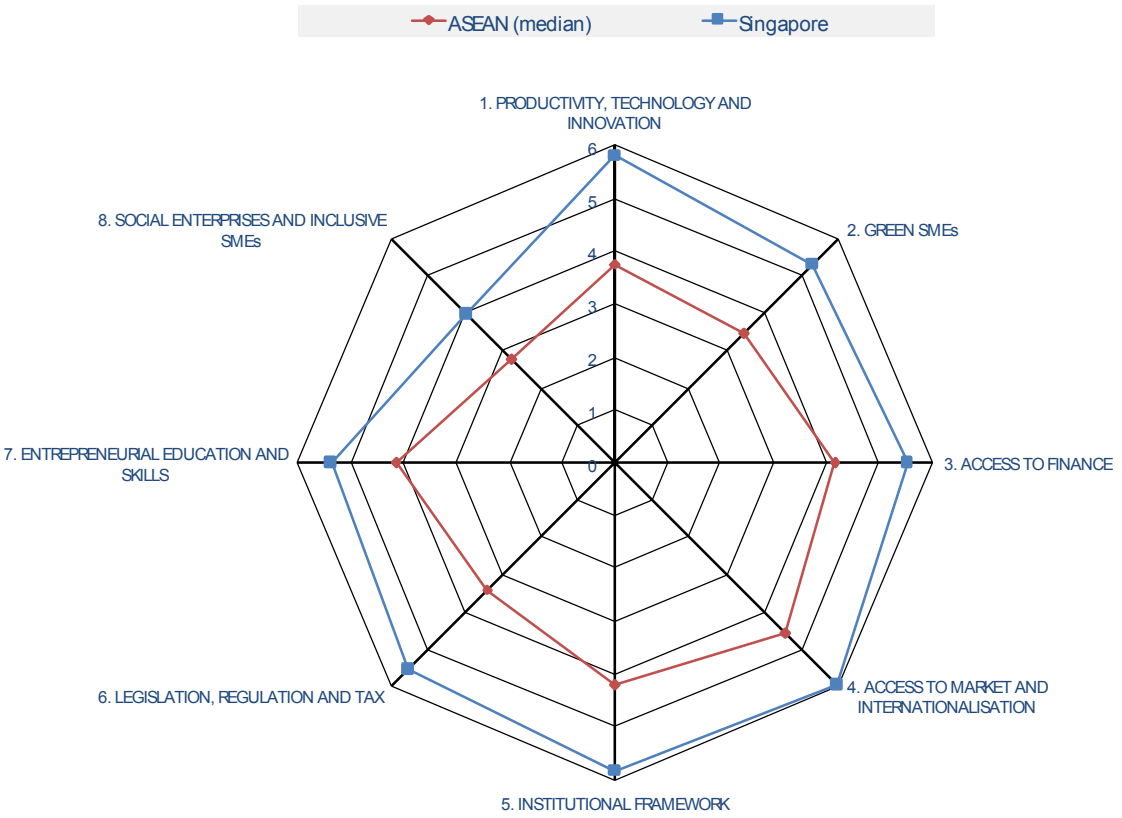
Chapter 19. Singapore

Singapore began to implement a targeted SME policy following a recession in the late 1980s, and it intensified the policy after the Asian Financial Crisis. From the outset, the country has adopted a "service delivery" approach to SME policy, providing services to help SMEs increase their competitiveness. Its main policy priorities are productivity enhancement and internationalisation. It has recently started to identify a number of priority sectors for targeted support as part of an initiative to prepare its enterprises for future economic changes. It has a demonstrated expertise in the area of SME policy, and is a model for many countries globally.

Figure 19.1. 2018 SME policy index scores for Singapore



Overview

Economic structure and development priorities

Economic structure

Singapore is a highly developed, open city state located on the Strait of Malacca. It has the 7th highest GNI per capita measured in purchasing power parity globally, standing at around Intl$ 85 190 in 2016 (World Bank, 2016[1]). With a small land mass and few natural resources, Singapore has carefully cultivated its human capital since independence, and this has enabled the country to achieve strikingly rapid economic development. Its population is highly educated, with an adult literacy rate of 97.2% and with 54.2% of the population aged over 25 holding a post-secondary qualification (UNESCO, 2016[2]). Its economy is overwhelmingly service driven: services account for 71.3% of GDP (World Bank, 2016[1]). Leveraging on its sound macroeconomic fundamentals, location and highly educated population, Singapore has become a regional and global hub for financial services and oil trading and pricing, as well as biotechnology. It has also become highly populated: the country has the third highest population density globally, with 5.6 million people inhabiting 719 km^2 (World Bank, 2016[1]).

Traditionally an entrepôt economy, Singapore has managed to transform its productive structure from a concentration in simple labour-intensive manufacturing (textiles and garments) at the time of its independence[1] to skill- and capital-intensive electronic goods

and financial services by the 1980s and 1990s. It has achieved this through an active and considered process of FDI attraction and integration into global and regional value chains since the 1960s. Particular efforts were made to incentivise electronics companies to relocate their more labour-intensive operations to Singapore, and by 1969 eight major semiconductor companies had established factories in the country, mainly from the United States.[2] In tandem, the government embarked upon a corrective wage policy, raising wages in order to force low-skilled, labour-intensive industries either to upgrade or to relocate. To boost its savings rate, it made contributions obligatory to the country's Central Provident Fund (CPF), and this enabled the government to increase public investment significantly. Public funds were used to upgrade infrastructure, invest directly in manufacturing companies and develop education and skills. Foreign companies were supported to further Singapore's development goals more directly, for instance via subsidies to train local workers, with these tools becoming more popular after the country's "second industrial revolution" in 1979. The government also implemented a raft of measures to promote the country as a maritime centre. Between 1960 and 1985, direct exports by manufacturing firms grew at an annualised rate of 22.1% (Vue, 1989[3]), and by the mid-1980s, Singapore had managed to create a number of specialised, high value-added manufacturing niches, while increasing its diversification into services.

Today electronic products constitute the largest share of its merchandise exports, led by integrated circuits (5% of total merchandise exports), and followed by computers and computer parts (1.7%) and telecoms equipment (0.4%) (MIT, 2016[4]). It has also maintained its comparative advantage in refining petroleum, developed in the 1970s, which today accounts for around 16% of exports. It is measured as being the fourth most complex export economy in the world, and having a revealed comparative advantage in 165 products. It is tightly linked into regional and global value chains, with a diverse range of export partners, but its principal export partners are to be found in the Asia-Pacific region: China absorbs 14.5% of Singaporean exports; followed by Hong Kong (12.3%) and Malaysia (10.6%) (MIT, 2016[4]). Today Singapore is the 14th largest export economy in the world and the 3rd most open, with a positive trade balance of USD 55.4 billion, and the world's second busiest container port after Shanghai (WSC, 2016[5]).

Table 19.1. Singapore: Main macroeconomic indicators, 2012-2016

Indicator	Unit of measurement	Year				
		2012	**2013**	**2014**	**2015**	**2016**
GDP growth	Percent, y-o-y	3.9	5.0	3.6	1.9	2.0
Inflation	Percent, average	4.6	2.4	1.0	-0.5	-0.5
Government balance	Percent of GDP	7.9	6.6	5.5	3.7	3.3
Current account balance	Percent of GDP	17.4	16.9	19.7	18.1	19.0
Export of goods and services	Percent of GDP	195.4	192.4	192.1	176.5	172.1
Imports of goods and services	Percent of GDP	171.7	169.2	167.7	149.6	146.3
Net FDI (inflows)	Percent of GDP	19.8	22.0	22.4	22.3	25.0
External debt	Percent of GNI	-	-	-	-	-
Gross reserves	Percent of external debt	-	-	-	-	-
Domestic credit to the private sector	Percent of GDP	115.2	127.1	131.7	128.8	132.9
Unemployment	Percent of active population	1.9	2.0	1.9	1.9	2.1
GDP per capita	PPP (constant 2011 intl$)	76 285.6	78 896.6	80 903.5	81 741.1	82 621.5

Source: World Bank (2017) World Development Indicators; IMF (2017) World Economic Outlook.

The country continues to exhibit strong macroeconomic fundamentals, with stable prices and very low unemployment. The economy has shown steady and generally high GDP growth since 2002, bar a contraction in 2009 as a result of the global financial crisis (after which it recovered with a GDP growth rate of 15.2% in 2010). Over the past five years it has managed to maintain a positive current account balance and a balanced budget, despite sluggish growth in 2015 and 2016 (under 3% annually). It has also experienced a period of muted inflation, which slumped to its lowest rate in 30 years in 2015 but has begun to pick up due to energy and administrative price increases as well as a recovery of the housing market. Going forward, the Singaporean government has stressed the need to increase productivity growth, which lags behind rates observed in other high-income countries, and to reduce the country's dependency on foreign labour, as well to increase the contribution of Singaporean enterprises to the national economy.[3] The rate of young people not in education, employment or training (NEETs) is also rather high, standing at 18.8% in 2017 (ILO, 2016[6]), and the country has a declining fertility rate (on average 1.3 between 2000 and 2005, 1.2 between 2010 and 2015), which is one of the lowest in the world today (World Bank, 2016[1]).

