



# OECD Competition Assessment Reviews

## SINGAPORE

### LOGISTICS SECTOR





# **OECD Competition Assessment Reviews: Logistics Sector in Singapore**

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# Foreword

Southeast Asia, economically one of the fastest growing regions in the world, has benefited from broadly embracing an economic growth model based on international trade, foreign investment and integration into regional and global value chains. Maintaining this momentum, however, will require certain reforms to strengthen the region's economic and social sustainability. This will include reducing regulatory barriers to competition and market entry to help foster innovation, efficiency and productivity.

The logistics sector plays a significant role in fostering economic development. Apart from its contribution to a country's GDP, a well-developed logistics network has an impact on most economic activities. An efficient logistics system can improve a country's competitiveness, facilitate international trade and enhance its connectivity to better serve consumers, and meet the needs of regionally integrated production facilities for reliable delivery of inputs and outputs.

The *OECD Competition Assessment Reviews: Logistics Sector in Singapore*, undertaken within the framework of the ASEAN Competition Action Plan, assesses the impact of regulation on competition in the sector. This report covers the five main subsectors of the logistics market: freight transportation, including transport by road, inland waterway and maritime; freight forwarding; warehousing; small-package delivery services; and value-added services. In parallel, the OECD has assessed the impact of state-owned enterprises on competition in Singapore in *OECD Competitive Neutrality Reviews: Small-Package Delivery Services in Singapore*.

The OECD assessment was conducted in consultation with the authorities and local stakeholders in Singapore, and with the support of the ASEAN Secretariat and the ASEAN Economic Reform Programme under the UK Foreign, Commonwealth & Development Office (UK Government). This exercise is especially important for Singapore where logistics currently accounts for about 5% of services GDP.

Singapore's economy contracted by 5.4% in 2020 due to the COVID-19 pandemic, with containment measures severely affecting key economic activities. This report identifies and discusses policy issues that can help the economy resume sustainable growth and job creation by further enhancing competitiveness, encouraging investment and stimulating productivity in the logistics service sector, with knock-on, economy-wide effects and benefits for its consumers.

I congratulate the governments of Singapore, as well as the ASEAN Secretariat and the UK Foreign, Commonwealth & Development Office (UK Government), on their efforts to assess regulatory barriers to competition and to improve further the business environment. The OECD looks forward to continuing and broadening its co-operation with Singapore to further support its reforms to the benefit of its citizens.

Greg Medcraft



Director, OECD Directorate for Financial and Enterprise Affairs



# Acknowledgements

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- Competition and Consumer Commission of Singapore (CCCS);
- Enterprise Singapore;
- Economic Development Board (EDB);
- Infocomm Media Development Authority (IMDA);
- Ministry of Industry and Trade;
- Ministry of Transport;
- PSA Corporation
- Singapore Land Authority (SLA);
- Singapore Maritime Institute;
- Singapore Post.

The following trade associations and private companies were interviewed:

- AmCham;
- DHL Express;
- Singapore Shipping Association;
- Supply Chain Asia.

Ms Nimisha Tailor provided valuable inputs.

The OECD project team consisted of Ruben Maximiano, Senior Competition Expert and ASEAN Project Co-ordinator; Federica Maiorano, Senior Competition Expert and Competition Assessment Project Leader; Gaetano Lapenta, Competition Analyst; Sophie Flaherty, Competition Analyst; Leni Papa, Competition Analyst; Wouter Meester, Competition Expert and Competitive Neutrality Project Leader, and Matteo Giangaspero, Competition Expert, all from the OECD Competition Division.

The report was drafted by Gaetano Lapenta under the supervision of Federica Maiorano, edited by Tom Ridgway and prepared for publication by Eleonore Morena and Erica Agostinho.

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The assessment process benefited greatly from the support of the Competition and Consumer Commission of Singapore (CCCS).

The project was funded by the ASEAN Economic Reform Programme under the UK Foreign, Commonwealth & Development Office (UK Government).

The information and figures in the report are updated as of December 2020.

The findings in this report are the result of an independent assessment by the OECD based on an analysis of selected (prioritised) Singapore legislation, stakeholder interviews and desk research. The recommendations are the result of this analysis and are non-binding.

## Fostering competition in ASEAN

ASEAN Member States have agreed to implement significant reforms towards market liberalisation and elimination of competition distortions as part of the ASEAN Competition Action Plan 2016-2025 (ACAP 2016-2025) which provides strategic goals, initiatives and outcomes to fulfil the competition-related vision of the AEC Blueprint 2025. In order to increase awareness of the benefits and role of competition in ASEAN, the ACAP 2016-2025 provides for an assessment to be conducted on the impact of non-tariff barriers on competition in the markets of ASEAN Member States followed by recommendations.

The logistics sector was chosen by the ASEAN Secretariat and ASEAN Experts Group on Competition (AEGC) as it can play a significant role in increasing ASEAN's economic development, and is included in the AEC Blueprint's 12 priority integration sectors. Indeed, efficient logistics can play a significant role in increasing a country's economic development by facilitating international trade and improving its competitiveness. By developing an efficient logistics system, a country can enhance its connectivity to better serve its importers and exporters, and satisfy the needs of regionally integrated production facilities for reliable just-in-time delivery of inputs and outputs.

Against this background, the ASEAN Secretariat, with funding from the ASEAN Economic Reform Programme under the UK Foreign, Commonwealth & Development Office (UK Government), tasked the OECD to assist with the implementation of Initiatives 4.1 and 4.2 of the ACAP 2016-2025. These two initiatives require an assessment of the impact of competition law and policy on the markets of all 10 ASEAN Member States, both in general (4.1) and with a focus on state-owned enterprises (4.2).

This report contributes to ACAP Outcome 4.1.2 (Impact of non-tariff barriers on competition), building on a competition assessment of regulatory constraints on competition in the logistics services sector. More specifically, the agreed scope for the project is to cover:

- Freight transportation, including transport by road, inland waterways and maritime, and rail;
- Freight forwarding;
- Warehousing;
- Small-package delivery services;
- Value-added services.

The current report is part of a series of 10 similar assessments, one for each ASEAN Member State.



# Table of contents

Foreword	3
Acknowledgements	5
Abbreviations and acronyms	9
Executive summary	11
<b>1 Introduction</b>	<b>15</b>
1.1. Introduction to the ASEAN competition assessment project	15
1.2. Benefits of competition	15
1.3. Introduction to Singapore	17
1.4. Introduction to the logistics sector	22
<b>2 Economic and institutional overview of the logistics sector in Singapore</b>	<b>27</b>
2.1. Logistics sector key figures	27
2.2. Key stakeholders	36
<b>3 Overview of the legislation in the logistics sector in Singapore</b>	<b>39</b>
3.1. Road freight transport	39
3.2. Maritime freight transport	44
3.3. Warehouses	51
3.4. Small-package delivery services	53
3.5. Horizontal and others	58
3.6. International agreements	66
<b>References</b>	<b>69</b>
<b>Notes</b>	<b>73</b>
<b>Annex A. Methodology</b>	<b>81</b>
Stage 1: Mapping the sectors	81
Stage 2: Screening of the legislation and selection of provisions for further analysis	81
Stage 3: In-depth assessment of the harm to competition	83
Stage 4: Formulation of recommendations	83

## Tables

Table 2.1. Gross domestic product in the services sector, million SGD, at current prices	27
Table 2.2. ASEAN merchant fleet ships by flag of registration, 2011-18	30
Table 2.3. Infrastructure rankings of selected ASEAN countries, 2019	31
Table 2.4. Ranking of ASEAN ports by throughput, 2018	32
Table 2.5. Singapore total cargo and total container throughput, 2010-19	33
Table 2.6. Singapore's total trade in transport services, millions USD, 2005-18	33
Table 2.7. LPI overall ranking, 2018	35
Table 3.1. Motor vehicle fleet under the Vehicle Quota System, monthly, 2019	40
Table 3.2. Motor vehicle quota, quota premium and prevailing quota premium for goods vehicles and buses, monthly, 2019-20	40
Table 3.3. PSA Marine's service level, 2020	45
Table 3.4. Overview of models	46
Table 3.5. Liner shipping and competition law in selected countries	49
Table 3.6. FDI in Singapore in transport and storage industry (stock as at year end), annual, in millions SGD	59

## Figures

Figure 1.1. GDP per capita, relative to the OECD average, percentage, 1990-2017	17
Figure 1.2. Real GDP growth in Singapore (%)	18
Figure 1.3. Share of manufacturing and services as percentage of GDP in Singapore, 2006-18	19
Figure 1.4. Services, value added, as a percentage of GDP in ASEAN countries, 2000-18	20
Figure 1.5. Exports of goods and services (% of GDP) in Singapore, OECD and East Asia Pacific, 1990-2018	20
Figure 1.6. Singapore foreign direct investment, 1990-2018	21
Figure 1.7. Ease of doing business score	22
Figure 1.8. Time required to start a business, days	22
Figure 2.1. Real growth of the transportation and storage sector	28
Figure 2.2. Share of transportation & storage operating receipts	29
Figure 2.3. Operators in the transportation and storage industry in Singapore, 2018	29
Figure 2.4. Annual goods vehicle fleet, by type, 2013-17	30
Figure 2.5. Quality of trade and transport-related infrastructure, 2016 and 2018	31
Figure 2.6. Annual Liner Shipping Connectivity Index, 2006-19	34
Figure 2.7. Liner shipping bilateral connectivity index (LSBCI), 2019	34
Figure 2.8. LPI of Singapore against world and regional top performers, 2018	36
Figure 2.9. Structure of the relevant institutions in the logistics sector	37
Figure 3.1. Vehicle population in Singapore by category	41
Figure 3.2. Share of road freight transport for own-account and hire-or-reward to total freight transport, thousand tonnes in Greece, 2013-19	42
Figure 3.3. Pilotage outside and inside the port area	47
Figure 3.4. Days required to register property in ASEAN and OECD countries, 2018	52
Figure 3.5. Locker Alliance functional chain	56
Figure 3.6. Number of seafarers in certain ASEAN member states, 2015	61
Figure 3.7. Regulatory quality estimate	62
Figure 3.8. PEP submission and amendment process	64

