

Chapter 4. Productivity, technology and innovation

Introduction

Productivity and technology enhancement are viewed as key drivers of successful integration with the production networks of multinational corporations in Southeast Asia. Small and medium-sized enterprises are considered to perform better when they are allied with other SMEs or with large enterprises, including multinational corporations (ASEAN, 2015^[1]). Business development services can also support this process, enabling SMEs to compete on a more equal footing with large enterprises, access new markets and increase their profits and efficiency (OECD, 2016^[2]). The development of industrial clusters and business development services could help SMEs to enhance productivity and foster innovation.

Productivity measures

The ability of firms to increase their productivity while upgrading their technological and innovation capacity is regarded as an important determinant of competitiveness. Firm-level intensification of productive and innovative activity, achieved with critical mass, can create important spillovers for an economy as a whole. The Harvard economist Michael Porter and others regard this as such an important determinant of national economic competitiveness that they propose an economic development model that sees countries move from being factor-driven to investment-driven to innovation-driven (Lopez-Claros, 2009^[3]; Porter, 2003^[4]).

While very few studies were found on capital investments directly affecting overall economic productivity growth, the Strategic Action Plan for SME Development (SAP SMED) points to it as one of the actions to enhance SME productivity growth. In most cases, capital investment's effect on productivity is implicit. For example, data on Italian SMEs from a survey on manufacturing firms covering the period 1995-2003 showed that investment in equipment (capital investment) enhances the likelihood of both process and product innovation. This in turn has a positive impact on firms' productivity, especially process innovation (Hall, Lotti and Mairesse, 2009^[5]).

Business development services

Business development services (BDS) are generally defined as non-financial services that enable companies to enhance their competitiveness and improve their performance across a wide range of activities. They provide information, specialised external advice and experience to enterprises to support them in upgrading their internal resources and capabilities. BDS allow SMEs to compete on a more equal footing with larger peers, gain access to new markets and improve their productivity. Evidence suggests that businesses that do not harness the opportunities offered by professional business support are more

likely to fail than firms seeking professional consulting and mentoring (Lussier and Halabi, 2010_[6]).

SMEs often have limited knowledge of the availability, effectiveness and potential benefits of BDS. Moreover, SMEs are often not able to develop their own internal services due to the high cost and complexity associated with such services (Auguste, Harmon and Pandit, 2006_[7]). The support services required by an SME vary depending on its type of activity and stage of development. Often this causes small firms to underinvest in such services (Carter and Jones-Evans, 2006_[8]).

On the supply side, BDS providers might be less interested in SMEs than in larger firms and might lack information on their needs, which could impede them from providing the right services. Private BDS providers might also see SMEs as risky customers with limited financial resources. The diagnosis of these market failures should serve as a foundation for policy frameworks and models for the provision of BDS to SMEs. Governments should intervene only to address actual market failures or they risk crowding out private investment. They should strive to provide SMEs with updated information about the benefits and availability of BDS and to develop incentives that encourage them to use these services. This approach could help develop a sustainable ecosystem of BDS providers and respond in the optimal manner to SME needs.

Productive agglomerations and cluster enhancement

Clusters are geographically close groups of interconnected companies and associated institutions in a particular field, linked by common technologies and skills. They normally exist within a geographic area where ease of communication, logistics and personal interaction is possible (Porter, 2003_[4]). Clusters create an environment conducive to productivity gains, which are a factor of growth, and so form a structure that helps enterprises meet the challenges of international competition (OECD, 2009_[9]). SMEs provide crucial industrial linkages to set off a chain reaction of broad-based industrial development. Without SMEs as subcontractors and suppliers of intermediate inputs to multinational corporations (MNCs) and domestic large enterprises, industrial growth may not be able to sustain increasing domestic value, employment, productivity and industrial linkages (Foghani, Mahadi and Omar, 2017_[10]). However, the weak involvement of small firms in cluster projects is considered as one of the main barriers hindering cluster development. Clusters do not usually integrate small enterprises in traditional sectors into their core research, development and innovation activities. In some cases, these enterprises are seen to lie outside the sphere of policy support and collaborative projects (OECD, 2009_[9]).

Clustering may be particularly relevant for the manufacturing sector. It is of great importance especially for the main regional manufacturing hubs – Malaysia, Thailand and Viet Nam – in terms of extending their supply network to neighbouring countries. Country evidence for Cambodia finds that manufacturing is the sector most affected by clustering (Chhair and Newman, 2014_[11]).

A number of countries that cultivated successful clusters were able to do so without a national cluster programme. For example, Ireland's very active strategy for attracting foreign direct investment (FDI) played a major role in the development of the country's information and communications technology (ICT) cluster (OECD, 2007_[12]). This also points to the importance of foreign investment in the development of industrial clusters. However, some have questioned the impact of cluster policies and even suggested that policy makers should switch their focus from the local production structure to a more

efficient provision of public goods and land-use planning that could serve the needs of local producers and consumers (Duranton, 2011^[13]).

Technology and innovation promotion

Research, development and innovation play an important role in the efforts of emerging and middle-income economies to move up global value chains, escape the “middle-income trap” and move towards knowledge-based economies.

Technology has been described as “the currently known ways of converting resources into outputs desired by the economy” (Schreyer, 2001^[14]). It appears either in its disembodied form (such as new blueprints, scientific results, new organisational techniques) or embodied in new products (advances in the design and quality of new vintages of capital goods and intermediate inputs). Innovation is defined by the Oslo Manual as “the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD and Eurostat, 2005^[15]).

Many SMEs are likely to be characterised by the use of traditional technologies, limited technical skills and lack of information about markets and new technologies (ADB, 2009). Among the key firm-specific factors driving innovation, the literature has emphasised the role of size, age and expenditure on research and development (Hall, Mairesse and Mohnen, 2010^[16]).

Empirical studies on the determinants of innovation have found that smaller firms have a lower propensity to innovate than larger ones. SMEs might initiate innovation activities but find it difficult to carry them through on their own. Knowledge spillovers from other firms and universities are important for the development of innovative enterprises (Audretsch, 2004^[17]).

Supportive policies and institutions adapted to the needs of SMEs may strengthen their ability to get involved with innovation. Public policy can enhance innovation through measures to promote co-operation between firms, and academia can do so by promoting collaboration mechanisms, developing necessary infrastructure and using capacity building, incentive packages and support schemes with commercialisation of outputs. Governments can also use direct financial instruments to promote innovation or provide innovation vouchers to allow SMEs to benefit from specialised service providers. Policy makers could also play a central role in developing an “ecosystem” approach involving a variety of players.

