectors are included. This suggest that transport infrastructure in rural areas and urban centers in Asia-Pacific may be relatively more underdeveloped than that available to manufacturing exporters – typically located in manufacturing zones and/or near major ports.

Sources of financing

Given that Access to Finance is the number one obstacle identified by SMEs, understanding how SME exporters finance their operations is important. Figure 6 and 7 depict types of working capital used by SMEs engaged in direct exports or IPNs. Supply chain financing (supplier credit) is the most important source of financing for exporting SMEs (46%), followed by bank financing. These two sources of financing account for about 80% of exporting SMEs' working capital at the global level. Reliance on non-bank financing (e.g., factoring companies) is very limited (6%) and lesser than reliance on credit from the informal sector (10%).

The data available suggest that, in contrast to the global situation in developing countries, exporting SMEs in Asia and the Pacific rely more on banks than on supplier credit to finance their operations. Almost 60% of Asia-Pacific exporting SMEs rely exclusively on internal financing, while only 40% do so globally.

Figure 6: Sources of external financing for direct export SMEs

Source: Authors based on Enterprise Surveys (Version 5, February 2014: http://www.enterprisesurveys.org/CustomQuery)
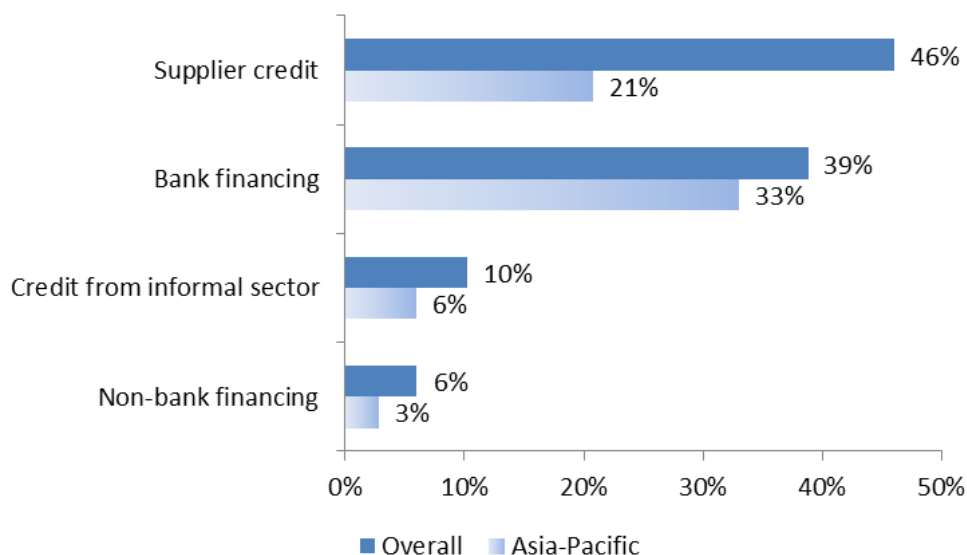
Figure 7: Sources of external financing for IPN SMEs
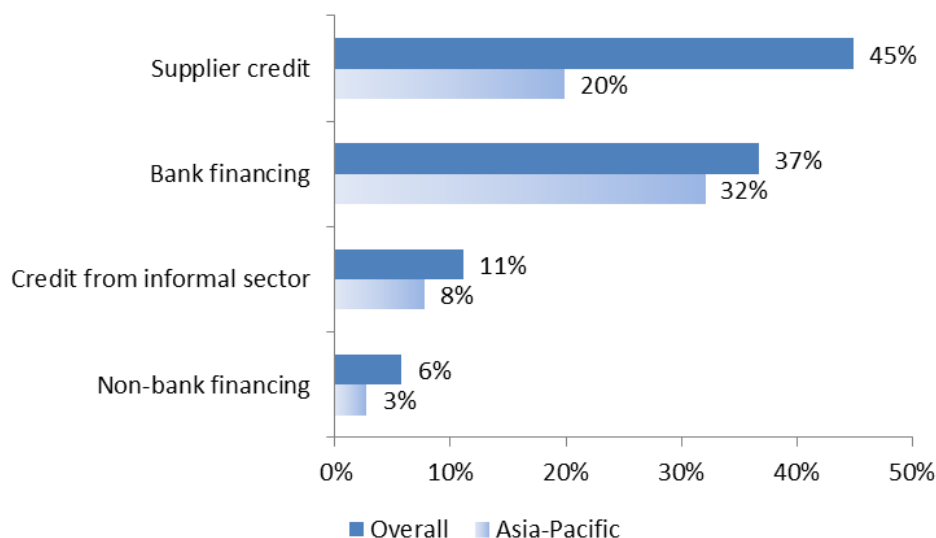
Trade facilitation and use of ICT

Four indicators related to trade facilitation and use of ICT were identified in the firm-level dataset, namely, internationally-recognized quality certification, percentage of product loss (as a proxy of logistics infrastructure quality), days of trade clearance, and use of email. The first three indicators provide indications of the ability of the firms in completing trade-related procedures in an efficient manner, while the last indicator is a proxy of exporting SMEs use of modern ICT. Figure 8 provides an overview of these indicators for SMEs engaged direct export. The average levels of use of e-mail communication, internationally-recognized quality certification and percentage of product loss of exporting SMEs observed are found to be very similar the global level and in Asia and the Pacific.