Reform priorities

Singapore's economic priorities until 2020 were elaborated by the Economic Strategy Committee (ESC) following its last sitting in 2010. The committee identified three overarching objectives: *i)* to maintain competitiveness; *ii)* to upgrade jobs; and *iii)* to raise incomes. The committee noted that there was a need to achieve all three objectives through economic growth based on productivity enhancement rather than by increasing the size of the country's workforce through foreign labour. To achieve a target GDP growth rate of 3-5% per annum from 2009 to 2019, the ESC recommended that Singapore aimed to reach and sustain productivity growth of 2%-3% per annum, more than double the 1% achieved between 1998 and 2008.

To reach its goals, the ESC identified three strategies: *i)* to upgrade skills; *ii)* to support Singaporean companies to tap into the broader Asian market (as well as to attract more international mid-sized companies to Singapore); and *iii)* to make Singapore a distinctive global city. Recommendations were outlined to realise each strategy (Table 19.2).

Table 19.2. Strategic objectives of the Economic Strategic Committee (2010)

Priority area	Recommendations
1. Boost skills in every job	Develop a nationwide Continuing Education and Training (CET) system
	Develop broad-based and targeted sectoral programmes
	Enhance fiscal incentives for companies to innovate and improve efficiency
	Progressively increase foreign worker levies
2. Deepen capabilities of Singaporean companies to seize opportunities in Asia	Derive commercial value from R&D (increase R&D expenditure to 3.5% of GDP)
	Develop financing capabilities to take advantage of the opportunities in Asia
	Develop stronger alliances between large and small players to promote technology transfer, test-bedding and commercialisation
3. Transform Singapore into a global city	Develop creative and art clusters and provide opportunities for diverse talents to grow and develop
	Develop infrastructure necessary to provide the highest quality of life by developing a masterplan of a new waterfront city at Tanjong Pagar, and develop distinct eco-towns and residential precincts

Source: ESC (2010), https://www.mof.gov.sg/Portals/0/MOF%20For/Businesses/ESC%20-Recommendations/ESC%20Full%20Report.pdf.

Building on the work of the ESC, the Committee on the Future Economy (CFE) was convened in January 2016 to develop economic strategies for Singapore over the next decade. This was regarded as necessary given significant structural shifts in the global environment, such as sluggish economic and productivity growth worldwide, changing global value chains, heightened anti-globalisation sentiment in some economies and rapid technological change driving shorter innovation cycles, disrupting entire industries and displacing their workers. Amid these challenges, the CFE highlighted many opportunities for Singapore over the next decade. These are strongly supported by the country's close proximity to booming growth markets in Asia, and by competitive Singaporean enterprises in several growth sectors such as finance, hub services, logistics and urban solutions. The digital economy also presents opportunities to transform industries, while new technologies can help to raise productivity in sectors like advanced manufacturing.

In its recommendation, the CFE outlined a vision for Singaporeans of today to be pioneers for the next generation. In the future economy, Singapore citizens should have deep skills and be inspired to learn throughout their lives. Singapore businesses should be innovative and nimble. The city state should be vibrant, connected to the world and continually renewing itself, while the Singapore government should be co-ordinated, inclusive and responsive. To achieve this vision, the CFE identified seven mutually reinforcing strategies and proposed recommendations on their implementation (Table 19.3).

Table 19.3. Strategic objectives of the Committee on the Future Economy (CFE)

Strategies	Recommendations
Deepen and diversify international connections	Press on with trade liberalisation
	Set up a Global Innovation Alliance
	Deepen knowledge of markets
Acquire and utilise deep skills	Facilitate acquisition of deeper skills
	Strengthen utilisation of skills
Strengthen enterprise capabilities to innovate and scale up	Strengthen our innovation ecosystem
	Support enterprises to scale up
	Encourage private sector to provide more growth capital
Build strong digital capabilities	Help small and medium enterprises adopt digital technologies
	Build deep capabilities in analytics and cybersecurity
	Leverage data as an asset
Develop a vibrant and connected city of opportunity	Invest in our external connectivity
	Continue to plan boldly to rejuvenate the city
	Build partnerships for a vibrant city
	Develop exportable capabilities
Develop and implement Industry Transformation Maps (ITMs)	Tailor ITMs for each industry
	Maximise synergies across industries
Partner each other to enable innovation and growth	Encourage trade associations and chambers and unions to work together
	Create a regulatory environment to support innovation and risk-taking
	Use lead demand to develop promising industries
	Review and reshape Singapore's tax system
	Create a sustainable environment

Source: Report of the Committee on the Future Economy (2017), https://www.gov.sg/microsites/future-economy/the-cfe-report/overview.

In its report, the CFE aims for the Singaporean economy to expand by 2% to 3% a year on average, exceeding the performance of most advanced economies, and for this to be accompanied by sustainable wage growth and the creation of good jobs for Singaporeans. The CFE also called for tailored Industry Transformation Maps (ITMs) to guide the economic restructuring of 23 industry sectors in the five ensuing years. The ITMs are formed around four priority pillars: innovation; productivity; jobs redesign and upskilling; and internationalisation. They seek to identify and address industry shortfalls and needs through a process of interagency and public-private collaborations.

The Singaporean government accepted all recommendations by the CFE in March 2017. Implementation of the committee's recommendations was to be overseen by the Future Economy Council (FEC), which was formed to drive the growth and transformation of Singapore's economy for the future. The FEC is chaired by the Minister for Finance and comprises representatives of government, industry, unions and educational and training institutions.

Private sector development and enterprise structure

Business environment trends

Singapore remains one of the most market oriented and open economies in the world and hosts a vibrant private sector. It consistently scores high on global indices of country competitiveness, the business environment and public sector efficiency, and it has invested heavily in education and infrastructure over many years. As a result, it is an attractive location for many multinational corporations (MNCs), and absorbs a significant share of ASEAN FDI (55% in 2016) (ASEC, 2017[7]). Singapore is known as a global financial hub, and most FDI flows into financial and insurance services.[4]

While firms face few barriers to doing business, Singapore has come under increasing pressure from the private sector to reform its rather restrictive foreign manpower regulations. These regulations, initially introduced in 2009 to stymie burgeoning foreign manpower numbers, made it both more expensive and more difficult to hire foreign workers. The steps were designed to encourage employers to increase the productivity of Singaporeans rather than relying too heavily on a steady tap of foreign workers. The private sector is increasingly expressing concerns that this policy may prevent businesses from meeting a growing need for skills, for example in the tech sector. The 2018 budget announced a deferral of foreign-worker levy hikes for the marine and processing industries, but it contained few changes overall, including in key growth sectors. The issue is also a political one. The government has stated that it will review the policy over the long term, but that it is unlikely to change course in the near future.

SME sector

There are an estimated 220 100 enterprises operating in Singapore, of which 99% are MSMEs (Singstat, 2017[8]). Information is not publicly available on the precise disaggregation by firm size.

Singaporean MSMEs appear to demonstrate a structural contribution to the economy similar to MSMEs in other ASEAN and OECD countries. They accounted for 49% of nominal value added and 65% of employment in 2017.

SME policy

SME policies first comprehensively entered the policy agenda in 1986, and from the outset they were tied to the country's economic competitiveness objectives. The move followed the country's 1985 recession and a realisation among policy makers that they would need to build up indigenous productive capacity, moving away from the country's previous focus on MNCs and large government-linked companies as the main drivers for economic growth. This was signalled by the development of a landmark Economic Development Board (EDB) report, *Singapore Economy: New Directions*, which noted that SMEs accounted for 90% of the country's total business establishments, yet they lagged behind their foreign counterparts in terms of productivity, management skills, marketing and technology. It was decided that in order to augment resilience and growth in the Singaporean economy, these establishments would require targeted support to increase their competitiveness.

That year, a Small Business Unit was established within the EDB, and the following year the EDB established an SME Committee to formulate a Master Plan for SME development. The committee was comprised of six government agencies: the National Computer Board (NCB), National Productivity Board (NPB), Singapore Institute of Standards and Industrial Research (SISIR), Singapore Tourist Promotion Board (STPB), and the Trade Development Board (TDB). Its SME Master Plan of 1989 outlined five strategic thrusts for SME development around the concept of boosting SME productivity and internationalisation. A second push came in 1996, when units working on SME issues within the EDB were merged with the National Productivity Board. This new entity was named the Productivity and Standards Board (PSB) and was made responsible for SME policies, among other things. In the same year, SME First Stop was launched, as well as initiatives such as the SME Enterprise Development Growth and Expansion Programme. A third push came in 2001 with the launching of SME 21, the second SME Master Plan. It had three innovation-oriented strategic goals: grooming innovative, high-growth SMEs; developing productive SME sectors; and creating a knowledge-based, pro-enterprise environment. In 2002, the PSB was renamed Standards, Productivity, Innovation and Growth (SPRING).

2018 ASPI results

Strengthening the institutional, regulatory and operational environment (Dimensions 5 and 6)

Singapore has an advanced institutional framework for the development of SME policy, and this is reflected in its Dimension 5 score of 5.85. Its public sector is highly adaptive and dynamic, and fosters co-ordination among different government bodies in both design and practice. All strategic plans are developed with key performance indicators (KPIs), and private-sector feedback is solicited on both the design of MSME policies and programmes and the operation of the MSME agency. The private-sector voice is institutionalised and selected to represent the country's broader development strategies. Similar observations hold for the development of the legal and regulatory environment for MSMEs, with the country achieving a Dimension 6 score of 5.52. Singapore has undergone a process of regulatory review and reform, with a consideration of MSMEs, and has developed simplified procedures and platforms for filing tax and social security forms, as well as company registration. Policies and programmes are constantly monitored, and the realisation of targets assessed.