## Boxes

Box 2.1. Logistics Performance Index	35
Box 3.1. Limited number of good transport licences in Greece	42
Box 3.2. Singapore's initiative on electronic bills of lading using blockchain technology	44
Box 3.3. Overview of models for the provision of piloting services	46
Box 3.4. Pilotage: Service providers in certain EU countries	47
Box 3.5. Legal certainty and block exemptions	50
Box 3.6. Innovation in the freight transport industry and its impact on Singapore	59
Box 3.7. What is regulatory quality?	63
Box 3.8. World Bank's Worldwide Governance Indicators: The Regulatory Quality Estimate	64
Box 3.9. The Special Task Force to Facilitate Business (PEMUDAH) in Malaysia	65
Box 3.10. Annual PEP campaigns for public-sector, pro-enterprise initiatives	66
Box A A.1. OECD competition assessment checklist	82

# Abbreviations and acronyms

<b>ACRA</b>	Accounting and Corporate Regulatory Authority
<b>AFAFGIT</b>	ASEAN Framework Agreement on the Facilitation of Goods in Transit
<b>AFAMT</b>	ASEAN Framework Agreement on Multimodal Transport
<b>AFAS</b>	ASEAN Framework Agreement on Services
<b>AGVCBP</b>	ASEAN goods-vehicle cross-border permit
<b>AMS</b>	ASEAN member state
<b>BEO</b>	Block Exemption Order for Liner Shipping Agreements
<b>CCCS</b>	Competition and Consumer Commission of Singapore
<b>COE</b>	Certificate of Entitlement
<b>EDB</b>	Singapore Economic Development Board
<b>ESPO</b>	European Sea Ports Organisation
<b>FTZ</b>	Free-trade zone
<b>GVC</b>	Global value chain
<b>HDB</b>	Housing & Development Board
<b>ICA</b>	Immigration and Checkpoint Authority
<b>IMDA</b>	Infocomm Media Development Authority of Singapore
<b>IMF</b>	International Monetary Fund
<b>INLIS</b>	Integrated Land Information Service
<b>IRU</b>	International Road Transport Union
<b>LSP</b>	Logistics service provider
<b>LTA</b>	Land Transport Authority of Singapore
<b>MOT</b>	Ministry of Transport
<b>MPA</b>	Maritime and Port Authority of Singapore
<b>MTI</b>	Ministry of Trade and Industry
<b>PDWG</b>	Port Dues Working Group
<b>PEP</b>	Pro-Enterprise Panel
<b>SLA</b>	Singapore Land Authority
<b>SGD</b>	Singapore dollars
<b>SPDS</b>	Small-package delivery services
<b>URA</b>	Urban Redevelopment Authority
<b>VQS</b>	Vehicle Quota System
<b>WGI</b>	Worldwide governance indicators



# Executive summary

## Main economic characteristics of the logistics sector in Singapore

Singapore has established itself as a global leader in the freight transport sector. The transportation and storage sector represented approximately 4.8% of the overall service industry-related GDP in 2018, increasing by about 5% per year between 2012 and 2018. Worth more than SGD 31 billion in 2018, the sector expanded by 0.8% in 2019, but contracted sharply following the COVID-19 outbreak. Water transport accounted for 70.6% of the total operating receipts, followed by air transport.

In 2018, Singapore ranked 7 out of 160 countries in the Logistics Performance Index (LPI) and scored extremely close to the top global and regional performers.

## Key findings and recommendations by sub-sector

### **Road**

1. Singapore's vehicle quota system has been successful in optimising traffic flows by controlling the growth of overall vehicle numbers. Although the system limits the number of certificates of entitlement available to register and use a vehicle in Singapore, given its policy objective and the high costs that could stem from traffic congestion, the OECD makes no recommendation.
2. GPS-based tracking systems and time-slot booking tools to monitor truck movements can be a good method of improving traffic management in space-constrained areas, such as ports; they also represent a less competition-restrictive alternative to truck bans policies. However, port operators should take into account potential competition-related concerns when designing and implementing these systems. These include risks of tacit collusion and market sharing, potential barriers to entry for new service providers, and risks of discriminating against national and foreign providers. The Consumer and Competition Commission of Singapore (CCCS) should be consulted on the design of these systems and, once they are implemented, be vigilant for any potential anticompetitive practices.

### **Maritime**

1. Piloting services in Singapore are currently provided by PSA Marine (a state-owned enterprise). Taking safety and efficiency concerns into account, authorities should investigate whether there is any private interest in providing pilotage services within the ports. If there is, the OECD recommends creating an appropriate legal framework to allow piloting services to be tendered based on fair and non-discriminatory terms that guarantee competition for the market.
2. When assessing the future possible extension of the Block Exemption Order for Liner Shipping Agreements, the OECD recommends taking into account factors including the scope of the exemption, compared to the scope of similar provisions in other countries; the impact on legal certainty; its consistency with the general competition policy; and the added value of sector-specific guidance in addition to general guidelines on competition-law provisions.

## **Warehouses**

1. Warehousing operators have different solutions to obtaining land. Leasing contracts are currently sufficiently long and provide extensive rights to recoup investments. Furthermore, given land scarcity in Singapore, the current leasehold system aims to ensure that land allocation is in line with changing socio-economic needs and other governmental policies. In light of these considerations, the OECD makes no recommendation on potentially restrictive provisions in the current legal system for accessing industrial land.

## **Small-package delivery services**

1. Regarding the prohibition of any SPDS provider other than SingPost to hold a master key to access two-way design letter boxes, in the short term, IMDA should grant equal and non-discriminatory access to letterboxes for all SPDS providers. To do this, IMDA should be granted (and should exercise) the power to regulate wholesale access to letterboxes for SPDS, as proposed in the draft Postal Services (Amendment) Bill. In the longer term, pursuant to Section 16 of the Postal Services Act (Chapter 237A), which grants IMDA the power to issue or approve any specifications relating to letter boxes, including amending and revoking such specifications, the OECD recommends developing new specifications or amending the current ones on letter boxes to identify technical solutions that address security concerns, while granting equal access to SPDS providers. Alternatively, IMDA and HDB should assess the feasibility of replacing two-way design letter boxes with alternative designs or complementing them with new technology that would allow access to SPDS providers, while avoiding security issues.
2. The Locker Alliance is an innovative policy initiative to facilitate last-mile deliveries and provide greater coverage to consumers and companies, while avoiding the multiplication of underutilised locker sites. Nevertheless, the OECD recommends taking into account any potential risks to competition that it poses. Authorities should carefully assess the advantages and disadvantages of a single-operator model and implement a system where the platform's infrastructure operator is structurally independent from the downstream locker-service providers. In this regard, the OECD supports Singapore's efforts in ensuring structural independence of the company responsible for designing, developing and running the platform. In addition, they should avoid choosing a technology or protocol for data exchange with the platform that favours certain operators over others. Once the network is in place, the competition authority should ensure that the platform operator does not act as a hub for anticompetitive conduct.

## **Horizontal legislation**

1. Limitations on hiring foreigners may give rise to recruitment difficulties in the logistics industry. The OECD recommends conducting and publishing annual surveys of demand and supply for ship crews and truck drivers, and, if needed, consulting with the industry about possible corrective measures, such as the relaxation of certain regulatory requirements on quotas for hiring foreign workers.
2. A clear regulatory framework is essential for competition as it reduces compliance costs and facilitates, among other factors, the entry of new players. Singapore Statutes Online is an easily accessible and comprehensive database of all Singaporean legislation with free public access.
3. Singapore's Pro-Enterprise Panel is an efficient way to ensure that rules and regulations do not hinder businesses and hold back entrepreneurship. By involving both private and public stakeholders, it allows a pro-enterprise culture to spread across the public sector, and favours greater co-operation between different authorities and between them and private entities.

Moreover, it provides companies with a one-stop-shop to submit their suggestions on how to create a more pro-business environment, while leaving final decisions to public authorities.

### ***International agreements***

1. The OECD recommends repealing the provision limiting the number of ASEAN goods-vehicle cross-border permits (AGVCBP) in order to reduce barriers to entry and transshipment costs at the border. As an alternative, Singapore could regularly assess market needs and demand, and consider increasing the number of licences that can be issued. Both these recommendations would require negotiations between the agreement's national co-signatories.
2. The OECD recommends ratifying the ASEAN Framework Agreement on Multimodal Transport (AFAMT) and integrating it into the national legal system. This includes identifying or establishing a competent national body to issue multimodal transport operator registration certificates. The OECD supports Singapore's ongoing efforts to facilitate the ratification of the AFAMT.