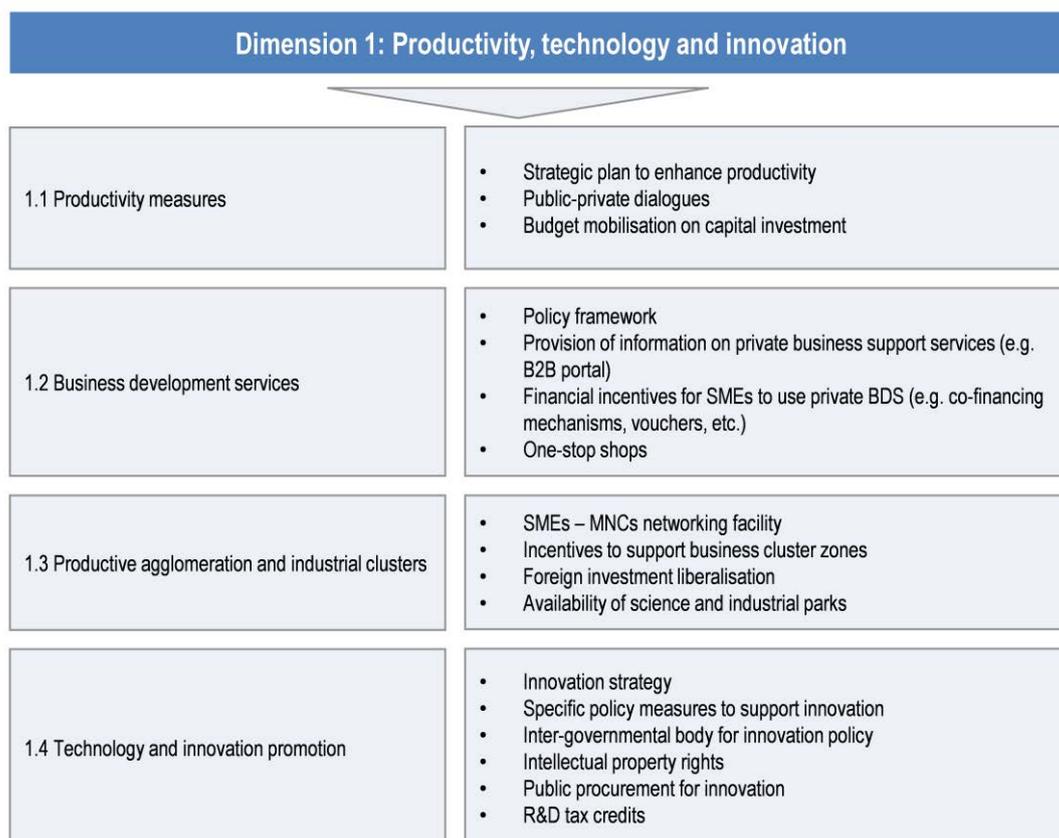
Assessment framework

The framework used to assess Dimension 1 on policy for enhancing productivity, technology and innovation in ASEAN covers four sub-dimensions (Figure 4.1).

Sub-dimension 1.1 looks at productivity measures specifically aimed at SMEs. It focuses on the inclusion of productivity enhancement elements in national strategic plans and on the main agencies involved in SME productivity enhancement policies and programmes from the perspectives of planning and implementation. The assessment also looks at the institutions that are responsible for planning and implementation, with clear roles assigned to every institution involved. It looks at stakeholder participation (private sector, research centres and academia) in the dialogue on productivity enhancement in order to understand from relevant perspectives where bottlenecks and market failures arise. The

assessment also considers the level of implementation of programmes, the sources of the budget for productivity enhancement and the availability of key performance indicators (KPIs), e.g. on labour productivity or for productivity enhancement programmes.

Figure 4.1. ASPI 2018 framework for assessing productivity, technology and innovation



Sub-dimension 1.2 explores the different aspects of business development services for SMEs in ASEAN. It looks first at whether the government assesses the risk of crowding out private support services and helps ensure that support programmes are sustainable in the long run. It then explores whether business support services are embedded in the overall SME policy framework as necessary to respond to gaps in the BDS market. Information on BDS is examined to assess whether the available services are effectively marketed, allowing their optimal utility. The availability of different types of co-financing options for private BDS, like direct co-financing, vouchers, etc., is also studied. Another important element of the assessment includes one-stop shop business centres.

Sub-dimension 1.3 examines the enhancement of productive agglomerations and industrial clusters in ASEAN. The assessment framework focuses mainly on the manufacturing sector. The policies and programmes on business agglomerations and clusters development is one of the main assessment tools for this sub-dimension. Liberalisation of foreign investment, using ERIA Foreign Investment Liberalisation and OECD Regulatory Restrictiveness indices, was also examined. One of the specific economic drivers of cluster formation includes the availability of infrastructure. The existence of such infrastructures and their relative improvement since 2014 are examined in this sub-dimension. Given the different barriers to investing in clusters, both for local

citizens and foreign nationals, incentives (both financial and nonfinancial) to support business cluster zones are also inspected. Lastly, the monitoring and evaluation mechanisms of the programmes for enhancing industrial clusters are also examined.

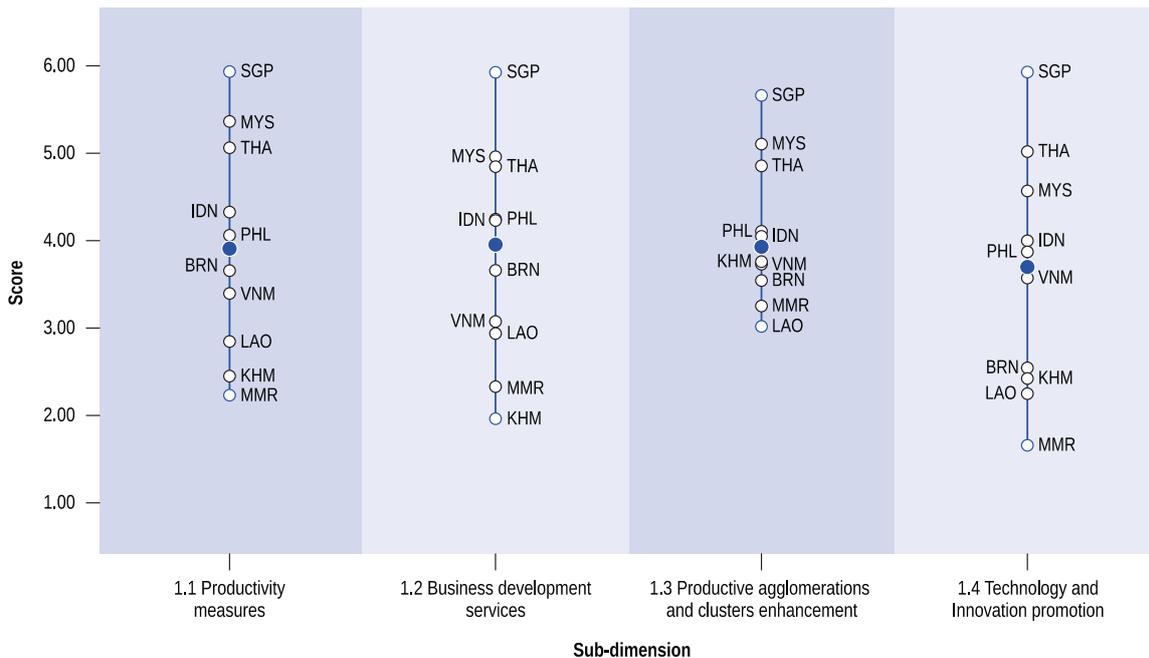
Sub-dimension 1.4 looks at technology and innovation promotion policies and instruments for SMEs in ASEAN. It assesses the innovation policy framework and whether SMEs are integrated into the framework. Since a number of different institutions are typically part of innovation systems, it also looks at the availability of a co-ordination body for innovation strategy. Also analysed are elements relating to intellectual property (IP) legislation and enforcement, research and development (R&D) incentives and the promotion of demand-driven measures through clauses in public procurement. Regarding implementation of policies, the assessment looks at the availability of innovation infrastructure such as incubators, science and technology parks, technology transfer offices and other relevant elements. The availability of government support mechanisms for institutional support services is analysed, along with dedicated schemes directly focusing on SMEs, such as co-financing and innovation vouchers, among others. Finally, the monitoring and evaluation section looks at the available mechanisms for evaluating the implementation of policies and how the findings are integrated into the policy cycle.

The four sub-dimensions of Dimension 1 are given equal weight as they are presumed to be of equal importance and relevance. This was confirmed by experts from the region. The human capital development element of productivity measures is covered under Dimension 7 on entrepreneurial education and skills.

Analysis

The overall assessment results for Dimension 1 are presented in Figure 4.2. Countries are scored for each sub-dimension on a scale of 1 to 6, with 6 being the highest. Detailed analysis by sub-dimension follows.

