



# INTEGRATING SMEs INTO GLOBAL VALUE CHAINS CHALLENGES AND POLICY ACTIONS IN ASIA



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## **CHALLENGES AND POLICY ACTIONS IN ASIA**





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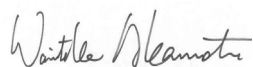


# Foreword

Asia's rapid growth over the past 4 decades has had a profound impact on the global economy, and positioned Asia as a driver of global growth. Meanwhile, Asian economies have been increasingly affected by global economic uncertainty. The 2008/09 global financial crisis and its aftermath have depressed demand from developed countries, and brought about an economic slowdown in developing Asia. The pace of growth in labor productivity in the region has decelerated. In this context, the promotion and development of small and medium-sized enterprises (SMEs) have the potential to boost productivity and increase employment at the national, regional, and global levels.

The liberalization of trade and investment—accelerated by economic integration initiatives, such as the creation of the Association of Southeast Asian Nations (ASEAN) Economic Community by the end of 2015—has generated new business opportunities for Asian SMEs in global marketplaces. Increasingly globalized links in production networks, or global value chains, provide a chance for SMEs to upscale their business models and to grow across borders. This will contribute to enhancing SME competitiveness, creating more jobs, and promoting inclusive growth in developing Asia.

The Asian Development Bank (ADB) and the ADB Institute (ADBI) have recognized the importance of integrating SMEs into global value chains. This will help establish a foundation for robust growth in Asia, with resilience against unexpected events such as financial crises. To provide pathways for such integration, ADB and ADBI undertook this study to examine ways of encouraging SME participation in global value chains. The study also explored policy solutions to promote participation and address the financial and nonfinancial issues that SMEs face. ADB conducted surveys of SMEs, government authorities, and financial institutions in four countries, to analyze critical constraints on SME involvement in global value chains, and to propose financing models and policy directions. The report provides a rich set of ideas for encouraging the further penetration of Asian SMEs into global value chains. We hope this report stimulates significant policy discussions on the subject.



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# Abbreviations

ADB	- Asian Development Bank
AEC	- ASEAN (Association of Southeast Asian Nations) Economic Community
AML	- anti-money-laundering
ANOVA	- analysis of variance
APEC	- Asia-Pacific Economic Cooperation
ASEAN	- Association of Southeast Asian Nations
BDS	- business development service
CLMV	- Cambodia, the Lao PDR, Myanmar, and Viet Nam
CSF	- critical success factor
CSR	- corporate social responsibility
DMC	- developing member country (of the Asian Development Bank)
DPN	- domestic production network
ECA	- export credit agency
EU	- European Union
FDI	- foreign direct investment
FI	- financial institution
FTA	- free trade agreement
FX	- foreign currency exchange
GDP	- gross domestic product
GFC	- 2008/09 global financial crisis
GVC	- global value chain
HS Codes	- harmonized system codes
ICC	- International Chamber of Commerce
ICT	- information and communication technology
ITE	- Institute of Technical Education
JIT	- just in time
KYC	- know your client
LC	- letter of credit
LE	- large enterprise
MFI	- microfinance institution
MNC	- multinational corporation
NPL	- nonperforming loan
ODM	- original design manufacturing
OECD	- Organisation for Economic Co-operation and Development
OEM	- original equipment manufacturing
OFID	- OPEC (Organization of the Petroleum Exporting Countries) Fund for International Development
OTC	- over the counter

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PN	-	production network
PSDC	-	Penang Skills Development Centre
R&D	-	research and development
SEZ	-	special economic zone
SMEs	-	small and medium-sized enterprises
SRO	-	self-regulatory organization
TFP	-	Trade Finance Program (Asian Development Bank)
TNIT	-	Thai-Nichi Institute of Technology
UNCTAD	-	United Nations Conference on Trade and Development
UNESCAP	-	United Nations Economic and Social Commission for Asia and the Pacific
VET	-	vocational education and training
WTO	-	World Trade Organization

# Executive Summary

**T**he fragmentation of production processes, and the diversification of marketing channels over 3 decades, have brought about fundamental changes in the way that goods and services are produced and sold. These changes have been made possible by the rapid spread of low-cost transportation and advanced communications technologies, which have freed the movement of investment, goods, information, and finance.

This process of globalization has been spearheaded by large enterprises that have sought access to low-cost labor and production inputs. In the process, these enterprises have spread investment across a range of low-, middle-, and high-income countries. Seeking to capture markets of high demand, their supplier and sales operations also have a global reach (Chapter 1).

Asia is a leading region in the globalization of production and the development of networks and value chains. The electronics and automobile production networks in East and Southeast Asia are well known, as are the outsourcing (services) value chains of India, the Philippines, and other countries. While globalization has developed an unsavory reputation in some advanced countries, for the perceived hollowing out of the manufacturing sector and the offshoring of jobs, it has generated large benefits for less advanced countries, where the investment has been welcomed.

The spread of global value chains has been most valuable for those countries that have not reacted passively to foreign investment but have used that investment as a catalyst to develop their domestic economies. Singapore and Taipei, China are good examples of economies that embraced globalization as a development strategy early on. Thailand and Malaysia have done so more recently, to support sustainable economic growth. These countries have deepened connections between local firms supplying and subcontracting to large foreign firms. Domestic firms have also sought to engage supply chains by linking and exporting to other countries. For both domestic and foreign value chains, local producers are often small and medium-sized enterprises (SMEs).

The opportunities for SMEs in global value chains are enormous. Participation in value chains exposes them to a large customer/buyer base, as well as opportunities to learn from large firms and from engaging and surviving in the hotly contested sectors of the global marketplace. The penetration of global value chains, however, also presents huge and often daunting challenges for SMEs. They may fail to gain a foothold and have to forgo large market development expenditures as a result. With global opportunities come global risks.

## Success Factors

It is not easy for SMEs to succeed in global value chains, and there are two main factors that require attention. The first is enterprise competitiveness. The second is enterprise connectivity, or the means by which firms can connect to value chains. Given that these chains take various forms, SMEs can internationalize by supplying larger firms that have located in their domestic market, or by operating trade and supply links with producers and buyers in other countries. Enterprises that are both competitive and connected will be able to link into, and benefit from, global value chains. However, many of the smaller (or micro-sized) and informal SMEs will not. The main focus of SME integration is, and should be, the larger, more robust small enterprises and those of medium size.

A survey of enterprises in four countries (Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka) was carried out as part of this study project (Chapter 2 and Chapter 3). Enterprises were asked to indicate the five most critical success factors for integrating into value chains. Their responses focused on both competitiveness and connectivity. Enterprises felt that the quality of their products or services was the most critical success factor. This correlates well with the other analysis for this report, which also stresses the importance of firm competitiveness. The second factor for success in value chains was skilled labor, a key ingredient for product quality and crucial to achieving high productivity and efficiency. The third factor nominated was strength of customer relations, which is vital when working within, and satisfying buyers further down, a value chain. The two factors that rounded out the top five both relate to the attributes of the owner/entrepreneur. The fourth most critical factor was specified as the ambition of the owner, suggesting that enterprises wanting to globalize must seek out opportunities and have a will to succeed. Success happens neither by chance nor through the regular conduct of business. The fifth factor was the education, experience, and international exposure of the owner. Knowledgeable owners who have recognized the opportunities of the global marketplace will be more inclined to venture into, and be successful in, global value chains.

Besides these nonfinancial issues, access to finance is also a key success factor for SMEs to participate in global value chains. The SMEs surveyed in the four countries had clear demand for long-term funding from formal financial institutions, to survive and grow in global value chains. The changing business environment brought by economic integration and foreign direct investments has encouraged SMEs to consider shifting their business models from domestically focused to globally competitive. This requires new financing solutions for SMEs participating in global value chains. The public-private partnership framework for financing SMEs was developed to provide seamless finance, from short-term working capital to long-term growth capital. This is expected to provide timely responses to the funding needs of SMEs in global value chains or internationalized SMEs (Chapter 3).

## Impediments to Global Value Chain Integration

The enterprises surveyed also recognized a range of impediments that can constrain their efforts to internationalize. Among the five key constraints were access to finance, availability of skilled labor, and labor market rigidity. Weak institutional support, another top five factor, indicates that governments can—and are expected to—play a role in facilitating SME

integration. The most critical constraint was defined as “disadvantages of the business sector”. This suggests that the competitiveness of the sector as a whole may be a factor affecting individual firms.

## Policies for Internationalization

The public policies that can support SMEs are closely linked to the dual objectives of enterprise competitiveness and connectivity. They also relate to the distinct disadvantages faced by SMEs due to their size and reduced access to product and factor markets. The 10 most critical policy areas signaled by SMEs included three regarding access to finance (trade finance, growth capital finance, and nonbank finance such as factoring or leasing). Recent efforts by multilateral agencies, such as the Asian Development Bank, to work with private sector financial institutions to increase trade finance and supply chain finance are critical interventions in this regard (Chapter 4). Not surprisingly, an effort to develop workforce skills is another key policy intervention that relates directly to the success factors and impediments noted above. Two other critical factors are related to infrastructure: domestic infrastructure, and the networks of transportation and communications that move goods and information efficiently. Of the three most critical factors, two focus on trade: trade procedures and trade facilitation measures. This suggests that SMEs look to government to streamline importing and exporting. Other important policy areas to build competitiveness include technology and innovation policy, and efficient workplace practices (Chapter 5).

The report’s investigation of success factors, impediments, and policy recommendations provides a rich set of ideas for encouraging the further penetration of Asian SMEs into global value chains.



# CHAPTER 1

## SMEs and the Rise of Global Value Chains

by Charles Harvie<sup>1</sup> and Teerawat Charoenrat<sup>2</sup>

Globalization and increased regional economic integration have intensified competition in both domestic and international markets, and triggered new models of global business. The most substantive and pervasive of these models has been the development of global value chains or production networks. At the core is an original equipment manufacturer, usually a multinational enterprise; critical to this development has been the need for flexibility in production, cost competitiveness, and reduced business risk. These developments have presented new challenges as well as opportunities for small and medium-sized enterprises (SMEs). Despite the many barriers and capacity constraints they face arising from their relatively small size, SMEs remain a vibrant and essential ingredient for economic growth and employment generation across many regions of the global economy. To survive in an increasingly competitive environment requires a new growth paradigm and business strategy for SMEs, which focuses on knowledge and skill acquisition, technology upgrading, innovation, and wealth creation. These are likely to be necessary attributes for SME participation in regional and global production networks, and in particular for the high value-adding parts of such networks. This chapter conducts an overview of the role and significance of the SME sector in trade, economic development, and value chain developments. It briefly discusses the potential opportunities and challenges facing SMEs from participation in production networks, while highlighting key areas for capacity building if SMEs are to achieve their full potential from this participation.

### Introduction

Since the early 1990s, international production/value chain networks have developed rapidly in the global economy, involving many developed and developing countries. They are particularly dense and sophisticated in East and Southeast Asia (the main focus of this chapter). They have been driven by intensification of global competition (focused on cost, quality, and delivery), the adoption of new global business models based upon global markets, global sourcing, flexible production, a focus on core business, subcontracting and outsourcing<sup>3</sup>, knowledge creation, commercialization and innovation, rapid technological change and production discontinuities, and advances in information and communication

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<sup>3</sup> Subcontracting and outsourcing cover highly sophisticated processing and manufacturing activities and services—including original equipment manufacturing (OEM) and, more recently, original design manufacturing (ODM).

technology (ICT). They have been facilitated by regional, subregional, and bilateral free trade agreements (FTAs) (Ando and Kimura; 2005a, 2005b).

In the context of East Asia, this has resulted in production wide and process wide international and regional value chains, based on a regional division of labor, resulting in production processes that involve sequential production blocks located across countries. Different stages of production or the value chain are located in different countries and undertaken by different firms. Consequently, there has also been a significant shift away from the traditional pattern of trade based on static comparative advantage—in which final products such as consumer goods, intermediate goods, and capital goods predominate—to one where trade predominance is now in the form of parts and components. There has been a rapid increase in vertical intra-industry and intraregional trade, particularly in parts and components in the machinery industries (Lim and Kimura, 2009; Kimura, 2009; Athukorala and Kohpaiboo, 2009).<sup>4</sup> The machinery industries deal with a large number of multilayered vertical production/distribution processes and technology, ideal for the development of cross border production/distribution networks and very suited in particular to the Association of Southeast Asian Nations (ASEAN) economies, which are at very different stages of economic development. Associated with this development, foreign direct investment (FDI) flows have moved from import-substituting industries and export-oriented forms confined to export processing zones (from which the domestic economy was insulated) to export-oriented, production-network-forming type FDI (Ando, 2006; Ando, Arndt and Kimura, 2006).

The process of globalization and increased regional integration has provided impetus for the expansion of value chains, and presented new market opportunities for enterprises, in particular SMEs, most able to respond flexibly and adaptively to rapidly changing regional and global demand (Organisation for Economic Co-operation and Development [OECD], 1997). A critical issue for policymakers is how best to ensure that enterprises in their jurisdiction fully participate in the business and value-creation opportunities that will present themselves (Asia-Pacific Economic Cooperation [APEC], 2002; Asasen *et al.*, 2003). In this context, the future growth and development of SMEs in, for example, East Asia and Southeast Asia should be viewed within the prism of a global and regional (i.e. ASEAN)—not a national—context, as well as the development of relevant SME policy measures.

In Southeast Asia, countries such as the Philippines, Singapore, Malaysia, and Thailand actively import and export machinery parts and components, as is the case for the People's Republic of China (PRC), Japan, and the Republic of Korea. While less developed, Indonesia, Viet Nam, Myanmar, Cambodia, and the Lao People's Democratic Republic (Lao PDR) are increasingly participating in regional production networks. Hence the

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<sup>4</sup> Machinery industries, as defined here, include general machinery, electric machinery, transport equipment and precision machinery (HS Codes (Harmonized System Codes) 84–92). These industries require the production of many parts, components and related technologies, highly suitable for the establishment of production networks. While the development of production networks can also be observed in other industries such as that of chemicals, textiles and garments, software and services, the machinery industry is by far and away the most important in magnitude, quantitatively and qualitatively. The proportion of machinery exports in total exports, particularly machinery parts and components, is a good indicator with which to judge the degree of participation in international production/distribution networks.

formation of international production/distribution networks in the region has fundamentally changed the pattern of production location and international trade and FDI in East Asia and Southeast Asia. An interesting recent development is that countries at a relatively lower income level in the region (Cambodia, the Lao PDR, and Viet Nam) are increasingly playing a more significant role in the expansion of intraregional trade, and this will increase as the PRC vacates low labor cost and low value adding parts of the production chain.

The remainder of this chapter proceeds as follows: Section 2 provides an overview of the role, significance and contribution of the SME sector to both developed and developing economies, and the challenges and opportunities that have arisen from the process of globalization and regional economic integration; Section 3 discusses the rise of production networks/global value chains and their theoretical foundation—fragmentation theory; Section 4 discusses various global perspectives on production networks and value chains, including differences and similarities; Section 5 discusses issues relating to SME participation in value chains, with an emphasis on capacity constraints; and Section 6 provides a summary of the major conclusions from the chapter.

## Globalization and Regionalization: Challenges and Opportunities for SMEs

### Importance of SMEs

SMEs play a pivotal role in both developed and developing economies, from a number of perspectives: business numbers, employment generation, output growth, export growth, suppliers of products and services to large and multinational enterprises, poverty alleviation, economic empowerment, and the wider distribution of wealth<sup>5</sup> in East Asia and Southeast Asia (Harvie 2002, 2008, 2015; Harvie and Lee, 2002, 2005; and Asasen *et al.*, 2003).

A comparison of the performance of SMEs across the economies of the region, however, is difficult for two reasons. First, there is no consistent definition of what constitutes an SME,<sup>6</sup> with definitions varying significantly across countries<sup>7</sup>. Second, there is a general lack of

<sup>5</sup> See Davis, Haltiwanger and Schuh (1993) and Hallberg (2000) for a useful critique on the contribution of SMEs in these areas.

<sup>6</sup> The definition of an SME can consist of number of employees, annual sales/turnover, value of fixed assets and value of invested capital or a combination of these. The most popular consists of number of employees, but in countries such as Indonesia, Malaysia, and Thailand the definition can be quite complex and vary by industry of operation.

<sup>7</sup> There is a considerable diversity in the definition and classification of SMEs among countries within ASEAN and outside the region. This reflects significant differences in aggregate income and its distribution, production structures and capabilities, and in industrial and technological characteristics among economies. Consequently, these definitions are unlikely to be uniform or even comparable across countries and through time. In addition, the term SMEs has not always been understood in a uniform manner even within individual countries. This has posed difficult problems in the design, implementation, coordination and evaluation of SME-related policies (Regnier, 2000, pp. 27–30; and Urata, 2000, pp. 157–158). SMEs are often lumped together and defined as one category of firms in some countries. While this simplification is good for operational purposes it can obscure the large gap of capabilities and competitiveness between three classes of firms (micro, small and medium). Understanding the process of “graduation” from small to medium scale enterprises is of great significance to

data made available by regional governments and relevant institutions. This data shortage is particularly evident in terms of the sectoral and industrial composition of SMEs; SME inputs and turnover; and the contribution of SMEs to income, employment, and exports. Information is also lacking regarding the characteristics of domestic clusters and networks involving SMEs; the nature and relative importance of local and external linkages and alliances that SMEs maintain with their suppliers and customers as well as with technology and productivity-enhancing institutions etc. (Asasen *et al.*, 2003). If consistent and coherent policies are to be implemented in regional economies, and adequate monitoring of policy measures are to be evaluated, there needs to be a considerable improvement in data accumulation. As a consequence, it is necessary to utilize a number of sources in order to put together a mosaic of the contribution of SMEs to regional (ASEAN) economies.

A vibrant SME sector is critical in supporting closer regional integration through the establishment of the ASEAN Community, particularly the ASEAN Economic Community. Encouraging and promoting competitive and innovative SMEs is necessary in contributing to greater economic growth and social development toward more inclusive and broad-based integration of the ASEAN region (Asasen *et al.*, 2003; ERIA, 2014).

### SME Challenges

SMEs face challenges from increased competition, the ability to adapt to rapidly changing market demand, technological change, and capacity constraints relating to knowledge, innovation, and creativity. For many SMEs, however, their potential is often not fully realized due to a number of factors related to their small scale:

- (i) a lack of resources (finance, technology, skilled labor, market access, and market information);
- (ii) a lack of economies of scale and scope;
- (iii) higher transaction costs relative to large enterprises;
- (iv) a lack of networks that can contribute to a lack of information, know-how, and experience of domestic and international markets;
- (v) increased market competition and concentration from large multinational enterprises caused by globalization and economic integration;
- (vi) an inability to compete against larger firms in terms of research and development (R&D) expenditure and innovation (product, process, and organization);
- (vii) being subject to considerable “churning” and instability; and
- (viii) a lack of entrepreneurial zeal, capacity, and know-how.

In addition, many small businesses find that their geographical isolation puts them at a competitive disadvantage. Despite these substantial obstacles many economies remain heavily dependent on SMEs, particularly for employment generation. Despite their perceived weaknesses SMEs have not been swept away with the process of globalization and regional integration, but, rather, their role and contribution has changed and evolved which has

enabled many to remain internationally competitive and collectively be an important source of employment generation.

## SME Opportunities

Globalization and regional economic integration have exerted positive aspects on SME development. Factors encouraging the growth of SMEs include:

- (i) the rise of niche markets and the importance of customization;
- (ii) technological advances that have resulted in discontinuities in production, product fragmentation, and the rise of production networks;
- (iii) reduced product life cycles that have made flexible production more important than volume of production;
- (iv) subcontracting opportunities arising from the growth of the global production system in manufacturing;
- (v) opportunities arising from global retail sourcing (the so-called “putting out” system);
- (vi) the increased importance of the services sector (dominated by SMEs) due to rising affluence in developing and post-industrial societies, as well as in low-income developing economies;
- (vii) the importance of knowledge, skills, and innovation—and not just volume of production—and the ability to commercialize these, as core sources of competitiveness, value creation, and value adding in the new economy;
- (viii) their reduced bureaucracy, greater flexibility, and ability to respond to rapidly changing customer demands and technology;
- (ix) their innovation capacity and ability to initiate and commercialize innovation, particularly in knowledge and skill intensive sectors where entry costs are lower (Acs and Audretsch, 1990; OECD, 2000a);
- (x) advances in information and communication technology, and innovative utilization of e-commerce to expand market outreach, expansion of networks, gaining access to information, and participation in value chains (OECD, 2000c);
- (xi) participation in clustering (horizontal and vertical) and networking<sup>8</sup> that can facilitate access to knowledge-sharing spillovers and skilled labor (Porter, 1990; Porter, 1998; OECD, 2000b) as well as achieve economies of scale and scope, which would be impossible in isolation;
- (xii) flexibility in technology development, adaptation, and application; and
- (xiii) recognition by policymakers both at the national level and international regional levels (Asia-Pacific Economic Cooperation, ASEAN, Asian Development Bank etc.) of the important role that SMEs can play in economic development, particularly employment generation, empowerment, and poverty alleviation.

<sup>8</sup> A network, as defined here, is a group of firms that cooperate on joint project development complementing each other and specializing in order to overcome common problems, achieve collective efficiency and penetrate markets beyond their individual reach. Whether horizontal or vertical, networks can be developed within, or independently of, clusters.

## Why the Rise of Production Networks/ Value Chains?: Fragmentation Theory

The phenomenon of production networks or value chains is also known as cross-border production sharing or **fragmentation of production**.<sup>9</sup> Technological changes have facilitated production processes being finely sliced into many stages, and located in different Asian countries, with Southeast Asian countries at the core (Ando and Kimura, 2005b). With such vertical specialization, a slight decline in trade costs induces large increases in trade in intermediate goods, since goods may move across national borders multiple times. For example, an intermediate good is exported from country A to country B, then is imported back to country A again after processing in country B. In this case the good crosses each national border twice, a total of four border crossings. When trade costs go down<sup>10</sup> the competitiveness of the whole of East and Southeast Asia considerably increases, and this provides a further boost to intra-industry and intraregional trade (Ando and Kimura, 2005b).

### Fragmentation Theory

The literature on **product fragmentation** and its empirical verification expanded rapidly after the seminal contribution of Jones and Kierzkowski (1990)<sup>11</sup>, proving its applicability in analyzing cross-border production sharing at the production process level (Ando and Kimura, 2005a). From an East and Southeast Asian perspective, however, production/distribution networks have become quite distinctive and the most developed in the world (Ando and Kimura, 2005b) as measured by their significance for each economy in the region, their extensiveness in terms of country coverage, and their sophistication, which can involve subtle combinations of intrafirm and arm's length (interfirm) transactions. Consequently, these networks have developed beyond the original idea of fragmentation, requiring a reappraisal and expansion of the original analytical framework in order to capture more subtle and sophisticated intrafirm and arm's length (interfirm) transactions. In this context, Ando and Kimura (2005b) propose the concept of two dimensional fragmentation to analyze the mechanics of production/distribution networks in East and Southeast Asia.<sup>12</sup> We return to this below, in the context of SME participation in regional production/distribution networks.

Fragmentation theory focuses on the location of production processes. Production processes are fragmented or separated into multiple slices and located, say, in different countries in East and Southeast Asia. This fragmentation makes sense when: (i) there is **production cost saving** in fragmented production blocks, whereby the firm can benefit from differences in location (lower labor and production costs) between the original position and a new position; (ii) incurred **service link costs** involved in connecting remotely located production blocks

<sup>9</sup> Fragmentation of production has also occurred in conjunction with agglomeration of production. Agglomeration or clustering benefits include knowledge spill-over effects, access to skilled labor, and possible economies of scale, access to finance and the just in time system.

<sup>10</sup> Such as from the establishment of a free trade agreement, declines in tariff and nontariff barriers, reduced connectivity costs and logistics.

<sup>11</sup> See also Arndt and Kierzkowski (2001), Deardorff (2001) and Cheng and Kierzkowski (2001) for further elaboration of fragmentation theory.

<sup>12</sup> An extensive discussion of this two dimensional fragmentation can also be found in Kimura and Ando (2005), especially pages 7–13.

i.e., costs of transportation, telecommunications, and various other types of coordination are lower; and (iii) the **cost of network set-ups** is small. The feasibility of fragmented production/distribution (location and by firm) in an industry is heavily influenced by: (i) the number of parts and components required in the production of the final product; (ii) the greater variety of technologies utilized in the production of these parts and components (labor intensive, capital intensive); and (iii) the economic environment within individual countries and for the region as a whole.

International production/distribution networks in ASEAN and surrounding Asian countries have become the most advanced and sophisticated in the world, in large part due to the existence of a favorable policy environment for globalizing corporate activities. By incorporating the idea of intimacy between geographical proximity and arm's length transactions, the framework of product fragmentation can explain the simultaneous development of firm-level fragmentation of production processes and industry-level formation of agglomeration and clustering<sup>13</sup>. A reduction in production costs in fragmented production blocks, reduced service links costs, and lower network set-up costs will all contribute to the further fragmentation of production/distribution networks (Ando and Kimura, 2005b).

## International Production Networks and SMEs: Challenges and Opportunities

### Challenges for SMEs

Given the ongoing trend of increased globalization and regional economic integration such as in Southeast Asia, significant potential exists for regional SMEs to expand their participation in cross-border production networks<sup>14</sup>. SMEs have the opportunity to play a crucial role both as indigenous and foreign-based firms in the network on an arm's length basis in various forms, including subcontracting arrangements and original equipment manufacturer (OEM) contracts. SMEs are also essential components of industrial agglomeration. In this context, not only multinational SMEs but also local SMEs can be important participants in a vertical arm's length division of labor. As discussed in the previous section, however, they possess certain characteristics that may limit their ability to do so<sup>15</sup>. First, they face a **lack of access to finance** due to market failures in financial markets (see Harvie *et al.*, 2013), and limited primary and secondary markets, such as those for SME equity and bond financing. Second, the SME sector's development is constrained by a **lack of skill and expertise in organization and management**, which are important for enterprises' efficiency, flexibility, and competitiveness (Asasen *et al.*, 2003). Related to this is the issue of ICT capability in which SMEs lag. Third, there is a shortage of **sustainable entrepreneurial drive** in the sector. This can be attributed to a **weak innovation culture** and to **an over-reliance on technologies**

<sup>13</sup> See Brusco (1990), Doeringer and Terkla (1995, 1996), Krugman (1991), Marshall (1920), Pyke *et al.* (1990), Pyke and Sengenberger (1992), Rabellotti (1995) and Weber (1929) for useful readings in this context.

<sup>14</sup> Production networks break down the value adding process into more discrete functions and smaller activities.

<sup>15</sup> SMEs are, however, highly heterogeneous. Some are extremely innovative and at the cutting edge of their industry/technology, while the vast majority of SMEs possess little likelihood of growth and lack innovation and entrepreneurial drive. Consequently, only some SMEs of the total cohort have the potential to participate in production networks.



**brought in by multinational corporations (MNCs).** Entrepreneurial capabilities are crucial for SMEs to maximize their inherent comparative advantages gained from operating on a small scale, such as the flexibility to adapt to changing markets, helping them sustain high levels of export competitiveness. Finally, there is a lack of **networking**. Many SMEs are inward looking. Networks and linkages require fundamental shifts in business strategies, which SMEs may not be able to achieve because of a **lack of resources and knowledge**. The development of business networks and linkages is a strategically important role that can be encouraged through ASEAN itself.

### *Opportunities for SMEs in East and Southeast Asia*

MNCs have expanded their production, material, and resource sourcing and markets beyond their domestic economies. Because of pressures from **economic integration, global competition, and the Just in Time (JIT) production system**, the region has now become fully connected into a global value chain system, which produces output for the global market place (especially the United States and the European Union).<sup>16</sup> This provides new opportunities for developing countries, including the CLMV<sup>17</sup> countries in ASEAN, to enter international trade through production sharing and outsourcing. Improvements in ICT have reduced the costs of collaboration and linkages, both within and across borders. Indeed, clusters or networks of interlinked SMEs are behind most competitive supply networks that have proliferated globally in recent years. The international production networks developed from the early 1990s in East and Southeast Asia are gradually spreading to other less developed economies in the region (e.g. Viet Nam, Cambodia, and the Lao PDR), to India, Australia, and New Zealand, driven by market forces and facilitated by regional, subregional, and bilateral FTAs. The fragmentation phenomenon suggests that differences in location advantages, such as factor prices, motivate fragmentation of the production process. Regional economic integration, therefore, has set off dynamic growth impulses through global and regional production networking. This process has been facilitated by industrial agglomeration and fragmentation in sequential order. SMEs most able to take advantage of these two underlying fundamental forces have been growing faster and more sustainably.

Concurrently, economic openness and domestic trade and investment liberalization have dramatically increased competition in domestic, regional, and global marketplaces. Larger and more efficient companies are normally better able to leverage these new opportunities and challenges in domestic markets as well as across borderless external markets. This challenging new economic environment tends to put micro and small enterprises at a disadvantage compared to large and medium-sized enterprises. However, the fact is that large enterprises and SMEs are the two important engines and wheels of development in East and Southeast Asia. While MNCs and domestic large enterprises have been playing an important role in accelerating the industrialization process, SMEs<sup>18</sup> provide the crucial industrial linkages to set off a chain reaction of broad-based and sustainable development. Without SMEs as subcontractors and suppliers of intermediate inputs to MNCs and domestic large enterprises, industrial growth in developing countries and a sustained increase in domestic

<sup>16</sup> Hence the notion of a de-coupling of the East Asian economy from the global economy is not supported by the facts (Eichengreen, and Park, 2008).

<sup>17</sup> Cambodia, the Lao PDR, Myanmar, and Viet Nam.

<sup>18</sup> Medium-sized enterprises in particular.



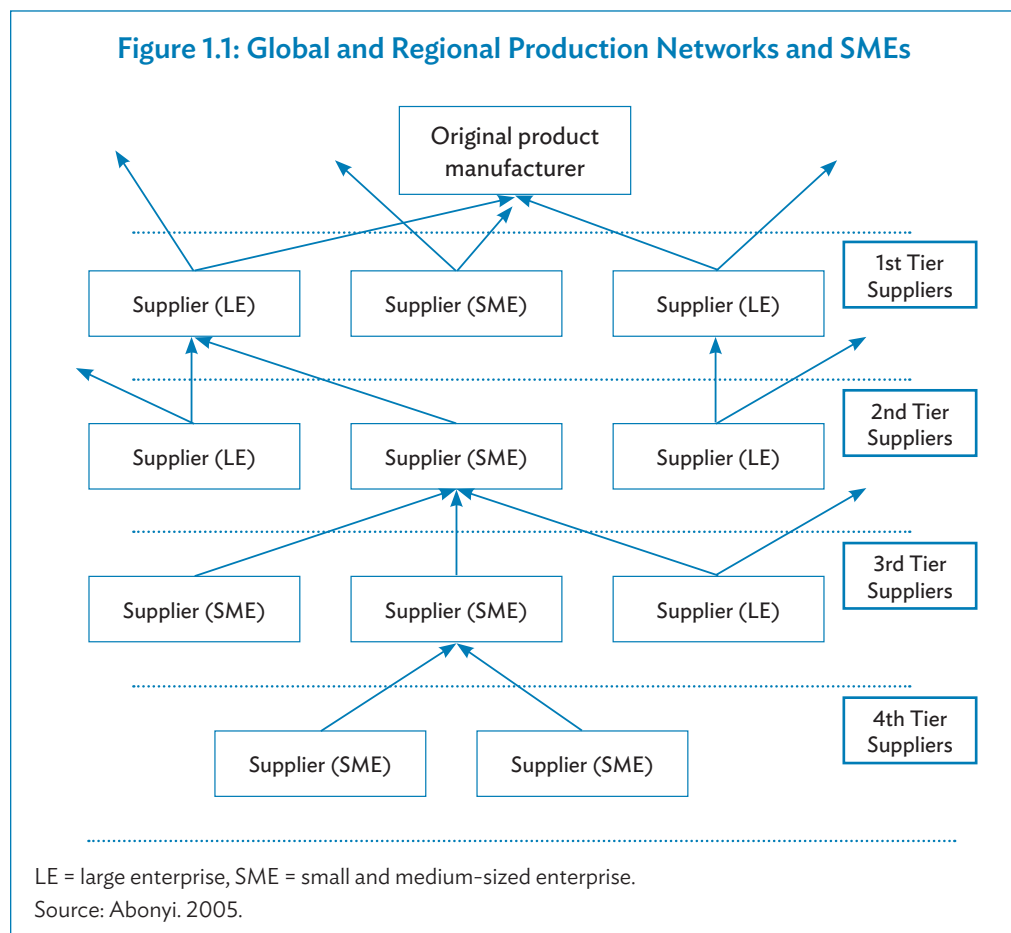
value added, employment, productivity, and industrial linkages cannot be achieved. SMEs provide a key source of domestic employment creation, resilience against more volatile external economic fluctuations, and mechanisms for local capacity building. A critical issue is how best to establish these industrial linkages between SMEs, large local enterprises, and MNCs. In this context, regional governments and, more importantly, ASEAN countries as a bloc, will have to play a vital role in ensuring competitive market structures; in providing relevant and effective technical upgrading, marketing information and management, consortium financing, and business linkages; and in facilitating competitive clusters of SMEs (Schmitz, 1995; Thee, 1994).

There is much evidence to suggest that local firms and SMEs are participating in production networks, particularly in the electronics, machinery, ICT, automobile, and service industries (Kimura, 2009). Local SMEs are participating in producing not only parts and components but also industrial equipment. Economic integration has provided business opportunities to not only participate in production networks but also to capture expanded domestic and external markets. Local firms and SMEs have succeeded in establishing (either directly or indirectly) linkages with MNCs and expanding their business in integrated markets (Thee, 1994). Maximizing the benefits arising from this will require improved SME international competitiveness through R&D, improved quality control, and improved skills. Governments can also assist in promoting the development of local parts and supplier industries. This is likely to be an effective strategy to expand the domestic content of MNCs operating in the country. A broader and strategic approach under the auspices of ASEAN is likely to be even more effective in this regard.

Without an improvement in the efficiency of local firms and SMEs regional integration cannot be sustainable, as there will be more domestic opposition and economic and social instability in countries that experience increasing unemployment or rising international income inequality. This is the crux of regional economic integration and sustainability. It must not only increase firm efficiency, but also provide positive and acceptable benefits to every constituent member of the free trade area or economic community. Regional integration may tend to increase income disparity among members of the ASEAN Economic Community (AEC), if some countervailing measures are not properly instituted. In this respect, the development of viable and sustainable SMEs provides an effective measure to counter the negative effects of globalization and regional economic integration. Therefore, improving the competitiveness and capability of SMEs is vital for the sustainability of regional economic integration (Harvie, 2008). Countries at different stages of economic development require different focus areas and core policy instruments aimed at improving the capability of their SMEs. Technology and industry upgrading are the core measures that must be continually implemented in order to be competitive, in addition to clustering and improved marketing capability. Development of the technological capability of SMEs is an integral policy for liberalizing the trade and investment regime. Regional economic integration opens up opportunities and challenges for policymakers to provide industrial and technological upgrading for SMEs.

## The Process of SME Integration into Production Networks: Evidence from East Asia

The establishment of production networks can be seen as being multi-tiered in nature. Consequently, production networks are part of a global production value chain. Global value chains can be interpreted as a broader concept than production networks. Global value chains are evolving tiered structures. The main role is traditionally played by a lead firm (multinational enterprise) that manufactures the final product (original product or equipment manufacturer). This firm is supported by a small number of preferred first-tier suppliers, which are supplied by other suppliers and so on, forming a tiered structure consisting of large and small enterprises (Figure 1.1). It is generally easier to enter a network as a lower-tier supplier, which SMEs in low income economies tend to do. But this position tends to be unstable as the SME can be easily replaced by other suppliers that offer better comparative advantages, such as lower (labor) costs (Abonyi, 2005). The challenge facing SMEs is two dimensional. First, to try to **enter a global value chain**, and, second, to **move up the tiers** by upgrading the added-value content of their activities. A study by Harvie *et al.* (2010, 2015) focused on identifying key factors that are important for SME participation in a regional production network, and then key factors influencing the participation of SMEs in higher value-adding tiers (Figure 1.1) of a production network, using data for seven



ASEAN economies plus the PRC. They found that the key factors and characteristics positively associated with the ability of SMEs to participate in a production network were labor productivity, foreign ownership share, financial stability and cost of credit, and an ability to meet international standards of their goods. Other factors included SMEs that had introduced ICT as part of their core business, had demonstrated an innovation capability—as measured by having established a new division, acquired new machinery, improved existing machinery, acquired production knowledge, and introduced new products—had a positive attitude toward risk, and had a willingness to adopt a new business strategy. Those SMEs that had moved up into higher value-adding production tiers had the following statistically significant characteristics: higher labor productivity, significant foreign ownership share, and ICT as a core part of their business activity. They had also acquired production knowledge and were larger SMEs i.e., medium-sized enterprises. The latter point confirms the importance of addressing barriers that small firms face if they are to expand to become medium-sized enterprises.

## Production Networks: A Global Comparative and Benchmarking Perspective

Global production networks or global value chains (GVCs) have become a key feature of the global economy, and not just in East and Southeast Asia. They involve both developed and developing countries at all stages of development, from the poorest economies to the most advanced economies. Revolutions in information and communication technology (ICT), along with the development of more complex goods and production processes, have enabled enterprises to establish value chains that are as intricate as they are efficient and have generated considerable global interest (OECD, World Trade Organization [WTO] and World Bank Group, 2014). OECD (2007) emphasizes that the use of ICT, fragmentation of production, joint ventures, strategic alliances, buyer-supplier relations, electronic marketplaces (e-marketplaces), and a variety of cooperative relations are key factors underpinning production networks in OECD countries. Another key factor is cooperation within the production network. Coordination of business with partners upstream and downstream can increase the chances of success, due to benefits in terms of information flow, access to superior technology, and learning opportunities (OECD, 2007).

Global value chains have gradually changed the way production is organized (OECD, 2007). The form of globalization is mainly controlled by the search for efficiency, which consists of sourcing inputs from lower cost sources of supply or more efficient producers, entry into growing and new marketplaces, and searching for complementary and strategic assets and partners. In the past decade the organization of production has undergone a dramatic evolution that can lead to new forms of industrial organization on a global basis. The participation of SMEs in GVCs should be placed in a broader context than just SME internationalization. The reorganization of production at the international level and the development of GVCs are important for SMEs, particularly by expanding their business opportunities and market outreach. In general, entering international markets, and engaging in cross-border activities is a difficult and costly step for SMEs. It can be observed that SMEs consider their internal capabilities and resources as inadequate, and they lack self-confidence in entering international markets, as mentioned by their perceptions of obstacles, such as difficulty in

identifying foreign business opportunities, maintaining control over foreign middlemen, or accessing export distribution channels (OECD, 2007). Therefore, participation in GVCs has the potential to bring considerable benefits to SMEs, but without capacity building such an opportunity will be missed. Enterprises that have successfully integrated in one or more value chains have been able to obtain stability or expand their businesses. Even though SMEs that have chosen to remain at the margins of GVCs recognize the potential for growth associated with participation in these chains (OECD, 2007).

Increasing participation in GVC activity can produce benefits for domestic economies (OECD, 2012). The trade, investment, and knowledge flows that underpin GVCs can provide mechanisms for rapid learning, innovation and industrial upgrading, that can lead to more productive job outcomes in developing countries. GVCs can provide better access to information, open up new markets, and create opportunities for technological learning and upgrading, as GVC-linked transactions and investments normally come with quality control systems and prevailing global standards (cost, delivery, quality, and just-in-time systems) that can exceed those in both domestic and international economies. As a consequence suppliers and individuals can be pushed to obtain new competencies and skills through their participation in GVCs. In developing countries, business process improvements can be felt beyond the immediate exporting enterprises and sectors. Local enterprises can obtain greater success in their own markets by combining domestic and international intermediate inputs, and by creating economies of specialization that can leverage cross-border complementarities and benefit from knowledge and technology spillovers (OECD, 2012).

Yuhua and Bayhaqi (2013) argue that, at the micro level in APEC economies, the benefits of SME participation in global production networks are:

- (i) increased technical capacity.
- (ii) increased demand for existing products and services, greater utilization of operational capacity and an improvement of production efficiency.
- (iii) cooperating with enterprises, both upstream and downstream, in global production networks can create prestige and credibility for SMEs, making it easier to access finance, attract foreign investors as well as human resources.
- (iv) providing SMEs with a gradual and sustainable direction to internationalization, which may not otherwise be possible.

At the macro level SME participation in global production networks can bring a number of benefits (Yuhua and Bayhaqi, 2013):

- (i) A stronger SME sector is positively associated with economic growth, because it is recognized as one of the important characteristics of fast-growing economies. .
- (ii) SME participation in global production networks can bring job opportunities to local economies.
- (iii) Global production networks can allow domestic SMEs to expand their exports and facilitate accumulation of foreign reserves which can be vital for the growth of developing economies.
- (iv) Participation can provide a means to transform local economies and businesses, by providing a solid platform for sustained economic growth and development.

Participation in global production networks is not easy for SMEs, however, as they need to overcome many hurdles to become strong and effective participants. Initially, SMEs require a solid financial base in order to establish productive and organizational capacities aimed at meeting international standards. At this stage access to external finance is essential. However, due to lack of credit records and perceived higher risk profiles by lending institutions, SMEs find it difficult to obtain the necessary finance (Harvie *et al.*, 2013). Moreover, once SMEs obtain a foothold in global production networks they encounter ongoing challenges of access to finance and maintaining high-calibre human resources. In addition, SMEs require ongoing efforts to cope with increasingly complex requirements of product standards and emerging international business practices (Harvie *et al.*, 2010, 2015; Yuhua and Bayhaqi, 2013). Duval and Utoktham (2014) argue that SME usage of the internet and the attainment of internationally recognized product quality certification are critical to SME access to production networks.

Harvie (2010) also emphasizes that SMEs need to improve their international competitiveness, particularly in terms of R&D, improved quality control, and skills. He also argues that governments should promote the development of local parts and supplier industries. This is likely to be an effective strategy to expand the domestic content of MNCs operating in a country. The development of networks of domestic suppliers, along with access to and availability of finance, together with increased linkages between SMEs and large firms, are critical. An important role for government is also proposed by Yuhua and Bayhaqi (2013) who argue that effective participation of SMEs in global production networks depends on them (i) providing an enabling business environment (ii) improving access to finance; (iii) enhancing and facilitating cooperation and networking between MNCs and SMEs; and (iv) expanding the knowledge base of SMEs, including that of business opportunities arising from regional FTAs.

A study by Yuhua (2014) found that the potential factors for SMEs in developed and newly industrialized countries in the APEC region, to participate in GVCs included: (i) product quality, (ii) product delivery, (iii) financial stability, (iv) product capacity, (v) flexibility and adaptability, (vi) standards and certificates, (vii) the ICT level of business operation, (viii) innovation capacity, (ix) the business environment, and (x) physical and informational infrastructure. Yuhua (2014) also identified key factors enabling SMEs in developing countries to enter GVCs, including: (i) product quality, (ii) product price, (iii) geographic location, and (iv) innovative capacity. Therefore, achieving product attributes relating to quality, price, and delivery time are critical if SMEs in both developed and developing countries are to join a value chain. Hence SMEs need to have a good understanding of global markets and the business needs of GVCs, so as to produce goods with the right quality, competitive price, and capacity for delivery (Yuhua and Bayhaqi, 2013; Yuhua Z, 2014).

Finally, In the case of the United Nations Conference on Trade and Development ([UNCTAD], 2010), productive capability, labor productivity, technology, human capital, and business practices were identified as important factors influencing SME participation in GVCs. Cooperation with, and participation in, GVCs is seen as a key success criterion that can bring a number of benefits, including status, information flows, and enhanced learning for SMEs.

Table 1.1 presents a summary of key factors<sup>19</sup> that have been identified in a number of studies conducted by major international institutions as being important in impacting SME manufacturing firm participation in global production networks.

**Table 1.1: Global Production Networks: A Global Comparative and Benchmarking Perspective**

Factors/Items	UNCTAD	OECD	WTO	APEC	ASEAN
Product quality	x	✓	x	✓	x
Product price	✓	x	✓	✓	✓
Product delivery	x	✓	✓	✓	x
Use of e-mail communication	x	✓	✓	✓	x
Internationally recognized quality certification	x	✓	x	✓	x
Global standards	x	✓	x	x	x
ICT-technologies	x	✓	✓	✓	x
Electronic marketplaces	x	✓	✓	✓	x
Financial stability	x	✓	x	✓	x
Changing business practices	x	✓	x	✓	x
Human capital (human resources)	x	✓	x	✓	x
Fragmentation of production	x	✓	✓	✓	x
Buyer-supplier relations	x	✓	✓	✓	x
Cooperation within GVCs	x	✓	✓	✓	✓
Cooperation with MNCs and large firms	x	✓	x	✓	✓
Structural and policy characteristics	x	✓	✓	✓	x
Business environment	x	✓	✓	✓	x
Productive capacity	x	✓	x	✓	x
Physical and informational infrastructure	x	✓	✓	✓	x
Flexibility and adaptability	x	✓	x	✓	x
Geographic location	✓	✓	✓	✓	✓
Innovative capacity	x	✓	x	✓	x

APEC = Asia-Pacific Economic Cooperation, ASEAN = Association of Southeast Asian Nations, GVC = global value chain, ICT = information and communication technology, MNC = multinational corporation, OECD = Organisation for Economic Co-operation and Development, UNCTAD = United Nations Conference on Trade and Development, WTO = World Trade Organization

Notes: X refers to variables not included in the study, ü variables that were found to be in the study.

Source: Various sources.

<sup>19</sup> The variables used are generally determined by the focus of the study and judgment of the authors.

# SMEs, Capacity Constraints, and Global Value Chains

## General Capacity Constraints

In order for SMEs to take full advantage of market opportunities arising from the process of globalization and closer regional economic integration, they must develop capacities enabling them to become internationally competitive, innovative, and resilient. This will involve building on the advantages they already possess; their entrepreneurial spirit, flexibility, resourcefulness, and an ability to identify business opportunities and market niches based on their unique products and services. Despite this SMEs face many barriers, which include:

- (i) Their small size means that they have limited resources and access to finance.
- (ii) They lack economies of scale.
- (iii) They have relatively high costs in accessing and utilizing ICT.
- (iv) They have skill deficiencies in the utilization of ICT.
- (v) They have entrepreneurial, managerial, accounting, and marketing skill deficiencies.
- (vi) They lack information on market opportunities.
- (vii) They incur high transaction costs, including those arising from accessing transport infrastructure and in the cost of transportation.
- (viii) They have difficulty achieving accreditations for quality.
- (ix) They lack skills in dealing with customers, both in the domestic market and in the export market.
- (x) They have limited knowledge about language and culture, as well as the legal and bureaucratic issues involved in exporting.
- (xi) They may experience a lack of business infrastructure support.
- (xii) In some countries they may be discriminated against relative to large firms.

Building capacity, improving governance, reducing transaction costs, promoting further market liberalization, addressing nontariff barriers, implementing trade facilitation measures, increasing connectivity through improved internet access and transportation facilities, and facilitating trade and investment are all directly relevant to improving the capacity of small businesses to exploit export market opportunities for their growth. SME capacity building is also necessary in a wide range of basic skills required for the effective and efficient organization and management of business undertakings. Ongoing enhancements in product quality, cost efficiency, and delivery timeliness, as mentioned previously, are particularly important in the above context, and for the participation in production networks; as is adequate competence in ICT. The latter is a prerequisite for tapping the tremendous potential of e-commerce, and also for gainful participation in interfirm linkages and networking as well as in production network participation.



## Access to Finance<sup>20</sup>

SME **financing** has been, and remains, an intractable problem, not least because financial resources are typically in short supply in almost all developing economies. Many financial support measures for SMEs have limited outreach at disparate cost. In addition, capital markets can be far from adequate for SME debt (bonds) and equity (shares) financing. Higher transaction costs, perceived risk, lack of SME transparency, and lack of bank expertise in the evaluation of SME loans render it unprofitable for commercial banks to focus on such enterprises as their main debt clientele. In addition, most SMEs do not have a bankable business plan, which could reduce stringent bank demands for quality collateral. SMEs are seen by banks as carrying greater risk, especially where there is a lack of credit-rating agencies (Harvie *et al.*, 2013). **Proper financial reporting and information disclosure** is another difficult issue to resolve for many SMEs. As a consequence, SMEs experience a financing gap<sup>21</sup>, borrowing on less favorable terms and for a shorter duration. Most SMEs are therefore restricted to internal finance sources, such as personal savings, borrowing from friends and relatives, and internal profits. This puts a severe constraint on the capacity of SMEs to grow and take advantage of market opportunities (Harvie *et al.*, 2013).

## Connectivity to Markets

In the context of rapid trade liberalization, SMEs need to develop capacities to take advantage of opportunities arising from a more open regional and global trading system. The internet is regarded as being of particular importance in this regard, as is the need to identify appropriate partners for joint ventures or strategic alliances, to harmonize standards and professional qualifications (including investment laws and taxation procedures), and to protect intellectual property rights. Reductions in tariffs may not benefit SMEs—as their contribution to direct exports has remained fairly static or declined (e.g. in the case of ASEAN economies)—and more emphasis will be required by governments to address nontariff barriers and to improve trade facilitation measures (customs procedures, mobility of business people, standards of labelling requirements, access to finance, recognition of professional qualifications, consumer protection [particularly regarding online transactions], and intellectual property rights) if SMEs are to benefit from trade expansion and to enhance their exporting capacity.

In addition, market connectivity can be improved through better transport infrastructure, including road, rail, and port. Without such improved facilities SMEs are unlikely to remain competitive in international markets and as suppliers to MNCs, as the need to conform to the just-in-time delivery system is a critical determining factor of such involvement.

Greater participation by SMEs in trade is likely to generate a number of benefits. With access to a larger market, individual firms will be able to benefit from economies of scale and generate additional revenue (APEC, 2002). In terms of efficiency, firms which expose themselves to more intense competition in global markets can acquire new skills, new technology, and new marketing techniques. Exporters tend to apply knowledge and technologies at a

<sup>20</sup> For a more comprehensive discussion of this issue see Harvie *et al.* (2013).