# 1 Introduction

## 1.1. Introduction to the ASEAN competition assessment project

Logistics play a significant role in a country's economic development. The Association of Southeast Asian Nations (ASEAN) chose the logistics sector as one of its 12 priority sectors in its ASEAN Framework Agreement for the Integration of Priority Sectors, signed in 2004. As part of the *ASEAN Competition Action Plan 2016-2025*, the ASEAN Secretariat asked the OECD to carry out: 1) an independent competition assessment of legislation in the logistics sector; and 2) prepare a regional report assessing the impact on competition of state-owned enterprises (SOEs) and government-linked monopolies in selected markets in ASEAN.

An OECD team has been conducting competition assessments of laws and regulations in ten ASEAN member states (AMS), as well as an overall study for the ASEAN region. It has worked in close co-ordination with the ASEAN Secretariat (ASEC), the ASEAN Experts Group on Competition (AEGC), as well as with the responsible authorities within each AMS, in particular, competition authorities. The analysis was funded by the ASEAN Economic Reform Programme under the UK Foreign, Commonwealth & Development Office (UK Government).

The following study covers the first component of the project, the competition assessment of laws and regulation in the logistics sector in Singapore.

## 1.2. Benefits of competition

The Competition Assessment of Laws and Regulations project aims to identify regulations that may unduly restrict market forces and, by doing so, may harm a country's growth prospects. In particular, the project identifies regulatory provisions that:

- are unclear and so lack transparency or may be applied in an arbitrary fashion
- prevent new firms, including small- and medium-sized businesses from accessing markets
- allow a limited number of firms to earn greater profits than they otherwise would, for reasons unrelated to their underlying productivity or the quality of their products
- cause consumers to pay more than they otherwise would.

Each restriction is likely to have an impact well beyond individual consumers in the sectors assessed. When consumers can choose and shop around for a variety of products and services, firms are forced to compete, innovate more, and improve their productivity; see, for instance, Nickell (1996<sup>[1]</sup>), Blundell (1999<sup>[2]</sup>) and Griffith (2006<sup>[3]</sup>). Industries in which there is greater competition experience faster productivity growth, conclusions demonstrated by a wide variety of empirical studies and summarised in the OECD's "Factsheet on how competition policy affects macro-economic outcomes" (OECD, 2014<sup>[4]</sup>). Competition stimulates productivity primarily because it provides the opportunity for more efficient firms to enter and gain market share at the expense of less efficient firms.

In addition to the evidence that competition fosters productivity and economic growth, many studies have shown the positive effects of more flexible product market regulation (PMR), the area most relevant to this report.<sup>1</sup> These studies analyse the impact of regulation on productivity, employment, research and development, and investment, among other variables. Differences in regulation can also have an impact and can reduce significantly both trade and foreign direct investment (FDI); see (Fournier and al., 2015<sub>[5]</sub>), (Fournier, 2015<sub>[6]</sub>).<sup>2</sup> By fostering growth, more flexible PMR can improve the sustainability of public debt.

There is a particularly large body of work on the productivity gains created by more flexible PMR. At the company and industry level, restrictive PMR is associated with lower multifactor productivity (MFP) levels; see (Nicoletti and Scarpetta, 2003<sub>[7]</sub>), (Arnold, Nicoletti and Scarpetta, 2011<sub>[8]</sub>).<sup>3</sup> The result also holds at aggregate level (Égert, 2017<sub>[9]</sub>).<sup>4</sup> Anti-competitive regulations have an impact on productivity that goes beyond the sector in which they are applied and this effect is more important for the sectors closer to the productivity frontier (Bourlès et al., 2013<sub>[10]</sub>).<sup>5</sup> Specifically, a large part of the impact on productivity is due to investment in research and development (Cette, Lopez and Mairesse, 2013<sub>[11]</sub>). Moreover, lowering regulatory barriers in network industries can have a significant impact on exports (Daude and de la Maisonneuve, 2018<sub>[12]</sub>).

Innovation and investment in knowledge-based capital, such as computerised information and intellectual property rights (IPRs), are also negatively affected by stricter PMR. A number of studies show that competitive pressure, as measured by lower regulatory barriers (for example, lower entry costs to a market), encourages firms in services sectors, such as retail and road transport, to adopt digital technologies; see (Andrews and Criscuolo, 2013<sub>[13]</sub>), (Andrews and Westmore, 2014<sub>[14]</sub>), (Andrews, Nicoletti and Timiliotis, 2018<sub>[15]</sub>). Pro-competition reforms to PMR are associated with an increase in the number of patent awards (Westmore, 2013<sub>[16]</sub>). More stringent PMR is shown to be associated with reduced investment and amplify the negative effects of a more stringent labour market (Égert, 2017<sub>[9]</sub>).<sup>6</sup>

Greater flexibility can also lead to higher employment. A 2004 study found that after deregulating the road transport sector in France, employment levels in the sector increased at a faster rate than before deregulation (Cahuc and Kamarz, 2004<sub>[17]</sub>).<sup>7</sup> A 10-year, 18-country OECD study published in 2014 concluded that small firms aged five years old or less on average contribute about 42% of job creation (Criscuolo, Gal and Menon, 2014<sub>[18]</sub>).<sup>8</sup> As noted in the OECD report *Economic Policy Reforms 2015*: “such a disproportionately large role by young firms in job creation suggests that reducing barriers to entrepreneurship can contribute significantly to income equality via employment effects” (OECD, 2015<sub>[19]</sub>).

There is also some evidence on the benefits of lifting anticompetitive regulations for reducing income inequality. One study found that less restrictive PMR improved household incomes and reduced income inequality.<sup>9</sup>

Finally, one 2018 study looked at the impact of PMR on the persistence of profits over the long term (Eklund and Lappi, 2018<sub>[20]</sub>). It concluded that regulations that raise barriers to entry can protect incumbents' above average profits and more stringent PMR, as measured by the OECD PMR indicator, is associated with persistent profits.

The results described above hold in a variety of settings, but the specific estimates may differ depending on the country. For instance, a 2017 study quantified the impact of structural reforms, including PMR and labour reform, in a large sample including both OECD and non-OECD countries, and found that: “stringent product market regulations will have a three-time larger negative impact on MFP [multifactor productivity] in countries with per capita income lower than about USD 8 000 (in PPP terms)” (Égert, 2017<sub>[9]</sub>).<sup>10</sup> Increased market competition may also reduce gender discrimination and equality; see, (Pike, 2018<sub>[21]</sub>), (Cooke, 2018<sub>[22]</sub>). The 2018 OECD Roundtable on Competition Policy and Gender noted that restrictive or discriminatory laws or policies against women's economic participation may be interpreted as anticompetitive regulations. Consequently, pro-competitive regulations following from a pro-competition policy that takes gender into account can help to address issues of gender equality. For this reason, this project will also address any laws that specifically hinder the involvement of women in the logistics

business, resulting in the creation of anti-competitive barriers. Such laws could indeed restrict competition by limiting the ability of some suppliers (women) to provide a good or service or by significantly raising the cost of entry or exit by a supplier (women).

In summary, anti-competitive regulations that hinder entry into and expansion in markets may be particularly damaging for a country's economy because they reduce productivity growth, limit investment and innovation, harm employment creation, and may favour a certain group of firms over other firms and consumers, with consequences for income inequality.

### 1.3. Introduction to Singapore

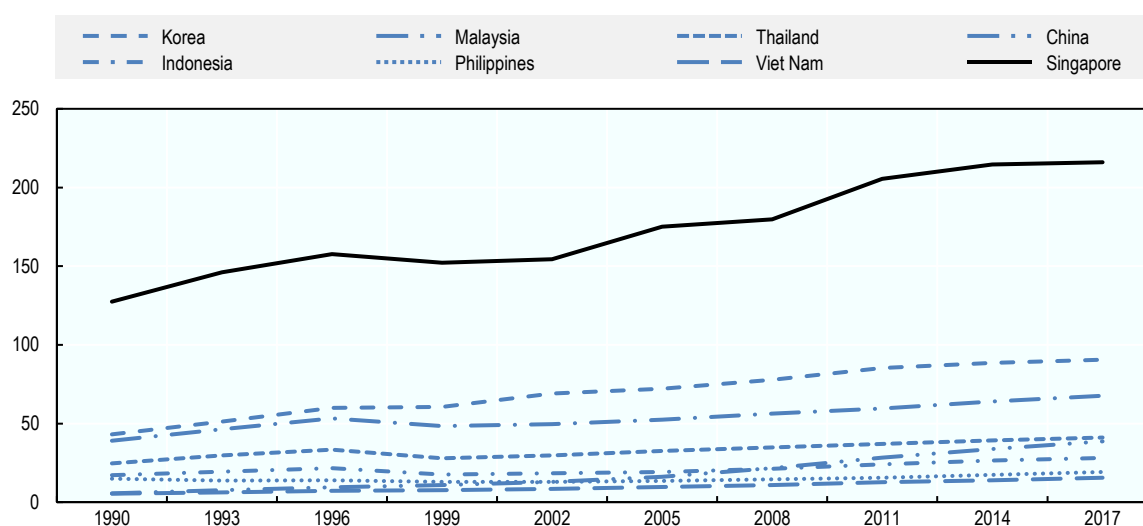
At the crossroads of major global trade and shipping routes, including a sea route between India and China, Singapore has a unique location that puts it within a seven-hour flight radius to half of the world's population (Basu Das and Widjaja, 2018, p. 157<sup>[23]</sup>). In addition, the city-state has 193 kilometres of coastline featuring natural deep water and a seaport second in the world for the number of containers handled – after Shanghai – and connected by 200 shipping lines to 600 ports in more than 120 countries (Basu Das and Widjaja, 2018, p. 157<sup>[23]</sup>).