Framework for strategic planning, design and coordination of SME policy

The main body responsible for elaborating SME policy in Singapore is the Ministry of Trade and Industry (MTI), which is responsible for formulating, leading and co-ordinating all enterprise development strategies, including strategies for start-ups and SMEs. MTI works closely on this with its statutory boards, such as SPRING and International Enterprise (IE) Singapore, and with other government agencies, such as the Info-communications Media Development Authority (IMDA), in consultation with industry representatives including SMEs, as well as representatives of academia and civil society. Enterprise development strategies can also be formulated through committees or task forces involving industry and trade associations, employers, trade unions and government agencies. These committees are tasked with reviewing and providing feedback or advice on enterprise development strategies, and include the Committee for the Future Economy and the Future Economy Council.

SPRING has been the main body responsible for the implementation of SME policy. It was formed in 2002 by the Standards, Productivity and Innovation Board Act (chapter 303A) as a statutory board under MTI to support the growth of Singaporean enterprises. Under this act, SPRING has full autonomy over staff hiring decisions as well as operational structure. As of 2017, it had around 400 staff and access to a core budget of SGD 2.3 billion (Singapore dollars) over five years (FY2016-FY2020), under the fifth tranche of the Enterprise Development Fund (EDF 5), which it shares with International Enterprise (IE) Singapore. At the end of 2017, it was announced that SPRING and IE Singapore would be merged to form Enterprise Singapore in order to help Singapore-based enterprises (both MSMEs and large enterprises) grow and expand overseas. (The merger took place on 1 April 2018; this report reflects the situation before the merger). Alongside EDF 5, which represented a 164% increase over EDF 4 (FY2011-FY2015), SPRING can also tap into other budgets, such as the Industry Transformation Programme (SGD 4.5 billion) and the "innovation and enterprise" component of the Research, Innovation and Enterprise 2020 Plan (RIE2020), which is apportioned SGD 3.3 billion). SPRING has a 17-member governance board, over half of whom are executives of leading companies based in Singapore. Alongside its SME development portfolio, SPRING is also the country's national standards body and national accreditation authority, as well as the lead agency tasked with implementing the country's industry transformation maps for retail, food manufacturing and food services.

Since Singapore is a city state, policy co-ordination can generally be met in a simpler and leaner way than is possible in larger territories. It achieves policy co-ordination by integrating complementary government bodies into its institutional structure: representatives of IE Singapore, the EDB, the Central Provident Fund Board and the Ministry of Defence all sit on SPRING's governance board. Policy co-ordination is also achieved through a requirement to report regularly to MTI, which houses the majority of agencies tasked with enterprise development. In turn, SPRING also participates in committees run by other government agencies that touch on topics that may concern SME development, such as the Land Planning Committee. A specialised committee for the development of SME policy was established in the country's gear-changing phase, as it formulated its two master plans for SME development in the late 1980s and early 2000s. A review of strategies for the SME sector was carried out in April 2012 by MTI, SPRING and IE Singapore, in close partnership with stakeholders from the SME community. Several strategies that were sharpened and enhanced through this review were integrated into Singapore's 2016-2020 SME development strategy. SME development strategies

have also been assessed at national policy review platforms, such as the ESC in 2010 and the Committee of the Future Economy in February 2017.

SPRING's SME development strategy for 2016-2020 featured three strategic thrusts: to enhance enterprise productivity, innovation and resilience; to create good jobs; and to develop trust in Singaporean products and services on the world stage. Alongside these horizontal aims, the strategy outlined five policy pillars that focused on developing competitive sectors and catalysing growth opportunities for targeted enterprises, chiefly through capability and business environment enhancement, human capital development, the strengthening of quality and business excellence standards, and the provision of conformance infrastructure. It was implemented using EDF 5, and was developed with a wide range of stakeholders.

Singapore collects data on its SME population to monitor changes in production structure and enterprise characteristics. It collects data on firms disaggregated by size in key sectors, but only aggregated data on the SME population is available to the public. These statistics were fed into the development of policies and programmes, as well as the monitoring and evaluation of their impact. Strategy design and implementation are evaluated in line with KPIs that were elaborated during the design phase. SME data are used as an input to assess impact.

Scope of SME policy

Singapore's current SME definition took effect in 2011 and was publicised via a press release distributed by SPRING. The new definition was elaborated following an observation that the country's production structure was changing, moving towards more asset-light industries (those possessing fewer fixed and more intangible assets). The definition's fixed assets criterion was replaced with sales turnover, and the threshold was determined based on a corporate transition matrix analysis and a longitudinal study of companies in Singapore. The study found that SGD 100 million seemed to be the point at which a company was significantly less likely to fall back down below turnover of SGD 100 million, and that after this point a company seemed to possess the skill and resources to sustain growth organically. The new definition is not a legal definition, but it is the dominant definition used by the government. SPRING is the body responsible for reviewing this definition, but any revisions must be approved by MTI. Firm size classification can be determined by either annual sales turnover or employment size.[5] The public definition does not distinguish micro, small and medium-sized enterprises, since most public support programmes are made available to all MSMEs and it is hoped that this will increase ease of use for firm owners looking to access support schemes. Parameters for this disaggregation have been determined, however, and they are used internally by government agencies and ministries to monitor and develop SME policies and programmes. To qualify for SME policies and programmes, an enterprise must be classified as an SME and be able to demonstrate a minimum of 30% local shareholding.

Table 19.4. Singapore's SME definition

Size classification	Indicator	Sector
		All
MSMEs	Sales turnover	= S$100 million
	Employment	= 200

Source: SPRING (2011).

Singapore's informal economy is negligible, and so there are very few enterprises that could be automatically excluded from SME policies and programmes. The informal economy in Singapore generally refers to flexible and secondary jobs that might not show up in business surveys, such as babysitters, freelance tutors or those earning an income from the "sharing economy." Own-account workers or primary freelancers account for around 180 000 workers in Singapore, or approximately 8% of the working population, but such activities are typically excluded from SME development policies in any case.

Development of legislation and regulatory policies affecting SMEs

Singapore adopts good regulatory practices in the development of legislation and regulatory policies, including those affecting SMEs. A process of business-oriented regulatory reform, concerned with the elimination of unnecessary or excessively onerous rules, has been ongoing for around 20 years. In 2000, the government established the Pro-Enterprise Panel (PEP), a forum in which firms can draw attention to rules and regulations that may be hindering their operations, and propose a review. The PEP is chaired by the head of civil service and its members consist of both public and private sector representatives.

MTI has also established a Research and Enterprise Division (RED), charged with creating an enabling business environment for Singaporean enterprises to form, compete and grow. RED's tasks include regularly reviewing the tax environment and financing landscape and integrated multi-agency government e-services so that enterprises do not face unnecessary barriers to growth. In this task it works closely with other government agencies such as IE Singapore, SPRING and the Agency for Science, Technology and Research (A*STAR), as well as other public and private stakeholders.

Singapore continues to adopt a risk management approach in designing regulation, focusing its resources on high-risk areas while reducing administrative burdens for in lower-risk areas (USAID, 2016[9]). Legislation and regulations are developed using a process of public-private consultation and impact analysis. The country invests rather highly in consultation, using tools such as focus groups, surveys, feedback forums and town hall meetings. The public is invited to provide anonymous feedback on proposed regulatory amendments to the implementing government body via the country's REACH platform. For key legislative amendments, a two-step consultation process is used comprising an initial round of general feedback from the public, followed by the development of public consultation documents that outline the context for the proposed amendment, potential issues and focus areas for comment, as well as the options being considered. These documents are distributed to key stakeholders for comment, and posted on the REACH platform (USAID, 2016[9]). The SME Committee of the Singapore Business Federation regularly participates in consultations, and a guidebook on conducting a good-practice public-private partnership was prepared by the Ministry of Finance in 2012 and is available online. Alongside this process, most agencies also attach features such as sunset clauses to new rules, enabling them to lapse automatically after a certain date. Proposed and current rules are regularly assessed for impact, and regulators can utilise a number of tools and learning materials, such as a Smart Regulation Checklist developed by the SRC, or training modules developed for civil servants on smart regulation and regulatory impact analysis (RIA).

Ease of company registration and filing tax

Starting a business in Singapore currently takes 2.5 days, costs 0.5% of per capita income on average and involves three procedures (World Bank, 2017[10]). To start a business, an individual must undertake the following steps: *i)* register online with the Accounting and Corporate Regulatory Authority (ACRA), complete a company name search and file the company's incorporation and tax number; *ii)* make a company seal (this has not been mandatory since 2017, but it remains commonly practiced); and *iii)* sign up for Employee Compensation Insurance at an insurance agency (pursuant to Section 23(1), chapter 354, of the Work Injury Compensation Act). Since 2007, firms can complete the full incorporation process through Bizfile, an electronic filing system. Bizfile+, a revamped version of this system launched in January 2016, can be accessed using a SingPass ID, a unique digital identity that can be used for accessing a broad range of government services online. Typically a user will submit a registration application via Bizfile, the application will be processed by the system and, if the application fulfils ACRA's registration criteria, an email will be generated to confirm registration and to issue a unique identification number. In 2017, this was streamlined from two processes to one. Guidance on how to complete company registration is available via ACRA's *"How To" Guide*, as well as via an online platform, the SME Portal, which provides policy and programme information to SMEs through each stage of their business cycle. Guidance can also be sought physically, via the country's SME Centres. In addition, some transactions can be completed via a mobile application, ACRA on the Go.