Figure 4.2. Weighted scores for Dimension 1: Productivity, technology and innovation



Sub-dimension 1.1: Productivity measures

Overall productivity growth in the four years following the global financial crisis and its immediate aftermath (2010-13) has tended to be lower than in the four years preceding it (2004-07), except for multifactor productivity growth in Indonesia, the Philippines and Thailand, and labour productivity growth in Brunei Darussalam, Cambodia, Indonesia, Lao PDR and Thailand (OECD, 2017_[18]). Performance has been varied across sectors, and there is some evidence of faster growth in lower-productivity sectors in recent years (OECD, 2018a_[19]). In ASEAN, the identified main drivers of SME productivity include clustering, FDI and trade liberalisation. The main challenges identified were regulatory restrictions, formalisation, access to finance and access to technology. Interestingly, and unlike typical patterns in OECD countries, initial analysis of SME labour productivity growth data in Indonesia and Viet Nam in manufacturing sector (only two countries with data available) points to a reassuring catch-up pattern, where firms with lower productivity levels are able to benefit from technology and knowledge from leading firms to strengthen productivity performance (OECD, 2018a_[19]).

Table 4.1. Scores for sub-dimension 1.1: Productivity measures

	BRN	KHM	IDN	LAO	MYS	MMR	PHL	SGP	THA	VNM	Median	Std.
Planning and design	3.27	3.48	4.52	4.33	5.37	2.65	3.68	6.00	5.16	3.69	4.01	1.00
Implementation	3.75	2.10	4.31	2.28	5.63	2.47	4.68	6.00	5.06	3.38	4.03	1.33
Monitoring and evaluation	4.58	1.51	3.92	1.51	4.84	1.13	3.41	6.00	4.95	3.94	3.93	1.59
Total sub-dimension score	3.75	2.46	4.31	2.84	5.38	2.26	4.08	6.00	5.08	3.60	3.91	1.19

Note: Scores are on a scale of 1 to 6, with 6 being the highest. Please refer to Chapter 2 and Annex A for further information on the methodology.

Among the different thematic blocks, ASEAN has a rather high median score in the policy framework for productivity enhancement measures (4.01). Its slightly lower median score in implementation (4.03) is mainly due to the limited number of capital investment programmes in half of the ASEAN Member States (AMS). There is wide variation in the scores for monitoring and evaluation of productivity enhancement programmes relative to the scores for planning and design and for implementation. Overall, the ASEAN median score for this sub-dimension is 3.91, meaning that the region is moving towards putting plans for productivity enhancement into action.

Planning and design: Few AMS have clear action lines with measurable targets

The structure of the agencies responsible for planning productivity policies and programmes varies across ASEAN. In all AMS except the Philippines, the national productivity policy development agency takes charge of productivity for both SMEs and large firms. While the Philippines has a separate planning agency for SME productivity (the MSMED Council for MSME Productivity Policy), in practice other government agencies also plan or create their own projects and programmes related to productivity enhancement, including for SMEs (e.g. the Department of Labour and Employment's National Wages and Productivity Commission).

All AMS except Brunei Darussalam and Myanmar are members of the Asian Productivity Organisation (APO), which aims to enable economies to be more productive by

strengthening national productivity offices, promoting the development of SMEs and communities, catalysing innovation-led growth and promoting green productivity.

SME productivity policies are generally embedded in overall national development plans and/or SME development plans, though few AMS have clear action plans with defined measures and KPIs on productivity. Thailand has a stand-alone strategic plan on productivity enhancement that consolidates various programmes and policies in this area. Singapore's Industry Transformation Programme lists productivity as the first of its four pillars to move Singaporean enterprises to higher value-added activities and raising their operational efficiency. Malaysia's Productivity Blueprint, launched in May 2017, connects SME productivity-related measures being implemented under the SME Masterplan 2012-20 to broader strategic goals. In Lao PDR, productivity enhancement is included as the first pillar of the country's new SME Development Plan (2016-20).

Most AMS have a developed consultation process in policy development. In eight of the ten countries, the private sector and research organisations are almost equally represented. In Lao PDR, the private sector is more involved in consultations than research organisations. In Viet Nam, it is the opposite. Given that strategic plans on productivity enhancement appear in different sections of national strategic plans, consultations are generally conducted at varying levels across different ministries.

Implementation: Execution of productivity measures varies highly across AMS

The main implementing agency for SME productivity enhancement programmes generally falls under the main ministry responsible for implementing SME development programmes. Aside from the SME implementing agency, the equivalent Ministry of Science and Technology is also among the government stakeholders implementing productivity enhancement measures in all AMS except Brunei Darussalam. In Singapore, the Future Economy Council is responsible for policy design and overseeing implementation by different government agencies.¹ Two AMS have an autonomous productivity implementing agency: the Malaysia Productivity Corporation and the Thailand Productivity Institute. In the other AMS, the main national productivity institute conducts research/planning and/or implementation of its own programmes. The placement of the national productivity agency in the government varies across countries, too. For example, the Viet Nam Productivity Institute is under the Ministry of Science and Technology while Indonesia's National Productivity Institute is under the Ministry of Manpower and Transmigration.

In all AMS except Cambodia and Lao PDR, public-private dialogues are conducted regularly during the implementation of productivity enhancement programmes. However, in terms of sufficiency of dialogue, some countries have big gaps between targets and the actual activities conducted. In the Philippines, for example, the MSME Development Medium-Term Evaluation Report found that, of the 59 active provincial/city SME councils, only 35 were conducting meetings regularly. In Myanmar, while public-private dialogue is conducted regularly every two months, it takes place in only three to four out of seven regions.

Capital investment programmes for SMEs exist in five AMS. For countries with such programmes, implementation is generally small scale. Also, except for Singapore and the Philippines, AMS with capital investment programmes have not examined the best practices for funding these programmes, which may lead to mismatched investments. In the Philippines' Shared Services Facility programme, technical proposals are evaluated

first through criteria such as whether they address manufacturing or processing gaps and whether they increase cluster productivity.

All ten AMS have instruments for enhancing SME productivity. In higher-income countries, these instruments tend to be mostly financed by the government, although organisations such as the APO often provide support.² In lower-income countries, they tend to be financed or co-financed by development partners. In Myanmar, for instance, programmes are run by the UN Industrial Development Organization (UNIDO) and the Japan International Co-operation Agency (JICA). Where programmes rely on donor support, stakeholders should ensure that they are sustainable in the long run.

Monitoring and evaluation: AMS also vary on collection of KPIs

In a majority of AMS, productivity enhancement programmes have monitoring components. However, in terms of KPIs, the countries in the early stages of development do not systematically collect information on SME labour productivity and the value added of SMEs to gross domestic product (GDP). Brunei Darussalam, Malaysia, Singapore, Thailand and Viet Nam have more solid monitoring mechanisms on productivity indicators, as they collect data on total factor productivity in addition to labour productivity. However, at the SME productivity level, Viet Nam does not collect official data on value added of SMEs to GDP. Singapore collects comprehensive productivity KPIs (value added per worker and per hours worked) for the overall economy by industry, as well as a set of indicators for each of the 23 industries covered by the Industry Transformation Programme. For example, the Infocomm Media Development Authority of Singapore collects KPIs that are needed to calculate productivity measures, such as nominal value-added growth, new jobs created (specifically professionals, managers, executives and technicians) and the number of workers in the infocomm and media sectors.

In most AMS, the budget is not broken down into specific programmes on productivity, thus making it hard to monitor and evaluate the budget's efficiency. Since productivity covers a wide range of areas, the tendency is for the different components, for instance skills development, to have a budget that implicitly aims to increase productivity.