Figure 8: Trade facilitation performance and ICT use of SMEs engaged in direct export

Source: Authors based on Enterprise Surveys (Version 5, February 2014:
http://www.enterprisesurveys.org/CustomQuery)
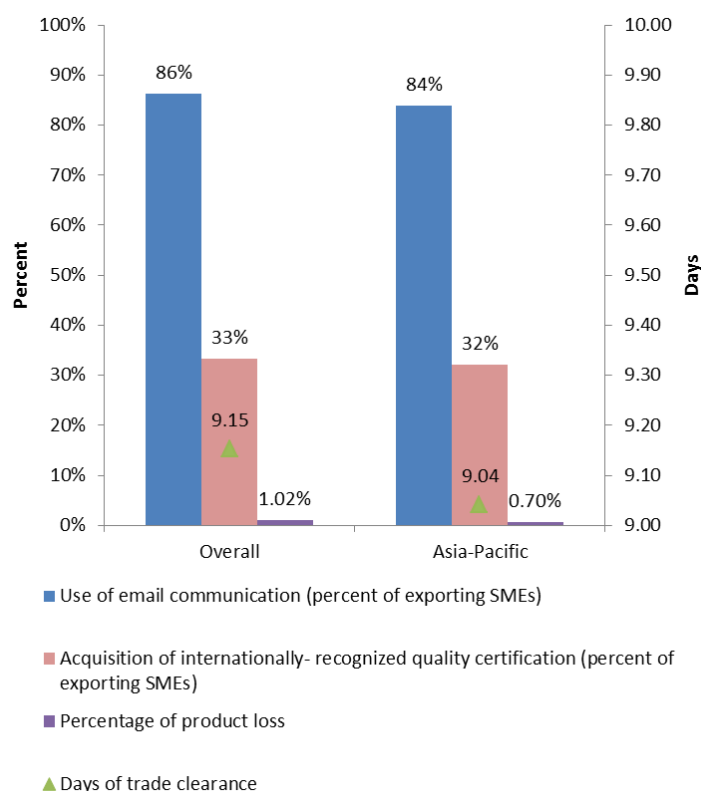
Key factors in SME participation in export and IPNs

While the descriptive analysis of the World Bank enterprise survey data provides some preliminary insights on the obstacles faced by SMEs engaged in direct or indirect export, econometric analysis is required to identify statistically significant characteristics and factors that distinguish SMEs participating in export and IPNs from those that do not. The subsection below describes the empirical models of SME export participation estimated for that purpose, while the next subsection discusses results and implications. The analysis is limited to firms from the manufacturing sector only.

1.1. Modelling Export Participation of SMEs
Following previous literature, binomial logit models are used to estimate the relationship between various firm characteristics as well as trade facilitation and trade finance on the participation of firms in

direct export and IPNs. Country, year, sector, and firm-size fixed effects are included in the models. The models for direct export (D0) and IPN (P0) are as follows[5]:

(D0): $x_{ifst}=$ $b_0 + b_1 (firm\_age_{ifst}) + b_2 (foreign\_ownership\_pct_{ifst}) + b_3 (unskilled2workers\_pct_{ifst}) + b_4 (dum\_email_{ifst}) + b_5 (dum\_qcert_{ifst}) + b_6 (capu\_pct_{ifst}) + b_7 (dum\_wk\_bank_{ifst}) + b_8 (dum\_wk\_supp_{ifst}) + b_9 (dum\_wk\_nonbank_{ifst}) + b_{10} (dum\_wk\_informal_{ifst}) + b_{11} (product\_loss\_pct_{ifst}) + b_{12} (days\_tradeclearance_{ifst}) + \mu_i + \mu_f + \mu_s + \mu_t + e_{ifst}$

(P0): $pn_{ifst} =$ $b_0 + b_1 (firm\_age_{ifst}) + b_2 (foreign\_ownership\_pct_{ifst}) + b_3 (unskilled2workers\_pct_{ifst}) + b_4 (dum\_email_{ifst}) + b_5 (dum\_qcert_{ifst}) + b_6 (capu\_pct_{ifst}) + b_7 (dum\_wk\_bank_{ifst}) + b_8 (dum\_wk\_supp_{ifst}) + b_9 (dum\_wk\_nonbank_{ifst}) + b_{10} (dum\_wk\_informal_{ifst}) + b_{11} (product\_loss\_pct_{ifst}) + b_{12} (days\_tradeclearance_{ifst}) + \mu_i + \mu_f + \mu_s + \mu_t + e_{ifst}$

for home country i, firm size f, sector s, at year t where,

x	denotes indicator variable of direct export participation: 1 if participating in direct export, 0 otherwise
pn	denotes indicator variable IPN participation: 1 if participating in either direct or indirect export, 0 otherwise
firm_age	denotes years of formal operation of a firm (calculated by survey year minus year of formal establishment)
foreign_ownership_pct	denotes percentage of foreign ownership in a firm
unskilled2workers_pct	denotes percentage of unskilled labor to total workers
dum_email	denotes indicator variable of email communication: 1 if using e-mail to communicate with clients/suppliers, 0 otherwise
dum_qcert	denotes indicator variable of international-recognized quality certification : 1 if a firm obtains one(s), 0 otherwise
capu_pct	denotes percentage of capacity utilization
dum_wk_bank	denotes indicator variable of access of working capital from banks: 1 if a firm obtains one(s), 0 otherwise
dum_wk_supp	denotes indicator variable of access of working capital from supplier credits: 1 if a firm obtains one(s), 0 otherwise
dum_wk_nonbank	denotes indicator variable of access of working capital from non-bank financial institutions: 1 if a firm obtains one(s), 0 otherwise
dum_wk_informal	denotes indicator variable of access of working capital from informal sources: 1 if a firm obtains one(s), 0 otherwise
product_loss_pct	denotes percentage of products shipped to supply domestic markets lost due to breakage or spoilage
days_tradeclearance	denotes Average number of days to clear imports and/or exports from customs
$\mu_i / \mu_f / \mu_s / \mu_t$	denotes country, firm size, sector and year fixed effect, respectively

