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List of Acronyms

ADB	Asian Development Bank
AIM	Asian Institute of Management
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
DTI	Department of Trade and Industry
ERIA	Economic Research Institute for ASEAN and East Asia
GPN	global production network
GVA	gross value added
GVC	global value chain
ICT	information and communications technology
KII	key informant interview
OECD	Organisation for Economic Co-operation and Development
PHP	Philippine peso
SD	standard deviation
SE	standard error
SMEs	small and medium enterprises

Abstract

Small and medium enterprises (SMEs) play an important role in the economy of many developing countries. In the Philippines, SMEs, including microbusinesses, account for 99.5 percent of firms and 63.2 percent of employment. However, this sector remains much less productive than their large counterparts. One way to help SMEs achieve higher productivity is to connect them to global value chains (GVCs). There are, however, a number of obstacles that make participating in GVCs difficult for SMEs. This paper attempts to determine the challenges as well as the enablers of connecting SMEs to GVCs. It uses data from a survey of SMEs in Metro Manila and a set of key informant interviews (KIIs) of SME owners and officials of government agencies tasked to assist SMEs. Survey findings indicate that Philippine SMEs are weakly linked to GVCs. A thematic analysis of KII data suggests that challenges and enablers can be grouped into five themes: (1) competition among countries in the Association of Southeast Asian Nations and East Asia; (2) international standards, regulatory requirements, and local institutions; (3) role of the government and institutions; (4) adapting to changes in international market demand and input supply; and (5) entrepreneurial mindset and skills. Based on the results, some policy implications were formulated.

Background and Objectives

Small and medium enterprises (SMEs) play an important role in many developing economies. In the Philippines, SMEs, including microenterprises, account for 99.5 percent of firms and 63.2 percent of employment (DTI n.d.). These figures are even across countries in the region. Among the members of the Association of Southeast Asian Nations (ASEAN), small and medium firms account for 89–99 percent of businesses and 52–97 percent of employment (ERIA 2014).

The Philippine government defines SMEs based on two criteria—employment and asset size, excluding land. A business is considered a microenterprise if it employs less than 10 workers or if it has an asset size of up to PHP 3 million. Small firms are those with 10–99 employees or those businesses with an asset size of more than PHP 3 million–PHP 15 million. Medium firms are those with 100–199 employees or with an asset size of more than PHP 15 million–PHP 100 million. Finally, large firms are those with at least 200 employees and an asset size greater than PHP 100 million (Aldaba 2012).

The 2018 List of Establishments of the Philippine Statistical Authority shows that among the more than 205,000 firms in Metro Manila, 81.33 percent are micro, 16.82 percent are small, 0.91 percent are medium, and 0.94 percent are large. For the entire Philippines, 88.45 percent of businesses are micro, 10.58 percent are small, 0.49 percent are medium, and 0.48 percent are large. In terms of sector composition of Metro Manila SMEs, 89.64 percent are from the services sector, 10.30 percent are from the industry sector, and the remaining less than 1 percent are in agriculture. This is close to the Philippine-wide shares of 86.72 percent, 12.42 percent, and 0.85 percent, for services, industry, and agriculture, respectively.

Despite the large role they have in the economy, SMEs remain far less productive than large firms. Although SMEs account for 63.2 percent of employment, their contribution to gross value added (GVA) is only 35.7 percent. The labor productivity of large businesses is more than twice that of small firms and around 10 times that of microenterprises.[1] This puts workers employed in SMEs at a disadvantage as productivity is positively correlated to wages (Downes et al. 1990; Millea 2002).

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[1]Labor productivity was computed by dividing the GVA by employment. The 2006 GVA data came from the Department of Trade and Industry.

Increasing the productivity of SMEs not only boosts the overall productivity of the macroeconomy but also fosters more inclusive growth and shared prosperity as the majority of firms and workers belong to the sector.

The literature identifies several challenges to achieving higher productivity, growth, and development for SMEs. These include access to finance (Berger and Udell 1998; Beck and Demirguc-Kunt 2006; Chittithaworn et al. 2011; Harvie et al. 2013), access to technology (Thong and Yap 1995; Lee and Runge 2001; ADB 2015), access to markets (Coviello and Munro 1995; Rogerson 2013), disruptive regulations (Klapper et al. 2006; World Bank 2012, 2013), and lack of entrepreneurial orientation or human capital of the business owner (Bates 1990; Wiklund and Shepherd 2005; Wiklund et al. 2009; ADB 2015).

The literature also identifies factors that can help SMEs achieve higher productivity and growth, one of which is internationalization by linking them to global value chains (GVCs) (OECD 2005; Botelho and Bourguignon 2011; ADB 2015). Linking SMEs to GVCs gives firms access to an expanded market and promotes improvements in technology, human capital, and access to information (OECD 2008; ADB 2015). Internationalization by participating in GVCs and trade also provides SMEs with a platform to develop economies of scale and increase productivity (Arudchelvan and Wignaraja 2015). However, SMEs are faced with a host of hindrances in trying to participate in GVCs.

The general objective of this study is to identify the factors that hinder Philippine SMEs from participating in GVCs and propose policy solutions to address these obstacles. The specific objectives are to (1) determine the extent of participation of SMEs in the Philippines in GVCs, (2) identify the obstacles that prevent SMEs from taking part in GVCs, and (3) propose policy solutions on how Philippine SMEs can better integrate into GVCs. A survey of more than 530 SMEs in Metro Manila was conducted to determine the extent of SMEs' participation in GVCs while a thematic analysis of data from a series of key informant interviews (KIIs) was carried out to identify the obstacles and propose policy options to improve the participation of SMEs in GVCs.

Review of Related Literature and Framework

Challenges to SME growth and competitiveness

Using both theory and empirical analysis of data from various countries, previous studies on SMEs have identified a number of hindrances to the sector's competitiveness. These hindrances include access to finance (Beck and Demirguc-Kunt 2006; Chittithaworn et al. 2011; Harvie et al. 2013), access to technology (Thong and Yap 1995; Lee and Runge 2001; ADB 2015), access to markets (Coviello and Munro 1995; Rogerson 2013), capacity to compete (OECD 2008), regulatory inefficiencies (Klapper et al. 2006; World Bank 2012, 2013), and lack of entrepreneurial abilities and human capital (Bates 1990; Wiklund and Shepherd 2005; Wiklund et al. 2009). Philippine SMEs are also beset by the high cost of doing business, poor business environment, and inadequate knowledge on finance (DTI 2018).

Access to finance is one of the most commonly cited challenges faced by SMEs worldwide. In the Philippines, SMEs usually lack the collateral required to avail of loans, while financial institutions lack credit information to evaluate the creditworthiness of SMEs (DTI 2018). Harvie et al. (2013) noted that on top of access to credit, SMEs, particularly those in developing countries, also face difficulties in obtaining other forms of financing, such as leasing. Compared to large firms, SMEs are perceived by financial institutions to be riskier to lend to. Thus, without proper collateral, SMEs resort to personal savings, internal profits, and informal borrowing (Harvie et al. 2013; ADB 2015). In a study of 41 firms from three Latin American countries, Navas-Aleman et al. (2012) found evidence that SMEs also face difficulties obtaining loan guarantees, which could be good alternatives to collateral, and that, SMEs find bank loan processes complex. Unlike publicly listed large firms that can raise capital through the stock market, SMEs have limited access to capital markets (Yoshino and Taghizadeh-Hesary 2016).

Access to technology is also an obstacle to SMEs' competitiveness. DTI (2018) identified lack of knowledge on technologies and innovation as an important factor that limits SME productivity. Inadequate information and communications technology (ICT) infrastructure undermines firms' connectivity to global and regional production networks (ADB 2015). Most SMEs also lag behind large firms in using ICT-based platforms such

as e-commerce (ADB 2015). These platforms would have allowed SMEs to reach wider markets, both local and foreign.