Sub-dimension 1.2: Business development services

Table 4.2. Scores for sub-dimension 1.2: Business development services

	BRN	KHM	IDN	LAO	MYS	MMR	PHL	SGP	THA	VNM	Median	StD.
Planning and design	3.58	2.51	3.38	3.02	5.43	2.19	4.27	6.00	5.29	3.77	3.67	1.22
Implementation	4.07	1.95	4.79	2.85	5.09	2.76	5.07	6.00	4.96	3.19	4.43	1.25
Monitoring and evaluation	2.93	1.00	4.33	2.93	4.05	1.55	2.38	6.00	4.05	1.55	2.93	1.47
Total sub-dimension score	3.67	1.96	4.21	2.93	5.00	2.32	4.25	6.00	4.89	3.06	3.94	1.22

Note: Scores are on a scale of 1 to 6, with 6 being the highest. Please refer to Chapter 2 and Annex A for further information on the methodology.

Planning and design: Few AMS integrate data into BDS policy design

Although all ASEAN governments highlight the importance of SME business development services in their strategic document, few have developed a study regarding BDS demand, availability and gaps in their countries. Several countries gather data, but there is not sufficient evidence as to whether this data has been integrated into the design of SME support strategies and mechanisms, except in Singapore, Malaysia and Thailand.

All ten AMS have an institution or institutions responsible for the design and implementation of BDS. In most cases, the institution responsible for SME policy is also responsible for BDS. For instance, this role is co-ordinated by SME Corp. Malaysia, under the Ministry of Trade and Industry (MITI). Most AMS have developed a set of actions and measurable targets to promote BDS, but these vary in depth. In Lao PDR, some actions to enhance BDS and one measurable target are included in the 2016-20 SME Development Plan. In Viet Nam very little has been done in this area, and in Myanmar actions and targets have been elaborated only for the garments sector and certain regions.

Implementation: Delivery channels for BDS vary widely across AMS

AMS have made progress in the provision of information on and implementation of BDS since publication of the *ASEAN SME Policy Index 2014*. More and more private BDS providers are available in ASEAN, and the region has a larger number of BDS enablers such as incubators, accelerators and co-working spaces, often run by private-sector providers. The median score of 4.43 points shows that, overall, BDS are available in ASEAN and being offered to SMEs.

Currently, seven countries provide information through government websites detailing the range of BDS available. In Cambodia, Lao PDR and Myanmar, some information is provided online, but further efforts to increase awareness about the variety of schemes available would be welcome. All countries have business plan competitions available for SMEs, although in Myanmar they have been organised by the private sector and not by government providers. In Lao PDR, the government has conducted a business plan competition in partnership with the private sector and development partners.

Different delivery channels for BDS are available across ASEAN. In the less developed countries, BDS have traditionally been developed through a set of government agencies, such as SME development centres, where services are delivered through donor-driven programmes, NGOs and public employees. This is often necessary due to a lack of private-sector providers and insufficient awareness or resources among SMEs to get external support. Often such services are delivered free of charge or with a very small contribution by SMEs. This is the case in ASEAN countries such as Lao PDR, Myanmar and Viet Nam. These mechanisms create awareness among SMEs, but they often have to provide standardised services, which have limited impact and often lack sustainability.

With increased development, ASEAN governments are increasingly turning to private suppliers to deliver BDS. While market-oriented channels are generally seen as preferable for the provision of BDS, policy makers should recognise that a certain level of economic development is necessary for this to be effective. Many AMS use a hybrid model in which the government provides a number of services for free, but also collaborates increasingly with private-sector providers. Countries using the hybrid model include Brunei Darussalam, Indonesia, the Philippines, Singapore, Malaysia and Thailand. A number of services in these countries are offered through a network of providers at the

local level, such as the Integrated Business Service Centre in Indonesia, Thailand's One-Stop Service Centre or the Negosyo Centres in the Philippines (Box 4.1). SMEs can get some services for free at these centres, but for more customised BDS support they would need to approach private-sector providers.

Box 4.1. Facilitating access to BDS: The Philippines' Negosyo Centres

The Philippines established its Negosyo Centres in order to strengthen MSMEs by facilitating job creation, production and trade. The centres are responsible for promoting ease of doing business by integrating a single business processing system for registration, permits, set-ups and management of MSMEs. They were established under the 2014 "Go Negosyo Act" (Republic Act No. 10644) and are governed by the Department of Industry and Trade (DTI).

The centres provide services such as business registration facilitation, business consultancy and business information and advocacy. Registered Barangay Micro-Business Enterprises (BMBEs) can benefit from incentives including income-tax exemption on operations income, exemption from the minimum wage law, and a special credit window of government financing institutions serving such enterprises.

Negosyo Centres are classified into three operating models that differ in the level of services offered. Full-Service Centres are equipped with staff who are able to deliver all the services offered at any given time and who conduct activities independently. Advanced Centres are similar, but need the support of the DTI or the nearest Full-Service Centre to execute programmes, activities and consulting. Basic Centres mainly process documentation and disseminate business-related information, and can provide only minimal forms of consulting or advisory work without the full support of the DTI.

With the implementation of the "Go Negosyo Act", there was a rapid increase in the number of centres. By 2017, a total of 789 Negosyo Centres had been established nationwide – a significant increase from just 5 in 2014 – and the centres had assisted nearly 636 000 clients and helped more than 300 000 businesses to register. The centres have considerably facilitated the provision of BDS and registration of micro enterprises. The DTI plans to establish 526 more centres by the end of 2022.

The "Go Negosyo Act" also provides an opportunity DTI business counsellors and staff to develop their competency for providing development services to the public. Personnel who are assigned to the Negosyo Centres take a Small Business Counselling Course that covers several modules on business management and operations. The training aims to deepen their knowledge and skills on coaching, consultation and mentoring services for MSMEs.

Once a certain level of development is reached, countries should move towards the provision of co-financing assistance for SMEs for business development services that involve consultancy or engagement of experts. The government can provide dedicated vouchers or grant or subsidy support to defray part of the qualifying costs. Countries such as Malaysia and Singapore provide dedicated voucher schemes to help SMEs reach out to private sector providers. Singapore's Innovation and Capability Voucher scheme, with vouchers valued at SGD 5 000 (Singapore dollars), allows SMEs to strengthen core business operations through consultancy in the areas of innovation, productivity, human resources and financial management. Vouchers have also been employed in Thailand to help SMEs improve the quality of products and services, and in the Philippines to assist SMEs with export promotion.

Monitoring and evaluation: Stronger assessment can boost BDS effectiveness

Indonesia, Malaysia, Singapore, the Philippines and Thailand have implemented overall monitoring. Other AMS have been monitoring government or donor-support mechanisms, but have not yet developed dedicated KPIs to monitor the provision of the BDS across the country. Evaluations have been taking place only in Malaysia, Thailand and Singapore, where studies have been conducted and lessons from the previous experience have been integrated into the policy-making cycle when designing new support mechanisms for the BDS development.

More regular and comprehensive monitoring and evaluation mechanisms need to be developed to ensure the effectiveness of support schemes and mechanisms. Another challenge is a lack of information on the variety of initiatives taking place at the regional or local level. Improved provision of information could supply a better picture of the challenges faced.

Sub-dimension 1.3: Productive agglomerations and cluster enhancement

Industrial cluster development has been advancing in Southeast Asia in recent years, and research confirms that AMS have performed well in enhancing policies on industrial clusters and productive agglomerations. All ten AMS are already at least at the intermediary level of development in this sub-dimension, and there is also relatively little inter-country variation. However, countries that fall into the “advanced stage” category on this sub-dimension have relatively more room for improvement, particularly on incentives to support business cluster zones. It is worth mentioning that policy makers should apply a critical approach in order to evaluate the impact of clusters and evaluate the benefit of incentives provided to the companies in productive agglomerations and clusters. Incentives provided could be combined with the monitoring and impact evaluations mechanisms conducted on a regular basis.