We rely on the standardized World Bank enterprise survey data discussed earlier to estimate the models. As in Hoekman and Shepherd (2013) and to ensure that we use only the most reliable data, the dataset used to estimate the models consist only of data from enterprise surveys for which survey administrators indicated that (1) questions in the survey were answered truthfully or somewhat

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[5] Data description and variable description and expected signs are in table A1 and A2

truthfully and (2) figures were taken directly from the record or estimates computed with some precision, i.e., data was dropped if either criterion was not satisfied. In addition, the dataset uses stratified random sampling based on firm size, location, and business sector.[6]

Basic data description and definition of the variables included in the models, including expected signs of the explanatory variables, are provided in Annex 5 and 6, respectively.

1.2. Results

Estimation results for the direct export participation model and the IPN model are shown in Annex 7 (tables (a)/(c) and (b)/(d), respectively). Results in tables (c) and (d) are presented in the form of marginal effects of included firm characteristics and trade finance and facilitation variable on direct export participation and IPN participation, respectively.[7]

Considering the global dataset of SMEs (model 2), the importance of access and use of modern information and communication technology as well as international quality certification are found to be key to SME participation in export. Use of email and international quality certification have highest marginal effects of any other explanatory variables included in the models, with firms either using email or being certified found at least 8% more likely to be involved in export or IPN. The importance of modern information technology appears to be particularly crucial to participation in IPNs (as opposed to only direct exports), as the model suggests that firms using email are 13% more likely to be involved in such networks.

The results also confirm the importance of access to finance. Having access to formal external sources of working capital is also found to increase the probability of export participation on average for the global dataset, depending on types of financing. Supply chain financing (supplier credit) is found to be highly significant and increases the probability of SMEs participation in direct export and IPN participation probability by 2.0 and 3.5% respectively. Non-bank financial institutions credit are significant for SME direct export and IPN and increase the probability of participation by 1.8 and 3.1%, respectively; while bank financing increases probability of SME participation in direct export and IPN by 2.1 and 4.4%, respectively.[8] The results also highlight the importance of access to informal sources of financing (e.g., from family and friends), with SMEs having such access being up to 2.7% more likely to participate in IPNs – although mostly it seems through indirect exports.

Logistics infrastructure and trade facilitation are found to be important factors affecting SME participation in export, with a 1 percent increase in product loss during transit (a proxy for quality of infrastructure) reducing the likelihood that a firm would participate in direct export by approximately 0.3 percent. A one day increase in the time taken to complete customs and related clearance processes also reduces the likelihood that a firm would participate in either direct export or IPNs by approximately 0.4 percent.

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[6] For more information on data stratification, see http://www.enterprisesurveys.org//Methodology
[7] Evaluation of marginal effects of explanatory variables is calculated at their means, i.e., they show how the dependent variable (e.g., direct export participation) changes as a result of a change of one given explanatory variable by one unit, holding all other variables at their average values.
[8] All three formal sources of credit are significant when firms of all sizes are considered (model 1).

Foreign ownership is found to be statistically significant but its marginal effect of export participation is small. Other firm characteristics such as firm age, the percentage of unskilled workers, or capacity utilization are generally not found to be significant in affecting SME participation in either direct or indirect export.

Comparing the marginal effects of the models estimated using firms of all sizes (model 1 and 3) rather than only SMEs (model 2 and 4), time to complete customs and trade procedures are found to have stronger effect on SMEs export participation than on large firms, providing further evidence of the importance of trade facilitation for these firms.

Considering the estimates obtained using the Asia-Pacific SME dataset (model 4) as opposed to the Global SME dataset (model 2), the results remain broadly the same as those found for SMEs in developing countries globally. A few differences exist, however. The most striking one is the fact that the marginal effect of supplier credit on SME direct export participation is roughly twice that of the marginal effect of bank financing in Asia and the Pacific (3.2% vs. 1.6%), highlighting the importance of supply chain financing for the region. Access to informal finance is not found to be a significant determinant of either direct export and IPN participation for Asia-Pacific SMEs. The importance of international quality certification is found to be relatively less important for Asia-Pacific SMEs, although it remains very significant. Finally, foreign ownership is found to have a significant and positive, albeit minor, effect on Asia-Pacific SME export participation.

We check the robustness of the results by re-estimating the models by alternatively dropping each of the factors, including trade clearance time. The results are found to be robust and still hold in both direct export and IPN models.[9]

Conclusion and policy recommendations

This study aimed to identify key firm characteristics as well as external factors affecting SME participation in direct export and IPNs. Enterprise level data from developing countries was analyzed to identify the main obstacles to establishment and operation of direct and indirect small and medium size exporters. Logit models of SME export and IPN participation were estimated, revealing the importance of several trade facilitation and trade related factors. Use of modern information and communication technology was found to be the most important factor in increasing the probability of SMEs participation in both direct exports and IPNs, followed by international quality certification and access to finance. Poor logistics infrastructure and delays in customs and trade clearance were also found to significantly affect SME participation in both direct and indirect export.