Between 2008 and 2018, Singapore's population grew by 11% and in June 2020 was 5.69 million.<sup>11</sup> Its population is highly educated, with an adult literacy rate of 96.92% in 2018<sup>12</sup> and 55.76% of the population aged over 25 holding a post-secondary qualification (OECD/ERIA, 2018, p. 398<sup>[24]</sup>).<sup>13</sup>

#### 1.3.1. GDP and economic growth

With a nominal GDP of USD 372 billion (SGD 507 billion) in 2019, Singapore is Southeast Asia's third largest economy, after Indonesia and Thailand, and is the 34th largest economy in the world.<sup>14</sup> However, for GDP per capita, Singapore ranks first in Southeast Asia, seventh globally, and significantly higher than the OECD average (Figure 1.1).<sup>15</sup>

Figure 1.1. GDP per capita, relative to the OECD average, percentage, 1990-2017



Note: OECD average =100.

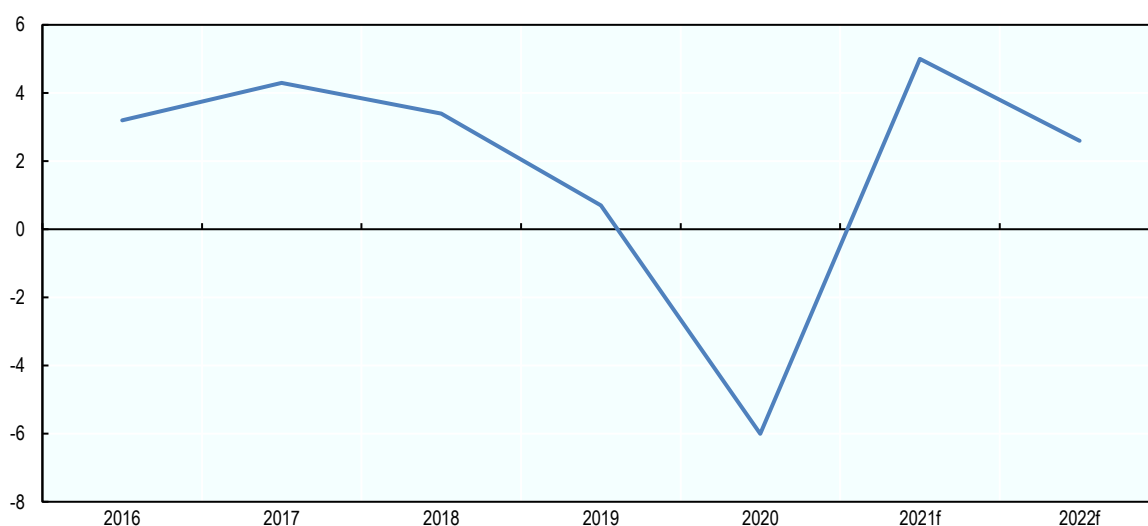
Source: World Bank, World Development Indicators database, StatLink, [www.dx.doi.org/10.1787/888933967872](http://www.dx.doi.org/10.1787/888933967872).

In the two decades following its independence in 1965, Singapore passed from a low-income to a high-income economy. It experienced one of the world's highest GDP growths, reaching an average 9.2% a year in the period 1965 to 1990.<sup>16</sup> Such a significant transformation to a skill- and capital-intensive developed economy has been possible over the time also thanks to the policy of actively attracting FDI and integrating into regional value chains.

The country continues to exhibit strong macroeconomic fundamentals, with stable prices and very low unemployment, which reached an annual average of 2.3% in 2019.<sup>17</sup> In 2018, growth reached 3.2%, mainly driven by high value-added manufacturing and services sectors.<sup>18</sup> However, in 2019 the economy expanded by only 0.9%, with the service sector growth slowing to 1.1% compared to 3.4% in 2018.<sup>19</sup>

In November 2019, the Ministry of Trade and Industry (MTI) announced a GDP growth forecast of “0.5 to 2.5 per cent” for 2020. Such forecasts have been subsequently reviewed in light of the global and domestic economic environment, including the recent Covid-19 outbreak that has dampened growth prospects. Generally, irrespective of the stringency of the social and economic restrictions in response to the pandemic, the decline of the economic activities has been of a historic scale in all countries in the region. In Singapore, in November 2020, MTI announced a downgraded growth forecast of “-6.5 to -6.0 per cent” for 2020 and “+4.0 to +6.0 per cent” for 2021.<sup>20</sup> The outbreak has heavily affected GDP growth in China, due to the reduction in household consumption following the lockdowns and other restrictions implemented in several cities, and the disruption of global value chains (GVCs). These developments will in turn have an impact on regional economies including ASEAN, for instance, by lowering import demand into China, as well as disrupting supply chains. Already in April and May 2020, Singapore experienced a decline in its exports of 13% and 24% respectively. Imports also contracted by 9.4% in 2020 year-on-year.<sup>21</sup> Figure 1.2 shows IMF’s forecast of Singapore’s GDP growth.

**Figure 1.2. Real GDP growth in Singapore (%)**



Note: Data for 2021 and 2022 are forecasts.

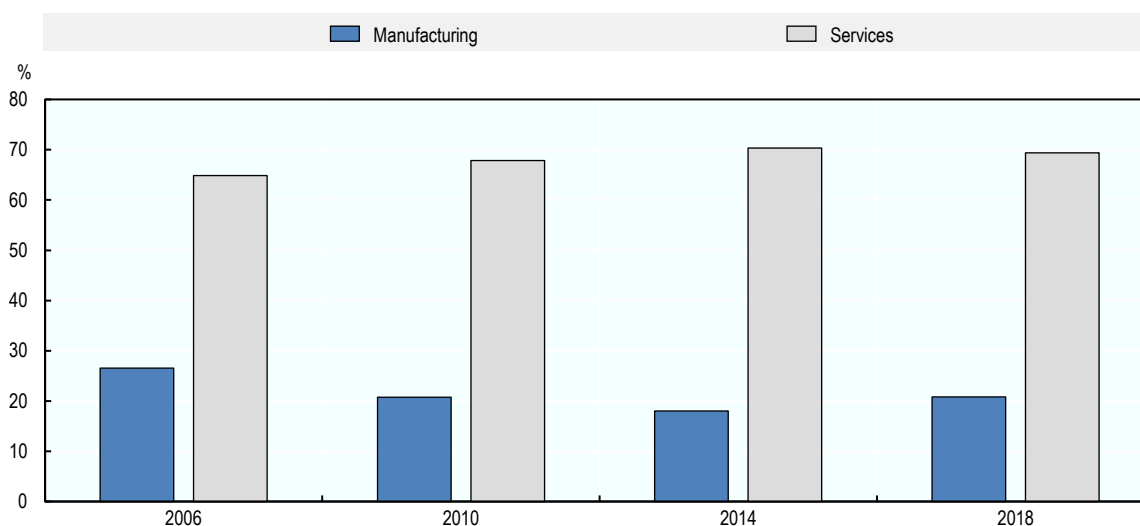
Source: International Monetary Fund (2020), “Real GDP growth: Annual percentage change”, <https://www.imf.org/en/Countries/SGP#countrydata>.

### 1.3.2. Contribution to GDP growth by sector

Over the past few decades, OECD countries, including many in Asia, have seen a structural shift away from manufacturing industries towards services (Lee, 2001<sup>[25]</sup>). Singapore’s lack of natural resources and its small land size and population encouraged the city-state to make a strategic shift to the services sector

in the mid-1980s. By the early 2000s, the Ministry of Trade and Industry (MTI) had recognised services as one of the Singaporean economy's twin engines of growth, along with the manufacturing sector (Basu Das and Widjaja, 2018, p. 149<sup>[23]</sup>). In the period 2006 to 2018, services' share of total GDP has been constantly increasing, as seen in Figure 1.3 below.

**Figure 1.3. Share of manufacturing and services as percentage of GDP in Singapore, 2006-18**



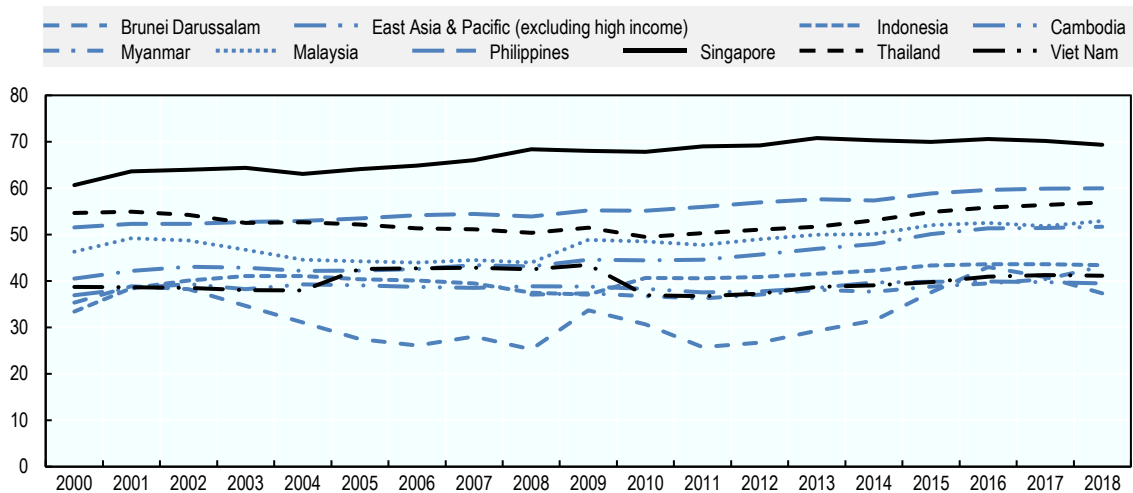
Source: World Bank, "Services, value added (% of GDP) – Singapore", <https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?end=2018&locations=SG&start=1999>.