To improve the ease of obtaining licenses, the government has also rolled out a one-stop business licensing portal, LicenceOne, since 2014. Its features include an integrated application for multiple licences from different agencies and an integrated dashboard to check the status of applications. Currently more than 100 licences can be obtained on LicenceOne.

To comply with tax filing requirements, a standard limited liability company would typically have to file five payments a year, taking 64 hours and representing 20.3% of total profits. In 2017, Singapore increased the ease of filing tax by introducing improvements to the online system for filing corporate income tax and VAT returns. These two payments accounted for the bulk of time required to file tax, taking around 24 and 30 hours respectively. Singapore also increased the social security contribution rate charged to employers, and allowed the 30% rebate on vehicle tax to expire (World Bank, 2017[10]).

E-governance facilities

Singapore has been ranked 4th globally in the biennial United Nations *e-Government Survey* (UN, 2017[11]) and 1st globally in the annual *Global Information Technology Report* (WEF, 2016[12]). Since the 1990s, employers and citizens have been able to file social security contributions to the Central Provident Fund online, as well as tax via a portal of the Inland Revenue Authority of Singapore. Since 2003, citizens have been able to utilise their SingPass ID to conduct transactions with the government online. Since 2016, this has been extended to firms, which can now access a single corporate digital identity, CorpPass, to conduct online transactions with the government. CorpPass, developed in consultation with industry partners and pilot users, is owned by the Ministry of Finance and managed by the Government Technology Agency (GovTech). More than 200 government digital services, managed by about 60 government agencies, have required CorpPass as a login method since December 2017. In addition, firms can now

access public grants through online facilities such as the Business Grants Portal (BGP), launched in Q4 2016 as a one-stop shop for businesses to identify and apply for the right grant, with ten grants on offer by the end of 2017. To increase the ease of applying for a grant, a company's profile information is automatically filled into the application form, eliminating the need for companies to fill out multiple application forms. GovTech Singapore conducts an annual survey on satisfaction with digital government services, and various government sites feature a mechanism to solicit feedback from the public.

Facilitating SME access to finance (Dimension 3)

Singapore has a well-developed financial sector according to global indicators: it has been ranked 3rd for financial market development (WEF, 2017[13]) and 29th globally for the ease of getting credit (World Bank, 2017[10]). There is a very high level of financial intermediation in the economy, with domestic credit to the private sector, a proxy measure of this, standing at 132.9% in 2016. Financial institutions, in particular banks, constitute the main source of SME financing. The country's Dimension 3 score of 5.69 reflects its high level of financial market development and the relatively wide range of products available to SMEs, as well as the range of measures implemented by the government.

Legal, regulatory and institutional framework

Singapore has strong framework conditions for supplying finance. Facilities to assess and hedge against credit risk have been made available and functional. A credit reporting system has been put in place, and the task of providing credit information is fulfilled by a number of private credit bureaus, of which the largest is the Singapore Commercial Credit Bureau. Credit information covers around 67.8% of the adult population, and both positive and negative data are provided covering a period of at least two years.[6] Data on SMEs is also available. Since 2010, data has also been collected on firms and loan amounts below 1% of income per capita distributed, meaning that very small firms can also build up a credit history. Measures have recently been taken to enhance consumer protection. In 2016, the Parliament passed a law (the Credit Bureau Bill) making it obligatory for credit bureaus to be licensed and supervised by the Monetary Authority of Singapore (MAS) in order to guard the confidentiality, security and integrity of borrower data. Borrowers also have the right to access their data by law. As a value-added service, Singapore's credit bureaus also provide credit scoring for banks, lowering credit appraisal costs.

Financial institutions can also make use of contracting elements such as securitisation to mitigate credit risk. Clear rules over perfection and priority are generally in place, and both immovable and movable asset registers are functional and regularly updated. The movable assets register is managed by ACRA, while the cadastre is managed by the Singapore Land Authority (SLA). Singapore has undertaken steps to enhance its cadastre since the last assessment, first by introducing an online procedure for property transfers (2014), and then by introducing an independent mechanism to report errors on titles and maps (2017). Going forward, financial institutions may still face uncertainties in the secured transaction framework for lending to unincorporated entities, and this may particularly affect SMEs. In addition, steps could be taken to centralise the movable assets register and make it notice-based. These measures would increase clarity over the ownership of collateralised assets and the order of priority in the event of insolvency.

In terms of equity financing, Singapore has a stock market in place, and the capitalisation of its bourse, the SGX, reaches around 228% of GDP (World Bank, 2015[14]). The SGX has had a specialised platform for SME listing in place since 1987, when the SESDAQ was formed to meet the funding needs of SMEs, including high-tech start-ups. This board was replaced in 2008 by Catalist, a sponsor-required listing exchange,[7] which has sought to encourage more innovative start-ups to list by significantly decreasing administrative hurdles. Firms applying to list on Catalist can now complete the process in five to six weeks, compared to 12-17 weeks under the SESDAQ, and firms no longer have to demonstrate minimum indicators of accomplishments, profits or share capital requirements. As of December 2017, 200 companies were listed on Catalist (200 primary listings, with 1 IPO), with a combined market capitalisation of SGD 12.8 billion (SGX, 2017[15]), making it the largest junior board in ASEAN. To facilitate listing, government agencies occasionally partner with the SGX to deliver tailored programmes to targeted firms. However, Catalist still faces some issues in attracting mid-size firms to list, and it underperforms its predecessor SESDAQ here. Medium-sized firms may not meet the listing criteria for the SGX's main board, but they may also not need the special features that make Catalist attractive to small and innovative young firms (such as the requirement to obtain a sponsor). These features facilitate riskier financing, but tend to increase the cost of listing and may not be relevant for many medium-sized firms. Catalist's risk orientation has also excluded access to big-ticket investors such as the Central Provident Fund, which only allows its members to continue investing in firms that were formerly listed on SESDAQ if these companies had already qualified as CPF Investment Scheme investments. It is also rare for firms to graduate from Catalist to SGX's main board: only 17 firms had graduated by Q2 2016. Steps have been taken to bridge these gaps. The InvestorOne platform, which aims to raise the profile of Catalist-listed companies and increase its capitalisation, went live in 2017. This initiative is private-sector driven, the result of a partnership between SGX, through its Investor Education Fund, and two Catalist sponsors.

Sources of external finance for MSMEs

A wide range of financial products are available to Singapore's SMEs. The most common form is credit-based loan products provided by banks, and collateral requirements are relatively low. Policy makers tend to favour the extension of a credit line to incentivise SME financing. Credit lines are provided for a wide range of SME financing needs including working capital, equipment financing and factory financing. Sixteen financial institutions currently participate in loan schemes run by Enterprise Singapore (SPRING Singapore at the time of information gathering and validation), and around 10 000 loans (amounting to a total credit volume of around SGD 2 billion) are supported by this credit line each year. The government also supports SME financing through a number of risk-sharing instruments, which are sometimes targeted at specific sectors. In 2016, for instance, SPRING announced the reintroduction of the Bridging Loan for Marine & Offshore Engineering Companies to provide one-off financial support for companies in the sector in the context of an industry recession. The government also provides schemes to promote SME access to export financing, including the Loan Insurance Scheme (LIS/LIS+), the Trade Credit Insurance Scheme (TCIS), the Trade Facilitation Scheme (TFS), and the Internationalisation Finance Scheme (IFS). All four schemes are run by Enterprise Singapore (IE Singapore at the time of information gathering and validation) and are monitored by the Account-General's Department (AGD), which conducts internal and external evaluations of their impact. Approximately 240 international trade-related

loans (amounting to SGD 730 million) that were extended in 2017 were supported by these schemes.

Singapore was not scored for microfinance due to the small size of its territory and its high level of income per capita. Individuals and micro enterprises that cannot access standard bank loans because they own insufficient assets to collateralise and/or lack a credit history can make use of "micro loans" provided by financial institutions.

Equity instruments are widely available for viable firms in Singapore. The country is the primary recipient of private equity and venture capital (PE/VC) funding in ASEAN, with deals worth USD 3.2 billion in 2017 (EY, 2018[16]). The majority of deals took place within the technology and real estate sectors (EY, 2018[16]). Private equity is substantially more available than venture capital. In 2016, 90% of total PE/VC assets under management in Singapore were private equity assets, although VC investments have been increasing rapidly. The government has developed initiatives to catalyse the supply of venture capital, including measures to reduce regulatory and tax burdens, such as a tax exemption for VC funds, and the elimination of a requirement that VC managers have at least five years of experience to qualify for local registration (in 2017). Initiatives also include incentive programmes, such as StartupSG Equity, in which the government will co-invest in a start-up with an independent third-party investor. Another example is the Early Stage Venture Fund, in which the government would seed funds to selected VC firms that wish to invest in Singapore-based, early-stage tech start-ups. PE/VC and crowdfunding platforms are all regulated by the MAS under regulations on securities, futures and financial advisors, and all must obtain a capital markets service license to operate. The MAS is now working on developing its regulatory oversight of Fintech via a regulatory sandbox approach.