Market access is another challenge for SMEs. Rogerson (2013) has identified several issues pertaining to SME access to markets. First is sectoral disadvantage, which occurs when too many SMEs are concentrated in a few sectors with low growth potential. Second is location, wherein SMEs located in areas that are difficult to reach have lower market access opportunities. Third is product quality, which SMEs need to improve to be able to compete in other markets.

Poor business environment, regulatory inefficiencies, and the difficult and high cost of doing business as reflected in the Philippines' low ranking in the World Bank's *Ease of Doing Business Report* further add to these challenges (World Bank 2012; 2013).

While most of these factors are external to SMEs, there are also internal factors affecting their growth and competitiveness. For instance, Wiklund et al. (2009) identified owner's human capital as one of the drivers of small business growth. This proposition was empirically analyzed by Bates (1990), who found that the level of owner's human capital, measured by educational attainment, affects business longevity. There is also mixed evidence on the effect of business owner's entrepreneurial orientation on business growth, with some literature confirming that it can positively affect growth (Wiklund and Shepherd 2005).

Other factors that undermine competitiveness and productivity of SMEs include limited organization and management competencies, human resource constraints, inadequate entrepreneurial ability, and low motivation to innovate due to overreliance on technologies brought in by large multinational enterprises (Asasen et al. 2003; ADB 2015).

While there have been several studies on the challenges undermining SME growth and competitiveness, the literature also identifies the enablers of small and medium business development. These include management skills and human capital (Bates 1990; Lin 1998), business networking and external advice (Robson and Bennett 2000; Schoonjans et al. 2013), better regulatory environment (WB 2012, 2013), digital platforms or marketplaces such as e-commerce (Poona and Swatmanb 1999), and other programs that assist SMEs in adapting to or countering the effects of the hindrances discussed earlier.

SME participation in GVCs: Benefits and challenges

Gereffi and Fernandez-Stark (2016) defined a value chain as the set of all activities performed by firms and workers from conception to end use of a product or service. It includes such activities as research and development, production, marketing, and distribution to users. Sturgeon (2000) similarly defines a value chain as a series of value-adding activities before the product reaches the end-user. Thus, a GVC is a value chain in which one of the steps or actors in the life cycle of a product, from conception to consumption, takes place in another country.

One contributor to SME growth and competitiveness that has been recently popular in the literature is linking SMEs to GVCs. Given that value chains involve a set of activities needed to bring a product or service across its life cycle from conception, production, delivery, and disposal (Kaplinsky and Morris 2001), the internationalization of these value chains resulted in a wide range of business processes, from low- to high-value activities, to be carried out in different locations around the globe. SMEs that are able to latch on to these GVCs are thus able to access wider markets, better technologies, and positive spillovers from the other actors in the chain.

Several studies have also shown that participating in GVCs contributes to the growth of SMEs. A study by the OECD (2008) analyzing 20 cases of SMEs and the sectors they supply to found evidence that participation in GVCs promotes stability among SMEs, which can eventually lead to expansion and improvements in technology, human capital, and access to information. Yuhua and Bayhaqi (2013) have identified four general benefits of participating in international production networks, namely, improvements in technical capabilities, higher demand for products and services and improved production efficiency, prestige and improved credibility to be able to access credit and other resources easily, and internationalization. Furthermore, by partnering with larger firms such as multinational enterprises, SMEs can gain access to new markets regionally and globally, deepening their comparative advantage in their respective areas of specialization. Competition with other firms can motivate SMEs to improve their processes and systems and expose them to good business practices, as well as new technology and information. Participation in global markets, particularly through exporting, also leads to increased job opportunities and more foreign reserves. In general, GVC participation provides a springboard for economic growth and human capital development (ADB 2015).

An empirical study by the ADB (2015) on business participation in GVCs, found evidence that participation in value chains is associated with improvements in sourcing of supplies, production capacity, technology adoption, business environment, financial condition, access to finance, and employment. The study surveyed almost 200 SMEs and large firms from four Asian countries—Kazakhstan, Papua New Guinea, Philippines, and Sri Lanka.

The obstacles faced by SMEs in participating in GVCs are also studied in the literature. ADB (2015) identifies two crucial factors in connecting SMEs to GVCs—competitiveness of the business and connectivity. Competitiveness allows an SME to compete side-by-side with foreign and domestic firms that are part of the value chain. Connectivity, meanwhile, enables an SME to deliver its products to the value chain and its intended market. Thus, an SME may have products or services that are globally competitive, but if it is not connected to the market, then it will not be able to achieve its full potential.

The same study argues that the hindrances faced by SMEs in GVC participation are similar to the growth and development issues that they face in general. These include their lack of access to finance (Harvie et al. 2013), technical and management know-how (Asasen et al. 2003), and access to labor (ADB 2015). Many SMEs also lack resources to invest in research and development and training that are at par with international standards (OECD 2008).

SMEs also face institutional barriers. The international nature of GVC participation requires knowledge of foreign institutional and trade regulations, such as customs procedures (Liu 2012). Knowledge of foreign market conditions is another prerequisite for any SME to engage in international trade or participate in a GVC. In a case study of SMEs in Czech Republic, firms with chief executive officers who had greater foreign market knowledge were more successful in international ventures (Musteen et al. 2014).

Aside from empirical studies, the literature also contains theories on linkages between SMEs and GVCs, many of which explain why smaller firms are more constrained from accessing international markets compared to their larger counterparts. The trade theory by Melitz (2003) and Helpman et al. (2004) points to efficiency as the primary reason for this gap in access. Large firms are more efficient and therefore able to make profits despite the large cost of penetrating foreign markets. Related

to this, Arndt and Kierkowski (2001) argue the importance of increasing returns and specialization—factors more common among large firms—on the ability to become part of an international production network. Leonidou's (2004) framework emphasizes the role of three sets of factors that hinder firms from penetrating international markets. These factors can be internal (e.g., lack of capital), external (e.g., customer preference), and institutional (e.g., governance and government assistance).

Given these identified hindrances to participating in GVCs, ADB (2015) came up with crucial success factors that help businesses take part in GVCs. These factors were grouped into four: capability and competitiveness, international business, access to resources, and macroconditions. Further, the statistical analysis provided evidence that among these groups of factors, the international business indicators have the largest effect on firm performance, followed by capability, and competitiveness.

During the 2015 Meeting of the Asia-Pacific Economic Cooperation (APEC) Ministers Responsible for Trade, the organization adopted the Boracay Action Agenda to Globalize SMEs. Working with the knowledge that SMEs are important contributors of growth and development, APEC agreed to take the following actions: (a) facilitate the access of SMEs on free trade agreements and regional trade agreements; (b) streamline customs rules and policies and assist SMEs to comply with these rules; (c) provide timely information on export and import procedure and requirements; (d) widen the base of the Authorized Economic Operators and trusted traders programs to include SMEs; (e) support measures to facilitate SMEs' access to financing; (f) expand the internalization of SMEs through access to ICT and e-commerce; (g) strengthen institutional support for SMEs; and (h) strengthen focus on SMEs led by women (APEC 2015). These actions aim to empower SMEs by helping them penetrate the global market.

Methodology

Data sources and method of analysis

Two primary data sources were used in this study: (1) an SME survey, and (2) a series of KIIs. The survey addresses the objective of determining the extent of SMEs' participation in GVCs while the KIIs deal with the objective of identifying the obstacles of participating in GVCs. The

SME survey was conducted by the Asian Institute of Management (AIM) Rizalino S. Navarro Policy Center Competitiveness.[2] The survey, conducted in 2017 among 530 SMEs in Metro Manila, focused on linkages and competition between SMEs and large businesses. The survey instrument also contained questions on exporting, importing, expansion strategies, and obstacles to going global, among others. It also obtained information on the geographical reach of a firm's products and factors that could affect its GVC participation, such as access to finance, business environment, and owner's characteristics.