The services sector passed from 60% of the total GDP in 2000 to more than 69% in 2018.<sup>22</sup> By contrast, over the same period, the industry sector (such as manufacturing and construction) declined from 32% to 25%. Agriculture has traditionally accounted for a negligible share of the country's GDP.

In terms of share of GDP produced by services, Singapore leads ASEAN countries, followed by the Philippines and Thailand (see Figure 1.4). The growing relevance of the services sector has been a widespread trend across ASEAN, as highlighted in 2012 by the Asian Development Bank: in ASEAN countries, services contributed 28% to GDP in 2000, but 70% by 2007 (Park and Shin, 2012, p. 35<sup>[26]</sup>). In 2016, services accounted for 73% of ASEAN inward FDI stock, similar to the OECD member country average (70% in 2015) and to global trends (OECD, 2019, p. 27<sup>[27]</sup>). This can be partly understood as a result of an ASEAN strategy of strengthening co-operation among member countries under the ASEAN Framework Agreement on Services (AFAS).<sup>23</sup> Under this framework, all countries are required to move forward with commonly agreed liberalisation programmes, with a view to removing restrictions to trade in services and boosting ASEAN services-based economies. The 2019 report *OECD Investment Policy Review of Southeast Asia* highlighted that AFAS contained relatively deep liberalisation commitments (particularly in certain service sectors, such as transport) and had achieved certain positive results in terms of liberalisation. However, it continued:

*"ASEAN agreements need to go deeper to provide the sort of catalytic liberalisation needed to bring their overall level of restrictiveness closer to the average openness observed elsewhere in the developing world" (OECD, 2019, p. 37<sup>[27]</sup>).*

Figure 1.4. Services, value added, as a percentage of GDP in ASEAN countries, 2000-18

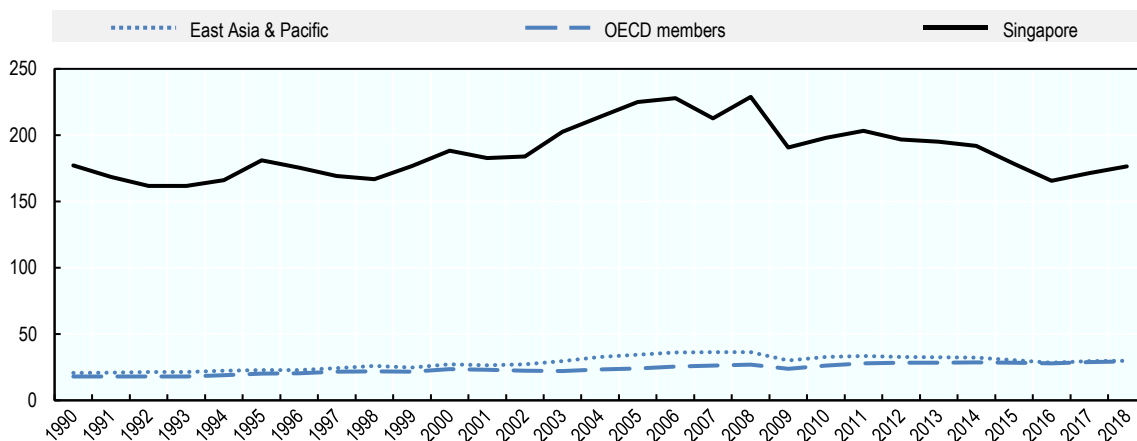


Source: World Bank (2018), "Services, value added (% of GDP) – Singapore, Brunei Darussalam, East Asia & Pacific, Indonesia, Myanmar, Malaysia, Philippines, Thailand, Vietnam", <https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?end=2018&locations=SG-BN-Z4-ID-MM-MY-PH-TH-VN&start=2000>.

### 1.3.3. Exports and FDI

Since independence, external demand and FDI have propelled growth in Singapore. This is reflected in the country's/city-state's export-to-GDP ratio, which has always been significantly high and more important than in OECD countries, as shown in Figure 1.5. Data show that in 2017, for example, exports to ASEAN-5 economies (Malaysia, Indonesia, Thailand, Philippines and Viet Nam) and China accounted for 22.9% of Singapore's VA GDP, followed by exports to EU-28 (7.6%), United States (6.7%) and India (4.1%).<sup>24</sup>

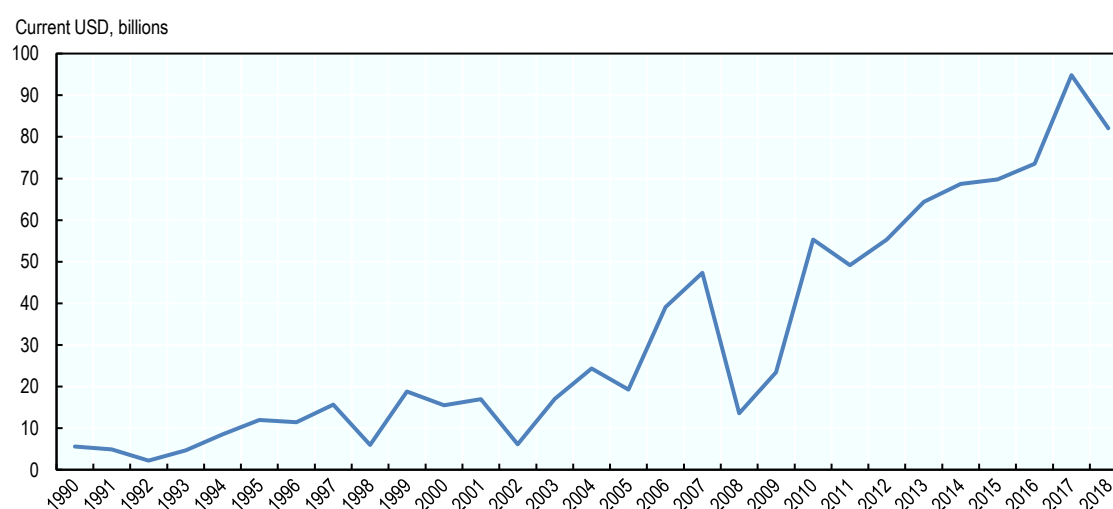
Figure 1.5. Exports of goods and services as a % of GDP, in Singapore, OECD and East Asia Pacific, 1990-2018



Note: East Asia & Pacific includes the following economies: American Samoa; Australia; Brunei Darussalam; People's Republic of China; Fiji; Micronesia; Federated States of Micronesia; Guam; Hong Kong, China; Indonesia; Japan; Cambodia; Kiribati; Korea; Lao PDR; Macau, China; Marshall Islands; Myanmar; Mongolia; Northern Mariana Islands; Malaysia; New Caledonia; Nauru; New Zealand; Philippines; Palau; Papua New Guinea; DPR Korea; French Polynesia; Singapore; Solomon Islands; Thailand; Timor-Leste; Tonga; Tuvalu; Viet Nam; Vanuatu; Samoa. Source: World Bank, "Exports of goods and services (% of GDP) – Singapore", <https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?end=2018&locations=SG&start=1990&view=chart>.

Empirical studies have shown that there is a negative relationship between FDI restrictions and foreign investment entry, suggesting that FDI restrictions considerably depress FDI (OECD, 2019, p. 80<sup>[27]</sup>). To attract FDI flows, Singapore has continually enhanced its efforts, especially in the services sector, both through unilateral actions and under regional initiatives like ASEAN or the WTO multilateral framework of General Agreement on Trade in Services (GATS). The city-state's net inflows went up from about SGD 10 billion in 1990 to SGD 112 billion in 2018 (periods of decline were seen during specific economic downturns, for instance, in 2002 and 2008).<sup>25</sup> Figure 1.6 shows the significant increase in FDI inflows over the past 30 years, which by 2018 had given Singapore the highest inward FDI flow among ASEAN countries, followed by Thailand and Malaysia.<sup>26</sup>

**Figure 1.6. Singapore foreign direct investment, 1990-2018**



Source: World Bank, "Foreign direct investment, net inflows (BoP, current US\$) – Singapore", <https://data.worldbank.org/indicator/BX.KLT.DIN.V.CD.WD?end=2018&locations=SG&start=1990>.

### 1.3.4. Business environment

Singapore remains one of the most market oriented and open economies in the world. 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. Therefore, today it is an attractive location for many multinational corporations and absorbs a significant share of ASEAN FDI (OECD/ERIA, 2018, p. 402<sup>[24]</sup>).