Looking specifically at Asia-Pacific SMEs, our analysis further highlighted the importance of supply chain financing in enabling SME participation in export in that region, relative to other financing method. In addition, comparing the marginal effects of various factors on SMEs and large enterprises, a reduction in customs and trade clearance times was found to increase SMEs likelihood of participation in export or IPNs relatively more than that of larger enterprises.

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[9] Results may be provided upon request.

With the aim to foster more inclusive and sustainable development in the Asia-Pacific region, the following three main policy recommendations for developing country governments and development partners can be drawn from the results of this study:

(1) Given the importance of ICT in enabling participation of SMEs in trade, prioritize efforts to provide affordable access to internet and related services, including building capacity of SMEs and individuals in using the services;

(2) Noting that supplier credit was found to be an enabler of SME participation in export at least as important as bank financing, and that access to finance remains a key obstacle to SME development, encourage the further development of supply chain finance in partnership with the private sector and in addition to the more traditional bank and non-bank financial services;

(3) Recognizing that the streamlining of customs and trade procedures was found to be of particular benefits to SMEs, actively seek to simplify and increase transparency of the business environment in general and trade procedures in particular, including through – but not limited to - implementation of measures included in the WTO trade facilitation agreements.

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Annex 1: List of countries and years considered in the dataset

Country	Year	Country	Year	Country	Year	Country	Year
Afghanistan	2008, 2014	Czech Republic	2009	Latvia	2009	Serbia	2009
Albania	2007	DRC	2006, 2010	Lesotho	2009	Sierra Leone	2009
Angola	2006, 2010	Dominica	2010	Liberia	2009	Slovak Republic	2009
Antigua and Barbados	2010	Dominican Republic	2010	Lithuania	2009	Slovenia	2009
Argentina	2006, 2010	Ecuador	2006, 2010	Madagascar	2009	South Africa	2007
Armenia	2009	El Salvador	2006, 2010	Malawi	2009	Sri Lanka	2011
Azerbaijan	2009	Eritrea	2009	Mali	2007, 2010	St Kitts and Nevis	2010
Bahamas	2010	Estonia	2009	Mauritania	2006	St Lucia	2010
Bangladesh	2007, 2013	Ethiopia	2011	Mauritius	2009	St Vincent and Grenadines	2010
Barbados	2010	Fiji	2009	Mexico	2006, 2010	Suriname	2010
Belarus	2008, 2013	Macedonia	2009	Micronesia	2009	Swaziland	2006
Belize	2010	Gabon	2009	Moldova	2009	Tajikistan	2008
Benin	2009	Gambia	2006	Mongolia	2009	Tanzania	2006
Bhutan	2009	Georgia	2008, 2013	Montenegro	2009	Timor Leste	2009
Bolivia	2006, 2010	Ghana	2007	Mozambique	2007	Togo	2009
Bosnia and Herzegovina	2009	Grenada	2010	Namibia	2006	Tonga	2009
Botswana	2006, 2010	Guatemala	2006, 2010	Nepal	2009, 2013	Trinidad and Tobago	2010
Brazil	2009	Guinea	2006	Nicaragua	2006, 2010	Turkey	2008
Bulgaria	2007, 2009	Guinea Bissau	2006	Niger	2009	Uganda	2006, 2013
Burkina Faso	2009	Guyana	2010	Nigeria	2007	Ukraine	2008
Burundi	2006	Honduras	2006, 2010	Pakistan	2007	Uruguay	2006, 2010
Cameroon	2009	Hungary	2009	Panama	2006, 2010	Uzbekistan	2008
Cape Verde	2009	Indonesia	2009	Paraguay	2006, 2010	Vanuatu	2009
Central African Republic	2011	Iraq	2011	Peru	2006, 2010	Venezuela	2006, 2010
Chad	2009	Ivory Coast	2009	Philippines	2009	Vietnam	2009
Chile	2006, 2010	Jamaica	2010	Poland	2009	West Bank And Gaza	2013
China	2012	Kazakhstan	2009	Romania	2009	Yemen	2010
Colombia	2006, 2010	Kenya	2007	Russian Federation	2009, 2012	Zambia	2007
Congo	2009	Kosovo	2009	Rwanda	2006, 2011	Zimbabwe	2011
Costarica	2010	Kyrgyz Republic	2009, 2013	Samoa	2009		
Croatia	2007	Lao PDR	2009, 2012	Senegal	2007		

Note: latest data of each country is used for descriptive analysis

Annex 2: Demographic description of export participation of SMEs and LEs

Table (a): Direct export participation of firms in the sample

Region	Export status	SMEs		LEs		Total	
		Number	% of total	Number	% of total	Number	% of total
Global	Exporter	5115	9.6%	4409	8.2%	9524	17.8%
	Non-exporter	37650	70.4%	6326	11.8%	43976	82.2%
	Total	42765	79.9%	10735	20.1%	53500	100.0%
Asia-Pacific	Exporter	1386	2.6%	1448	2.7%	2834	5.3%
	Non-exporter	12047	22.5%	2421	4.5%	14468	27.0%
	Total	13433	25.1%	3869	7.2%	17302	32.3%

Table (b): International Production network participation[10] of firms in the sample

Region	IPN status	SMEs		LEs		Total	
		Number	%	Number	%	Number	%
Global	IPN member	7043	13.2%	5229	9.8%	12272	22.9%
	Non-member	35722	66.8%	5506	10.3%	41228	77.1%
	Total	42765	79.9%	10735	20.1%	53500	100.0%
Asia-Pacific	IPN member	2014	3.8%	1795	3.4%	3809	7.1%
	Non-member	11419	21.3%	2074	3.9%	13493	25.2%
	Total	13433	25.1%	3869	7.2%	17302	32.3%

Source: author's calculation from standardized dataset (2006-2014), the Enterprise Surveys
Note: Exporters are those firms whose direct export is greater than zero; Non-exporters are those firms whose direct exports equal zero. The definition is slightly different from dataset where less than 10 percent direct exports are considered as non-exporters.

