
Development of Small and Medium Enterprises in the ASEAN Economies

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SMALL AND MEDIUM ENTERPRISES (SMEs) have been in the spotlight in ASEAN due to dramatic changes in East Asia's trade structures associated with a massive intra-industry division of labor.¹ SMEs are seen as having significant potential to contribute to regional development through participation in international production networks, or global value chains. Greater participation of SMEs in production networks through closer linkages with multinational corporations (MNCs) is viewed as a potent means of accelerating SME upgrading in such areas as productivity, technology, and managerial knowhow.²

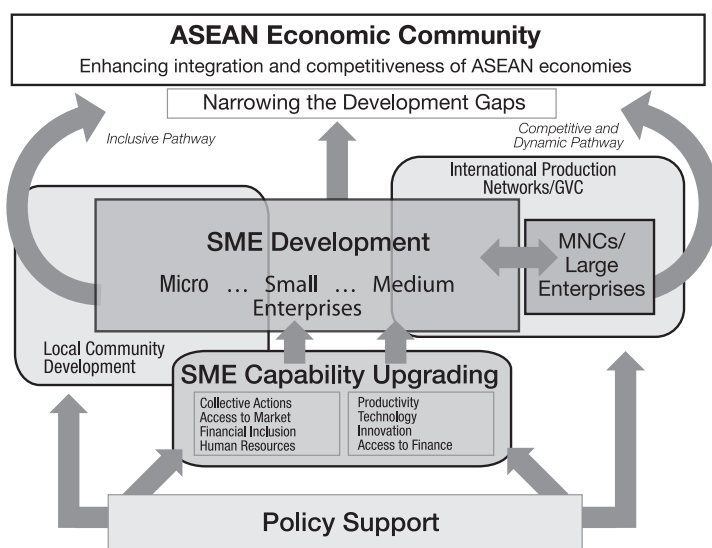
This notion, however, requires reservations in at least two aspects. First, the contribution of the ASEAN SME sector to international production networks remains limited relative to its large size in terms of the number of establishments and its contribution to employment. The average SME export share of five ASEAN member countries (Indonesia, Malaysia, the Philippines, Thailand, and Vietnam) is 23 percent, which is lower than that of their counterparts in other East Asian economies, where the export share of SMEs is 43 percent in Korea, 40 to 60 percent in China, and 56 percent in Taiwan.³ There thus seems to be considerable room for improvement in linking the ASEAN SME sector to international production networks.

Second, and more fundamentally, the ASEAN SME sector is characterized by heterogeneity.⁴ One extreme is those SMEs that are keen to improve productivity and innovative capabilities to meet the increased competition in the global market. In Singapore, more than 100,000 SMEs, which account for 70 percent of the total SMEs in the country, utilize business support programs organized by the governmental enterprise development agency and centers.⁵

The other extreme is those SMEs that dominate the SME sector in late-comer and populous ASEAN member countries. Most of them are micro in size and located in rural agrarian economies with limited access to markets and finance. An initial focus of SME development in this case should be put on human resource development to acquire basic managerial and financial skills.

Given the trends toward economic integration in East Asia on the one hand and the heterogeneity of the ASEAN SME sector on the other hand, there are two development pathways for ASEAN SMEs to take, as illustrated in figure 1.

Figure 1. Framework of ASEAN SME development: the competitive and dynamic pathway and the inclusive pathway



Source: by author, arranged from ERIA, *The Jakarta Framework: Moving AEC Forward into 2015 and Beyond* (Jakarta: ERIA, 2011).

SME development is the backbone of the ASEAN Economic Community (AEC), which aims to enhance integration and competitiveness of ASEAN economies. SME development is also viewed as contributing to narrowing the development gaps among the ASEAN economies. Development of SMEs is realized through capability upgrading. However, their processes of upgrading and the development pathways they take to achieve the aim of the AEC are far from uniform, reflecting the wide spectrum of entities in the ASEAN SME sector. Development pathways are twofold. The first is the competitive and dynamic pathway, in which SMEs increase their

competitiveness through participation in production networks with MNCs or local large enterprises. The second is the inclusive pathway, in which SMEs upgrade their capabilities in tandem with local community development. The two development pathways are not mutually exclusive, and SMEs in the inclusive pathway could have a chance to directly or indirectly take part in production networks. SME suppliers to MNCs in the competitive pathway could also utilize mechanisms of collective action emerging from local community development, such as joint purchasing and order sharing.

Government policy support can be broadly categorized into (1) direct support to facilitate SME capability upgrading, (2) indirect support to create institutional environments conducive for SME development in both of the two pathways, and (3) establishment of the foundation of ASEAN to support more effective SME policymaking and implementation.

With this framework in mind, this chapter reviews features of the ASEAN SME sector, discusses tasks that ASEAN must undertake to address problems in the sector, and attempts to identify possible areas of ASEAN-Japan cooperation in line with the mission to move the ASEAN Community forward to 2015 and beyond.

ASEAN POLICY BLUEPRINT AND ACTION PLAN ON SME DEVELOPMENT

The ASEAN leaders have recognized SME development as a vital element for the AEC to be a competitive and equitable economic region. That is why ASEAN has formulated SME-specific policies. In 2004, ASEAN drew up the “ASEAN Policy Blueprint for SME Development 2004–2014.” The blueprint aims to facilitate the emergence of an ASEAN SME sector that is entrepreneurial, innovative, outward-looking, competitive and resilient.⁶ It contains work plans, policy measures, and indicative outputs.

In 2009, the sixth year of the 10-year blueprint, the ASEAN economic ministers (AEM) decided to develop the “ASEAN Strategic Action Plan for SME Development 2010–2015” in order to accelerate the implementation of the blueprint. The Strategic Action Plan states its mission as follows:

By 2015, ASEAN SMEs shall be world-class enterprises, capable of integration into the regional and global supply chains, able to take advantage of the benefits of ASEAN economic community building, and operating in a policy environment that is conducive to SME development, exports and innovation.⁷

To realize that mission, the Strategic Action Plan set the following six goals:

- Enhancing internationalization of SMEs and SME marketing capabilities
- Improving SME access to finance
- Strengthening SME human resource development and capacity building
- Creating an incubator and promoting local SME development
- Establishing an SME service center/ASEAN SME service desk
- Setting up an ASEAN SME Regional Development Fund⁸

Under these goals, the specific plans, key activities, timeline, and responsible member countries were formulated into a policy matrix. Among the major deliverables are the following:

- A common curriculum for entrepreneurship in ASEAN
- A comprehensive SME service center with regional and subregional linkages in ASEAN economies
- An SME financing facility in each ASEAN economy
- A regional program of internship schemes for staff exchanges and visits for skills training
- A regional SME development fund to support intra-ASEAN business leaders

In 2011, the ASEAN and East Asia Summits emphasized the role of SMEs as vehicles for accelerating intraregional trade, rebalancing the economies toward domestic and regional demand, and promoting inclusive growth in Asia.

As seen in the policy blueprint, the Strategic Action Plan, and other official statements, the ASEAN leaders seem to be fully aware of the necessity of competitive and innovative SMEs and have already outlined a wide range of challenges confronting ASEAN SMEs, as well as concrete actions to address those challenges. All these policies are ongoing, and there is no official progress report yet. Though progress might have been made to a certain extent in parts of ASEAN, generating an “entrepreneurial, growth-oriented, outward-looking, modern and innovative” and “world-class” SME sector in ASEAN remains a serious challenge given the current state of ASEAN SMEs as described below.

CURRENT STATE OF ASEAN SMES

A Variety of SME Definitions

Table 1 compares official definitions and contributions of SMEs to the national economy in the 10 ASEAN member countries and Japan, based

on the latest official statistics and information from each governmental authority. As seen in the table, a variety of official definitions of SMEs among the ASEAN countries is one of the major constraints to capturing a comprehensive picture of ASEAN SMEs.