The number of SME respondents per city was proportional to the number of firms in each city in Metro Manila. The 530 respondents were composed of 265 small and 265 medium firms. Although it was recognized that this ratio did not reflect the actual ratio of small to medium firms in Metro Manila, the sample was divided equally to gain insight into the differences between small and medium businesses in terms of growth, development, and interaction with the business and economic environment (Tybout 2000; Krueger 2013; Hsieh and Olken 2014).

To determine if a business was qualified to be a respondent, both the employment and the asset size definitions were used. A business qualified if it met both of the following conditions: (a) it has 10–199 employees, and (b) an asset size of more than PHP 3 million up to PHP 100 million. Both employment and asset size definitions were also used in classifying a respondent as small or medium. In addition, a firm should have been operating for at least two years and formally registered. Survey respondents were either business owners or managers handling day-to-day operations and had been with the firm for at least one year.

The respondent firms were selected randomly from the list of businesses obtained from the city governments in Metro Manila. Systematic sampling was used in cities that failed to provide a business list. Areas in the city where businesses agglomerate were identified and prospective respondents were selected through systematic sampling. From a randomly selected starting point, every third establishment was asked to be interviewed. If unqualified firms were drawn, replacements were selected until the target number of respondents for each city was reached.

[2] The authors would like to thank the AIM Rizalino S. Navarro Policy Center for Competitiveness and the funder of the survey, the Konrad Adenauer Stiftung, for giving permission to use the survey data for this study.

Although the questionnaire was not specifically designed for a GVC survey, it contained questions on GVC participation such as exporting, being part of a global production network, and engaging in partnerships with foreign firms. These partnerships could be in the form of subcontracting, outsourcing, being licensed to manufacture a product, joint venture, strategic alliance, or consortium. The survey was used to determine the share of SMEs that are connected to GVCs.

KIIs were conducted among owners and managers of SMEs that participated in GVCs through exporting. The interviews were conducted to obtain a deeper understanding of the challenges of participating in GVCs among SMEs, as well as draw insights on the kind of support that SMEs need to enhance their capacity to participate. To get the perspective of policymakers, officials from government agencies that implement programs to help SMEs participate in GVCs were also interviewed. To analyze the interview data, a thematic content analysis was used to identify recurrent themes. Thematic analysis is a method of analyzing qualitative data such as in-depth interviews and focus group discussions wherein the most recurrent themes or patterns are identified from the responses of the interviewees (Guest et al. 2012; Braun and Clarke 2006).

Profile of survey and KII respondents

The profile of the survey respondents is detailed in Table 1. Most of the respondents were from the services sector at 91.5 percent, with the remaining 8.5 percent coming from the industry sector. There was no respondent from the agriculture sector, which was expected because Metro Manila is purely urban. Most respondents from the services sector were retail traders (40%) and hotels and restaurants (22%) while those from the industry sector were mostly from the manufacturing subsector, with a small percentage coming from construction and publishing.

In terms of age of firm, 70 percent of the firms were established from 2000 onwards. The average age of the owner or majority owner was 53 years old, 72.3 percent of them were male, and almost 90 percent were college degree holders. The average asset size of all respondents was PHP 20.7 million while the average employment size was 52 workers. Respondents from small and medium firms reported a mean asset size of PHP 5.9 million and PHP 35.4 million, respectively.

Table 1. Characteristics of respondent firms

Size and Other Information			
	Average	Number of Observations	SD
Asset size (PHP in million)	20.7	248[a]	28.7
Employment	51.6	530	57.8
Age of owner or majority owner	53.4	502	13.3
Dummy=1 if owner or majority owner is male	73%	527	0.45
Sector Composition			
	Percent Share	Number of Observations	
Industry	8.5	45	
Services	91.5	485	
Retail trade	37.6	199	
Hotel and restaurant	19.8	105	
Other services	34.2	181	
Year of Establishment			
	Percent Share	Number of Observations	
2010 and younger	35.3	187	
2000–2009	35.1	186	
1990–1999	14.7	78	
1980–1989	6.4	34	
1979 and older	8.5	45	
Type of Ownership			
	Percent Share	Number of Observations	
Sole proprietorship	46.98	249	
Partnership	9.06	48	
Corporation	42.45	225	
Others	1.51	8	
How the Business Was Acquired			
	Percent Share	Number of Observations	
Started the business	58.5	310	
Inherited from a family member	16.0	85	
Acquired the business through purchase	13.6	72	
Spin-off from another business	9.3	49	
Others	2.6	14	

SD = standard deviation
Notes: [a]Only 248 respondents provided their actual asset size in PHP
Source: AIM (2017)

There were two sets of respondents for the KIIs. The first set was institutional, consisting of three respondents who were officials of government and private organizations involved in developing SMEs and the country's capacity to export. The second set, consisting of seven interviewees, were owners and managers of SMEs with experience in exporting. The first SME respondent was a snack food manufacturer founded in 2008, exporting different variants of banana chips. Since 2018, slightly more than half of its revenues had been from exports. The second was a garment manufacturer established in 1979 that derived all its revenues from export sales. It was also connected to the GVC through its inputs, which were textiles imported from China. The third was a footwear manufacturer that had been operating since 2006. Around 20 percent of its sales were from exports and its inputs were sourced from China, Bangladesh, and the local market. The fourth respondent was also a footwear manufacturer which had been operating since 1962. It stopped exporting when faced with stronger competition but continued to source its inputs from abroad. The fifth respondent was another former exporter, this time, of rattan products. Competition and changes in demand also forced it out of the export market. Established in 2010, it continued to produce handicrafts but shifted to a different raw material. The sixth respondent was a producer of upcycled furniture and fixtures established in 2009. It also forayed into exporting in 2013 but shifted back to purely local sales when its attempts to penetrate the international market failed. The seventh interviewee was a stone and marble fixtures manufacturer established in 1979. Its sales from exports dropped to about 30 percent after competitors took a large part of its market share.

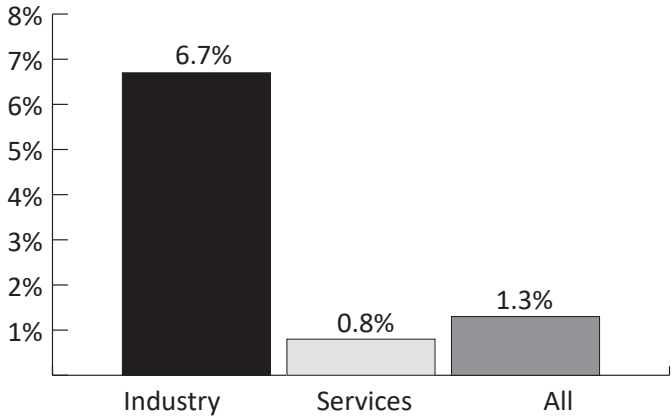
Results and Discussions

How connected are Philippine SMEs to GVCs?

Survey data suggest that only a small share of Philippine SMEs are connected to GVCs. A mere 1.3 percent, or seven out of the 530 survey respondents, had direct exports in fiscal year 2016. About 57 percent, or 4 out of 7 of these exporters, were from the services sector while the remaining 43 percent, or 3 out of 7, were from the industry sector, particularly manufacturing. In terms of the share of exporter SMEs per sector, it was higher for industry at 6.7 percent, i.e., 3 out of 45 respondents were exporters. For services, the share of exporter SMEs was 0.8 percent or

4 out of 485. (Figure 1). For these exporting firms, the share of revenues coming from exports ranged from 10 to 60 percent, or an average of 33 percent.