Enhancing access to market and internationalisation (Dimension 4)

Singapore stands out as a leader in promoting SME internationalisation in the region. With its limited domestic market, the country has long recognised the importance of accessing foreign markets and promoting local businesses to go global. Its score of 5.94 for this dimension reflects its advanced level of policy development.

Export promotion

IE Singapore was the main government agency for promoting international trade.[8] Quality market intelligence and export guides were easily accessible on its website. To help traders achieve sustainable export success, IE Singapore provided key information on matters from market selection to legalities. Comprehensive information on free trade agreements (FTAs) was also available. Traders could subscribe to detailed trade statistics published by IE Singapore through its Statlink initiative. To help traders identify key challenges and develop good export strategies, IE Singapore ran an iAdvisory Workshop on exporting that traders can attend by paying a fee. Traders could access other IE Singapore workshops, for example on export strategy and FTAs, and can receive in-market support from 35 overseas centres established by the agency.

IE Singapore also provided assistance to reduce financial costs and other burdens on businesses when they enter new markets abroad. This assistance has been particularly beneficial for SMEs. Through its Market Readiness Assistance Grant, for example, IE Singapore supported up to 70% of eligible costs from activities such as overseas market set-up, identification of business partners or overseas market promotion for SMEs with an annual turnover of less than SGD 100 million, based on the most recent audited report.

Likewise, its International Marketing Activities Programme supported up to 70% of eligible expenses for conducting overseas business missions and participating in international trade fairs. Meanwhile, Double Tax Deduction provided 200% tax deduction on eligible expenses for supported market expansion and investment development activities such as marketing and promotion. All of these services will continue to be provided by Enterprise Singapore, which was formed with the merger of IE Singapore and SPRING Singapore on 1 April 2018 and remains a statutory board under the Ministry of Trade and Industry.

Integration into GVCs

Integrating SMEs into global value chains (GVCs) is a key feature of many government initiatives to develop Singapore's industries and promote innovation. MTI and its statutory boards – the EDB, SPRING and IE Singapore – are the main government agencies that support SME growth by strengthening their integration into wider production networks. A key initiative is the Partnership for Capability Transformation (PACT), which is jointly administered by the EDB and SPRING Singapore. PACT was rolled out by the EDB in 2010, with government funding of SGD 250 million, to promote partnerships between original equipment manufacturers and their suppliers, including SMEs. In 2013, another SGD 55 million was allocated for PACT under the Enterprise Development Fund. Under the PACT initiative, SPRING worked with large companies to promote knowledge transfer to at least one SME, to support capability upgrading for a large company's new or existing suppliers and to develop and test innovation between a large company and at least one SME. Participating SMEs gained opportunities to develop linkages with larger companies and upgrade their ability to develop innovative products. PACT covered up to 70% of the funding of approved development projects.

PACT was enhanced in 2017 with a new SGD 80 million programme called Gov-PACT through which the government supports SMEs and start-ups in developing and testing innovations. Under the programme, participating government agencies identify needed innovations and seek partners through calls for proposals. Participating companies go through the different stages of product development from the idea stage to pilot runs with the support of the lead demand agency. The opportunity to supply solutions to the government will not only help SMEs and start-ups build their innovation capabilities, but will also allow them to establish a track record with the government, which can then serve as their reference customer for scaling up locally or expanding overseas.

The Local Enterprises and Association Development (LEAD) programme, jointly administered by SPRING and IE Singapore, also worked to promote SME integration into GVCs. LEAD's budget has been increased from SGD 90 million to SGD 100 million for the 2016-2020 period (MTI, 2017), with more trade associations and chambers (TACs) engaged under the programme. Under LEAD, TACs would take the lead in industry development to improve the overall capabilities of local SMEs and foster their internationalisation efforts. By 2017, more than 8 300 local SMEs were expected to have benefitted from projects led by TACs since May 2016. Through another initiative called Collaborative Industry Projects (CIP), TACs were encouraged to work together to develop solutions that could potentially help SMEs upgrade their capabilities to move up the value-chain and co-explore market opportunities. Both SPRING and IE Singapore had robust monitoring and evaluation mechanisms in place, but neither released associated reports publicly.

Use of e-commerce

Singapore's evolving digital landscape provides SMEs with abundant opportunities to grow and venture overseas. The country's new SMEs Go Digital programme, launched in April 2017, aims to help SMEs use digital technologies and strongly participate in the digital economy. It is an inclusive approach co-ordinated by Infocomm Media Development Authority (IMDA) Singapore. Under the programme, IMDA works with sector leaders to develop Industry Digital Plans (IDPs) that provide SMEs with step-by-step advice on the digital technologies to use at each stage of their growth. The IDPs help them to acquire advanced capabilities in cybersecurity, data protection and data analytics. IDPs for SMEs have been rolled out for the logistics and retail sectors, while IDPs for food services, wholesale trade, environmental services and security services are currently being developed. SMEs can participate in industry-led sector projects that can uplift entire sectors, where SGD 80 million has been allocated.

Under SMEs Go Digital, SMEs can purchase pre-approved digital solutions; by April 2018, around 100 such solutions had been made available. SMEs can also reach out to Singapore's SME Centres for advice on e-commerce, and those with more advanced digital needs can be referred to the SME Digital Tech Hub. IMDA performs regular monitoring and evaluation of the SMEs Go Digital programme to ensure its efficiency and effectiveness.

Initiatives to help SMEs better utilise e-commerce include programmes conducted in partnership with the private sector. An initiative called 99% SME aims to help SMEs accelerate their digitalisation. It was launched by Singapore Telecommunication (Singtel), Mediacorp and the Development Bank of Singapore (DBS) in partnership with Lazada. Through this initiative, SMEs are offered a free e-marketplace at the Lazada site, where they can reach a wider range of consumers (Lee, 2017[17]). Another example is a Collaborative Industry Project, which is conducted in collaboration with Stridec, a leading e-commerce consultancy. It aims to provide high-class e-commerce consultancy and training for SMEs at subsidised prices.

On the legal front, Singapore has equipped itself with regulations on e-commerce, e-payment and consumer protection. The Electronic Transactions Act (ETA) 2010 serves as the legal framework for e-commerce and e-payment issues, while the Personal Data Protection Act (2012) deals with consumer protection in digital transactions. Singapore's ETA closely follows the United Nations Convention on the Use of Electronic Communications in International Contracts, adopted by the General Assembly in 2005. Singapore was among the first countries to implement this convention.

Quality standards

Singapore recognises that robust quality standards and conformance infrastructure are important for building trust in its products and services and helping Singaporean enterprises to expand overseas. SPRING acted as the national standards and accreditation body and managed the National Standardisation Programme under the guidance of an industry-led Singapore Standards Council. Through the various industry-specific Standards Committees, SPRING worked with private sector industry experts and other government agencies to develop standards to meet industry needs or government policy objectives. Working closely with the Singapore Standards Council and other standards organisations, SPRING would invite the public to comment on draft standards before they were published. Firms can access available standards at the Singapore Standards eShop.

Firms can choose to use private certification services or those provided by the government. SPRING managed the Singapore Accreditation Council (SAC), the national authority for accreditation of conformity assessment bodies. The SAC's main function is to accredit testing, calibration, inspection and certification bodies. Its members include representatives of industry, purchasers and suppliers, government agencies, professional bodies, the national standards authority, certification bodies and consumer interest groups. With the merger of SPRING Singapore and IE Singapore, Enterprise Singapore takes on the role of the national standards and accreditation body.

The government provides specific initiatives to promote the adoption of quality standards by SMEs. Enterprise Singapore (SPRING Singapore at the time of information gathering and validation) offers two main types of such assistance. The first is a Capability Development Grant (CDG), which aims to help Singapore-based SMEs to grow and become more competitive in 10 capability development areas, including quality standards. The CDG helps SMEs defray costs incurred for steps that are necessary for the adoption of international or industry standards, like training, consultancy or professional services, and certification. The second type of assistance is an Innovation and Capability Voucher (ICV) scheme,[9] which aims to upgrade core business operations in several capability areas, including standards adoption. The ICV voucher was valued at SGD 5 000, and SMEs cam use this to meet certain quality standards. The Quality and Excellence Group in SPRING Singapore oversaw implementation of the programme at the national level.

Trade facilitation

Singapore has developed physical infrastructure and world-class logistics to facilitate trading. It achieved impressive scores in the 2017 OECD Trade Facilitation Indicators (TFI) covered in this 2018 ASPI. The country also ranked top in Asia in the World Bank's 2016 Logistics Performance Index. Improvement of its trade facilitation services is a continuing process. Singapore Customs and GovTech are currently developing the country's National Trade Platform (NTP), a one-stop, next-generation trade information management platform that will replace TradeNet, its current national single window. Traders already have access to customs procedures and guidance through various channels. The Singapore Customs website has made it easy for traders to navigate through customs procedures and learn how to comply with them. Such information can also be accessed through TradeNet and Enterprise Singapore (IE Singapore at the time of information gathering and validation). Following its ASEAN chairmanship in 2018, Singapore is looking forward to working closely with the other ASEAN member states to realise an ASEAN-wide Self-Certification regime and strengthen the ASEAN Single Window.