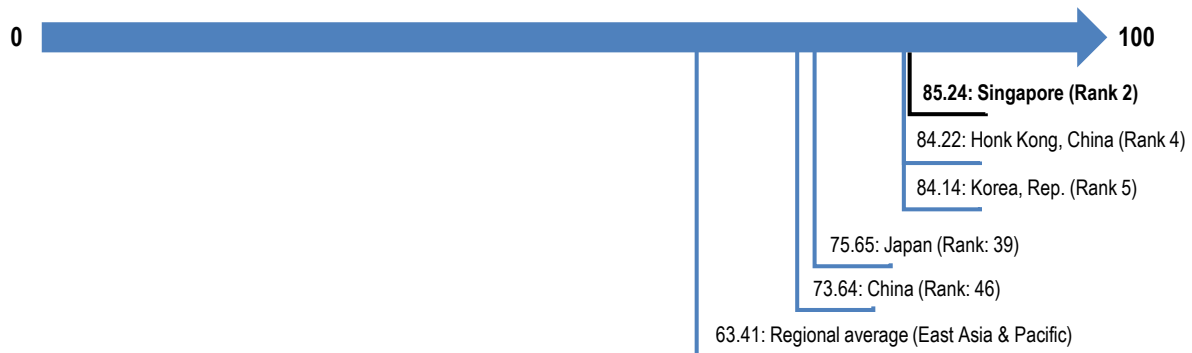
The World Economic Forum's Global Competitiveness Report ranks Singapore first out of 141 surveyed economies in terms of trade openness. This is partly due to its high ranking for its lack of non-tariff barriers (ranked 1 worldwide) and trade tariffs (2). Furthermore, Singapore ranks 15 in terms of the extent of market dominance and 6 for competition in services.

The World Bank's *Doing Business 2019* report ranks Singapore second out of 190 surveyed economies for the ease of doing business (World Bank, 2020<sup>[29]</sup>). Globally, only New Zealand scores better than Singapore. In the ASEAN region, the top performer after Singapore is Malaysia, followed by Thailand (27) and Brunei Darussalam (55).

One factor the World Bank takes into account to calculate the ease of doing business in a country is the time required to open a new business. In particular, it collects data on the number of days needed to complete all the necessary procedures to operate a legal business in the country, as this can affect market

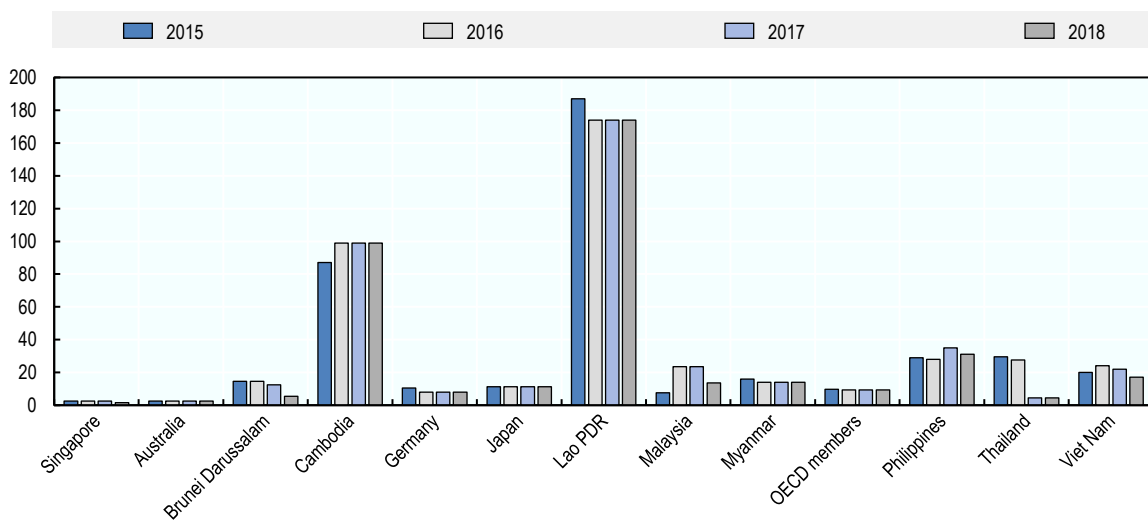
entry more generally. As shown in Figure 1.8, since 2015, almost all ASEAN member states have significantly reduced the amount of time required to start a business and in most of these countries, it is now possible to conclude all the necessary procedures within one month (for example, 1.5 calendar days in Singapore, 13.5 in Malaysia, 31 in the Philippines). These steps bring most ASEAN countries closer to the OECD member average of 9.2 days; certain, such as Brunei Darussalam, Singapore and Thailand, are already performing better than the OECD average.

Figure 1.7. Ease of doing business score



Source: World Bank, “Ease of Doing Business Rankings”, [www.doingbusiness.org/en/rankings](http://www.doingbusiness.org/en/rankings).

Figure 1.8. Time required to start a business, days



Source: World Bank, “Time required to start a business (days) – Thailand, Philippines, Brunei Darussalam, Australia, Malaysia, Vietnam, Myanmar, Cambodia, Lao PDR, Germany, Japan, Singapore, OECD members”, <https://data.worldbank.org/indicator/IC.REG.DURS?end=2018&locations=TH-PH-BN-AU-MY-VN-MM-KH-LA-DE-JP-SG-OE&start=2018&view=bar>.

### 1.4. Introduction to the logistics sector

According to a common definition, logistics is the process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.<sup>27</sup>



This definition includes inbound, outbound, internal, and external movements (Mangan and Lalwani, 2016, p. 9<sub>[30]</sub>).

Other authors have defined logistics as the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and related information flows) through an organisation and its marketing channels in such a way that current and future profitability are maximised through the cost-effective fulfilment of orders (Christopher, 2016, p. 2<sub>[31]</sub>).

Twenty-foot equivalent (TEU) containers are nowadays a fundamental feature of all major national and international transport modes as they can be stacked onboard ships, allowing the efficient use of space and improved cargo handling. This containerisation has made the “intermodal system of freight transport” possible, which enables simplified movement of bulk goods from one mode of transport to another. TEU containers and container systems also allow a number of small packages to be consolidated into a large single unit, leading to a reduction in transport and handling costs. Furthermore, specific types of containers, such as refrigerated containers, help transport temperature-sensitive cargo in large volumes.

Generally, logistics is a cluster of activities with each area involving a range of different players and services.<sup>28</sup> This report will focus on five subsectors of logistics:

1. Freight transportation (excluding air transport)
2. Freight forwarding (excluding air freight)
3. Warehousing
4. Small-package delivery services
5. Value-added logistics.

The exact scope of the logistics sector was agreed with the ASEAN Secretariat and each ASEAN member state in the context of the ASEAN Experts Group on Competition. Therefore, the report will not cover customs and aviation issues.

### **1.4.1. Freight cargo transport**

The five principal modes of freight transport are generally defined as: 1) road; 2) water; 3) rail; 4) air; and 5) pipelines (Mangan and Lalwani, 2016, p. 103<sub>[30]</sub>). This report only covers the first two modes. Rail is not covered as, to the best of the OECD’s knowledge, there is no longer any rail freight transport from Singapore after it was halted with Malaysia in 2011. Freight transport by air only makes up a small percentage of overall freight transport in the ASEAN region and also raises a different set of questions that are often regulated in bi- or multilateral agreements. As transport by pipelines is usually not counted as logistics and generally legislated for under energy law, it is also not included in this report.

#### *Road freight transport*

The road freight transport sector encompasses the transportation of goods between economic enterprises and between enterprises and consumers, including bulk goods and goods requiring special handling, such as refrigerated and dangerous goods. The law covering road transport usually distinguishes between transport for own-account, which is freight transportation between establishments belonging to the same business, and transport for hire or reward. Fixed costs are low as the physical transport infrastructure, such as motorways, is usually in place and publicly funded; variable costs include fuel costs, and maintenance charges, road use and congestion. Road is also often the most suitable or efficient mode of transport since it allows door-to-door transport without any transfers of cargo between different vehicles, which results in lower costs for senders and recipients, as well as in reduced risks of possible loss or damage from cargo transfers.

Given their relatively small size, road freight transport companies account for the largest proportion of establishments active in the transportation and storage industry in Singapore, although land transport only constitutes a small part of the overall operating receipts in this sector.

### *Inland waterway and maritime freight transport*

Waterborne freight transport refers to goods transported on waterways using various means, including boats, steamers, barges and ships, both within and outside the country. Inland waterway transport is moving goods on non-maritime waters, such as rivers or canals. Maritime transport refers to seaborne movement of goods on ships, linking a large number of origin and destination points, either within the country's territorial waters, for instance within an archipelago or in case of coastal trading (known as cabotage) or, more often, to other countries (OECD, 2016, p. 141<sup>[32]</sup>).<sup>29</sup> Ninety percent of global international trade is transported by sea. Transporting cargo by sea is ideal for high-volume cargo that is not necessarily time sensitive or which has long lead times for delivery (Rushton, Croucher and Baker, 2017, p. 447<sup>[33]</sup>). Fixed costs for waterborne freight transport include vessels, handling equipment and terminals; variable costs are low due to economies of scale based on large volumes of freight (Mangan and Lalwani, 2016, p. 105<sup>[30]</sup>).

Globally, 60% of goods by value moved by sea are carried by liner vessels<sup>30</sup> owned by shipping liners, which are carriers providing shipping services to shippers on fixed routes with regular schedules between ports (International Transport Forum, 2018, p. 10<sup>[34]</sup>). In the past, liners were often organised into conferences: formal groups of shipping lines operating on shipping routes that brought together all lines operating in a specific geographic zone to set common freight rates and regulate capacity. This practice has been under scrutiny in some regions of the world, such as in the EU,<sup>31</sup> and its relevance has decreased in the last decades, mostly as a result of the United States' 1998 Ocean Shipping Reform Act and the repeal of the EU Block Exemption to liner shipping conferences in 2006 (International Transport Forum, 2018, p. 11<sup>[34]</sup>). Singapore recently extended its Liner Shipping Block Exemption Regulation. This is discussed in details in the section below on Extension of the liner shipping block exemption.