<sup>21</sup> SME demand for credit is greater than the supply of credit to them (Harvie *et al.*, 2013).



faster rate and more innovatively than non-exporters. This can result in greater efficiency and productivity. A larger number of SME exporters assist skill and technology applications by spreading these over many small buyers and speeding up a multiplier effect, which extends the gains over the entire economy and not just firms that export. Ultimately, the economy will benefit from more flexible and environmentally responsive firms, higher growth rates, and long-term improvements in productivity and employment levels. Exporting has a positive effect on living standards, as competition drives firms to invest in staff development, which in turn improves productivity, wages, and working conditions. Exporting also encourages cultural diversity and the building of relationships and reputations with other countries.

## Access to Technology

In a knowledge-based economy, applications of ICT can be a great leveler for SMEs. However, when SMEs have limited access to, or understanding of, these technologies, their prospects of acquiring and utilizing these for their benefit is reduced. In terms of the internet, e-commerce use amongst small businesses lags behind their larger counterparts (OECD, 2000c; Hall, 2000). However, many small businesses view e-commerce as providing cost savings and growth potential. The gap relative to larger enterprises is closing, but further action by national governments will be required (in terms of improved infrastructure, cost, and ICT training, as well as information relating to business opportunities that e-commerce can generate). Enhancing the role and participation of small businesses in the global marketplace through e-commerce will be of critical importance. E-commerce presents small businesses with the opportunity to compensate for their traditional weakness in areas such as access to new export markets and competing with larger firms. It can provide global opportunities by enabling the flow of ideas across national boundaries, improving the flow of information, and linkages with increased numbers of buyers and sellers. This provides opportunities for greater numbers of trading partners dealing in goods and, increasingly, in services. Studies suggest that small businesses with higher levels of e-commerce capabilities are more likely to identify using e-commerce to reach international markets as an important benefit. Hence the desire to export for many SMEs may have a fundamental influence on promoting the rapid development of more advanced e-commerce capabilities. For many small businesses (e.g. in the Asia and Pacific region), integrating the development of e-commerce into their future strategies for accessing international markets is seen as crucial. E-commerce also has the potential to lead to cost savings and efficiency gains. Raising the awareness, as well as the understanding, of the benefits to be obtained from e-commerce will be important in increasing its uptake by small business. To incorporate the technology into their operations, small businesses need to find ways to deal with high set-up costs as well as lack of adequate infrastructure and ICT skills. If these can be overcome, SMEs will play an important part in the ICT-driven economy, and at least as much for more traditional forms of commerce. In this regard, the role of the government is likely to be crucial. This role includes: development of telecommunications infrastructure; addressing legal and liability concerns; ensuring that fair taxation practices are applied to e-commerce; addressing security issues; and raising the awareness of the business benefits of e-commerce, including the potential for export growth.

## Access to Skilled Human Resources

In economies driven by knowledge and innovation, access to skilled human resources is critical to enable effective utilization of new and rapidly changing technology, and to facilitate innovation. Human resource development for SMEs will require a comprehensive approach that will include: (i) social structures and systems, such as broad educational reforms; (ii) encouragement of entrepreneurship, the acquisition of business skills, and encouragement of innovation in society; (iii) mechanisms for developing self-learning, and ongoing training and enhancement of human resources; and (iv) supportive governmental programs. Among micro and small enterprises, a shortage of skills in information technology and associated costs are major hindrances to business growth. Consequently, staff training in ICT, as well as in skills, is required to successfully enter export markets. Improved ICT skills would enable more efficient management of the business, workload sharing, and the development of more market opportunities including exports. Other desired exporting skills include language and cultural expertise, as well as legal and logistical knowledge. While the role of government will be critical in this context it can be more effectively achieved through strategic cooperation and collaboration across countries at the regional level, such as in the case of ASEAN member countries.

## Accessing Information

Accurate and timely information on, for example, market opportunities, financial assistance, and access to technology is crucial for SMEs to compete and grow in a global market environment. This is an important role that both the government and relevant business organizations can play.

## Interfirm Networking and Clustering

In addition to the key areas for capacity building already identified, there is also the need to encourage the development of business networks—including the development of strategic alliances and joint ventures—aimed at enhancing the innovative capacity of SMEs. Entrepreneurs who develop and maintain ties and strategic alliances with other entrepreneurs tend to outperform those who do not. A network is a group of firms using combined resources to cooperate on joint projects. Business networks take different forms and serve different objectives. Some are structured and formal, even having their own legal entity. Others are informal, where, for instance, groups of firms share ideas or develop broad forms of cooperation. Some aim at general information sharing, while others address more specific objectives (such as joint export ventures). “Soft” networks generally encompass a larger number of firms than “hard” networks, with membership often open to all that meet a minimum requirement (such as payment of an annual fee). Networks have come to encompass agreements with research bodies, education and training institutions, and public authorities. Hard networks are more commercially focused, involving a limited number of preselected firms, sometimes formally and tightly linked through a joint venture/strategic alliance. Networks can allow accelerated learning. Moreover, peer-based learning, which networks provide for, is the learning medium of choice for many small firms. Furthermore, in order to innovate, entrepreneurs often need to reconfigure relations with suppliers,

which networks can facilitate. Networks can allow the sharing of overhead costs and the exploitation of specific scale economies present in collective action. Networks need not be geographically concentrated. Once trust among participants is established, and the strategic direction agreed, operational dialogue can be conducted via electronic means.

There is now a large amount of literature, and numerous case studies, on the emergence of competitive industries and the revitalization of domestic regions pushed and driven largely by networks and clusters of SMEs. The process has taken place in both developed and developing countries. It has often been induced and facilitated by support policy, but there are also significant instances of spontaneous development (Asasen *et al.*, 2003).

A related issue in the promotion of interfirm linkages is not whether to assist SMEs to invest in ICT-based facilities and services, but how best to encourage SMEs to make the most cost-effective use of these new technologies. In fact, ICTs are now a prerequisite for participation in the growing number of cross-country production networks and global supply chains. They are also indispensable for tapping e-commerce opportunities, which have expanded tremendously in size and scope.

## Knowledge Acquisition and Innovation

Recent studies have shown that, despite the fact that a very small fraction of total business R&D in developed economies is accounted for by SMEs, they contribute greatly to the innovation system by introducing, in particular, new products and adapting existing products to the needs of their customers (OECD, 2000a). Small firms account for a disproportionate share of new product innovations, despite their low R&D expenditures (Acs and Audretsch, 1990). In addition, they have also been innovative in terms of improved designs and product processes, and in the adoption of new technologies. Investment in innovative activities is on the rise in SMEs, and is increasing at a faster rate than that for large firms. Scherer (1988) has suggested that SMEs possess a number of advantages relative to large firms when it comes to innovative activity. First, they are less bureaucratic than highly structured organizations. Second, many advances in technology accumulate on a myriad of detailed inventions involving individual components, materials, and fabrication techniques. The sales possibilities for making such narrow, detailed advances are often too small to interest large firms. Third, it is easier to sustain high interest in innovation in small organizations, where the links between challenges, staff, and potential rewards are tight. Firms in the developed high-cost economies can no longer compete in labor intensive areas of production (where they have lost their comparative advantage), but rather must shift into knowledge-based economic activities (where comparative advantage is compatible with both high wages and high levels of employment). This emerging comparative advantage is based on innovative activity. For many developed economies, their future international competitiveness will also depend on their ability to develop a capacity in knowledge-intensive firms, many of which will be SMEs, based upon the experience of the developed OECD economies.

## Entrepreneurship Education and Training

Among the constraints faced by SMEs in developing and emerging market economies is the lack of a sustained track record in **entrepreneurship development**. Extensive capacity

building in business skills and operational capabilities is needed by SMEs for a fuller exploitation of the new market opportunities from GVCs and new technologies, including e-commerce. Such capacity enhancement needs to be complemented, however, by ancillary development (by the public and/or semi-public sector) of hard and soft infrastructure prerequisites, which are of high quality, accessible, and affordable. Such development and the related policy issues are generally of a longer-term nature.

### Missing Middle

Many developing economies are characterized as having a “missing middle” in terms of SMEs. There are many formal and informal micro and small enterprises, which dominate the economy in terms of business numbers but make a significantly smaller proportional contribution to output, employment, and exports. These economies also have a small number of large enterprises, which are either state owned or are subsidiaries of multinational enterprises but which make a significantly larger proportional impact on employment, output, and exports. The lack of medium-sized enterprises is a reflection of the relative hollowness of industrial sectors and structures. Capacity constraints for micro and small enterprises are reflected in the very small number of medium-sized enterprises. These enterprises, based on the experience of developed economies, tend to contribute proportionally more to employment, output, and exports. They also have more resources to engage in R&D, and to be more innovative and creative. They are also likely to export, and to have the capacity to engage in networking and clustering as well as participating in higher value-adding activity (Harvie *et al.*, 2010; Harvie *et al.*, 2015). Medium-sized enterprises are also more likely to be able to participate in cross-border production networks. Consequently, a major challenge facing SME policymakers in developing economies is how best to facilitate the development of medium-sized enterprises, which will require addressing the capacity constraints mentioned in this section.

### Conclusion

SMEs represent an integral part of many developing and developed economies. They make significant contributions to economies from many perspectives; output, growth, employment, exports, entrepreneurial activity, poverty alleviation, and economic empowerment. Globalization and closer regional economic integration throughout many parts of the global economy, and especially in East and Southeast Asia, have presented local SMEs with many challenges as well as opportunities. These SMEs face capacity constraints, which are compounded if they are in the informal sector, arising from difficulties in accessing finance, technology, and skilled labor, which also results in inadequate innovative activity, entrepreneurial deficiencies, and limited connectivity to domestic and international markets. These capacity constraints can result in a “missing middle”, where micro and small firms fail to mature into medium-sized enterprises. Medium-sized enterprises contribute disproportionately to output, employment, and exports relative to their contribution to business numbers. They also have a greater capacity to engage in higher value-adding activity in production networks. Addressing these issues is of importance to regional leaders and policymakers.

Of particular interest are the opportunities created by closer regional integration for regional SMEs to participate in global and regional production networks (value chains). East and Southeast Asia have some of the most sophisticated and deep cross-border production networks. Regional governments and policymakers have an incentive to encourage local SMEs to participate in these, by facilitating the development of internationally competitive clusters of SMEs that can act as suppliers to multinational production networks—in the process attracting FDI and technology transfer. Not all SMEs will be suitable for such participation, but it is clearly of considerable interest for governments, and for proponents of further regional integration, to identify those SMEs most conducive for cross-border production network participation, and to further encourage those SMEs already involved.

The future success of regional economic integration, for example the ASEAN economies, is likely to depend upon mutual benefits for all participating nations and the attainment of inclusive and broad-based growth. This has been explicitly recognized by ASEAN leaders in terms of the ASEAN Economic Community Blueprint and its focus on SME development through the ASEAN Policy Blueprint for SME Development (APBSB) 2004–2014 and subsequent Strategic Action Plan for ASEAN SME Development (SAPASD) 2010–2015. Strategic cooperation and collaboration by regional governments under the auspices of ASEAN will be important, and will provide a potential blueprint for other countries in a similar position to follow.

The role of member governments, in collaboration with the private sector, will be essential in establishing policies<sup>22</sup> for a conducive business environment in which the private sector, and in particular SMEs, can be nurtured, developed, and made more internationally competitive. This can be achieved mainly through ongoing development of human and technological capabilities, including through the targeted provision of business development services, and through the promotion, widening, and deepening of competitive enterprise networks, clusters, and other interfirm collaborative linkages within and across borders. The aim is to develop a durable pattern of socioeconomic growth, structural diversification and modernization, and quality enhancement that will lead to higher levels of local value-added, greater productivity, and further production flexibility. At the same time, there should be gains in technological and innovation capabilities, the formation and emergence of an increasing number of domestic clusters of enterprises, and denser networks of interfirm linkages within and across borders. Inculcating a culture of entrepreneurship, innovation, and networking among SMEs is also essential.

The challenges facing SMEs are many, but the opportunities available, if suitably exploited, have the potential to result in the development of dynamic and competitive SME sectors in regional and global economies.

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<sup>22</sup> SME policy measures and options should pay special attention to the evident diversity among the older ASEAN member countries as well as between them and the newer member countries. The differences are particularly apparent in, among other things, economic and social conditions. A one size fits all SME policy is not applicable, and it will need to be adapted as appropriate by ASEAN countries to meet their own particular challenges and circumstances.

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# CHAPTER 2

## SME Participation in Global Value Chains: Challenges and Opportunities

by Masato Abe<sup>23</sup>

### Introduction

Given an increasing role of global value chains (GVCs) in trade and investment expansion and production restructuring in Asia, it is important to enhance the understanding of their contributions to economic development, where small and medium-sized enterprises (SMEs) play an important role. While they are seen as a major contributor to a nation's inclusive growth through enhanced productivity and employment creation, SMEs in developing countries in Asia have not well utilized business and trade opportunities generated by the emerging GVCs under the accelerated trade and investment liberalization as well as regional economic integration.

What is not well documented, however, is how to create and support an enabling environment for SMEs to increase their capability and have access to international markets through GVCs (cf., Abe *et al.*, 2012; ESCAP, 2007 and 2009). In order to develop concrete policy options, it is necessary for policymakers and other stakeholders to explore potential causes, both external and internal, which constrain SMEs' participation in GVCs.

This chapter explores under which conditions, or with what actions, GVCs would generate more positive contributions to the development of SMEs, based on survey data that the Asian Development Bank (ADB) collected from four select developing countries across Asia and the Pacific; Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka. Specifically, the chapter reviews how SMEs can maximize benefits driven from the emergence of GVCs, and sectoral and cross-sectoral constraints for SME development are examined. Since SME development agendas have not been fully integrated into the strategy, management, and governance of GVCs, this chapter also reviews the present environment and behaviors among SMEs, such as internationalization and market penetration, and investigates how to reflect effectively those practices to the GVC issues.

The chapter begins with literature reviews on the impacts of GVCs on SMEs, SMEs' characteristics and constraints, and business enabling environment. Next, an outline of the ADB survey is introduced, with the profile of enterprises surveyed. Following that, an analysis of survey data is conducted, with various graphical presentations. The chapter concludes with policy implications and recommendations.

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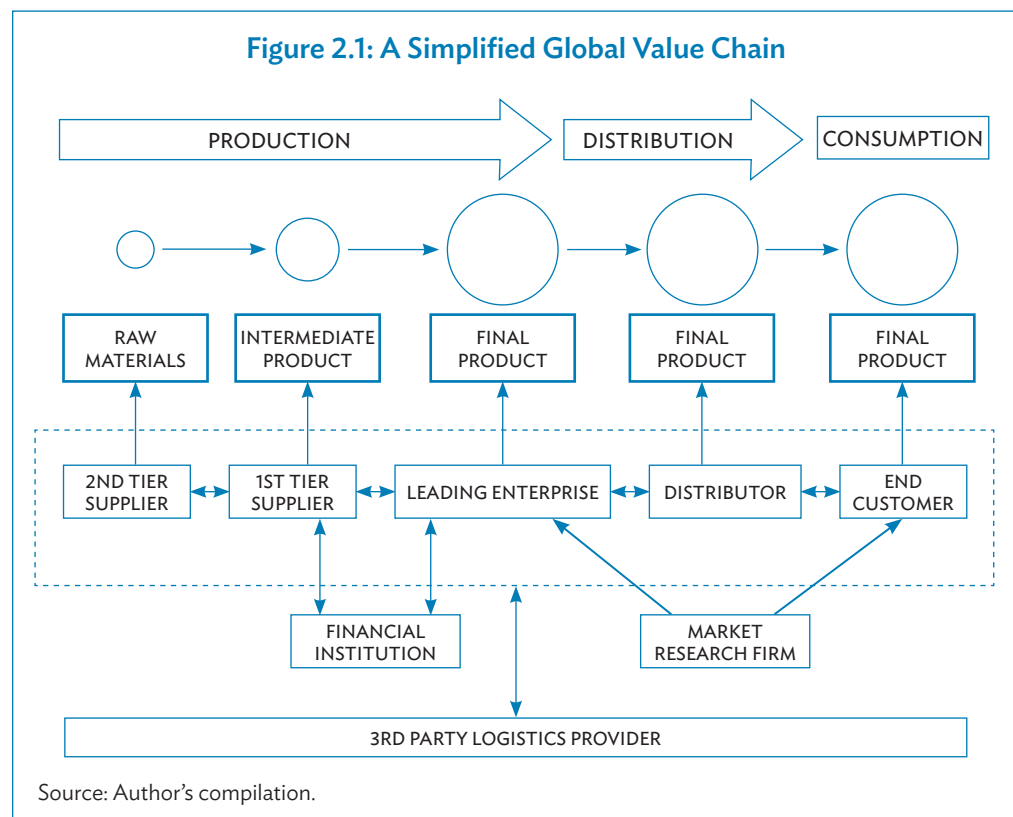
<sup>23</sup> This chapter was prepared by Masato Abe, Economic Affairs Officer, Business and Development Section, Trade and Investment Division, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok, Thailand. The opinions expressed in this chapter are those of the author and do not necessarily reflect the views of the United Nations.

## Global Value Chains: A Phenomenon for SMEs

This section outlines the development of GVCs in Asia, and the implications of this development for SMEs. The basic characteristics of SMEs, their constraints, and key development agendas for SMEs are also discussed to provide useful information, which will later be used for the development of policy recommendations.

### Emergence of Global Value Chains in Asia and the Pacific

In the past decades, one significant development in the Asian business community has been the emergence of global (and regional) value chains. A global value chain refers to the full range of cross-border, value-added business activities that are required to bring a product or service from the conception, design, sourcing raw materials, and intermediate inputs stages to production, marketing, distribution, and supplying the final consumer (ESCAP, 2007). A number of firms, including SMEs, participate in GVCs and provide services based on their expertise as suppliers, distributors, and business service providers e.g., third-party logistic providers, financial institutions, and market research firms (Figure 2.1).

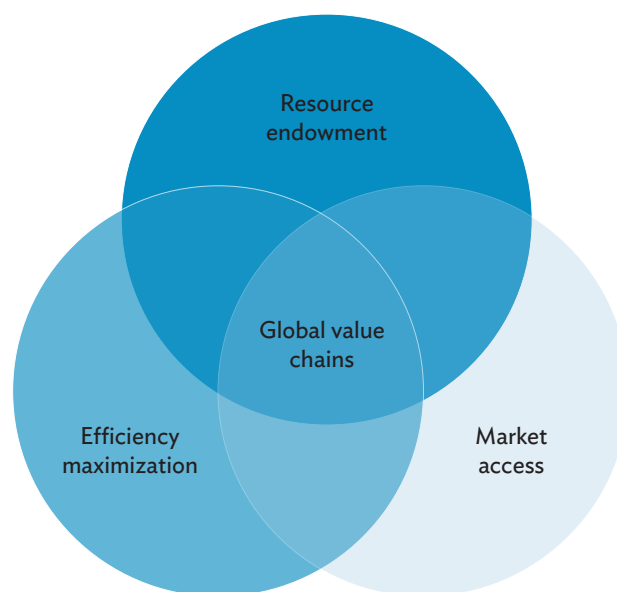


As commercial entities, firms within GVCs seek growth in such areas as market share, turnover, profit, and size, among others. To achieve this, they typically make their corporate decisions or manage their GVCs based on three broadly defined factors: resource endowment, efficiency maximization, and market access. Given the important role that GVCs increasingly play in global markets (e.g., income generation and job creation), the literature has largely been devoted to deliberations on the three driving factors, by adopting various theories such as resource dependency, comparative advantages, supply chain management, economies of scale, production agglomeration, and foreign direct investment. These three key factors for GVCs are illustrated in Figure 2.2 and briefly reviewed in turn.

First, commercial firms, by nature, seek to access key resources, such as low-cost labor, scarce materials, and well-developed infrastructure, as well as advanced technologies, within a nation and across the globe (Feenstra, 1998). Location advantages derived from availability of labor, materials, and infrastructure (e.g., multimodal logistics) can reduce costs of production and distribution, due to decreased perceived distance and improved controllability (Kimura and Ando, 2005).

Second, efficiency maximization primarily aims to reduce costs within an enterprise or the overall supply chain for high productivity (Christopher, 2011). Concepts of supply chain management, such as zero inventory, just-in-time movement of goods, and outsourcing and offshoring, have indeed intended to reduce total supply chain costs. Production agglomeration (e.g., industrial or SME clusters) and consolidated operations (e.g., supplier or logistics consolidation) can also reduce total supply chain costs, through achieving low transaction costs and economies of scale.

**Figure 2.2: Three Key Growth Drivers for Global Value Chains**



Source: Author's compilation.

Third, firms are generally motivated to enter into new markets to seek growth opportunities. In many economies with limited domestic opportunities in a certain sector, diversifying the firm's products and operations for a new market, or entering into a foreign market, plays a crucial role in achieving growth (Czinkota and Ronkainen, 2010; Kotlar and Keller, 2011). Success factors for market access include, but are not limited to, an enabling business environment, low entry barriers, adequate provision of market information, solid distribution channels, and reliable logistics systems. Since the end of the 1980s, multinationals have aggressively invested in Asia to develop supply chains, built on national export-oriented development strategies, combined with trade liberalization, low-cost logistics systems, and advanced information and communication technology (ICT) applications (ESCAP, 2009). Increased regional flows of foreign direct investment (FDI) during the 1990s and 2000s have accelerated the development of GVCs.

There are four basic types of GVCs (ESCAP, 2007; Gereffi, Humphrey, and Sturgeon, 2005):

- (i) International supply markets, where transactions are made based on arm's length relationships between buyers and sellers across borders, requiring minimal coordination and cooperation (e.g., commodity markets);
- (ii) Producer-driven networks, where the lead firm (such as an automobile or consumer electric appliance assembler) plays a central role in exercising control over the international network of subsidiaries, affiliates, and suppliers;
- (iii) Buyer-driven networks, where large retailers, marketers, and brand manufacturers (such as Levi's in the apparel industry and Walmart as a multinational retailer) source from the decentralized network of suppliers across borders; and
- (iv) Integrated firms, where hierarchical governance systems are implemented throughout the international networks, and produce all major goods and products in-house, characterized by vertical integration and strong managerial control (this type has become rare these days, but can still be found, for example, in the American automobile industry).

Among the four GVC types, both interfirm coordination and power asymmetry within the networks are lowest at the supply markets and high at the integrated firms. On the other hand, the basic characteristics of GVCs are presented in Table 2.1.

The rapid development of GVCs has major implications for two aspects of the SME sector (ESCAP, 2007 and 2009). First, GVCs enable SMEs to act as suppliers of parts and components or basic services, largely on a subcontracting basis, to lead firms. By entering into supplier relationships with the lead firm, SMEs can specialize in a limited set of activities and outputs within the framework of GVCs, while accessing large regional and global markets. In this regard, GVC-participating firms must be able to meet an increasing number of stringent standards, conformity requirements, and certifications, since intense competition in markets is forcing down prices but driving up the requirements for production, technological, and management capabilities for participating firms (ESCAP, 2007).

Second, as SMEs become a part of a GVC, they gain skills and knowledge about conducting business across borders. This would allow such firms to better organize their production and

**Table 2.1: Global Value Chain Characteristics**

Characteristics	Descriptions
Multinational	GVCs operate across borders, with a wide range of networks which comprise a variety of firms with different nationalities.
Outsourcing	A variety of supplies, services, and functions can be outsourced through the net of international production networks, including numerous smaller firms which are categorized in higher- and lower-tier suppliers of inputs.
Policymaking	The lead firm predominantly decides items/products to be outsourced, quality/quantity, timing of supplies, and pricing.
Capacity building	The lead firm typically demands and helps suppliers (as well as distributors and retailers), which are often SMEs, to implement improvements to their products/services, productivity, and human resources.
Standardization	The lead firm ensures consistency and reliability of supplies or services, based on private, national, or international quality standards or certifications.
Global status	A smaller firm can become a global firm by becoming a vital GVC player over time.

GVC = global value chain, SMEs = small and medium-sized enterprises

Source: Author's compilation.

improve their technologies and skills. At the same time, GVCs also define a more demanding environment, requiring SMEs to work in a more formal manner and upgrade not only their production methods but also their management practices.

These and other challenges for SMEs derived from GVCs can best be understood within the context of specific industry value chains that have particular relevance for regional economies. Three sectoral value chains—agribusiness, garments and apparel, and automotive parts—of actual and potential relevance to SMEs in Asia, have been selected to illustrate the challenges (Box 2.1).

These discussions highlight the emerging opportunities for SMEs to enhance their market access through GVCs, while they improve their capacity to serve GVCs.

## SMEs' Characteristics, Constraints, and Development Agendas

SMEs typically represent over 95% of private enterprises and account for over 50% of employment in Asia (Abe *et al.*, 2012). SMEs are regarded as a key agent for industrialization, particularly in developing countries, where the role of SMEs holds even more significance, since they represent the best prospect to increase overall employment and value added (Shizuki, 2001).

SMEs have unique characteristics, such as labor intensiveness, niche market focus, low investment requirements, and customer orientation (Abe *et al.*, 2012). For SMEs, the separation of ownership and management is often nonexistent, and they tend to respond to market needs quickly, with a flatter organizational structure and flexible operations, which can readily adapt to a rapidly changing environment (Abe *et al.*, 2012). The development of

### Box 2.1: Sectoral Value Chains: Agribusiness, Garments and Apparel, and Automotive Parts

#### Agribusiness

The agribusiness sector has been one of the most vibrant growth sectors internationally, with many of its products sourced from developing countries in Asia. The evolution of agribusiness GVCs, coupled with the dominance of large retailers/supermarkets—which control the agri-product brands as well as access to regional and global markets—threatens the exclusion of suppliers unable to meet new requirements. However, it also offers significant opportunities for those suppliers who can do so. For example, the trend toward product differentiation, such as organic produce, driven both by the tastes of global consumers and the strategies of retailers for higher revenue, is producing significant opportunities for qualified SMEs to serve niche markets that are regional or even global in nature. Furthermore, outsourcing by global retailers of technically sophisticated activities, such as bar coding, labelling, and the preparation of ready-to-eat food, provides important opportunities for the upgrading of SMEs within agribusiness GVCs.

#### Garments and apparel

The garment and apparel industry, which is one of the world's oldest and largest export sectors, and a classic “starter” or labor-intensive industry for export-oriented industrialization, has played a key role in regional development in Asia. It represents a typical buyer-driven value chain/network, with a highly competitive and widely dispersed global industry structure, including regional and local competitors. Entry barriers are relatively low for SMEs, or “assembly” garment factories, and they increase with movement up GVCs from textiles to fibers. Three key factors shape the structure and dynamics of the garment and apparel GVCs: (i) pressure to meet stringent international standards (e.g., labor and environmental); (ii) demands from global buyers for cheaper products, higher quality, and shorter lead times; and (iii) favorable business conditions for SMEs due to their greater flexibility, low-skilled technology, and adaptability to local communities. The increasing concentration of production in countries with the capability for “full package production,” for example, in Bangladesh, Cambodia, the People's Republic of China, and India, has been observed.

#### Automotive parts

The automotive parts industry comprises a complex mixture of firms of very different sizes, types, and geographic scopes, which produce an enormous variety of products ranging from very simple parts to technologically complex systems. The potential for local sourcing is particularly high because of the large number, size, and weight of components and materials required by the sector. For those SMEs able to participate even at the lowest tiers of production, the automotive parts industry can offer significant opportunities to access regional and global markets. In Asia, cost competitiveness of the automotive parts industry is often based less on productivity and more on low-factor input costs, which are now rising in many countries (e.g., the cost of labor and land). The key challenge for automotive parts suppliers in the region is to improve productivity and lower costs in order to maintain or improve their competitive performance within automotive GVCs. The lower-tier production within GVCs could provide SMEs an entry point to the automotive parts industry, as well as exposure to its significant developmental benefits, while strengthening the competitive performance of local SME suppliers.

an entrepreneurial culture is highly associated with the development of SMEs, as they are formed, nurtured, and run by entrepreneurs (Kyaw, 2008). The following sections of this chapter will highlight some key characteristics and constraints of SMEs, which may affect effective policymaking for SME development.

#### *Heterogeneous in nature*

SMEs, including micro enterprises, are a very heterogeneous group, found in a wide array of business activities in a nation. Examples of SMEs include a single artisan producing



agricultural implements for the village market; a coffee shop on the corner; an internet café in a small town; an engineering or software firm selling to overseas markets; and an automotive parts manufacturer selling to multinational automobile companies who are, in turn, trading to domestic and foreign markets. SMEs operate in very different markets (urban, rural, subnational, national, regional, and international). They embody different skill levels, amounts of capital, levels of sophistication, and growth orientation; and they may operate in the formal or the informal economy.

### Varied definitions

In Asia, the definition of SMEs varies from country to country and is usually based on the number of employees, value of sales, value of assets or capital, or a combination of these indicators (Abe *et al.*, 2012). The definition of SMEs may also vary according to the size of the economy and the level of the economic development of a nation. The most commonly used variable (probably due to the ease of collection of data) is the number of employees.

A large number of the countries of the Organisation for Economic Co-operation and Development (OECD), including those of the European Union (EU), and many transitioning and developing countries, set the upper limit of the number of employees for SMEs between 200 and 250. While a few exceptions exist—such as Japan and the United States, whose definitions allow for up to 300 and 500 employees, respectively—SMEs typically employ no more than 250 workers. Some countries stipulate different definitions for SMEs in the manufacturing, services, and other sectors, and may exempt firms from specialized industries or firms that have shareholdings by parent companies (Abe *et al.*, 2012).

### Constraints

Because of their size and isolation, individual SMEs are typically constrained from achieving economies of scale in acquiring such inputs as supplies, equipment, raw materials, technology, finance, and skilled labor (Abe *et al.*, 2012). Often they are unable to identify potential markets and are generally unable to take advantage of market opportunities that require large volumes, consistent quality, homogenous standards, and regular supply. Small size is also a constraint on accessing business services, such as training, market intelligence, and logistics. It is also a constraint on key inputs requiring specialized knowledge such as technology and skills. SMEs typically suffer from:

- (i) low bargaining power, both for sales and for procurement (i.e., low prices and high costs, leading to low income and less profit);
- (ii) weak market access;
- (iii) low levels of technology adoption;
- (iv) lack of brand development;
- (v) high debt structure, with difficulty in cash flow management;
- (vi) weak management, with less training;
- (vii) weak human resource base, with a low level of compensation;
- (viii) inadequate institutional support; and
- (ix) inadequate business networks.

In general, it is apparent that SMEs face more risks on account of having fewer resources and limited expertise as compared to larger firms. Effective management of SMEs is crucial for identifying and utilizing knowledge and technology, quality product development, and upgraded production processes, in order to meet consumer preferences and demands. SMEs also need to equip themselves with market information on customers, buyers, suppliers, prices, trade regulations, and business procedures in their target markets. However, investments in production facilities and collection of data pertaining to marketing research can be a strain on the resources of SMEs.

With regard to their participation in GVCs, SMEs face impediments due partially to the aforementioned inadequate capabilities, and so are often underrepresented in the global economy (APEC, 2004). Those major challenges that SMEs face with GVCs can be broadly categorized into four groups: competition, internationalization, trade liberalization, and managerial skills. Although barriers for entry into GVCs differ between firms and countries, Table 2.2 provides some details of the four crucial factors.

### *Six key agendas for SME development*

To tackle the issues reviewed in this chapter, SMEs require a number of supportive structures, provisions, and policies to facilitate their development, and there are several key

**Table 2.2: Major Challenges for SME Participation in Global Value Chains**

Challenges	Capabilities and limitations
Intensified competition	<ul style="list-style-type: none"> <li>• Small size of operation that results in a relatively high cost of production</li> <li>• Lack of consumer preferences and inability to access lead firms:               <ul style="list-style-type: none"> <li>– Lack of market intelligence (e.g., business opportunities, prospective customers, competition status, channels and distribution, local regulations and practices, and taxation)</li> <li>– Inability to network</li> <li>– Inability to meet large demands</li> <li>– Uncompetitive price, quality, and/or delivery</li> </ul> </li> <li>• Inadequate institutional support and assistance</li> <li>• Lack of necessary manpower and financial resources</li> </ul>
Internationalization	<ul style="list-style-type: none"> <li>• Inability to internationalize operation, due to limited capacity to analyze, penetrate, and segment foreign markets</li> <li>• Technical limitations to act as suppliers to foreign buyers/investors</li> </ul>
Trade liberalization	<ul style="list-style-type: none"> <li>• General ignorance of free trade agreements:               <ul style="list-style-type: none"> <li>– Lack of knowledge and skills to react the agreements</li> </ul> </li> <li>• Less awareness of opportunities and challenges derived from various trade agreements</li> </ul>
Managerial skills	<ul style="list-style-type: none"> <li>• Lack of knowledge about new strategies and techniques               <ul style="list-style-type: none"> <li>– Inability to orient new design and production</li> </ul> </li> <li>• Inability to allow time and manpower to acquire new skills</li> <li>• Lack of knowledge to use e-commerce</li> <li>• Inability to hire appropriately qualified and talented people</li> <li>• Inability to combat anti-competitive practices</li> </ul>

Source: Author's compilation based on Abe, *et al.*, 2012; UNTFN, 2005.

challenges that must be addressed with a comprehensive approach. The six key agendas that such an approach should cover are: (i) business enabling environment; (ii) promotion of an entrepreneurial culture; (iii) business financing; (iv) business development services; (v) innovation and technology development; and (vi) market access. While they will be reviewed by the ADB survey conducted in the select four countries (i.e., Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka), those six key agendas are summarized briefly in turn:

**(i) Business enabling environment**

The business environment provides the fundamentals for all private sector development, and favorable conditions form the foundation of SME growth, survival, and competitiveness. The basic components of an enabling environment for business include, but are not limited to, economic policies, factor endowment, regulatory frameworks, infrastructure, entrepreneurial culture, and technology. Governments have a central role to play in making the business environment more conducive to SMEs; however, governments in many developing countries are challenged by a lack of skills and knowledge to develop and implement effective policies. In this area, surveys on business environment are a valuable source for identifying and prioritizing specific reforms.

**(ii) Entrepreneurial culture**

SME development is driven by entrepreneurs, and a dynamic entrepreneurial environment is essential for growth. While the understanding of entrepreneurship varies, it can be defined as an individual or team process of doing something new or different, with calculated risk-taking behavior for future gains, to add value to society (Abe *et al.*, 2012). A number of key factors influence the success of entrepreneurs, and these elements can generally be classified under five categories: (a) internal traits of the entrepreneur; (b) adequate resources; (c) a solid business plan; (d) a favorable external environment; and (e) the wider political, social, and cultural contexts. Another key consideration is the existence of entry barriers, especially the “fear of failure,” which discourages many potential entrepreneurs in Asian countries. To help overcome potential barriers, governments and relevant agencies can promote awareness about the importance and value of entrepreneurship through education, training, and information dissemination.

**(iii) Access to financing**

Access to sufficient and sustained finance is essential for all SMEs. Different stages of the business lifecycle have varying needs for cash with the startup, growth, and transition stages being particularly important. There are a number of different instruments and sources of SME financing, which can be classified into seven general categories: informal, internal, debt, equity, asset-based, leasing, and government grants or subsidies. Commercial banking plays an important role, particularly in debt financing. The multiple financial instruments are administered by a variety of financial institutions, and there are many associated advantages and challenges that need to be understood in order to introduce effective policy interventions (Abe *et al.*, 2015). This topic will be fully reviewed in Chapter 3.

### (iv) **Business development services**

Business development services, which must be comprehensive, affordable, and high quality, consist of three core segments: operational, advisory, and advocacy. The most sophisticated of the three segments are the operational services, which assist with the daily functions of a business (e.g., accounting and taxation). Advisory and advocacy services (e.g., business and technology incubation) are currently underdeveloped or short-lived in Asia, and these areas should be more fully explored. The delivery of business development services has transformed over the years, shifting from the traditional approach, where governments and related agencies engage in direct provision, to a market-oriented approach, where private providers are engaged to deliver services. The latter approach is generally preferable, although this is only a viable option once a certain level of economic development has been attained. Prior to this, the public sector is needed to provide direct support.

### (v) **Innovation and technology**

There are four key components of innovations: product, process, marketing, and organizational. These can be further divided into incremental or radical innovations. While the benefits of innovation are widely known, SMEs in developing Asian countries experience difficulty in building their capabilities. Policymakers need to analyze the key innovation strategies that SMEs can adopt, in order to gain a better understanding of what interventions are most effective. Research and development (R&D) has shown positive movement in Asia recently, with some countries such as the People's Republic of China, Japan, the Republic of Korea, and Singapore, investing significant amounts of their gross domestic product (GDP) into R&D activities. Although SMEs, with their limited capabilities and size, are not often associated with strong R&D, effective activities can be simple and affordable. Another popular strategy for innovation is technology acquisition and transfer. Domestic factors, such as institutional structures, supportive policies and regulations, and financial assistance have a significant impact on technology acquisition and transfer by SMEs.

### (vi) **Market access**

SMEs generally face difficulties in accessing new markets, as they have limited resources, expertise, and market information. There are four critical factors in enhancing market entry capability. First, knowledge about business opportunities, customers, competitors, distribution procedures, local rules and regulations, and taxation is essential. Second, the policy and regulatory framework must be well organized, and must provide the necessary trade infrastructure and other facilitation services. Third, trade barriers, both tariff and nontariff, can hinder SME access, and this issue needs to be addressed at the national, regional, and international levels. Fourth, networking and cooperation between SMEs and larger firms provides an important source of information, knowledge, and skills. Pertinent issues in this area include trade and investment agreements, trade promotion activities, quality standards and certificates, logistics infrastructure and facilitation, use of information and communication technology (ICT), trade finance instruments, and special economic zones (SEZs). Foreign direct investment (FDI) should also be facilitated as SMEs can either become direct suppliers or they can participate in GVCs, both of which are beneficial to their development.

## An Outline of the ADB Survey

The discussions in the previous section highlight that, while GVCs have provided opportunities to the business community in Asia, this phenomenon is also creating a difficult competitive environment for smaller firms, or SMEs, that do not possess the wide range of necessary capabilities along the GVC concerned. In order to participate effectively in GVCs, SMEs are expected to break high entry barriers by meeting a wide range of increasingly stringent global standards with regard to quality, price, timely delivery, and flexibility. At the same time, governments in developing countries of Asia are also expected to provide enabling environments and supportive provisions to typically disadvantaged local SMEs, although only limited information is generally available for policymakers. In response, to collect more information and contribute to policy development in the region, in early 2014, ADB decided to conduct a business survey in select developing countries. The 6-month business survey project was commenced in September 2014.<sup>24</sup>

### Participating Countries

This ADB survey on SME participation in GVCs sought to capture a comprehensive picture of the present activities and environments of SMEs in four select countries; Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka. The project also sought to identify constraints and success factors to facilitate SMEs' effective participation in GVCs. In addition, the survey collected business perceptions on ideal policy interventions relating the development of GVCs. The surveyed countries were chosen because they represent the four developing subregions of Asia: Kazakhstan for Central and West Asia; Papua New Guinea for the Pacific; the Philippines for Southeast Asia; and Sri Lanka for South Asia.

The basic profiles and international business indexes of the four countries are summarized in Table 2.3 below. The table illustrates that they are diverse countries in terms of population, income, trade structure, and business environment. Kazakhstan appears as perhaps the most advanced of the four countries. It provides a better business environment, as indicated by the international indexes (e.g., World Bank's Doing Business Report), except in the relationship with government (i.e., level of corruption and permits) and cross-border trade facilitation.<sup>25</sup> Conversely, Papua New Guinea is behind in most categories.

### Questionnaire Development

ADB prepared one structured survey questionnaire for SMEs in each participating country, with some minor country-specific modifications. Thus, four questionnaires in total were developed. Technical inputs were sought from local partner institutions, such as SME associations and chambers of commerce that hold a number of SME memberships. ADB held several technical meetings with the partner institutions, as well as with the government

<sup>24</sup> Author was specially allowed to access the ADB SME survey database for the purpose of composing this chapter.

<sup>25</sup> Kazakhstan's poor cross-border facilitation is more or less understandable as a land-locked country.

**Table 2.3: Profiles of Four Surveyed Countries: Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka**

	Kazakhstan	Papua New Guinea	Philippines	Sri Lanka
<b>Population</b> ('000s as of 2012)	16,271	7,167	96,707	21,098
<b>Income (GDP) per capita</b> (\$ as of 2013)	13,650	2,106	2,765	3,159
<b>Exports of goods</b> (% of GDP as of 2013)	38.8	33.9	21.2	15.8
<b>Exports of services</b> (% of GDP as of 2013)	2.4	2.2	8.1	7.4
<b>Imports of goods</b> (% of GDP as of 2013)	23.0	34.7	24.4	28.5
<b>Imports of services</b> (% of GDP as of 2013)	5.6	22.3	5.4	5.4
<b>Ease of Doing Business Rank</b> (out of 189 states, as of 2014)	77	133	95	99
<i>Starting a Business</i>	55	130	161	104
<i>Dealing with Construction Permits</i>	154	141	124	60
<i>Getting Electricity</i>	97	26	16	100
<i>Registering Property</i>	14	85	108	131
<i>Getting Credit</i>	71	165	104	89
<i>Protecting Minority Investors</i>	25	94	154	51
<i>Paying Taxes</i>	17	110	127	158
<i>Trading Across Borders</i>	185	138	65	69
<i>Enforcing Contracts</i>	30	181	124	165
<i>Resolving Insolvency</i>	63	141	50	72
<b>Global Competitiveness Index</b> (ranking out of 144 states, as of 2014)	50	N/A	52	73
<b>Index of Economic Freedom</b> (ranking out of 196 states, as of 2014)	69	137	76	101
<b>Corruption Perceptions Index</b> (ranking out of 175 states, as of 2014)	126	145	85	85

GDP = gross domestic product, \$ = US dollars

Sources: ESCAP Online Statistical Database (ESCAP, 2015); 2015 Index of Economic Freedom (Heritage Foundation, 2015); The 2014 Corruption Perceptions Index (Transparency International, 2014); Doing Business 2015 (World Bank Group, 2014); The Global Competitiveness Report 2014–2015 (World Economic Forum, 2014).

authorities responsible for SME development and financial institutions serving SMEs, in order to introduce the survey project in general and review the questionnaires in particular. ADB also conducted qualitative interviews with those local stakeholders to identify financial and nonfinancial issues (i.e., supply-side and policy-oriented factors) which constrain SMEs from participating in GVCs. During the development of the questionnaires, a number of industrial and country experts were consulted, and many existing business survey questionnaires, which were conducted by international and bilateral agencies and academics in Asia in the past, were reviewed. Based on an extensive literature review,

questions were selected or modified from the existing business surveys or were newly developed. In addition to ordinary descriptive statistics, ADB drafted the questions to fit with advanced statistical techniques, including multivariate statistics, in order to conduct more in-depth data analysis in exploring key issues and comparing group differences. The questionnaires were first drafted in English and then translated into local languages for Kazakhstan, Papua New Guinea, and Sri Lanka (the English questionnaire was used only in the Philippines).

## Data Collection

In the beginning, ADB collected survey data from target SMEs by either interview or by dropping off the questionnaire, which was mainly administered by the partner institutions in the participating countries. Due to the lower than expected response rates, however, ADB introduced an online survey by simplifying the original survey questionnaires. The final online survey questionnaires contain over 40 questions, which typically use five-point Likert scale instruments, covering key issues on SMEs' involvement in GVCs, namely business climate, corporate performance, impediments and success factors, necessary public interventions, funding instruments, and access to financial institutions. The online questionnaires were designed in a professional format, with an introductory statement. The ADB survey team distributed online questionnaires by email to the members of the partner institutions, in order to maximize the outreach of the survey to the respective local business communities.

The ADB survey collected data from the four countries in various industries under the agriculture, manufacturing, and services sectors. While the survey broadly covered the three main sectors above, it also focused on collecting data from specific GVC-related subsectors such as export-oriented manufacturers (e.g., automotive parts and electronics, for vertical firm relationships; food processing and handicraft, for horizontal firm relationships) and key services providers (e.g., transport, telecommunications, wholesaling, and retailing). The firms sampled included all firm sizes (i.e., large, SME, and micro enterprises) and operated in various geographical locations. Data entry or computerization of the collected data was completed by the end of February 2015, and the ADB survey team cleaned up the dataset by the beginning of March 2015. The dataset was further reviewed and recoded by researchers as/if necessary by the end of March 2015 for data analysis. The final dataset used for the analysis contains 195 cases, and data are in line with the questions of the online survey questionnaires.

## Sample Profiles

Table 2.4 below provides basic company profiles in the sample. Note that sample sizes by country are not well balanced because, while Kazakhstan and the Philippines exceeded 50 cases each—often the cut-off number for many advanced statistical techniques (cf., Hair *et al.*, 2012)—less than 20 cases were collected in each of Papua New Guinea and Sri Lanka. Similarly, although the total samples show a relatively balanced picture in terms of sectoral distribution, the dataset of each country is not well balanced. Whereas the Philippines has more firms in the manufacturing sector, the majority of Kazakhstan firms are in the services sector. The following data analyses require caution due to the



Table 2.4: Profile of Samples by Country and Sector

Sector	Kazakhstan		Papua New Guinea		Philippines		Sri Lanka		Total	
		%		%		%		%		%
Primary	13	13	1	5	7	11	1	7	22	11
Manufacturing	19	20	1	5	33	52	6	43	59	31
Services	66	67	17	90	23	37	7	50	113	58
<b>Total</b>	<b>98</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>63</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>194</b>	<b>100</b>

Source: ADB Survey data.

Note: One case of Sri Lanka was excluded due to missing data on industrial sector.

disproportional sample sizes and sectoral distribution of the four countries' data. In this regard, when conducting national comparisons, this chapter focuses mainly on differences between Kazakhstan and the Philippines. The data of Papua New Guinea and Sri Lanka will be included in an aggregated dataset, along with the other two countries, for various data analyses.

Industries that participated in the survey include agribusiness, mining, food processing, automotive parts, electronics, garments, handicrafts, irons and metals, chemicals, construction, transportation, information technologies, telecommunications, wholesaling and retailing, real estate, business development services, financial services, tourism, and so on. As briefed earlier, all of those industries can have some role within GVCs as lead firms, suppliers, or service providers. The following parts will also present other characteristics of the samples.

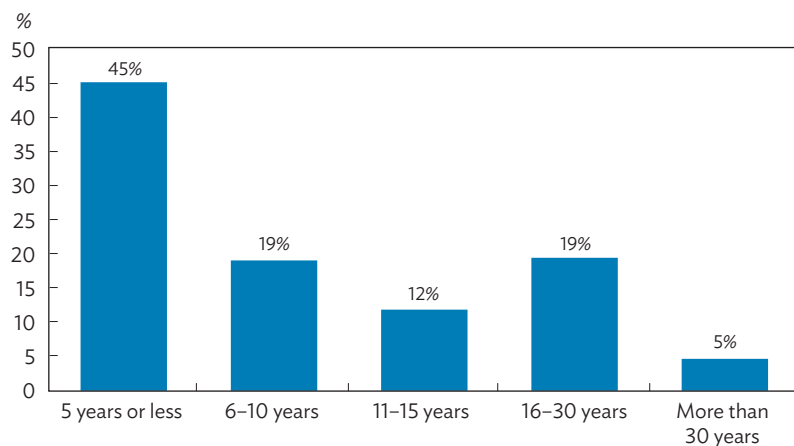
Nearly half of the surveyed firms had been established for 5 years or less, and over one-third were older than 10 years, making for a diversified group of firms in terms of corporate age (Figure 2.3). Older firms tended to be in the primary sector, while younger firms were often service providers. Over one-third of them were involved in GVCs. Among those involved in GVCs, two-thirds were involved in global production networks, while the other one-third were working within domestic production networks; lead firms and suppliers/assemblers were almost evenly divided (the number of lead firms was only slightly bigger than that of suppliers/assemblers).

Of this ADB survey dataset, micro firms (1–9 workers) and small firms (10–49 workers) accounted for 46.3% and 31.1%, respectively. Medium and large firms (50 workers or more) represented 22.6% (Figure 2.4). Due to the different definitions of SMEs among the four sampled countries, it was not possible for this survey to separate medium firms from large firms.<sup>26</sup> Even with this limitation, it appears that the distribution of firm sizes is skewed to smaller firms as typically micro and small firms account for more than 90% of the entire business community in Asia (Abe, *et al.*, 2012). However, this is in line with the survey's

<sup>26</sup> All the four countries have different definitions on SMEs, and samples were collected according to them. Four different 5-point interval scales were used for data collection in the four countries, and they have overlapped sizes among countries. To simplify the data analysis relating to firm size, this chapter uses the definition of SMEs as: (i) 1–9 workers for micro firms; (ii) 10–49 workers for small firms; (iii) 50 workers or more for medium to large firms. Accordingly, all data were recoded to fit with the three firm sizes.

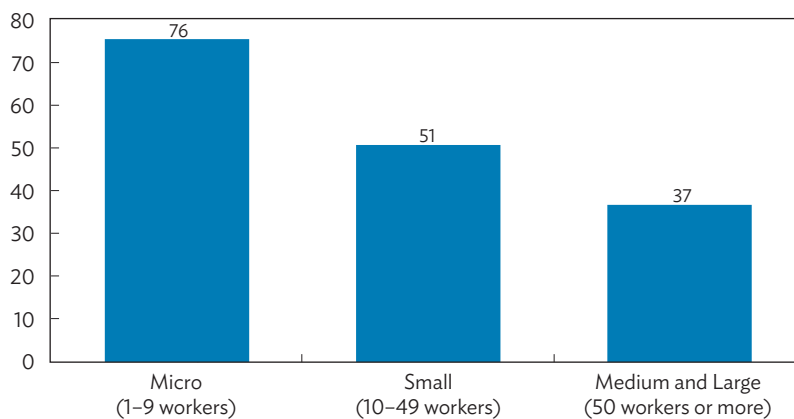


Figure 2.3: Age of Firms



Source: ADB Survey data.