First, all the member countries use the number of workers per establishment as a common criterion, but cut-off lines between SMEs and large enterprises vary from 100 to 300 persons. Only four countries adopt a definition of SMEs as enterprises with fewer than 100 workers, which coincides with the standard Organisation for Economic Co-operation and Development (OECD) definition.

Second, except for Brunei and Cambodia, all the countries use additional criteria such as assets excluding land and buildings, annual sales, investment, and capital, some of which vary by sector. Cut-off lines valued in terms of local currencies are revised every few years.

Third, some countries do not have cut-off lines separating micro enterprises from their SME category. Micro enterprises, often defined as having fewer than five workers, are dominant in large parts of developing ASEAN economies and typically operate in the informal sector without registering their status. Whether or not micro enterprises are included significantly affects size structure, challenges, and policy implications.

Contribution of SMEs to the National Economy

Table 1 separates “small & medium” enterprises, excluding micro establishments, and “plus micro” establishments, consisting of micro, small, and medium establishments, and it lists all available data on SMEs’ shares in terms of the number of establishments, employment, and value added.

The “plus micro” row is relatively complete. Interestingly, no obvious difference is found between ASEAN countries and Japan in regard to SMEs’ dominance in the number of establishments and employment. The shares in Laos might possibly be underestimated partly due to a lack of formal registration. It can be rather safely said that, in the ASEAN economies, SMEs including micro enterprises account for 97 to 99.9 percent of all enterprises, and for 53 percent (Malaysia) to 97 percent (Indonesia) of employment, and contribute to 30 percent (Malaysia) to 58 percent (Indonesia) of GDP in each country.

The “small & medium” row demonstrates the dearth of data facing the ASEAN SME sector, although this segment plays a key role in the competitive and dynamic pathway of SME development (the right side of the framework in figure 1). Limited data indicate that the contribution of SMEs

Table 1. A comparison of official definitions of SME and contribution to the national economy in the ASEAN countries and Japan

Official Definition	Brunei	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam	Japan
No. of workers	100	200	100	100	150	100	200	200	200	300	300
Other criteria			Assets Sales	Assets Sales	Sales	Horsepower Investment Sales	Assets	Assets Local ownership	Assets	Capital	Capital
Small & Medium											
Establishments	3,898	45,541	646,475	-	148,678	3,620	73,509	-	-	57,700	1,465,001
(% of total)	44%	12%	1%	-	23%	3%	9%	-	-	2%	25%
Employment	-	31%	7%	2.7%	34%	-	33%	-	-	2.5%	5.2%
Value added	-	-	2.3%	-	2.3%	-	n.a.	-	-	5.5%	5.4%
Plus Micro											
Establishments	8,632	376,069	55,206,444	190,002	645,136	108,491	81,675.9	161,000	2,274,525	2,718,139	5,795,161
(% of total)	98%	99.8%	99%	91%	97%	99%	99.6%	99%	99%	99.9%	99%
Employment	-	7.5%	97%	3.5%	53%	-	61%	70%	77%	77%	76%
Value added	-	-	5.8%	-	30%	-	36%	50%	3.8%	5.6%	-
Sector	All	All	All	All	All	Manufacturing	All	All	All	All	All
Year	(2010)	(2009)	(2011)	(2006/2004)	(2010)	(2007)	(2011)	(2007)	(2006)	(2002)	(2009/10)
Source of Information/ Governmental office in charge	Brunei Darussalam Statistical Yearbook www.dep.d.gov.bn	Nation-wide Establishment Listing of Cambodia, National Institute of Statistics www.nis.gov.kh	Ministry of Cooperatives and SMEs www.depkop.go.id	Economic Census 2006/ Business Establishment Survey 2004 www.nsc.gov.la	Economic Census 2011: Profile of SMEs www.statistics.gov.my	Ministry of National Planning and Economic Development/ Ministry of Industry www.dica.gov.mm	Department of Trade and Industry www.dti.gov.ph	Performance Indicators, SPRING Singapore www.spring.gov.sg	Office of SME Promotion www.sme.go.th	Ministry of Planning and Investment, Enterprise Development Agency www.business.gov.vn	Ministry of Planning and Investment, Japan, SME Agency www.chusho.meti.go.jp

Note: For Vietnam, the percentage of value added is in terms of invested capital. For Japan, the percentage of value added is only in the manufacturing sector.

Other sources: Kudo (2010) for Myanmar, Uchikawa and Keola (2009) for Lao PDR and Cambodia, Organization for SME and Regional Innovation (2007, 2008), and Ayyagari et al. (2007) for multiple countries.

References: T. Kudo, "Industrial Policy Structure, and Locations during the Transition Toward a Market-oriented Economy in Myanmar," in *Spatial Statistics and Industrial Location in CLMV*, ed. I. Kuroiwa (Chiba: IDE-JETRO, 2010); S. Uchikawa and S. Keola, "Small and Medium Enterprises in Cambodia, Laos and Vietnam" in *Research on Development Strategies for CLMV Countries*, ERIA Research Project Report 2008-5, ed. A. Kuchiki and S. Uchikawa (Jakarta: ERIA, 2009): 237-73; Organization for SME and Regional Innovation (SMRI), *SME Policies in the ASEAN Countries and Japan* (Tokyo: SMRI, 2007) and *SME Policies in the Six ASEAN Countries* (Tokyo: SMRI, 2008).

excluding micro enterprises varies considerably from 1 percent (Indonesia) to 44 percent (Brunei) in terms of the number of establishments and from 7 percent (Indonesia) to 34 percent (Malaysia) in terms of employment. Unfortunately, data on contribution to GDP are available in only two countries, Indonesia and Malaysia, which coincidentally both have the same significant level of 23 percent. (The level of 55 percent in Vietnam is the share of invested capital.)

Higher shares in the “small & medium” segment generally represent higher degrees of SME development, as typically shown by the figures for Japan. Except for Malaysia and Brunei, the data do not show any signs of the countries catching up. In addition, Japan’s size in the number of establishments classified as small and medium outstrips any of the ASEAN countries, including Indonesia, which has almost 10 times as many establishments if micro enterprises are included.

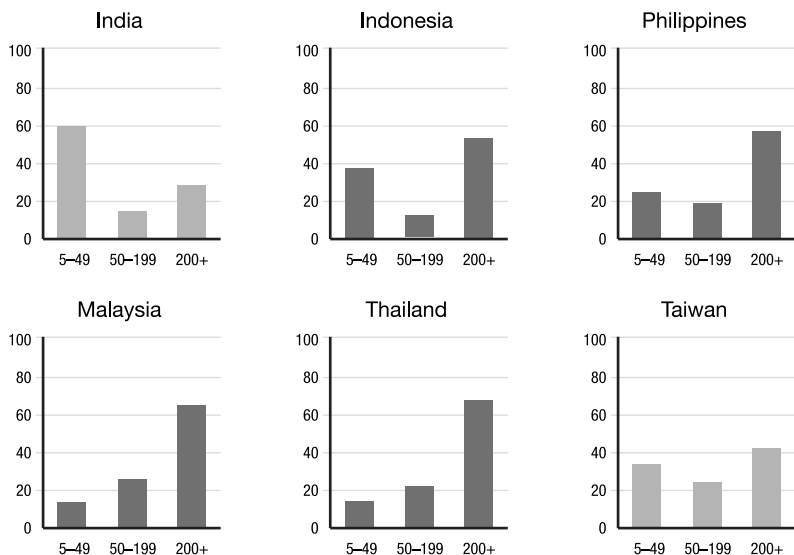
“Missing Middle” and “Dominant Large” Lead Stagnant SMEs

Dipak Mazumdar has derived three patterns in size structure of small, medium, and large enterprises from his analysis of the Asian manufacturing sector. (Micro enterprises with fewer than five workers are excluded in this study.)⁹

The first pattern is “missing middle,” or “bi-modal.” As seen in figure 2, the employment share of medium-sized enterprises is clearly lower than those of small and large enterprises in India, Indonesia, and to some extent the Philippines. What matters with this pattern is not the smallness of the medium-sized enterprise segment but the low labor productivity at the low end. Wage levels of small enterprises in India, Indonesia, and the Philippines described in figure 3 are only around 20–35 percent of those of large enterprises. Small enterprises are absorbing a great deal of employment, working with low productivity at low levels of technology, and are generally not competitive. This pattern is viewed as typical in developing Asian economies.