One of the main functions of ports is facilitating domestic and international trade of goods, often on a large scale. In maritime and inland waterway transport, ports provide infrastructure to a wide range of customers including freight shippers, ferry operators and private boats. Most ports have an extensive network of infrastructure including quays, roads, rails tracks, areas for storage and stacking, repair facilities, as well as fences or walls to securely enclose the port. In addition, ports include superstructures constructed above main infrastructure, which comprise terminal buildings, warehouses and cargo-handling equipment, such as lifting cranes and pumps. Major shipping lines usually organise their services as hub-and-spoke networks with hubs centred on large container ports.

Operated by PSA Singapore, the Port of Singapore is one of the main international trading hubs, and has connections with more than 600 ports in over 120 countries.

Typical port services include:

1. **Cargo-handling** involves both cargo-loading operations, commonly known as stevedoring, and marshalling services, such as storage, assembly and sorting of cargo. Charges for cargo handling vary between terminal operators and by the type of cargo handled. Not all port terminals are capable of handling all types of cargo and some port terminals are established to handle only one type of cargo, such as crude-oil terminals.
2. **Piloting** is a specialised service provided by pilots with local knowledge who assist ship captains by navigating and manoeuvring vessels inside the port area. Maritime pilots tend to be navigation experts with high skill levels (often former captains) and specialised knowledge of the particular navigational conditions of a port, such as tide, wind direction and sea depth. These skills enable them to manoeuvre ships through the narrow channels of a port, reduce the speed of heavy

vessels, and avoid dangerous areas. The Maritime and Port Authority of Singapore (MPA) publishes guidelines for vessel movements in the port of Singapore that assist port users when booking pilots or ordering tugs in order to advise the pilotage service provider. Currently, PSA Marine, which is owned by PSA International, is the only pilotage service provider in Singapore (see section below on Selection of operator providing pilotage services).

3. **Towage** is the service of moving ships within the port using tugboats, small but powerful vessels used to assist much larger ships to manoeuvre in a port's limited space. Tugboats are capable of both pushing and towing vessel. MPA has published towage guidelines to assist port users in determining the number of tugs to assign to a vessel requiring assistance to manoeuvre within port waters. Six towage service operators are currently licensed in Singapore.
4. **Other services** such as bunkering (fuel supplies) and providing water and electricity.

Some shipping services, as well as shipping-related activities taking place in ports, are provided by the port administration under monopoly conditions, while others are subject to competition. In certain geographical regions, there is fierce inter-port competition where different countries or ports within the same country compete for the same cargo. In others, there is intra-port competition, such between two terminal operators (OECD, 2018<sup>[35]</sup>). Although it is possible to introduce a certain degree of intra-port competition (such as when port users are able to choose which dock or terminal to use) (OECD, 2011<sup>[36]</sup>), in other circumstances enhancing competition can be difficult, for instance, with certain captive customers or when ports are local natural monopolies with limited space and subject to heavy national regulations. The state of port competition needs to be assessed in the context of ports facing global shipping alliances with strong bargaining power (International Transport Forum, 2018<sup>[34]</sup>), especially since certain shipping sectors, such as container shipping, have become increasingly concentrated (OECD, 2018, p. 181<sup>[35]</sup>).

### *Rail freight transport*

Rail freight refers to freight transported by railways and does not include parcels or baggage transport services associated with railway passenger services. Fixed costs for rail tend to be high due to expensive requirements such as locomotives, wagons, tracks and facilities such as freight terminals; variable costs are, however, mostly low (Mangan and Lalwani, 2016, p. 105<sup>[30]</sup>). The OECD has previously recommended that regulatory authorities should ensure competition development in the provision of services and non-discriminatory access to infrastructure, while providing for the right incentives for investment in the network, ensuring public-service needs and safeguarding consumers' rights (OECD, 2018, p. 158<sup>[35]</sup>).

As mentioned above, there is no longer any freight transport by rail in Singapore. Therefore, although the ASEAN Competition Assessment Project covers freight rail transport for other countries, this country report will not refer to any issues in that sector.

### **1.4.2. Freight forwarding**

A freight forwarder organises the transportation of items, on behalf of customers according to their needs; this can include ancillary activities, such as customs clearance, warehousing, and ground services. Unlike the providers of cargo transport services, freight forwarders do not generally own any part of the network they use and normally hire transportation capacity from third parties. Freight forwarders instead specialise in arranging storage and shipping of merchandise on behalf of shippers. They usually provide a full range of services such as tracking inland transportation, preparation of shipping and export documents, booking cargo space, negotiating freight charges, freight consolidation, cargo insurance, and filing of insurance claims. Other services include arranging order collection from the point of origin to the shipping port, customs clearance, final delivery at the destination country, and providing knowledge of the different costs associated with different modes and destinations (Rushton, Croucher and Baker, 2017, p. 444<sup>[33]</sup>).

Given that many manufacturing companies have based their supply-chain control offices and regional distribution centres in Singapore, all the main global logistics companies such as DHL, FedEx, TNT and UPS are present in the country.

### **1.4.3. Warehousing, small-package delivery services, and value-added services**

The final three subsectors treated in this report comprise warehousing, small-package delivery services and value-added services.

Warehousing encompasses the storage of goods in bonded warehouses (where dutiable goods may be stored, manipulated or undergo manufacturing operations without payment of duty) or non-bonded warehouses. The main problem faced by companies building and operating warehouses is accessing land in central locations.

Small-package delivery services deliver small packages from a pick-up location to a drop-off location. They can include express or deferred delivery, both domestically and internationally, by any mode of transport. A separate OECD report (*OECD Competitive Neutrality Reviews: Small-Package Delivery Services in Singapore*) analyses possible distortions to competition for postal services related to SOEs. The current report will focus on regulatory barriers that affect both SOEs and private-sector players.

Value-added logistics are services related to physical and digital activities, including quality-control services, packing and packaging, labelling and tagging, configuration and customisation, and assembly and kitting.

# 2 Economic and institutional overview of the logistics sector in Singapore

The logistics sector is a crucial sector for the development of any economy, connecting firms to both domestic and international opportunities. A well-developed logistics network not only makes a large contribution to GDP and impacts upon most economic activities, but is also fundamental to productivity and growth.

Recognising the importance of connectivity and logistics for the economies of its member states, ASEAN adopted a Master Plan on ASEAN Connectivity 2025, with the aim of strengthening ASEAN competitiveness through enhanced trade routes and supply-chain efficiency.<sup>32</sup>

As a major component of the logistics sector, freight transport has an important role in enhancing economic growth and promoting consumer welfare. The movement of freight within a country and across borders improves integration of national and international markets, fostering competition and specialisation. Freight transport is a sector of vital importance for the Singaporean economy, particularly as the country is a small open economy with limited space and natural resources and so heavily reliant on international trade. In 2018, Singapore's transportation sector and storage services reached a gross output value of SGD 31.4 billion and employed approximately 199 000 people (Singapore Department of Statistics, 2018<sub>[37]</sub>).

## 2.1. Logistics sector key figures

### 2.1.1. Size and value of logistics sector

The services sector accounts for a significant share of Singapore's GDP. Logistics is clearly a strategic industry for the national economy, given that the country has established itself as a leader in entrepot trade, which relies on services including warehousing, cargo handling, freight forwarding and distribution (Basu Das and Widjaja, 2018, p. 162<sub>[23]</sub>).

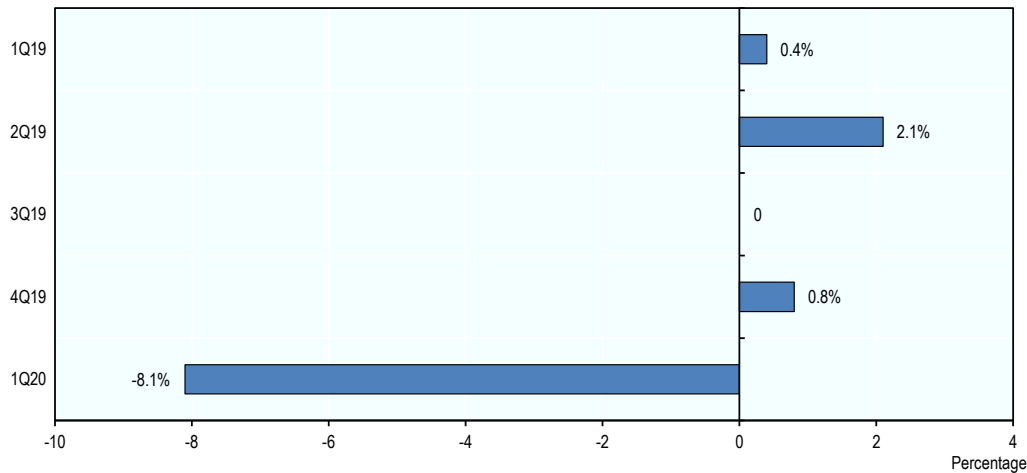
**Table 2.1. Gross domestic product in the services sector, million SGD, at current prices**

	2012	2013	2014	2015	2016	2017	2018
Wholesale & retail Trade	67 637.6	68 495.3	64 724.5	65 584.5	73 937.0	79 782.6	81 774.5
<b>Transportation &amp; storage</b>	<b>23 702.9</b>	<b>24 756.6</b>	<b>27 092.7</b>	<b>30 014.6</b>	<b>27 680.0</b>	<b>31 113.3</b>	<b>31 360.1</b>
Accommodation & food services	7 847.4	8 208.9	8 665.3	8 763.0	9 224.7	9 358.8	9 735.3
Information & communications	13 695.4	14 774.3	15 798.6	15 779.4	17 084.4	18 109.1	19 061.3
Finance & insurance	37 722.1	42 892.6	45 968.7	49 874.5	51 127.2	55 802.4	60 222.3
Business services	51 304.5	55 661.5	57 934.4	63 122.4	65 632.7	66 010.7	69 045.7
Other services industries	37 559.4	40 293.2	42 655.3	44 963.1	47 773.1	50 460.2	52 390.5
<b>TOTAL</b>	<b>239 469.3</b>	<b>255 082.3</b>	<b>262 839.8</b>	<b>278 101.3</b>	<b>292 459.1</b>	<b>310 637.1</b>	<b>323 589.8</b>

Source: Singapore Department of Statistics, "Yearbook of Statistics Singapore" (2019), p. 69, [https://www.singstat.gov.sg/-/media/files/publications/reference/yearbook\\_2019/yos2019.pdf](https://www.singstat.gov.sg/-/media/files/publications/reference/yearbook_2019/yos2019.pdf).