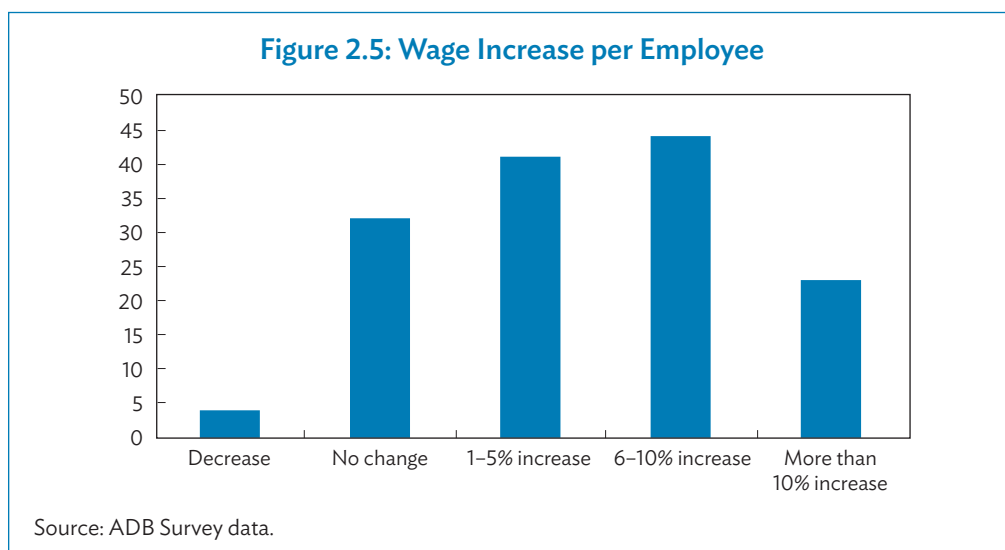
Figure 2.4: Firm Size by Number



Source: ADB Survey data.

objective to examine the status of SMEs' participation in GVCs, since the larger its size the more likely the firm's involvement in GVCs.

Around three-quarters of the sampled firms had recently experienced increases in wages (Figure 2.5). Approximately 16% of firms increased wages by more than 10%, although 3% of firms decreased wages. The gender balance of workers was, on average, 37% women and 63% men. Skilled workers represented 50% of the workforce. Agriculture, mining, and food processing had fewer skilled workers than other sectors. Finally, over 80% of the sampled firms used computers in their daily operations.



As discussed above, the sample is not representative in a statistical sense, although it covers a variety of firms in the four countries in terms of industrial sector, age, size, and other aspects. There are no accurate lists of the business populations (and their distinct characteristics) in the four countries, making conventional sampling methods unviable. While the sample may not be strictly representative, it still provides the most comprehensive view currently available of the situation in the four countries regarding SMEs' perceptions and behaviors around the development of GVCs.

## Key Findings from the ADB Survey

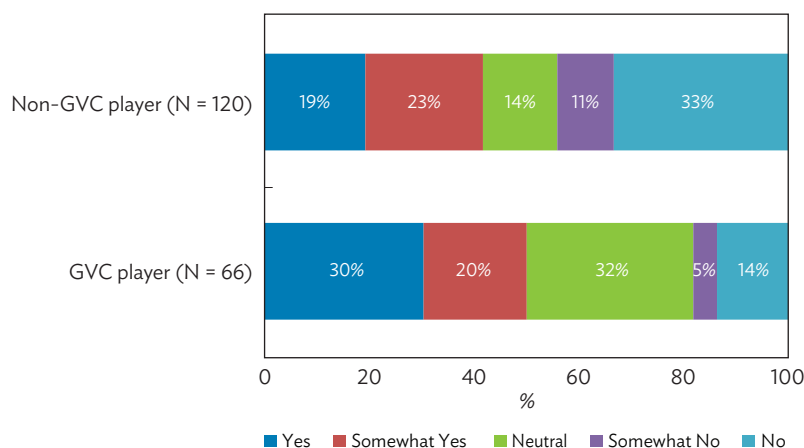
This section presents detailed analyses on the main topics of the ADB survey. Those topics covered by the survey include: the intention to expand into global markets; the motivations to become globalized; target international markets; constraints to participation in GVCs; areas improved by participating in GVCs; business performance; and critical success factors in GVCs. The analyses are expected to provide useful implications for subsequent policymaking on SMEs' effective integration in global markets through GVCs.

### Who is Involved in Global Value Chains? Who Wants to Expand Business Globally? What Motivates Them?

#### *GVC and non-GVC players*

Figure 2.6 provides interesting perceptions of both GVC players and non-GVC players<sup>27</sup> on their intention to further expand their businesses into global markets. It is understandable

<sup>27</sup> GVC players are those involved in both or either global production networks or domestic production networks. On the other hand, non-GVC players have not participated in any production networks. As mentioned in the previous section, GVC players account for more than one-third of the sampled firms (i.e., 35.4%). Thus, non-GVC players represent 64.6% of the sampled firms.

**Figure 2.6: Intention to Expand Globally by GVC Participation**

GVC = global value chain.

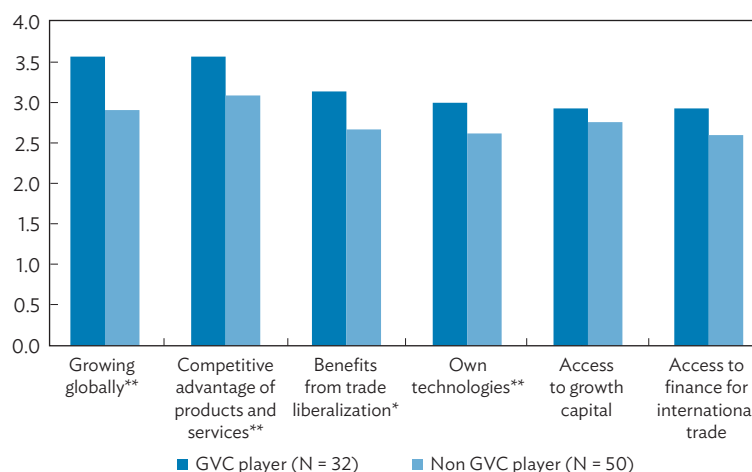
Source: ADB Survey data.

that one-half of the present GVC players planned to further expand their business globally in the near future. On the other hand, those which were not presently involved in GVCs were less enthusiastic about investing into global markets, with nearly 60% of non-GVC players having no plan to move outside their domestic markets. However, as seen in Figure 2.6, more than 40% of non-GVC players did plan to enter into global markets. Of particular note, 23% of non-GVC players were only “somewhat” positive about taking their business abroad. This may indicate less confidence among the non-GVC players about their capacity for internationalization, although they are still keen to enter into global markets. This issue may be addressed by policymakers for capacity building initiatives that aim to enhance the confidence of those who have not participated in GVCs but intend to become internationalized.

### *Motivations for internationalization*

What motivates firms to expand their business globally? Figure 2.7, which captured six possible motivations for internationalization, provides some evidence. The six motivations included: (i) growing globally; (ii) competitive advantages of products and services; (iii) foreseen benefits from trade liberalization; (iv) own technologies; (v) access to growth capitals; and (vi) access to finance for international trade. As expected, it appears that the GVC players were much more strongly motivated to expand their businesses globally in all six aspects, compared to the non-GVC players. The GVC players are especially motivated by their intention to be globalized, competitive products or services, and expected benefits from ongoing trade liberalization. While putting emphasis on competitive products or services and growing globally, the non-GVC players feel relatively strongly about having access to capital for growth through participating in global markets.

Figure 2.7: Motivations to Expand Business Globally



Notes: This figure indicates mean scores based on 5-point Likert scales. Group differences are supported at either  $* < 0.10$  or  $** < 0.05$ . Kruskal-Wallis Test, which is the non-parametric alternative to a one-way between-groups analysis of variance (ANOVA), was used because the variables used here seriously violate some key assumptions of the parametric analysis (e.g., normal distribution). The figure only covers those firms that answered “Yes” or “Somewhat Yes” to the previous question on firms’ intention to further expand globally (Figure 2.6). Therefore, the number of the cases is 82 in total.

Source: ADB Survey data.

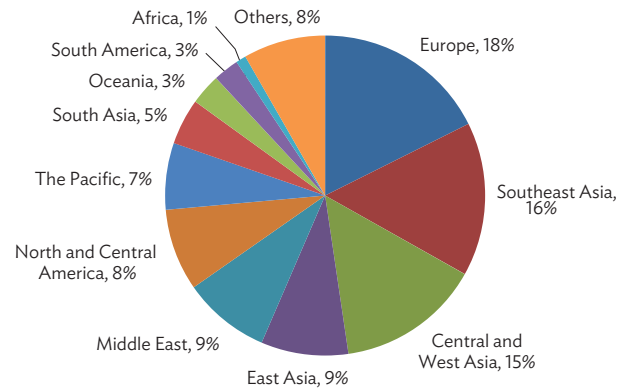
In this regard, group differences in various sample categories were further investigated.<sup>28</sup> Sampled firms in the Philippines were more motivated to grow globally and improve their products and services, compared to Kazakhstan firms. Primary and services sectors were generally much more motivated to go abroad than the manufacturing sector.

### Target export markets

Which foreign markets do those firms with an intention to be internationalized want to enter into?<sup>29</sup> Figure 2.8 illustrates a balanced distribution of target export markets among the sampled firms from the four countries (i.e., Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka). Europe, Southeast Asia, and Central and West Asia were the three top target markets, followed by East Asia, Middle East, North and Central America, and the Pacific. While Europe and North and Central America are traditional export destinations for major GVCs, it is understandable that other Asian regions and the Pacific are also important foreign markets for the four participating countries, due to the proximity of these regions. The proximity to certain foreign markets has been viewed as a major factor for the determination of export business (Deardorff, 1998). The present finding reiterates the importance of regional or subregional cooperation among neighboring countries, perhaps through further

<sup>28</sup> Kruskal-Wallis Test, which is the non-parametric alternative to a one-way between-groups analysis of variance (ANOVA), was used because the variables used here seriously violate some key assumptions of the parametric analysis (e.g., normal distribution).

<sup>29</sup> This section reviewed only those firms which intend to enter into foreign markets in the near future (N = 82; see Figure 2.7 again).

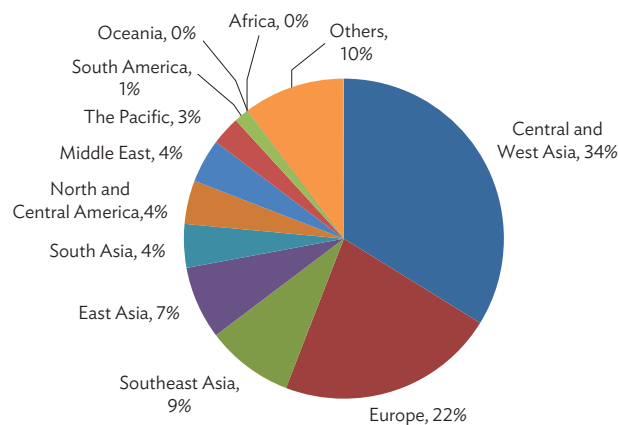
**Figure 2.8: Target Export Markets (N = 75)**

Source: ADB Survey data.

trade and investment liberalization and improvement of cross-border logistics services. Such initiatives can support those firms that are willing to enter into neighboring markets.

Figures 2.9 and 2.10 present target export markets for Kazakhstan and the Philippines. The sizes of both national samples were rather small (26 cases for Kazakhstan; 34 cases for the Philippines); however, they support the earlier argument that the proximity to foreign markets strongly influences corporate decision on the selection of export markets. While Kazakhstan mainly aimed at neighboring Central and Western Asia (34%), the Philippines' biggest target was Southeast Asia (26%). Europe was also a main market for both the countries (22% and 15%, respectively), confirming its important role in international trade.

It is surprising to see less willingness for the sampled firms to expand into South Asia. The subregion's economic activities have matured, and it is an important logistical hub within

**Figure 2.9: Target Export Markets (Kazakhstan, N = 26)**

Source: ADB Survey data.



Asia. As for the sectoral perspectives, manufacturers and service providers focus more on developed markets (i.e., North and Central America, Europe, and East Asia) while the primary sector tends to target neighboring regions as well as developing countries in other regions (e.g. Africa, South America, and the Middle East).

## Impediments to SMEs' Participation in Global Value Chains

Although the sample size was relatively small for this section (i.e., fewer than 90 cases),<sup>30</sup> the ADB survey dataset provides some interesting views on major challenges SMEs face in international business (Figure 2.11). The macro environment surrounding the business and industry of SMEs, poor access to financing, and inadequate regulatory and policy frameworks were identified as the top three constraints. Rigidity in the labor market, inadequate product quality, and poor trade facilitation were among the second tier of trade constraints. Lack of market intelligence, lack of skilled workers, poor access to necessary technology, and general nontariff barriers were perceived as being less crucial for the sampled firms.

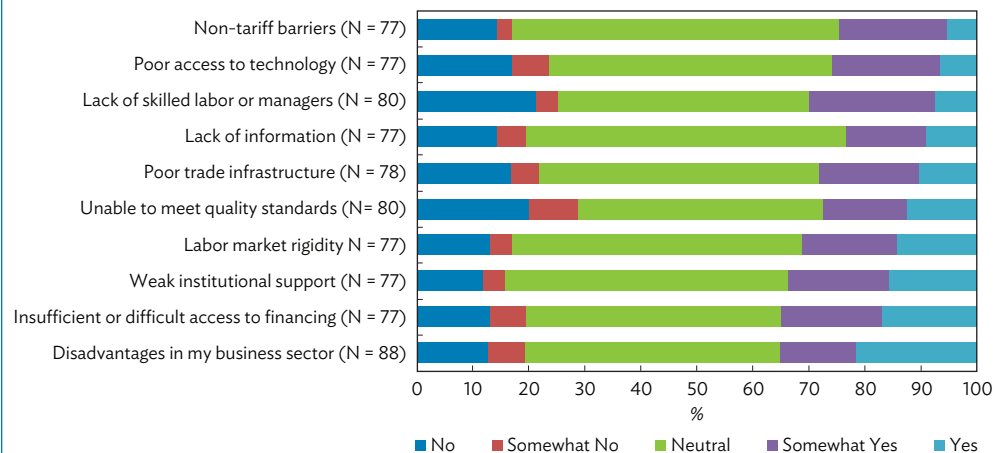
Analysis of variance (ANOVA) was performed on several sample groups regarding the constraints to internationalization.<sup>31</sup> Independent variables consisted of: country (i.e., Kazakhstan, Papua New Guinea, the Philippines, or Sri Lanka); industrial sector (i.e., primary, manufacturing, or services); trade type (i.e., exporting, importing, or no trade); and size (i.e., micro, small, or medium and large). The following points were found:

First, firms in Kazakhstan felt strongly disadvantaged about their capability to meet international product or quality standards. On the other hand, their counterparts in the

<sup>30</sup> This section mainly reviewed those firms which do not intend to enter into foreign markets.

<sup>31</sup> On the contrary to motivation variables reviewed in an earlier section, variables on constraints to internationalization adequately meet the assumptions of parametric analysis, except small sample sizes of a couple of groups (i.e., less than 20 cases, the cut-off number for ANOVA (Tabachnick and Fidell, 2007)). Here, interpretation of the results must be done with caution.

Figure 2.11: Impediments to Develop Business Globally



Source: ADB Survey data.

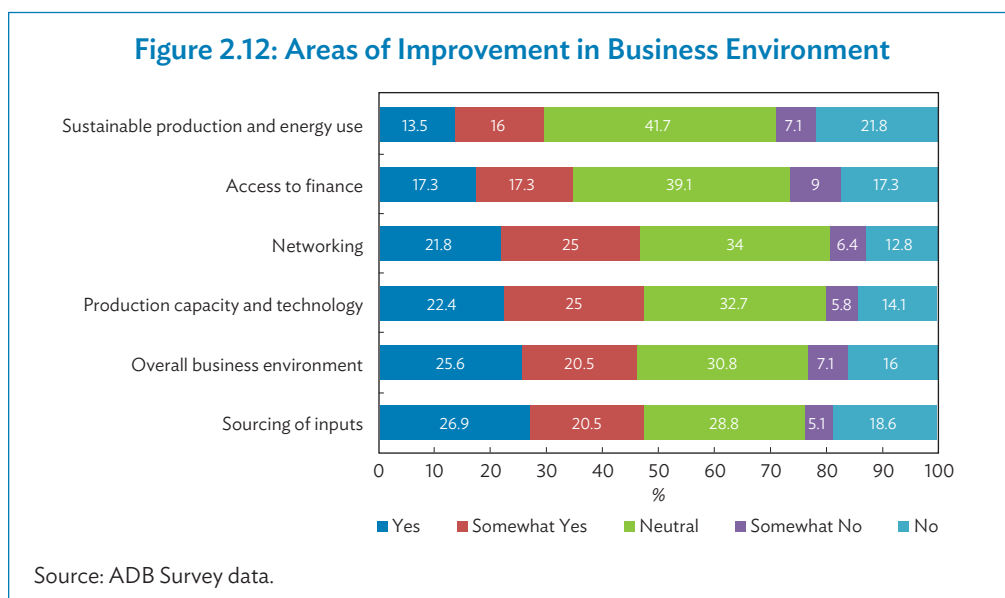
Philippines had more confidence about their product quality and capability. Those from Kazakhstan have also faced difficulties in the business environment. Second, primary and services sectors, importers and micro firms had trouble finding skilled workers and professionals. The manufacturing sector seemed to have fewer issues with skilled labor. Third, the primary and services sectors, again, felt that the institutional support they received was weak. Importers and those without trade seemed to have the same feeling toward inadequate institutional support. Fourth, it is not surprising that micro firms had less capability to deal with international product and quality standards and nontariff barriers. Lastly, younger firms felt there were many disadvantages in their business sector (or toward their own capability perhaps, due to lack of confidence as newcomers to the market).

## Improved Areas, Corporate Performances, and Critical Success Factors

### Improved areas

The survey data suggest that the sampled firms have improved their businesses in various areas. As seen in Figure 2.12, the sampled firms recognized improvement in sourcing of inputs and supplies, overall business environment, production capacity and technology adoption, and networking as four major enhanced areas. These were followed by access to finance, and sustainable production and energy use. Those aspects (i.e., sustainability and access to finance), which are not directly related to supply chain management, showed lesser improvement. Although the sampled firms did not recognize much improvement in those two areas, public interventions may be required there. In particular, access to finance must be revisited as a crucial issue to be addressed, since this topic has been identified as





one of the most crucial issues for SME development in general and firm's internationalization in particular (Figure 2.11).<sup>32</sup>

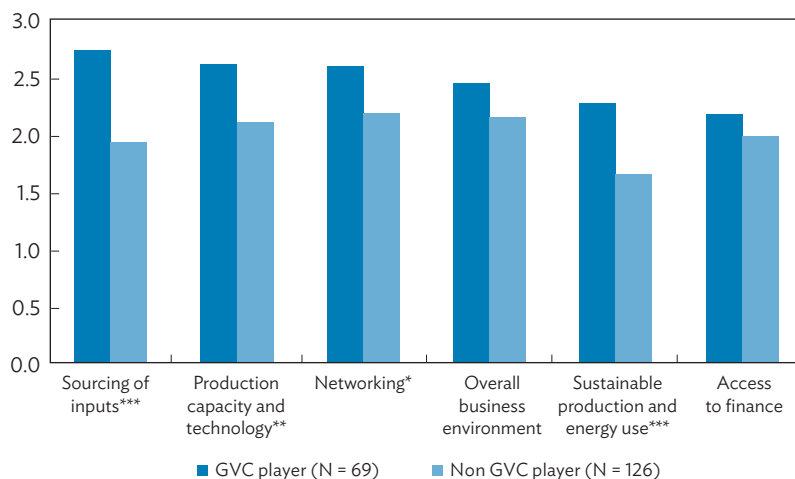
Figure 2.13 provides an overview of the areas of improvement made by both GVC players and non-GVC players. Overall, the GVC players experienced higher improvement than the non-GVC players in all studied areas. While there was no difference between the GVC players and the non-GVC players in business environment and access to finance, the survey data indicates significant differences in other areas, i.e., sourcing of inputs and supplies, production capacity and technology use, networking, and sustainable production and energy use. It is apparent that a firm's participation in GVCs generally indicates improved operations and capacities, perhaps with such reasons as a lead firm's technical assistance, technology and skill transfers, improved reputation, and so on. At the same time, it also points out that there is not much improvement in access to finance through participating in GVCs. Again, this situation suggests the need for public sector intervention to deal with this particular issue. Figure 2.11 highlights financing as a problem to the surveyed firms.

### Corporate performance

In aggregate, the sampled firms showed positive development since 1 year ago (Figure 2.14). Their businesses have performed well in various areas. Approximately 62% of the firms experienced a better business environment compared with 1 year ago. About 54% of the firms expanded business in the past year, while 52% improved their financial condition. Approximately 44% of the firms hired more workers, although more than two-thirds of the firms have seen no improvement in access to financing.

<sup>32</sup> This topic will be revisited in Chapter 3 with in-depth analysis of the relevant survey data.

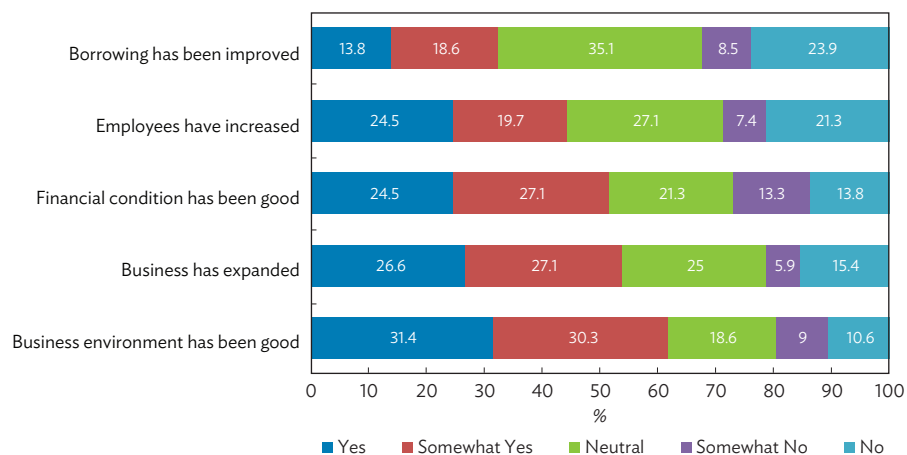
Figure 2.13: Areas of Improvement in Business Activity



Notes: This figure indicates mean scores based on 5-point Likert scales. T-Test supports differences between GVC players and non-GVC players at either  $*p < 0.10$ ,  $**p < 0.05$ , or  $***p < 0.01$ . The key assumptions of parametric analysis are met for the variables on the areas of improvement.

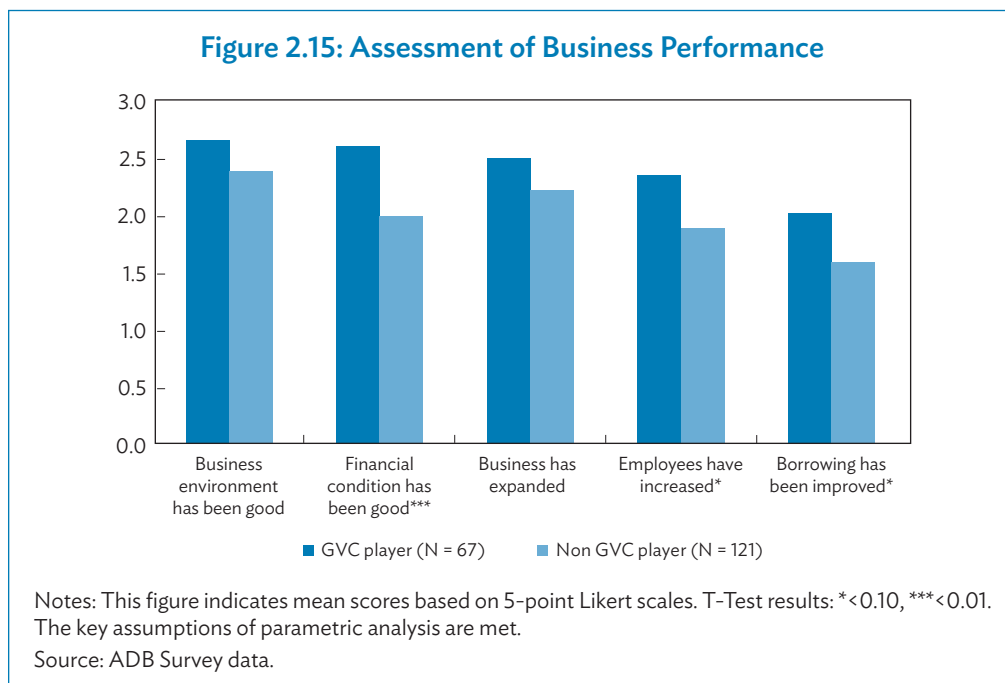
Source: ADB Survey data.

Figure 2.14: Overall Business Performance



Source: ADB Survey data.

Corporate performance was further reviewed based on the firm's involvement in GVCs. Overall, GVC players showed better performance than non-GVC players. The GVC players performed well in all areas studied by the survey (Figure 2.15). In particular, the differences in three areas of performance were substantial, these being financial conditions, employment, and access to external finance. Although the earlier analysis on improved areas of operations did not show any significant difference in access to finance between GVC players and



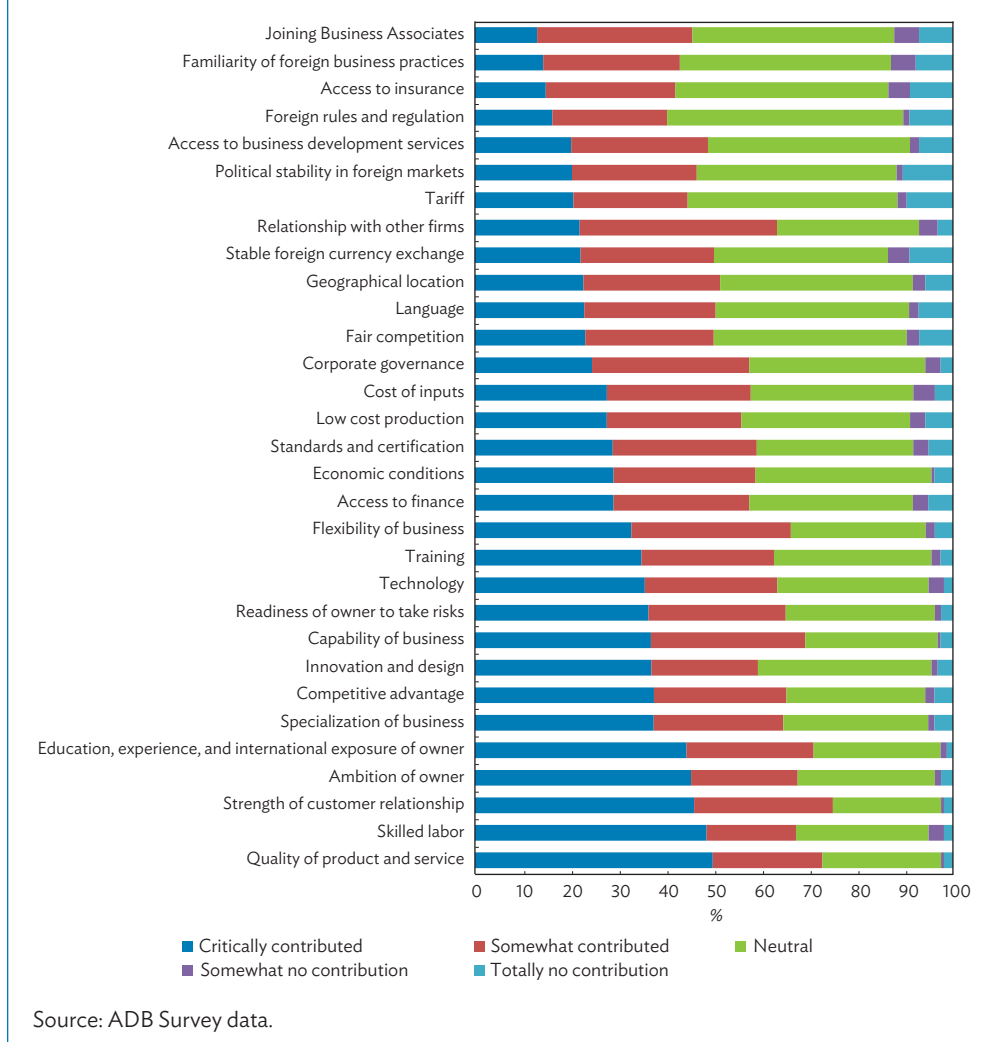
non-GVC players (Figure 2.13), the present review highlights that those involved in GVCs have better access to external loans. It might be one of the reasons why GVC players have experienced better financial conditions than non-GVC players.

### *Critical success factors for GVC players*

The crucial reasons for improvement and performance in business were examined using 32 items as critical success factors (CSFs), which captured the sampled firms' perceptions of the degree of each CSF's contribution to success within GVCs. CSFs are issues, elements, strategies, or activities that must go well to ensure success for business, and must be given special and continual attention to achieve planned performance (Boynlon and Zmud, 1984). In this sense, CSFs can comprise a variety of business matters, perhaps ranging from internal issues, such as corporate culture and product quality, to external issues, such as regulations and economic conditions.

Figure 2.16 provides an overall picture of the significance of each item's perceived contribution. Quality of products and services, skilled labor, customer relationships, and entrepreneurship (e.g., owner's personality, education, and experience) were at the top of the CSF list. Relationships with other firms was also another key factor. It appears that the sampled firms strongly considered that internal attributes, such as the firm's capability and capacity, business strategies, competitiveness, networks, degree of innovation, and leadership, are major contributors to their success in GVCs.

**Figure 2.16: Critical Success Factors in Global Value Chains (32 items)**



Generally speaking, in terms of perceived success factors, there was no significant difference between GVC players and non-GVC players.<sup>33</sup> However, low cost production<sup>34</sup> and foreign rules and regulations<sup>35</sup> were seen by those already operating in GVCs as key factors. Entrepreneurship or leadership, i.e., ambition of the owner and readiness of the owner to take risks, also emerged as an important factor for the GVC players. For non-GVC players, it seems that the owner's education, experience, and international exposure were important factors.

<sup>33</sup> Mann-Whitney U Test was used due to the violation of the key assumptions of the parametric analysis (i.e., T-Test for this case).

<sup>34</sup> GVC players are significantly different from non GVC player at  $p < 0.05$ .

<sup>35</sup> GVC players are significantly different from non GVC player at  $p < 0.10$ .

For the next step, an explanatory factor analysis was performed on all 32 items for all samples. It aimed to clarify the relationships of CSFs with other key variables, namely areas of improvement and business performance, which were reviewed earlier in this section. An initial statistical review on relationships among the 32 items<sup>36</sup> strongly indicated that some groupings could be made among the 32 items, perhaps providing simpler and bolder implications to policymaking.

As a result of the analysis, four CSF groups emerged, and they were labeled as: (i) capability and competitiveness; (ii) international business; (iii) access to resources; and (iv) macro conditions.<sup>37</sup> All groups were internally consistent and well defined by the variables, which were ordered and grouped by size of loading to facilitate interpretation (Table 2.5). It is noteworthy that internal capabilities and competitiveness contained 17 items—by far the largest among the 4 CSF groups—as the 3 other groups had only 5 items each. According to the points found in Figure 2.16 and the order of the four groups based on the size of factor loading, it was predicted that the group of capability and competitiveness will perform more significantly than other three groups over the key aspects of GVCs (for this study, improvement and performance). Subsequently, econometric evidence will be presented to confirm this hypothesis.

### *An econometric study on critical success factors for SMEs' participation in GVCs*

An econometric investigation was conducted to examine the different impacts of CSFs on SMEs' effective participation in GVCs. As mentioned in the previous section, CSFs are the elements necessary for business to ensure planned performance (Johnson and Friesen, 1995). In order to examine the importance of CSFs for a firm which, for this study, participates or intends to participate in GVCs, the firm's meaningful performance indicators should be measured in relationships with CSFs. Those performance indicators, often called key performance indicators by business scholars (e.g., Parmenter, 2010), can include both quantitative and qualitative outcomes and results of business operations, such as revenue, profit, stock price, market share, reputation, brand value, and business confidence or sentiment.

Based on the above theoretical background, this study chose areas of improvement in business and performance of business (already reviewed in the previous section) as the performance indicators relevant to CSFs. Using standard (or simultaneous) multiple regression analysis, four models were developed (Table 2.6).

The first two models (Model 1 and Model 2) investigated the causal relationships between corporate performance (a composite variable of six items; Appendix 2) as the dependent variable and perceived CSFs and other categorical variables as independent variables. CSFs used five separate composite variables, namely: (i) composite CSFs (32 items); (ii) capability and competitiveness (17 items); (iii) international business (5 items);

<sup>36</sup> Pearson correlation coefficients ( $r$ ) were calculated. Correlations among 32 CSF items were within a range from very low (0.190) to very high (0.813). This result strongly suggested that diversified relationships among CSF variables existed and some groups could be made for further analysis.

<sup>37</sup> This order is according to the size of factor loading.

Table 2.5: Groups of Critical Success Factors

<i>Group 1</i> <i>Capability and competitiveness</i> (17 items)	<i>Group 2</i> <i>International business</i> (5 items)	<i>Group 3</i> <i>Access to resources</i> (5 items)	<i>Group 4</i> <i>Macro conditions</i> (5 items)
Quality of product and service	Political stability in foreign markets	Access to insurance	Geographical location
Ambition of owner	Foreign rules and regulation	Access to business development services	Fair competition
Readiness of owner to take risks	Tariff	Joining business associates	Stable foreign currency exchange
Innovation and design	Language	Access to finance	Cost of inputs
Skilled labor	Familiarity of foreign business practices	Logistics efficiency	Economic conditions
Education, experience, and international exposure of owner			
Strength of customer relationship			
Capability of business			
Flexibility of business			
Specialization of business			
Technology			
Training			
Competitive advantage			
Corporate governance			
Low cost production			
Relationship with other firms			
Standards and certification			

Source: ADB Survey data.

Note: Principal components extraction and Varimax rotation with Kaiser Normalization were used. Groups with higher loading are located on the left hand side; variables with higher loading on the group are nearer the top of the columns. Proposed labels are in italics.

(iv) access to resources (5 items); and (v) macro conditions (5 items). The categorical variables include: one item on firm size (i.e., medium to large firm); one item on firm age (i.e., older firm); and two items on trade type (i.e., exporting and importing). The results indicated that, overall, CSFs significantly impacted on corporate performance. Those firms that recognized the importance of CSFs are likely to perform well. Among the four groups of CSFs, capability and competitiveness showed a significant but moderate relationship with corporate performance, and international business substantially impacted on performance. There was no evidence of the association between access to resources and corporate performance. Although the fact was not statistically supported, macro conditions have a

Table 2.6: Impacts of Critical Success Factors

	<b>Model 1</b> Corporate performance N = 106 Standardized Coefficients (Beta) [T-value]	<b>Model 2</b> Corporate performance N = 106 Standardized Coefficients (Beta) [T-value]	<b>Model 3</b> Improvement N = 128 Standardized Coefficients (Beta) [T-value]	<b>Model 4</b> Improvement N = 128 Standardized Coefficients (Beta) [T-value]
Composite CSF (log)	<b>0.318***</b> [3.880]		<b>0.318***</b> [3.934]	
CSFs on capability and competitiveness (log)		<b>0.231*</b> [1.770]		<b>0.311**</b> [2.293]
CSFs on international business (log)		<b>0.300***</b> [2.667]		-0.052 [-0.465]
CSFs on access to resources (log)		-0.034 [-0.297]		<b>0.206*</b> [1.834]
CSFs on macro condition (log)		-0.125 [-0.905]		-0.118 [-0.875]
Medium to large firm	<b>0.353***</b> [4.024]	<b>0.371***</b> [4.166]	<b>0.239**</b> [2.574]	<b>0.235**</b> [2.542]
Micro firm			<b>0.193**</b> [2.065]	<b>0.205**</b> [2.200]
Older firm	<b>-0.312***</b> [-3.518]	<b>-0.323***</b> [-3.548]		
Exporting	<b>0.280***</b> [2.918]	<b>0.237**</b> [2.422]		
Importing	-0.133 [1.384]	-0.157 [1.626]		
Participated in GVCs			<b>0.218***</b> [2.675]	<b>0.229***</b> [2.810]
R Square	0.344	0.368	0.202	0.239
<b>Adjusted R Square</b>	<b>0.311</b>	<b>0.316</b>	<b>0.176</b>	<b>0.194</b>

CSF = critical success factor, GVC = global value chain.

Notes: Standardized coefficients (Beta) are supported at either \*  $p < 0.1$ , \*\*  $p < 0.05$ , or \*\*\*  $p < 0.01$ . The numbers of samples are different among the models due to missing data. Direct entry method was used. Model 1 and Model 2 have a relatively small size of sample (N = 106 for both) due to missing data. Although the size is less than the cut-off number (e.g., 120 or more for 8 independent variables), it is close to the recommended size and model fits are at the acceptable level (see the sizes of Beta and adjusted R square). See Stevens (1996) and Tabachnick and Fidell (2007) for more discussion on a recommended size of sample for the multiple regression analysis. Note that other key assumptions of the parametric analysis were adequately met (i.e., outliers, normality, linearity, homoscedasticity, and independence of residuals). Note that Model 2 and Model 4, which used four CSF group variables, show better model fits than their competing models (i.e., Model 1 and Model 3) (see adjusted R square), even though they employed more independent variables.

Source: The author's calculation based on the ADB Survey data.



relatively moderate but negative association with performance.<sup>38</sup> This interesting result perhaps suggests that those under unfavorable macro business environments were likely to be more concerned about external issues, while suffering lower performance. The point here is that the firm cannot control those macro issues that are external to their governance framework. Larger and exporting firms were more likely to perform well, while importing firms tended to perform less well.<sup>39</sup> Older firms performed less well, too. One possible reason is perhaps because older firms tend to be in the primary sector, which is commonly recognized as a less profitable sector than others.

Additional tests were also conducted to determine whether CSFs could influence improvements in business (a composite variable of five items; Appendix 2). Model 3 and Model 4 worked for this purpose, again using the five CSF composite variables (i.e., composite CSFs, capability and competitiveness, international business, access to resources, and macro conditions). For these models, three categorical items were chosen, namely medium to large firms, micro firms, and participation in GVCs, in order to control the relationships between improvements and CSFs. Overall, the composite CSF variable again performed well in terms of the impact on improvement. However, the four CSF groups in Model 4 performed slightly differently from Model 2. While those firms which strongly recognized CSFs on capability and competitiveness were likely to improve their business more (similar to Model 2), access to resources was found to have a moderate association with improvement. On the other hand, international business showed little relationship with improvement in Model 4. Again, macro conditions presented a negative but relatively moderate impact on improvement (statistically not supported). Both micro firms and medium-to-large firms, which regarded CSFs seriously, were likely to improve their business. Finally, GVC players typically improved their business more than non-GVC players did.

All this evidence supports the strong impacts of the surveyed firms' perceived CSFs on their corporate performance and improvement. At the same time, however, it was clearly detected that different CSF groups, namely capability and competitiveness, international business, access to financing, and macro business conditions, will impact differently on the outputs of business (for this study, corporate performance and improvement). For example, perceived macro business conditions did not show a strong impact on performance and improvement; however, those who are critical to the external issues may suffer greatly from such uncontrollable matters. Finally, it is worthy to mention that this econometric study captured neither national nor sectoral difference.

<sup>38</sup> The author initially predicted the positive but weak sign for the composite CSF variable on macro condition. It can be understood that this finding resulted from the negative suppression. Additional investigation identified that two CSF groups (i.e., capability and competitiveness and access to resources) were two negative suppressors for macro conditions.

<sup>39</sup> This point was not statistically supported but a relatively moderate relationship exists (see Table 2.6 again). Reason that importing firms are likely to have less performance is unknown, requiring further study. The author also predicts, however, that higher cost and unfavorable buying condition associated with imports could be a possible reason.

## Critical Elements of Policy Interventions

The survey also collected data on 19 items on critical elements of policies that aim to facilitate SMEs' further involvement in GVCs. As reviewed in the beginning of this chapter, there are six commonly accepted key areas for public interventions to SME development, namely: business enabling environment; entrepreneurship; business financing; business development services; innovation and technology; and market access. Covering all aspects of SME development by one survey is difficult, if not impossible; thus, the present survey focused on addressing the following five broad topics:

- (i) access to finance and taxation;
- (ii) trade and investment facilitation;
- (iii) infrastructure development;
- (iv) competitiveness enhancement (e.g., human resource development, innovation and standards); and
- (v) regulatory and institutional frameworks (e.g., labor and ICT).

Figure 2.17 provides the overview of those 19 items and their rankings. The top 10 are ordered as follows:

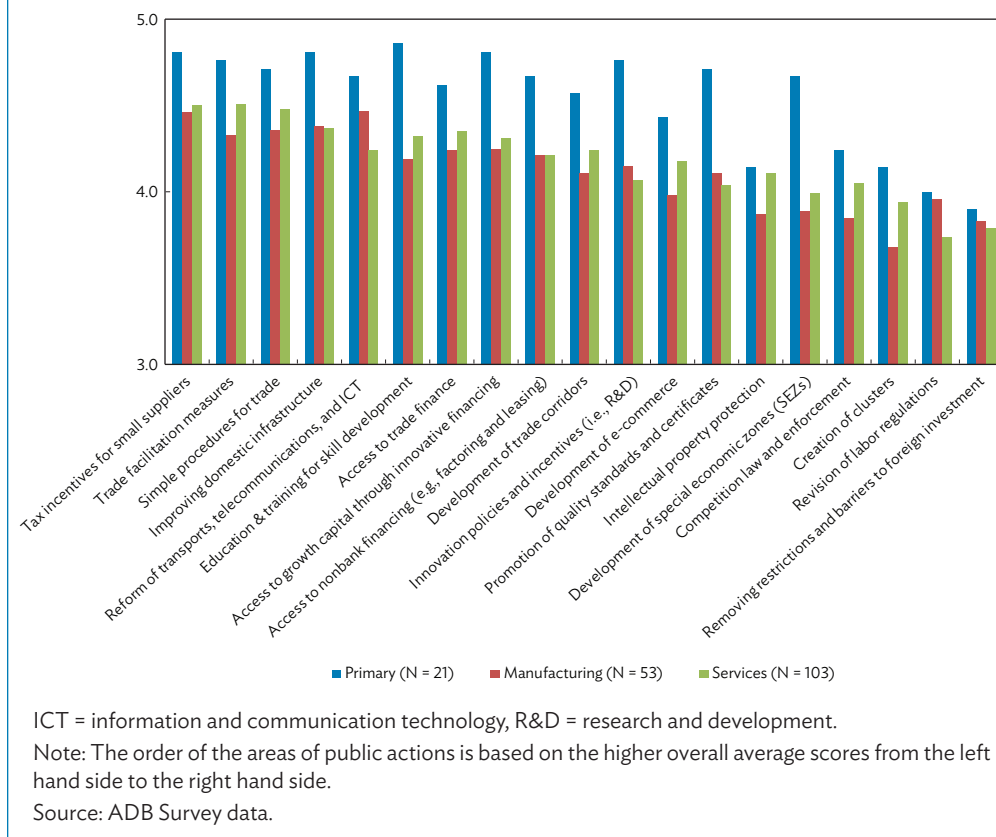
- (i) tax incentives for small suppliers;
- (ii) trade facilitation measures;
- (iii) simple procedures for trade;
- (iv) improving domestic infrastructure;
- (v) reform of transports, telecommunications, and ICT;
- (vi) education and training for skill development;
- (vii) access to trade finance;
- (viii) access to growth capital through innovative financing; and
- (ix) access to nonbank financing (e.g., factoring and leasing).
- (x) Development of trade corridors.

It appears in general that the surveyed firms showed strong interest in public policies and related activities in a number of the study's areas. Among the three industry sectors, the primary sector is more receptive to public interventions than are other sectors, as evidenced in Figure 2.17. One major difference between the present findings and those at the earlier section on critical success factors (CSFs) is access to finance, such as trade finance, growth capital, and nonbank finance. Although access to finance was suggested as only a moderate CSF by the surveyed firms, it is now raised as a key area of intervention for the public sector's consideration. This topic is further investigated and discussed in Chapter 3, based on the survey dataset.

Statistical comparisons among different groups (e.g., country, sector, and firm size) were further conducted, using the Kruskal-Wallis Test.<sup>40</sup> Some relative differences are summarized for further policy consideration in Table 2.7 below.

<sup>40</sup> This test is the non-parametric alternative to ANOVA which includes T-Test.

**Figure 2.17: Critical Public Interventions for SMEs' Participation in Global Value Chains**



In addition to the primary sector, GVC players are more keen to see public interventions than are non-GVC players. Micro firms showed less interest in such support, and it is understandable that the segment is typically not targeted by public services. The sampled firms in the Philippines and Sri Lanka also expressed more interest in policy issues regarding trade and transport facilitation, including development of special economic zones (SEZs). Kazakhstan firms tended to be interested more in nonbank financing and SEZs. Those firms which intended to expand globally in the near future also supported some of the policy interventions.

## Policy Implications and Recommendations

This chapter has examined the detailed constraints and success factors for SMEs' success throughout GVCs, based on literature review and a business survey conducted in four developing countries in Asia and the Pacific, namely Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka. Based on the earlier discussions in the chapter, some policy implications and recommendations will be proposed. A well-organized policy and regulatory framework is one of the most fundamental determinants of the success of SMEs in general

**Table 2.7: Critical Elements of Policy Interventions to Facilitate SMEs' Participation in Global Value Chains**

Ranking	Critical Elements of Public Interventions	Critical Groups/Sectors/Categories
1	Tax incentives for small suppliers	No significant difference
2	Trade facilitation measures	Primary and services sectors; GVC players
3	Simple procedures for trade	Medium to large firms and small firms
4	Improving domestic infrastructure	Primary sector; medium to large firms
5	Reform of transports, telecommunications, and ICT	Firms in the Philippines and Sri Lanka; primary and manufacturing sectors; GVC players; small firms
6	Education and training for skill development	All three sectors (primary, manufacturing, services); medium to large firms
7	Access to trade finance	No difference
8	Access to growth capital through innovative financing	Primary sector; firms intend to expand globally
9	Access to nonbank financing (e.g., factoring and leasing)	Firms in Kazakhstan and Sri Lanka; Firms intend to expand globally
10	Development of trade corridors	No significant difference
11	Innovation policies and incentives (i.e., R&D)	Firms in the Philippines and Sri Lanka; all three sectors (i.e., primary, manufacturing, and services); medium to large firms
12	Development of e-commerce	Firms intend to expand globally
13	Promotion of quality standards and certificates	All three sectors (i.e., primary, manufacturing, and services)
14	Intellectual property protection	Firms intend to expand globally
15	Development of special economic zones (SEZs)	Firms in the Philippines, Sri Lanka, and Kazakhstan; all three sectors (i.e., primary, manufacturing, services); firms intend to expand globally
16	Competition law and enforcement	GVC players; small firms and medium to large firms
17	Creation of clusters	No significant difference
18	Revision of labor regulations	Medium to large firms and small firms
19	Removing restrictions and barriers to foreign investment	Firms in Sri Lanka and the Philippines; small firms and medium to large firms; firms intend to expand globally

GVC = global value chain, ICT = information and communication technology, R&D = research and development.

Source: Author's compilation based on the ADB Survey data.

and their productive participation in GVCs in particular. Such a framework is crucial to SMEs' capacity building, growth, and expansion into foreign markets, as it can provide necessary business infrastructure together with other rules and services for cross-border trade facilitation.

## Policy Implications

### *Impacts of GVCs on SMEs*

GVCs enable SMEs, which typically face a number of constraints, to act as suppliers or service providers to lead firms, typically large firms or multinationals. While accessing

regional and global markets, SMEs can gain skills and knowledge about conducting business across borders, thus fostering their capacity building. At the same time, however, SMEs must be able to meet an increasing number of stringent standards, conformity requirements, and certifications, due to intense competition in the markets. In general, GVCs create a more demanding environment, requiring SMEs to work in a more formal manner and to upgrade not only their production methods but also their management practices. These issues strongly suggest that policymakers develop proper schemes that address the capacity building of national SMEs that have strong intentions of expanding into international markets.

### *Integrating SME development agendas into the policy framework for GVCs*

It is commonly understood that SMEs require a number of supportive structures, provisions, and policies to facilitate their development. The six key areas that have been proposed for SME development in the region include: (i) business environment; (ii) entrepreneurship; (iii) access to financing; (iv) business development services; (v) innovation and technology; and (vi) market access. A number of policy initiatives have been implemented so far, and positive results have also been seen. However, the traditional policies for SME development have focused mainly on national coverage, and it is necessary for governments to integrate SME development agendas into new policies for facilitating SMEs' involvement in GVCs.

### *Areas for interventions*

The survey dataset suggests that the sample firms were keen to see a number of changes in policy frameworks, which aim to facilitate SMEs' further participation in GVCs. The following five broad areas emerged as the critical elements of such policies:

- (i) trade and investment facilitation;
- (ii) infrastructure development;
- (iii) competitiveness enhancement and supply-side capacity building;
- (iv) access to finance and tax incentives; and
- (v) enabling regulatory and institutional frameworks.

### *GVC players versus non-GVC players*

The ADB survey results strongly indicate that significant gaps between GVC players and non-GVC players exist in areas such as sourcing of inputs and supplies, production capacity, technology use, networking with other firms, and sustainable production and energy use. It is also apparent that SMEs' participation in GVCs would enhance their general business environment and their capacity building, perhaps due to various reasons such as a lead firm's technical assistance, technology and skill transfer, and so on.

In this regard, it is encouraging to find that a number of the sample firms that have not been involved in GVCs planned to expand their businesses globally.<sup>41</sup> While GVC players

<sup>41</sup> Note that the sampled firms in the Philippines are generally more motivated to go globally and improve their products and services than Kazakhstan firms do.

are motivated strongly by their intention to become globalized, advantages of their products and services, and expected benefits from ongoing trade liberalization, non-GVC players want to access more to capital for growth through global markets. It also points out that there is very little improvement in access to finance through participating in GVCs, leaving this as an issue common to both GVC and non-GVC players. The survey also found that many non-GVC players lacked confidence in joining in GVCs. This is supported indirectly by the fact that non-GVC players performed less well than their GVC counterparts in areas such as business growth, financial condition, and employment. Other constraints blocking SMEs from entering into foreign markets include unfavorable macro environments and inadequate regulatory and policy supports. Rigid labor markets, substandard product quality, and poor trade facilitation are other major constraints for non-GVC players.