The second pattern is “dominant large,” or “skewed to the right.” In Malaysia and Thailand (figure 2), large enterprises with 200 workers or more account for the majority of employment. Large enterprises have been a major driver of manufactured exports, and the relative wage level of SMEs is high with increased productivity (figure 3). The problem with this pattern lies in the relatively limited labor absorption of large enterprises, and hence the manufacturing sector as a whole, due to high capital intensity. Consequently, the primary and tertiary sectors play a

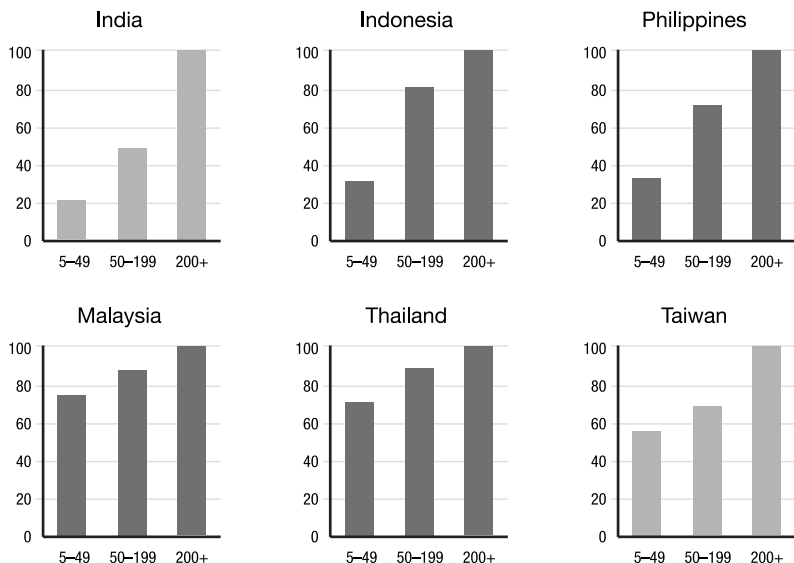
Figure 2. Share of total employment in the manufacturing sector by enterprise size (%), 2005



Note: Enterprise size is measured in terms of the number of workers.

Source: Mazumdar (2009) and Mazumdar and Sarkar (2013).

Figure 3. Wage differentials in the manufacturing sector by enterprise size (large enterprises = 100), 2005



Note: Enterprise size is measured in terms of the number of workers.

Source: Mazumdar (2009) and Mazumdar and Sarkar (2013).

larger part in employment absorption. This leads to inequality of SME growth by sector.

The third is the “balanced” pattern, or “the SME model.” Japan, Taiwan, and Korea display relatively balanced distributions of employment across small, medium, and large enterprises and moderate inclination of wage differentials (see Taiwan in figures 2 and 3). Compared with the former two patterns, this SME model has the advantage that SMEs participate as much in employment growth in manufacturing as large enterprises, which leads to growth with equity and balanced productivity.

Most ASEAN countries may fall into the category of “missing middle” or “dominant large,” where SMEs remain stagnant due either to low productivity or low employment absorption.

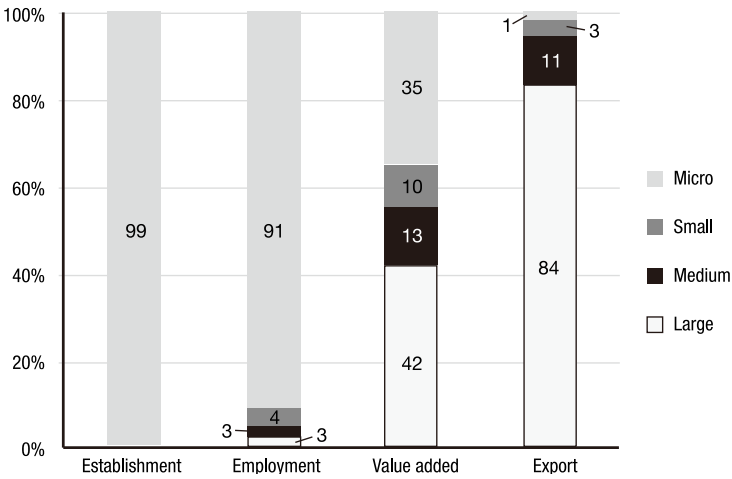
SMEs’ Export Contribution and Participation in Production Networks

Figure 4 illustrates the contribution of SMEs (including micro enterprises) to the national economy in Indonesia, which is categorized by a typical “missing middle” pattern. The figure shows a beautiful dual structure, with an enormous number of micro enterprises earning 35 percent of GDP on the one hand, and large enterprises accounting for merely 0.01 percent in number but earning 42 percent of GDP on the other hand. What is most striking is shares in export (excluding oil and gas). Large enterprises’ contribution jumps up to 84 percent, while micro enterprises seem to have nothing to do with exports. The shares of SMEs may go up if indirect exports through subcontracting are taken into account, but they may go down if oil and gas exports are included.

Ganeshan Wignaraja calculates the contribution of SMEs to exports including indirect exports for five ASEAN member countries in his analysis of SME participation in production networks using a data set comprising 5,900 manufacturing enterprises.¹⁰ As seen in figure 5, the shares of SME exports, though still limited, rose modestly between the late 1990s and the late 2000s. This picture is broadly reflective of the degree of SME participation in international production networks. Thailand, the Philippines, and Malaysia—with higher SME export shares—are among the countries having higher export shares of machinery parts and components in total exports, as described in studies by the Economic Research Institute for ASEAN and East Asia (ERIA) and Kimura Fukunari.¹¹

Recent literature vigorously attempts to figure out which determinants push SMEs to participate in production networks and to move up from

Figure 4. Contribution of SMEs to the national economy in Indonesia, 2011

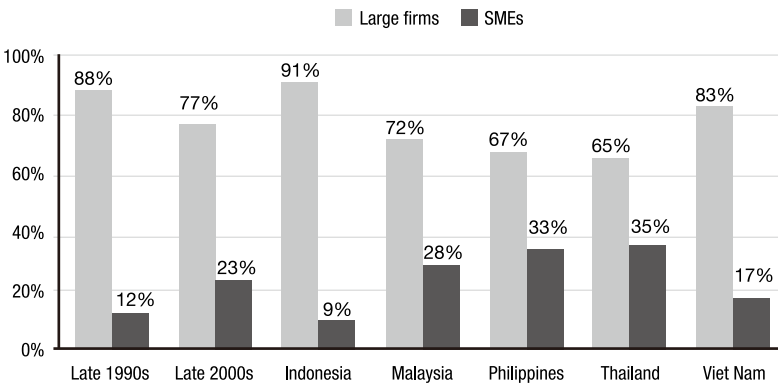


Note: Export value excludes oil and gas.