Table 4.3. Scores for sub-dimension 1.3: Productive agglomerations and cluster enhancement

	BRN	KHM	IDN	LAO	MYS	MMR	PHL	SGP	THA	VNM	Median	StD.
Planning and design	4.18	4.73	5.17	3.52	5.90	4.64	4.68	5.86	5.89	4.76	4.66	0.81
Implementation	4.00	3.77	3.82	3.22	4.52	2.91	4.01	4.68	4.71	3.70	3.91	0.53
Monitoring and evaluation	1.33	1.99	2.65	1.66	4.99	1.66	3.31	6.00	3.64	1.99	2.32	1.48
Total sub-dimension score	3.53	3.75	4.06	3.01	5.10	3.26	4.10	5.36	4.91	3.73	3.91	0.75

Note: Scores are on a scale of 1 to 6, with 6 being the highest. Please refer to Chapter 2 and Annex A for further information on the methodology.

Policies on business agglomerations have already been developed in general, but many AMS still lack specific policies on industrial clusters. The implementation of such measures is at varying stages across ASEAN, specifically on infrastructure development for cluster zones. With the exception of Singapore, countries have few monitoring and evaluation elements, also due to recent upgrades in their policies and programmes. Overall, the median score for this sub-dimension stands at 3.91, mainly driven by advancing policies and implementation activities.

Planning and design: Few AMS actively promote SME participation in clusters

All ten AMS have already put in place policies on the promotion of business agglomerations such as economic zones (EZs), special economic zones (SEZs), industrial zones (IZs) and export processing zones (EPZs). Economic, geographical and social aspects are the general criteria for the identification of the business agglomerations. But the level of policy development varies across the region regarding industrial clusters that involve linkages among large enterprises, SMEs and other relevant institutions such as universities and research centres. Malaysia, Singapore and Thailand have more comprehensive cluster policies that detail policies on linkages among the main actors in the identified zones. Indonesia and the Philippines also have policies on business agglomerations and cluster enhancement in their national strategic plans and other strategic documents. Brunei Darussalam has identified five investment priority clusters, as part of a range of measures designed to achieve Goal 3 of Wawasan (Vision) Brunei 2035.³ These clusters benefit from a range of special arrangements to encourage investment, with the end goal of attracting FDI in value-added, export-oriented and high-tech industries. They are in the following activities: *i*) halal products; *ii*) innovative technology and creative industry; *iii*) business services; *iv*) tourism; and *v*) downstream oil and gas. Lao PDR's 2011 Law on SMEs refers to the promotion of business clusters, and clustering is mentioned in the country's 2016-20 SME Development Plan. Viet Nam has a decree on business agglomerations, though policies are lacking on linkages among institutions within the clusters. Myanmar's Special Economic Zone Law was enacted in 2014, and its implementing rules were published in 2015. Cambodia drafted its SEZ law in 2008.

A majority of AMS have few instruments to support linkages among SMEs and between SMEs and large enterprises in cluster zones. Cambodia has elements on the promotion of SME linkages with large firms in different national development plans. Only Indonesia has a specific regulation stating that all industrial sites should allocate 2% of their land area to SMEs.

Box 4.2 provides an example from Thailand of a recent practice on cluster development, including identification of targeted sectors and incentives for investing in them.

Box 4.2. Translating policy into implementation: Thailand's superclusters

In the context of the economic model known as Thailand 4.0, the government selected a set of priority sectors in November 2015 comprising "First S-Curve" and "New S-Curve" industries. The "S-Curve" concept posits that an industry's growth is relatively slow during the infancy stage due to limited market size, but that output rises rapidly once economies of scale take hold and the market expands, and that growth eventually levels off due to demand saturation. "First S-Curve" industries include five sectors that can be upgraded in the short or medium term by adding value through advanced technologies: next-generation automotive (e.g. electronic vehicles), smart electronics (e.g. high value-added ICT products), high-income tourism and medical tourism, efficient agriculture and biotechnology, and food innovation. "New S-Curve" industries include five sectors identified as promising drivers of growth in the long term: robotics, aerospace, biofuels and biochemicals, the digital industry and the medical hub.

To support the development of these priority sectors, the government launched investment promotion measures in designated Special Economic Zones in different locations and with specific purposes (Table 4.4). SEZs are based on the concept of clusters to improve industrial value chains by strengthening linkages among firms, research and academic institutions, and

public organisations within a geographical area. The government provides both financial incentives (e.g. tax reduction and subsidies for innovation and human resource development) and non-financial incentives (e.g. simplifying visa procedures for skilled foreign labour and easing regulation of foreign equity and land ownership). In July 2016, three provinces in the east coast area were designated as the Eastern Economic Corridor, which is to be the flagship SEZ and leverages off the existing manufacturing and energy industrial base there. The government has set an ambitious target of THB 1.5 trillion (Thai baht), or some 10% of 2016 nominal GDP, for public and private investments in the corridor from 2017-21. The initiative is still at early stage and more analysis and evaluation is needed to monitor its impact; however this case provides a good example of how government can translate a policy into an implementation model.

Table 4.4. Thailand's Special Economic Zones

Designated SEZs	Supercluster zones and an economic corridor to promote S-Curve industries
Border area SEZs	Ten provinces close to the borders of neighbouring ASEAN countries aim to boost cross-border trade and employment (started in 2016).
Superclusters and other targeted clusters	Supercluster zones are located in 32 provinces (including overlaps), mainly in the central and eastern regions. Targeted sectors include: automotive and parts; electrical and electronics; eco-friendly petrochemicals; digital services; food; aviation and aerospace; automation and robotics; and medical services. Other targeted clusters are located in rural regions and focus on agro-processing and textiles (started in 2016).
Eastern Economic Corridor (EEC)	Three coastal provinces (Cachengsao, Chonburi and Rayong) in the eastern region aim to promote the ten S-Curve industries. The act for developing the corridor was approved by the parliament in February 2018.

Source: BOI (2017), http://www.boi.go.th/upload/content/BOI-A%20Guide%202017-EN-20180402_5ac3614b3ee08.pdf; OECD (2018), <http://dx.doi.org/10.1787/9789264293311-en>.

In terms of investment openness, ERIA's foreign investment liberalisation (FIL) scores for the region indicate that the most AMS have a relatively open regime for investment in manufacturing,⁴ with the partial exception of Indonesia and Viet Nam. Many AMS are more restrictive in the agricultural and resources sectors, as well as services. In several AMS, strategic industrial, nationalist and/or developmental gap considerations may work against foreign majority ownership in some manufacturing sectors (Intal Jr., 2015_[20]). By 2014, all AMS had already reached an ERIA FIL rate of at least 75%, with half of them scoring at least 90%. Cambodia, Lao PDR, Myanmar, and Singapore have very high and nearly comparable investment liberalisation rates in the agriculture and natural resources sector and in the manufacturing sector (Intal Jr., 2015_[20]).

The OECD FDI Regulatory Restrictiveness Index indicates that, when the manufacturing and service sectors are combined, Cambodia, Viet Nam and Lao PDR have the fewest statutory restrictions on FDI among the AMS, with available data. Cambodia has an index value of 0.052, below the OECD average of 0.067. The Philippines (0.398), Myanmar (0.356) and Indonesia (0.315) have the most restrictions.