Business conditions strongly indicated the need for public sector interventions for both GVC players and non-GVC players. Policymakers may wish to address the above issues through capacity building and financial initiatives for SMEs. Upgrading of their operations and capacities are the key for their long-term success within GVCs.

### *Target markets*

In addition to traditional export destinations (i.e., Europe and North and Central America), the firms of the four surveyed countries focused on neighboring Asian countries, due to proximity. The proximity to foreign markets is a major factor for the selection of export destinations, and this finding strongly supports the importance of regional or subregional cooperation, perhaps in further trade and investment liberalization, including improvement of cross-border logistics facilitation. In this regard, it was found that manufacturers and service providers target developed markets more, while the primary sector tends to target developing countries.

### *Primary sector*

The survey results found that the primary sector faced unique and severe challenges compared with the other two sectors, manufacturing and services. As a result, the primary sector is more receptive to public interventions than are other sectors. This perhaps indicates the sector's disadvantaged position in national economies with low productivity. Having recognized the sector's important role in creating and maintaining jobs and providing social safety nets for the people in developing countries of the region, policymakers are encouraged to develop sector-specific policies for their productive engagements with GVCs.

### *Critical success factors (CSFs)*

The survey identified that quality of products and services, skilled labor, customer relationships, and entrepreneurship are CSFs for SMEs' success in GVCs. Relationships with other firms appeared as another key factor. It is supported by those findings that the surveyed firms strongly consider that internal attributes, such as the firm's capability and capacity, business strategies, competitiveness, networks, degree of innovation, and leadership, are

major contributors to business success. Entrepreneurship, or leadership (i.e., ambition of the owner and readiness of the owner to take risks) is also seen by GVC players as a CSF.

The econometric models also supported that the four CSF groups of capability and competitiveness, international business, access to resources, and macro conditions have significant associations with corporate performance and improvement in business. While those different CSF groups work slight differently, this result encourages policymakers to develop relevant interventions to support SMEs, based on the different characteristics of the CSFs.

### *Macro environment*

This study also reconfirmed that poor macro environments for business will negatively impact on SMEs' performance and improvement, even though governments provide other technical and financial facilitations or provisions to them. Some evidence was provided that SMEs under unfavorable macro environments end up with lower performance. This finding further encourages governments to create an enabling environment for business, coupled with the implementation of other technical and financial assistance.

### *Role of entrepreneurship*

The survey data strongly suggest, in a variety of ways, that the quality of entrepreneurship (or leadership of the owner) is crucial for the SME's success in general and its productive engagement with GVCs in particular. The quality of entrepreneurship depends on personal character, education, and experience as well as national culture and social norms. It influences the degree of corporate capability and capacity. However, this topic is also recognized as a difficult area for effective public interventions (Shane, 2008) and may require careful program development, which may be implemented as schemes in education and training.

## **Possible Policy Options**

The discussions so far suggest that SMEs' effective participation in GVCs requires several forms of capacity building and financial initiatives to both GVC players and non-GVC players, coupled with the creation of a business enabling environment. While lead firms have provided assistance to their SME suppliers to increase efficiency throughout the GVC, government interventions may still be useful for SMEs to meet high international product and process standards, which, at the same time, will improve their quality and production, ultimately bringing them more business opportunities. Policymakers can also help these efforts by reducing red tape, developing infrastructure, and improving both business and general education. In this field, programs that link SMEs to larger enterprises through technical assistance could be useful. Such programs help to increase the capacity of SMEs and make them more attractive as suppliers to multinationals.

SMEs can maximize their potential through the application of appropriate strategies, the implementation of their knowledge, the commercialization of technology, and through access to regional and global networks. Table 2.8 presents some policy recommendations, by service type, for enhancing SMEs' engagements with global markets.



**Table 2.8: Recommended Policy Interventions to Enhance SMEs' Participation in Global Value Chains**

Type of service	Policy intervention
Business environment	Stable macroeconomic management; fair competition; removal of unnecessary hurdles and obstacles, which are mostly of a legal and/or financial nature; business-friendly regulation
Trade and investment liberalization	Regional and subregional facilitations in trade and investment flows, including the coordination of national rules and policy frameworks
Trade/logistics/ICT infrastructure	Transport, logistics, and ICT infrastructure; export industrial estates, export processing zones, and bonded production centers
Trade facilitation	Trade-facilitation processes (such as customs procedures, and import and export regulations) as well as competitive support services, such as the transport and communications infrastructure, within the framework of integrated trans-border logistics systems
Product/service development	Quality/product standards and certificates; concept, design, prototype development; modification; dies and molds development; production; assembly, etc.
Technical services	Identification of appropriate technologies, sources, and costs; technology acquisition; information dissemination
Marketing support	Market intelligence; marketing research; brand promotion; bid intervention; trade fairs and exhibitions; channels and distributions; buyer-seller matching; logistics systems; publicity literature; creditworthiness of importers; marketing outlet and consortia formation
Information dissemination	A free flow of information on government policies and programs; free trade agreements; training opportunities and facilities; market intelligence; trade fairs and exhibitions
Networking	Lead firms, large firms, and multinationals; financial and other SME support institutions; R&D institutions; international agencies; foreign SME support organizations; government departments; business/industry associations; and chambers of commerce
FDI promotion	Formulation and implementation of policies and strategies to attract and promote FDI, with a view to strengthening the domestic SME sector
Consultancy and counselling	Specialized services to address the specific issue(s)/needs (e.g., business development, marketing, finance and accounting, and legal)
Advocacy	Government departments and international organizations for creating policy conducive to SME start-ups, growth, and survival

FDI = foreign direct investment, ICT = information and communication technology, R&D = research and development, SME = small and medium-sized enterprise.

Source: Author's compilation, modified from Abe *et al.* (2012).

## Conclusion

The thrust of this chapter concerns the identification of factors and actions for the success of SMEs within GVCs. Having recognized an increasingly important role of GVCs in Asia and the Pacific, a better understanding of their contributions and SMEs' effective participation has been required. This chapter particularly explores proper policy options under which GVCs would generate more positive contributions to the development of SMEs, based on survey data that were collected from select developing countries in Asia and the Pacific. It is commonly viewed that SMEs have not fully realized the opportunities that have been derived from the emerging GVCs. For proper policy development, it has been strongly suggested that both constraints and success factors for SMEs' productive participation in GVCs be examined.



While this chapter aimed to provide a great deal of useful information, it is not without its limitations. As discussed previously, the survey here is not strictly speaking representative in the statistical sense. That would require a great deal more information on the population of firms and various sampling frames, such as a centralized database on business registrations and reliable industry directories, which are simply unavailable in the developing countries that were surveyed. While the survey does cover an adequate number of firms in various sectors and geographic regions, additional samples could further improve the robustness of the data analyses and, consequently, the survey results.

This ADB survey was designed to provide valuable information on business conditions for SMEs that intend to expand globally in the near future; information which could be used to design appropriate policies. The assembled dataset has a relatively low missing data rate, particularly for a business survey in developing countries. The dataset allows the use of advanced statistical methodologies, such as multivariate data analysis, in order to investigate important relationships between crucial factors for SMEs' success within GVCs. Due to limited resources, however, the chapter was unable to employ all possible methods to explore the data completely. Further analysis is recommended. In addition, a follow-up survey with the firms already surveyed would be useful to study the impact of changes to policies and business environments on business conditions over time, although the costs involved could be a challenge.

Global value chains are a critical way of exposing SMEs to foreign markets. There are a number of benefits for SMEs joining these chains, but the principal one is that GVCs increase SME competitiveness. The exactitude required in filling orders to the detailed specifications of large firms or multinationals prepares SMEs to engage global rivals. Policymakers need to help SMEs and their owners, managers, and workers with technical and financial assistance, while ameliorating the overall business environment, so that SMEs can engage with the lead firms of key GVCs. While these tasks are not easy, information and recommendations provided in this chapter offer some guidance to policymakers about the right steps to take.

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# CHAPTER 3

## Financing SMEs in Global Value Chains

by Shigehiro Shinozaki<sup>42</sup>

### Introduction

Since the 1990s, the global economy has been supported by high growth across Asia. Compared to 1995 levels, almost all developing Asian countries have significantly reduced the proportion of their populations living below \$2 a day, and many Asian nations have moved from low-income to middle-income countries.<sup>43</sup> However, the pace of growth in labor productivity in emerging and developing economies has been slowing since the 2008/09 global financial crisis (GFC). The International Labour Organization (ILO, 2013) reported that labor productivity has mostly decelerated or stagnated across the Asia and Pacific region since the onset of the GFC. Labor productivity growth in Asia stood at 4.8% in 2013, more than double the global average of 1.8%. However, if the People's Republic of China (PRC), India, and Japan are excluded from the calculations, the rest of Asia showed only 1.8% labor productivity growth in 2013, with a decelerating trend after the GFC (Figure 3.1). This suggests the increasing risk of a middle-income trap in many Asian countries.

The decelerated growth of labor productivity generates two key concerns for policymakers. First, the slowdown of global capital flows, resulting from a tapering of quantitative easing in advanced economies, may gradually reduce capital accumulation in developing Asia. Second, the pace of growth across Asia will eventually slow, as population booms end and labor force accumulation diminishes accordingly. These issues demonstrate the importance of enhancing labor productivity as a central policy issue for sustainable growth in Asia, at both the national and regional levels.

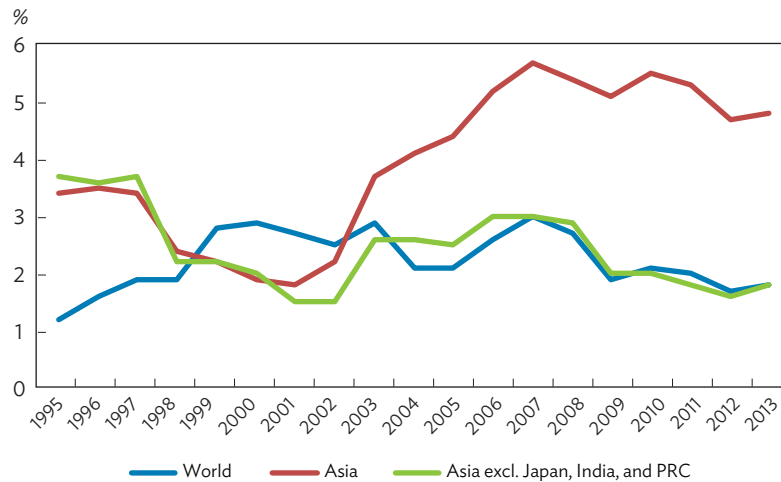
Small and medium-sized enterprises (SMEs) are key drivers of Asia's economies, accounting for an average of 96% of all enterprises and 62% of national labor forces in the region<sup>44</sup> (Table 3.1). However, SMEs' the average contribution to national gross domestic product (GDP) or manufacturing value added across Asia still remains at less than half (42%). This implies that SMEs have the capacity to advance Asian economies by enhancing their productivity. Given that SMEs constitute more than half of national labor forces in Asia, their potential to reverse the deceleration in labor productivity is significant.

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<sup>43</sup> For instance, Armenia, Azerbaijan, Bhutan, the People's Republic of China, Georgia, India, the Lao PDR, Mongolia, Pakistan, Sri Lanka, and Viet Nam (based on World Bank Analytical Classifications, comparison between 1995 and 2012).

<sup>44</sup> Data from the ADB Asia SME Finance Monitor 2014.

Figure 3.1: Labor Productivity Growth



PRC = People's Republic of China.

Source: ADB Regional Cooperation and Productivity Gains for All. Key Facts. <http://aric.adb.org/productivity4all>

Asia's integration in trade and investment has been growing. Although intra-subregional trade in Central Asia, East Asia, South Asia, Southeast Asia, and the Pacific has dropped, inter-subregional trade among these areas is rising.<sup>45</sup> This changing trade pattern generates new business opportunities for domestic SMEs in Asia. Indeed, SMEs have influenced international trade, although it has happened in limited countries. SMEs in the PRC and India accounted for more than 40% of total export values (41.5% for the PRC in 2012 and 42.4% for India in 2013), followed by Thailand (26% in 2013), the Republic of Korea (19% in 2012), and Indonesia (16% in 2013).<sup>46</sup> Given the liberalized trade and investment brought by economic integration, such as the Association of Southeast Asian Nations (ASEAN) Economic Community and the Eurasian Economic Union, the involvement of SMEs in international trade will be further promoted in developing Asia. SMEs constituting part of the global supply chain have the potential to accelerate trade and mobilize domestic demand.

As Asia's production networks grow, products traded in the region have largely shifted from capital and final goods to parts and components.<sup>47</sup> Expanding production networks across the border will encourage SMEs, especially those in industries such as parts suppliers, to look

<sup>45</sup> Asian Economic Integration Monitor April 2014. pp.15–16.

<sup>46</sup> However, the growth pace of SME exports is not stable in any country. In Thailand, the SME export growth has been slowing since 2011, when the national economy was devastated by flooding (-15% in 2013). A slow recovery in demand from trade partners such as the PRC, Japan, and Europe was considered a critical reason for such sluggish trade recovery in the country. Meanwhile, India and Indonesia showed high SME export growth (more than 9% in 2013), backed by the liberalized trade and investment brought by economic integration and expansion.

<sup>47</sup> Lim and Kimura (2010). The Internationalization of Small and Medium Enterprises in Regional and Global Value Chains. ADBI Working Paper Series. No.231.

Table 3.1: SMEs in Asia

Region	Country	Number of SMEs (% of total)	Employment by SMEs (% of total)	SME Contribution to GDP (%)	SME Exports (% of total)
Central Asia	Kazakhstan	97.5	32.1	26.0	...
	Kyrgyz Republic	97.7	3.9	38.8	...
East Asia	China, People's Rep. of	97.3	64.7	...	41.5
	Korea, Rep. of	99.9	89.9	47.6	18.8
	Mongolia	98.2	...	...	...
South Asia	Bangladesh	91.5	38.7	52.8	...
	India	79.9	...	37.5	42.4
	Sri Lanka	99.5	69.5	...	...
Southeast Asia	Cambodia	99.8	71.8	...	...
	Indonesia	99.9	97.0	60.3	15.7
	Lao PDR	99.8	82.9	...	...
	Myanmar	87.4	...	...	...
	Malaysia	97.3	57.5	33.1	...
	Philippines	99.6	64.9	...	...
	Thailand	97.2	81.0	37.4	25.5
	Viet Nam	97.7	46.8	...	...

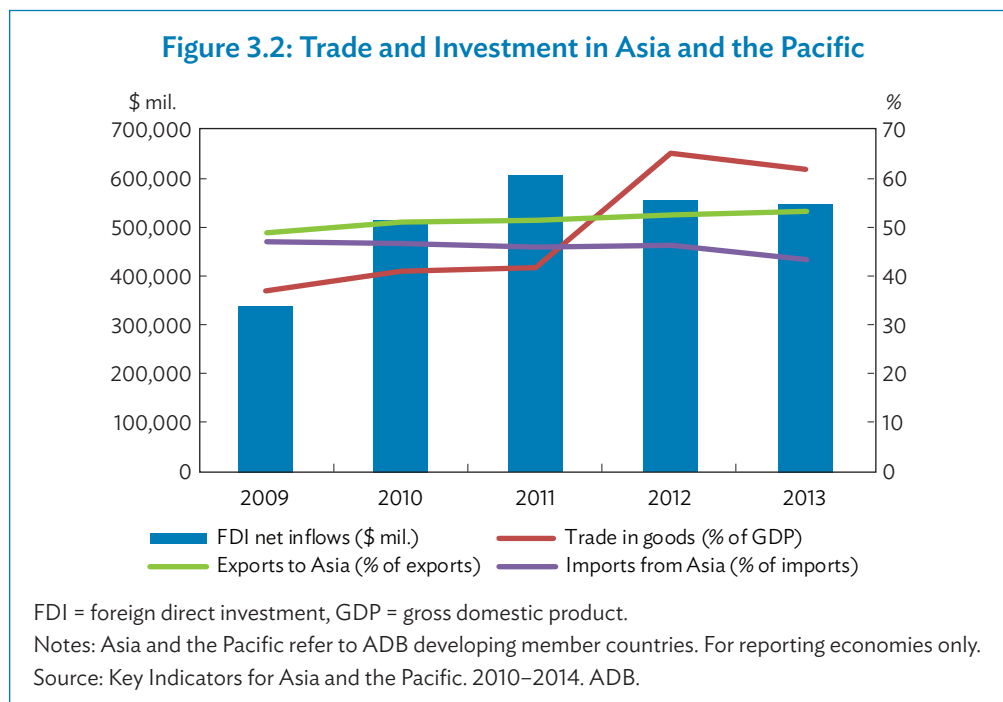
GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, SME = small and medium-sized enterprise.

Notes: (Number of SMEs) Data in 2014: Kazakhstan, Cambodia, Myanmar. Data in 2013: the Kyrgyz Republic; China, People's Rep. of; Mongolia; India; Sri Lanka; Indonesia; the Lao PDR; Thailand. Data in 2012: Korea, Rep. of; Bangladesh [manufacturing only]; the Philippines; Viet Nam. Data in 2010: Malaysia. Data based on registered enterprises. For Myanmar, SME manufacturers inside of industrial zones only. (Employment by SMEs) Data in 2014: Kazakhstan, Cambodia. Data in 2013: the Kyrgyz Republic, Sri Lanka, Indonesia, the Lao PDR, Malaysia, Thailand. Data in 2012: Korea, Rep. of; Bangladesh [manufacturing only]; the Philippines; Viet Nam. Data in 2011: China, People's Rep. of. (SME contribution to GDP) Data in 2013: Kazakhstan, the Kyrgyz Republic, India, Indonesia, Malaysia, Thailand. Data in 2012: Korea, Rep. of [manufacturing value added]; Bangladesh [manufacturing value added]. (SME exports) Data in 2013: India, Indonesia, Thailand. Data in 2012: China, People's Rep. of; Korea, Rep. of.

Source: Author's compilation from the Asia SME Finance Monitor 2014.

at overseas marketplaces. Economic integration has exposed Asia's SMEs to more liberalized trade and investment. This new and external environment is stimulating the structural change of SME business models, with a view to growing beyond domestic markets.

Foreign direct investment (FDI) inflows to economies in Asia and the Pacific have been sharply increasing since the GFC, as a result of a deepening in financial integration across Asia (Figure 3.2). This also creates opportunities for SMEs to increase their productivity. Although capital inflows to developing Asia have been slowing due to sluggish recovery in demand from advanced economies after the GFC, capital flows from the PRC, Japan, and the Republic of Korea to Southeast Asian countries have accelerated the intraregional FDI



in the region.<sup>48</sup> This trend has been promoted by relatively low production costs and the establishment of production networks in Southeast Asia. It was expected that the entry of more large multinational corporations (MNCs) would create new demand for domestic SME products and services, and subsequently improve labor productivity in the region, through active SME participation in global value chains (GVCs). However, this expectation has not yet been realized. Intra-regional FDI in Asia can bring potential benefits for SME productivity enhancement and resultant welfare improvement at the national and regional levels, through growth of quality employment generated by SMEs.

There are several expected benefits resulting from SMEs participating in GVCs. For instance, increased competitiveness can be attained through vertical linkages with MNCs, product quality can be enhanced by technology transfer, and resultant business expansion to overseas marketplaces, with associated job creation, can occur. Meanwhile, there are various factors constraining SME participation in GVCs. According to a study conducted by the Asia-Pacific Economic Cooperation (APEC, 2014), SMEs involved in agriculture, food processing, automotive, electronics, and handicraft production networks in developing economies have the advantage of offering products at a competitive price and a geographical positioning to access their customers. On the other hand, these SMEs have difficulty meeting international quality standards and specifications for products, managerial constraints, and insufficient financial resources as internal factors or firm-level constraints. In addition, external factors constraining SME participation in trade and GVCs may include labor market rigidity and regulations across borders, nontariff barriers, weak supporting institutional frameworks, and poor infrastructure for trade. The resultant lack of innovation and technology used by SMEs

<sup>48</sup> Asian Economic Integration Monitor April 2014, pp.26–29.

will negatively affect labor productivity. Also, SMEs entering the GVC as lower-tier suppliers, e.g., those in the parts and components industry, typically face unstable business conditions under fierce competition. They are given limited access to information, technology, and innovative financing models. Although not all countries have been linked into GVCs, these factors may impede labor productivity improvements, especially in countries with established or potential production networks.

Internationalization of SMEs can be identified as a crucial policy agenda in private sector development and regional cooperation and integration (RCI), especially for Southeast and Central Asian countries involved in economic integration. The extent to which this can help mobilize SME corporate savings in the Asian region, and increase SME productivity and efficiency through enhanced intraregional trade, is worth examining.

Access to finance is a critical part of SME development. An increasingly globalized economy will bring more SME internationalization, particularly for those in supporting industries, and bring new financing demands from SMEs, such as funding in offshore currencies. The liberalized trade and investment accelerated by economic integration will require innovative financing solutions for SME material suppliers, exporters, and importers, suggesting an increased demand for supply chain finance<sup>49</sup> and trade finance. Access to adequate supply chain finance and trade finance is among the most pressing needs of SMEs that operate internationally.<sup>50</sup> Supply chain finance plays a critical role in vitalizing SME business in global markets, and in enhancing national and regional labor productivity. In the same context, policy on trade finance facilitation for SME exporters and importers is a potential priority at the national level. These instruments will accelerate the involvement of SMEs in GVCs, resulting in an increase in SME productivity. Some practices for designing innovative financing models have an element of trial and error. In trade finance, the currency-swap-trade-settlement between the PRC and the Republic of Korea is one such example of new financing models. To support innovative financing models that are accessible to SMEs, national policymakers need to use more flexible and holistic policy approaches to SME financing, beyond measures already established.

The Asian Development Bank (ADB) conducted intensive surveys of SMEs, financial institutions, and government authorities in four countries—Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka—during September 2014 and February 2015. These surveys aimed to identify critical factors constraining SME participation in GVCs, and to explore possible policy solutions for enhancing SME competitiveness through their internationalization. The study looked at resultant increases in labor productivity, job creation, and more inclusive growth. As part of this study, this chapter examines the role of finance for SMEs involved in GVCs, and discusses financing models and policy directions to support their further participation in GVCs, based on the survey findings.

<sup>49</sup> Although there is not yet a standardized definition, supply chain finance can be expressed as a combination of trade finance and a technological platform that connects trading partners and financial institutions, and provides various services related to supply chain events, as defined by the International Factors Group (IFG). Various combinations of financing instruments and services can be arranged under supply chain finance.

<sup>50</sup> ADB-OECD Study on Enhancing Financial Accessibility for SMEs. pp.101–111. <http://www.adb.org/publications/adb-oecd-study-enhancing-financial-accessibility-smes-lessons-recent-crises>



The following section reviews the challenges of SME access to finance in Asia and the Pacific, to provide a better understanding of the funding environment that SMEs face in the region. The third section of the chapter draws conceptual GVC models, analyzes the survey results, and extracts critical factors for SME involvement in GVCs, with assessment of their funding needs and barriers. The fourth section discusses policy implications for promoting SME participation in GVCs, and proposes possible financing models to allow SMEs to integrate into GVCs. The final section summarizes the discussion in this chapter.

## SME Access to Finance in Asia and the Pacific

### SMEs and Formal Credit

Emerging and developing economies in Asia and the Pacific view the SME sector as a growth entity that can bring about resilient national economies and provide a source of job creation. Most countries have therefore formulated policy frameworks to support SME sector development. Although they vary by country, national SME development policies generally include the promotion of market access, technology transfer, productivity enhancement, human capital development, and the creation of an enabling business environment for SMEs. Access to finance is a critical component for realizing these policies.

At the national level, numerous measures have been developed to improve SME access to finance. These include public credit guarantee schemes (e.g., People's Business Credit [KUR] in Indonesia, the Damu credit guarantee scheme in Kazakhstan, the Credit Guarantee Fund in Mongolia, and portfolio guarantee schemes in Malaysia, the Philippines, and Thailand), mandatory lending (in countries such as Indonesia and the Philippines), secured transaction reforms to establish collateral registries and promote movable asset financing (in Cambodia, the PRC, Malaysia, Mongolia, the Lao PDR, the Philippines, Papua New Guinea, and Solomon Islands), refinancing schemes (in Bangladesh, the PRC, Fiji, India, Kazakhstan, the Kyrgyz Republic, Mongolia, Solomon Islands, Sri Lanka, and Malaysia), and the establishment of a centralized credit bureau (in the PRC, India, Indonesia, Malaysia, Mongolia, the Philippines, Thailand, and Viet Nam). Such government interventions have increasingly become significant amid global economic and financial uncertainty. However, despite a large number of government support measures for SMEs having already been initiated in Asian countries, SMEs have not sufficiently boosted their productivity. Poor access to finance remains a chronic and structural problem for SME development in Asia and the Pacific.

Under the bank-centered financial system established in the Asia and Pacific region, limited access to bank credit is a major barrier to the survival and growth of SMEs. According to ADB's Asia SME Finance Monitor 2014, SME bank loans made up averages of 11.6% of GDP and 18.7% of total bank lending in the region. Although the level of SME access to credit differs by country, this indicates ongoing poor access to formal credit for SMEs (Table 3.2). In fact, SME loans outstanding are increasing in trend in the region, but the share of SME loans to total loans has been gradually decreasing since the GFC, implying tighter, risk-based lending in the banking sector of Asia and the Pacific. In addition, even if SMEs successfully

Table 3.2: Bank Loans to SMEs in Asia and the Pacific

Region	Country	SME Loans to GDP (%)	SME Loans to Total Loans (%)	SME NPLs to SME Loans (%)
Central Asia	Kazakhstan	4.6	13.9	...
East Asia	China, People's Rep. of	24.3	18.9	...
	Korea, Rep. of	35.8	40.2	2.2
	Mongolia	10.3	17.5	...
South Asia	Bangladesh	9.4	25.0	11.8
	India	6.6	13.5	...
	Sri Lanka	6.3	16.2	...
Southeast Asia	Indonesia	7.2	19.7	4.0
	Myanmar	0.1	...	...
	Malaysia	22.4	16.3	...
	Philippines	3.1	10.3	...
	Thailand	36.6	34.5	3.1
The Pacific	Fiji	4.6	11.6	...
	Papua New Guinea	0.5	1.5	17.8
	Solomon Islands	2.8	23.3	...

GDP = gross domestic product, NPL = nonperforming loan, SME = small and medium-sized enterprise.

Notes: Data as of the end of 2014: China, People's Rep. of; Mongolia; Bangladesh; Indonesia; Malaysia; Thailand. Data as of Sep 2014: Kazakhstan, the Philippines; Papua New Guinea; Solomon Island. Data as of Jun 2014: Fiji. Data as of Mar 2014: India. Data as of 2013: Korea, Rep. of; Sri Lanka; Myanmar. Data refers to loans outstanding except Kazakhstan and Sri Lanka (loans disbursed). For Sri Lanka, data based on SME loans disbursed by top 13 commercial and development banks. For Myanmar, data based on SME loans by SMI Development Bank. For the Philippines, data based on total funds set aside for MSMEs (mandatory lending; 10%). SME NPLs are calculated as the share to total SME loans, based on the national loan asset classifications. For Bangladesh, the SME NPL ratio refers to the share of borrowers with SME NPLs compared to total SME borrowers. For the Republic of Korea, it refers to the share of SME classified loans compared to total SME loans.

Source: Author's compilation from the Asia SME Finance Monitor 2014.

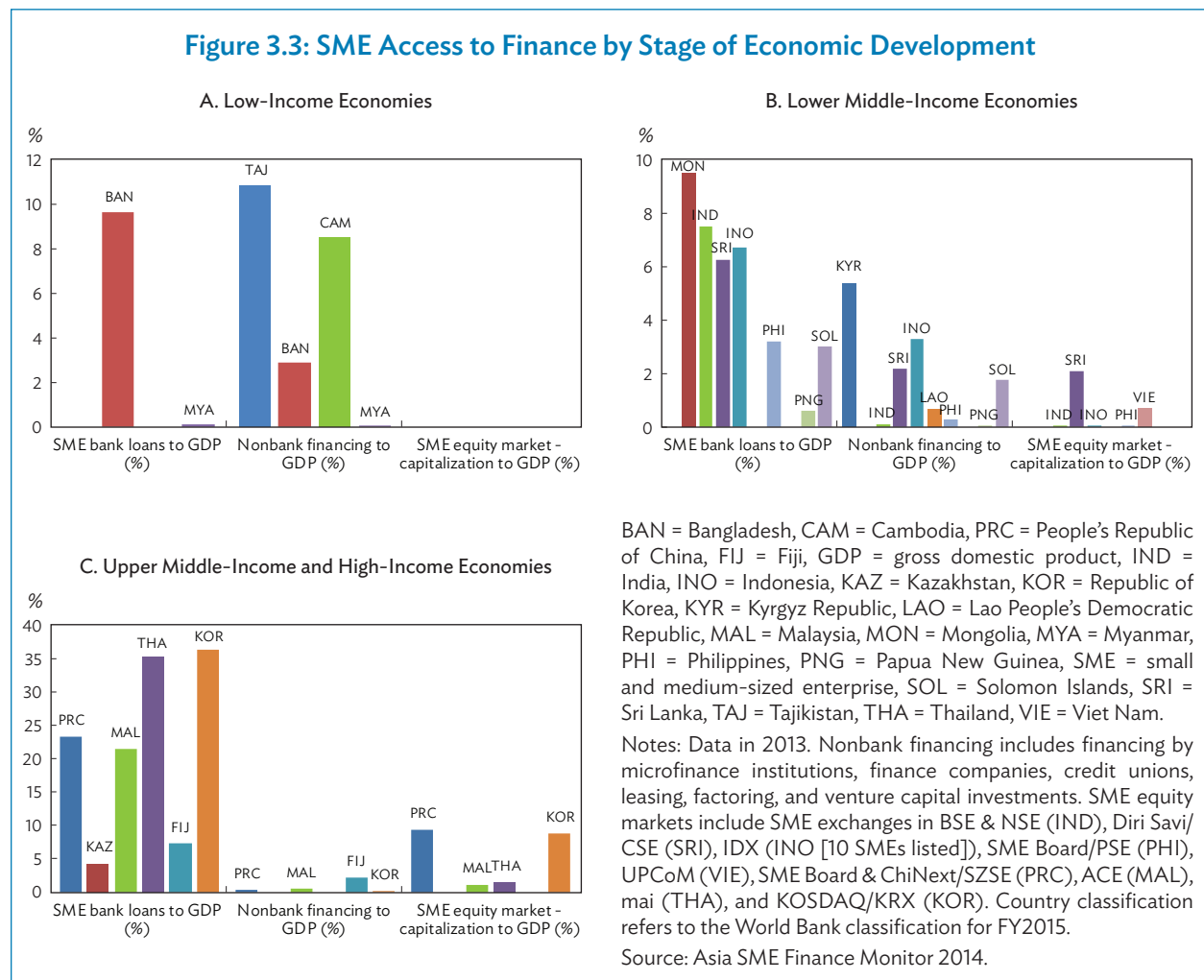
receive credit from banks, their loans constitute a large part of nonperforming loans (NPLs), although the available data is limited. This further tightens the position of the banks on lending to SMEs.

Basel III, an international regulatory framework for banks, is a matter of concern among banking regulators in Asia, even if the countries they represent are not members of the Basel Committee on Banking Supervision. There is some debate about the impact of Basel III on SME lending, indicating a possible negative effect on banks' lending attitudes toward SMEs. Basel III has adopted new rules to strengthen the risk management of banks—a liquidity framework and a leverage ratio framework—as well as strengthened capital requirements. These new measures may constrain banks from providing long-term credit for enterprises, and may limit financing options for SMEs, including trade finance availability. Limited access

to bank credit is critically affecting the business operations and expansion plans of SMEs, and is identified as one of the factors behind their low productivity at the national level.

## Financing Instruments and Policies by Development Stage

Financing options available to SMEs widen as a country's economy advances (Figure 3.3). In the early stage of economic development, where countries (such as Bangladesh, Cambodia, Myanmar, and Tajikistan)<sup>51</sup> are classified as low-income economies, nonbank financing instruments such as microfinance and loans from finance companies are more prevalent than bank credit for SMEs and micro enterprises. In this stage, SMEs rely mainly on their own capital and/or borrowing from informal community lending bodies for their business operations. As the national income level increases, where countries (such as India, Indonesia, the Kyrgyz Republic, the Lao PDR, Mongolia, Papua New Guinea, the



<sup>51</sup> Country classification refers to the World Bank classification for FY2015.

Philippines, Solomon Islands, Sri Lanka, and Viet Nam) are classified as lower middle-income economies, various types of financing options for SMEs, including equity finance, become more available. In the later stages of economic development, where countries (such as the PRC, Fiji, Kazakhstan, the Republic of Korea, Malaysia, and Thailand) are classified as upper middle-income or high-income economies, bank lending availability is further enhanced, with more organized equity and/or bond markets designed for SMEs as exchange and/or over-the-counter markets. Across all stages of economic development, leasing and factoring industries have yet to be well developed in Asia and the Pacific. As leasing and factoring are typically part of the operations of banks or their subsidiaries, there appears to be little or no competitive environment for these industries. Although the causality behind this needs to be carefully assessed, it is certain that a broader range of financing options for SMEs can help to increase economic development at the national level.

According to the economic development stage of each country, measured by income level, SME finance policies shift from a narrow range of options to more comprehensive and broadening policy options with mid- to long-term objectives. In low-income economies, SME finance policies typically focus on microfinance development and government-based concessional lending schemes. As a country's economy advances to the lower-middle income classification, various policies related to SME bankability are developed, including public credit guarantee schemes and secured lending legal reforms. In the later stages of economic development, where national income is classified as upper-middle or high, policies for developing SME capital markets and the venture capital industry serving SMEs are more evident. However, policies across Asia still focus mainly on enhancing bankability. Policies for nonbank financing avenues, such as leasing and factoring, and capital market financing for SMEs, have yet to be widely developed in the region, especially in the lower-middle income countries. Taking account of the impact of Basel III, more work is needed from policymakers on nonbank financing, along with balancing the development of the banking sector, to effectively reach out to the traditionally underserved like SMEs.

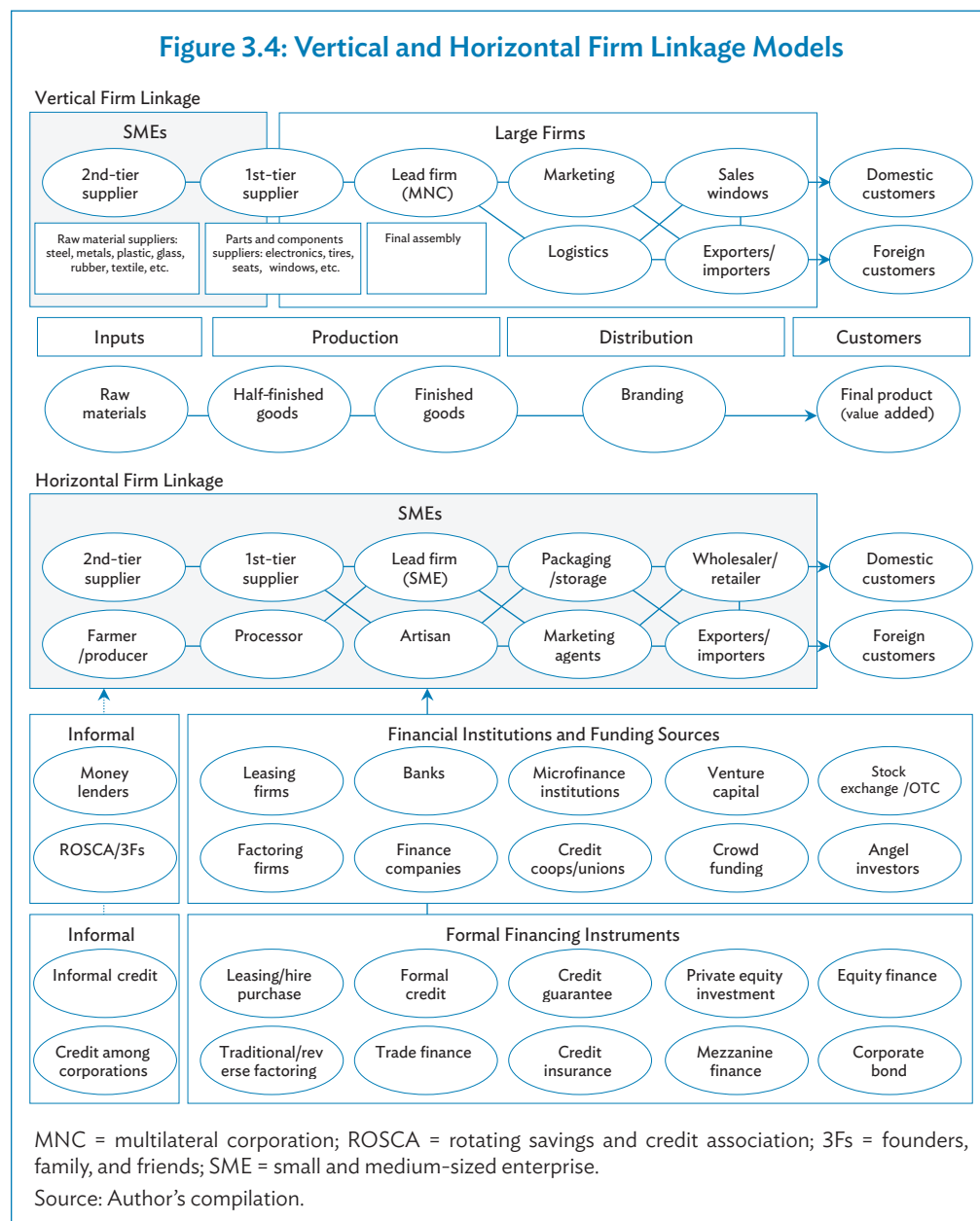
## SME Participation in Global Value Chains and Finance

GVCs have become more popular and an indispensable modality in the global investment and trade system. The United Nations Conference on Trade and Development (UNCTAD) reported that 80% of global trades came from trades through GVCs. The share of developing countries in global value-added trade increased from 20% in 1990 to 30% in 2000, and more recently to more than 40% (UNCTAD, 2013).

A value chain is defined as the full range of value-adding activities to bring a product or service through different stages of production, and a GVC is a value chain that operates in more than one economy (APEC, 2014). GVCs have evolved and spread in many business sectors, e.g., agribusiness, automotive, electronics, and handicraft. SMEs that participate in GVCs include material suppliers, parts and components suppliers, export-oriented manufacturers, subcontractors to MNCs, distributors, and service sectors entering

overseas markets. By being involved in GVCs, these SMEs expect to obtain new technology, improve product quality, enhance competitiveness, and, as a result, expand their businesses and create jobs. Meanwhile, they may face barriers to participating in GVCs, e.g., labor market rigidity, cross-border regulatory constraints, nontariff barriers, their inability to meet product quality standards, and their managerial deadlock with a lack of funds.

GVCs basically comprise two models: vertical firm linkage and horizontal firm linkage (Figure 3.4). Automotive and electronics industries are typical business sectors that develop vertical firm linkages within GVCs. In this model, a large MNC leads the overall production network and is mainly responsible for final assembly of products, marketing, sales, logistics,



and/or exports/imports of products with partner large firms, while SMEs are incorporated into the production network as mostly end-tier or lower-tier suppliers, such as raw material suppliers (e.g., steel, metals, plastic, glass, rubber, and textile in the automotive industry), or as first-tier suppliers, such as parts and components suppliers (e.g., electronics, tires, seats, and windows in the automotive industry). Horizontal firm linkage is a typical model in the export-oriented agribusiness, food processing, and handicraft industries in developing Asia. In this model, SMEs are main contributors throughout the production network as suppliers from the end tier to the first tier (e.g., farmers, fruit growers, raw material suppliers, and processors), a lead firm or producer, packaging and storage firms, marketing agents, wholesalers and retailers, and/or exporters/importers of products. They often form a business cluster, and a cluster manager coordinates the production process and logistics among participating firms, i.e., SMEs.

The condition of access to finance is often different between SMEs involved in the vertical linkage and horizontal linkage models. Credit among corporations can be utilized for firms involved in the large-scale vertical firm linkage model, including SME suppliers. A large MNC or a lead firm may finance subcontractors and SME suppliers to promote the production process smoothly. A large MNC may establish a financing company and subcontractors can be financed by such an MNC-led financial institution, for instance. Meanwhile, SMEs in the horizontal firm linkage model have little connection with large MNCs, given that the lead firm is often an SME. SMEs in this model rely mainly on their own capital and retained profits for business operations, and are exposed to greater difficulties in access to formal finance. On the whole, financial accessibility differs according to the firm's capability, regardless of GVC types, but it is estimated that access to finance is more crucial for firms in the horizontal firm linkage model.

There are several financing models to be accessed by SMEs or developed for SME suppliers. Besides bank credit, nonbank financing instruments (e.g., leasing and factoring) and market-based financing (e.g., equity finance, mezzanine finance, and corporate bonds) are worth developing. This needs to be done with innovation, responding in a timely manner to the real funding needs of SMEs at different stages of production value chains. Crowdfunding is one such example of an innovative financing model to support SMEs that participate in GVCs. Supply chain finance is a concept of the best mix of diversified financing models, addressing the combination between trade finance and a technological platform that connects trade partners and financial institutions. Developing possible financing models and combinations to facilitate SMEs to integrate into GVCs is important. The following part of this section analyzes the ADB survey results, to identify the funding needs and barriers of firms involved in GVCs, and to extract success factors for SME participation in GVCs, with consideration to trade finance.

## Methodology

In order to assess from different angles the key factors for promoting SME participation in GVCs, and to examine financing models for SMEs involved in production networks, two separate surveys were prepared; one for SMEs (demand side) and one for government authorities and financial institutions (supply side). The surveys were conducted online and via the traditional paper-based format, from September 2014 to February 2015, in

cooperation with partner institutions<sup>52</sup> in four countries: (i) the Philippines in Southeast Asia, (ii) Sri Lanka in South Asia, (iii) Kazakhstan in Central Asia, and (iv) Papua New Guinea in the Pacific.

The Philippines and Sri Lanka are categorized as countries where SMEs participate in GVCs, while Kazakhstan and Papua New Guinea are case countries where GVCs have yet to be established, but there is potential to develop them and to enable SMEs to enter them. In the Philippines, there are global production networks established in the automotive (e.g., Toyota, Mitsubishi, Honda, Nissan, and Isuzu) and electronics industries (e.g., Philips, Sony, Samsung, and Acer), where SME parts and components suppliers actively participate. In Sri Lanka, there are growing clusters in agribusiness (e.g., tea and spices) and handicraft (e.g., ceramics). Meanwhile, Kazakhstan is increasingly exposed to liberalized trade and investment regimes, as part of the integration process in the Eurasian Economic Union with the Russian Federation and Belarus, and the government has an interest in supporting SME competitiveness and participation in GVCs. In Papua New Guinea, agribusiness and manufacturing are among priority sectors where SMEs are active.

The demand-side survey covered SMEs under the respective national definitions or guidelines<sup>53</sup> in four countries and all types of industries. However, the survey conceptually targeted firms that belong to one of four sectors where GVCs have already been established or may be developed in the future: (i) agribusiness, (ii) automotive, (iii) electronics, and (iv) handicraft. These firms included parts and components suppliers, export-oriented manufacturers, and/or subcontractors to large MNCs entering GVCs. Non-manufacturing sectors having the potential for entering overseas markets were also targeted in this survey, e.g., service sectors. Survey questionnaires comprised five-scale, check-box, and fill-in style questions.

The surveys were supplemented by half-day study meetings, respectively organized in the four countries,<sup>54</sup> which aimed to take real opinions from relevant stakeholders on financial and nonfinancial constraints and challenges around SME participation in GVCs.

As a result, a combined total of 44 completed questionnaires in the supply-side survey and 195 valid responses in the demand-side survey were collected from the four study countries. The small sample size, however, is an issue to be improved.

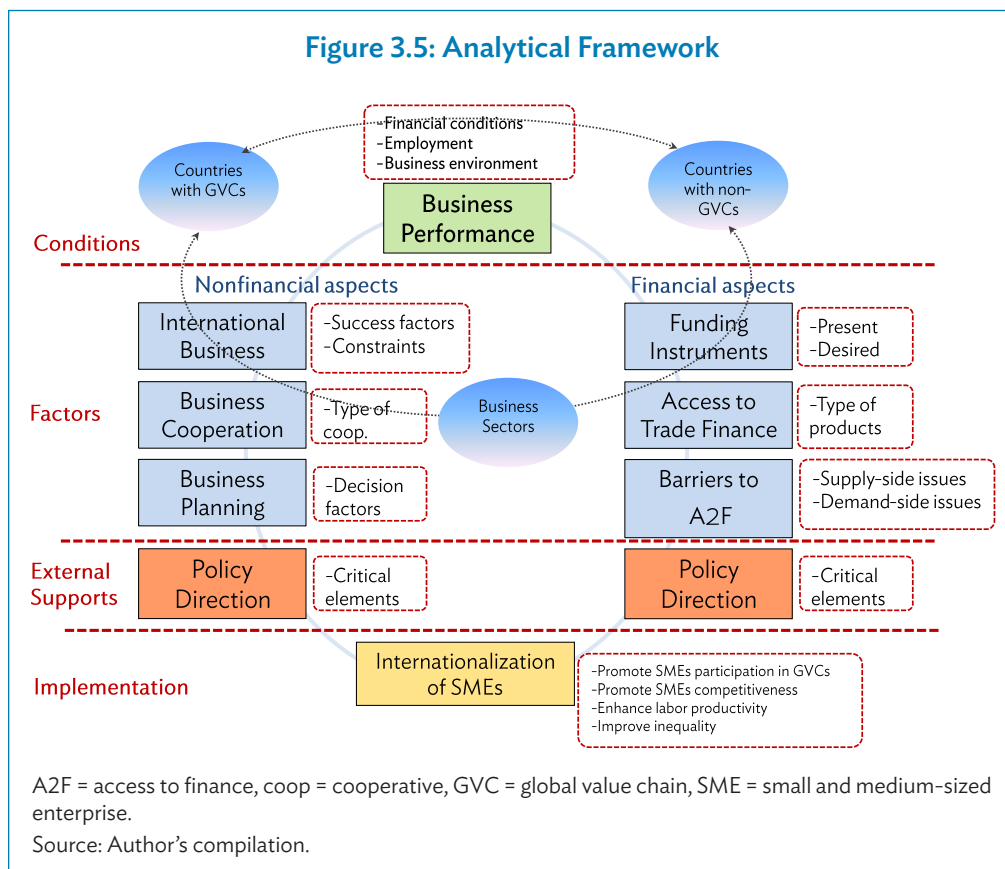
Figure 3.5 is a conceptual analytical framework of the study, based on the structured survey questionnaires for countries with GVCs and with non-GVCs. The study focuses on

<sup>52</sup> Surveys were supported by: (i) Damu Entrepreneurship Development Fund (for Kazakhstan); (ii) Port Moresby Chamber of Commerce and Industry, PNG Chamber of Commerce and Industry, and IBBM Enterprise Centre (for Papua New Guinea); (iii) Philippine Chamber of Commerce and Industries, Philippine Economic Zone Authority, and Export Marketing Bureau of Department of Trade and Industry (for the Philippines); and (iv) Sri Lanka Export Development Board, National Enterprise Development Authority, and Sri Lanka Handicrafts Board (LAKSALA) (for Sri Lanka).

<sup>53</sup> Some firms had employees exceeding the official number defined for SMEs at the time of the survey, but survey partners' judgments on SMEs were prioritized.

<sup>54</sup> Study meetings: (i) Kazakhstan: Astana on 6 October and Almaty on 8 October 2014 in cooperation with the Damu Entrepreneurship Development Fund; (ii) Papua New Guinea: Port Moresby on 27 October 2014 in cooperation with Department of Trade, Commerce and Industry (SME National Working Group), and the ADB PNG Resident Mission; (iii) the Philippines: Manila on 30 September 2014 at ADB headquarters, organized by ADBI; and (iv) Sri Lanka: 4 November 2014 in cooperation with the ADB Sri Lanka Resident Mission.





three areas for analysis: (i) business conditions of SMEs surveyed, (ii) contributing factors of success or constraint for SMEs surveyed in countries with GVCs and non-GVCs, and (iii) critical elements for effective schemes that policymakers should adopt in order to promote SME participation in GVCs, addressing nonfinancial and financial aspects. Based on these analyses, possible policy directions to facilitate internationalization of SMEs are extracted, comparing countries with GVCs and non-GVCs. However, this chapter focuses mainly on financial aspects affecting SME participation in GVCs.

### *Composition of supply-side organizations surveyed*

The total of 44 questionnaires collected from the supply-side survey comprised 20 institutions in Kazakhstan, 8 in Papua New Guinea, 9 in the Philippines, and 7 in Sri Lanka. Face-to-face interviews were also conducted in most institutions. In Kazakhstan, supply-side organizations consisted of financial institutions including banks, nonbank financial institutions (NBFIs), and capital market organizers (41% of total samples); government authorities (30%); and research institutions (29%). In Papua New Guinea, they consisted of financial institutions including banks, NBFIs, and capital market organizers (63%) and government authorities (37%). In the Philippines, they consisted of government authorities including the central bank (89%) and research institutions (11%). For Sri Lanka, all respondents were government authorities.



### *Profile of SMEs surveyed*

Of the 195 questionnaires collected from SMEs, there were 98 respondents from Kazakhstan, 19 from Papua New Guinea, 63 from the Philippines, and 15 from Sri Lanka. In principle, the survey referred to the national definitions or guidelines of SMEs in each country.

In Kazakhstan, the SMEs surveyed consisted of services (24%), wholesale and retail trade (20%), manufacturing (17%), agriculture (7%), construction (5%), transportation (3%), and others including financial services and software developers (24%). Of the sampled Kazakhstan SMEs, 72% were located in the former capital city Almaty, 10% in the new capital city Astana, and the remaining 18% were in rural areas. In terms of development, 62% of respondents were firms that had been operating for less than 5 years, 22% had operated for 6–10 years, 8% for 11–15 years, and 8% for 16–30 years. In terms of size, 76% of firms had 1–14 employees, 12% employed 15–50 people, and 7% employed 50–249 people at the time of the survey.