Source: Statistics of the State Ministry of Cooperatives and SMEs of Indonesia.

low- to high-value adding activities in the networks. According to a series of ERIA studies, key determinants are firm size, productivity, and foreign ownership. Innovation efforts, managerial attitudes, access to finance, and debt servicing capability are additional factors.¹² The above-cited study by Wignaraja finds that, in addition to firm size, foreign ownership, and access to bank credit, educated workers, an experienced CEO, internationally agreed quality certification (e.g., ISO standards), and patent registration positively affect the probability of SME participation

Figure 5. Share of large firms and SMEs in total exports



Source: Wignaraja (2012) and Harvie and Lee (2002).

in production networks. Younger SMEs are more likely to participate in production networks. Wignaraja also notes that a lack of trust, or a “trust deficit,” among SMEs impedes the development of production networks with greater SME involvement.¹³

Challenges for Enhancing Technological Capabilities

For SMEs moving toward greater involvement in production networks and exports, one of the prerequisites is technological capabilities. Literature points to positive mutual effects between firm-level technological capabilities and production network development.¹⁴

Table 2 lists some indicators that are generally used to represent country-level technological capabilities and compares the ASEAN members with other Asian countries. The indicators here describe enterprises of all sizes because it is difficult to obtain data that represent nationwide firm-level technological capabilities with clear cut-off lines between large enterprises and SMEs.

The number of ISO 9001 certifications acquired by enterprises in the 10 ASEAN countries evidently increased more than twofold in the last decade, although they still have far fewer than other Asian countries. Malaysia, Thailand, and Indonesia are running in front, Vietnam is catching up, and Myanmar, Laos, and Cambodia are just starting, while others are stagnant. On the contrary, shares of high-technology exports decreased in the same period in all the countries for which data are available. In terms of R&D expenditure as a percentage of GDP, only Singapore and Malaysia show upward trends.

Table 3 compares the number of patent applications in some ASEAN countries, China, and Japan. Among the ASEAN members, Thailand and Malaysia are the leaders, each exceeding 1,000 applications in 2010. In Thailand, the percentage of applications by resident has strikingly risen in recent years to reach 63 percent in 2010. Nevertheless, patent applications in other ASEAN countries are less pervasive. Furthermore, the number of annual applications in China and Japan is 240 times higher than that of Thailand, and the percentages of applications by resident reach around 80 percent.

Overall, indicators related to technological capabilities in ASEAN countries show a patchy pattern by country. They are uneven by indicator and are not increasing linearly. The result suggests a relatively low level of institutional development and of industrialists’ awareness of technological upgrading in the ASEAN countries.

Table 2. Selected indicators of technological capabilities in ASEAN and other Asian countries

Country	Number of ISO 9001 certifications		High-tech exports (% of manufactured exports)		R & D expenditure (% of GDP)	
	2000	2010	2000	2010	2000	2008
Brunei	193	61	9	n.a.	0.02	n.a.
Cambodia	1	6	n.a.	n.a.	0.05	n.a.
Indonesia	1,860	6,524	16	11	0.07	0.08
Laos	0	9	n.a.	n.a.	0.04	n.a.
Malaysia	2,355	8,614	60	45	0.47	0.63
Myanmar	4	26	n.a.	n.a.	0.11	n.a.
Philippines	1,027	944	73	68	0.14	0.11
Singapore	3,900	3,934	63	50	1.85	2.66
Thailand	2,553	6,799	33	24	0.25	0.21
Vietnam	184	2,036	11	6	0.19	n.a.
Total/ Average	12,077	28,953	38	34	0.32	0.74
China	25,657	297,037	19	28	0.90	1.47
Korea	15,424	24,778	35	29	2.30	3.36
India	5,682	33,932	6	7	0.77	0.76
Japan	21,329	58,836	29	18	3.04	3.45

Note: In high-tech exports, the figure of Brunei is from 1998 instead of 2000; those of Korea and Vietnam are from 2009 instead of 2010. In R & D expenditure, the figures for Brunei, Laos, Philippines, and Vietnam are from 2002; those of Philippines, Thailand, and India are from 2007, Malaysia from 2006, and Indonesia from 2009.

Source: ISO, ISO Survey 2011, and World Bank, World Development Indicators.

WHAT ASEAN NEEDS TO DO FOR SME DEVELOPMENT

SME Development Strategy in the Competitive and Dynamic Pathway

In the competitive and dynamic pathway, a key to SME development is greater involvement of SMEs in production networks. Empirical literature reveals that a firm's participation in networks and its capability upgrading are correlated in a kind of virtuous cycle; firms with higher capabilities participate more in production networks,¹⁵ and a firm's participation in networks can help it further upgrade its capabilities.¹⁶ Well-linked firms outperform non-linked firms in product and process innovation by reducing the innovation costs. More diverse information sources tend to engender more types of innovation.¹⁷

Figure 6 is a conceptual diagram of SME development paths. In general, SMEs operate using relatively low technology and market their products

Table 3. Number of patent applications by residents in ASEAN countries, China, and Japan

Country	Indonesia		Malaysia		Philippines		Singapore	
Year	2005	2010	2005	2010	2005	2010	2005	2010
Number of applications by residents	235	516	522	1,231	210	170	569	895
Percentage of applications by residents in total applications	5%	9%	8%	19%	9%	5%	7%	9%

Country	Thailand		Vietnam		China		Japan	
Year	2005	2010	2005	2010	2005	2010	2005	2010
Number of applications by residents	891	1,214	362	306	93,485	293,066	367,960	290,081
Percentage of applications by residents in total applications	14%	63%	17%	9%	54%	75%	86%	84%

Note: "Applications by residents" refers to those filed by applicants who are residing in the country of application. No applications were filed by residents in Brunei. No data are available for Cambodia, Laos, and Myanmar.

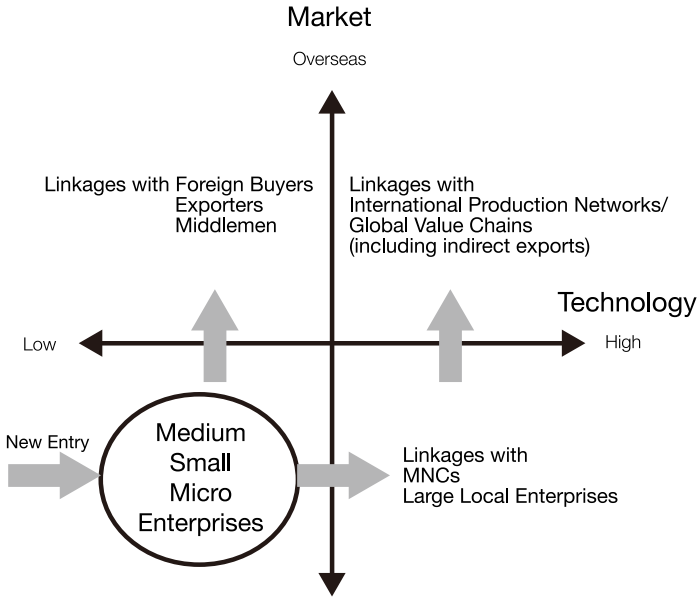
Source: World Intellectual Property Organization (WIPO) Statistics Database.

domestically, represented in the lower left quadrant of the diagram. There are two possible development paths for moving out of this quadrant by utilizing linkages.

The first path, which is relevant to the competitive and dynamic pathway, is technological upgrading, moving rightward in the diagram. The first step is to go into linkages with large enterprises, either local or foreign, that are producing for the domestic market (the lower right quadrant). SMEs may need to make investments to meet the requirements of the new customers. If the large enterprises start exporting products, suppliers are selected according to stricter criteria in order to conform to global standards. Thus entry into the upper right quadrant is the biggest hurdle for SMEs. They need holistic improvements of production processes in light of quality, costs, and delivery. SMEs should invest further in physical equipment and human resources and may have to compete with foreign suppliers.