Figure 1. Share of Philippine SMEs with export revenue in 2016, by sector



SME = small and medium enterprises
Source: AIM (2017)

Another way SMEs can connect to GVCs is through linkages with domestic large firms and multinational enterprises (ADB 2015). This is especially true for big exporting businesses but may also apply to large firms that only sell domestically. This is because domestic large firms typically supply their products or services to exporters or local offices of foreign enterprises, and are therefore more likely to be connected to GVCs than SMEs. These linkages could be through supplying foreign firms with inputs or through subcontracting and outsourcing arrangements. It could also be through formal partnerships such as joint ventures, strategic alliances, and consortiums. A joint venture is an alliance between two firms to establish another enterprise to manufacture or market a product or service. A strategic alliance is similar to a joint venture but does not involve the creation of a new firm. A consortium is a group of businesses that partnered to purchase inputs or equipment for the common usage of the group (Hussain 2000).

Among the respondent SMEs, only 23.4 percent sold to large firms, with the remaining respondents selling only to fellow SMEs and retail

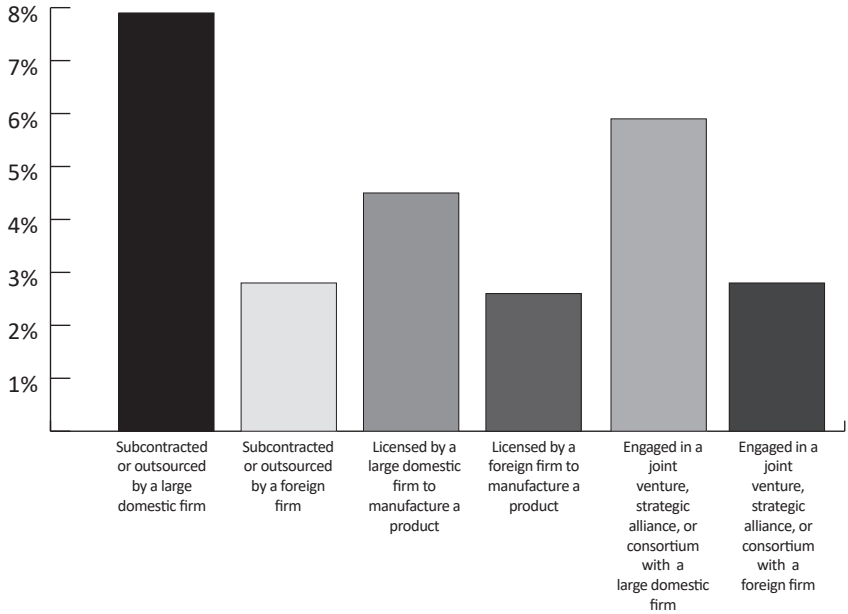
clients. Thus, not only is there a small share of firms that sell to large businesses, but also a low average share of revenues from sales to large firms. Among all respondents, the average share of revenues from large firms to total revenues was 6.9 percent. In comparison, the average share of revenues from SMEs was 12.6 percent. The bulk of revenues came from retail sales (78.8%), while the rest came from sales to government agencies and exports.

These figures, however, may not be the best gauge of how linked SMEs are to large firms in terms of sales. It must be considered that most respondents were from the services sector, and SMEs in this sector usually concentrate on retail selling rather than selling to business clients. Services needed by firms such as finance and backroom operations, among others, are usually supplied by large firms. If only revenues from business clients were considered, 35.4 percent of such sales went to large businesses and the remaining went to fellow SMEs. Large firms, however, contributed 64.3 percent of GVA (DTI n.d.). This suggests that large firms disproportionately purchase their inputs from fellow large firms instead of buying from SMEs.

In terms of other formal linkages, 14.5 percent of all survey respondents had experienced at least one of the following: subcontracted, outsourced, licensed to manufacture a product, or engaged in a joint venture, strategic alliance, or consortium with a large domestic business or a foreign firm (Figure 2). The most common of these linkages was outsourcing or subcontracting with a large firm, with 7.9 percent of all respondents experiencing such partnership. Through these linkages with large firms, SMEs are able to connect to GVCs. When a foreign firm or a GVC-connected large domestic business subcontracts to an SME, the latter becomes directly linked to the value chain where the former provides its products. Similarly, the services provided by an outsourced SME are used as inputs by large firms to come up with products or services that they can supply to the value chain.

Subcontracting or outsourcing for a foreign firm connects SMEs to GVCs by giving them platforms to use their products and services as inputs to create goods that will reach the global market. On the other hand, being licensed to manufacture a product by a foreign business works in the opposite way as some inputs, particularly technology, are sourced from abroad while the manufactured products are sold in the domestic market or exported.

Figure 2. Share of Philippine SMEs that have engaged in selected partnerships with a domestic large business or a foreign firm

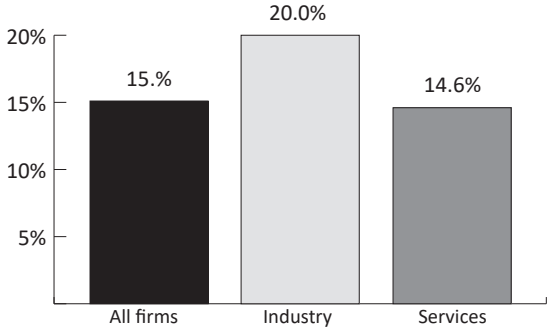


SME = small and medium enterprises
Source: AIM (2017)

Another indicator of GVC linkage available from the survey data is participation in global production networks (GPNs). Respondents were asked if they are part of a GPN after reading the definition of a GPN to them. Sturgeon (2000) provides a simple definition of a production network—involving at least two value chains with at least one common actor. From this definition, being part of a GPN implies being part of at least one GVC. More formally, Coe et al. (2008) define a production network as the set of interconnected functions and transactions used to produce, distribute, and consume the product or service. A production network is a GPN if one of the interconnections extends across countries.

Like the previous indicators, only a small share of respondents (15.1%) identified themselves to be part of a GPN. Disaggregating the results between sectors, however, shows a slight difference, with 20 percent of respondents from the industry sector saying they are part of a GPN compared to 14.6 percent for services (Figure 3).

Figure 3. Share of Philippine SMEs that are part of a global production network

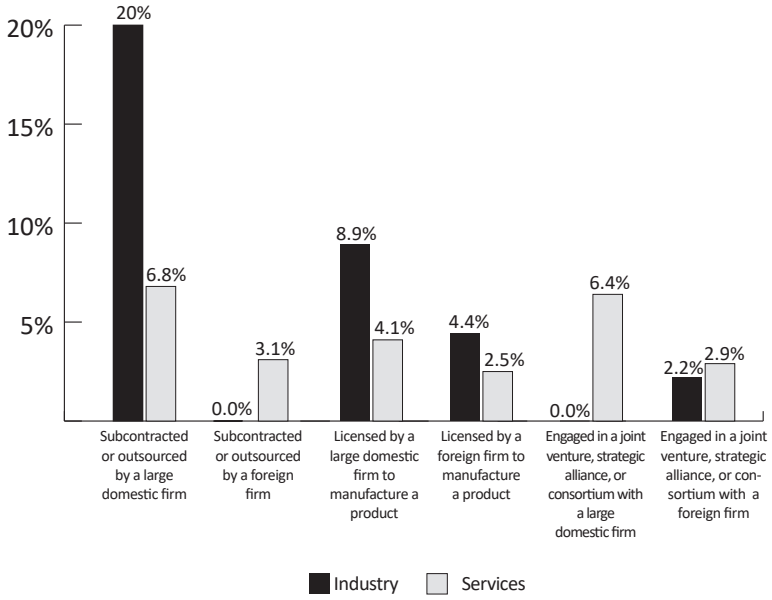


SME = small and medium enterprises
Source: AIM (2017)

Although the statistics presented in this subsection suggest that SMEs, in general, are not well connected to GVCs, disaggregation would show that this trend varies across sectors. As shown in Figure 1, SMEs from industry sector are much more likely to export than those from services. In addition, 44.4 percent of respondents from industry sell to large firms, compared to only 21.4 percent from services. Industry SMEs are also generally more likely to engage in formal partnerships with large and foreign firms and slightly more likely to be part of a GPN (Figures 3 and 4).