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[10] Indication of a firm participating in production network is when a firm participates in either direct or indirect exports or both i.e. the sum of direct and indirect exports is greater than zero

Annex 3: Scatterplots of direct and indirect export participation of SMEs and LEs in and outside the Asia-Pacific region

Figure (a) and figure (b) show a scatterplot of countries' average exporter firm-level direct and indirect export participation in Asia-Pacific countries and other regions[11]. Firms both inside and outside Asia-Pacific involved in export tend to engage relatively more in direct export than indirect exports. While there is a positive correlation between involvements in direct and indirect export of (mainly large) firms in Asia-Pacific, firms from countries outside that region tend to engage in either direct or indirect export.

Figure (a): Direct and indirect export participation of SMEs and LEs (Asia-Pacific)
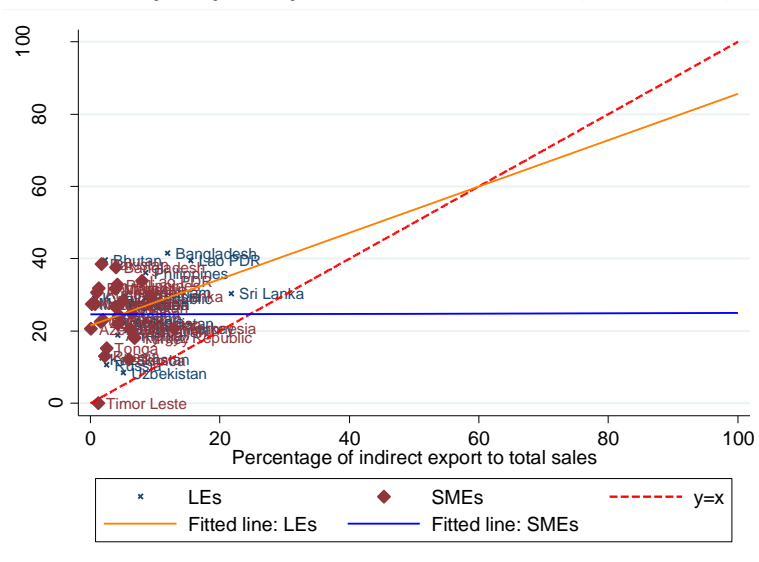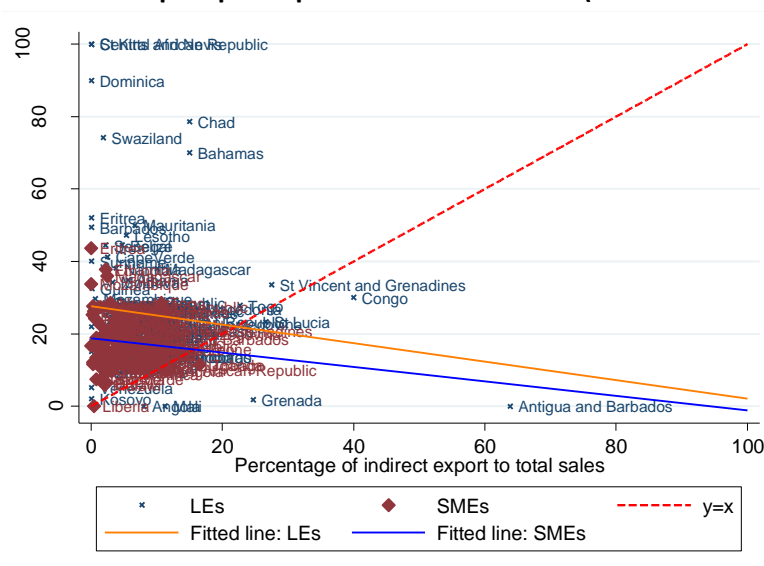

Figure (b): Direct and indirect export participation of SMEs and LEs (non-Asia-Pacific countries)

Source: Standardized dataset (2006-2014), the Enterprise Surveys

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[11] A firm in production network is defined as one whose sum of direct and indirect exports is greater than zero.