Implementation: Participation of SMEs in cluster zones remains relatively limited

Fiscal incentives to support business cluster zones (corporate income tax, value-added tax, withholding tax, etc.) are already in place in all ten AMS. All countries except Brunei Darussalam and Myanmar also have non-fiscal incentives, such as immigration benefits

for foreign investors and workers. Corporate income-tax breaks in SEZs in the region vary greatly in terms of tax rate and validity period. Notably, in Indonesia the SEZ corporate income-tax break can extend up to a maximum of 25 years. The Philippines allows a corporate income-tax break in SEZs of up to 100% for a period of six years for pioneer projects. Singapore also provides tax exemption of up to 100% of capital expenditure, although the investment allowance is not specific to clusters. Brunei Darussalam is the only ASEAN country where no tax is levied on personal income, payroll, goods and services, or capital gains. Examples of financial incentives in EZs, IZs, SEZs and EPZs include: tax deductible expenses for investment in construction, operation or lease of apartments and social infrastructure facilities servicing employees (Viet Nam), and tax reduction and subsidies for innovation and human resource development by firms (Thailand).

All ten AMS have facilities to encourage networking among innovative companies, such as science/industrial parks, competitive clusters or technology centres. However, disparities exist in terms of the level of development and sufficiency of facilities relative to the needs of the country. Singapore and Malaysia have the most advanced facilities, especially in the digital economy sector (digital hubs, cyber centres, etc.). Under Singapore's SGD 4.5 billion Industry Transformation Programme, roadmaps have been developed for 23 industries (grouped into six clusters) to address issues within each industry and deepen partnerships among the government, firms, industries, trade associations and chambers.

Since 2014, a number of countries have made major improvements in developing industrial sites, specifically Brunei Darussalam and Cambodia. Brunei Darussalam currently has 26 industrial sites, while Cambodia has 22 special economic zones (up from nine in 2014). Indonesia had six science parks in 2014, mostly at early stage, but it is planning to create 100 techno parks across the country by 2019, with the electronics sector as a focus area. The DTI -Philippines Economic Zone Authority listed 277 special economic zones in 2014, but by July 2016 the country had 358 SEZs, including manufacturing economic zones, information technology (IT) parks/centres, agro-industrial economic zones, tourism economic zones, and medical tourism parks/centres, with the biggest increase in the IT sector.

Despite these improvements in the region, linkages in the cluster zones among SMEs and between SMEs and large enterprises are still not well established. Participation of SMEs in the clusters is relatively small. In most AMS, the number of SMEs in the cluster zones is not specifically monitored.

Monitoring and evaluation: KPIs are needed for SMES in cluster zones

Only some AMS have well-defined monitoring mechanisms for policies to promote industrial clusters. KPIs specifically for SMEs have not yet been developed. Independent evaluation of the cluster policies has also not been conducted for most of the ASEAN economies; it takes place only in Singapore, and to a degree in Malaysia, the Philippines and Thailand.

Monitoring and evaluation of policies supporting productive agglomerations and clusters is essential for understanding the impact of these policies on the economy and at what cost. Monitoring could help policy makers determine whether the policies and incentives provided are effective, attract the right companies and help the local economy to develop skills. To estimate the benefits of clustering, policy makers should take into account the

industrial and special scope of clusters and try to measure possible outcomes such as innovation promotion or intensity of labour-market participation (Duranton, 2011^[13]).

Sub-dimension 1.4: Technology and innovation promotion

The technology and innovation promotion sub-dimension was part of the *ASEAN SME Policy Index 2014*; however, it has been considerably revised and is not directly comparable with the results of the current publication. Although ASEAN highlights the importance of technological innovation and the region is becoming more innovative overall, progress since ASPI 2014 varies substantially in this sub-dimension. The large spread in ASEAN between countries that are world leaders in technological innovation and those that need to advance their capacity to innovate is highlighted by a relatively high standard deviation across this sub-dimension. The Figure 4.3 (GERD in selected AMS) showcases the large variety of R&D expenditures by government among the AMS.

Table 4.5. Scores for sub-dimension 1.4: Technology and innovation promotion.

	BRN	KHM	IDN	LAO	MYS	MMR	PHL	SGP	THA	VNM	Median	StD.
Planning and design	2.42	3.22	4.34	2.89	4.86	1.83	3.89	6.00	5.56	3.70	3.79	1.28
Implementation	3.05	1.92	4.49	2.20	5.19	1.86	4.13	6.00	5.05	4.07	4.10	1.39
Monitoring and evaluation	1.66	1.66	2.32	1.33	3.64	1.00	3.31	6.00	3.98	1.99	2.16	1.46
Total sub-dimension score	2.55	2.33	4.00	2.27	4.77	1.68	3.88	6.00	5.01	3.52	3.70	1.33

Note: Scores are on a scale of 1 to 6, with 6 being the highest. Please refer to chapter 2 and annex A for further information on the methodology.

Planning and design: Co-ordination of innovation policy should be strengthened

All ASEAN countries have highlighted the importance of innovation in their strategic documents. Several countries have a dedicated innovation policy (Singapore, Thailand and Viet Nam). Innovation is often a key element in a National Development Plan (Brunei Darussalam, Indonesia, Malaysia and the Philippines) or integrated through an industrial development policy (Cambodia, Myanmar) or science and technology strategy (Lao PDR). The median score for planning and design block in this sub-dimension is 3.79, reflecting the fact that policies have been put in place, although they are at an early stage in a few countries. Eight countries have specific provisions for SMEs in at least one of the policy documents, with Brunei Darussalam and Indonesia as the exceptions.

A large number of institutions are involved in innovation policy development in the region, including ministries for science and research, education, industry and, in some cases, specifically for innovation. OECD good practice guidelines call for a co-ordinating body for innovation policy development and implementation in order to ensure exchange of information and efficient collaboration. Five ASEAN countries have dedicated councils or committees for technological innovation. In other countries (Brunei Darussalam, Indonesia, Lao PDR, Myanmar and Viet Nam), the co-ordinating role is held by the relevant ministry or division, most often the Ministry of Science and Technology.⁵ A high-level co-ordinating mechanism, possibly anchored at the prime-minister level, is important for ensuring arbitrage among the large number of agencies involved. Singapore provides a good example of such structure with its recently established Future Economy

Council, which groups 31 members from the government, industry, unions and educational and training institutions, and is chaired by the Minister of Finance.

All ASEAN member states except Myanmar have established policies and national offices to deal with intellectual property. AMS adhere to numerous international treaties and conventions on IP, and the majority have put in place comprehensive IP laws. Five countries are fully compliant with international standards (Brunei Darussalam, Malaysia, the Philippines, Singapore and Thailand). Although considerable progress has been made in the region, Cambodia, Indonesia, Lao PDR and Viet Nam still face a lack of resources and difficulties in the enforcement of IP legislation, while IP registration is not available in Myanmar. A new ASEAN Patent Examination Co-operation system has been established by nine AMS (excluding Myanmar), allowing them to share regional patent work. Increased use of e-services in some AMS (Singapore, Indonesia and Malaysia) could further support patent and copyright applications.

Demand-side innovation policies, such as public procurement, regulation, standards, consumer policies and user-led innovation initiatives, are becoming more common among policy makers as a way to boost technological innovation through introduction of relevant clauses and regulations. Although this is still at early stage in ASEAN, Malaysia and Singapore have applied demand-side policies in order to accelerate technology assimilation and promote selected sectors. R&D incentives, such as increasing the reduction rate for R&D expenditure, have been used in Indonesia, Singapore and Thailand and are specially targeted at SMEs.