In Papua New Guinea, the SMEs surveyed consisted of services (32%), wholesale and retail trade (16%), construction (10%), manufacturing (5%), and others including financial and consulting services (37%). Of the sampled SMEs in Papua New Guinea, 74% were located in the capital city Port Moresby, and the remaining 26% were in rural areas. The majority of firms surveyed had long business records; 16% of the sampled firms had been operating for less than 5 years, 5% for 6–10 years, 16% for 11–15 years, 42% for 16–30 years, and 21% for more than 31 years. In terms of size, 26% of respondents were firms with 1–4 employees, 16% employed 5–29 people, 16% employed 30–149 people, and 32% employed 150–300 people at the time of the survey.

In the Philippines, the SMEs surveyed consisted of manufacturing (49%), services (21%), agriculture (6%), wholesale and retail trade (3%), and others including garments exporters and producers of materials such as metal, plastic, and wire cables (21%). Of the sampled SMEs, 43% were located in Metro Manila, 38% were in Calabarzon and South Luzon, and the remaining 19% were in other rural areas. In terms of development, 30% of respondents were firms that had been operating for less than 5 years, 19% had operated for 6–10 years, 18% for 11–15 years, 25% for 16–30 years, and 8% for 31 or more years. In terms of size, 13% of the sampled firms had 1–9 employees, 65% employed 10–99 people, and 16% employed 100–300 people at the time of the survey.

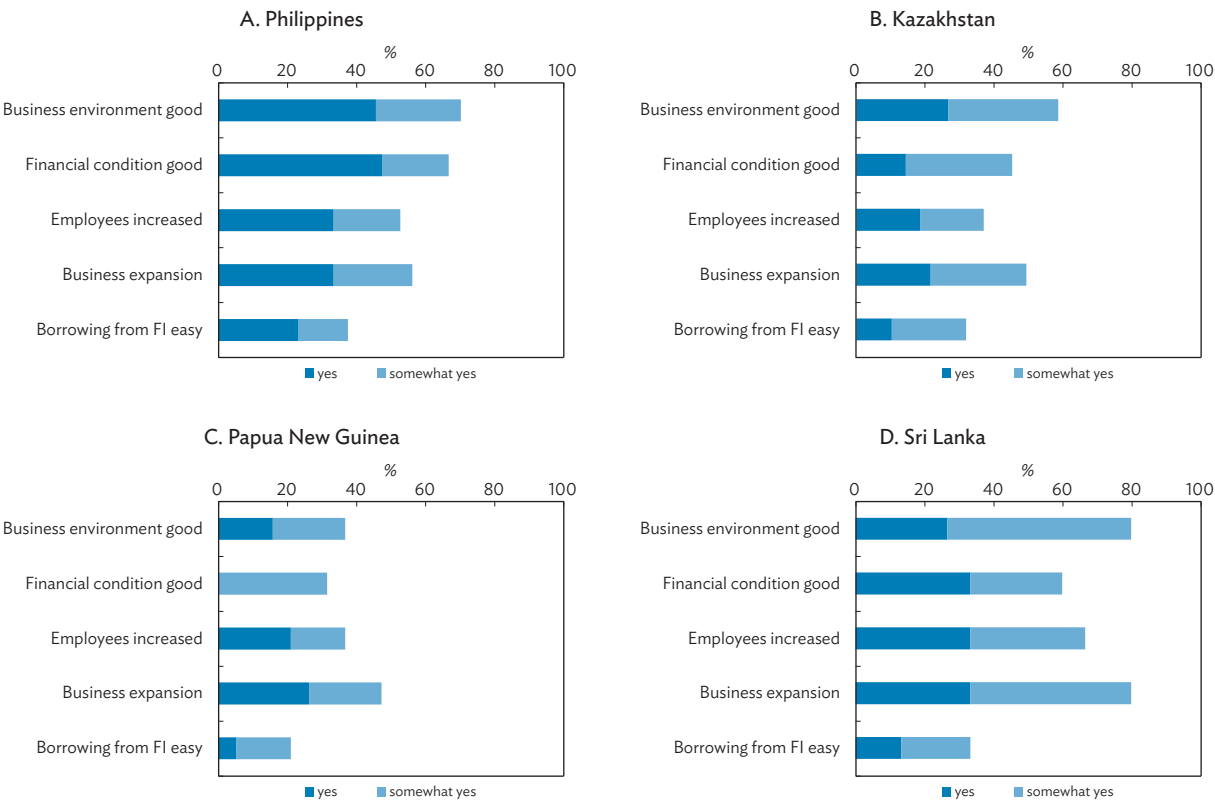
In Sri Lanka, the SMEs surveyed consisted of manufacturing (27%), services (13%), agriculture (7%), construction (7%), and others including information technology and software developers and producers of materials such as plastic (46%). Of the sampled SMEs, 33% were located in the capital city Colombo, and the remaining 67% were in rural areas. In terms of development, 33% of the sampled firms had been operating for less than 5 years, 20% had operated for 6–10 years, 7% for 11–15 years, and 40% for 16–30 years. In terms of size, 8% of respondents had 1–10 employees, 54% employed 11–50 people, and 38% employed 51–100 people at the time of the survey.

### Findings from ADB Survey

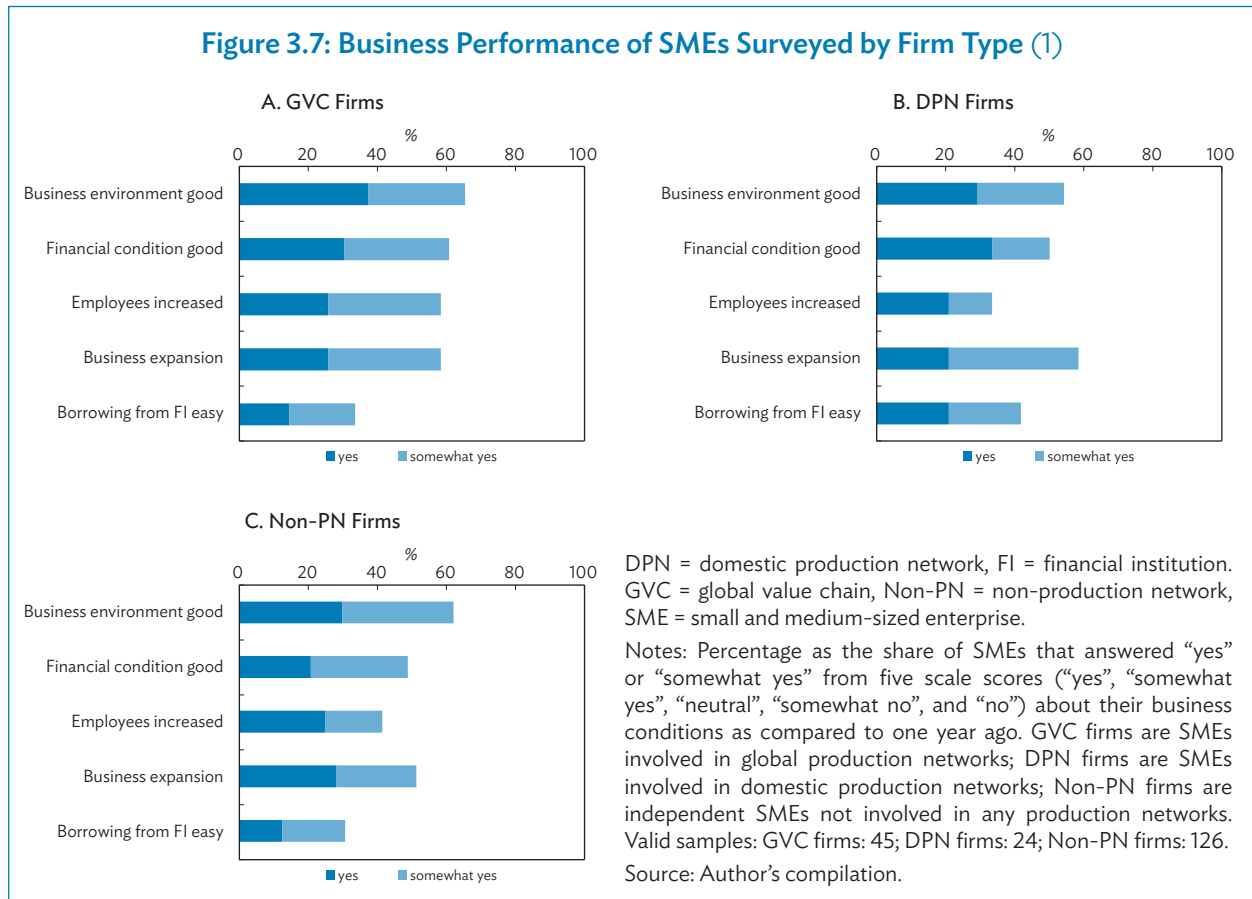
Compared to 1 year ago, the business conditions of the surveyed SMEs in countries with GVCs (the Philippines and Sri Lanka) were generally good, with more than 60% of SMEs responding positively (Figure 3.6). Meanwhile, SMEs in countries with non-GVCs (Kazakhstan and Papua New Guinea) were generally dissatisfied with their business environment, with less than 60% of respondents acknowledging a good business environment. SMEs in countries with GVCs had experienced business expansion, with increased employment, as compared to 1 year ago, while those in countries with non-GVCs had encountered difficulties in business expansion, with less job creation. However, poor access to finance remains a common problem for SMEs across all four countries.

Based on the aggregate data of the four countries, Figure 3.7 illustrates the comparison of business conditions among firms involved in GVCs, those in domestic production networks (DPNs), and those not involved in any type of production network (non-PNs). SMEs in GVCs

**Figure 3.6: Business Performance of SMEs Surveyed by Country**



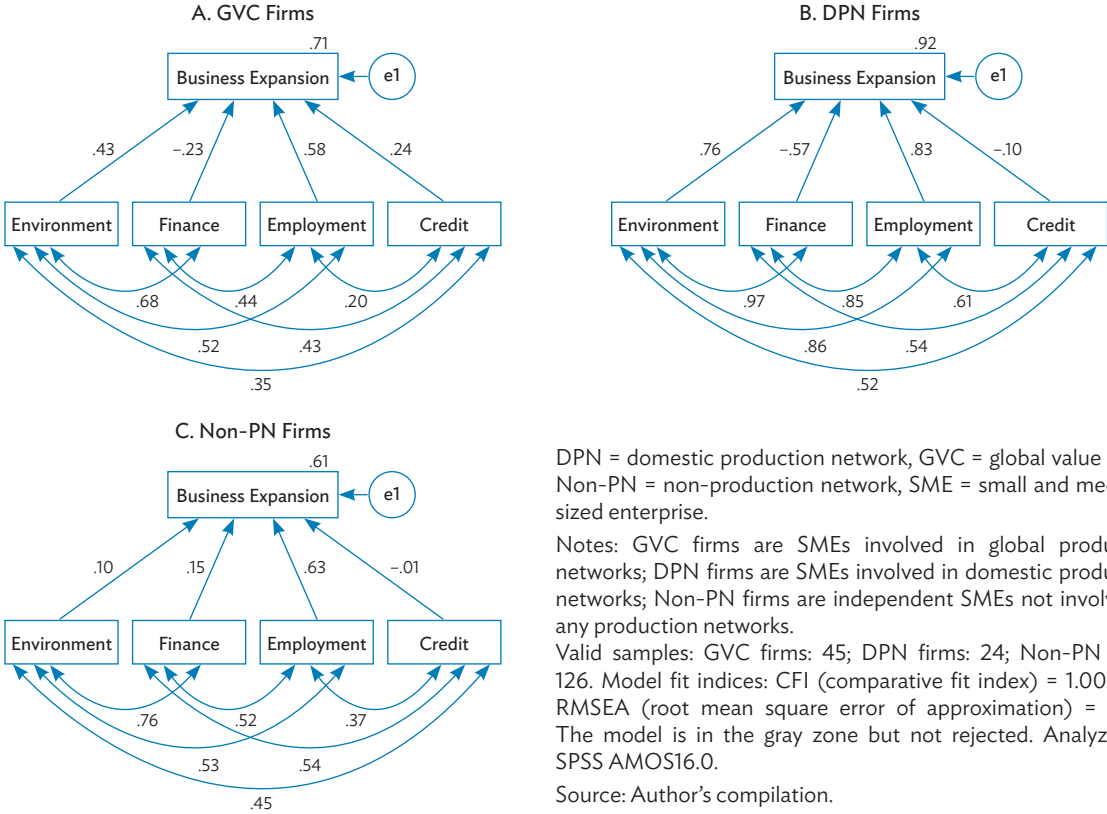
FI = financial institution, SME = small and medium-sized enterprise.  
 Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about their business conditions as compared to one year ago.  
 Valid samples: the Philippines: 63; Kazakhstan: 98; Papua New Guinea: 19; and Sri Lanka: 15.  
 Source: Author’s compilation.



showed relatively better business performance than those in DPNs and non-PNs. Around 60% of SMEs in both GVCs and DPNs had experienced business expansion, compared to 1 year ago, and those in GVCs alone generated more jobs than those in DPNs and non-PNs. The majority of SMEs in GVCs, DPNs, and non-PNs commonly faced funding difficulties from financial institutions, but those in GVCs and non-PNs were likely to have more serious financing difficulties than those in DPNs.

Figure 3.8 indicates the extent to which the external business environment, internal financial conditions, the number of employees, and external financing (credit) influence the business expansion of SMEs in GVCs and non-GVCs. The covariance structure analysis was used for this estimation. The data set was extracted from the survey findings. The result of the analysis (standardized estimates) showed that increased labor force is a critical factor for the business expansion of SMEs, regardless of the firm type. However, for SMEs that participate in GVCs and DPNs, business expansion is somewhat accompanied by high expenditure of corporate budgets (*Finance*). For DPN firms, changes to the external business environment greatly affect their capacity to expand. For GVC firms, increased access to external finance (*Credit*) contributes to business expansion, while for DPN and non-PN firms, it is likely to place a burden on their expansion (e.g., repayments). These estimates suggest that strengthened external finance is a greater priority for GVC firms to survive and grow, as compared to DPN and non-PN firms.

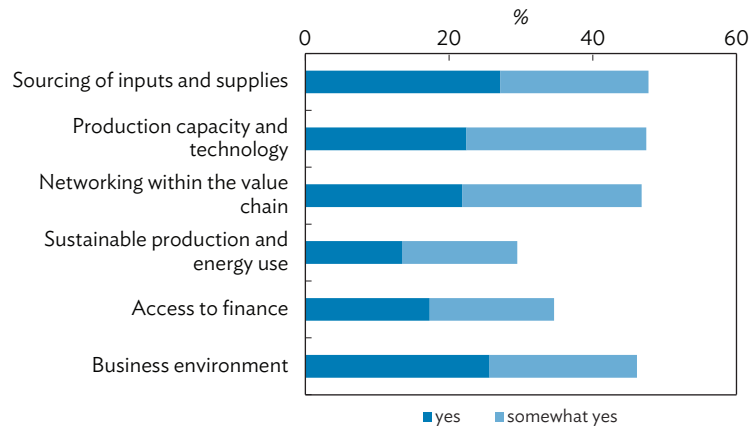
Figure 3.8: Business Performance of SMEs Surveyed by Firm Type (2)



SMEs involved in GVCs indicated relatively good business improvements by participating in GVCs. These improvements refer to: (i) sourcing of inputs and supplies, (ii) production capacity and technology, (iii) networking within the value chain, and (iv) overall business environment. Meanwhile, these SMEs are likely to face limited improvements on access to finance and sustainable production and energy use (Figure 3.9). This suggests that the funding environment for GVC firms needs to be improved by providing timely access to appropriate financing options, so that SMEs can attain sustainable growth through GVCs.

There are several anticipated factors that can promote or constrain SME participation in GVCs, or the internationalization of SMEs. Six factors are considered to affect the successful participation of SMEs in GVCs: (i) product management, (ii) firm management, (iii) firm owner's capacity, (iv) networking, (v) support from external resources, and (iv) external environment (Figures 3.10 and 3.11).

The product management factor is defined as a combined impact arising from: (i) quality of products and services, (ii) compliance of standards and certification for products, (iii) low-cost production, (iv) efficient logistics, (v) the firm's specialization, (vi) flexibility, and (vii) innovation of products and services.

**Figure 3.9: Improvements by Participating in Global Value Chains**

Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about their business improvements through participating in global value chains.

Valid samples: 45 SMEs involved in global value chains.

Source: Author’s compilation.

The firm management factor is defined as the level of: (i) corporate governance, (ii) skilled labor, (iii) training for employees, and (iv) the geographical location of the company (comparative advantage for business).

The owner’s capacity factor is defined as the level of: (i) the owner’s education and experience, (ii) the owner’s ambition for business, (iii) the owner’s familiarity with foreign business practices, and (iv) the owner’s readiness to take risks associated with business.

The networking factor is defined as the level of: (i) relationships with other firms, (ii) technology sharing with other firms, (iii) strengthening of business associations (memberships), and (iv) domestic or international customer relationships.

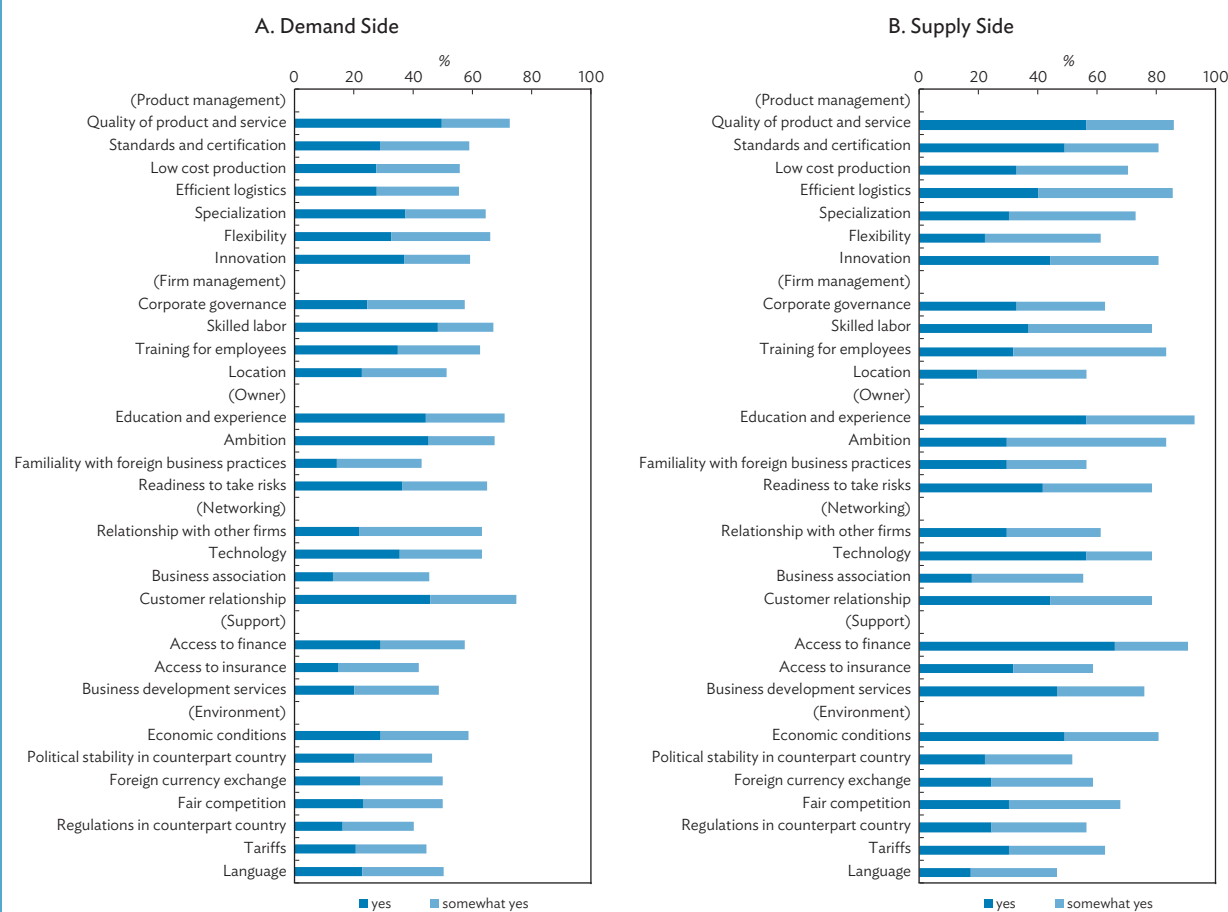
The business support factor is defined as the level of: (i) access to finance, (ii) access to insurance, and (iii) access to business development services (BDSs).

The enabling business environment factor is defined as the level of: (i) national economic conditions, (ii) political stability in the counterpart country for trade, (iii) foreign currency exchange stability, (iv) fair competition, (v) regulations in the counterpart country for trade, (vi) tariffs, and (vii) language barriers for business.

These factors are all closely linked, and will constitute determinants to facilitate or impede SME participation in international trade and GVCs.

Figure 3.10 indicates the perception gap between the demand side (SMEs) and the supply side (financial institutions and government authorities) on factors affecting SME

Figure 3.10: Factors Affecting SME Participation in Global Value Chains (1)



SME = small and medium-sized enterprise.

Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about critical factors affecting SME participation in global value chains.

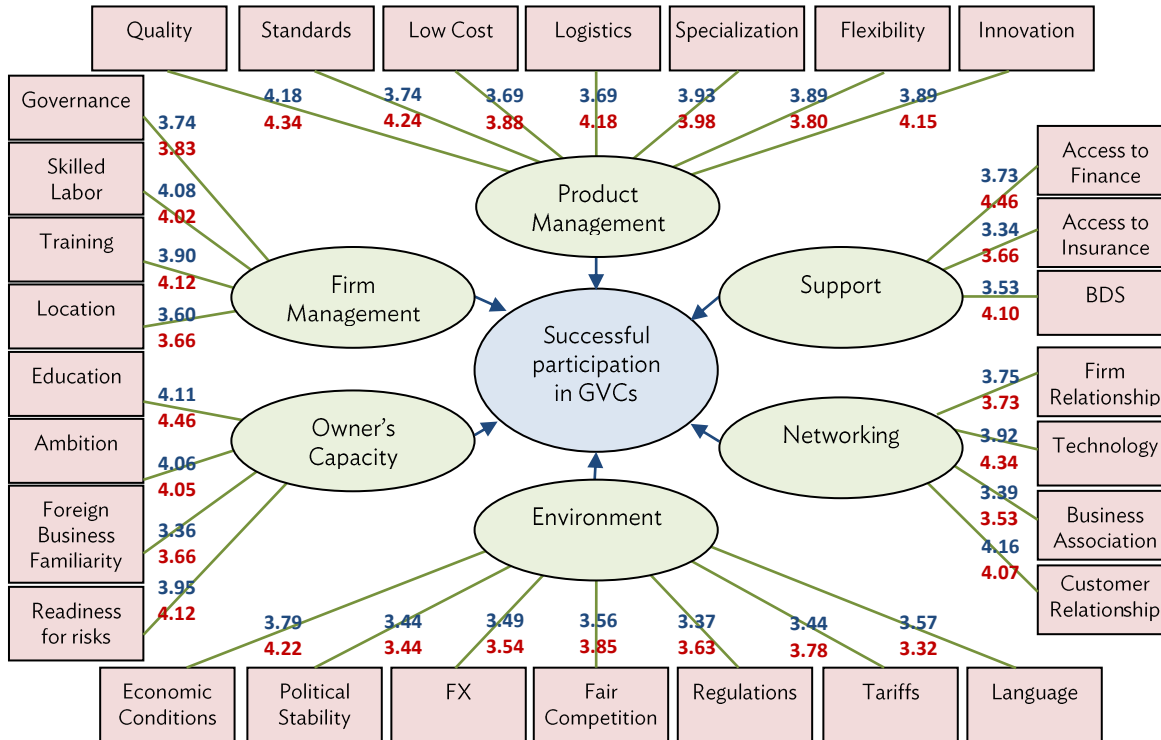
Valid samples: (Demand side) 195 comprising the Philippines: 63; Kazakhstan: 98; Papua New Guinea: 19; and Sri Lanka: 15. (Supply side) 44 mainly comprising government authorities responsible for SME development and financial institutions.

Source: Author’s compilation.

participation in GVCs. A large perception gap was identified in access to finance. On the demand side, 57.4% of SME respondents considered access to finance a critical factor to their participation in GVCs (29% answered “yes” and 28.4% answered “somewhat yes”), while 90.3% of supply-side respondents considered it important (65.9% answered “yes” and 24.4% answered “somewhat yes”). As discussed in the aforementioned analyses, access to finance is a critical component for GVC firms to survive and grow, and it is a lacking element for business improvements. The supply side rightly recognized this condition, but it was not prioritized by the demand side.

Figure 3.11 illustrates the same issue from a different angle. Both the demand and supply sides indicated the same components as being the most impactful influences on SME

Figure 3.11: Factors Affecting SME Participation in Global Value Chains (2)



BDS = business development service, FX = foreign currency exchange, GVC = global value chain, SME = small and medium-sized enterprise.

Notes: The upper figures (blue) are average scores of SME respondents (valid samples: 195). The lower figures (red) are average scores of supply-side respondents (valid samples: 44). In five scale criteria, 1 denotes “totally no contribution” while 5 indicates “critically contributed”.

Source: Author's compilation.

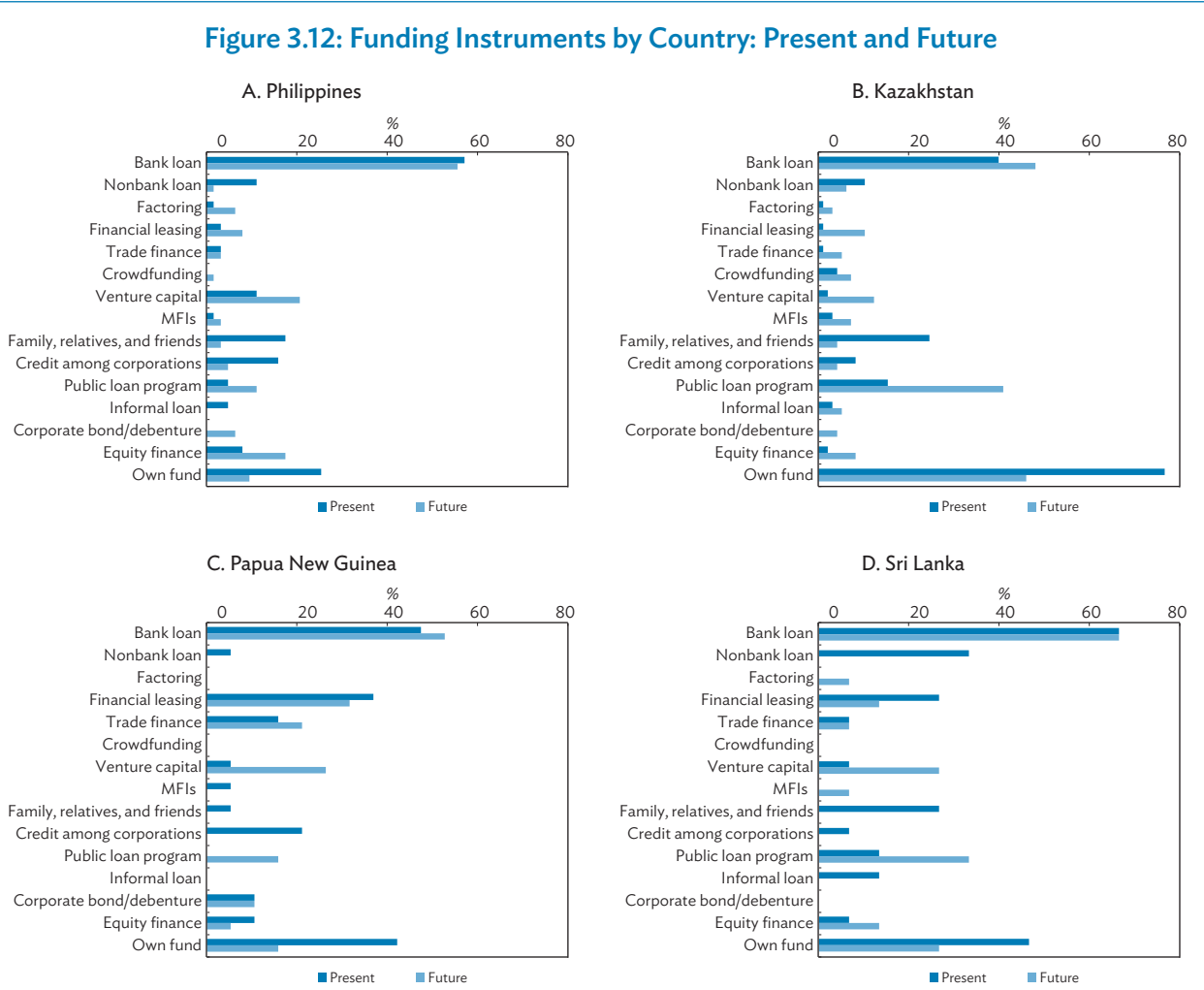
participation in GVCs in four factors: (i) “quality” of products and services under the product management factor, (ii) “education” under the owner’s capacity factor, (iii) “economic conditions” under the enabling business environment factor, and (iv) “access to finance” under the business support factor. However, of all items, the average scores on “access to finance” showed the largest gap between the demand and supply sides, i.e., a gap of 0.73 points.

These results imply one possibility: despite serious funding needs for GVC firms to develop their businesses globally and remain in GVCs, SMEs had little appreciation of external funding due to preconceptions about high barriers to access to financial institutions, and because they had mostly relied on their own capital and/or retained profits for business operations. This assumption, if correct, raises two issues: financial literacy needs to be strengthened, and financing options available need to be broadened for SMEs that are involved, or are seeking to be involved, in GVCs.

Funding instruments

The surveyed SMEs in the four study countries had relatively good access to bank credit, and this trend was more pronounced in countries with GVCs (in the Philippines and Sri Lanka, more than half of the respondents accessed bank credit) than those with non-GVCs (in Kazakhstan and Papua New Guinea, less than half of the respondents accessed bank credit) (Figure 3.12). Meanwhile, SMEs in all four countries relied on their own capital for business operations, and this trend was greatly evident in Kazakhstan (76.5% of respondents), Sri Lanka (46.7%), and Papua New Guinea (42.1%). Borrowing funds from family, relatives, and friends (informal finance) was still popular among SMEs in the four countries. Credit among corporations was also utilized by SMEs across the four countries.

Figure 3.12: Funding Instruments by Country: Present and Future

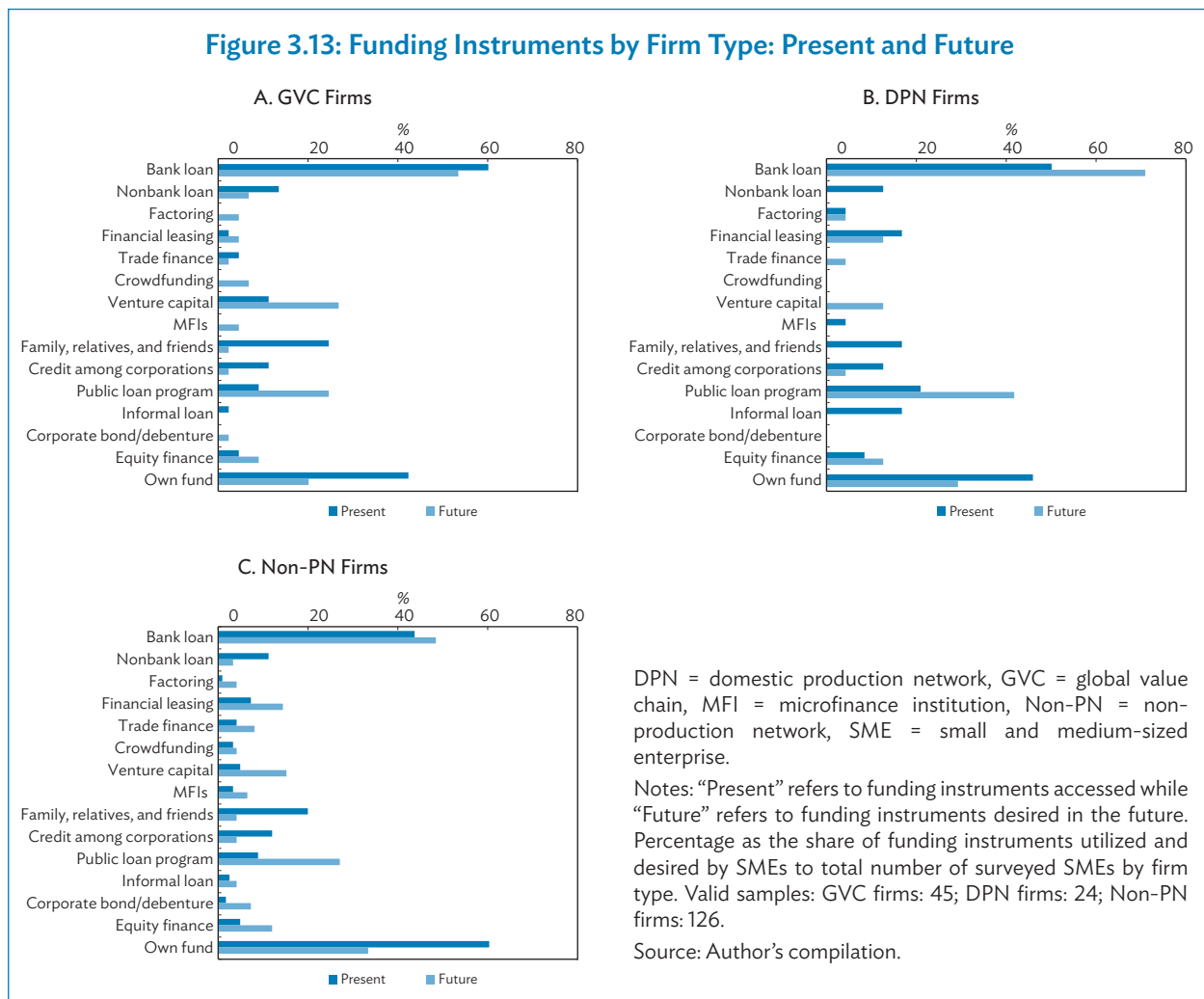


MFI = microfinance institution.  
 Notes: "Present" refers to funding instruments accessed while "Future" refers to funding instruments desired in the future. Percentage as the share of funding instruments utilized and desired by SMEs to total number of surveyed SMEs by country. Valid samples: the Philippines: 63; Kazakhstan: 98; Papua New Guinea: 19; and Sri Lanka: 15.  
 Source: Author's compilation.



For future funding, bank credit was the most desired instrument among the surveyed SMEs. On the other hand, demand for nonbank financial instruments was on the rise, with an especially sharp increase in demand for venture capital financing. SME respondents also expected further access to public loan programs in their respective countries. Meanwhile, they wished to sharply reduce reliance on their own capital and informal borrowing for business. These findings suggest that the SMEs surveyed are seeking to grow further through secure money from formal financial instruments, while wishing to diminish the use of informal finance. Similar results were found in surveys conducted in 2013 for the PRC, India, the Republic of Korea, and Malaysia (Shinozaki, 2014a).

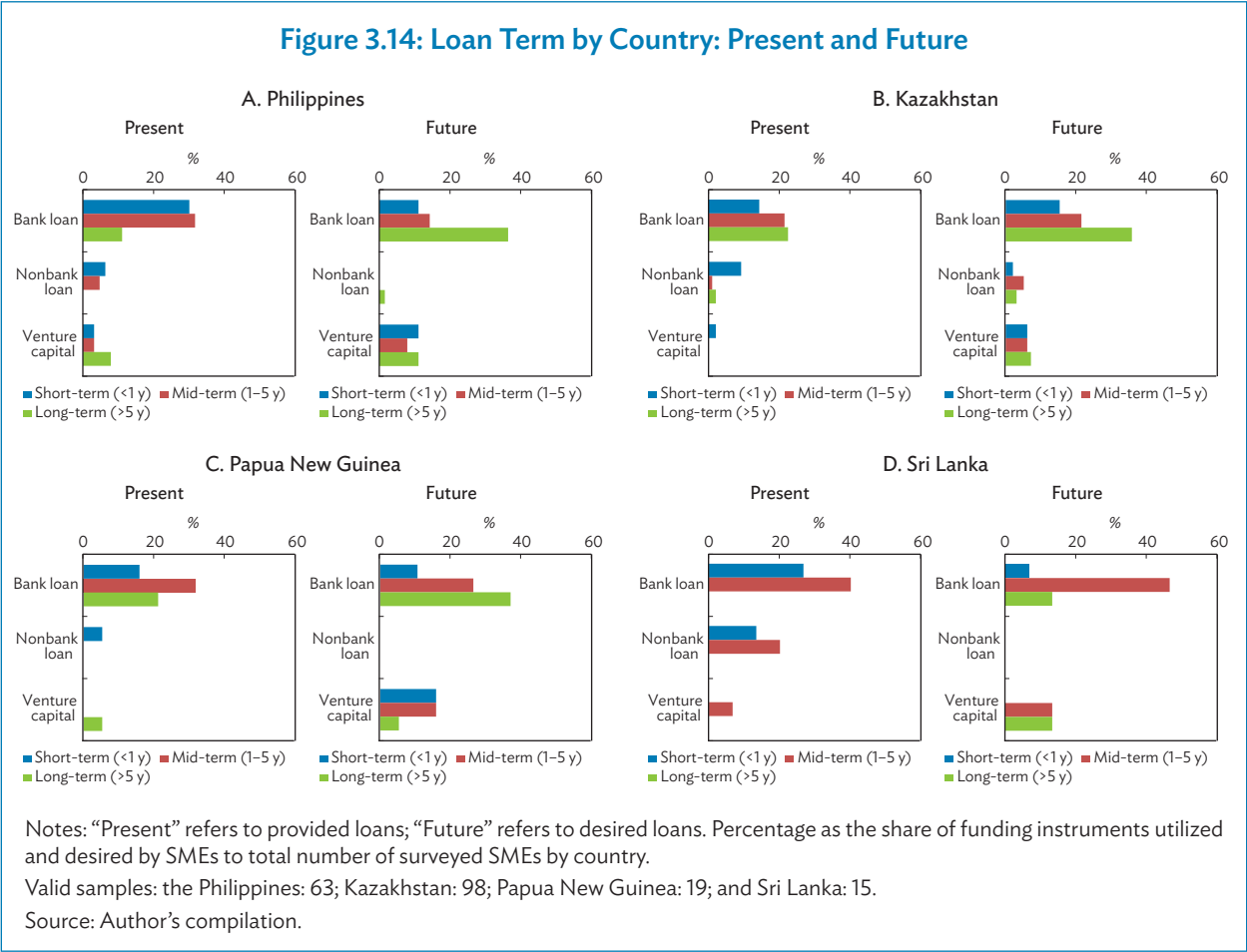
Figure 3.13 shows the results when the same survey data is reorganized by firm type. More than half of GVC firms (60%) and DPN firms (50%) surveyed had access to bank credit, while less than half of non-PN firms (43.7%) accessed it. For future funding, while DPN firms and non-PN firms desired further access to bank credit, GVC firms had less interest in expanding bank credit in the future. Instead, they wished to increase access to venture capital companies for future funding (11.1% of GVC firms had already accessed venture

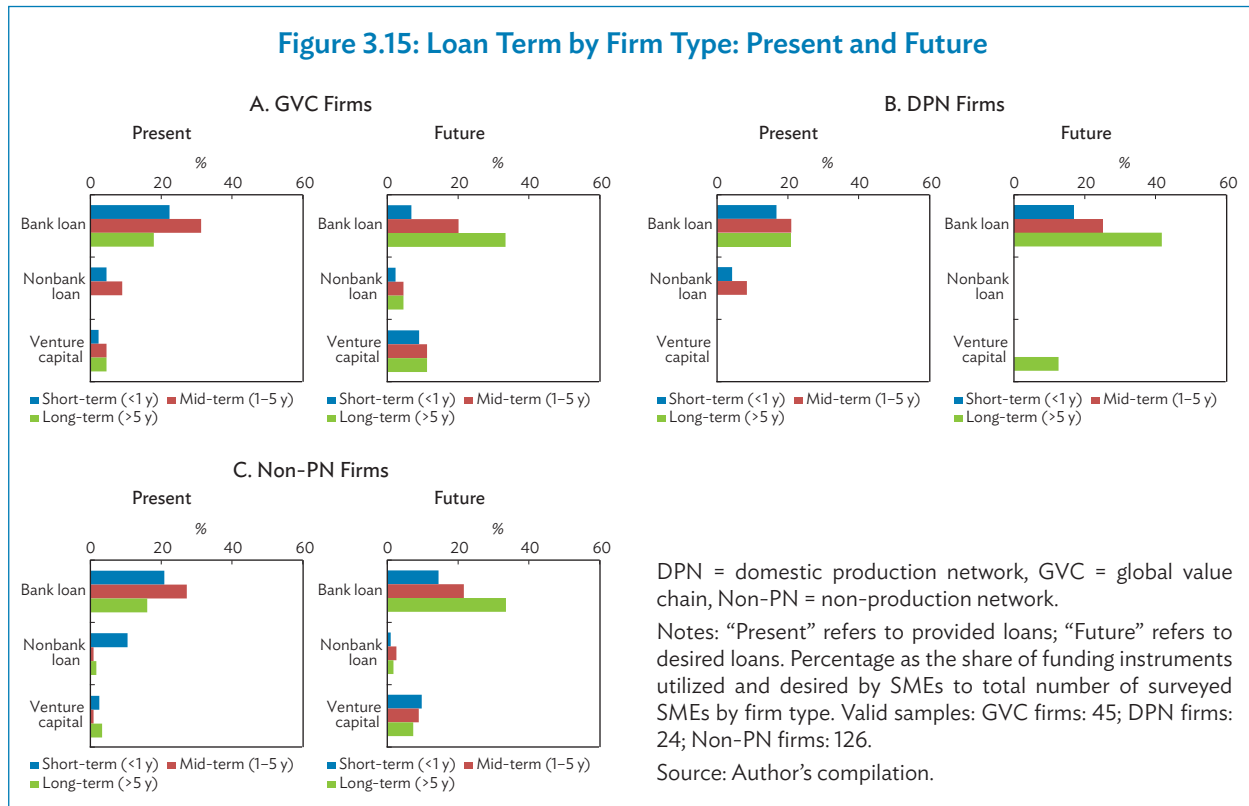


capital, and 26.7% wanted to access it in the future). Further access to public loan programs was desired by all types of firms, with special interest from DPN firms. The demand for direct finance instruments, such as equity finance, is also likely to increase in the future across the four countries. All types of firms relied heavily on their own capital for business. In particular, greater dependence was identified in non-PN firms (42.2% for GVC firms, 45.8% for DPN firms, and 60.3% for non-PN firms). All firms wished to drastically reduce their dependence on their own capital and informal finance for business in the future, and wanted to explore new financing options besides traditional bank credit, which is evident for GVC firms.

Figure 3.14 illustrates the loan terms that SME respondents had accessed at the time of the study and desired in the future. SMEs surveyed had relatively good access to mid-term (1–5 years) credit (31.7% in the Philippines, 21.4% in Kazakhstan, 31.6% in Papua New Guinea, and 40% in Sri Lanka) and long-term (more than 5 years) credit from banks (11.1% in the Philippines, 22.4% in Kazakhstan, and 21.1% in Papua New Guinea). The study also showed that their long-term funding demands from banks are likely to increase further in the future (36.5% in the Philippines, 35.7% in Kazakhstan, 36.8% in Papua New Guinea, and 13.3% in Sri Lanka). While demand for nonbank loans (finance companies) was not strong among the SMEs in the four countries, demand for short-term (less than 1 year) to long-term (more

Figure 3.14: Loan Term by Country: Present and Future





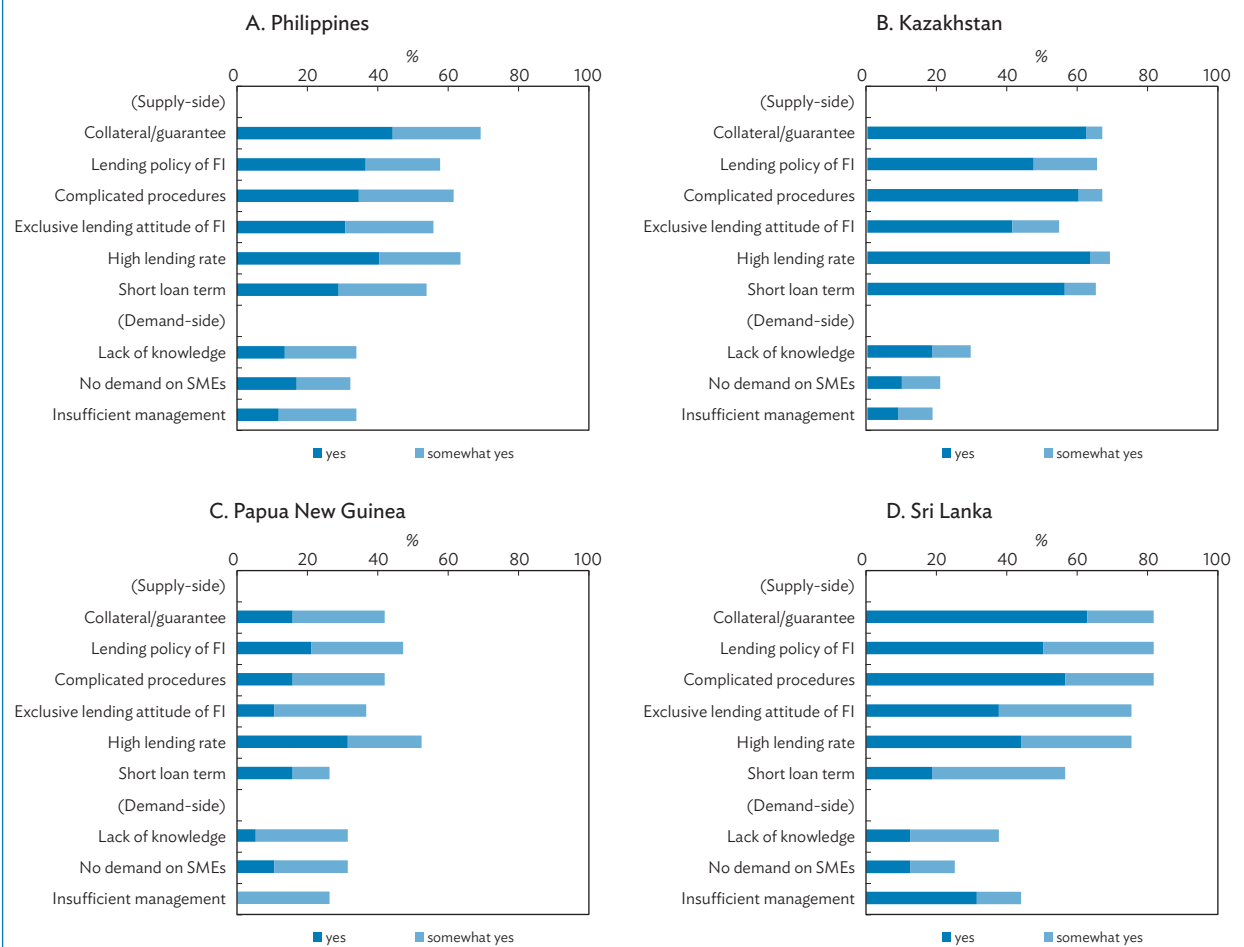
than 5 years) financing from venture capital companies steadily increased. By firm type, a similar trend was seen in GVC firms, DPN firms, and non-PN firms (Figure 3.15).

SME demand for formal financing and long-term funding has been increasing across the four study countries, where GVC firms are likely to require greater access to diversified financing models that go beyond traditional bank credit, with an interest in accessing venture capital financing. However, they have still difficulty in gaining access to the financing instruments they desire. There are also plenty of nonfinancial issues to be improved to encourage their participation in GVCs, and these issues are likely to be more prioritized than finance. This situation, together with their minimal knowledge base on finance, may be preventing GVC firms from actively seeking external finance to expand their business globally and remain in GVCs.

### Barriers to accessing financial institutions

Poor access to finance is a structural problem for SMEs in developing Asia. The SMEs surveyed in the four study countries identified major constraints to accessing formal financial institutions, indicating the barriers as being: (i) collateral and guarantee requirements for loans, (ii) high lending rates, (iii) complicated procedures to borrow money, and (iv) strict lending policies of financial institutions (Figure 3.16). The SMEs also acknowledged their own problems that make it difficult to access external finance, citing a lack of knowledge on financial products and insufficient capacity of management. Around 20%–30% of

**Figure 3.16: Barriers to Accessing Financial Institutions by Country**



FI = financial institution, SME = small and medium-sized enterprise.

Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about barriers to accessing finance.