Training initiatives to promote trade facilitation include courses on customs procedures and the use of TradeNet, conducted by the Singapore Customs Academy, and clinics on the technical and administrative aspects of export operations, conducted by Enterprise Singapore (IE Singapore at the time of information gathering and validation) and Singapore Customs. Other initiatives include Mutual Recognition Arrangements (MRAs) by IMDA Singapore and partner countries to reduce technical barriers to trade in telecommunications equipment by allowing such equipment to be tested in the exporting country and assured acceptance in the importing country with minimal further regulatory action. The Secure Trade Partnership serves as Singapore's Authorised Economic Operator (AEO) programme, a voluntary certification programme administered by Singapore Customs that is open to all supply-chain stakeholders without volume-traded

criteria. In partnership with the Asian Development Bank (ADB) and Swiss Re Corporate Solutions, IE Singapore had also launched a new programme, the Trade Facilitation Scheme, to help traders safeguard their payments through risk sharing on credit guarantees against the risk of non-payment by overseas issuing banks. SMEs can also reach out to SME Centres for assistance in accessing and utilising the available trade facilitation schemes.

Boosting productivity, innovation and adoption of new technologies (Dimension 1 and 2)

Singapore has highly advanced policies and programmes in place to boost productivity, innovation and the adoption of technology, including initiatives that encourage greening. The country's Dimension 1 score of 5.84 in the area of productivity, technology and innovation is the highest in the region. This reflects Singapore's creation of a highly competitive ecosystem and targeted support measures for SMEs. Its Dimension 2 score of 5.30 in the area of SME greening reflects Singapore's status as a regional pioneer in this area, with a wide array of incentives and policies to promote SME greening.

Productivity measures

The National Productivity and Continuing Education Council was formed in 2010 to intensify the government's efforts to boost skills and enterprise productivity. In line with boosting national productivity, the SGD 4.5 billion Industry Transformation Map (ITM) Programme, mentioned above, was launched in September 2016; all 23 ITMs have been launched since then and are now operational. Productivity centres and one-stop competency centres were also set up with the support of SPRING to help boost productivity among SMEs.

The Future Economy Council (FEC; formerly Council for Skills, Innovation and Productivity) takes overall responsibility for the policy development and implementation of ITMs. The council groups members from the government, industry, unions and educational and training institutions. It oversees the implementation of productivity enhancement programmes by different agencies that are leading industrial transformation projects in identified target sectors, for example SPRING in the food manufacturing, food services and retail clusters. One government agency assumes overall responsibility for each ITM and co-ordinates among agencies and with the tripartite partners, making for tight co-ordination and accountability within the government. The responsible agency monitors performance on the productivity indicators identified for each ITM. KPIs are regularly monitored at the national and industry levels, mainly on labour productivity and total factor productivity. Independent impact evaluation of the productivity enhancement programmes is conducted by external research firms.

Business development services (BDS)

Singapore's mature ecosystem for the provision of BDS integrates private sector partners, institutes of higher learning and trade and industry associations. Dedicated action plans for the provision of such services include defined targets, timeframes and milestones. SPRING was the agency responsible for helping enterprises grow and for building trust in Singapore's products and services. It worked with partners to help enterprises with financing, capability and management development, technology and innovation, and

access to markets. These services are expected to be covered by Enterprise Singapore, created by the merger of SPRING and IE Singapore.

SME-support initiatives developed by SPRING with partner organisations include the ICV, the CDG and the SME Centres. SPRING's budget of more than SGD 2.3 billion for FY2016 to FY2020 represented a significant increase from its budget of SGD 1.4 billion for FY2011 to FY2015. Its network of one-stop SME Centres offers services to SMEs including business diagnosis, advice on government schemes and capability workshops. Consultant quality was ensured through actions such as implementation of a SPRING-recognised certification for management consultants. For most SME support programmes that involve consultancy or engagement of experts, the government would provide grant support to defray part of the qualifying costs. In 2016, more than 30 000 SMEs benefitted from the SME Centres and more than 16 000 received support from other mechanisms. The existing ecosystem allows SMEs to receive support with BDS at different stages of their development and has been highly flexible, which would explain the significant uptake of services.

Productive agglomerations and clusters enhancement

There has been no single strategy for clusters development in Singapore, but industrial cluster policies are well covered under the Industry Transformation Programme, under which ITMs were developed for 23 industries under six clusters. Together, these 23 ITMs cover more than 80% of Singapore's GDP. ITMs identify cluster development and physical infrastructure necessities among their activities.

Singapore scored 92% in ERIA FIL rate, slightly above the ASEAN median and up from 89% in 2011. The country has been generally open to foreign investment, and this has brought significantly higher net FDI inflows compared to other AMS. JTC Corporation spearheads the planning, promotion and development of Singapore's dynamic industrial landscape. There are several industrial and science parks in Singapore with a focus on R&D and innovation-intensive activities, specifically in the fields of biomedical sciences, clean technologies and internet and digital media. A second phase of development has been planned to deepen electronics R&D and seed the growth of emerging sectors like consumer businesses and lifestyle. A cluster investment platform has also been put in place. The Ministry of Trade and Industry oversees the implementation of ITMs through the Future Economy Programme Office and policies for industrial land through the Resource Division. JTC releases an annual report on the status of its infrastructure projects. However, the KPIs for these projects are not SME specific.

Technological innovation

Singapore has developed a number of strategic policy documents focused on innovation and research that are relevant for SMEs. Through the Research, Innovation and Enterprise 2020 Plan, Singapore seeks to support and translate research, build up the innovation capacity of companies to drive economic growth and leverage science and technology to address national challenges. The Industry Transformation Programme developed for 23 sectors helps to tackle innovation at the industrial level. The SMEs Go Digital initiative, launched in April 2017, aims to help SMEs use digital technologies to build strong capabilities in technology application. SPRING used its CDG to support SME innovation initiatives such as product development projects, in-house R&D engineering centres and co-innovation projects with large companies through the PACT programme.

A*STAR partners with SMEs through a Gearing for Growth strategy, with the aim of increasing their absorptive capacity for R&D and innovation. Under this strategy, SMEs are supported during the R&D and innovation process through six key initiatives offered by A*STAR. Through the Growing Enterprises through Technology Upgrade (GET-Up) programme, A*STAR helps SMEs upgrade their technical capability through technology roadmapping, secondment of researchers and engineers to SMEs, as well as technical advice. Through the Tech Depot Hub, which was launched in April 2017, A*STAR partners with IMDA and SPRING to provide pre-approved technology solutions and funding support to SMEs through a centralised platform under SPRING's SME Portal. Through the Tech Access programme, A*STAR provides SMEs with advanced manufacturing equipment and/or facilities, as well as expertise. The aim is to enable learning, experimentation and prototyping, with the ultimate goal of facilitating advanced technology absorption in firms. A*STAR also makes it easier for SMEs to license their intellectual property (IP) through standardised and simplified licensing agreements, which could facilitate faster deal closure to accelerate time-to-market. In addition, it offers a royalty-free IP license that is co-developed by SMEs with A*STAR for 36 months (up from 18 months) under its Headstart Programme. Through the Model Factories initiative implemented by A*STAR-SIMTech and the Advanced Remanufacturing Technology Centre, SMEs can get more information on and experience in using advanced manufacturing technologies.

Designated agencies such as A*STAR, IMDA and SPRING (now Enterprise Singapore) have a clear mandate to promote innovation in SMEs. Since May 2017, the Future Economic Council (FEC) has acted as a co-ordinating committee on issues relating to innovation. It took over this function from the Council of Skills, Innovation and Productivity (CSIP). The FEC focuses on three key areas to support the growth and transformation of Singapore's economy: growing a vibrant and open economy that is connected to the world; strengthening local enterprises through industry-specific transformation initiatives to help them grow, innovate and scale up; and helping Singaporeans to acquire and utilise deep skills. The FEC also looks into a broader set of issues, such as strengthening the country's innovation ecosystem and diversifying Singapore's international connections.

Singapore has a set of tax incentives for young and small businesses. Information about support schemes is available via an online SME portal, and is also provided during regular events such as the Singapore Week of Innovation and Technology.

The country's IP legal framework is very comprehensive and generally considered to be one of the most developed and strong in Asia. It might be comparable with EU standards, as Singapore's legal system is based on the English common law system. The Intellectual Property Office of Singapore (IPOS) is an innovation agency that uses its IP networks and expertise to drive IP commercialisation for the country's future growth. IPOS provides comprehensive IP databases for patents, trademarks and designs. A number of initiatives exist to promote awareness and capacities relating to IP rights, such as IP Academy Singapore or IP business clinics.

The wide range of infrastructure available for technological innovation includes Centres of Innovation, incubators, technology and science parks (for example One-North, which focuses on biomedical sciences and ICT), and technology-transfer offices.