Annex 4: Percentage of firms engaged in direct export and IPN activities, Asia-Pacific perspective
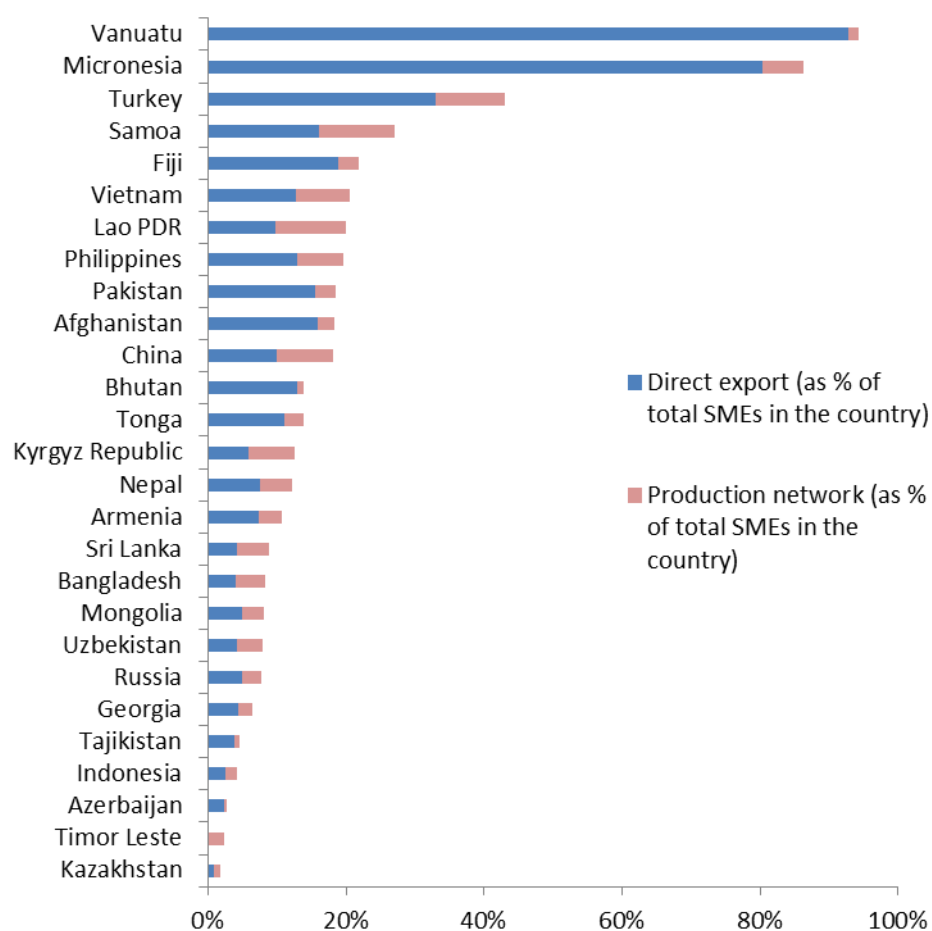
Annex 5: Data description

Variable Name	All: manufacturing*					Exporting SMEs: manufacturing					Non-Exporting SMEs: manufacturing				
	Observation	Mean	SD	Min	Max	Observation	Mean	SD	Min	Max	Observation	Mean	SD	Min	Max
exporting_status	35541	0.25	0.43	0	1	4096	1.00	0.00	1	1	22556	0.00	0.00	0	0
pn_exporting_status	35541	0.32	0.47	0	1	4096	1.00	0.00	1	1	22556	0.08	0.26	0	1
firm_age	35535	37.00	186.00	0	2023	4095	31.00	144.00	0	2021	22551	32.00	173.00	0	2023
foreign_ownership_pct	34967	8.50	26.00	0	100	4029	12.00	31.00	0	100	22175	4.00	18.00	0	100
unskilled2workers_pct	33597	33.00	32.00	0	100	3948	35.00	33.00	0	100	21604	31.00	32.00	0	100
dum_email	35443	0.72	0.45	0	1	4081	0.91	0.29	0	1	22491	0.60	0.49	0	1
dum_qcert	34528	0.25	0.43	0	1	3929	0.33	0.47	0	1	22029	0.13	0.33	0	1
modiv_capu_pct	34306	74.00	21.00	0	105	3958	72.00	22.00	0	105	21696	72.00	22.00	0	100
dum_wk_bank_pct	23008	0.34	0.47	0	1	2170	0.42	0.49	0	1	14768	0.26	0.44	0	1
dum_wk_supp_pct	30693	0.40	0.49	0	1	3256	0.46	0.50	0	1	20110	0.39	0.49	0	1
dum_wk_nonbank_pct	30696	0.04	0.20	0	1	3257	0.05	0.22	0	1	20109	0.04	0.20	0	1
dum_wk_informal_pct	22086	0.09	0.28	0	1	2260	0.10	0.31	0	1	14271	0.09	0.29	0	1
product_loss_pct	29106	1.10	4.20	0	100	3085	0.80	3.30	0	65	19259	1.30	4.60	0	100
days_tradeclearance	35314	10.00	11.00	0	1001	4095	7.90	19.00	0	1001	22332	11.00	8.90	0	180

*All: manufacturing data is the final dataset the study uses for logit estimates

Annex 6: Variable description and expected sign

Variable	Unit	Expected Signs	Source	Description
exporting_status	-		Author's calculation based on ESD[12]	dummy variable indicating 1 if a firm participates in direct export; 0 otherwise
pn_exporting_status	-		Author's calculation based on ESD	dummy variable indicating 1 if a firm participates in IPN[13]; 0 otherwise
firm_age	year	?	Author's calculation based on ESD	Age of a firm from its establishment to the year of survey
foreign_ownership_pct	%	+	ESD	Percentage of foreign ownership
unskilled2workers_pct	%	-	Author's calculation based on ESD	Percentage of unskilled labor to total labor
dum_email	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm uses e-mail to communicate with clients/suppliers; 0 otherwise
dum_qcert	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm obtains internationally-recognized quality certification; 0 otherwise
capu_pct	%	+	Author's calculation based on ESD	Capacity utilization
dum_wk_bank_pct	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm has working capital financed by banks; 0 otherwise
dum_wk_supp_pct	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm has working capital financed by supplier credit; 0 otherwise
dum_wk_nonbank_pct	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm has working capital financed by non-bank financial institutions; 0 otherwise
dum_wk_informal_pct	-	+	Author's calculation based on ESD	Dummy variable indicating 1 if a firm has working capital financed by informal sectors (eg. Moneylenders, friends, relatives); 0 otherwise
product_loss_pct	%	-	ESD	percentage of products shipped to supply domestic markets lost due to breakage or spoilage
days_tradeclearance	day	-	Author's calculation based on ESD	Average number of days to clear imports and/or exports from customs; the country-size average is replaced if firm-specific data is missing.