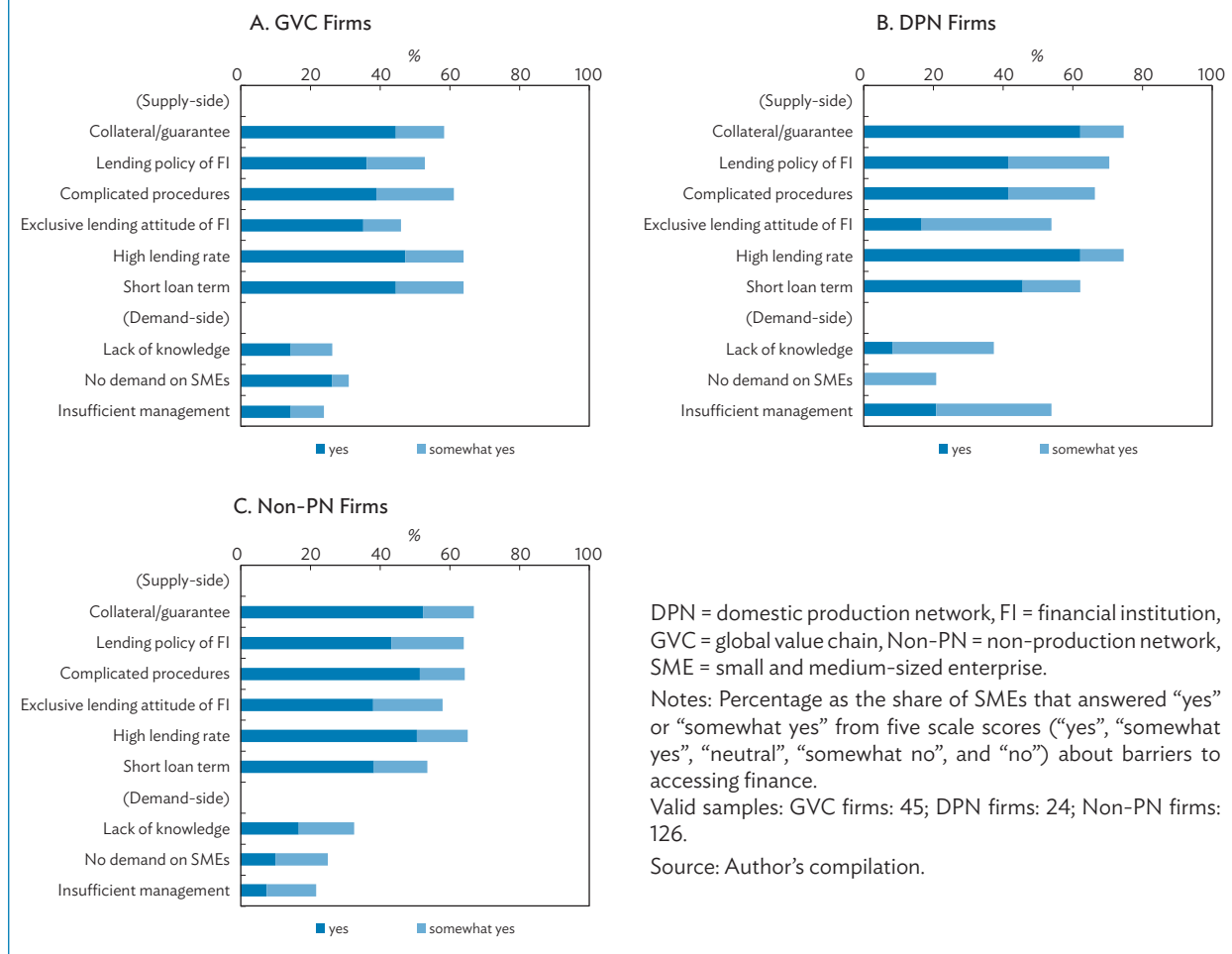
Valid samples: the Philippines: 63; Kazakhstan: 98; Papua New Guinea: 19; and Sri Lanka: 15.

Source: Author’s compilation.

SMEs surveyed in the four countries showed a lack of desire to raising funds from formal financial institutions.

For GVC firms, high lending rates and short loan terms, which do not meet their funding needs, were the most critical reasons constraining their access to financial institutions. This is somewhat different from DPN firms and non-PN firms, which did not indicate short loan terms as being their top financing barrier (Figure 3.17). This is likely to lead GVC firms to seek long-term funding opportunities from diversified financing alternatives, so they can appropriately expand their businesses through GVCs.

Figure 3.17: Barriers to Accessing Financial Institutions by Firm Type



DPN = domestic production network, FI = financial institution, GVC = global value chain, Non-PN = non-production network, SME = small and medium-sized enterprise.

Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about barriers to accessing finance.

Valid samples: GVC firms: 45; DPN firms: 24; Non-PN firms: 126.

Source: Author’s compilation.

## Trade finance

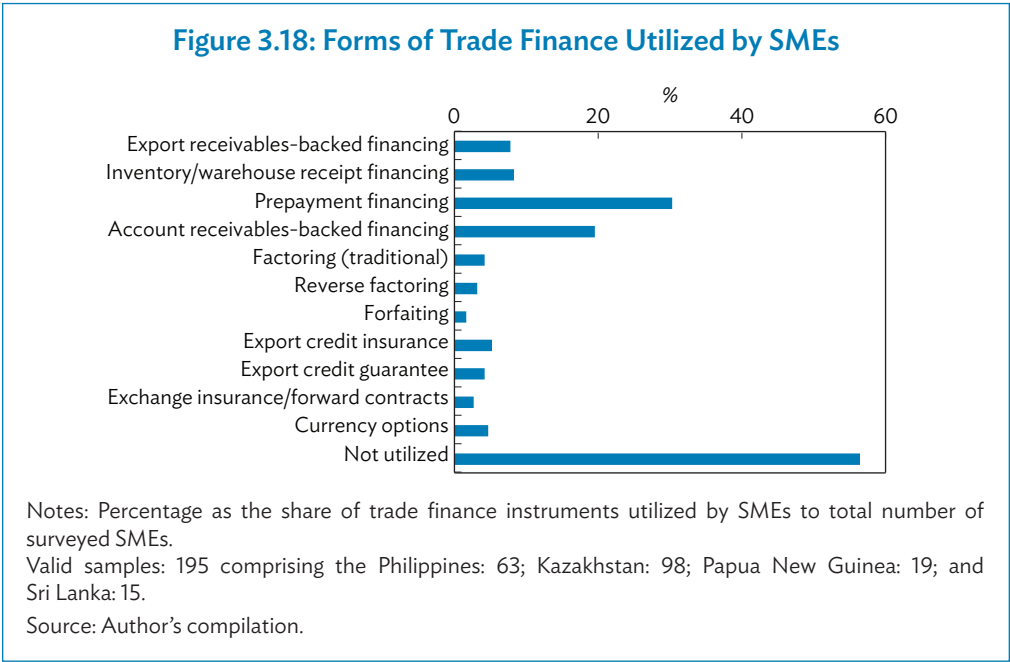
As Asia’s integration in trade and investment grows, GVC links will become more intricate. Given that 80% of global trades arise from GVC linkages, internationalization will become more popular in SME business models. SMEs that seek to expand their business globally, or participate in GVCs, need to access wide-ranging financing options to expediently capture their business opportunities. Trade finance and supply chain finance have a potential to support such internationalized SMEs in their business growth. This will eventually create more jobs and further promote inclusive economic growth in their respective countries.

To this end, the payment systems in international trade need to be made more sophisticated for SMEs.<sup>55</sup> There are basically four payment methods for SME exporters and importers:

<sup>55</sup> ADB-OECD Study on Enhancing Financial Accessibility for SMEs. pp.131–132. <http://www.adb.org/publications/adb-oecd-study-enhancing-financial-accessibility-smes-lessons-recent-crises>

(i) cash in advance, (ii) finance based on letters of credit (LC) or documentary credit, (iii) documentary collection, and (iv) open account or deferred payment. Given the payment risks, SME exporters are likely to prefer cash in advance or full payment prior to shipment, while importers will instead take all risks associated with cash flow problems and undelivered goods against payment. The cash-in-advance arrangement, therefore, struggles to meet the needs of both exporters and importers. LC-based finance guarantees payment from the importer to the exporter, through banks, but the issuance and confirmation of the LC are somewhat complicated procedures, which may delay payment. Documentary collection is a trade finance method in which the payment can be made based on the document-against-payment or the document-against-acceptance in exchange for shipping and title documents. It is different from the LC because banks do not guarantee the payment from the importer to the exporter. Documentary collection is relatively riskier than the LC. The open account or deferred payment method brings all risks to the exporter, e.g., waiting to receive payment after shipping, while the importer is likely to prefer it (because payment by the importer is made only after receiving the goods). As the open account is a high-risk option for exporters, credit insurance and/or export guarantee will be combined with this option. Factoring is shown to be a promising trade finance option, with benefits for both exporters and importers. Exporters take immediate cash in advance after shipping goods, and so are released from cash flow problems, while importers enjoy a simplified transaction with cost efficiency, and so are released from complicated and costly procedures such as opening LC.

Figure 3.18 shows the sources of funds for international trade among SMEs surveyed across the four study countries. Of the SME respondents, 56.4% did not use trade financing instruments or did not undertake international trade for their business, while 30.3% utilized prepayment financing, and 19.5% used account receivables-backed financing for trade. Prepayment financing is a type of pre-export finance, which enables the exporter (supplier)



to raise funds in advance from a financial institution, based on the proven orders from the importer (buyer). This type of financing often creates long-term relationship of business between the supplier and the buyer. Account receivables-backed financing is a type of asset-based finance, which enables the firm (borrower) to use its trade accounts receivable as collateral for loans. Inventory receipt finance, factoring, forfaiting, export credit guarantees, and export credit insurance were not popularly utilized by the SMEs surveyed. Trade finance literacy for SMEs is one of the critical issues for promoting global trades, while the recent international frameworks on banking supervision propounded by Basel III may discourage banks in dealing with trade finance for SMEs.

## Policy Implications

The discussions in the previous section revealed that there is clear demand among GVC firms for long-term funding of more than 5 years from formal financial institutions. However, they have difficulty seeking appropriate financing options that meet their strategic needs to expand globally, because of nonfinancial priorities, such as improving product quality and firm management, as well as the need to deal with a rapidly changing external business environment. Moreover, a lack of knowledge about finance prevents these firms from actively exploring funding opportunities from diversified financing alternatives.

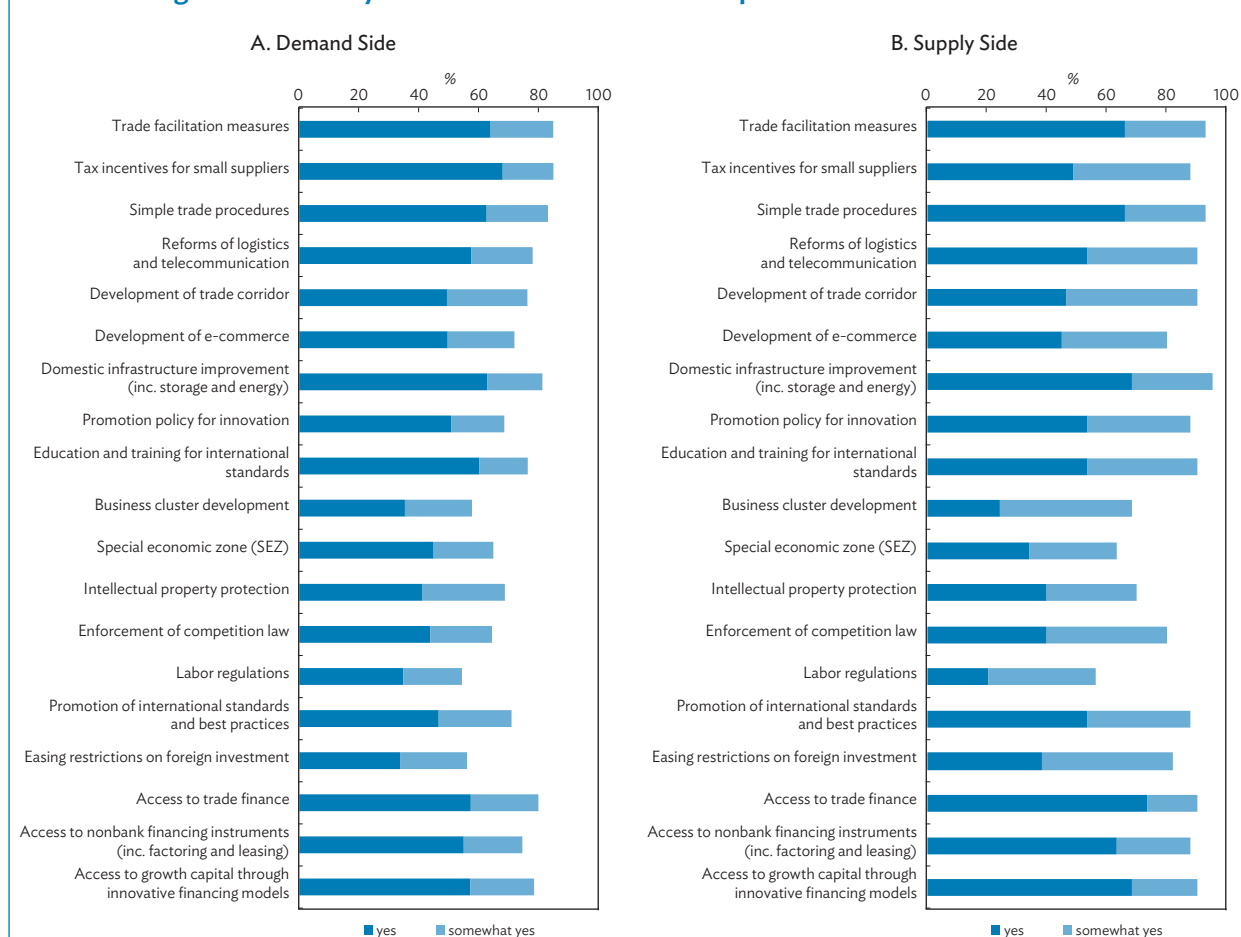
As indicated in Figure 3.8, GVC firms need more growth capital than non-GVC firms to survive and grow in global marketplaces. They have relatively good access to bank credit, but it has yet to meet their funding needs in terms of loan tenure. GVC firms need greater access to diversified financing models that go beyond traditional bank credit, and this directs their attention to venture capital financing. Trade finance and supply chain finance can also help internationalized SMEs (exporters and importers) survive and grow in GVCs.

Given the changing business environment brought by economic integration and foreign direct investment, the internationalization of SMEs will be more prevalent in developing Asia. Accordingly, new financing mechanisms should be articulated for GVC firms or internationalized SMEs, so as to attain stable business development and growth through GVCs. This will enhance the growth trend of labor productivity, and support further inclusive growth at the national level. Taking this into consideration, the following section discusses policy implications for promoting SME participation in GVCs and proposes possible financing models to facilitate SMEs to link into GVCs.

## Policy Intervention for SME Participation in Global Value Chains

Figure 3.19 compares perceptions between the demand side (SMEs) and the supply side (financial institutions and government authorities) about critical elements for effective policy schemes to promote SME participation in GVCs. More than 80% of SMEs surveyed identified that policy priorities for promoting SMEs into GVCs were: (i) tax incentives for small suppliers (85.2% positive response), (ii) trade facilitation measures (85.1%), (iii) simple trade procedures (83.3%), (iv) domestic infrastructure improvements including storage and energy (81.5%), and (v) access to trade finance

Figure 3.19: Policy Intervention for SME Participation in Global Value Chains



SME = small and medium-sized enterprise.

Notes: Percentage as the share of SMEs that answered “yes” or “somewhat yes” from five scale scores (“yes”, “somewhat yes”, “neutral”, “somewhat no”, and “no”) about critical elements of policy measures to promote SME participation in global value chains.

Valid samples: (Demand side) 195 comprising the Philippines: 63; Kazakhstan: 98; Papua New Guinea: 19; and Sri Lanka: 15. (Supply side) 44 mainly comprising government authorities responsible for SME development and financial institutions.

Source: Author’s compilation.

(80.1%). Meanwhile, more than 90% of the supply-side respondents indicated that policy priorities would be: (i) domestic infrastructure improvements including storage and energy (95.1% positive response), (ii) trade facilitation measures (92.7%), (iii) simple trade procedures (92.7%), (iv) reforms of logistics and telecommunication (90.2%), (v) development of trade corridor (90.2%), (vi) education and training for international standards and regulations (90.2%), (vii) access to trade finance (90.2%), and (viii) access to growth capital through innovative financing models (90.2%).

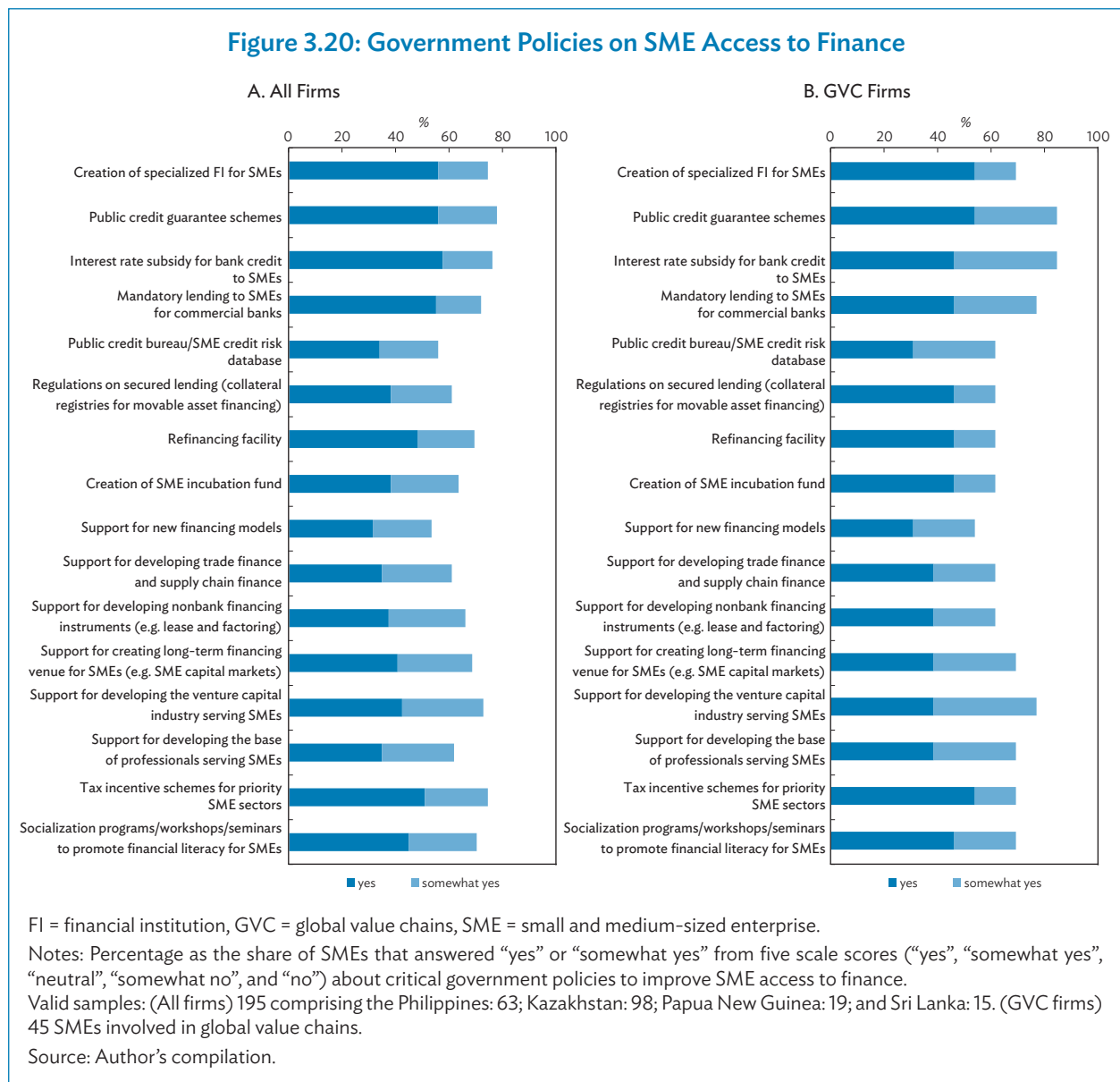
Improving access to trade finance was identified by both the demand side and the supply side as one of the critical policy interventions for SMEs to participate in GVCs. Promoting



innovative financing models, so that SMEs could expediently access growth capital, was also addressed by the supply side.

## Government Policies to Improve SME Access to Finance

Improving access to finance is a critical concern among SMEs in order to achieve sustainable business growth. As shown in Figure 3.20, the surveyed SMEs indicated that the most crucial government policies to enhance access to finance are likely to be: (i) public credit guarantee schemes (77.3% positive response), (ii) interest rate subsidy for bank credit to SMEs (75.6%), (iii) creation of specialized financial institutions for SMEs (73.9%), and (iv) tax incentive



schemes for priority SME sectors (73.9%). Among policy measures to address SME access to finance, support for developing trade finance and supply chain finance was acknowledged by only 60.5% of SMEs surveyed.

For GVC firms, desired policy measures to improve their financial accessibility are likely to be: (i) public credit guarantee schemes (84.6% positive response), (ii) interest rate subsidy for bank credit to SMEs (84.6%), (iii) mandatory lending to SMEs by commercial banks (76.9%), and (iv) support for developing the venture capital industry serving SMEs (76.9%). Support for developing trade finance and supply chain finance was acknowledged by only 61.5% of GVC firms surveyed. The SMEs surveyed, including GVC firms, recognized the importance of trade finance for encouraging their active participation in GVCs. However, their immediate need for access to finance tended to focus more on tangible support from the government i.e., public guarantees and subsidies, to strengthen their balance sheets. For GVC firms, venture capital financing is of keen interest.

## Financing Models to Encourage SME Internationalization

Innovative financing products and services are required to respond to the real needs of SMEs at different stages. In Asia, it is common for banks to take real estate security as collateral to hedge credit risks, which is often burdensome for SME borrowers, and results in poor access to bank credit for SMEs. Asset-based finance is a promising tool that makes use of a firm's valued assets (such as movables and accounts receivable as collateral for loans or through sales or lease), not dependent upon real estate securities and third-party guarantees. Credit-score-based lending and SME cluster financing are instruments for banks to be able to reduce transaction costs. Crowdfunding is a new source of growth funding for SMEs. Debtor-in-possession or exit financing may be an option, when it is necessary to rescue innovative SMEs from bankruptcy. Given the increasing trade and investment with growing GVC links in Asia, trade finance and supply chain finance are crucial instruments to be developed for supporting industries or SME product suppliers/exporters/importers.

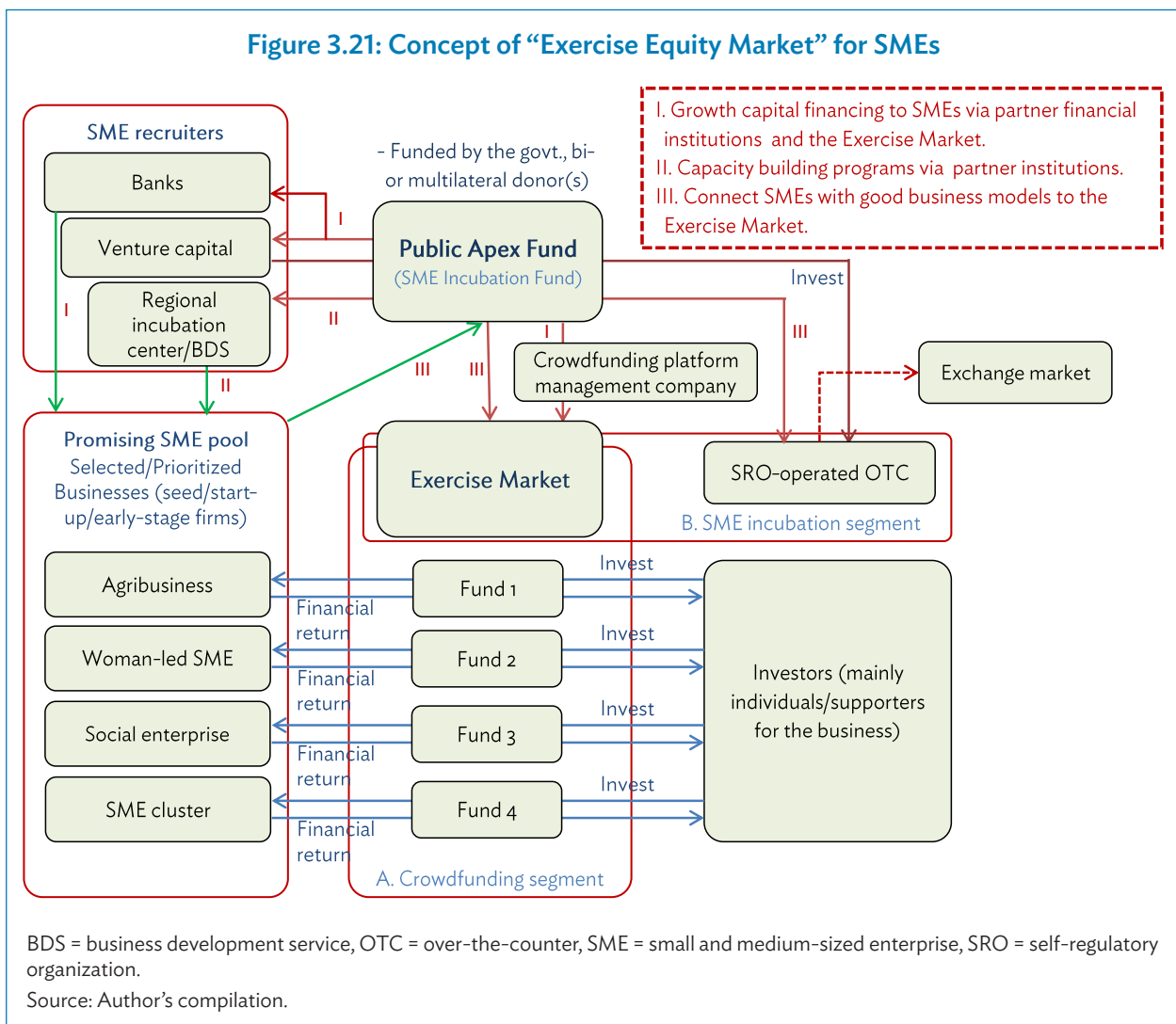
Foreign currency exchange risk is one of the factors affecting SME participation in GVCs, as indicated in Figure 3.11. In this regard, the currency-swap-trade-settlement between the PRC and the Republic of Korea is an example of a promising approach to trade finance facilitation for SMEs. This system enables the importer (buyer) in each country to borrow in the exporter's currency, to make payment for trade bills in that currency (Park and Shin, 2014). The Bank of Korea and the People's Bank of China provide importers with loans in Korean won or Chinese yuan, through local banks, using the currency-swap agreement between the two central banks. This scheme is expected to promote local currency invoicing and settlement, reduce transaction costs for importers and exporters, and potentially benefit SMEs involved in GVCs. However, this system has yet to be fully established, and further assessment of the mechanism is needed.

A new financing model for SMEs involved in horizontal firm linkage is needed, on the basis that they face greater difficulty in accessing finance than those involved in the vertical firm linkage model. As discussed earlier in the chapter, SMEs with vertical linkages to an MNC have relatively wider funding options (e.g., credit among corporations and/or finance from

MNC-led financial institutions) than those in the horizontal firm linkage model. Given the lack of connection to a large MNC for SMEs in the horizontal firm linkage, they need to have diverse funding alternatives that effectively support their need for working capital and investment for business operations under the GVC.

As a possible mechanism to provide seamless finance—from short-term working capital to long-term growth capital for high-end SMEs, including GVC firms—especially for SMEs in the horizontal firm linkage model, the creation of an “exercise equity market” is worth consideration in developing Asia (Figure 3.21). The concept is based on the public-private partnership (PPP) framework for financing SMEs, by making the best use of all possible resources in the financial sector. The exercise market aims to create a market mechanism that incubates “smaller but growing” firms that will eventually tap the exchange market. There are basically two steps to create this infrastructure. The first step is to set up the public Apex Fund invested by the government and bilateral or multilateral donors. The second is to set up the exercise equity market comprising two financing channels;

Figure 3.21: Concept of “Exercise Equity Market” for SMEs



the crowdfunding segment and the self-regulatory organization (SRO)-operated over-the-counter (OTC) market.

The public Apex Fund provides credit lines for partner banks and venture capital companies serving SMEs, to deliver growth capital for promising SME segments—such as agribusiness, women-led SMEs, and social enterprises. The public Apex Fund also provides capacity building programs through regional incubation centers or business development services. Through these practices, the fund creates a data pool on promising SMEs.

The “exercise market” creates a crowdfunding platform (managed by a private sector company) and an OTC market (operated by an SRO like a securities/dealers association). The Apex Fund selects SMEs with good business models from the SME pool, and then connects them to either the crowdfunding segment or the OTC segment. The crowdfunding segment supports the investment and working capital finance needs of SMEs, connecting them to individual investors and/or their business supporters, while the OTC segment provides a chance for SMEs to learn more about market rules and obligations, such as disclosure, before tapping the exchange market. The OTC segment also gives SMEs support to improve their corporate culture through learning the importance of increased “corporate value” for growth.

The advantage of this financing model is to provide seamless funding opportunities for SMEs that are underserved by financial institutions but have good business and growth potential. Such SMEs particularly include seed/start-up/early-stage firms, women entrepreneurs, and SME business clusters. Investors in the crowdfunding platform consider a firm’s products and services in their investment decisions, and basically do not regard the firm itself as a risk factor for finance. SMEs that grow through timely access to working capital finance via the crowdfunding platform have another opportunity to strengthen their growth capital through the OTC segment. SMEs in business sectors (such as agribusiness, food processing, and handicrafts) that relied on horizontal firm linkages or business clusters, but faced chronic financial difficulties, are also potential beneficiaries in the exercise equity market model. This financing model is expected to promote the growth and graduation cycle of enterprises, facilitate more SMEs to participate in the GVC, and boost national productivity.

## Conclusion

Given the cumulative impact of SMEs to their national economies, SME sector development is a key policy pillar in developing Asia as well as the rest of the world, in which access to finance is a core policy component. The survey findings identified several nonfinancial priorities, such as product quality improvements and human resource development, as critical factors promoting SME participation in GVCs. Meanwhile, access to finance is the most pressing factor in enabling SMEs to improve these nonfinancial problems, and a critical success factor for integrating them into GVCs. SMEs surveyed in four countries have a clear demand for long-term funding from formal financial institutions, in order to survive and grow in GVCs. The changing business environment, created by economic integration and foreign direct investment, has encouraged SMEs to

consider shifting their business models from domestically focused to globally competitive. This requires new financing solutions for those SMEs that participate in GVCs. The public-private partnership framework for financing SMEs was proposed to provide seamless finance, from short-term working capital to long-term growth capital, which is expected to efficiently respond to the funding needs of SMEs in GVCs or internationalized SMEs.

This ADB survey had some issues in relation to sample sizes, which made it difficult to conduct detailed analysis of critical factors constraining SME participation in GVCs by business sector, type of GVC (vertical versus horizontal firm linkage models), and country. Further studies are needed, with higher SME and stakeholder sample sizes, so as to move this discussion forward.

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## CHAPTER 4

# Trade and Supply Chain Finance

by Steven Beck, Alisa DiCaprio, and Santosh Pokharel<sup>56</sup>

**T**rade finance has played a critical role in the expansion of trade over the past century. It enables firms to manage risks and distribute costs among parties. Without finance, global trade would grind to a halt. The interdependent relationship between trade and trade finance was sharply underscored during the Global Financial Crisis (GFC) of 2008/09, when access to finance was sharply curtailed, which contributed to a downward spike in merchandise trade flows. The global financial architecture has changed in the years since the GFC, but small and medium-sized enterprises (SMEs) in particular still struggle to access the finance they need to support exports.

Exporting firms of any size require financing support to enable their production and trade activities. In addition to normal operating costs, they face additional expenditures tied to the export process. These can include, for example, learning about foreign markets, regulatory compliance, and product customization (Foley and Manova, forthcoming). The limited participation of SMEs among exporting firms is in part explained by their relatively higher costs related to both these expenditures and the cost of trade finance.

The cost and availability of trade finance is variable across many measures. However, access to finance remains a persistent challenge for both emerging markets and SMEs. For emerging markets, trade finance is constrained via four channels: low or non-existent country risk ratings, weak banking systems, lack of credit information, and regulatory requirements. For SMEs, constraints also include the high price of capital, and inability to meet bank requirements.

These two groups were particularly hard hit during the GFC, as a result of the scarcity of capital among many banks. This led to financial institutions focusing on core clients in strategic markets at the expense of SMEs and developing countries. While the crisis has subsided, these populations remain underserved and represent market segments and regions with proportionally high market gaps for trade finance.

In this chapter, we explore the reasons for, and ways to address, the post-GFC global gap in trade finance, through the lens of its impacts on SMEs. Section 1 describes the variations in trade and supply chain finance during the GFC. Section 2 characterizes the persistent nature of trade finance gaps, and highlights its impact on jobs and growth. Section 3 asks whether SMEs have a different experience with trade finance than other firm types, while

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Section 4 explains three key ways ADB has expanded the reach and diversity of financial products in order to meet the needs of SMEs across the region. Section 5 provides a conclusion.

## Trade and Supply Chain Finance: The Wheels of World Trade

While it was immediately obvious that trade finance was constrained during the GFC, the lack of data obscured the extent to which trade finance frictions were responsible for the decline in merchandise trade. In 2008/2009, the World Trade Organization convened several Trade Finance Expert Group meetings to coordinate action against plummeting trade volumes. Policymakers need statistics to help direct policy decisions, but no statistics were available to help guide an official response to the crisis in trade finance. Calls from the private sector for massive government and multilateral action to enhance financial support for trade were not underpinned by hard data.

The ADB Trade Finance Survey was initiated in 2013, as part of the process to help fill this knowledge gap. The survey went through a subsequent iteration in 2014 and is in process for 2015 (e.g. Beck *et al*, 2013; DiCaprio *et al*, 2014). These surveys collected, for the first time, information on the reasons for, and sizes of, gaps in trade finance. They also related those gaps to economic growth and job creation outcomes.

In this section, we set the stage for discussing the results of these surveys by looking at what happened to trade finance in Asia during the GFC. After a brief introduction of the types of finance dealt with in this paper, we turn to describing the components of the crisis in Asia.

### Trade Finance and Supply Chain Finance: Different Targets, Similar Role in Trade

Trade finance and supply chain finance are two of the primary categories of assistance that financial providers offer to firms to facilitate global commerce. Both types of finance influence the extent to which firms can engage with the global economy, and both were affected by the GFC in ways that continue to impact firms today.

Trade finance consists of four elements: payments, financing, risk mitigation, and information (Malaket, 2014). In its narrowest form, trade finance involves loans<sup>57</sup> and guarantees<sup>58</sup> from banks,<sup>59</sup> which underpin imports and exports. It is typically of short tenor and supports cross-border trade by either directly providing funding or through unfunded guarantees on behalf of the importer to the exporter. The most common form of trade finance instruments are letters of credit, deferred letters of credit, and trade loans.

<sup>57</sup> to manufacture for export or to purchase imports.

<sup>58</sup> often in the form of letters of credit which represent a bank obligation to pay, thereby removing an exporter's payment risk on an importer and replacing it with a bank risk (risk on the bank that issued the letter of credit or other trade finance instrument).

<sup>59</sup> Apart from banks, insurance companies and export credit agencies (ECA) also provide trade finance products.



Supply chain finance differs from trade finance in two senses. It assumes corporate risk, not bank risk, and it can support domestic as well as cross-border supply chains. Supply chain finance is a form of receivables finance or factoring. In its narrowest form (post-acceptance finance), the supplier sends an invoice to the buyer, which the buyer approves in a supply chain finance platform on an irrevocable basis. Once approved, the supplier is able to sell the invoice to a financier.

**Table 4.1: Comparison between ADB's Trade Finance and Supply Chain Finance Programs**

Trade Finance Program	Supply Chain Finance Program
Bank risk	Corporate/SME risk
Only supports companies with existing bank relations	Can support companies not traditionally considered bankable
Only cross-border trade	Both domestic and cross-border
Limited support for open account transactions	Mostly supports open account transactions
Trade finance is well established for hundreds of years	Supply chain finance is new

SME= small and medium-sized enterprise.

Source: ADB Trade Finance Program.

Unlike the advanced just-in-time efficiencies obtained in the physical supply chain in recent decades, the financial supply chain is still primarily a manual, nonintegrated, and inefficient process. As a result, under the current system, cash flow for working capital can be trapped in the supply chain, undermining the ability of companies, especially SMEs, to expand and create jobs. For example, having to wait 30–180 days post-shipment for payment may mean having to temporarily shut down operations. With supply chain finance, receiving cash even just 30 days earlier could make a substantial difference. Companies would have a steady flow of working capital to maintain production capacity, process new and existing orders, retain staff, and ultimately expand operations and employ more people.

There are many benefits to supply chain finance for all parties. For buyers, it reduces working capital requirements by stretching out payment terms to suppliers, enhances relationships with suppliers through early payments, and helps secure delivery of supplies. For suppliers, supply chain finance creates the opportunity to receive early payment of invoices, reduces working capital requirements by reducing payables outstanding, allows better and predictable payment flows, creates an enhanced buyer relationship, and reduces financing costs. For lenders, supply chain finance leads to increased buyer financing with enhanced returns, efficient transparency and visibility of underlying payables with an automated supply chain finance platform, and the opportunity to enhance relationships with buyers and their suppliers.

## What Happened to Finance in Asia During the Global Financial Crisis?

In Asia, the relative health of commercial banks was good in 2008, as a result of improvements following the 1997 Asian financial crisis. In addition, the region had

experienced a rising tide of intraregional trade, which provided some temporary protection from the GFC.

Banks in Asia's relatively developed emerging markets (the People's Republic of China [PRC], India, the Republic of Korea, Malaysia, and Thailand) are more integrated into the global financial system than banks in developing Asian countries (Bangladesh, Nepal, Pakistan, and Viet Nam) and were therefore more susceptible to systemic global crisis. Banks in these more developed emerging markets had trouble acquiring funding in general, including for trade finance. Pricing for trade finance doubled and fluctuated wildly during the height of the GFC, including for imports to Asia (required for export production).

At various intervals during the crisis, Asia suffered from a lack of United States (US) dollars to support trade. Approximately 80% of international trade is conducted in US dollars and insufficient dollars placed a major strain on Asia's ability to conduct trade. US banks that had funds (US Treasury programs were important to ensure sufficient liquidity) were reluctant to lend to their correspondent banks around the world at the height of the crisis, because they didn't know which institution would go bankrupt next; the interbank market was closed. This overreliance on one currency poses risks to the international trade system, as has been seen at various intervals during the GFC. Interest in the yuan as a potential alternative settlement currency rose as a result.

Another impact of the GFC for Asia was the inability to get payment obligations from banks (such as letters of credit) guaranteed. These guarantees are critical to trade. The fact that most Asian banks were not in jeopardy, and were in much better condition than US and European banks, was lost. Trust and confidence in financial institutions everywhere evaporated at the height of the crisis, as did the interbank system of guarantees that are so important to trade. However, even in the best of times, banks in many of ADB's developing member countries have trouble securing guarantees, hence the existence of persistent market gaps.

Much of Asia was, and to a lesser extent remains, dependent on export markets in the US and Europe. As a result of the GFC, and ensuing recessions in traditional export markets, many Western buyers were performing poorly or going bankrupt. This resulted in a considerable rise in nonperforming loans in many export-dependent Asian developing countries, and this has had an adverse impact on Asia's banking sector.

While Asia's finance sector was generally healthy, it was not immune to significant weaknesses in the West's financial system. Notwithstanding the general health of Asia's financial system, the ability of banks to provide Asian companies with finance to support trade was severely impaired at the height of the GFC.

## What Does the Post-Crisis Trade Finance Gap Look Like?

The relationship between trade finance and trade outcomes gained particular attention during the GFC. The decline in world trade flows (and especially manufacturing flows)

was greater than the decline in global gross domestic product (GDP). The contraction of trade finance is one of the primary explanations put forth to explain the magnitude of the trade shock.

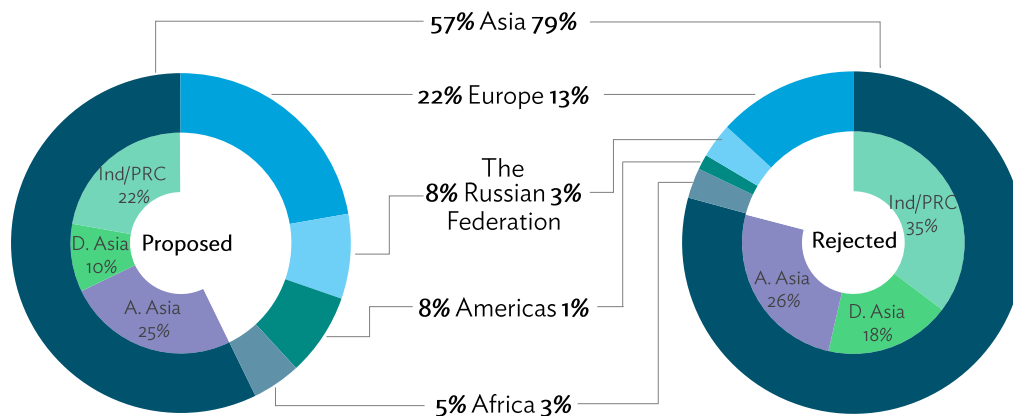
Yet finance gaps are not something that only affects production during a crisis. We know for example that trade decreases with weaker contracting environments in either the exporting or importing country (Schmidt-Eisenlor, 2013), and there is evidence that inadequate levels of trade finance will reduce both the total volume of a firm's exports as well as the variety of goods it produces (Contessi and deNicola, 2013). Related to this, finance shortfalls can limit firms to participation in only low value-added stages of production (Manova and Yu, 2012).

In this section, we explore some of the results of the ADB Trade Finance Survey, which suggest that, even in 2013 (5 years post-GFC), a global trade finance gap existed at an estimated \$1.9 trillion. This gap was unevenly distributed both geographically and among firm types. We highlight four elements of the post-GFC gap, which were uncovered by the most recent survey.

## The Most Significant Gaps Exist for Firms in Asia and SMEs

In terms of geographic distribution, Asia dominates the trade finance business. Asia registered the largest share of proposed trade finance transactions in the study at 57% of the global total (Figure 4.1). However, the gap was also highest in Asia as the region also received the highest proportion of trade finance transactions rejections by financial institutions at 79% of total global rejected transactions. This amounts to a gap of \$1.6 trillion (of the global \$1.9 trillion total). Asia's BRICs countries—India and the PRC—registered the highest proportion of rejected transactions at 35%.

**Figure 4.1: Distribution of Proposed and Rejected Trade Finance Transactions by Region**



A. Asia = advanced Asia, D. Asia = developing Asia (not including India and the People's Republic of China), Ind/PRC = India and the People's Republic of China.

Source: ADB Trade Finance Survey 2014.

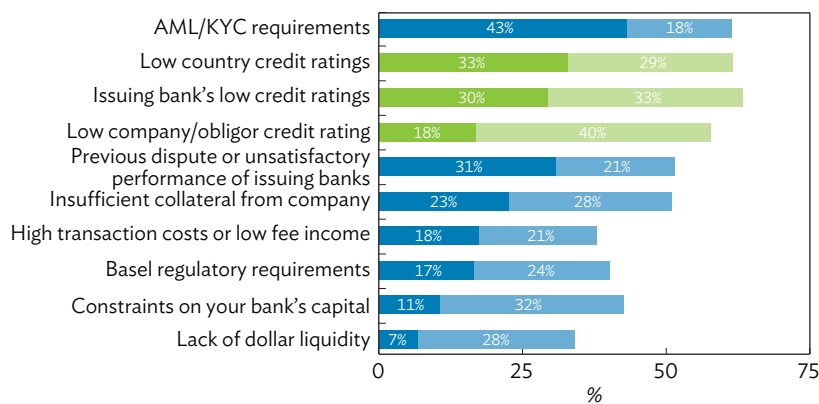
Survey results indicate that these gaps affected SMEs more adversely than any other group of companies. The global rejection rate by financial institutions of trade finance applications from SMEs were higher than for any other type of company. Of SME applications for trade finance, 50% were rejected, compared with only 7% for multinational companies. In Asia as a whole, more than 90% of firms are SMEs, yet an overwhelming majority does not engage in direct exports (Duval *et al*, 2014). According to surveys, limited access to finance is consistently among the primary export constraints for SMEs.

## Major Impediments Include Regulatory Requirements and Low Ratings

Banks reported that significant impediments to their provision of credit and other financial instruments were related to credit ratings and anti-money-laundering/know-your-client (AML/KYC) due diligence requirements. Figure 4.2 illustrates the limitations rated as significant by responding banks. The credit ratings issues are related to perceptions about weak country risk, weak banking systems and a lack of transparency. In many markets where ADB's Trade Finance Program (TFP) operates, financial statements are difficult to figure out, central bank oversight is weak, nonperforming loan ratios are high, and there are often high concentrations of loss-making state-owned enterprises in bank portfolios. We explore the issue of AML/KYC in the next subsection.

The impediments reported in Figure 4.2 result in a situation where risk management units in financial institutions around the world are reluctant to agree to credit limits that would result in the provision of bank-to-bank guarantees (and funding) to support trade. In addition to providing guarantees and loans to banks to support trade, the TFP provides technical assistance to the banks, on which it assumes risk. This helps address weaknesses among banks, which contribute to trade finance gaps. Arguably, one of the most critical elements to closing trade finance gaps is financial reform.

**Figure 4.2: Impediments that Limit or Hinder Trade Finance**  
(% reported as very significant and significant)



AML/KYC = anti-money-laundering/know-your-client.  
Source: ADB Trade Finance Survey 2014.

## Negative Spillovers from Financial Crimes Compliance

The study also identifies the unintended consequences of regulatory initiatives as important contributors to the trade finance gap. In particular, there are regulatory requirements on banks to conduct anti-money-laundering (AML) and know-your-client (KYC) due diligence. These requirements had come into force following the terrorist attacks on 11 September 2001 in the US. They were intended to help banks, and in the process regulators, identify ultimate beneficiaries for banking transactions. This can then help prevent financing for terrorism, drug trafficking, and other illegal activities, but the requirements have had significant negative impacts on the provision of trade finance.

The challenges of complying with AML/KYC requirements include, for example, the cost and labor required to comply. It is extremely costly and time-consuming for financial institutions operating in countries such as Bangladesh or Nepal to carry out these requirements on an annual basis. The result is that banks generally have either pulled out of some developing countries, or do not bother going into developing markets. As such, banks are increasingly unable to provide the guarantees that are so important to trade with emerging markets.

Compounding the cost and labor required to comply with these requirements is a lack of harmonization between jurisdictions. For international banks operating in multiple jurisdictions, the overlapping requirements can be prohibitive. The unintended consequence of onerous and overlapping AML/KYC regulations is that banks would, in some cases, rather terminate a relationship than try to comply.

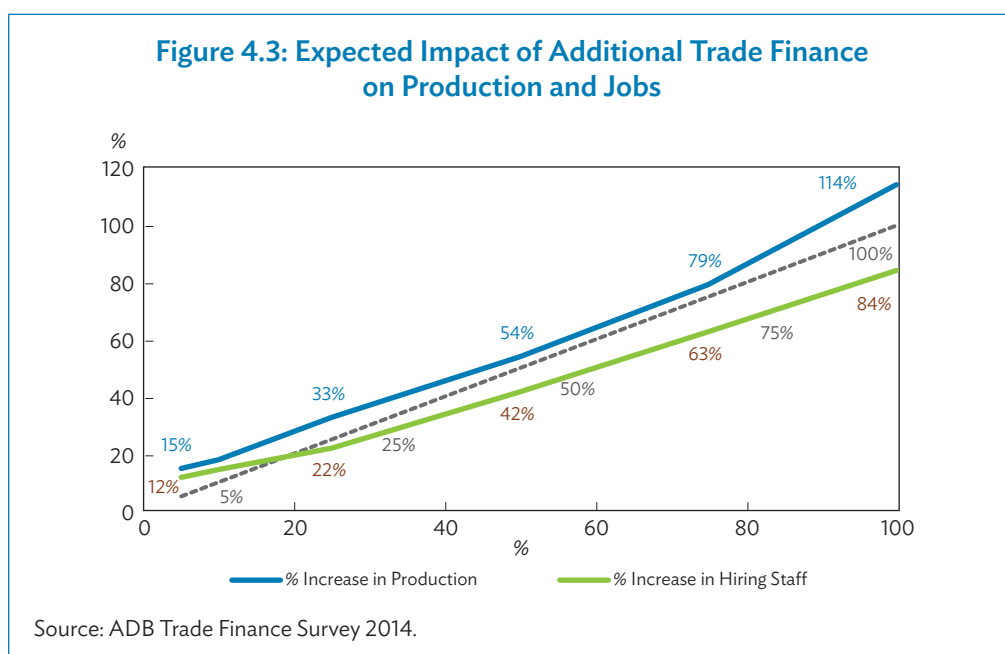
Emerging markets and SMEs are disproportionately affected. Many international banks have terminated relationships with banks in emerging markets, in some cases pulling out of countries entirely, not because they believe financial crimes are being perpetrated by correspondent banks and other clients, but because the cost and effort associated with regulatory compliance is so high. These relationships underpin trade, and severing them contributes to gaps.

As a response, SWIFT, the member-owned global banking cooperative, has launched a KYC Registry. This registry aims to be a central repository for all AML and KYC information required of banks, making it easier and cheaper to acquire the information needed to comply. ADB's TFP has played a leading role in promoting SWIFT's KYC Registry among its partner banks. While the repository may attenuate some of the unintended negative consequences of AML/KYC regulatory requirements, it won't provide a full solution. As such, the TFP will continue to work with the International Chamber of Commerce and other organizations to inform governments of the benefits of greater harmonization across jurisdictions.

Regulation is a tricky thing to get right, and there are almost always unintended consequences. It is ironic that central banks are pumping money into economies through quantitative easing initiatives, in an effort to stimulate economic growth and jobs, and at the same time they constrain the delivery mechanism of this quantitative easing (i.e., banks) through Basel III and other regulatory initiatives designed to create a more robust international financial system.

## Finance Shortfalls Directly Limit Employment and Growth

To give a better perspective as to why it is important to bridge the trade finance gaps, it is important to relate the gaps to production, which ultimately results in more jobs and higher economic growth. Studies have underscored the importance of banking relationships for employment outcomes. It has been shown that the withdrawal of credit accounted for at least 33% of the employment decline in SMEs following the GFC (Chodorow-Reich, 2014). The 2014 ADB survey revealed that access to 15% more trade finance would increase production by 22%, and would induce firms to hire 17% more staff (Figure 4.3).



## Three Ways That the Trade Finance Experience Is Different for SMEs

SMEs are not the major users of either trade or supply chain finance. Thus, for most banks, SMEs are not target clients. Yet, those SMEs that export are heavily dependent on the lines of credit they receive, as they are often weakly tied into global trade. This section briefly looks at three ways that SMEs engage differently with trade finance, compared to other firm types.

### SME Proposals for Trade Finance Are Rejected at a Higher Rate than Other Firm Types

The ADB study found that overall the perception that trade finance was constrained had softened in 2013. In addition, almost two-thirds of firms reported receiving the same or

more trade finance in 2013 compared to 2012. However, for SMEs rejection rates remained very high.