In the competitive and dynamic pathway, SMEs are trained mainly through business transactions with customers and competition with rivals. Such business training can be more effective for capability upgrading than direct support by the government. The needed policy support may be indirect in nature, by creating an institutional environment to support SMEs that lack resources and to lighten their burden. Major policy support in the competitive and dynamic pathway should be as follows:

Figure 6. Development paths of SMEs through linkages



Source: by author, arranged from Uchikawa and Keola (2009): 245.

- Develop institutions to expand SME financing so as to enable SMEs to make necessary investments for technological upgrading
- Improve institutions for SMEs to access various business support services
- Develop technological and managerial human resources needed for SMEs to upgrade
- Improve physical connectivity, transportation and communication infrastructure, and logistics services to reduce costs and to fulfill required delivery (Strict observance of delivery is essential in the export business)
- Reduce bureaucratic costs in investment, taxes, customs, licensing, and other business activities

SME Development Strategy through the Inclusive Pathway

The second SME development path uses linkages for exporting, moving upward in the diagram (figure 6), which is defined as the inclusive pathway. This consists of direct or indirect exports through linkages with local traders, middlemen, exporters, trading houses, foreign tourists, or foreign buyers. These agents play a significant role in providing information on markets, design, and technology. Typically, producers are small in scale and use relatively low levels of technology. In successful cases, however, inefficiency

resulting from their small size can be mitigated by coordinating the functions of the local or foreign agents. Exports provide SMEs the opportunity to upgrade their capabilities through their efforts to meet requirements in overseas markets.

A key to SME development in the inclusive pathway is the development of devices that can make up for the disadvantages they suffer due to their size. In addition to export linkages, studies on clusters in Italy and Taiwan suggest that a mechanism for collective action among SMEs, such as joint purchasing and order sharing, helps reduce costs.¹⁸ However, mechanisms for collective action do not work well when trust among SMEs is lacking. Trust, a basic ingredient for developing positive collective behavior, can be generated among local community members through participation in community development activities. That is why local community development is important to make collective action effective. In the inclusive pathway, export linkages and collective action are among the desirable strategies for mitigating the low productivity that is inherent in the “missing middle” pattern of SME size structure.

In relation to the “dominant large” pattern in which SMEs have low employment absorption capacity, promoting new entries would be another strategy in the inclusive pathway. The study on SMEs across 76 countries mentioned above finds that lower costs of entry are among the factors with the largest effect on larger SME sectors.¹⁹ Some measures to reduce costs or barriers of entry are necessary to promote new entries, such as start-up support services in aspects of management and financing.

As indicated, the role of government policy support in the inclusive pathway is to level the playing field for SMEs. Compared with the competitive pathway, policy support needed in the inclusive pathway is more direct. Major necessary policies that are necessary to support the inclusive pathway are as follows:

- Promote collective action among SMEs in line with local community development
- Develop institutions to promote SMEs’ access to wider markets, including those overseas
- Provide basic managerial support (e.g., bookkeeping) for SMEs so that they will be better able to access credit
- Develop institutions to reduce risks and to lower barriers to SME financing
- Develop entrepreneurial human resources for SMEs, including new startups

Foundation for SME Policymaking and Implementation

ASEAN needs to establish a foundation of information for SMEs, presented in a comprehensive and uniform manner, which would help make SME-related policymaking and implementation more effective.

Requested at the ASEAN Summit in 2011, the ASEAN SME Policy Index is now being constructed by ERIA, with the OECD SME Policy Index being used as a reference. The ASEAN SME Policy Index is expected to enable assessment, monitoring, and hence better policy planning for SME promotion. The index presents an assessment framework comprising the following eight dimensions (and more detailed sub-dimensions) with six levels of policy reform ranging from low to high ends.²⁰

1. Institutional framework
2. Access to support services
3. Cheaper and faster start-up and better legislation and regulations for SMEs
4. Access to financing
5. Technology and technology transfer
6. International market expansion
7. Promotion of entrepreneurial education
8. More effective representation of SMEs' interests

A more fundamental source of information on SMEs that should be constructed is an ASEAN SME database. Again, the OECD SME Statistics will be a good reference. As shown in table 1, official data on SMEs in the ASEAN member countries are far from comprehensive and uniform. Without capturing the whole picture of SMEs across the countries, the actual heterogeneity of the ASEAN SME sector cannot be understood. In order to derive the right strategies that are effectively targeted to the right segments of the SME sector, there is a need to comprehend the distribution of ASEAN SMEs with comparable cut-offs by size and by sector.

ASEAN-JAPAN COOPERATION FOR SME DEVELOPMENT

Uniqueness of Japan: A Wealth of Experience in SME Development

As discussed above, industrial organizations in Japan follow the “balanced” pattern. On the one hand, large enterprises emerged in the form

of *zaibatsu*, large industrial and financial business groups, in the 1880s, and these grew into MNCs after the 1960s. On the other hand, SMEs emerged as exporters of traditional light industries in the 1910s and then developed mainly as subcontractors of modern machinery industries after the 1930s. This process can be characterized as the parallel development of large enterprises and SMEs.

Japan's relatively long history of SME development could offer several suggestions for ASEAN countries. First, the history of Japanese SME development represents the competitive and dynamic pathway. The widely shared view is that the main driver of SME development was not external assistance but internal learning and entrepreneurial activities in a competitive environment. There is much evidence of "small but highly competitive" enterprises and their evolution "from micro to the world class," which could be inspirational for ASEAN countries.²¹

Second, Japan's SME development process, parallel to large enterprises, also represents the inclusive pathway. Collective action by small firms in rural and urban communities, clusters, and cooperatives helped SMEs overcome their size disadvantage. A well-known example is the one village one product (OVOP) movement, a joint production and marketing activity among villagers for selected local specialty products, advocated by then Governor Morihiko Hiramatsu of Oita prefecture in 1979. Some ASEAN countries have introduced the OVOP program (e.g., the one tambon one product, or OTOP, in Thailand).

Third, Japan has experience with a full range of SME policies at the central and local government levels. The line-up of policy instruments encompasses the following categories:

(1) To level the playing field for SMEs

- Financing
- Preferential taxation
- Subcontractor protection to regulate unfair transaction practices
- Management support services
- Reconstruction support services

(2) To revitalize SMEs

- Technology development support services
- Human resource development support services
- Overseas business development support services
- New business (products, markets) support services
- Revitalization of local commercial areas

- Start-up support services
- Promotion of SMEs to bid for government-funded projects²²

Most of these policy instruments are supported by specific laws and regulations and are well institutionalized. As seen in figure 7, SME policies are implemented with the SME Agency serving as the headquarters, working together with governmental organizations (e.g., SMRJ, the Organization for SMEs and Regional Innovation, Japan; and JETRO, the Japan External Trade Organization), government banks, credit guarantee corporations, regional governments, their SME support centers, business organizations (e.g., chambers of commerce and industry, societies of commerce and industry, business associations), cooperatives, professionals (e.g., SME managerial/technological consultants, or *shindanshi*, public accountants, tax accountants, lawyers), universities, and so forth. In particular, financing and taxation, management and technology development, and human resource development have been the pillars of support services.