Implementation: Support for innovation varies across the region

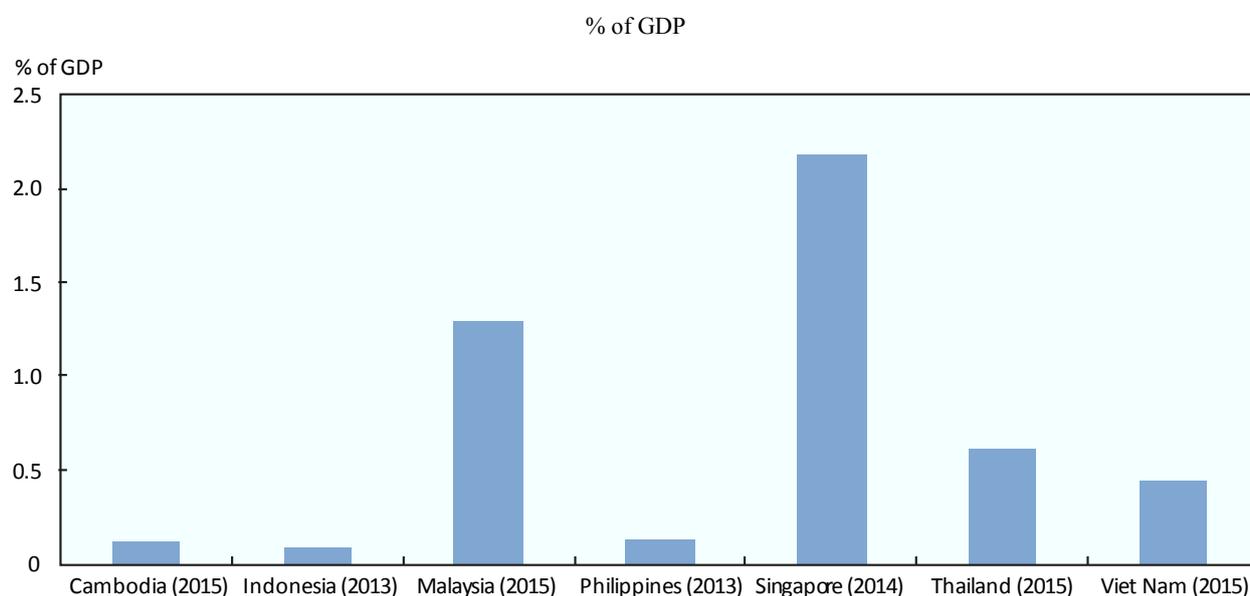
AMS have undertaken considerable efforts to implement policies related to the promotion and implementation of innovation. The median score of 4.10 for this block indicates that the region is establishing the necessary infrastructure and has started to put in place instruments for integrating innovation.

All AMS have webpages related to the promotion of research, development and innovation, but only three (Malaysia, Singapore and Thailand) have dedicated webpages or portals that centralise the variety of initiatives implemented by the government. In the other countries, innovation-related webpages only showcase the initiatives of a dedicated institution, and it is difficult for users see the whole range of initiatives available. AMS have made efforts to raise awareness about the importance of innovation and its role for SMEs. Governments in all AMS have conducted events on innovation that are open to the public, such as conferences, festivals and science exhibitions. They have also organised awards for innovation, often in partnership with academia and the private sector. However, in some countries innovation is still perceived mainly as technological or digital, and only few countries have dedicated programmes to promote awareness of non-technological innovation (Brunei Darussalam, Malaysia and Singapore).

Infrastructure such as science and technology parks, innovation centres, business incubators and accelerators, and technology transfer offices is important for ensuring that SMEs have access to the equipment and services necessary for innovation. Reliable and fast internet access is crucial for growth related to new e-services. The availability of infrastructure varies across the region. Some AMS offer a whole range that can benefit SMEs (Indonesia, Malaysia, the Philippines, Singapore and Thailand). An interesting example is Singapore's Centres of Innovation, which act as one-stop centres providing laboratory facilities, consultancy and training services, and assistance for SMEs to test and develop their technology projects. Some countries have made substantial efforts to

improve their infrastructure. For instance, Brunei Darussalam has established an “iCentre” (an incubator and co-working space for high-growth enterprises) and the Brunei Darussalam Bio Innovation Corridor. In Viet Nam, the National Technology Innovation Programme aims to establish 40 high-tech business incubators across the country. Although Cambodia, Lao PDR and Myanmar have limited infrastructure that could benefit SMEs, they have made efforts to promote innovation. Examples include Myanmar’s ICT Park and Lao PDR’s IT business incubation centre. The AMS that are strong performers in this sub-dimension are in line with the OECD good practice of combining infrastructure with soft support services. Some governments have dedicated instruments or programmes to support innovation, enabling providers like incubators, accelerators or innovation centres via collaboration with the private sector (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand). However, few use competitive processes to fund the innovation-enabling institutions.

Figure 4.3. Gross domestic expenditure on R&D (GERD)



Note: The graph illustrates the most recent data available for each country. Recent data is not available for Brunei Darussalam, Lao PDR and Myanmar.

Source: UNESCO (2018), http://uis.unesco.org/indicator/sti-rd-gerd-source_fund.

The majority of AMS have developed programmes to support SMEs in innovation and to promote collaboration between academia, the private sector and, in some cases, the public sector. These programmes include dedicated business support services as well as training, coaching or business-matching support (mentioned earlier under sub-dimension 1.2). They may also include financial assistance such as R&D grants, subsidies for R&D research, capital risk coverage or guarantee schemes, or innovation vouchers. Examples of OECD good practice suggest that governments should ensure that a variety of services are available for enterprises at different stages of their development. In ASEAN, while the general offer of innovation support provided by governments has improved in recent years, only a few countries (Malaysia, Singapore and Thailand) offer a range of support options. Business enterprises thrive on innovation and can leverage R&D performed in academia and the public space, which is often a driver of successful national innovation systems. Singapore offers a wide range of instruments designed for different stages of

SMEs. It has an Innovation and Capability Voucher and a Capacity Development Grant for SMEs to develop their business capabilities, a Growing Enterprise Through Technology Upgrade scheme ensuring secondment of researchers and engineers to more mature companies, and initiatives such as Tech Access that give SMEs access to special equipment and facilities for learning and experimenting.

In countries where innovation policies are new, the road is long to creating a basis for support structures, but they can “leapfrog” by adopting technologies from more advanced peers. Most initiatives in Cambodia, Myanmar and Lao PDR are funded by international donors. Although useful, these initiatives are insufficient to ensure systemic change.

Monitoring and evaluation: Policies should adjusted based on evaluation results

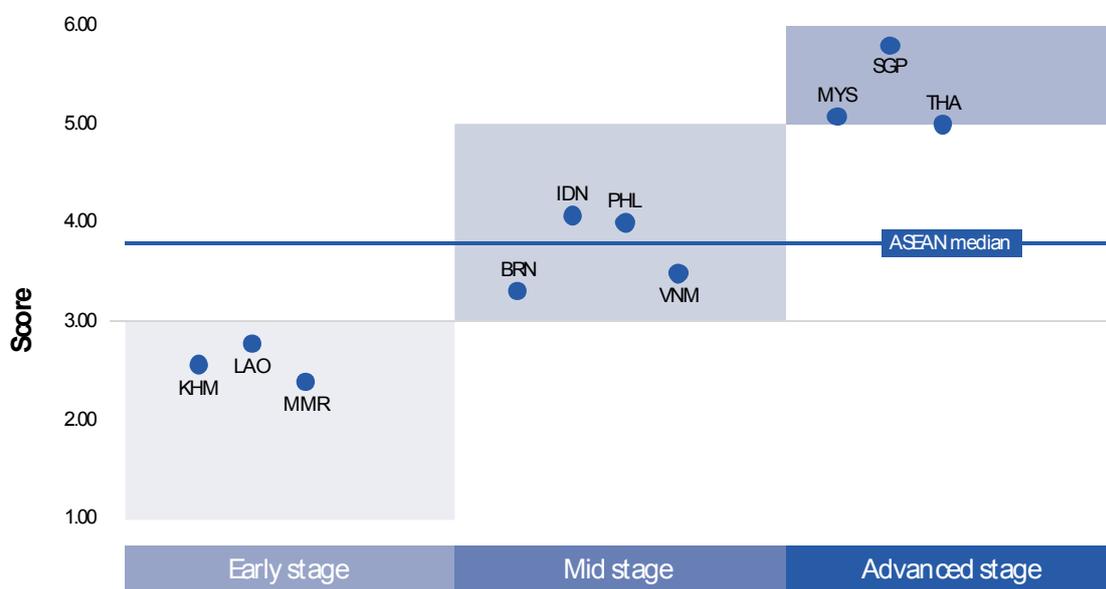
Most AMS have developed and are using at least some national performance indicators to monitor the performance of SME innovation policies (Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam). The difficulty of monitoring overall innovation policy and performance is that activities are spread across a number of stakeholders representing different agencies. Malaysia, for example, has several agencies dealing with innovation policy implementation, and this could be a challenge. A few countries, such as Thailand, have developed a national science, technology and innovation (STI) index that is published regularly.