Other studies have recognized that access to finance is a key problem for SMEs. The ADB study reinforced this with evidence that, among all firm types, SMEs are most affected by rejection of trade finance proposals. SMEs face a rejection rate of 50% of their proposed trade finance transactions. Comparatively, multinational firms face a rejection rate of 7%. On a global scale, 65% of the global rejected trade finance transactions come from SMEs.

## SMEs Do Not Try Again When Rejected

One question raised by such high rejection rates is whether SMEs are trying multiple times to get the same transaction funded. While this may be an option for bigger firms, very few SMEs reported trying more than once if they were rejected. A high proportion of companies (68%) did not seek alternatives for rejected transactions. Of the 32% which did seek alternative financing, 20% did not find any alternative, and the remaining 12% successfully found alternative financing, but it was too expensive.

## SMEs Are Unfamiliar with Financial Products

The lack of familiarity of finance options may contribute to the low proportion of firms seeking another source of financing once rejected. In a very limited number of cases, a bank might offer special rates or conditions for SMEs. However, in general, it is unusual to find differential pricing or consideration for collateral constraints. In the survey component addressed to companies, SMEs reported that their biggest constraints were related to the cost of financing, including interest rates/high premiums, insufficient collateral, and unacceptable requirements.

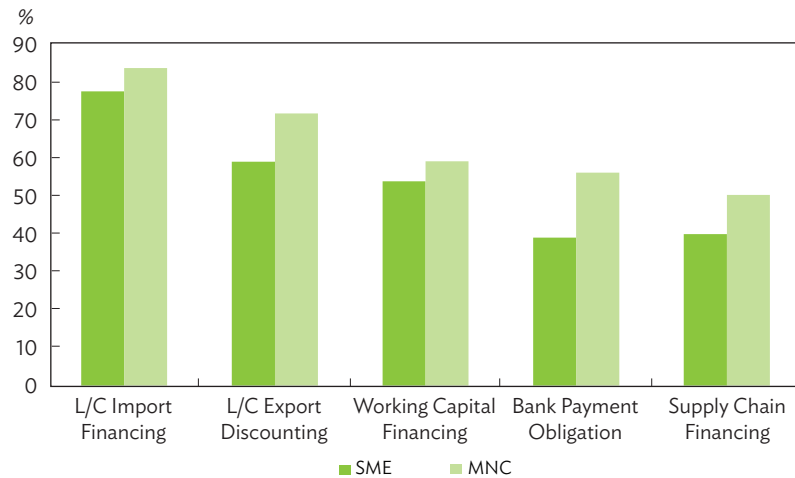
Yet one underappreciated constraint to financing may simply be familiarity with existing products and options. The ADB survey found very little uptake by SMEs of innovations in financial products. For example, it has been found that supply chain financing was the form of financing that was most likely to increase SME exports (Duval *et al*, 2014), and yet the survey found that only 40% of SME respondents knew what supply chain financing was.

## ADB's Response to Trade Finance Gaps

ADB's Trade Finance Program (TFP) plays an important role in closing gaps for trade finance. The TFP does this by providing guarantees and loans, within 24 hours, at market rates, through more than 200 partner banks, to support trade in the most challenging Asian developing countries.

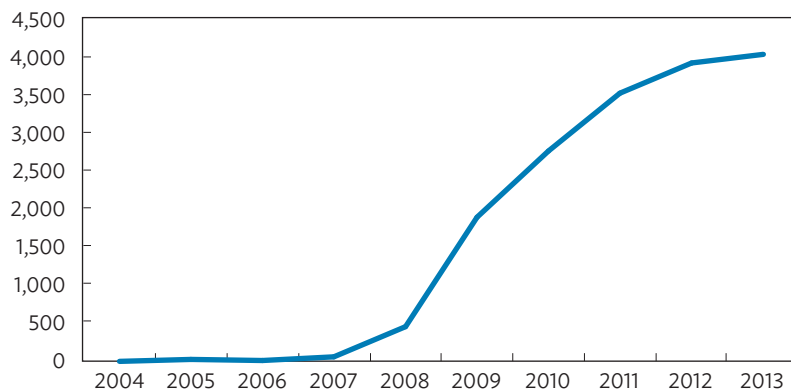
In response to the GFC, in 2009, the ADB Board of Directors increased the amount of risk the TFP could assume, to \$1 billion at any given time, from the original limit of \$150 million, which was approved in 2003. This led to considerable growth (Figure 4.5). Between 2009 and 2014, ADB's TFP supported \$20.5 billion in trade through more than 10,300 transactions.

**Figure 4.4: Comparison of Familiarity with Trade Finance Products (SMEs versus Multinational Corporations)**



L/C = letter of credit, MNC = multinational corporation, SME = small and medium-sized enterprise.  
 Source: ADB Trade Finance Survey 2014.

**Figure 4.5: Transactions Supported by ADB Trade Finance Program, 2004–2013 (\$ '000,000)**



L/C = letter of credit, MNC = multinational corporation, SME = small and medium-sized enterprise.  
 Source: ADB Trade Finance Survey 2014.

Because demand exceeded the financial capabilities of the TFP, a strategy was developed to target where gaps were proportionally the largest. This meant that the TFP did not assume risk in markets such as the PRC, India, Malaysia, and Thailand. Of the 18 markets where the TFP has been implemented (Myanmar will be the 19th market in which the program operates, once ADB gets the approval from the Government of Myanmar), more than 90% of the program’s portfolio has been in Asian Development Fund countries. The five



largest markets for the program have been Bangladesh, Pakistan, Sri Lanka, Uzbekistan, and Viet Nam.

In the post-GFC period, ADB has focused on addressing gaps through three key actions: activating the private sector, providing missing data, and engaging in underserved markets. Each of these actions addresses key limitations to the provision of trade finance.

## Activating the Private Sector through Cofinancing

ADB's TFP has made cofinancing an important strategy to enable it to both leverage off its finite resources and to crowd in private sector risk participation where it is most needed. During 2010–2014, the TFP attracted \$10.6 billion in cofinancing.

In addition to attracting cofinance from banks, the TFP has implemented risk distribution/sharing agreements with a number of partners including the Export Finance and Insurance Company from Australia (Australia's official export credit agency), the Dutch development finance institution (FMO), the OPEC Fund for International Development (OFID), and Swiss Re Insurance. In 2014, ADB supported \$3.83 billion in trade, of which ADB's net exposure was \$1.79 billion and the remainder was cofinancing of \$ 2.04 billion.

The leveraging of resources works via a combination of short tenors. The average tenor of the TFP's portfolio is less than 120 days, enabling it to roll over amounts for new transactions within 1 year. The way it works is this: Where the TFP has an internal limit of \$10 million and the distribution partner/cofinancier provides 50% insurance, the TFP is able to support \$20 million in trade rather than just \$10 million.

In addition to supporting more trade, cofinancing delivers an (arguably) even more important result that, notwithstanding their own limitations during crises, private sector entities are drawn into challenging markets, sometimes for the first time ever. The TFP's due diligence and monitoring of bank risk is rigorous, more so than that of the private sector. This, along with the program's perfect record of zero defaults and losses, provides comfort and brings the private sector into TFP transactions in the most challenging markets. Over time, once a credit history is established under program guarantees, and because the TFP charges market rates for guarantees, the private sector has a natural incentive to fill market gaps without using the program.

## Providing Missing Risk Data

Where data are unavailable, risk is effectively infinite. This means that it is difficult or impossible to price financial instruments in some markets. ADB's TFP has contributed to freeing up trade finance flows in challenging markets in two ways. The first is by collecting data to show that the risk of trade finance transactions is very low. The second is the capacity development that occurs through the process of data collection among banks.

In an effort to give statistical weight to the argument that trade finance carries a relatively low probability of loss, the TFP proposed tracking default and loss rates in trade finance, for the first time at a global level. This initiative was named the Trade Finance Register and was

housed at the International Chamber of Commerce (ICC). The pilot for this initiative, the ICC–ADB Trade Finance Register, worked with commercial banks to collect data on more than 5.2 million trade finance transactions. This dataset, which spanned 2004–2009, found a very low 0.02% probability of default. In the latest report, the default rate on trade finance was identified at 0.05% on more than 11 million trade finance transactions. These statistics have been discussed with the Basel Committee, and are substantiating arguments in favor of treating trade finance appropriately for regulatory purposes.

The information underpinned changes to Basel III guidelines on trade finance, which have freed up billions of dollars to support trade in emerging markets globally. The Trade Finance Register underpinned three changes to Basel III in 2013:

- (i) The 1-year maturity floor for self-liquidating trade finance instruments has been removed, reducing capital charges when calculating risk-weighted assets. Banks were initially obliged to set aside capital for tenors of no less than 360 days, while trade finance deals are often at tenors of less than 180 days.
- (ii) Basel decided that short-term, self-liquidating letters of credit and guarantees would receive a credit conversion factor of 20% and 50%, respectively, rather than 100%. This has further reduced banks' capital charge.
- (iii) The Basel Committee also waived the sovereign floor. Originally, claims on an unrated bank could not receive a risk weight below the bank's country of origin. Financial institutions can now change the risk profiles of trade transactions—a less costly proposition.

While the statistical work that ADB's TFP initiated is important to underpin a substantive dialogue with regulators, to loosen requirements for trade finance and therefore close the related gap, this information is also encouraging the private sector to assume more trade finance risk in challenging markets. For example, one of the largest insurance companies informed the TFP that the statistical work initiated by the program, demonstrating the low probability of loss, was the single greatest factor in deciding whether or not to start a credit insurance business for trade finance.

As tougher regulatory requirements take hold and require the finance sector to continue deleveraging, new sources of trade finance funding need to be found. Investment funds are one potential large pool that should be attracted to trade finance. The Trade Finance Register's statistical work will help provide potential investors with the information they require to enter the trade finance business, still a little-known and little-understood business in capital markets and investor circles.

## Engaging Underserved Markets

In addition to the transactions processed under the TFP, there has been knowledge dissemination, which delivers tangible and measurable results in closing market gaps. By supporting an increasing amount of trade finance in remote countries, ADB has gathered a large amount of information about risks and opportunities in these countries; information which is then disseminated so that the industry can assess and assume risks in challenging markets.

TFP staff regularly talk to banks and insurers, including their risk management departments, to share the program's experience in markets of operation. This has resulted in the private sector establishing limits for new markets to support trade. Information is critical to closing private sector market gaps, but it has been in short supply. Through its study on market gaps, and its systematic "knowledge dissemination" discussions with banks and insurers, the TFP has helped close financing gaps by closing knowledge gaps.

In some cases, such information has helped and encouraged commercial banks to establish country and credit limits for the first time in countries like Mongolia and Bangladesh. ADB also conveys its risk assessment results with partner banks in countries of operation, in order to help the banks improve their financial standing and operations.

One tangible example of this has been the planned expansion of the TFP into Myanmar. Myanmar's banking system and commercial regulatory infrastructure is at an early stage of development, which makes it a real challenge for the TFP to expand there. Myanmar is a perfect market for the program, as it is an extreme example of why ADB and the TFP exist: to be first movers into new and uncertain markets, to fill financing gaps for economic growth, to provide technical assistance to upgrade skills in the public and private sectors, and to create structures (including the provision of guarantees) through which partnerships are formed with international investors and banks.

Over the past 2 years, ADB has engaged in various activities in Myanmar with the aim of strengthening the banking sector. The due diligence process in itself has been important in delivering significant development impact in Myanmar.

First, most of the Myanmar banks have never been through this kind of process, so what they learned—the kind of information ADB requires and how it needs to be reported—has been invaluable. Working with ADB's TFP through this process will help Myanmar's new private banks understand what potential correspondent banks, international investors, and (over time) rating agencies will require. The open and frank feedback from the TFP about its assessment of the banks has enhanced this learning process, which is so important at this stage of Myanmar's development.

Second, the TFP's discussions with the Central Bank of Myanmar about its due diligence methodology on Myanmar banks, and its findings, provide important information and learning opportunities for bank regulators.

Third, the due diligence process has been critical for ADB to gain a better understanding of the banking system and individual banks in the market. Equally importantly, the TFP is now able to share what it has learned from the due diligence process in Myanmar with partners around the world. There is a thirst for knowledge about Myanmar, and the due diligence process has provided important insights that can be shared. This is the beginning of a process to bring the international financial community to Myanmar. It will serve to close gaps for trade finance in that country.

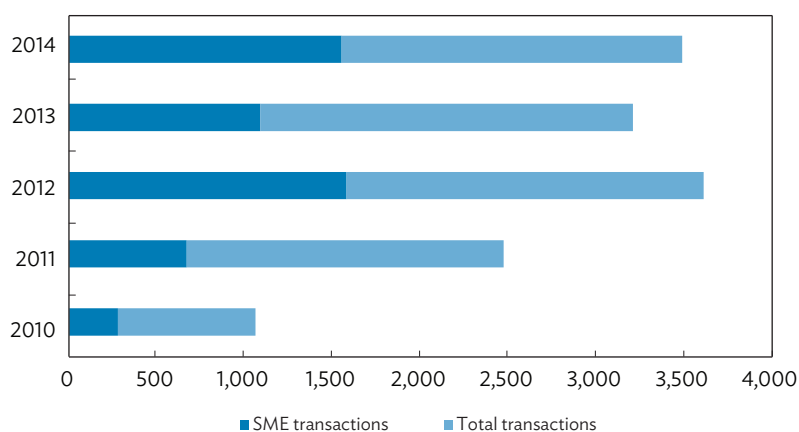
In addition, the TFP conducted training seminars on trade finance for bankers in Yangon in 2013 and 2014. This form of technical assistance is very important to Myanmar at this stage.

It will help bankers deliver trade finance services to companies, and will mitigate the risk of dealing with Myanmar banks in trade finance transactions.

## Engaging Underserved Clients Including SMEs

The TFP has supported more than 6,000 SMEs. Since 2012, over 80% of the TFP's transactions supported SMEs (Figure 4.6). There are two reasons for this disproportionate share of SMEs in terms of total transactions supported. First, larger corporates generally have preferential access to finance as well as good credit terms with their exporting counterparts, so they might not require import loans or letters of credit. SMEs generally do not have the same beneficial terms as larger corporates and are more dependent on trade loans or letters of credit while dealing with exporters. Second, there is a size and volume factor. For example, a letter of credit for a large oil importer in a country such as Pakistan or Viet Nam could be around \$20 million to \$25 million. In the case of SMEs, banks need to bundle together 15–20 transactions (covering 10–15 different SMEs) to make a trade loan of \$10 million.

**Figure 4.6: ADB Trade Finance Program Guarantee Transactions by Firm Size**



SME = small and medium-sized enterprise.

Source: ADB Trade Finance Program.

In addition to the TFP as a mechanism to engage underserved clients is the forthcoming Supply Chain Finance Program. ADB's Board of Directors approved the concept for the new program and ADB is now working with international partner banks, suppliers, and buyers to bring the program into operation.

The most interesting aspect of supply chain finance is its potential to address the two greatest impediments to SMEs accessing finance: poor financials and lack of collateral. Unlike traditional risk assessments that focus almost exclusively on financials and collateral, supply chain finance focuses on the strength and longevity of a supply chain, as well as on the mutual dependence between buyer and supplier.

The Supply Chain Finance Program will provide guarantees and debt financing to support payments throughout the supply chain, and will: (i) enable SMEs that were traditionally not deemed bankable to receive finance; (ii) improve cash flow for companies in developing member countries (DMCs), especially SMEs, to enable growth and job creation; and (iii) encourage more financial institutions to develop and broaden supply chain finance operations. In addition, under the program, data will be collected on the net increase in companies served under the program, which is expected to be 15% during 2014–2017.

## Moving Beyond Asia

It has become trendy to talk about the promise of South–South trade in creating economic growth and jobs. There is no doubt that the opportunities are enormous, but to realize its full potential there needs to be more points of contact and more relationships among banks. With the exception of a few global banks with a presence in most corners of the world, there are no bank relationships between Latin America and Asia, outside of Japan, the PRC, India, the Republic of Korea, and Singapore. This means that there are no direct relationships between banks anywhere in Latin America and Bangladesh, Indonesia, Pakistan, the Philippines, Sri Lanka, or Viet Nam. The links between African and Asian banks are even more limited.

In an effort to resolve this impediment to realizing more South–South trade, work has been undertaken through the TFP with the African Development Bank (AfDB) and the Inter-American Development Bank (IDB). The IDB's trade finance program has been actively introduced to Asian banks to encourage them to sign up to this program. In turn, the IDB has encouraged Latin American banks to join ADB's TFP, so that the program can provide guarantees to these banks covering payment obligations from Asian banks to support South–South trade. In addition to covering transactions, by having banks from both continents in the respective trade finance programs, both institutions will facilitate the establishment of direct relationships between banks on both continents.

All this has led to a number of small but encouraging cross-continental deals. To date, the TFP has supported 16 small Africa-Asia transactions, for a total of \$10 million, involving countries such as Angola, Ethiopia, Ivory Coast, Niger, Seychelles, Tanzania, Tunisia, Viet Nam, and Bangladesh. In Latin America-Asia trade, the TFP has supported eight small transactions valued at \$6 million, involving Argentina, Belize, Brazil, Chile, Uruguay, Bangladesh, Mongolia, Pakistan, and Viet Nam, among others.

The challenge now for all participant banks, insurers, regulators, and governments is to recognize challenges and coordinate to overcome the impediments to realizing the full potential that trade and supply chain finance can deliver in terms of growth, jobs, and poverty reduction.

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\* ADB recognizes "China" as the People's Republic of China.

# CHAPTER 5

## Policies to Enhance SME Internationalization

by Paul Vandenberg, Naoyuki Yoshino, Akira Goto, Patarapong Intarakumnerd, and Jeffrey Miyamoto<sup>60</sup>

### Introduction

The capacity to export into the global marketplace is a good indicator of an economy's competitiveness and that of its business sector. In turn, exports are valuable for the economy because they generate foreign exchange, employment, and wealth. While most exports are contributed by large firms, both domestic ones and foreign branch plants, small and medium-sized enterprises (SMEs) can and, in many cases, do make an important contribution.

Most SMEs, however, do not find it easy to internationalize. Foreign markets provide an opportunity to expand but they also entail large start-up and market development costs, and they present huge risks that the venture will not be successful and the costs cannot be recouped. While direct exporting can often be daunting, the indirect form of internationalization—supplying components and services to large firms that do export—can also be challenging. Large firms require quality inputs, produced to demanding design specifications, delivered on precise time schedules, and generated at a competitive price. If a large firm cannot find local SMEs that meet these requirements, they will import components from elsewhere.

Successful SME internationalization therefore requires both competitive enterprises producing a competitive product, and the ability to navigate the logistical, regulatory, and financial hurdles of producing for new markets and new customers. Without distorting markets or interfering in competitive processes, governments can provide supportive policies and programs to help in both regards: encouraging firms to upgrade their quality and helping them to “go global”.

### Technology and Innovation for SMEs

Adopting and innovating technology are critical to the success of SMEs in the process of internationalization. Whether they are producing directly for foreign buyers or supplying large firms that are doing so, SMEs need to be using the latest technologies to generate efficient and high-quality production, and to achieve high levels of labor productivity. Policies to support technological development can play an important role in this process. These policies can be

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divided into three groups: (i) supply-side technology policies, (ii) demand-side technology policies, and (iii) systemic technology policies.

Before detailing these policies, it should be noted that not all SMEs are alike, and technology policies should be tailored to the different needs of different SMEs. Traditional SMEs are well established and have been operating for long periods. Their products are normally standardized. Owners and managers of these SMEs usually have experience in running their businesses. They face difficulties in several aspects; internal management, marketing capabilities, technological capabilities, access to knowledge networks, and access to finance. In contrast, start-ups—some being spin-offs from universities, large firms, or public research institutes—are younger, less experienced firms. Their products are often innovative, but might not be widely accepted in established markets. They face tremendous risks and uncertainty, both in terms of technology and market. Their owners, who can also be innovators, have innovative ideas and high technological caliber, but they usually lack management skills and an understanding of markets. Due to these differences, policies to support the two types of SMEs should be different.

The different stages of a firm's evolution from start-up to early growth, to rapid growth, and then to maturity (and sometimes decline) may need different types of government support. In other words, effective government policies should be able to evolve in tandem with a firm's developmental stage.

## Supply-Side Technology Policies

The most commonly employed supply-side technology policies consist of subsidies for research and development (R&D). These include tax incentives, grants, subsidies, loans, and direct equity participation. The latter may involve direct government investment or support through government-owned or linked-venture capital funds. These instruments have both strengths and weaknesses, which policy makers should bear in mind when they decide to apply these instruments.

### *Promote real innovation and avoid dependency on subsidies*

Government support should focus on supporting innovation and technology development that makes a critical difference to the performance of SMEs and their ability to internationalize. Innovations that firms would make regardless of public incentives, and the acquisition of well-established and commonly used technologies, are less deserving of government support. Firms should not become dependent on government support.

### *Encourage the identification, acquisition, and adaptation of global technologies*

To compete globally, firms need to use leading technologies to ensure products are produced efficiently (at low cost) and meet design and quality standards, so that goods are competitive in foreign markets or with export-oriented buyers. Government support can be provided to both search and identify technologies, and then to support the costs of acquiring and adapting them to the SME's needs.



### *Employ technology experts to allocate incentives*

Applications for subsidies, loans, and other incentives must be properly assessed by experts who know and understand technology and innovation. If not, public money will be spent on dubious technology adaptation and development. These experts should be engineers or scientists, and it is beneficial for them to have private sector experience.

### *Reduce technological isolation by providing sector-specific information*

SMEs in Asia are generally isolated from technological progress, and there is a lack of information about technological progress in their sectors within other countries. If the government can provide such information to SMEs, it would be beneficial for all SMEs in the region.

## **Demand-Side Technology Policies**

Demand-side technology policy goes beyond policies to create markets for products made by SMEs, including government procurement: it is a much broader concept, and includes policies that will incentivize SMEs to demand better technologies. These are particularly important because it is often the case that standard technology policies, such as those that provide subsidies or tax breaks for R&D, or to promote closer ties with universities, are not embraced by firms. This is particularly so in the case of SMEs.

### *Use policy to incentivize SMEs to demand better technology*

It is important that those enterprises that successfully obtain better technologies are rewarded by markets. It is important for policymakers to create such an environment through patent policy, antitrust policy, anticorruption policy, and others. These policies create an environment in which those who invest in learning and adopting better technologies are rewarded. These policies may be beyond the scope of technology policy in a narrow sense. Nevertheless, they are extremely important. The incentive to demand better technology would be small if companies only prospered by stealing technology, obtaining government contracts through cozy relationships with politicians and through bribery, or if large companies are able to use their market power against small firms.

### *Promote government procurement of SMEs products and services*

Demand-side technology policy, in a narrow sense, can be useful as well. Central and local governments can procure goods and services from SMEs, with certain conditions, such as that they meet specified technological thresholds or deliver products or services with better functions than existing ones. Importantly, the captive government market, through its public procurement, can provide the first market for innovations that might not be readily accepted by private markets due to the high risk and high uncertainty nature of the innovations. In essence, public procurement provides “first business” opportunities for innovative firms to try out their innovations. This kind of opportunity is sometimes even more meaningful for firms than any financial support from government.

### *Government can stimulate the 'private' market to accept innovative products and services*

These initiatives can include labelling, market promotion, and providing subsidies or tax incentives to the buyers of innovative products or the adopters of innovative processes. Caution should be exercised as such subsidies, in private markets as well as public procurement, have the danger of restricting competition and causing corruption, and they risk coming into conflict with World Trade Organization regulations on government procurement.

### *Support the marketing of SMEs goods and services*

Governments can also help to create markets for the products of SMEs that do not have resources for marketing. Support can be provided to help the marketing of SME products to other parts of a country and to other countries.

## **Systemic Technology Policy**

In addition to the supply-side and demand-side policies, there is a set of technology policies that aim to improve the performance of the innovation system, by promoting better coordination of the participants in that system. The performance of SMEs can be improved by working closely with universities and public research institutes. Various policy measures can be employed to promote closer relationships.

### *Promote collaborative development of particular technologies or products between SMEs and universities*

Closer ties between university researchers and engineers of SMEs can be encouraged through these collaborative projects, as well as networking events, consulting, contract research, and other mechanisms. These can be promoted through subsidies and related policy measures.

### *Establish local technology centers in various part of a country*

It is not uncommon for countries to establish agricultural extension services to help farmers to choose the right crop or fertilizer for the region, or to teach when to apply which fertilizer, and so on. This model can be applied to the manufacturing sector to help local industry. In Japan, for instance, such local technology centers were established in early 20th Century, and they helped local textile, food, pottery, and other industries to upgrade technology, improve their management, control quality, and train employees.

These technology centers were mostly established by local governments. Therefore, the capability of the staff of local government is important. They should be able to plan and execute effective local industrial policies. They should be able to coordinate local technology centers with industry associations, vocational training schools, and universities. They should be able to make all the arrangements, so that the local technology centers become hubs of a local innovation system.

### *Encourage interaction and learning between SMEs and large firms (multinational corporations and large domestic companies)*

Large firms that buy intermediate goods, parts, materials, and services have incentives to help their suppliers because better parts, materials, and services help ensure the competitiveness of their own operations. The role of policy here is rather limited, however. Forcing local content requirements is normally not a good idea, as large firms may choose to produce in other countries where such requirements do not exist. Helping SMEs and other suppliers to locate in proximity to large firms' plants may help as geographic location is important for the transfer of uncoded knowledge. Alternatively, government agencies can act as intermediaries facilitating technology transfer and other linkages between large firms and SMEs. For example, since the 1980s, the Economic Development Board of Singapore has provided subsidies so that local SMEs can employ engineers and technicians from multinational corporations (MNCs) to work in their companies for 2 years. This enhances the critical skills and knowledge required for technological upgrading.

## Finance for SME Internationalization

Access to finance is a key constraint facing most SMEs, whether they supply domestic or foreign markets. While banks are the main source of external financing, they are often reluctant to extend credit due to the relatively high cost of screening and processing SME loans. Furthermore, while new start-ups have dynamic growth potential, there is a high rate of business failure among small enterprises, which raises the sector's overall risk profile and causes banks to be wary. In most countries, there is a paucity of direct financing, including equity financing, for all but the most established or promising SMEs.

The financing needs of SMEs that want to internationalize can be even more formidable than for firms focused on the domestic market. While some firms are “born global”, most develop first in the domestic market, and then make the jump into exporting. The costs of doing so can be enormous and involve finding new buyers, developing distribution networks, customizing production to foreign consumer or buyer preferences, and meeting country product standards (IDB, 2014).<sup>61</sup> SME exporters also need to be concerned with receiving payment from foreign buyers, and being forced to accept longer payment terms, which can put a strain on tight working capital. For enterprises that internationalize indirectly by supplying large exporting firms, there are also significant costs in terms of investing in the machinery and product development to meet buyer standards, and having the working capital necessary to meet concise delivery schedules.

Thus, SMEs that internationalize must develop adequate financing sources that include: (i) credit for purchasing and leasing capital equipment; (ii) trade finance; (iii) supply chain finance; (iv) finance for market and product; and, (iv) working capital finance. Governments—along with SMEs themselves and, in some cases, international organizations—can play key roles in ensuring greater access to finance.

<sup>61</sup> The average entry costs for new exporters in Colombia's leather, knitwear and chemical sectors are estimated about \$420,000 (IDB, 2014).

## Develop Systems for Supply Chain Finance

Finance can be provided for SMEs engaged in supply chains by leveraging their connections to large firms. Supply chain finance is an arrangement between a bank, an SME, and one or more large firm(s) in the production or supplier network. The bank provides finance to an SME on the basis of future payments (approved invoices) that the large firm will make to the SME. This provides the SME with speedier payment, and allows it to cover working capital requirements and finance new orders. The large firm may benefit by extending its payment period. The SME is also able to access finance at lower cost than if it attempted to obtain finance by factoring those invoices itself.

### *Key large firms need to take an active role*

Supply chain finance requires the participation of key large firms that have extensive supplier networks with SMEs. The invoices or contracts to these firms can act as the collateral to such finance. These large firms benefit because their support with finance can help to strengthen their supply networks of SMEs.

### *Developing supply chain information systems is critical*

Supply chain finance requires the technology to track supply shipments and invoicing through a large firm's procurement system. Only with this data can the large firm quickly approve invoices and allow the necessary finance to be released through the partnering financing institution to the SME.

### *Governments can bring players together*

Supply chain finance often does not develop by itself and requires an organizing catalyst, a role normally played by the government or one of its agencies, such as an export-import bank or industrial development agency. A multilateral bank or a domestic development bank might also play that role. ADB's recent partnership with Standard Chartered Bank to support \$8 million of supply chain transactions will involve risk-sharing between the two banks.

### *Guarantees might be needed*

Some of the key schemes in the world involve a guarantee from a government agency. The Supply Chain Finance Guarantee Program of the Ex-Im Bank in the United States offers a 90% guarantee on financing provided on the basis of supply chain invoices. Commercial banks carry the remaining 10% of the risks.

## Ensure Trade Finance Options Are Available to SMEs

SMEs that internationalize will require financing for exports and imports. However, banks may be reluctant to finance these trade transactions due to the risk of cross-border activity with buyers or suppliers which have not built up a relationship. Trade finance support, most

often in the form of a guarantee on trade transactions, can help to overcome that barrier. Pre-export loans to SMEs are another important type of trade finance.

### *SMEs should not see trade finance as a barrier to internationalize*

“Going global” (or regional) is a big step for a small firm. Establishing trusted relationships with firms in other countries is difficult and takes time. An SME will be concerned about receiving payment for goods shipped, or may find it difficult to convince a foreign supplier to send goods. Trade finance support, in the form of guarantees, is the bridge that supports these transactions and actions. It can help make internationalization less daunting.

### *Ensure SMEs are aware of trade finance sources*

SMEs need to know the sources of trade finance and how they can be accessed. A good place to start is the enterprise’s own main bank, but there may be other sources, such as other commercial banks, public export-import banks, or trade promotion agencies of the government.

### *Partner with multilateral organizations that support trade finance*

ADB is a key player in trade finance in the region, including providing access for SMEs. ADB’s Trade Finance Program (TFP) partners with over 200 banks and supported transactions valued at over \$4 billion in 2013. The TFP was engaged in 2,120 transactions and supported 1,806 SMEs during that year. SMEs can seek out ADB’s partner banks in their respective countries, as well as domestic support programs, to obtain trade finance.

## Develop Crowdfunding and Hometown Investment Trust Funds

The development of the internet and web-based payment systems has resulted in an explosion of crowdfunding in recent years. The model allows individuals to donate, lend, or invest small amounts of money to projects. The flow of recorded new crowdfunding globally totaled \$347 million in the second quarter of 2014 alone.<sup>62</sup> While crowdfunding takes a variety of forms, one channel is as an investment or lending vehicle to support the creation and growth of SMEs. Japan’s Hometown Investment Trust Funds are an example of crowdfunding for SMEs, and they are expanding rapidly to support the development of local enterprises (Yoshino and Kaji, 2013).

### *Sensitize entrepreneurs to the possibilities of crowdfunding*

Crowdfunding is a new source of enterprise financing that is growing rapidly, but it is relatively unknown in many countries. Governments can play a role in understanding how

<sup>62</sup> The Crowd Data Center (UK), [http://thecrowdfundingcentre.com/downloads/eFunding\\_-\\_The\\_State\\_of\\_The\\_Crowdfunding\\_Nation\\_-\\_Q2\\_2014\\_HEADLINE\\_EDITION.pdf](http://thecrowdfundingcentre.com/downloads/eFunding_-_The_State_of_The_Crowdfunding_Nation_-_Q2_2014_HEADLINE_EDITION.pdf)

crowdfunding works, and by encouraging, through public SMEs support agencies and businesses associations, entrepreneurs to tap into this funding source.

### *Ensure adequate regulation, including proper disclosure*

While crowdfunding bypasses traditional financing sources, such as banks and equity markets, it does require adequate regulation to ensure that individuals recognize the investment risks and are protected from fraudulent practitioners. In this regard, proper disclosure procedures need to be developed and enforced.

### *Design rules for tax treatment*

As a new form of financing, the tax treatment of gains and losses for individual investors may need to be clarified and, possibly, new rules written. It should be clear whether contributions are treated as investments or loans, and whether the proceeds from silent-partner arrangements are treated as partnership income or otherwise.

## **Reduce the Costs of Screening Credible Borrowers**

A key constraint in SME finance is the high cost faced by banks in screening potential borrowers. Information systems to reduce these costs can increase finance to SMEs, and include credit-rating agencies and the use of better financial statements. In addition, secure legal systems help to reduce risk by making it easier for lenders to claim assets used as collateral.

### *Develop a credit-rating system of SMEs*

This will ensure that SMEs can develop a credit history that can be verified and used as a means of judging creditworthiness by banks and other financiers. It needs to ensure that there are limited barriers for SMEs to be rated. Credit ratings will be effective if there are good data on SMEs' finance, which can be used to establish benchmarks on whether or not an enterprise is creditworthy. Some countries are building such databases, with Japan as a good recent example (Yoshino and Taghizadeh-Hesary, 2015).

### *Ensure an adequate legal system and laws to enforce loan contracts*

This will give banks and other financiers the confidence that they can seize and dispose of collateral in the event of default, and let borrowers know that they need to honor their credit contracts.

### *Encourage borrowers to develop good financial statements*

These statements will help banks to understand the profitability of firms and the likelihood of them repaying their debts. Many SMEs do not keep proper financial statements, either because they do not have the ability to do so or because the owner is too busy to dedicate time to the task. Assistance to SMEs in this area can be conducted by private accountants, support from business associations, or programs offered through public SME support agencies.

## Provide Credit Guarantees on Lending to SMEs

Banks shy away from lending to SMEs because of the cost of loan processing and the risk of nonpayment. These constraints can be overcome by providing a guarantee. Credit guarantee schemes for SMEs are common in developed countries, and are increasingly prevalent in Asia's developing countries as well. Such schemes need to be well managed, with an appropriate level of risk provided by private financial institutions, and the level of government subsidy kept low so as not to be a fiscal burden.

### *Employ expert staff*

A credit guarantee agency is a financial institution engaged in the credit market, and must be staffed by component experts with experience and knowledge of loan transactions. Not all guarantee applications will be suitable, and the agency has to engage in loan screening. It also needs to develop efficient systems, so that loans at banks that might be guaranteed can be processed efficiently.

### *Set an appropriate rate of guarantee*

The rate of the guarantee can vary substantially between programs, from near 50% to over 90%. A high rate of guarantee creates a moral hazard, by reducing the due diligence and risk burden of the lender. Moreover, SMEs may keep relying on the guarantee and unprofitable companies may continue to survive. Forward-looking guarantees will be required. It may be also prudent for the guarantee ratio to vary between banks, because each bank faces a different default loan ratio and a different ratio of lending to SMEs.

### *Avoid political interference*

Applications for guarantees should be assessed on their merits and not subject to favoritism toward politically connected individuals or businesses. Guarantees to political favorites will increase the overall default rate and increase the amount of public subsidy. It may also crowd out more worthy potential borrowers.

### *Forecast, monitor, and manage the overall fiscal subsidy*

Guarantee schemes involve a fiscal subsidy to underwrite the cost of the program. The agency should forecast and plan the appropriate level of support it will need from government to run the program, and may need to alter the risk level, the coverage rate, and the guarantee fees to keep the subsidy at a planned level.

## Skilled Workers

An educated and skilled workforce is a key ingredient for raising the productivity of SMEs (just as it is for large firms). Workers that are more knowledgeable and have greater experience in the tasks they perform will naturally contribute to enhanced productivity. This is true for workers throughout an enterprise, be they engaged in production, servicing



customers, or involved in management and back-office functions, such as accounting and marketing.

Achieving high productivity is particularly important for SMEs engaged in trade. Firms that export, or supply components or services to large exports linked to global value chains (GVCs), require skilled workers to meet quality standards and to produce efficiently to secure market share. With increased reduction of trade barriers, SMEs selling in the domestic market must also be highly productive to compete against imports.

### *Difficulties arising from enterprise size*

Due to their size, SMEs face a disadvantage in human capital development. Small firms find it more difficult to attract talented workers, who prefer to work for larger firms.<sup>63</sup> There are various reasons for this: small enterprises are more likely to pay lower wages, provide less access to social security, and offer fewer benefits. Large firms are seen to—and often do—provide more stable employment and greater opportunity for career advancement. As a result, small enterprises find it more difficult to attract good talent among recent graduates or the existing labor force. In addition, SMEs find it disproportionately more costly to upgrade the skills of their workers through training. SMEs that do manage to secure good workers have difficulty in retaining them because these workers are attracted to, or poached by, larger firms.

### *Evidence linking skills and productivity*

Empirical evidence shows the positive effects of skilled labor on productivity. A detailed study of six countries in Asia and Latin America found that higher levels of efficiency were correlated with higher levels of education (Batra and Tan, 2003). The formal training of skilled workers, but not unskilled workers, was a key determination in the efficiency of SMEs.<sup>64</sup> Indeed, for five of the six countries, skills training contributed more to efficiency than any other variable considered. The findings are similar to those for Taipei, China, which also showed a strong link between skills and productivity (Aw and Batra, 1998). Similarly, skills are found to support higher productivity among manufacturing SMEs in Thailand (Charoenrat *et al.*, 2013). Improvements in technical efficiency, a key component of productivity, were found to be positively correlated with the share of the enterprise labor force that was skilled.

A highly trained workforce is also a critical factor in exporting and engaging in GVCs. Recent evidence suggests that an educated enterprise workforce is linked to higher levels of exporting among Asian SMEs (Jinjarak *et al.*, 2014).<sup>65</sup> Sector-specific and country-specific studies also highlight the importance of skills. For example, the skill level of export staff among small wine-producing firms in Australia and New Zealand is one of the two top factors that determine export competitiveness (Remaud, 2006). The other factor is the attitude of firms in searching for new export opportunities. Among Brazilian manufacturing firms, those that export to high-income countries utilize more skilled workers than other exporters and firms supplying only the domestic market (Brambilla *et al.*, 2012). The skills and experience of the enterprise owner or manager can also have an impact. Entrepreneurs in the People's

<sup>63</sup> Among others, this is a problem in the Republic of Korea, see Kis and Park, 2012.

<sup>64</sup> The researchers found this to be true for large enterprises as well.

<sup>65</sup> Worker education was not, however, a key focus on the study.



Republic of China (PRC), who have worked in MNCs or are returnees to the PRC, are more likely to head SMEs that are export-oriented (Filatotchev *et al.*, 2009).

Skills are also important for SMEs supplying MNCs. A study, conducted by the Organisation for Economic Co-operation and Development (OECD) and the World Trade Organization (WTO), of SMEs based in developing countries and engaged in value chains, found that low labor-force skills were considered a key business constraint (Jansen and Lanz, n.d.). It was the number one constraint in the tourism and information and communication technology (ICT) sectors, and was among the top three constraints in the agri-food and the textiles and apparel sectors.<sup>66</sup> Furthermore, more than 40% of SMEs in these four sectors indicated that labor force skills were among the “main” national supply constraints affecting their ability to “enter, establish and move up a value chain”. Only in the transport and logistics sector were skills seen as less important (10th among all constraints).<sup>67</sup>

## Creating an Effective Education and Skills Training Ecosystem

The flow of educated and skilled workers to SMEs depends on the development of strong training institutes and strong national training ecosystems. Graduates will enter to the job market and seek employment in both SMEs and large enterprises. The training ecosystems are in the process of development in countries across Asia, and they vary widely.

Governments dedicate resources to the various levels of education, from primary to tertiary. Considerable attention has been targeted to achieving universal primary education with rates in many countries approaching 100%. Additionally, the focus is now shifting to providing quality secondary education, in academic and vocational streams, and raising enrolment and completion rates. Primary and (academic) secondary schooling provide a foundation for vocational education and training (VET), in which job-ready and job-specific skills are developed.

### *Dedicate attention and resources to vocational education and training*

Governments need to develop and support all levels of education from primary schooling to highly skilled tertiary and professional education. A key sector is VET, which supplies the skilled workers for SMEs engaged in technical production. Smaller firms often need technically—and not necessarily theoretically—trained people to complement the work of engineers, designers, and professional managers, who are trained at universities.

### *Certify public and private training providers to ensure a high quality of instruction*

Education and skills training can be delivered through a variety of public and private colleges, institutes, and other training providers. There should not be restrictions on allowing private provision. However, to ensure that students receive quality training, the government should

<sup>66</sup> The relatively small number of respondents per sector means that the results should be treated with caution.

<sup>67</sup> Five sectors were covered in the study.

put in place a system of institutional certification to ensure that an appropriate curriculum is delivered through high quality instruction.

### *Provide a skills training system that meets the needs of industry*

The training system should not operate in isolation from industry, but needs to provide skills for key sectors and seek to anticipate the skills needed for new and emerging sectors. Many SMEs are engaged in production for large firms and directly for export. They need skilled workers to fill their positions. However, many SMEs—indeed the vast majority of micro and small enterprises—serve local and domestic markets, and require workers with more practical and prosaic skill sets.

### *Build an effective system of skills qualification*

The quality of skills training can vary considerably between training institutions, with the result that SMEs find it difficult to hire appropriately skilled graduates. A national skills

#### **Box 5.1: Vocational Education and Training in Singapore**

The Institute of Technical Education (ITE) in Singapore is an exemplar of how governments can lead the way in shaping the labor market. Postsecondary educational assignments are decided by national examinations. Those with the right qualifications enter the three campuses that comprise the ITE system, where students learn the contours of one of many professions, including fields as disparate as elderly care, microelectronics, and culinary arts.

Course programs may be undertaken as a full-time student at the campus, or through a traineeship that combines classwork with an on-the-job practicum component. Upon graduation, students receive a technical degree that certifies their field expertise. ITE also offers vocational training for midcareer professionals. ITE produces its curriculum through intimate and dynamic collaboration with industry partners.

As a creation of the Ministry of Education, and being the country's only sanctioned vocational institute, ITE certifications match perfectly with countrywide guidelines. Moreover, the various regulatory codes that govern each profession are no obstacle to finding gainful employment, as ITE students enjoy training for necessary licenses as a part of their educational course.

SMEs account for 70% of all employment in Singapore. This can be attributed to the government's aggressive policy in promoting SMEs.<sup>a</sup> Because ITE is an arm of the government, these SME priorities are naturally reflected in the institute's mandate and strategy for the future. ITE works in concert with the Association of Small and Medium Enterprises to promote SME employment for its students.<sup>b</sup>

About 25% of graduates from secondary school enter the ITE network,<sup>c</sup> which hosts around 16,000 students concurrently. The impact on employment levels is evidently effective. Singapore enjoys one of the world's lowest youth unemployment levels at 6.7%, far below the OECD average of 15%.<sup>d</sup>

<sup>a</sup> [www.oecd.org/dev/asia-pacific/Singapore.pdf](http://www.oecd.org/dev/asia-pacific/Singapore.pdf)

<sup>b</sup> <https://www.ite.edu.sg/wps/wcm/connect/f000ba804e742234bc3cbd5b11ba44f7/ASME+Inks+MOU+with+ITE.pdf?MOD=AJPERES&ContentCache=NONE&CACHEID=f000ba804e742234bc3cbd5b11ba44f7>

<sup>c</sup> Law Song Seng, "Dynamics and Challenges of a Vocational Training System: The Singapore Experience," Institute of Technical Education.

<sup>d</sup> Center on International Education Benchmarking.

qualification system, based on industry-guided competency standards, provides a national benchmark for trainees and skills recognition. Such a framework can be costly to develop and maintain, notably for less wealthy countries with limited resources. In these cases, they develop standards gradually, one sector at a time.

## Tailor Training Opportunities to the Unique Characteristics of SMEs

SMEs may lack the time and resources to train their workers, despite the dividends that a more skilled workforce can generate in terms of productivity and product quality. Workers engaged in off-the-job training are taken out of the production process, and thus are not contributing to the output of the enterprises. This is both disruptive and costly. As a result, flexible training options should be considered both by SMEs themselves and by the training providers, both public and private.

### *Arrange training on a part-time basis during slow periods of the week or month*

Part-time arrangements will make it easier for enterprises to release workers for training. It must be planned by the enterprise owner and scheduled flexibly by the training provider. Part-time training may occur in non-peak times of the day or month.

### *Provide training in slow periods of the business cycle*

Training programs should be offered during slow periods of the annual business cycle, so that small enterprises can better afford to allow their workers to participate. Agriculture-related SMEs have a seasonal nature to their operations, for example, as do garment manufacturers, which are linked to fashion seasons in Western countries. Many other sectors have annual or seasonal variations in which they are not producing at full capacity.

### *Bring training to enterprises, instead of just sending workers to training*

The traditional mode of in-service training is to send workers out to training programs. However, bringing trainers to the enterprise is another option, which can save time and allow the training to focus on tasks specific to the individual enterprise. Such at-the-enterprise training can be still publically subsidized if properly structured.

### *Ensure that enterprises are aware of, and use, training subsidies*

SMEs are often unaware of publicly subsidized training schemes, such as training grants, vouchers, or partial cost subsidies. Public agencies should undertake the necessary outreach to ensure small enterprises are aware of these schemes. In countries where a training levy is imposed, the funds collected are often disproportionately used by larger firms, with the result that small firms end up subsidizing training in large firms. In addition, the application and rebate procedures should be easy for SMEs to use, given their lack of administrative personnel to handle government applications.

## Create Partnerships among Government, Training Providers, and SMEs

Skills and management training can be provided through industry-led initiatives in which businesses jointly establish training institutes or programs. These may be organized with, or partially funded by, government as private-public partnerships. The advantage of such programs is that they provide highly job-relevant training because industry is involved in setting curricula and knows the types of skills needed in the workplace. As well, trainers or senior skilled personnel from industry can be involved in training.

### *Consider industry partnership models developed in Asia*

There are many examples of industry-led or industry-partnered training initiatives in Asia. Other countries can learn from, and seek to replicate, these models. For example, the Penang Skills Development Center in Malaysia is a well-known example that caters to the electronics industry (Box 5.2). The Thai-Nichi Institute of Technology in Thailand is supported by Japanese firms, and provides graduates to firms in the automobile and others sectors (Box 5.4). The Institute of Technical Education in Singapore is a government-run

#### **Box 5.2: Penang Skills Development Centre, Malaysia**

In the 1970s, fewer than 10 multinational corporations (MNCs) operated on Malaysia's island province of Penang. However, today over 1,000 MNCs are engaged in all manner of high-technology and capital-intensive production. Penang is now an integral part of the global electronics production network, and has been dubbed the "Silicon Valley of the East".

Part of the story of how it became a global player can be attributed to the Penang Skills Development Centre (PSDC). Recognizing the need to develop a niche, the state government collaborated closely with industry and academia to launch a comprehensive effort to identify the labor gaps discouraging high value-added industrial activity, and to generate the advanced human capital necessary to meet that demand.

The centre has evolved into a large training hub that offers a diverse array of certificate and degree programs on the specific skill sets sought by enterprises, large and small. The programs are created through consultation and deliberation with the more than 100 corporate partners of the PSDC. Because their input is integral to shaping the curriculum, PSDC graduates form an essentially customized workforce that directly addresses the expectations of industry. This constitutes a powerful lure for commerce, as firms gain at their doorstep a uniquely reliable labor source.

SMEs are among the partner collaborators, and have helped the PSDC conceive courses that address their specific needs. For example, a core pillar of the iLEAP (I Learn Enhance Accelerate Personify) human resources strategic initiative is to equip SMEs with the tools necessary to make contributions in research and development by focusing on talent development for less capital intensive sectors. The PSDC's success is also attributed to the foresight and adaptability of the directorate. As industrial trends shift, so does the PSDC. For example, In the future, the PSDC is eyeing an expansion into programs targeting the manufacture of equipment in the fast-growing medical sector.

Source: Heem Heem and Yin Hooi (2012).

system of three campuses, which has strong links to industry in curriculum development and workplace training provision (Box 5.1).

### *Develop sector skills councils that serve the needs of SMEs*

Skills councils bring together stakeholders from government, training providers, enterprises, and workers' organizations to plan the development of training in specific sectors. SMEs should be represented on these councils, both to indicate their training needs and become aware of the training initiatives offered through the skills councils (Box 5.3).

### *Link SMEs associations with the skills training system*

A direct link between SME business associations and the skills training system will ensure that SMEs' skilled worker needs are properly addressed in the training programs offered. The training college and other institutes benefit through the placement of graduates with the skills required by business.

### *Develop partnerships for apprenticeships, co-op programs, and internships*

A high quality apprenticeship system offers a strong partnership between educational institutions and enterprises. Such a system ensures that SMEs can apply for and secure

#### **Box 5.3: Sector Skills Councils**

An increasingly popular method for communicating enterprise skill needs to training providers is through sector skills councils. They bring together the government, training providers, enterprises, and worker representatives to develop a cohesive vision for skills development to meet sector needs.

The United Kingdom, an early pioneer of this tool, has 23 skills councils that cover over 90% of the workforce. The councils represent the interests of sectors as diverse as energy, finance, automotive, entertainment, and telecommunications. These groups work with government to set educational curricula, to establish the rules that govern the professions of their domains, and to anticipate and plan for the future of labor in the country. The sector skills councils are playing all these roles in the ongoing overhaul of the United Kingdom's apprenticeship framework. The resultant policies of this relationship should be targeted, and firms should be better poised to navigate the rules of, and take full advantage of, the aid made available to their industrial sectors.

Skills councils have long been prevalent in Australia, Canada, and New Zealand, and have emerged recently in several other countries, such as Malaysia and India, where there are 16 and 17 such councils, respectively. The concept has also made limited inroads in the Republic of Korea. Although these implementations have seen varying degrees of effectiveness, what underpins any successful skills council scheme is comprehensive and active industrial representation, including large and small employers alike.

Sources: United Kingdom Federation for Industry Sector Skills and Standards, website, <http://fiss.org/sector-skills-council-body/>, accessed 5 January 2015; Kis and Park, 2012; and others.

### Box 5.4: Thailand-Japan Cooperation on Skills Training

Established in 2005, the Thai-Nichi Institute of Technology (TNIT) is the brainchild of the Technology Promotion Association, a group comprised of the governments and private sectors of Thailand and Japan, dedicated to the task of building the technological capacity of Thai industry. Because Thailand is integral to the supply chain of many Japanese technology-intensive companies, developing specific and complicated skills for workers is a top priority for all participants in this economic relationship.