Industry SMEs are more likely to engage in subcontracting and outsourcing arrangements and are more likely to receive manufacturing licenses than their counterparts from the services sector. On the other hand, small and medium services firms are more likely to engage in joint ventures, strategic alliances, and consortiums. These findings have implications on SME growth between sectors. Subcontracting, outsourcing, and being licensed to manufacture a product imply guaranteed revenue for the SME. On the other hand, joint venture, strategic alliance, and consortium are arrangements wherein two firms agree to purchase a resource for common use or to develop a new product. While these partnerships can reduce costs and promote potential for expansion, there is no guarantee that they will lead to increased sales or profits.

Figure 4. Share of Philippine SMEs that have engaged in selected partnerships with a domestic large business or a foreign firm, by sector



SME = small and medium enterprises
Source: AIM (2017)

The foregoing discussion suggests that industry SMEs are more connected to GVCs than their counterparts from the services sector. This could imply that there are either more GVC linkage opportunities for SMEs in the industry sector or obstacles in the industry sector are easier to overcome than in services. Either way, this trend suggests important implications for policymakers as well as for SME owners and managers.

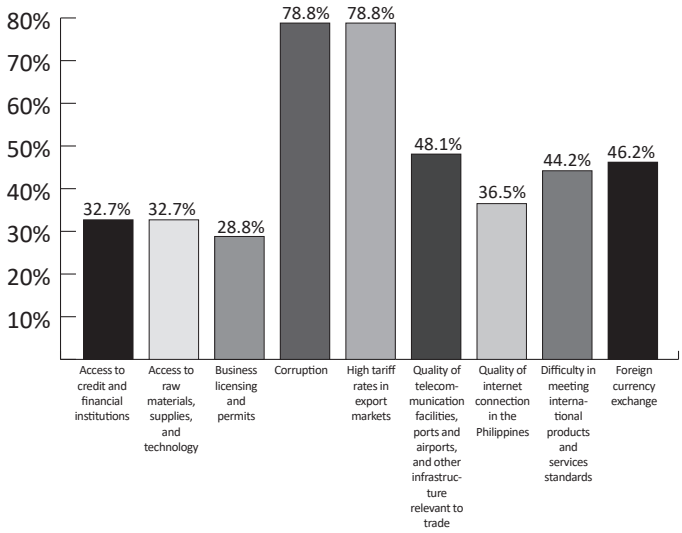
Similar to sectoral classification, some grouping categorizations (e.g., size of firm, age of owner) of SMEs could also show significant differences in terms of linkages with GVCs. This is further discussed in the Appendixes.

Challenges to SME participation in GVCs

Although a meager 1.3 percent of respondents had export revenues in 2016, an additional 8.5 percent expressed plans to export in the next

two years. The difference in the number of respondents that are already exporting and those that plan to export suggests that many SMEs looking to penetrate the global market are encountering prohibitive difficulties. Many of the respondents who were not exporting but had plans to export were not new but firms with an average age of 15 years and a median age of 10 years. This suggests that being in the early stage of development is not a primary reason why firms do not export. The primary motivations to export—both for firms that are already exporting and those that plan to export—are to increase revenues and create new markets for products and services. When asked about the obstacles in penetrating the international market, particularly through exporting, 79 percent of respondents who were exporting or planning to export identified corruption and high tariff rates in export markets as the top obstacles. The next top answers were quality of infrastructure relevant to trade (48%), foreign currency exchange rate (46%), and difficulty in meeting international products and services standards (44%) (Figure 5).

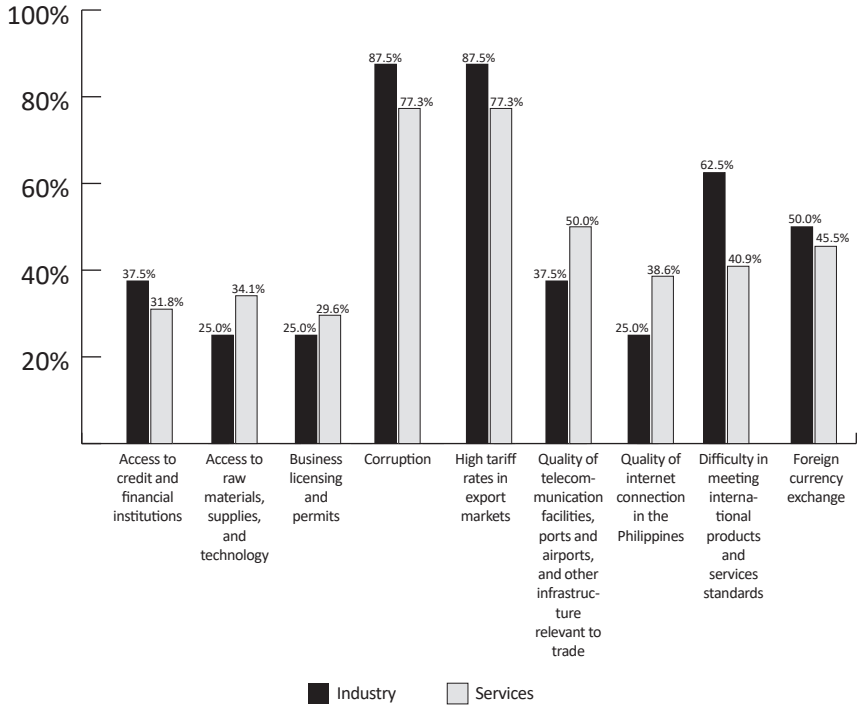
Figure 5. Perceived obstacles of Philippine SMEs to participating in GVCs (% of respondents who are exporting or planning to export)



SME = small and medium enterprises; GVC = global value chain
Source: AIM (2017)

Considering that SMEs from different sectors could be facing different challenges in connecting to GVCs, respondents were disaggregated into industry and services (Figure 6). Indeed, the top factors identified as obstacles by respondents vary between industry and services sectors. Difficulty in meeting international product and service standards appears to be a much stronger obstacle for industry SMEs, while infrastructure and telecommunications seem to be more significant issues for those in services.

Figure 6. Perceived obstacles of Philippine SMEs to participating in GVCs, by sector



SME = small and medium enterprises; GVC = global value chain
Source: AIM (2017)

To further probe the challenges faced by exporters, respondents who were not exporting and those who had no plans to export were also asked about their lack of interest in entering the international market.

High tariff rates in export markets (65.5%) was the primary reason given by respondents. This was followed by lack of market for their product or service abroad (51.5%), lack of access to technology (38.3%), lack of access to finance (37.4%), and the high standards required for exported products or services (32.8%).

In another survey of SMEs in four Asian countries, including the Philippines, ADB (2015) identifies five primary impediments in connecting small and medium firms to GVCs. These are access to finance, availability of skilled labor, labor market rigidity, weak institutional support, and disadvantages of the sector. The last impediment is considered the most critical because it implies that the sector as a whole is not yet ready to compete internationally.

While these surveys provide evidence on the challenges of linking SMEs to GVCs, they do not show how these factors affect the capability of small and medium firms to link to value chains. The KIIs also provided the authors an opportunity to dig deeper into the results, particularly in explaining how these obstacles impede SMEs' ability to participate in GVCs and how these hindrances can be overcome as well as identify other challenges faced by SMEs in connecting to value chains.