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[12] ESD: Enterprise Survey Data; Available online: http://www.enterprisesurveys.org/
[13] Indication of a firm participating in production network is when a firm participates in either direct or indirect exports or both i.e. the sum of direct and indirect exports is greater than zero.

Annex 7

Table (a): Empirical result: Logit estimates of direct export participation

	Direct export participation:logit estimates			
	(1)	(2)	(3)	(4)
VARIABLES	All: Global	SMEs	Asia-Pacific	Asia-Pacific SMEs
firm_age	-0.000245*	-0.000146	-0.000204	-0.000138
	[-1.894]	[-0.829]	[-1.571]	[-0.738]
foreign_ownership_pct	0.0113***	0.0135***	0.0159***	0.0159***
	[7.814]	[8.280]	[9.592]	[7.278]
unskilled2workers_pct	0.000602	0.00144	3.14e-05	0.00159
	[0.701]	[1.498]	[0.0113]	[0.565]
dum_email	1.413***	1.711***	1.540***	1.844***
	[7.933]	[11.70]	[5.248]	[7.565]
dum_qcert	0.890***	1.050***	0.559***	0.677***
	[9.852]	[9.345]	[3.227]	[4.351]
modiv_capu_pct	0.000503	0.00221	0.000872	0.00358
	[0.408]	[1.595]	[0.504]	[1.537]
dum_wk_bank_pct	0.323***	0.319***	0.349***	0.277***
	[7.314]	[5.135]	[6.207]	[2.782]
dum_wk_supp_pct	0.356***	0.325***	0.524***	0.508***
	[4.927]	[3.674]	[3.505]	[2.735]
dum_wk_nonbank_pct	0.261***	0.268***	0.254	0.372**
	[2.816]	[2.768]	[1.058]	[2.025]
dum_wk_informal_pct	0.0766	0.168*	0.0207	-0.0306
	[0.911]	[1.846]	[0.137]	[-0.221]
product_loss_pct	-0.0479***	-0.0537***	-0.0728**	-0.106**
	[-3.702]	[-2.651]	[-2.231]	[-2.561]
days_tradeclearance	-0.0353***	-0.0658***	-0.0283***	-0.0649*
	[-6.807]	[-5.198]	[-2.873]	[-1.668]
size_dum_1	-1.959***		-1.941***	
	[-18.76]		[-13.13]	
size_dum_2	-1.093***		-1.111***	
	[-12.89]		[-7.796]	
Constant	-2.367***	-4.594***	-3.834***	-3.483***
	[-9.008]	[-13.64]	[-3.921]	[-4.775]
Observations	18,517	13,858	6,382	4,490
Country FE	Yes	Yes	Yes	Yes
Clustered SE	Country	Country	Country	Country
Pseudo R-squared	0.307	0.223	0.269	0.167

*** p<0.01, ** p<0.05, * p<0.1

t-stat. in square brackets

Table (b): Empirical result: Logit estimates of IPN participation

	Production network participation: logit estimates			
	(1)	(2)	(3)	(4)
	All: Global	SMEs	Asia-Pacific	Asia-Pacific SMEs
firm_age	-0.000239**	-0.000276*	-0.000291***	-0.000340***
	[-2.281]	[-1.647]	[-3.855]	[-3.130]
foreign_ownership_pct	0.0114***	0.0129***	0.0154***	0.0142***
	[7.824]	[8.285]	[6.394]	[5.212]
unskilled2workers_pct	-0.000123	0.000613	-0.000776	0.000470
	[-0.190]	[0.649]	[-0.587]	[0.308]
dum_email	1.106***	1.280***	1.292***	1.399***
	[7.968]	[12.27]	[5.763]	[7.498]
dum_qcert	0.859***	0.962***	0.504***	0.558***
	[8.469]	[8.045]	[2.759]	[3.505]
modiv_capu_pct	0.000212	0.00156	-0.000278	0.00178
	[0.149]	[0.980]	[-0.125]	[0.623]
dum_wk_bank_pct	0.340***	0.363***	0.413***	0.384***
	[6.073]	[5.724]	[4.095]	[3.092]
dum_wk_supp_pct	0.304***	0.301***	0.349***	0.400***
	[5.056]	[4.571]	[2.688]	[3.130]
dum_wk_nonbank_pct	0.204**	0.250**	0.131	0.237
	[2.194]	[2.210]	[1.195]	[1.182]
dum_wk_informal_pct	0.133*	0.224***	0.178	0.219
	[1.786]	[3.068]	[1.128]	[1.447]
product_loss_pct	-0.0326***	-0.0289*	-0.0248	-0.0284
	[-2.609]	[-1.866]	[-1.062]	[-1.065]
days_tradeclearance	-0.0233***	-0.0337***	-0.0210***	-0.0395*
	[-5.755]	[-5.477]	[-2.623]	[-1.821]
size_dum_1	-1.805***		-1.880***	
	[-18.27]		[-9.953]	
size_dum_2	-0.977***		-0.950***	
	[-9.874]		[-5.428]	
Constant	-1.574***	-3.526***	-2.512***	-3.771***
	[-5.860]	[-10.05]	[-3.435]	[-2.812]
	18,517	13,858	6,450	4,563
	Yes	Yes	Yes	Yes
	Country	Country	Country	Country
	0.277	0.184	0.250	0.139