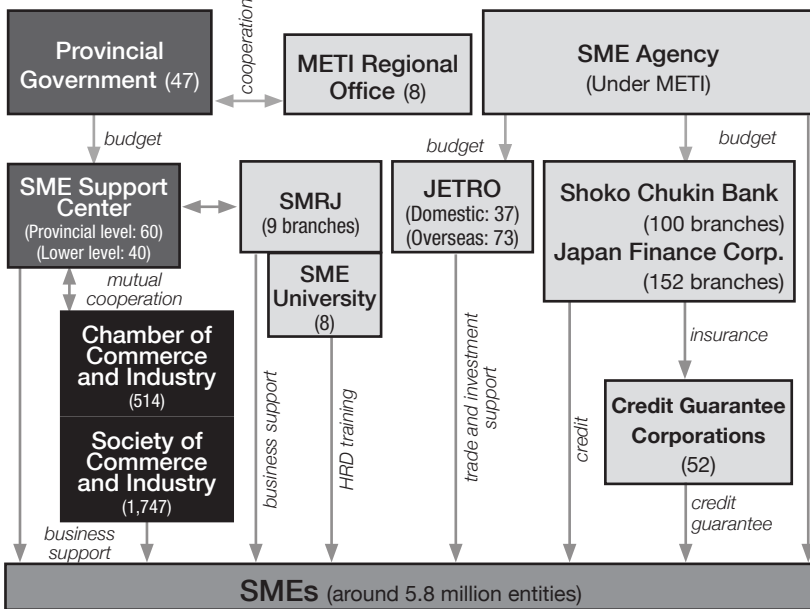
Japan's experience with SME policymaking and implementation systems, either best practices or failure stories, could serve as good lessons for ASEAN countries.

Uniqueness of Japan: Production Networks in the ASEAN Region

The Great East Japan Earthquake and the extreme flooding in Thailand in 2011 demonstrated how damage in one area has a huge impact all over Asia—even the world—because of the extensive production and distribution networks that have been developed by Japanese MNCs. Japan's overseas production and distribution networks have a long history in the ASEAN region, having been around since the 1960s, and they have the widest range of involvement of local counterparts, such as joint venture partners, sole agents, parts and component suppliers, distributors, dealers, and after-service providers. This historically intimate connectedness between the ASEAN economies and Japan suggests that SMEs in ASEAN have an opportunity to make maximal use of Japan's networks to enhance their capabilities.

Japan's national economic outlook changed when the economy stagnated in the 1990s and the population began to shrink in 2004. Japan is now the most rapidly aging society in the world. Given the diminishing domestic market and the increasing burden of the dependent population, one survival strategy for the Japanese corporate sector is development of overseas

Figure 7. Institutions for policy implementation and SME support in Japan



Note: Figures in parentheses refer to the total number of institutions.

Source: SME Agency, "SME Policy in Japan" (Tokyo: SME Agency, 2011).

business. The logical consequence is that Japanese production networks involving Japanese SMEs will expand further and their local procurement will deepen and widen in the long run. One of the priority tasks in the Small and Medium Enterprise Agency of the Ministry of Economy, Trade and Industry (METI), Japan, is to support Japanese SMEs' survival by helping them expand overseas.

Reflecting this fundamental change, the ASEAN-Japan relationship will no longer be a unilateral one whereby Japan helps ASEAN countries. The government of Japan needs more than ever to be accountable and provide explanations for how official development assistance (ODA) benefits not only the recipient countries but also Japanese taxpayers. In the context of ASEAN, Japanese ODA must benefit Japanese MNCs and SMEs operating in the region in a more short-term and direct manner. However, what is crucial is that the return on Japan's investment should be calculated with a long-term perspective, considering that closely interconnected networks covering Asia will further develop over time. Thus ASEAN-Japan cooperation should be strategic in the true sense that it is beneficial for both sides in the long run and should enhance mutual trust, which can be called "win-win cooperation."

Existing ASEAN-Japan Initiatives for SME Development

ASEAN-Japan cooperation for SME development has been discussed in and implemented through the SME Working Group in the AEM-METI Economic and Industrial Cooperation Committee (AMEICC). Established in 1998, the AMEICC is a body for policy consultations and implementation under the AEM-METI and the ASEAN-Japan Summit. It holds seven working groups, including one on SMEs. Others are on human resources, West-East corridor development, statistics, the automobile industry, the chemical industry, and information technology (IT). The AMEICC SME Working Group comprises representatives from SME agencies of ASEAN countries (i.e., members of the ASEAN SME Working Group) and from the SME Agency of Japan, and it has regular meetings twice a year.

The latest ASEAN-Japan initiatives in the economic area are outlined in the “ASEAN-Japan Strategic Economic Cooperation Roadmap 2012–2022,” which was agreed upon in the AMEICC in August 2012. The roadmap consists of three pillars: (1) integrating markets in ASEAN and the East Asian region, (2) strengthening industrial cooperation aimed at building more advanced industrial structures, and (3) improving economic growth and standards of living. SME development accounts for one of the three major activities in the second pillar (the other two being development of hard and soft infrastructure and utilization of satellite technology), and it is also partly related to the third pillar, which includes human resource development. Table 4 provides a list of all SME-related activities and sub-activities in the roadmap. In most sub-activities, the AMEICC SME Working Group is the responsible body.

As table 4 shows, the roadmap views cooperation for SME development in the context of strengthening supporting industries and enhancing cross-border SME networks in the region. Compared with past ASEAN-Japan initiatives, the policy focus seems to have shifted from community-based SME development (inclusive pathway) to SME participation in production networks (competitive and dynamic pathway). Industries of focus have shifted from steel, electronics, plastics, textiles, and garments to IT, medical and healthcare, and green industry, while the automobile industry remains a high priority. The shift in strategic and industrial focus reflects Japan’s current national interests and competence.

Recommendations for ASEAN-Japan Cooperation in SME Development

While the ASEAN-Japan Strategic Economic Cooperation Roadmap 2012–2022 seems to cover most areas of cooperation on SME development that are needed, there are other areas in which ASEAN-Japan cooperation could further support their development in a way that benefits both sides.

What does “win-win cooperation” between ASEAN and Japan look like? First, promoting Japan’s production networks across the region will be beneficial for both sides. As discussed above, greater involvement in international production networks is one key to SME development in the competitive and dynamic pathway.

Second, Japan needs to take the high degree of heterogeneity among the ASEAN SMEs into account. This chapter offers a twofold framework of SME development through the competitive and dynamic pathway and the inclusive pathway, with policies supporting efforts in a different way for each pathway. In the inclusive pathway, making up for disadvantages due to the small size of SMEs is a key to their development. The same policy can produce short-term effects in some areas, while it may take a long time in other areas of ASEAN. Cooperation schemes may need to be customized for each country when they move from the pilot and introductory stage to the dissemination stage.

Third, areas selected for cooperation should coincide with where Japan has much experience and has established good practices. Japan’s relative advantage may lie primarily in system building or institutionalization of a wide range of SME support services as discussed above.

Bearing these points in mind, some specific recommended areas for cooperation are described below.²³ All the recommendations are related to system building that will promote SME development. Table 5 sums up the purpose of each system, the pathway that each mainly targets, and the time frame for implementation. Most of the items are not purely new ideas but rather extensions of the policy matrix attached to the ASEAN Strategic Action Plan for SME Development 2010–2015 and the ASEAN-Japan Strategic Economic Cooperation Roadmap 2012–2022, or systematizations of past policies that have been attempted in some ASEAN countries.