Five themes emerged from the KIIs from which challenges and enablers for SMEs to connect to GVCs can be identified and suggested. The five themes are (1) competition in the Association of Southeast Asian Nations (ASEAN) and East Asia; (2) international standards, regulatory requirements, and local institutions; (3) role of government; (4) international market demand and inputs supply; and (5) entrepreneurial mindset. Most of the perceived obstacles to participating in GVCs identified in Figure 6 are related to these five themes. For instance, corruption and business licensing and permits fall under institutions. Difficulty in meeting international standards, which is the focus of the second theme, can also be among the reasons why Philippine SMEs find it hard to compete abroad, which is the central idea of the first theme.

Competition in ASEAN and East Asia

There are two primary levels of participation in GVCs—volume and value. Volume refers to the quantity contributed by the firm to the GVC; value refers to the value of this contribution. While there are some Philippine SMEs that have succeeded in integrating into the higher-value segments of the GVCs, most of them are in the lower end of the chain and are only

able to provide raw materials. The electronics and automotive industries, which have been receiving foreign direct investments, are among those that are fully integrated with the higher-value segments of the chain. Other industries, like the food and beverage sector, also manage to thrive in the international market, but mainly because they are self-made. It seems that for most domestic SMEs that are already linked to GVCs, moving up the value chain remains a major challenge. What makes Philippine SMEs less competitive is their incapacity to increase value-added components to their exports, with most domestic SMEs exporting only raw materials rather than processed products.

In addition, even those local SMEs involved in the higher-value section of the GVCs are facing stiff competition with other ASEAN players, particularly those from Viet Nam and Thailand, as well as China. Companies from these countries, respondents explained, can offer their products and services at lower prices, making it difficult for domestic firms to compete in the global market.

For instance, a respondent from a stone and marble fixtures sector used to generate income from exporting in the 1990s to early 2000s. The massive orders coming from abroad had been instrumental in the growth and expansion of the company. But since 2011, the firm's exports have declined with the emergence of competitors from China that can produce tiles that look like marble at a lower cost. These companies sell their products to other countries, including the Philippines. This innovative capacity of producers in competitor countries is a factor for their cost-competitiveness compared to Philippine exporters.

Some of the materials used to make these 'synthetic' marbles are raw marbles imported from the Philippines. The exporters of these raw marbles are examples of Philippine firms that are in the lower value section of the GVCs. Thus, having the ability to develop raw marbles into processed products would allow these exporters to sell at a price higher than what they charge for raw marbles.

Another cost disadvantage faced by Philippine SMEs is their inability to mass-produce, which results in their failure to meet large market demands abroad and take advantage of the crucial economies of scale that could allow them to sell their products at lower prices. Many exporters abroad can produce products in bulk in a more efficient manner because they have mechanized production processes and technology to mass-

produce. This is not prevalent among Philippine SMEs. One respondent from the handicraft sector, for example, had difficulties competing with its counterparts from Viet Nam mostly because of its inability to take bulk orders. While it is easy for firms in countries like Viet Nam to mass-produce and meet tight deadlines, many SMEs in the Philippines are yet to acquire the technology for faster mass production. Both respondents from the handicrafts and garments sectors also pointed to cheaper labor abroad as one of the factors that make it difficult for them to compete.

While competition is a problem for most respondents, a respondent from a food and beverage company has been able to adapt by penetrating certain market niches in the higher-value section of the chain that are not yet highly competitive. This SME concentrated on exporting food products for health-conscious consumers to take advantage of the rising trend on health and wellness in recent years.

International standards, regulatory requirements, and local institutions

Another main challenge for SMEs in linking to GVCs is complying with regulatory requirements and quality standards, both in the Philippines and potential export destination countries. Resource persons from government agencies handling SME development argued that complying with local quality standards set by the government is already a challenge for many small and medium businesses. Compliance with these standards is the first step if an SME wants to participate in GVCs. These include certifications on the use of certain production processes and inputs that improve the product's quality to make it compliant with regulations in export destination countries. Complying with these standards has two benefits. First, it improves the quality of the product, increasing its chances to penetrate the international market. Some countries also have regulations on the use of certain inputs and require certifications that imported products are compliant with these laws. Second, compliance with certain nonregulatory standards, e.g., organic production, allows the producer to participate in the higher-value segment of the GVC. One of the more successful respondents was able to reach markets abroad by improving its packaging and product features such that they appeal to health-conscious consumers. Compliance with these standards allowed them to produce higher-value products that, in turn, helped them earn more revenues.

There are several reasons why many Philippine SMEs find it difficult to comply with international standards and regulations. One is access to finance. Meeting international standards sometimes requires certain equipment, and many SMEs do not have the financial capital to purchase such equipment. Credit is one solution to this. But as a large number of studies have shown, SMEs face problems in accessing credit because of lack of collateral and difficulty in proving their credit-worthiness (Berger and Udell 1998; Chittithaworn et al. 2011; Harvie et al. 2013). Even if credit is available, many SMEs are not keen on obtaining them due to risk aversion, lack of entrepreneurial orientation, and unwillingness to expand and invest. Other reasons, which are discussed in separate themes, are lack of access to skilled labor and the absence of an entrepreneurial mindset.

Complying to policies set by local institutions also poses challenges to SMEs in linking to GVCs. One of the reasons cited by most respondents is the slow and inefficient processing of permits by government agencies. Inefficiencies in customs and port operations also make it more difficult and costlier for them to export. Some SME exporters that are willing and able to spend more engage the services of so-called forwarders—outsourced service providers that handle the administrative processes of exporting, such as dealing with customs, port procedures, and other related activities. However, these are unnecessary costs that could have been avoided if customs and port processes were efficient.

Role of government and institutions

Another important theme that arose from the KIIs is the role of government in helping SMEs connect to GVCs. While there have been various government agencies in the Philippines implementing programs to help SMEs connect to GVCs, many exporter respondents argued that government support to SMEs is still wanting compared to competitor countries. Examples of this support are mentoring programs to teach the basics of entrepreneurship and trade fairs to help connect SMEs to markets, suppliers, and service providers.

In addition to programs and other interventions that directly impact SMEs' ability to participate in GVCs, the government can also implement policy reforms to create an enabling environment favorable to small and medium firms. As discussed in the previous theme, the inefficiency of some government institutions involved in regulating

trade unnecessarily increases the costs of exporting and importing. Streamlining and automating port and customs processes, for one, could simplify and lower the cost of trading, encouraging more firms to connect to GVCs.

Another reason why Philippine SMEs are not competitive in the export market is the lack of a national quality infrastructure. In addition, there are too many regulatory bodies housed in different offices, making it more confusing and difficult for SMEs to do business. Another critical factor is the lack of established mutual recognition agreements.

Adapting to changes in international market demand and input supply

Another set of obstacles to GVC participation of SMEs that emerged from the interviews are factors on international market demand and supply of production inputs. One of these challenges is the inability of SMEs to adapt to changing market conditions and consumer preferences in export markets. For example, one shoe manufacturer, who used to have robust export sales, saw its sales plummet after failing to adapt to the changes in footwear fashion trends, particularly the emergence of fast fashion. The manufacturer found it expensive to produce new designs and was not willing to take the risk of expanding production. As consumers patronize new and cheaper shoe products that flooded the market, the company, on the other hand, maintained its line of product and did not attempt to find new market niche nor follow new footwear fashion trends. Meanwhile, a garment manufacturer that used to export specialized clothing products to large buyers in the United States saw its export sales plunge when these buyers stopped importing from them due to a weak economy and cheaper alternatives. In spite of the presence of markets for other types of garments and their ability to produce them, the respondent firm was not able to adjust its products. Another related case is that of a marble manufacturer. When the market for marbles declined due to consumers' preference for cheaper 'synthetic' marbles over real and more expensive ones, the company also failed to change its product line to adapt to this market development, and instead opted to continue supplying raw materials to foreign companies that produce synthetic marbles.