*** p<0.01, ** p<0.05, * p<0.1
t-stat. in square brackets

	Direct export participation: logit estimates - marginal effect			
	(1)	(2)	(3)	(4)
VARIABLES	All: Global	SMEs	Asia-Pacific	Asia-Pacific SMEs
firm_age	-2.64e-05*	-8.94e-06	-2.07e-05	-7.47e-06
	[-1.882]	[-0.822]	[-1.543]	[-0.720]
foreign_ownership_pct	0.00122***	0.000829***	0.00161***	0.000864***
	[7.121]	[7.839]	[6.480]	[5.228]
unskilled2workers_pct	6.48e-05	8.83e-05	3.18e-06	8.61e-05
	[0.703]	[1.513]	[0.0113]	[0.576]
dum_email	0.124***	0.0912***	0.127***	0.0914***
	[12.32]	[16.13]	[10.90]	[9.421]
dum_qcert	0.112***	0.0884***	0.0611***	0.0439***
	[9.618]	[7.355]	[3.673]	[4.052]
modiv_capu_pct	5.42e-05	0.000135	8.85e-05	0.000194
	[0.408]	[1.588]	[0.501]	[1.486]
dum_wk_bank_pct	0.0363***	0.0208***	0.0373***	0.0160**
	[6.948]	[4.840]	[5.212]	[2.488]
dum_wk_supp_pct	0.0393***	0.0204***	0.0608***	0.0321***
	[4.745]	[3.584]	[3.113]	[2.613]
dum_wk_nonbank_pct	0.0308***	0.0183**	0.0282	0.0235*
	[2.611]	[2.480]	[1.007]	[1.771]
dum_wk_informal_pct	0.00845	0.0109*	0.00212	-0.00164
	[0.887]	[1.740]	[0.136]	[-0.226]
product_loss_pct	-0.00516***	-0.00329***	-0.00738**	-0.00577***
	[-3.765]	[-2.664]	[-2.456]	[-2.919]
days_tradeclearance	-0.00380***	-0.00403***	-0.00287***	-0.00352*
	[-6.745]	[-5.520]	[-2.851]	[-1.769]
size_dum_1	-0.188***		-0.154***	
	[-21.89]		[-12.58]	
size_dum_2	-0.108***		-0.107***	
	[-17.31]		[-12.80]	
Observations	18,517	13,858	6,382	4,490
Country FE	Yes	Yes	Yes	Yes
Clustered SE	Country	Country	Country	Country

*** p<0.01, ** p<0.05, * p<0.1

t-stat. in square brackets

Table (d): Empirical result: Logit estimates of IPN participation – marginal effects

	Production network participation: logit estimates - marginal effect			
	(1)	(2)	(3)	(4)
VARIABLES	All: Global	SMEs	Asia-Pacific	Asia-Pacific SMEs
firm_age	-3.98e-05**	-3.16e-05	-4.65e-05***	-3.64e-05***
	[-2.275]	[-1.634]	[-3.957]	[-3.009]
foreign_ownership_pct	0.00190***	0.00147***	0.00246***	0.00152***
	[7.570]	[8.254]	[5.867]	[5.070]
unskilled2workers_pct	-2.05e-05	7.01e-05	-0.000124	5.04e-05
	[-0.190]	[0.651]	[-0.587]	[0.309]
dum_email	0.159***	0.131***	0.177***	0.138***
	[10.44]	[15.21]	[8.574]	[9.265]
dum_qcert	0.159***	0.138***	0.0847***	0.0675***
	[8.127]	[6.945]	[2.790]	[3.241]
modiv_capu_pct	3.52e-05	0.000179	-4.44e-05	0.000191
	[0.149]	[0.977]	[-0.125]	[0.621]
dum_wk_bank_pct	0.0585***	0.0441***	0.0692***	0.0442***
	[5.832]	[5.399]	[3.672]	[2.848]
dum_wk_supp_pct	0.0513***	0.0351***	0.0596**	0.0473***
	[4.974]	[4.516]	[2.501]	[2.917]
dum_wk_nonbank_pct	0.0358**	0.0310**	0.0218	0.0276
	[2.085]	[2.038]	[1.160]	[1.079]
dum_wk_informal_pct	0.0228*	0.0274***	0.0298	0.0252
	[1.719]	[2.868]	[1.065]	[1.328]
product_loss_pct	-0.00542***	-0.00331*	-0.00396	-0.00305
	[-2.628]	[-1.875]	[-1.078]	[-1.077]
days_tradeclearance	-0.00387***	-0.00385***	-0.00335***	-0.00423*
	[-5.756]	[-5.599]	[-2.612]	[-1.835]
size_dum_1	-0.266***		-0.241***	
	[-23.28]		[-15.71]	
size_dum_2	-0.151***		-0.145***	
	[-11.51]		[-6.537]	
Observations	18,517	13,858	6,450	4,563
Country FE	Yes	Yes	Yes	Yes
Clustered SE	Country	Country	Country	Country

*** p<0.01, ** p<0.05, * p<0.1

t-stat. in square brackets