Initiatives to help SMEs at different stages of development are focused on selected sectors. SPRING had implemented dedicated programmes such as the Technology Adoption Programme (TAP) and Centres of Innovation (COIs), which would continue to

be administered by Enterprise Singapore. TAP is linked to sectors covered by ITMs and supports collaboration among public-sector research institutes, private-sector technology providers, institutes of higher learning, trade associations and chambers and private-sector integrators. It aims to identify and translate new technologies into ready-to-go solutions that address productivity challenges and give SMEs a competitive advantage. TAP helps ITM sectors to formulate and execute technology adoption roadmaps. COIs are set up in partnership with selected polytechnics and research institutes and act as one-stop centres providing laboratory facilities, technology consultancy and training courses, as well as assistance for SMEs to test and develop their technology projects. Each COI specialises in a different industry, including electronics, supply-chain management, environment and water, food, marine and offshore, materials and precision engineering industries.

Environmental policies targeting SMEs

The Sustainable Singapore Blueprint 2015 is a high-level plan for making the country more environmentally sustainable and for supporting the development of a green economy. Although it does not single out SMEs, it does set environmental performance targets for the city state as a whole. The most relevant targets for SME performance are in the resource sustainability section, which includes the proportion of buildings that have achieved BCA Green Mark Certification (a green building standard), the overall energy intensity improvement, domestic water consumption and the national recycling rate. However, these do not disaggregate between residential and commercial performance, so it is difficult to know how much of a difference will be made by SMEs.

The National Climate Change Secretariat, under the Prime Minister's Office, released Singapore's Climate Action Plan in July 2016. The plan outlines four strategies to achieve the country's pledge to reduce the intensity of emissions by 36% from 2005 levels by 2030, and to stabilise emissions with the aim of them peaking around 2030. These strategies are: *i)* improving energy and carbon efficiency; *ii)* reducing carbon emissions in power generation; *iii)* developing and deploying low-carbon technology; and *iv)* encouraging collective climate action. These strategies guide the government's design of policies and technologies to achieve its 2030 commitment, such as enhancements to the Energy Conservation Act in 2017 and the introduction of a carbon tax in 2019.

Incentives and instruments for green SMEs

Singapore has an array of support schemes and financial incentives to encourage SME greening. In 2007, the Public Utilities Board, Singapore's national water agency, launched the Water Efficiency Fund, which supports companies in adopting better water management by providing co-funding on projects that yield a minimum of 10% reduction in water consumption. The Energy Efficiency Promotion Centre provides a one-stop shop for enterprises, including SMEs, to gain information and signposting for different initiatives. The Energy Efficiency Fund (E2F) supports businesses in improving environmental performance through different measures. For example, for new facilities or expansions, the fund would support resource-efficient design with workshops and technical expertise and would cover up to 50% of the cost. For existing facilities, E2F would provide a grant of up to 50% of the cost of conducting an energy efficiency assessment. A grant of up to 30% of the cost is available for manufacturing enterprises that wish to adopt energy-efficient technologies. In addition, the Green Mark Scheme mentioned above encompasses a wide range of incentives for existing buildings, new buildings, prototype designs and retrofits.

The Financing Programme for Energy Efficiency Projects, run by the EDB, pairs enterprises that are struggling to allocate capital for energy efficiency projects with third-party financers who can provide capital to implement projects. The energy-saving profit is then shared between the enterprise and the financier. This has the benefit of not costing the enterprise anything upfront, making it more palatable.

Other initiatives, such as the Certified Energy Manager Programme Training Grant, provide specialised training to engineering professionals to help them develop the technical skills and competencies needed to manage and track energy use within the organisations they serve.

Stimulating entrepreneurship and human capital development (Dimensions 7 and 8)

Singapore has put strong emphasis on nurturing entrepreneurial mindsets and keeping entrepreneurial learning (EL) relevant and connected with real-world business. It has successfully created an ecosystem in which the private sector takes the lead in providing more advanced entrepreneurship education. The score of 5.36 for Dimension 7 reflects its advanced level of policy development in this area, while its score of 3.96 for Dimension 8 indicates that a number of policies have been put in place and initiatives are currently being implemented.

Promotion of entrepreneurial education

Singapore's education system focuses on developing entrepreneurial mindsets, dispositions and skills through each child's total learning experiences in school. The 21st Century Competencies (21CC) framework, developed by the Ministry of Education (MOE), sets out the values, social and emotional competencies that would be relevant for all students as they enter the workforce as employers, employees or entrepreneurs. In the 21CC framework, the Desired Outcomes of Education (DOEs) also cover attributes in students that are required for entrepreneurial mindsets. This emphasis is in line with Singapore's SMEs Development Plan, skill development policies, national economic development plan and other strategic plans. In nurturing entrepreneurial mindsets at school, Singapore uses a learning-through-experience approach rather than compulsory subjects on entrepreneurship. It acknowledges diverse interests among students and offers EL as co-curricular activities at schools. Where there is a good fit, the development of entrepreneurial mindsets and skills is incorporated into the national curriculum for each subject or curricular area and across the respective levels of education, including the polytechnics and Institutes of Technical Education (ITE).

Starting from the secondary level, entrepreneurship programmes and activities are offered to interested students. A notable example is the Applied Learning Programme (ALP) in Business and Entrepreneurship. The ALP helps students to apply skills and knowledge learned in school in real-world settings in industries. The programme is currently implemented in eight secondary schools, and MOE would like to see ALP in all secondary schools to complement academic programmes. ALP has also been endorsed in primary schools. Since 2017, more than 80 of the country's 191 primary schools have adopted ALP, and MOE aims to have all primary schools adopt the programme by 2023 (Chia, 2018[18]).

Other programmes to promote EL include The Young Entrepreneurs Scheme for Schools (YES! Schools) by SPRING Singapore and the Junior Colleges programme. These programmes are monitored by schools and report annually to MOE. With this focused

and experience-based learning approach, a strong education mechanism is needed to ensure that the supply of experienced entrepreneurship trainers is adequate.

In higher education, Singapore's autonomous universities develop their own academic curricula on entrepreneurship. The Singapore University of Technology and Design is the only one offering a degree in entrepreneurship; the others offer entrepreneurship-related subjects and modules. Each university offers different programmes or activities to introduce entrepreneurship. For example, the National University of Singapore (NUS) conducts the NUS Enterprise Summer Programme for its undergraduate students, with site visits to selected companies and start-ups among other entrepreneurship-related activities. Polytechnics also develop their own programmes to foster entrepreneurship and expose students to real-world industries. At Ngee Ann Polytechnic, for example, students are offered mentoring from experienced entrepreneurs, a grant up to SGD 10 000 and a loan of up to SGD 50 000 to start their own business. The school also started a global entrepreneurship internship programme to facilitate a six-month internship with start-ups in Silicon Valley, Jakarta or Shanghai. The approach of granting autonomy to institutions of higher learning has enabled them to formulate their own strategies to adjust to the dynamics of demand for entrepreneurial knowledge and skills.

Entrepreneurial skills

Singapore's approach to entrepreneurial training is evolving. Many entrepreneurship education activities that were formerly initiated by the government have been transformed into private-led efforts. For example, the Action Community for Entrepreneurship, launched in 2003 by MTI as a national effort to foster innovation and entrepreneurship, was restructured in 2014 as a private-led initiative to continue the endeavour with government support. The Singapore Institute of Management, one of the leading providers of entrepreneurship and professional training, was founded as a spin-off of the EDB. Today, SIM has an entrepreneurship centre called Platform E that offers a comprehensive entrepreneurship ecosystem to produce entrepreneurial leaders.

Entrepreneurship training is also provided by numerous private institutions and universities. For example, the Singapore Institute of Technology's (SIT) Entrepreneurship Development Programme exposes its participants to entrepreneurship and is available to non-SIT students. Another example is Make the Change, a spin-off of a private design academy, Chatsworth Medi@rt Academy. Among its many programmes are the E-Entrepreneurship for Youth Programme, the Social Entrepreneurship Programme and the Social Entrepreneurship Mentorship.

Singapore's government has worked to create networks to channel the entrepreneurial talent developed by private institutions and universities. Through the SME Talent Programme, for example, SPRING helped local SMEs attract talented students from ITE, polytechnics and universities. IE Singapore, in partnership with local educational institutions, shared the costs incurred in sending talented Singaporeans on overseas internships. As most entrepreneurship activities and programmes are conducted by private providers, they are not monitored or evaluated by the government.

Social entrepreneurship

Singapore enjoys a sophisticated ecosystem for social entrepreneurship. Elements include various actors, specialised incubators and private-sector initiatives and foundations, such as Impact Investment Exchange Asia, ImpactHUB Singapore, Ashoka Singapore and DBS Foundation. Although there is no formal shared definition for social enterprise (SE),

there is a qualification framework (raiSE's social enterprise membership framework) with a definition and agreed defining characteristics of a social enterprise. The Ministry of Social and Family Development (MSF) and the National Council of Social Services handle policy making for SE development. A Social Enterprise Committee (SEC) was set up in 2006 under the Ministry of Community Development, Youth and Sports to provide recommendations on how to grow the SE sector and encourage social entrepreneurship.