On the other hand, respondents who have been able to adapt to changing market conditions and preferences have also succeeded in increasing their export sales. An example of this is a snack food

manufacturer that shifted to a product line targeted to health-conscious consumers in response to the growing health consciousness trend. Another shoe manufacturer respondent adapted to the changing market conditions by continuously looking for buyers and developing new products that are on par with current trends.

There are other market-related problems to participating in GVCs, particularly exporting, that mostly affect smaller SMEs and those without much experience in the international markets. One of which, as mentioned earlier, is the lack of capacity to mass-produce. Smaller SMEs do not have the capacity to produce in bulk quantities, thus failing to serve international markets as exporting requires supplying products at a certain quantity to be profitable. Their inability to mass-produce thus limits their access to export markets. Another challenge for SMEs is their lack of access to market information in terms of consumers' preferences, tastes, and capacity to pay. This information helps SMEs decide what countries are potential export destinations and what products to sell.

As a solution, SMEs can resort to indirect exporting through the use of a middleman. More formally known as consolidators, these service providers buy products from potential Philippine exporters and sell these products in the international market. The value-added services provided by consolidators thus help address the market access problems of SMEs. By pooling similar products before exporting them, consolidators provide a venue for SMEs that cannot produce in large quantities to export and connect to GVCs. One respondent who used the services of a consolidator eventually became a direct exporter after acquiring the skill to do so. These service providers also have access to market information, particularly on the preferences and capacity to pay of consumers in potential export destinations, helping address the problem of lack of information of SMEs on possible export markets.

Another obstacle to exporting is access to inputs, particularly skilled labor and supplies. Sourcing of skilled labor can be a problem, especially for new products and industries. A respondent also expressed concern about the difficulty and cost of sourcing imported raw materials.

Entrepreneurial mindset and skills

The DTI has identified the '7 Ms' of entrepreneurial success—mindset, mastery, mentoring, money, machine, market access, and models of business. Resource persons from the government identify mindset as

the first driver of entrepreneurial success. This was demonstrated by two survey respondents. These two SMEs belonged to the same industry, produced the same products, and were located in the same province. Thus, these firms faced almost the same constraints, challenges, and potential markets. They also belonged to an industry that was once booming, both domestically and in the export markets. However, the influx of imported items and changes in consumer tastes and preferences severely affected the industry, resulting in firm closures and a big drop in production. While one of the firms' response to this situation was to keep its line of products unchanged, ceasing its export operations, and focusing on the small market left to it mostly in its home province, the other responded by altering its product lines to suit the changing consumer preferences and actively seeking new markets both locally and abroad through networking and attending industry events. While the former took a passive mindset, the latter took an active one, in responding to changing conditions. This active mindset kept the latter connected to GVCs through exports.

While the literature has identified some of the obstacles to linking SMEs to GVCs, such as lack of access to finance (Harvie et al. 2013), technical and management know-how (Asasen et al. 2003), difficulties in accessing skilled labor (ADB 2015), and lack of resources to invest in research, development, and training (OECD 2008), the importance of having an entrepreneurial mindset cannot be undermined. According to resource persons from government, SMEs have adverse reactions to endeavors that require substantial capital. This risk aversion of small and medium businesses, particularly those that are owner-managed, single proprietorship, or family-owned, is documented in the literature (Fama and Jensen 1985; Thomsen and Pedersen 2000; Fernandez and Nieto 2006). With smaller asset size and lack of safety nets, small firms have no fallback in case an investment does not produce positive returns. Thus, if an entrepreneurial mindset needs to be cultivated among Philippine SMEs, the underlying cause of their risk aversion must be tackled.

Lack of entrepreneurial skills is another barrier to SMEs' participation in GVCs. Resource persons from the government who conduct mentoring activities reported that majority of SME owners have low entrepreneurial and management skills. Most of these small business owners do not have business plans, are too afraid to shell out money and make investments, and are easily disenchanted when the process becomes complex. Thus, many of them would opt not to expand and

stay in the status quo, or in some extreme cases, decide to close shop. A respondent SME owner and exporter who served as a lecturer for a government's mentoring program for small businesses also observed the lack of entrepreneurial mindset among entrepreneurs.

Levels of factors affecting SME linkage to GVCs

The analysis from the KIIs suggests three levels of factors affecting Philippine SMEs' capacity to connect to GVCs. First is the macroenvironment of the firm, such as the level of demand in international markets, availability of inputs and capital, and competition. Second is the firm's meso environment, which includes institutional and governance quality, standards, and regulatory requirements. Finally, the third level consists of microfactors or those that are internal to the firm, such as the mindset and entrepreneurial skills of the owner, the technology that it employs, and its production processes.

Factors in one level can affect how a firm responds or adapts to factors in another level. For instance, the technology and production processes that an SME employs can impact its ability to deal with competition abroad. Technology and production processes can also affect the firm's capacity to meet regulatory standards.

Policy Implications

This section discusses some policy implications from the findings of this study that policymakers and business owners may consider to help SMEs overcome the challenges in connecting to GVCs.

For policymakers

1. **Enhance the efficiency of port and customs operations**
   Inefficiencies in port and customs processes unnecessarily increase the cost of trading. Simplifying processes and reducing the incentives for corruption through automation would help ease exporting and importing.
2. **Improve credit terms of SME loans**
   Many SMEs are reluctant to invest and take out loans. This aversion to risk among SMEs is caused by their lack of a fallback and safety nets in case their investments produce negative returns. One way to

encourage SMEs to access credit is to improve loan terms such as longer repayment periods.

3. **Provide more incentives to exporters of higher-value products**
   One way to do this is to provide incentives on the purchase of equipment that processes raw materials into higher-value products. This could be in the form of tax breaks for the purchase of equipment or equipment financing. In addition, for big industries consisting of multiple SME exporters, organizing consortiums may be facilitated. Through these consortiums, members may pool funds to purchase machines they can use jointly.
4. **Implement programs that promote linkages between SMEs and foreign or large firms**
   SMEs can connect to GVCs not only through exporting but also through the provision of supplies or services to firms that are already connected to the value chain (ADB 2015). Given that only a small share of SMEs are connected to large or foreign firms through this kind of arrangement, policymakers may explore the establishment of an information exchange platform, where large and foreign firms can post their outsourcing and subcontracting requirements, while SMEs can post their qualifications, capabilities, and services offered.
5. **Reduce the cost of participating in trade fairs**
   Trade fairs conducted regularly by the government can help link SMEs to markets abroad. However, many SMEs are reluctant to join because they see joining trade fairs as an additional expense with no guaranteed return. Waiving or reducing entrance fees but charging transaction fees to those that are successful in contracting buyers during trade fairs is one way to encourage SMEs to join.
6. **Expand entrepreneurial skills training**
   There is probably no proven way to improve entrepreneurial mindset as it is determined by culture, socioeconomic background, personality, and aversion to risk. However, it cannot be ignored given its effect on the ability of SMEs to connect to GVCs. The government should continue its mentoring programs to encourage entrepreneurs to pursue their goals, and at the same time, help them understand that expansion and success inevitably come with some risk-taking.
7. **Implement targeted programs for SMEs**
   There is no one-size-fits-all solution to the challenges faced by SMEs. Survey findings suggest that SMEs from different sectors could be

facing different obstacles in connecting to GVCs. Thus, a more efficient and more effective program is one that is finely targeted to the different needs and challenges faced by firms.

8. **Monitor progress of SME participation in GVCs through statistics**
   To monitor the progress of GVC connectivity among firms and help design policies that are responsive to their needs, the government should maintain reliable and up-to-date statistics on SME participation in GVCs, such as trade data that are disaggregated by firm size and export and import volume, value, and price, among others.