Few AMS use independent evaluations by policy makers for adjusting policies and showcasing the tangible economic and social benefits of STI policies. Evaluation needs to be pragmatic, timely, transparent and actionable. Singapore offers an excellent example of independent reviews conducted on a regular basis.

The way forward

The ASEAN region has made considerable progress in this dimension but many AMS continue to face a number of challenges. At present, SMEs across the ASEAN region as a whole contribute a disproportionately small share to overall productivity gains. Their productivity tends to not only be much lower than that of large firms, but it also tends to be particularly low compared to the productivity of SMEs in other regions, like Europe or other Asian countries. Stronger productivity growth by SMEs, and stronger support services and innovation performance, will not only help the ASEAN region to strengthen its performance in global value chains but also boost both regional trade and the economic development of the region as a whole. The sophistication of policies to promote SME development in this area across AMS are indicated in Figure 4.4. A wide variation can be observed across the region as a whole, albeit with a number of trends.

The early-stage countries – Cambodia, Lao PDR and Myanmar – have only recently embarked on a journey of regional economic convergence. They still have to develop a number of policies from scratch and must further develop institutions and mechanisms that not so long ago were absent. They lack a strong research base and mechanisms for co-operation between academia and the private sector. Policy makers may also lack necessary skills and experience, and may be constrained by requests coming from the donor side. However, once the framework conditions and right policies are set up, these countries have an opportunity to leapfrog by learning from their peers.

Figure 4.4. Weighted scores for Dimension 1: Productivity, technology and innovation

Note: The graph demonstrates the level of policy development in each AMS indicated by the 2018 ASPI scores. Countries fall into one of three categories and are ordered in this category alphabetically.

The mid-stage countries – Brunei Darussalam, Indonesia, the Philippines and Viet Nam – have already created solid policy frameworks and are in the process of implementing their policies. They typically have a set of support instruments for SMEs to improve innovation and productivity and become more competitive. They have also established infrastructure including science parks, incubators, innovation centres and other facilities. The challenge for these countries is to find ways to collaborate with academia and the private sector and facilitate development of an ecosystem where a variety of stakeholders could create synergies. Monitoring mechanisms are generally already developed, but more efforts are needed to get a better understanding of the effectiveness of the existing support schemes.

The advanced-stage countries – Malaysia, Singapore and Thailand – have also developed solid policy frameworks and typically have a set of institutions in place to implement them. Often institutions have a certain degree of independence, and co-ordination is developed through councils or relevant committees. These countries not only offer a wide range of infrastructure for use by SMEs (science and technology parks, innovation centres, incubators, etc.), but also provide extensive support services that specifically target the various growth stages of SMEs and that focus on dedicated industries, often in partnership with the private sector. They also make use of vouchers that allow SMEs to benefit from the range of service providers available.

Moving forward, governments and policy makers could consider some of the following policy options:

Table 4.6. Policy recommendations to boost productivity, technology and innovation among SMEs

Level of policy	Challenges	Policy recommendations
Early stage <i>Cambodia, Myanmar and Lao PDR</i>	Weak institutions and policies that are either absent or have been recently embarked upon	<ul style="list-style-type: none"> • Promote enhanced productivity through a set of business environment reforms and policies to foster the emergence of productive firms. • Ensure capacity building of the staff of the policy-makers.
	Few mechanisms or instruments to support productivity and innovation promotion, often due to lack of budget	<ul style="list-style-type: none"> • Developing instruments and incentives for multinationals and large companies to collaborate with SMEs, sharing technology and approaches, could enable SMEs to become more competitive.
	Lack of awareness about the importance to improve productivity and innovation as well as relevant skillset among the policy-makers due to relatively recent focus on these areas	<ul style="list-style-type: none"> • Create awareness among the SME community about the importance of improving performance, competitiveness and innovation for the future of SMEs
	Lack of strong research base and mechanisms for co-operation between academia and the private sector	<ul style="list-style-type: none"> • Develop BDS and innovation-related infrastructure (BDS centres, incubators, accelerators, one-stop shops) integrating basic support services for SMEs and would-be enterprises.
Mid stage <i>Brunei Darussalam, Indonesia, Philippines, Viet Nam</i>	Weak mechanisms for collaboration of various stakeholders	<ul style="list-style-type: none"> • Further develop coordination mechanisms to ensure collaboration among different actors, such as a council or task force integrating academia and the private sector.
	Lack of support mechanisms supporting with individual requests and mechanisms	<ul style="list-style-type: none"> • Better match supply and demand for services, encourage the development of a sustainable and diversified market of private BDS providers and promote the use of their services through dedicated instruments such as co-financing or provision of vouchers. • Promote enhanced productivity through a set of business development services to improve information sharing between regional and national initiatives and develop awareness and on-line training sources. • Increase R&D investment and develop mechanisms for co-operation between academia and the private sector. • Develop instruments to promote collaboration between large companies and SMEs in industrial clusters.
	Monitoring mechanisms are generally already developed, but further evaluation mechanisms are still lacking	<ul style="list-style-type: none"> • Develop tools to support monitoring and evaluation and providing policy-options for policy-makers to ensure that clusters and productive agglomerations provide positive economic impacts
Advanced stage <i>Malaysia,</i>	The existence of a large number of initiatives by various institutions to promote MSMEs could potentially lead to confusion and create additional costs within the	<ul style="list-style-type: none"> • Ensure rationalisation of governance structures in order to avoid overlap of responsibilities among the various government institutions dealing with SME productivity enhancement, BDS and

Singapore and Thailand	government	innovation. <ul style="list-style-type: none"> • Further promote the available mechanisms and programmes among the SME population in order to increase awareness.
	Potentially high cost of running the relevant infrastructure to promote BDS and innovation among companies	<ul style="list-style-type: none"> • When designing innovation or BDS-related infrastructure, focus on the development of a sustainable business model.

Notes

¹ The Future Economy Council was formerly the Council for Skills, Innovation and Productivity. It is chaired by the Minister of Finance and is comprised of government, industry, union, and educational and training institution representatives. It is tasked with guiding and supervising the implementation of productivity enhancement programmes carried out by various government agencies under the 23 Industry Transformation Maps of the Industry Transformation Programme.

² For instance in Indonesia, where organisations such as the APO and the International Labour Organization have provided training sessions.

³ Goal 3 stipulates Brunei Darussalam’s aim to become a dynamic and sustainable economy by 2035.

⁴ In accordance with the ASEAN Comprehensive Investment Agreement.

⁵ In Brunei Darussalam this function is performed by the Ministry of Energy and Industry.

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