A Social Enterprise Association and a Social Enterprise Development Centre (raiSE) serve as focal points for the sector. Other organisations include, for example, the Singapore National Co-operative Federation (SNCF), which focuses specifically on co-operatives. Set up in 2015 to develop the social enterprise sector, raiSE currently has some 420 members, who are verified yearly. The centre also organises the bi-annual President's Challenge Social Enterprise award, a national award to recognise outstanding social enterprises. Funding received from the government (SGD 30 million for 2015-20) and corporate donors would be administered by raiSE both as grants and as investment for qualified social enterprises. The centre has developed the Social Value Toolkit as a guide to help social enterprises to determine and measure their social value. It also has launched a number of initiatives: *i)* LeapForGood, a year-long programme comprising a series of workshops, consultation clinics and mentoring sessions; *ii)* VentureForGood, which provides grants to social enterprises; and *iii)* raiSEImpactFinance, which provides investment capital with a possible transfer into convertible loans.

Singapore is one of the few ASEAN countries to have a well-developed impact investing scene. The presence of specialised financial intermediaries and the use of fiscal measures could be viewed as an indicator of the maturity of the policy ecosystem for creating and supporting viable social ventures. Due in part to the country's well-developed financial market, it is a hub for regional impact investing intermediaries (for instance private entities such as Impact Investing Exchange Asia, commercial banks with social investment units and international consulting firms) and a platform for outreach to social enterprises in the region. In 2014, DBS Foundation set up a SGD 50 million fund to champion social entrepreneurship. However, while financial support for start-up social ventures has been relatively diverse and abundant, private investment focused on scale-up activities is rather limited.

Inclusive entrepreneurship

Singapore has few policies to promote entrepreneurship among women, youth or persons with disabilities (PWD). Its choice of employing a neutral policy stems from the consideration that women and youth face few barriers to entrepreneurship or accessing the traditional SME support services provided by SPRING that would merit national-level policy intervention. Given Singapore's strong social benefits system, entrepreneurship for PWD is not presented as a form of social protection as in other ASEAN countries, hence the lack of specific measures to encourage PWD to take up entrepreneurial activities. Nevertheless, the government has a number of initiatives to address the specific challenges faced by the target groups. The National Youth Council organises activities to promote entrepreneurship among youth helping to support Singapore's objective of being a start-up hub; there are government-backed SME loan schemes for women to improve access to finance; and PWD interested in entrepreneurship are offered training by the Disabled People's Association. Despite the lack of specific policies, the entrepreneurial activities of the target groups should be closely monitored in order to map potential barriers that may require policy intervention.

The way forward

Strengthening the institutional, regulatory and operational environment

Singapore has exemplary institutions for SME policy, and has achieved a world-leading regulatory and operational environment for SMEs.

Facilitating SME access to finance

Singapore is a global and regional hub for finance, and it continues to offer and experiment with a range of policies and programmes to increase access to financing for SMEs. To build on previous work, Singapore could:

- **Implement reforms to enhance the secured transaction framework.** Financial institutions may continue to face uncertainties in the secured transaction framework for lending to unincorporated entities. The introduction of a Personal Property Security Act (PPSA) regime might help to eliminate these uncertainties.
- **Continue testing the regulatory sandbox approach to financial technology.** Providing a space where innovations can be tested can help to facilitate innovators' access to finance and the development of appropriate rules to regulate them, but the concept itself is still very new. Regulators should continue to experiment with the approach and assess if it is right for Singapore.

Enhancing access to market and internationalisation

Singapore has shown a strong and continuing commitment to promoting the internationalisation of local businesses, with programmes to help SMEs to compete in the global market. Nonetheless, there are several actions Singapore could consider to level up its current policies on SME internationalisation:

- **Strengthen SME-specific initiatives in trade facilitation.** Singapore has high-quality infrastructure and trade facilitation schemes to promote seamless trading across borders that can be utilised by any traders. However, SMEs often find the cost of complying with customs procedures and other non-tariff measures burdensome due to their smaller trade volumes and capacities. Singapore could improve the effectiveness of its trade facilitation schemes through specific allowances or programmes to help SMEs better utilise the facilities on offer, for example through special AEO qualification schemes for SMEs.
- **Promote greater public access to reports on its programmes.** Singapore could strengthen the monitoring and evaluation of its trade facilitation programmes by developing a publicly accessible periodic report on key initiatives. This would extend its success in developing a policy framework for SMEs to go global. Better public access to Singapore's programme reports in this area could be particularly helpful for other AMS that are looking to develop their SME internationalisation policies in a similar direction. It would also keep the country's entrepreneurs informed, giving them better access to the government programmes that suit their current needs.

Boosting productivity, innovation and adoption of new technologies

Productivity, technology and innovation

- **Promote the exchange of information among programmes.** Singapore has committees and feedback mechanisms in place for its programmes for boosting SME productivity, technology use and innovation. However, the fact that its agencies and initiatives are relatively decentralised could make it difficult to ensure a continuous coherent approach. The development of dashboard systems could be beneficial.
- **Further promote the export potential of BDS providers.** Singapore enjoys a highly advanced BDS system, with experienced BDS providers. Given its limited local market and the demand for services abroad, Singapore could consider developing mechanisms for its BDS providers to collaborate with neighbouring countries and promote mechanisms and instruments for taking their services across borders.

Environmental policies and SMEs

- **Target SMEs in the regulatory approach to greening.** Singapore has a wide array of incentives and instruments for supporting enterprises to become greener. However, it might be beneficial to build incentives that are specifically targeted at SMEs into its environmental regulatory structure. This could encourage enterprises that otherwise may not be reached by financial support schemes to go beyond compliance.
- **Further improve the availability of data.** Resource sustainability measurements and targets could be disaggregated into commercial and residential categories, and from the commercial category into the size of enterprises. Without such targeted information, it is hard to know where improvements are occurring and how government policy should be adjusted to enhance impact.

Stimulating entrepreneurship and human capital development

Development of the country's human capital has been a lynchpin of Singapore's economic development strategy for the past 50 years. To build on this work, specifically in the area of stimulating entrepreneurship, Singapore could:

Entrepreneurial education and skills

- **Continue to strengthen EL at lower levels of education.** Singapore is on the right track in terms of embedding entrepreneurial learning in all levels of education. But while EL has been advancing at the higher level of education, it deserves more emphasis in primary and secondary education. Continuing to spread the Applied Learning Programme to more schools will increase the programme's effectiveness while expanding the number of beneficiaries.
- **Strengthen the training of entrepreneurship educators.** As the Applied Learning Programme spreads, more entrepreneurial educators will be needed. To support its commitment to promote entrepreneurial education in schools, Singapore could strengthen the training-for-trainers elements in its EL framework.

This will help to ensure that there are sufficient numbers of well-qualified educators.

Social and inclusive entrepreneurship

- **Improve political co-ordination on social entrepreneurship.** The government could further leverage the existence of the Social Enterprise Committee to ensure better policy co-ordination and to provide a more regular update of activities.
- **Further develop growth-phase activities for social and inclusive enterprises.** Singapore enjoys a vast array of instruments, but reports highlight the fact that most of them focus on seed-stage enterprises. More could be done to develop the scale-up phase of social enterprises, especially in developing financial instruments. Furthermore, and unlike in other countries, many Singaporean actors in social ventures are taking a regional approach and entering into overseas markets. This could be an argument for developing support mechanisms to promote the internationalisation of social ventures.
- **Further develop policies focused on women and youth.** Even though women and youth face few barriers to entrepreneurship in Singapore, dedicated policies and instruments for the target groups could be beneficial. Such policies could address their specific needs, such as access to finance and to specific training facilities.

Notes

[1] Singapore achieved independence as part of Malaysia in 1963, and became fully independent in 1965.

[2] The first semiconductor company to set up a plant in Singapore was Texas Instruments, which concluded a SGD 6 million deal in 1968, marking the beginning of Singapore's electronics industry. By 1969, seven major electronics firms had set up factories in Singapore, including SGS, Fairchild and National Semiconductor (Formal and Wojtera, 2013[21]).

[3] FDI was used as a motor to drive Singapore's economic development over the second half of the 20th century, and measures are now being taken to correct this skew. By 1985, wholly foreign-owned companies were producing 54.5% of the country's output and employing 41% of the workforce (Chia, 2018[18]). Foreign workers, meanwhile, have made up around 38% of Singapore's workforce for the past five years (2012-16) (MOM, 2017[19]).

[4] FDI in financial and insurance services accounted for around 49.8% of total FDI invested in Singapore in 2015 (Santander, 2018[20]).

[5] Generally, firms declare full-time employment size in their support scheme applications. The definition does not stipulate that part-time employees should also be counted.

[6] But not more than ten years of historical data is available in the case of negative data.

[7] And these sponsors, rather than the SGX, regulate the market (Catalist).

[8] Since 1 April 2018, SPRING and IE Singapore have merged to form Enterprise Singapore. Enterprise Singapore is the government agency which champions enterprise development and works with companies to build capabilities, innovate and internationalise.

[9] Since 1 Apr 2018, the ICV scheme has been subsumed under the Productivity Solutions Grant (PSG).

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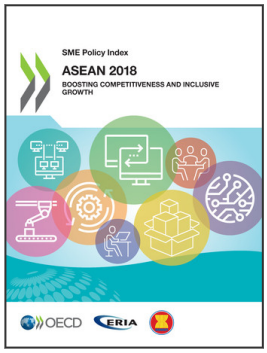

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