For SME owners and managers

1. **Find new profitable market niches where competition is still low**
   The lower cost of labor and the bigger government support that SMEs enjoy in competitor countries compared to the Philippines are making it harder for Philippine SMEs to compete in international markets. Given that these circumstances are beyond Philippine SMEs' control, what they can do is to target the right market where they can establish early mover advantages.
2. **Avoid purchasing equipment with high asset specificity**
   With a fluid international market, consumer tastes and preferences and market conditions can also change quickly. Firms should be able to adapt to these changes. Thus, when purchasing equipment, firms should avoid acquiring machines designed to perform a limited function. A footwear manufacturer, for example, should avoid acquiring a machine that can only produce one type of shoe. Similarly, a clothing producer should refrain from buying equipment that cannot manufacture different types of clothes.
3. **Consider indirect exporting**
   Many potential exporters do not have the capacity to produce in quantities that would make exporting profitable. Moreover, many potential exporters do not have access to market information in export destination countries. One way to address these obstacles in connecting to GVCs is through indirect exporting. This may be done through consolidators—a third party that buys export quality products from local producers that they could sell in countries where demand for these products exists. Indirect exporting may also be done

by providing inputs to firms that export such as foreign companies or large businesses. These inputs may be in the form of supplies or services through outsourcing or subcontracting arrangements.

4. **Take advantage of government support and network**
   SMEs should not shy away from engaging in available platforms like the *Negosyo* Centers and *Kapatid* Mentor Me Program to improve their entrepreneurial abilities.

Summary, Conclusions, and Recommendations

This paper attempts to determine the challenges and enablers of connecting SMEs to GVCs. It uses data from a survey of SMEs in Metro Manila and a set of KIIs of SME owners and government officials tasked to assist SMEs. Data from the survey and related literature show that Philippine SMEs are not well connected to GVCs. In terms of GVC connectivity per sector, most indicators suggest that industry SMEs are more linked to GVCs than services SMEs.

The challenges and enablers of connecting Philippine SMEs to GVCs can be grouped into five main themes. These are (1) competition in ASEAN and East Asia; (2) international standards, regulatory requirements, and local institutions; (3) role of the government; (4) international market demand and inputs supply; and (5) entrepreneurial mindset and skills. The specific obstacles under these themes can be grouped further into firms' macroenvironment, meso environment, and their microconditions or individual characteristics.

Philippine SMEs are having difficulty competing with companies from other ASEAN and East Asian countries. Since most local SMEs lack the ability to scale up production, they miss out on economies of scale, resulting in higher cost per unit of their products relative to their competitors. Most Philippine SME exporters also operate at the low end of the value chain, i.e., they export raw materials rather than processed and high-value products.

Meeting international standards and regulatory requirements is also a challenge for many local SMEs in the country as most of them have limited access to finance and skilled labor and lack the entrepreneurial mindset and skills to expand their business. In addition, inefficiencies in ports and customs unnecessarily increase the cost of exporting and importing.

Due to their lack of access to information about foreign markets coupled with their inability to mass-produce, many SMEs are also having difficulties in reaching international markets. To address this problem, some SMEs resort to indirect exporting, which can be done through consolidators who source export quality products from local firms and then export these products to countries where demand exists. Another way for SMEs to penetrate international markets is by providing supplies or services to foreign or large firms that are already connected to GVCs. Finally, many SME owners lack the entrepreneurial mindset or skills to effectively navigate international markets. This includes not only management skills but also the mindset to pursue new markets despite the challenges and the willingness to take some risks.

Nonetheless, SMEs' aversion to risks is not entirely irrational given their fewer assets and their lack of a fallback or safety net in case of a negative return on investment.

This paper looked at the internationalization of SMEs through GVC participation in general. However, differences in processes, markets, competitiveness, cost structure, and access to inputs of different sectors imply that there could be heterogeneities in the obstacles and enablers of internationalization and GVC participation across industries. Different sectors also have different ways of connecting to GVCs. For instance, services SMEs usually connect to GVCs through outsourcing by foreign firms while manufacturing firms do so by providing supplies to exporters or directly exporting their products. It would be useful if more in-depth studies focused on specific sectors will be conducted.

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Appendixes: Some Correlation Tests

Comparisons of proportion tests across different grouping classifications of SMEs were performed to determine if there are significant differences in terms of GVC access. A dummy variable (*gvc*) is first generated for survey respondents that meet at least one of the following conditions: (1) is an exporter, (2) is part of a global production network, or (3) subcontracted, outsourced, or licensed to manufacture a product by a foreign firm or engaged in joint venture, strategic alliance, or consortium with a foreign firm. Afterwards, a test of comparison of proportions against size (small and medium), sector (industry and services), owner's age, and membership in a business organization was performed.

Appendix 1. Comparison of proportions of *gvc* between small and medium firms

	Mean	SE
Small	0.132	0.021
Medium	0.245	0.026
Difference	-0.113	
P-Value (Ha: diff < 0)	0.0004	
P-Value (Ha: diff ≠ 0)	0.0009	
P-Value (Ha: diff > 0)	0.9996	

SE = standard error; ha = alternative hypothesis; diff = difference
Source: AIM (2017)

Appendix 2. Comparison of proportions of *gvc* between industry and services

	Mean	SE
Services	0.184	0.018
Industry	0.244	0.064
Difference	-0.061	
P-Value (Ha: diff < 0)	0.1588	
P-Value (Ha: diff ≠ 0)	0.3176	
P-Value (Ha: diff > 0)	0.8412	

SE = standard error; ha = alternative hypothesis; diff = difference
Source: AIM (2017)

Appendix 3. Comparison of proportions of *gvc*, by age of owner or majority owner

	Mean	SE
40 and below	0.137	0.034
Above 40	0.203	0.020
Difference	-0.065	
P-Value (Ha: diff < 0)	0.0666	
P-Value (Ha: diff ≠ 0)	0.1332	
P-Value (Ha: diff > 0)	0.9334	

SE = standard error; ha = alternative hypothesis; diff = difference
Source: AIM (2017)

Appendix 4. Comparison of proportions of *gvc*, by membership in business organizations

	Mean	SE
Nonbusiness organization member	0.163	0.019
Business organization member	0.263	0.038
Difference	-0.100	
P-Value (Ha: diff < 0)	0.0055	
P-Value (Ha: diff ≠ 0)	0.0109	
P-Value (Ha: diff > 0)	0.9945	

SE = standard error; ha = alternative hypothesis; diff = difference

Source: AIM (2017)

Results suggest that small firms (relative to large), with older owners (relative to those owned by young people), and whose owner is a member of a business organization are significantly more likely to have access to GVCs. None of these results are surprising. Medium firms, compared to small businesses, have more capital and assets required to penetrate international markets. As discussed in the KIIs, one of the biggest challenges faced by SMEs in catering to foreign markets is their inability to scale up production to meet higher demands abroad. Scaling up requires greater assets and capital. Older owners, on the other hand, have more knowledge, expertise, and experience to navigate the international market. Membership in business organizations is a proxy for networks, which can be a source of crucial information on foreign markets.

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Small and medium enterprises (SMEs) play an important role in the economy of many developing countries. In the Philippines, SMEs, including microbusinesses, account for 99.5 percent of firms and 63.2 percent of employment. However, this sector remains much less productive than their large counterparts. One way to help SMEs achieve higher productivity is to connect them to global value chains (GVCs). There are, however, a number of obstacles that make participating in GVCs difficult for SMEs. This paper attempts to determine the challenges as well as the enablers of connecting SMEs to GVCs. Findings indicate that Philippine SMEs are weakly linked to GVCs. The challenges and enablers can be grouped into five themes: (1) competition among countries in Southeast and East Asia; (2) international standards, regulatory requirements, and local institutions; (3) role of the government and institutions; (4) adapting to changes in international market demand and input supply; and (5) entrepreneurial mindset and skills.

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