1. TECHNOLOGICAL HUMAN RESOURCE DEVELOPMENT SYSTEM: A common hindrance for SMEs entering into production networks is the shortfall in human resources for technological management, specifically mid-level managers, engineers, technicians, supervisors, and forepersons. Considering Japan’s competence in industrial technology and its experience

Table 4. SME-related activities in the ASEAN-Japan 10 Year Strategic Economic Cooperation Roadmap

Pillar	Activities	Sub-activities	Phase 1 (2012-2016)	Phase 2 Responsible Body (2017-2022)	Supporting Organizations
1.	Integration of markets in ASEAN and the East Asian region in a mutually beneficial manner	Strengthening industrial cooperation towards more advanced industrial structures		AMEICC HRD-WG, AI-WG	JETRO, HIDA
			II. Develop and support SMEs, especially supporting industries, and entrepreneurs		AMEICC SME-WG, Central Bank
2.	Improving SME access to finance, technologies and markets	1. Improving access to technologies		AMEICC SME-WG	JETRO, JICA
			3. Improving access to markets through various initiatives such as One Village One Product (OVOP) initiative, exhibitions, seminars, workshops and other outreach opportunities	AMEICC SME-WG	
3.	Improving business environment to provide risk money to SMEs	5. Improving product quality to comply global market through mentoring, including packaging, brand design & certification label		AMEICC SME-WG	
			b. Promotion of SME cross-border business through FTAs	AMEICC SME-WG	
4.	Organizing investment promotion seminars and business consulting for SMEs	2. Providing assistance to improve SMEs' capacity building of relevant negotiation & export import		AMEICC SME-WG	JETRO, JCCI
			c. Fostering SMEs in high-growth sectors, including green industry, medical and healthcare industry, while taking into consideration the other priority sectors identified in the AEC	AMEICC SME-WG	
5.	Development of industrial clusters of SMEs in automotive component sector	2. SME business development in creative industry sector		AMEICC SME-WG	
			d. Enhancing and expanding networks of SMEs in ASEAN and East Asia	AMEICC SME-WG	
6.	Organizing "Only-One SME Mission" to AMMS	1. Strengthening industrial organization, including the Chamber of Commerce in each country			APEN
			e. Enhancing opportunities for SMEs to take advantage of regional and global production chains		JCCI
7.	Empowerment for SMEs to recognize green issues, and foster sustainable growth and energy efficiency	f. Empowerment for SMEs to recognize green issues, and foster sustainable growth and energy efficiency			
			3. Improving economic growth and standard of living		
8.	Establish a disaster resilient society in East Asia	c. Improvement in the business resiliency of SMEs			
			II. Promote human resource development and capacity building		
9.	Developing a "Comprehensive Higher Professional Education System (Multiversity)" in interested AMMS	a. Developing a "Comprehensive Higher Professional Education System (Multiversity)" in interested AMMS		AMEICC SME-WG	APEN
			b. Supporting human resource development for SMEs		JCCI, HIDA, ASEAN Japan Center

Source: ASEAN; Japan 10 Year Strategic Economic Cooperation Roadmap 2012-2022, Appendix.

AMEICC : ASEAN Economic Ministers and METI Economic and Industrial Cooperation Committee

HRD-WG : Human Resource Development Working Group

AI-WG : Automobile Industry Working Group

SME-WG : Small and Medium Enterprises Working Group

HIDA : Japan External Trade Organization (under Ministry of Economy, Trade and Industry of Japan)

JICA : Japan International Cooperation Agency (under Ministry of Foreign Affairs of Japan)

JCCI : Japan Chamber of Commerce and Industry

APEN : Asia Professional Education Network

in system formation for technological education, ASEAN can leverage cooperation with Japan to generate a system for technological human resource development. The system needs to be well linked to educational institutions in each ASEAN member country to implement effective curricula and should also be linked to the business sector for practical training and internships.

2. PROFESSIONAL CERTIFICATION FOR SME SUPPORT OFFICERS: In some ASEAN countries, various types of consultants, counselors, and training officers from the public and private sectors have rendered support services to SMEs. In general, such support services greatly contribute to providing SMEs with basic managerial skills, such as bookkeeping, in the initial stage of their development. Japan has experience with certification systems for SME support officers who work on a freelance basis or in connection with the regional chambers of commerce and industry and help SMEs access credit. In ASEAN countries, however, most existing SME support officers are not systematically organized, they vary in quality, and they are often unstable as professionals. Formulating certification systems in a uniform manner to guarantee their qualifications and pool them as professional business analysis practitioners, will benefit both SMEs and support officers.

3. SME CREDIT FACILITATING SYSTEMS: SME financing is the area where Japan has the broadest experience, since it has been viewed as a significant bottleneck in SME development. Especially for SME development in the inclusive pathway, it is crucial to reduce lending risks and to lower barriers for SMEs to access financing. Some Japanese systems may be worth testing. One is a credit guarantee system, whereby SMEs can borrow without collateral and credit guarantee agencies provide the guarantee to the banks. Another is a credit rating system for SMEs, aiming to expand bank lending to SMEs by reducing banks' risks. Japan's credit risk database system provides a model.

4. CREDIBILITY INDEX FOR SMES: This index would aim to help potential SMEs entering into international production networks. The index is a composite index of firm-level capabilities made up of technological, financial, and human resources and other managerial aspects. The index could reduce information costs and search costs in business matching.

5. BUSINESS MATCHING PLACES: The ASEAN and Japanese governments can create common matching places, either virtual permanent exhibitions or

actual regular exhibitions, to promote SMEs' participation in international production networks as well as export business.

6. PHYSICAL AND SOFT INFRASTRUCTURE FOR SMES: Public initiatives are needed to improve physical and soft infrastructure conducive to SME development by reducing SMEs' burden through, for example, low-cost SME industrial estates; simplification of taxation, investment, and trade procedures for SMEs; and improvement of transportation, logistics, and communication infrastructure.

7. CONSTRUCTION OF THE ASEAN SME DATABASE: A comprehensive and comparable database across the ASEAN countries is a prerequisite for figuring out problems and deriving adequate strategies for the heterogeneous ASEAN SME sector. Japan has among the most comprehensive national statistics on SMEs in Asia and even provided technical assistance to the first nationwide establishment survey in Cambodia in 2009. ASEAN could utilize Japan's know-how in the process of constructing a comprehensive ASEAN SME Database and making it workable.



The ASEAN Strategic Action Plan for SME Development 2010–2015 predicts that ASEAN SMEs shall be world-class enterprises by 2015. This would be no easy task to accomplish fully in a couple of years. There is no quick-acting remedy to achieve SME development, even though ASEAN has already put almost the full scope of necessary policy measures on the table.

Given the wide spectrum of the ASEAN SME sector, this chapter has proposed an understanding of ASEAN SME development strategies through two pathways, the competitive and dynamic pathway and the inclusive pathway. In the competitive and dynamic pathway, strengthening the competitiveness of SMEs through greater participation in international production networks is a central strategy. In the inclusive pathway, the strategy aims to overcome the disadvantages due to SMEs' small size through export linkages, collective actions, and other devices, in tandem with efforts aimed at local community development. Upgrading the capabilities of SMEs as a prerequisite for SME development and the policy support required for that purpose should also be well suited to each respective pathway.

This chapter has offered recommendations on specific areas of ASEAN-Japan "win-win cooperation," taking the heterogeneity of ASEAN SMEs and the SME-related systems of Japan into account. These include the technological human resource development system, professional certifications

Table 5. Purpose, target, and timeframe of recommendable ASEAN-Japan cooperation for SME development

Cooperation	Main target in the two-pathway framework							Reference
	Purpose	Competitive pathway			Inclusive pathway			
		Building systems and dynamic serving for	Building systems and dynamic serving for	Building systems and dynamic serving for	Building systems and dynamic serving for	Building systems and dynamic serving for	Building systems and dynamic serving for	
		Short-term (1-2 years)	Medium-term (3-5 years)	Long-term (5-10 years)				
1 Technological human resource development system	HRD	○	○	○	○	○	Matrix, Roadmap	
2 Professional certifications for SME support officers	HRD	○	○	○	○	○	(Past A-J cooperation)	
3 SME credit facilitating systems	Financing	○	○	○	○	○	Matrix, Roadmap	
4 Credibility Index for SMEs (CIS)	Marketing	○	○	○	○	○	New (Discussion in AMEIIIC SME WG)	
5 Business matching places	Marketing	○	○	○	○	○	Matrix, Roadmap	
6 Physical and soft infrastructure for SMEs	Foundation	○	○	○	○	○	(Past policies in some AMSs)	
7 Construction of the ASEAN SME Database	Foundation	○	○	○	○	○	New	

Note: Matrix = Policy Matrix of the ASEAN Strategic Action Plan for SME Development 2010-2015; Roadmap = the ASEAN-Japan 10 Year Strategic Economic Cooperation Roadmap 2012-2022

Source: by author.

for SME support officers, SME credit facilitating systems, a credibility index for SMEs to facilitate their participation in production networks, creation of business matching places, and improvement in physical and soft infrastructure specifically conducive to SME development. Construction of an ASEAN SME database, which must be the foundation to derive SME policies and development strategies, is also among the recommended cooperation areas.