To achieve these aims, the association formed the TNIT where Japanese manufacturers have shaped a curriculum that focuses on imparting knowhow relevant to their businesses, such as automotive parts and semiconductors. The students learn not only general engineering and factory management knowledge, but also the more particular traits that prepare them to interface with the regional operations of Japanese firms. Students usually undertake exchanges with their trade school peers in Japan, and a key focus of all degree granting programs is to make sure that graduates are conversant in Japanese and English. To heighten enrolment, which currently stands at 3,500 students, financial support is ample, with scholarships funded by the Japanese Chamber of Commerce. Over half of all TNIT graduates find employment with Japanese firms.

Source: Thai-Nichi Institute of Technology website, accessed 15 January 2015, at: <http://www.tni.ac.th/web/tni2012-th/>

apprentices and co-op students, and provides a basis for developing and, upon graduation, securing quality skilled personnel. Similar arrangements such as co-op programs and shorter internships can fulfill a similar function.

## Effective Means of Recruitment

While skilled workers may be produced by the skills training system, SMEs must be able to find and secure them. Linking SMEs to prospective workers is not easy. SMEs often rely on informal recruitment mechanisms, either by hiring relatives, friends, or acquaintances, or by asking them if they know of suitable candidates. SME owners also recruit through their existing workers, asking them if they know suitable candidates to fill vacancies.

SMEs revert to these methods because they are low-cost and require little time and effort. SMEs lack human resources departments or dedicated personnel who can focus on carrying out recruitment functions. For very small firms, the owner, preoccupied with managing and meeting production deadlines, often carries out recruitment tasks.

### *Value the recruitment process and dedicate time and resources to it*

SME managers are busy and recruitment may seem like a distraction from the core operations of the business. However, dedicating time and resources to recruiting good talent will pay dividends in the long term, through more productive staff. Managers need to plan the recruitment process, spend time on interviews and assessment methods, and make measured hiring decisions.

### *Recruit workers with experience in locally based foreign firms*

It may be difficult to recruit from large foreign firms but, if possible, new staff can transfer knowledge, skills, and production process ideas from these firms, to raise the productivity of the SME.

### *Recruit new staff directly from vocational colleges and universities*

SMEs should be aware of the vocational colleges and technical university programs in their areas, and establish regular links with these institutions. This can be done by liaising with placement centers at the institutions, participating in career fairs, and posting job vacancies.

### *Promote the advantages of working for an SME*

Larger firms often pay better wages and offer greatly employment security, but there are advantages to working for a small firm. Such advantages include being able to work locally, feeling part of a smaller more closely knit group of workers, and having less chance of being required to relocate. SME owners in their recruitment efforts, and their outreach to local schools and colleges, can highlight these advantages.

### *Offer apprenticeship positions*

A good way to recruit new talent is to offer apprenticeships. Offering several positions each year will establish a regular flow of talent between the program or training college and the enterprise. Good students will become aware of the firm, and may seek to join.

### *Ensure that the public employment service (jobs centers) support growth-oriented SMEs*

The public employment service has a role to play in understanding the recruitment needs of SMEs, as well as those of larger employers. The employment service must be aware of the role of SMEs in the economy, their efforts to export (directly or by supplying exporters), and their needs for highly productive and skilled workers.

## **Create Awareness of Training Options and the Need to Skill the SME Workforce**

Support for skills training is needed, but that also needs to be underpinned by a skills culture among SMEs, where training is valued and recognized as a key ingredient of higher productivity and export competitiveness.

### *Create a skills culture among SMEs owners and managers*

The need to develop a skilled and well-qualified workforce is recognized by some SME owners and managers, but not all. It is often seen as costly and a disruption to main production



activities. A skills culture needs to be promoted by the government and industry associations to encourage training activities.

### *Make SMEs aware of training options and support programs*

SMEs are often not fully aware of the training colleges, programs, and support programs that are available to them. They may find it difficult to access these programs, feel they are not sufficiently flexible to meet their needs, or think they are costly. Governments, along with training providers, need to provide sufficient outreach to inform and explain these programs to SMEs.

### *Recognize the link between training, productivity, and export competitiveness*

It is important to make the case that training is not only good for workers but also for the productivity and competitiveness of enterprises. Case studies and research can be used to show the links between a trained workforce and enterprise success. Advocates from government and industry can make the case at public forums, such as annual meetings of business associations, by advising exporters and SME associations, and by communicating through websites and the media.

## Productive Workplace Practices

Globalization makes accessible a bounty of tools that can be used to bolster workplace productivity. As smaller and more nimble organizations, SMEs are especially well positioned to take advantage of these means, as the implementation of changes can be less costly than for large firms. New technologies and growing awareness of cutting-edge practices should grant flexible SMEs opportunities for growth and competitiveness. However, with this sea of opportunities comes the challenge of determining and committing to the right orientation. Although opportunities abound, the appropriate course is rarely self-evident, especially to smaller firms that have not become accustomed to a global outlook. In this arena, policymakers can play a supporting role by clarifying options and stimulating action. Policy can encourage SMEs to enhance the productivity of the workplace by learning from the most successful and competitive firms in the 21st Century.

A productive workplace can contribute greatly to commercial competitiveness in domestic and foreign markets. However, creating such a workplace can be challenging. The needs of a firm can vary drastically, depending on the sector and even between similar firms, as productivity can be stymied by myriad sensitivities. Nevertheless, successful firms do share traits. When responding to pressures on productivity, adept firms will develop clear plans and implement those swiftly. Policymakers can foster these traits in SMEs.

The government has a role in priming the pump for improving SME workplace productivity. The most significant pitfalls standing in the way of effective policy are information and cost. Information shortfalls can be confronted with aggressive and creative promotion, and policymakers should establish initiatives that defray what would otherwise be the forbidding costs of investment for SMEs.



## Help SMEs Analyze Their Shortcomings

The starting point for making any judgment on productivity performance is rigorous analysis. In business, there are standard benchmarks that, when applied to the firm, help identify the origins and costs of shortcomings. However, these tools are usually available to, and deployed only by, larger firms. This is to be expected; the scale economies at larger outfits will reap greater benefits from adjustments that may only yield minor and negligible results for smaller companies, so much so that many big enterprises have entire divisions dedicated to operational streamlining and put up tremendous outlays to garner advice from outside experts dedicated to strategy. On their own, SMEs probably cannot emulate this approach.

### *Set up business advisory services or subsidize the use of private advisory services*

SPRING Singapore, an agency under the Ministry of Trade and Industry, is an example of how business advisory services might be done. Part of its manifold services is to make accessible some of the more sophisticated techniques in business. SPRING publishes primers on business concepts, offers business consultation to qualified SMEs, and provides vouchers that can be spent on private consulting services (Ministry of Trade and Industry of Singapore, 2015). With these assistive programs, Singaporean SMEs can gain some of the benefits of a professional diagnosis of their operations, without having to take on the risk of developing the capacity in-house. The SME Expert Advisory Panel, a division of Malaysia's SME Corporation, develops this concept further, as it is essentially a full-service government consultancy for the country's SMEs. SMEs receive advice that is then formalized into a step-by-step report of prescriptions. If qualified and necessary, the panel even provides financing for the investments required by the plan's implementation (Ministry of International Trade and Industry of Malaysia, 2015).

## Stimulate Networks between SMEs

Governments can help increase the flow of information between SMEs. Competitive multinationals keep abreast of developments and innovations by their rivals. Prudent firms take cutting-edge techniques and apply them to their own businesses, organically creating industry-wide best practices. When a firm disrupts its sector with innovation, the industry as a whole reaps benefits in the long-run. This is a valuable feedback process, and it is a dynamic that is generally not found among SMEs. Owing to size and number, SMEs are often insular and are usually only dimly aware of the strategies forged by their peers.

### *Establish domestic SME business associations*

Through these associations, SMEs communicate with each other by newsletters or at periodic conventions. These groups are a forum for business owners and workers to communicate their ideas, and to share the virtues of their own companies, forming a valuable industrial dialogue.

### *Make official competitions to give recognition to the best performers*

The Malaysian SME Corporation elaborates upon this concept by incentivizing participation with official competitions. They hold annual awards for the 50 best SMEs in the categories of operations, finance, and management (SME Corporation of Malaysia, 2015). Through these competitions, the winners receive valuable recognition from the government, and their best practices are promoted in the media. In this manner, Malaysia has created a competitive information network that builds and institutionalizes a growing repository of industrial best practices.

### *Expand SME business associations in concert with other economies*

There is no reason for these networks to remain domestic and they should be extended globally when possible. As SMEs become more integrated in global value chains, relationships and synergies transcending borders are emerging. Policymakers can take the lead by creating international federations. This concept already exists embryonically in forms such as the Global Alliance of SMEs, which is a network of SME-related trade organizations from the G20 economies, holding conferences to share information and discuss policy goals. The next logical step is to expand participation with direct involvement at the firm level.

### *Build direct links between SMEs*

SME productivity would be enhanced with collaboration between firms. Firms that have special insights and expertise should form connections with those lacking in these areas. This may yield concrete partnerships. With technology simplifying the processes typically involved with functions such as translation services, finance, law, and more, substantive partnerships across borders are almost certain to become more commonplace. To facilitate the formation of these partnerships, policymakers should create easily accessible and categorized listings and communities as platforms for SMEs looking to augment their capacity.

## **Help SMEs Develop Ties with Larger Industrial Partners**

In many sectors, SMEs exist alongside large multinationals as complementary entities. For example, in regions with a burgeoning automotive sector, SMEs can typically be found comprising a constellation of suppliers for titan car makers. Because many models of automobiles are produced at many different sites around the world, certain benchmarks have to be met and shared between the many geographical branches of the global supply chain. This relationship is symbiotic in that MNCs can string together high-technology operations with extant local assets, without having to wait for large scale industrialization and the partners in the host country to become acquainted with or synchronize with global standards. It would behoove SMEs in these niches to forge linkages with large partners. Governments can lay the groundwork conducive to developing such opportunities in several ways.

### *Set and raise uniform guidelines for industry, with potential for MNC linkages*

The Government of Thailand has lent substantial support to SMEs aspiring to join the automotive value chain of parts production. The government established guidelines requiring a certain percentage of locally produced content in finished goods, and developed regulations to ensure that these producers could meet quality standards (Dhanani and Scholtès, 2002). After meeting these standards, suppliers became flagship SMEs, boasting current and sophisticated management and manufacturing knowhow. Such policies can potentially entice the entry and commitment of MNCs to domestic markets, creating ripe opportunities for technology spillovers (Punyasavatsut, 2008).

### *Aggressively court MNCs by establishing good business and investment conditions, and channel technology spillovers into the SME sector*

Even in the absence of existing corporate interest, SMEs can emerge and develop productivity gains by studying and emulating the operations of large firms (Rose, *et al*, 2011). Policymakers can undertake and propagate studies to determine appropriate ways of adapting local economies to shifting global trends. It is instructive to note that some of the greatest success stories of MNC-SME linkages were primarily built with policy assistance, as industrial policy can anticipate the future of economic sectors as was the case with Malaysia. When Intel entered the Malaysian market in 1974, there was no skill set for high-technology production, yet the government argued persuasively for Intel's commitment by ensuring stable and favorable business conditions. Over the course of the following decades, Malaysia saw the emergence of many productive SMEs as a direct result of close ties with large semiconductor manufacturers (United Nations Conference on Trade and Development, 2011).

## **Train SMEs for Multiculturalism**

Perhaps the most significant and persistent bugbear for internationalizing SMEs is multiculturalism. In the globalizing world, accessing international markets is becoming an imperative for ambitious SMEs. Doing this efficiently means not only interaction with outsiders, who might be your clients, but also gaining these people as workers. This is becoming a key point, even for companies without international aspirations, as labor is becoming mobile across borders. With foreign talent coming to the doorstep of SMEs, the ones that are successful at integration stand to reap the most benefits. A diverse workforce is a potent asset for any SME (Mohr and Shoobridge, 2011). SMEs that surmount linguistic and multicultural barriers are driven to be more competitive, as they gain confidence and necessary skills in selling to more markets. In the European Union, studies find that SMEs investing in language development see a correlation of an average 44.5% increase in export sales (European Commission, 2011).

### *Identify language needs and provide language training for SMEs*

Most governments in the European Union offer free language and sensitivity training to mollify the potential pains of integration (European Commission, 2011).

### *Form and direct trade centers to provide cultural guidance on doing business in overseas markets, and make linkages with partners in those regions*

SMEs are often deterred from internationalizing because they believe the costs to be daunting. Government can reduce these costs by helping with the logistics of building an international presence. To promote exports, the European Union and Japan have a bilateral trade body that gives free consultation and advice to companies seeking business in those markets (EU Delegation to Japan, 2015). In addition to clarifying the characteristics that define these locales, this organization helps connect these companies to local agents that can streamline the process.

### **Prepare and Bolster SME Workplace Information Technology Capabilities**

Another factor that drives internationalization is the use of information technology (IT). Many of the aforementioned obstacles are becoming less daunting due to advances in financial services and telecommunications. Nevertheless, SMEs, as a result of cost or a lack of information, may be behind the curve in taking advantage of nascent trends. Here, governments may bolster the adoption of cutting-edge technology through educational campaigns and subsidies. This is indeed the intention of many countries currently and is highlighted as a key plank in the agenda of the Asia-Pacific Economic Cooperation (APEC, 2014).

### *Provide financial incentives for the use of IT*

Initiatives in Japan hint at one of the forms that such incentives might take, where the Small Medium Enterprise Agency provides special training courses on the use of IT in business operations. Experts visit SMEs and perform evaluations and suggestions. Tax credits are provided to encourage the purchase of IT-related capital (Small and Medium Enterprise Agency of Japan, 2015).

### *Build partnerships with MNCs that might give discounted IT equipment as a part of corporate social responsibility*

Malaysia tries to augment the IT capacity of SMEs through partnerships with large private firms, who go along as a part of their corporate social responsibility platforms. Lenovo and Intel offer various training programs and sell business computing systems at a discount to SMEs (SME Bank, 2015).

### *Develop internet portals that provide services for SMEs seeking to break into foreign markets*

Using internet portals for SMEs has also caught on in the United States, where Export.gov (U.S. Department of Commerce), an initiative of the International Trade Agency, provides discounted services to SMEs seeking to sell overseas. Through this website, SMEs have

available translation, legal counseling, finance, and other services that lower the barriers of doing business abroad. In this way, technology can help broaden the concept of the workplace by moving costly functions into the province of public and multilateral initiatives.

## Market Access

SMEs may have the technology, skilled workers, and product innovations to be competitive, but may still not seek to internationalize. Going global can seem like a big step into the unknown, which might generate success, but might also spiral into a costly misadventure. This big step will be easier to take if SMEs have information about what they are committing to, and if there is supportive infrastructure and a low procedural environment to move goods quickly and efficiently across borders. Thus, market access, in its various dimensions, is another important policy area for governments to address.

### Increase the Flow of Market Information to SMEs

The lack of knowledge about foreign markets is a key limiting factors for SMEs. They lack knowledge of: demand and market opportunities; product and business regulations; trade regulations, tariffs, and nontariff barriers; buyer requirements (for inputs into manufacturing); and the tastes and preferences of consumers. There may be specific restrictions for foreign firms setting up in, or selling into, a given market. Government can support better information in several ways:

#### *Provide information about trade and investment agreements*

Governments have ready access to their own bilateral and multilateral trade and investment agreements. This includes any preference arrangements with treaty partners, such the members of the Association of Southeast Asian Nations. Governments would know where the preferences are, and how best to apply for them. (Unfortunately, in some regional blocs, preferences go unused because they are unknown or the procedures and paperwork are too onerous and often not considered worth the effort).

#### *Support bilateral participation in trade fairs and networks*

Trade fairs are a good way for SMEs to discover opportunities in other countries. Enterprise owners can see what other producers exist within value chain links, and talk directly with importers and exporters. Governments can support the travel costs to participate in overseas fairs, and can also support domestic fairs and invite overseas interests.

#### *Develop a one-stop shop for SMEs seeking to expand abroad*

While governments may produce a lot of information, it is often not centralized and therefore hard for SMEs to find and access. A progressive and proactive SME internationalization policy requires that these various types of information be centralized through an SME portal or one-stop shop to facilitate their use. The portal itself should made widely known to SMEs.

## Streamline Trade Procedures and Reduce Tariff and Nontariff Barriers

Global value chains require an environment in which goods can move freely between countries, with minimal barriers. In this way, the policy stance for GVCs is much different from the past, in which governments tried to protect markets in an effort to build entire supply chains and industries within their own countries. The development of supply chains thus synchronizes well with the ballooning of bilateral and regional trade agreements. As a result, there are several areas in which government can provide support:

### *Negotiate trade agreements with GVCs in mind*

Government should seek to negotiate and sign trade agreements that reduce tariffs to low levels, especially in parts and components and the machinery and technology needed to produce them. ASEAN has made great strides in this regard, and there is a plethora of existing agreements, and others currently under negotiation, which have achieved or seek the same objective.

### *Focus on nontariff barriers*

In many regions, tariff barriers are already quite low across a range of goods. However, trade does not flow and GVCs are inhibited because of nontariff barriers and what are called “beyond or behind the border” barriers. These vary greatly and can include product standards and other regulations that are not standardized and are sometimes used to exclude competition. The real effort in many regions is to identify and systematically harmonize these standards, to ensure they are understood by importers/exporters and therefore can be adhered to.

### *Design efficient trade procedures*

The documentation, inspections, and procedural steps needed to move goods across borders can be costly and time-consuming. Given the need to ensure that the right goods are coming into the country—and that inferior, counterfeit, or incorrectly labeled goods are not—procedures are necessary. The challenge is to design and implement a system that is efficient, and to staff it with sufficient customs personnel who are well trained and can ensure that the right goods move quickly.

## Build Efficient Transportation Infrastructure

For SMEs to move goods across borders, either to secure inputs or send outputs, they need to be able to rely on an efficient system of transportation. This physical infrastructure has become even more critical with the development of global value chains, as goods may move across borders several times before the final product is produced and put to market. As transportation is a public asset, which benefits enterprises of all sizes and also consumers, the government has a key role. It can decide to provide infrastructure itself, or leverage the expertise and finance of the private sector by arranging public-private partnerships.

### *Link the industrial areas to ports and borders*

Production sites, often organized in industrial areas or export zones, need good road and rail access to get goods to borders and ports (air and sea). Highway systems that get congested or need to go through urban centers will cause costly delays for producers who need access to inputs (or partly finished goods in the value chain) or need to meet tight delivery schedules for the next stage of production in another country.

### *Provide modern port facilities*

A large share of goods trade, notably heavier goods, will be transported by sea. Countries with sea access can develop efficient ports that can dock large ships (deep draft), and have the cranes and other physical facilities to move goods on and off ships, store and warehouse goods, and move goods to other modes for inland transport (road, rail, inland shipping).

### *Facilitate intermodal transfers*

Goods often need to be transferred between at least two types of transport (e.g., air to road, rail to ship, etc.). This requires efficient intermodal connections to reduce time and avoid breakage and wastage. Nothing is more frustrating for a manufacturer than to know that goods have arrived in the country but that there will be delays in getting them to the factory.

### *Foster cooperation between border countries*

Connecting the transport systems of two countries requires cooperation between governments. Proper border gate facilities are required, and rationalization of transport systems is needed. This includes railroad track gauges, highway facilities (driving on the same side of the road), traffic regulations, and vehicle specifications. These arrangements allow vehicles to move between countries, and reduce the need for offloading and reloading (onto other vehicles), which can result in costly delays.

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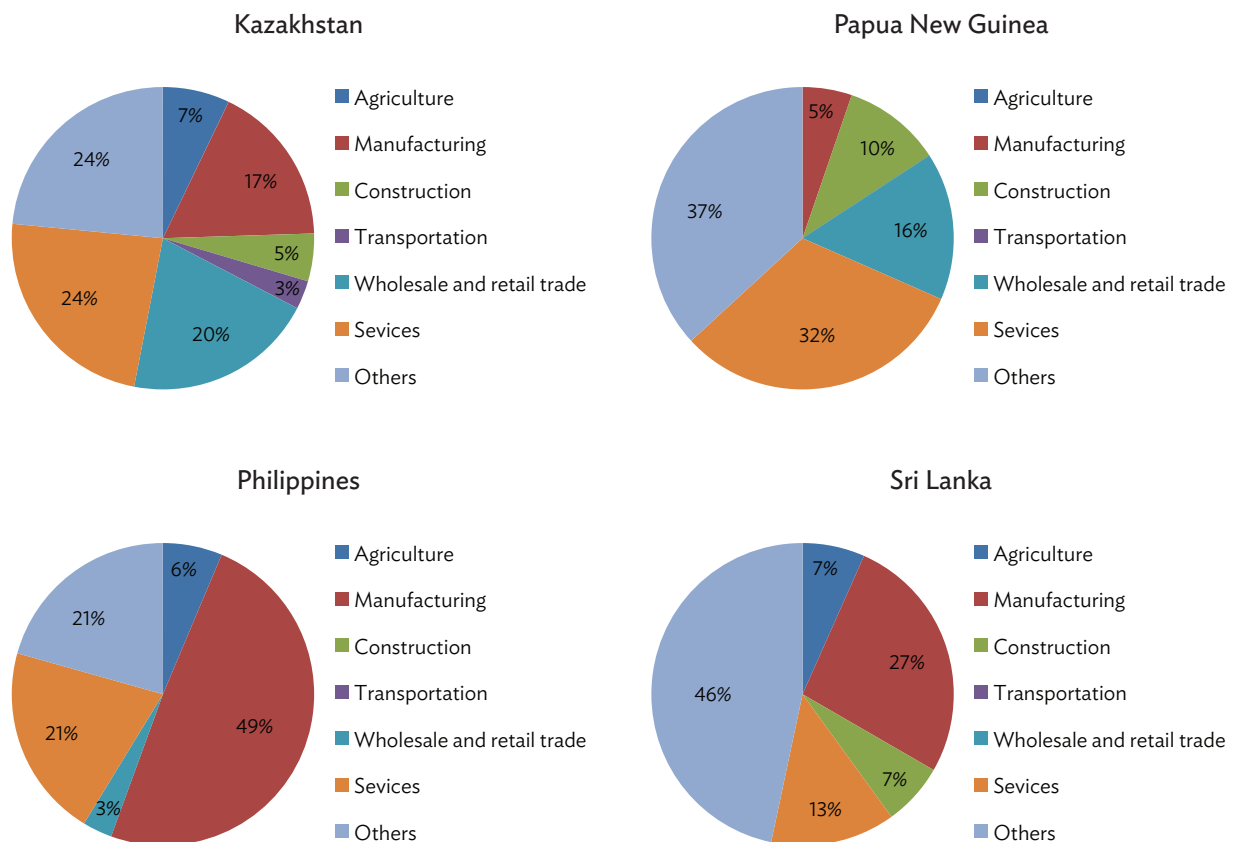
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## APPENDIX 1

# Country Survey Profiles: Kazakhstan, Papua New Guinea, the Philippines, and Sri Lanka

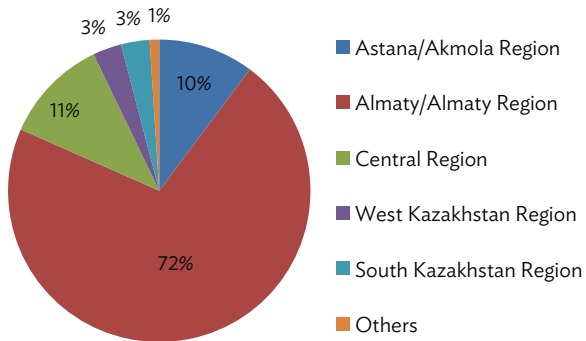
## SME Profile

### Business Sector

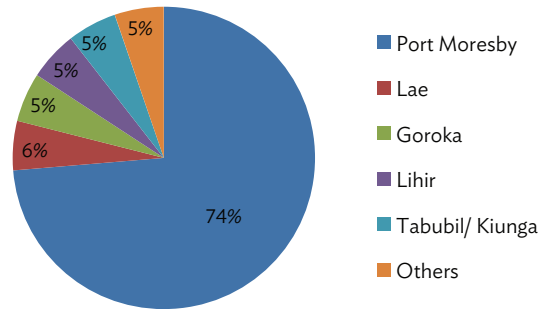


## Location

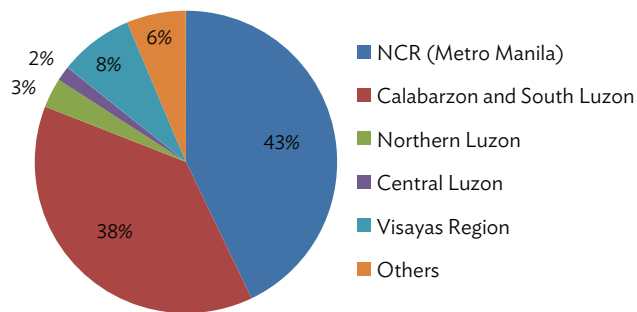
Kazakhstan



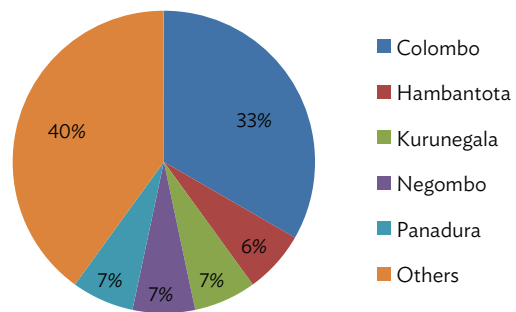
Papua New Guinea



Philippines

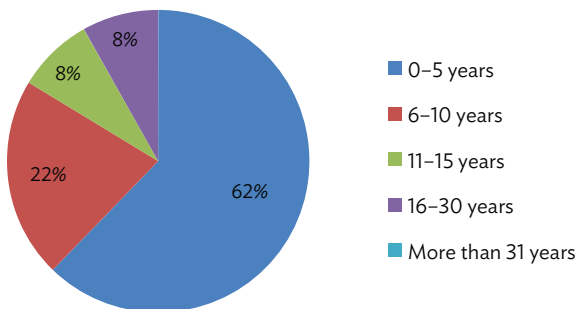


Sri Lanka

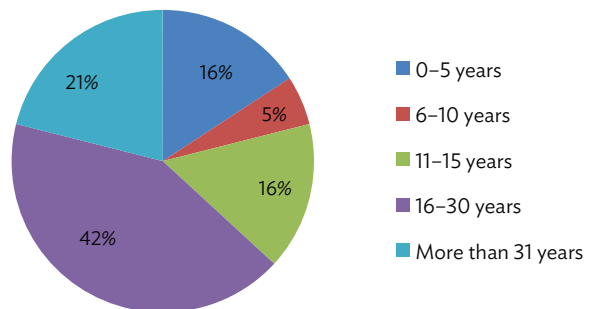


## Company Age

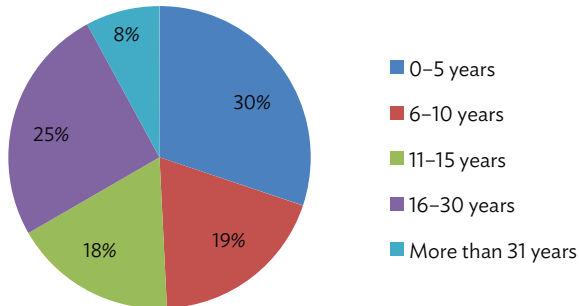
Kazakhstan



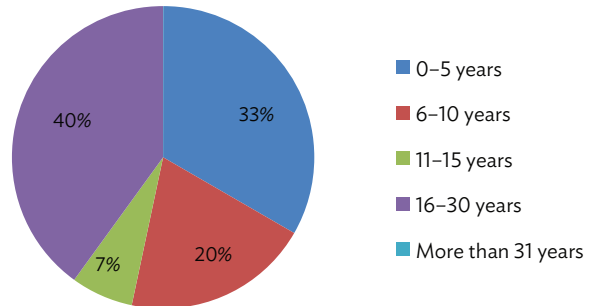
Papua New Guinea



Philippines

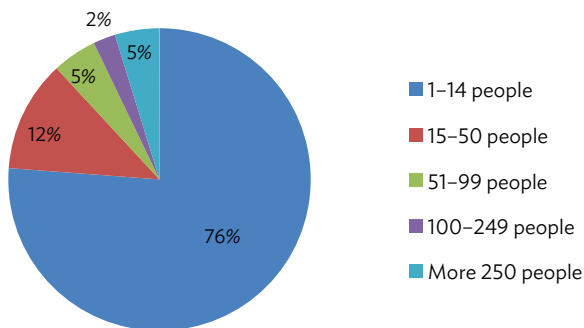


Sri Lanka

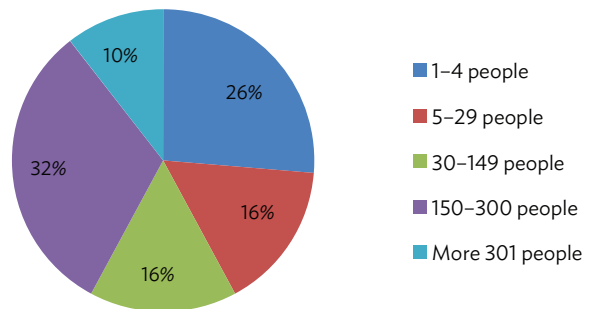


## Number of Employees

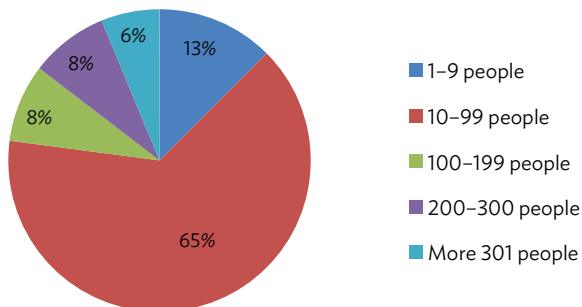
Kazakhstan



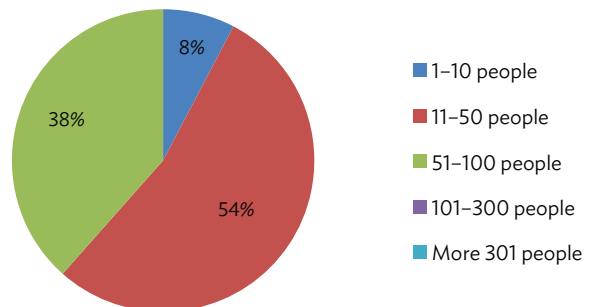
Papua New Guinea



Philippines



Sri Lanka



# APPENDIX 2

## ADB Survey Questionnaire

### Asian Development Bank Survey on SME Participation in Global Production Networks

#### Company Information

Name of your company:

Email:

#### Part 1: Company Profile

1.1. Your business sector:

- Select --
- Agriculture
- Manufacturing
- Construction
- Transportation
- Wholesale and retail trade
- Services
- Others [please specify]:

1.2. Your business type:

- Select --
- Exporting goods/services
- Not exporting at all
- Importing goods/services (by your own)
- Importing goods/services (via another firm)
- Not using any imported goods/supplies
- Others [please specify]:

## 1.3. Your company location:

Philippines	Kazakhstan	Papua New Guinea	Sri Lanka
-- Select --	-- Select --	-- Select --	-- Select --
<input type="checkbox"/> NCR (Metro Manila)	<input type="checkbox"/> Astana /Akmola Region	<input type="checkbox"/> Port Moresby	<input type="checkbox"/> Colombo
<input type="checkbox"/> Calabarzon & South Luzon	<input type="checkbox"/> Almaty / Almaty Region	<input type="checkbox"/> Lae	<input type="checkbox"/> Hambantota
<input type="checkbox"/> Northern Luzon	<input type="checkbox"/> Central Region	<input type="checkbox"/> Goroka	<input type="checkbox"/> Kurunegala
<input type="checkbox"/> Central Luzon	<input type="checkbox"/> West Kazakhstan Region	<input type="checkbox"/> Lihir	<input type="checkbox"/> Negombo
<input type="checkbox"/> Visayas Region	<input type="checkbox"/> South Kazakhstan Region	<input type="checkbox"/> Tabubil/ Kiunga	<input type="checkbox"/> Panadura
<input type="checkbox"/> Others [please specify]:	<input type="checkbox"/> Others [please specify]:	<input type="checkbox"/> Others [please specify]:	<input type="checkbox"/> Others [please specify]:

## 1.4. Period of your operations since establishment:

-- Select --
<input type="checkbox"/> 0–5 years
<input type="checkbox"/> 6–10 years
<input type="checkbox"/> 11–15 years
<input type="checkbox"/> 16–30 years
<input type="checkbox"/> More than 31 years

1.5. Total assets excluding land (*for SMEs in the Philippines only*):

-- Select --
<input type="checkbox"/> Not more than PHP 3,000,000
<input type="checkbox"/> PHP 3,000,001–15,000,000
<input type="checkbox"/> PHP 15,000,001–100,000,000
<input type="checkbox"/> Over PHP 100,000,001

1.5.1. Annual turnover (*for SMEs in Sri Lanka only*):

-- Select --
<input type="checkbox"/> Less than LKR 100 Million
<input type="checkbox"/> LKR 100–1,999 Million
<input type="checkbox"/> Over LKR 2,000 Million

1.5.2. Fixed assets (*for SMEs in Sri Lanka only*):

-- Select -- <input type="checkbox"/> Less than LKR 10 Million <input type="checkbox"/> LKR 10–399 Million <input type="checkbox"/> Over LKR 400 Million
---

## 1.6. Number of Employees:

Philippines	Kazakhstan	Papua New Guinea	Sri Lanka
-- Select --	-- Select --	-- Select --	-- Select --
<input type="checkbox"/> 1–9 people	<input type="checkbox"/> 1–14 people	<input type="checkbox"/> 1–4 people	<input type="checkbox"/> 1–10 people
<input type="checkbox"/> 10–99 people	<input type="checkbox"/> 15–50 people	<input type="checkbox"/> 5–29 people	<input type="checkbox"/> 11–50 people
<input type="checkbox"/> 100–199 people	<input type="checkbox"/> 51–99 people	<input type="checkbox"/> 30–149 people	<input type="checkbox"/> 51–100 people
<input type="checkbox"/> 200–300 people	<input type="checkbox"/> 100–249 people	<input type="checkbox"/> 150–300 people	<input type="checkbox"/> 101–300 people
<input type="checkbox"/> More 301 people	<input type="checkbox"/> More 250 people	<input type="checkbox"/> More 301 people	<input type="checkbox"/> More 301 people

## 1.7. Percentage (%) of female employees to total employees:

-- Select -- <input type="checkbox"/> 0–10% <input type="checkbox"/> 11–30% <input type="checkbox"/> 31–50 % <input type="checkbox"/> 51–80% <input type="checkbox"/> More than 81%
--

## 1.8. Percentage (%) of skilled workers to total employees:

-- Select -- <input type="checkbox"/> 0–10% <input type="checkbox"/> 11–30% <input type="checkbox"/> 31–50 % <input type="checkbox"/> 51–80% <input type="checkbox"/> More than 81%
--

1.9. Annual wage change per employee (%):

- Select --
- Decrease
  - No change
  - 1–5 % increase
  - 6–10% increase
  - More than 10% increase

1.10. Have you been involved in production networks?

- Select -- (Branching question)
- Yes (proceed to **question 1.10.1 to 1.10.2**)
  - No (proceed to **question 1.11**)

1.10.1. Have you been involved in domestic or global production networks?

- Select --
- Domestic
  - Global

1.10.2. Are you leading your business of producing and selling goods/services as a lead firm or are you a supplier/assembler as part of the production networks?

- Select --
- Lead firm
  - Supplier/assembler

1.11. Do you use a computer in your daily business?

- Select --
- Yes
  - No

1.12. By participating in the production networks, have you achieved the improvement in the following?



-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. Sourcing of inputs and supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Production capacity and technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Networking within the networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sustainable production and energy use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Access to finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Business environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.13 Your business performance

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. Business environment is good as compared to one year ago.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Financial conditions are good as compared to one year ago.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Employees have increased as compared to one year ago.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Business has expanded as compared to one year ago.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Borrowing from financial institutions is easier compared to one year ago.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Part 2: Vision for SME Participation in Global Production Networks**

2.1. What do you think are critical factors of success for your business in global production networks?

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
1. Education, experience, and international exposure of owner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ambition of owner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Readiness of owner to take risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Quality of product and service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Innovation and design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Low cost production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Corporate governance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Skilled labor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Flexibility of business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Specialization of business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Capability of business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Competitive advantage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Cost of inputs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Fair competition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Geographical location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Relationship with other firms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Joining Business Associates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Strength of customer relationship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Access to finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Access to insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Access to business development services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Logistics efficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Standards and certification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Economic conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Stable foreign currency exchange	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Familiarity with foreign business practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Political stability in foreign markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Foreign rules and regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Tariffs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.1.1. If you feel other critical factors of success not listed in the previous question, please specify.

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.2. Your business planning

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
1. Do you intend to expand your business globally in the next three years? ( <i>Branching question</i> )					
5:Yes ( <i>proceed to question 1.1Y to 1.3Y</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4:Somewhat Yes ( <i>proceed to question 1.1Y to 1.3Y</i> )					
3:Neutral ( <i>proceed to question 1.1Y to 1.3Y</i> )					
2:Somewhat No ( <i>proceed to question 1.1N to 1.1.1N</i> )					
1:No ( <i>proceed to question 1.1N to 1.1.1N</i> )					

1.1Y. What are motivations to expand your business globally?

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. Growing industry globally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Competitive advantage for products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Established own technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Benefits from trade agreements and trade facilitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Easy access to investment capital to grow the business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Easy access to finance for international trade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.1.1Y. If you feel other motivations to expand your business globally not listed in the previous question, please specify:

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.2Y. How much would you like to raise fund for business expansion globally?

Philippines	Kazakhstan	Papua New Guinea	Sri Lanka
-- Select --	-- Select --	-- Select --	-- Select --
<input type="checkbox"/> PHP 0–15 Million	<input type="checkbox"/> KZT 0–60 Million	<input type="checkbox"/> PGK 0–800,000	<input type="checkbox"/> LKR 0–45 Million
<input type="checkbox"/> PHP 16–30 Million	<input type="checkbox"/> KZT 61–115 Million	<input type="checkbox"/> PGK 800,001–1.6 Million	<input type="checkbox"/> LKR 46–85 Million
<input type="checkbox"/> PHP 31–45 Million	<input type="checkbox"/> KZT 116–175 Million	<input type="checkbox"/> PGK 1.6–2.5 Million	<input type="checkbox"/> LKR 86–130 Million
<input type="checkbox"/> PHP 46–60 Million	<input type="checkbox"/> KZT 176–230 Million	<input type="checkbox"/> PGK 2.5–3.3 Million	<input type="checkbox"/> LKR 131–170 Million
<input type="checkbox"/> Over PHP 61 Million	<input type="checkbox"/> Over KZT 231 Million	<input type="checkbox"/> Over PGK 3.3 Million	<input type="checkbox"/> Over LKR 171 Million

1.3Y. Which region(s) do you want to develop your export business?

**Note:**

**Southeast Asia:** Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam

**South Asia:** Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka

**Central and West Asia:** Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan

**East Asia:** The People's Republic of China, Mongolia, Japan, and the Republic of Korea

**The Pacific:** Australia, the Cook Islands, Fiji, Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, and Vanuatu

<p>-- Multiple select --</p> <p><input type="checkbox"/> Southeast Asia</p> <p><input type="checkbox"/> South Asia</p> <p><input type="checkbox"/> Central and West Asia</p> <p><input type="checkbox"/> East Asia</p> <p><input type="checkbox"/> The Pacific</p> <p><input type="checkbox"/> Europe</p> <p><input type="checkbox"/> North and Central America</p> <p><input type="checkbox"/> Middle East</p> <p><input type="checkbox"/> South America</p> <p><input type="checkbox"/> Africa</p> <p><input type="checkbox"/> Oceania</p> <p><input type="checkbox"/> Rest of the World</p>
--

1.1N. What are main reasons you are unwilling to develop your business globally?

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. Insufficient or difficult to access financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Lack of or difficult to access needed technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Poor infrastructure for trade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Not able to meet "standard" or specifications for products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Lack of skilled labor or managerial constraints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Weak supporting institutional frameworks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Labor market rigidity and regulations across the country	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Nontariff barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Lacking information channels or asymmetric information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Feeling disadvantage in my business sector (sectoral constrains)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.1.1N. If you feel other reasons not listed in the previous question that make you unwilling to develop your business globally, please specify:

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3. What would be the critical elements for effective schemes that policy makers should adopt to promote SME participation in global production networks?

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
1. Government's trade facilitation measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Tax incentives for small suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Simple procedures for trade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reform of transports, logistics, telecommunications, and ICT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Development of trade corridors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Development of e-commerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Improving domestic infrastructure, including storage and energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Innovation policies and incentives (i.e., R&D)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Education & training to match domestic skills with international standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Creation of clusters and other task bundling efforts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Active special economic zone (SEZ)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Intellectual property protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Competition law and enforcement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Revision of labor regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Promotion of standards and comply with international best practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Removing restrictions and barriers to foreign investment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Easy access to trade finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Easy access to nonbank financing instruments (e.g., factoring and leasing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Easy access to growth capital through innovative financing models beyond conventional bank credit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3.1. If you feel other critical elements for effective policy schemes not listed in the previous question, please specify.

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Part 3: Funding Instruments

#### Note:

**Trade finance** is a short-term supplier financing to hedge the payment risks between importers and exporters through the exchange of specific proof documents such as letters of credit and shipping documents, or the sales of receivables from exporters to the third party (forfeiter).

**Factoring** is a short-term supplier financing where companies sell their accounts receivable to the factoring company with or without recourse and in return receive cash-in-advance at a discount from the factoring company. It is called *domestic factoring* when the seller and the buyer domicile in a country while called *international factoring* when the seller (exporter) and the buyer (importer) are located in different countries.

**Crowdfunding** is a new approach that individuals lend to each other or small businesses through specialized lending websites, which has been growing in the United States, the United Kingdom, Germany, and the People's Republic of China.

3.1. What kind of funding instruments have you accessed at present?

-- Multiple select --

- Bank loan: short-term [less than 1 year]
- Bank loan: mid-term [1–5 years]
- Bank loan: long-term [over 5 years]
- Nonbank loan [finance company, pawn shop, etc.]:short-term
- Nonbank loan [finance company, pawn shop, etc.]:mid-term
- Nonbank loan [finance company, pawn shop, etc.]:long-term
- Factoring
- Financial leasing
- Trade finance

- Crowdfunding
- Venture capital: short-term
- Venture capital: mid-term
- Venture capital: long-term
- Microfinance institutions
- Borrowing from family, relatives, and friends
- Borrowing from other companies: parent company
- Borrowing from other companies: others
- Public loan programs: central government program
- Public loan programs: local government program
- Informal money lender
- Corporate bond and debenture
- Equity finance
- Own fund
- Others [please specify]:

3.2. What kind of funding instruments would you like to access in the future?

- Multiple select --
- Bank loan: short-term [less than 1 year]
  - Bank loan: mid-term [1–5 years]
  - Bank loan: long-term [over 5 years]
  - Nonbank loan [finance company, pawn shop, etc.]:short-term
  - Nonbank loan [finance company, pawn shop, etc.]:mid-term
  - Nonbank loan [finance company, pawn shop, etc.]:long-term
  - Factoring
  - Financial leasing
  - Trade finance
  - Crowdfunding
  - Venture capital: short-term
  - Venture capital: mid-term
  - Venture capital: long-term
  - Microfinance institutions
  - Borrowing from family, relatives, and friends
  - Borrowing from other companies: parent company

- Borrowing from other companies: others
- Public loan programs: central government program
- Public loan programs: local government program
- Informal money lender
- Corporate bond and debenture
- Equity finance
- Own fund
- Others [please specify]:

3.3. Trade Finance

1. Have you utilized external funding for your trading business? Please click all the instruments you have used for international trade.

- Multiple select --
- Export receivables-backed financing
  - Inventory/warehouse receipt financing
  - Prepayment financing
  - Account receivables-backed financing
  - Factoring (traditional)
  - Reverse factoring
  - Forfaiting
  - Export credit insurance
  - Export credit guarantee
  - Exchange insurance/forward contracts
  - Currency options
  - Others
  - Not utilized

2. How much have you raised funds from outside during the last five years? (total in local currency)

Philippines	Kazakhstan	Papua New Guinea	Sri Lanka
-- Select --	-- Select --	-- Select --	-- Select --
<input type="checkbox"/> PHP 0–15 Million	<input type="checkbox"/> KZT 0–60 Million	<input type="checkbox"/> PGK 0–800,000	<input type="checkbox"/> LKR 0–45 Million
<input type="checkbox"/> PHP 16–30 Million	<input type="checkbox"/> KZT 61–115 Million	<input type="checkbox"/> PGK 800,001–1.6 Million	<input type="checkbox"/> LKR 46–85 Million
<input type="checkbox"/> PHP 31–45 Million	<input type="checkbox"/> KZT 116–175 Million	<input type="checkbox"/> PGK 1.6–2.5 Million	<input type="checkbox"/> LKR 86–130 Million
<input type="checkbox"/> PHP 46–60 Million	<input type="checkbox"/> KZT 176–230 Million	<input type="checkbox"/> PGK 2.5–3.3 Million	<input type="checkbox"/> LKR 131–170 Million
<input type="checkbox"/> Over PHP 61 Million	<input type="checkbox"/> Over KZT 231 Million	<input type="checkbox"/> Over PGK 3.3 Million	<input type="checkbox"/> Over LKR 171 Million

3. How much would you like to raise funds from outside in the next three years? (in local currency)

Philippines	Kazakhstan	Papua New Guinea	Sri Lanka
-- Select --	-- Select --	-- Select --	-- Select --
<input type="checkbox"/> PHP 0–15 Million	<input type="checkbox"/> KZT 0–60 Million	<input type="checkbox"/> PGK 0–800,000	<input type="checkbox"/> LKR 0–45 Million
<input type="checkbox"/> PHP 16–30 Million	<input type="checkbox"/> KZT 61–115 Million	<input type="checkbox"/> PGK 800,001–1.6 Million	<input type="checkbox"/> LKR 46–85 Million
<input type="checkbox"/> PHP 31–45 Million	<input type="checkbox"/> KZT 116–175 Million	<input type="checkbox"/> PGK 1.6–2.5 Million	<input type="checkbox"/> LKR 86–130 Million
<input type="checkbox"/> PHP 46–60 Million	<input type="checkbox"/> KZT 176–230 Million	<input type="checkbox"/> PGK 2.5–3.3 Million	<input type="checkbox"/> LKR 131–170 Million
<input type="checkbox"/> Over PHP 61 Million	<input type="checkbox"/> Over KZT 231 Million	<input type="checkbox"/> Over PGK 3.3 Million	<input type="checkbox"/> Over LKR 171 Million

4. Regarding the previous question (desired funding amount), what is the purpose of funding?

-- Multiple select --
<input type="checkbox"/> Business expansion
<input type="checkbox"/> Capital investment
<input type="checkbox"/> Working capital
<input type="checkbox"/> International trade
<input type="checkbox"/> Others [please specify]

#### Part 4: Barriers to Access Financial Institutions

4.1. What are critical obstacles inhibiting your fundraising?

1. Supply side problems:

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. High lending rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Too short of loan-term	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Collateral/guarantee as prerequisite for loan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Complicated procedures to borrow money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Strict lending policy of financial institutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Exclusive lending attitude of financial institutions, especially for new customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.1. If you feel other critical obstacles (supply side problems) not listed in the previous question, please specify.

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 2. Demand side problems:

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
a. Managerial limitations for external funding (lack of internal control system of the company)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Lack of knowledge of financial products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. No interest in raising fund from outside (own funds and retained profits are enough for operating business)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 2.1. If you feel other critical obstacles (demand side problems) not listed in the previous question, please specify.

-- 5:Yes 4:Somewhat Yes 3:Neutral 2:Somewhat No 1:No --

	5	4	3	2	1
Others [please specify]:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 4.2. In your opinion, what are the most important government policies that improve SME access to finance? Please rate items below.

	5	4	3	2	1
a. Creation of specialized financial institution(s) for SMEs (e.g., public SME bank)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Public credit guarantee schemes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Interest rate subsidy for bank credit to SMEs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Mandatory lending to SMEs for commercial banks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Public credit bureau and/or SME credit risk database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Laws and regulations on secured lending (including the creation of collateral registries to promote movable asset financing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Refinancing facility (the government provides concessional loans and guarantees through participating financial institutions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Creation of SME incubation fund (providing growth capital to seed firms, start-ups, and entrepreneurs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Support for new financing models (e.g., crowdfunding)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Support for developing trade finance and supply chain finance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Support for developing nonbank financing instruments (e.g., lease and factoring)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Support for creating long-term financing venue for SMEs (e.g., SME capital markets (equity finance and/or bond issuance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Support for developing the venture capital industry serving SMEs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Support for developing the base of professionals serving SMEs (e.g., increase the number of certified public accountants (CPAs) serving SMEs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Tax incentive schemes for priority SME sectors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. Socialization programs/workshops/seminars to promote financial literacy for SMEs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

-- End of Survey --

## **Integrating SMEs into Global Value Chains**

### *Challenges and Policy Actions in Asia*

Globalized production networks, or global value chains, provide an opportunity for small and medium-sized enterprises (SMEs) to upscale their business models and to grow across borders. This process can enhance SME competitiveness, create more jobs, and promote inclusive growth in developing Asia. The Asian Development Bank and the Asian Development Bank Institute recognize the importance of integrating SMEs into global value chains. To provide pathways for such integration, this study examines ways of encouraging participation in value chains, and explores policy solutions to address the financial and nonfinancial barriers faced by these enterprises.

### **About the Asian Development Bank**

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to the majority of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

### **About the Asian Development Bank Institute**

The ADBI, located in Tokyo, is the think tank of the ADB. ADBI's mission is to identify effective development strategies and improve development management in ADB's developing member countries. ADBI has an extensive network of partners in the Asia and Pacific region and globally. ADBI's activities are aligned with ADB's strategic focus, which includes poverty reduction and inclusive economic growth, the environment, regional cooperation and integration, infrastructure development, middle-income countries, and private sector development and operations.

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