While the development gap between the ASEAN countries is often seen as a major defect, the gap could be turned into a source of dynamism, as indicated by classic models of the flying geese and product cycles. Some ASEAN countries have had experience with SME policies since the 1970s. Japan has a longer history. Even though the global industrial configuration has greatly changed over that period, the countries that started earlier can share their lessons and best practices with other member countries, which will greatly serve the ASEAN economy as a whole as it moves toward a more competitive, vibrant, and integrated economy in 2015 and beyond.

NOTES

1. Hank Lim and Fukunari Kimura, "The Internationalization of Small and Medium Enterprises in Regional and Global Value Chains," *ADB Working Paper Series* no. 231 (2010); and Ganeshan Wignaraja, "Engaging Small and Medium Enterprises in Production Networks: Firm-Level Analysis of Five ASEAN Economies," *ADB Working Paper Series* no. 361 (2012).
2. Mike Hobday, "The Electronics Industries of the Asia-Pacific: Exploring International Production Networks for Economic Development," *Asian-Pacific Economic Literature* 15, no. 1: 13–29; Hubert Schmitz ed., *Local Enterprises in the Global Economy: Issues of Governance and Upgrading* (Cheltenham, UK: Edward Elgar, 2004).
3. Wignaraja, "Engaging Small and Medium Enterprises"; Charles Harvie and Boon-chye. Lee, *The Role of SMEs in National Economies in East Asia* (Cheltenham, UK: Edward Elgar, 2002), 6.
4. Tulus Tambunan, *Development of Small and Medium Enterprises in ASEAN countries* (New Delhi: Readworthy Publications, 2011).
5. SPRING Singapore, "Annual Report 2011/12" (Singapore: SPRING, 2012).
6. ASEAN, "ASEAN Policy Blueprint for SME Development 2004–2014" (Jakarta: ASEAN, 2004), 2–3.
7. ASEAN, "ASEAN Strategic Action Plan for SME Development 2010–2015" (Jakarta: ASEAN, 2010), 3.
8. Ibid.
9. Asian Development Bank (ADB), *Enterprises in Asia: Fostering Dynamism in SMEs* (Manila: ADB, 2008), 28–30; Dipak Mazumdar, "A Comparative Study of the Size

- Structure of Manufacturing in Asian Countries” (background paper prepared for the ADB, 2009); and Dipak Mazumdar and Sandip Sarkar, *Manufacturing Enterprise in Asia: Size Structure and Economic Growth* (London: Routledge, 2013).
10. Wignaraja, “Engaging Small and Medium Enterprises.”
 11. Fukunari Kimura and Mitsuyo Ando, “Two-Dimensional Fragmentation in East Asia: Conceptual Framework and Empirics,” *International Review of Economics and Finance* 14 no. 3 (2005): 317–48; and Fukunari Kimura and So Umezaki, “Comprehensive Asia Development Plan,” Economic Research Institute for ASEAN and East Asia (ERIA), 2010.
 12. Vo Tri Thanh, Dionisius Narjoko, and Sothea Oum eds., *Integrating Small and Medium Enterprises into the More Integrated East Asia*, ERIA Research Project Report 2009-8 (Jakarta: ERIA, 2010); and Charles Harvie, Dionisius Narjoko, and Sothea Oum, “Firm Characteristic Determinants of SME Participation in Production Networks,” *ERIA Discussion Paper Series* no. 11 (2010).
 13. Wignaraja, “Engaging Small and Medium Enterprises.”
 14. See, for example, Wignaraja, “Engaging Small and Medium Enterprises”; Sanjaya Lall, “Technological Capabilities and Industrialization,” *World Development* 20 no. 2 (1992): 165–86; Martin Bell and Keith Pavitt, “Technological Accumulation and Industrial Growth,” *Industrial and Corporate Change* 2, no. 2 (1993): 157–209; Hobday, “The Electronics Industries of the Asia-Pacific”; and Momoko Kawakami and Timothy Sturgeon eds., *The Dynamics of Local Learning in Global Value Chains: Experiences from East Asia* (New York: Palgrave Macmillan, 2011).
 15. Lall, “Technological Capabilities and Industrialization”; Bell and Pavitt, “Technological Accumulation and Industrial Growth,” *Industrial and Corporate Change* 2, no. 2 (1993): 157–209; and Hobday, “The Electronics Industries of the Asia-Pacific.”
 16. Kawakami and Sturgeon, *The Dynamics of Local Learning in Global Value Chains*.
 17. Tomohiro Machikita and Yasushi Ueki, “Innovation in Linked and Non-linked Firms: Effects of Variety of Linkages in East Asia,” *International Journal of Institutions and Economics* 3, no. 1 (2011): 77–102; and Tomohiro Machikita and Yasushi Ueki, “Impacts of Incoming Knowledge on Product Innovation: Technology Transfer in Auto-Related Industries in Developing Economies,” *Asian Journal of Technology Innovation* 20, no. S1 (2012): 9–27.
 18. Hubert Schmitz, “Collective Efficiency: Growth Path for Small-Scale Industry,” *Journal of Development Studies* 31, no. 4 (1995): 529–66; Frank Pyke, Giacomo Becattini, and Werner Sengenberger eds., *Industrial Districts and Inter-firm Co-operation in Italy* (Genova: ILO, 1990); and Momoko Kawakami, “Inter-firm Division of Labor, Enterprise Growth and Industrial Development: The Case of Taiwan’s Personal Computer Manufacturing Industry” (in Japanese), *Ajia Keizai* 39, no. 12 (1998): 2–28.
 19. Meghana Ayyagari, Thorsten Beck, and Asli Demirgüç-Kunt, “Small and Medium Enterprises Across the Globe,” *Small Business Economics* no. 29 (2007): 415–34.
 20. Sothea Oum, Ponciano Intal Jr., and Dionisius Narjoko eds., “Framework for ASEAN SME Policy Index” (an unpublished interim report, ERIA, 2013).
 21. While there is ample literature and information available, almost all is unfortunately in Japanese. The few exceptions are as follows: English websites of Mikasa Corporation, a world-class volleyball manufacturer (www.mikasasports.co.jp); Yoshida Metal Industry, a stainless steel knife manufacturer with many global awards (yoshikin.co.jp); Ota City in Tokyo, a cluster of over 4,000 metal-working SMEs (www.metal-otaku.net);

- Susumu Hondai, "The Performance of Japan's Small and Medium-Scale Enterprises and Its Implications to Indonesian Small Enterprises," *Small Business Monograph Series* no. 7 (Osaka: Osaka University of Economics, 1997); and Katsunori Yokoi, Tetsuo Yoshimoto, and Takahiro Fujimoto, "Building 'Genba' Capability and Sustainable Manufacturing: Case of Cooperation Small and Medium Enterprise with Vendor," in *Design for Innovative Value Towards a Sustainable Society*, ed. Mitsutaka Matsumoto et al. (AK Houten: Springer Netherlands, 2012): 655–659.
22. The SME Agency, METI, "SME Policy in Japan" (in Japanese) (Tokyo: SME Agency, 2011). See also the SME Agency website, www.chusho.meti.go.jp/sme_english/index.html.
 23. In working out the areas of cooperation, the author used various information sources, including references listed in table 5; interviews at the International Division of the SME Agency, Japan; and the author's observations from field study.