The transportation and storage sector represented approximately 4.8% of the overall service industry-related GDP in 2018, increasing by about 5% per year between 2012 and 2018. Worth more than SGD 31 billion in 2018, the sector expanded by 0.8% in 2019, with growth largely driven by the air transport segment, but contracted sharply following the COVID-19 outbreak, as seen in Figure 2.1.<sup>33</sup>

**Figure 2.1. Real growth of the transportation and storage sector**



Source: (Ministry of Trade and Industry - Singapore, 2020<sup>[38]</sup>)

The COVID-19 outbreak led to a contraction of the transportation and storage sector of 8.1% year-on-year, with the air transport segment being the most affected. Similarly, the water transport segment contracted following a reduction in total sea cargo handled, with reduced growth of 0.2%.<sup>34</sup>

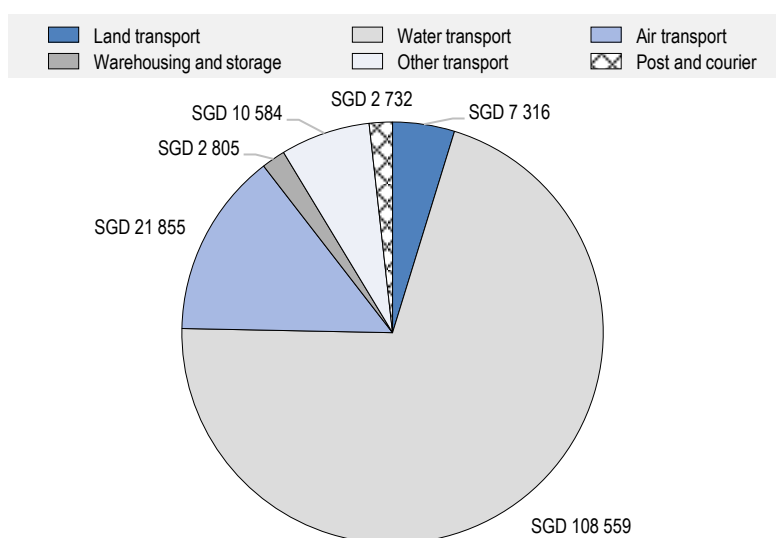
The same growth trends can be observed when looking at employment by sector with services industries employing the biggest share of the population. Between 2012 and 2018, the number of residents employed in the transportation and storage industry has been constantly increasing reaching 9% of the total employed population in Singapore in 2018.

### **2.1.2. Relative importance of modes of transport**

As shown in Figure 2.2, water transport accounted for 70.6% of the total operating receipts, followed by air transport (14.2 %).

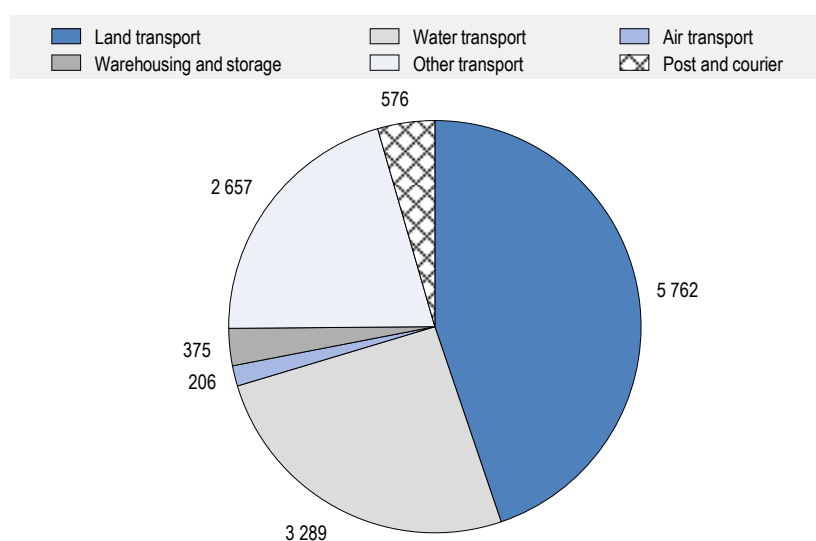
As many manufacturing companies have opened supply-chain control offices and distribution centres in Singapore to manage their regional and global chains, so have an increasing number of logistics companies, including the leading global logistics players, such as DHL, UPS and Yusen Logistics. In 2018, there were 12 865 logistics operators, with the majority active in land transport, followed by operators active in water transport, as seen in Figure 2.3. Despite the growing number of establishments, the trucking market remains highly fragmented and the average fleet size remains small. Based on publicly available information published in 2020, trucking companies in Singapore have on average approximately 10 trucks and handle about 1 000 containers a month.<sup>35</sup>

**Figure 2.2. Share of transportation & storage operating receipts**



Source: Singapore Department of Statistics, "Singapore: Transport and Storage Services Industry", [www.singstat.gov.sg/~media/Files/visualising\\_data/infographics/industry/transport-and-storage-services-2018.pdf](http://www.singstat.gov.sg/~media/Files/visualising_data/infographics/industry/transport-and-storage-services-2018.pdf).

**Figure 2.3. Operators in the transportation and storage industry in Singapore, 2018**



Source: Singapore Department of Statistics, "Singapore: Transport and Storage Services Industry", [www.singstat.gov.sg/modules/infographics/transport-and-storage](http://www.singstat.gov.sg/modules/infographics/transport-and-storage).

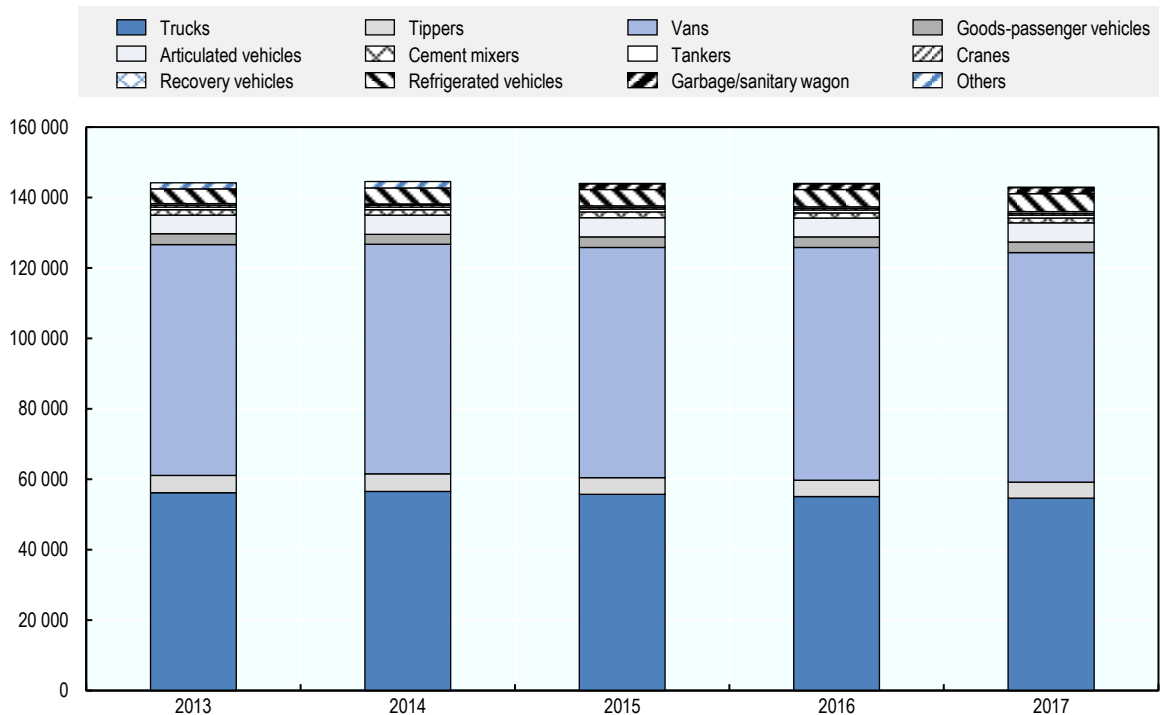
### 2.1.3. Transport fleet in Singapore

#### Road fleet

Although freight transport by road still constitutes an important share of the overall transportation and storage industry, the government has tried to address environmental and congestion concerns by imposing limits on the registration of new goods vehicles (see Section on Singapore Vehicle Quota System and issuance of Certificates of Entitlement). The registered goods vehicles fleet increased only slightly between 2012 (160 417 goods vehicles) and 2018 (161 511),<sup>36</sup> with goods vehicles accounting for 16% of total

motor vehicles in the country in 2018. Data show that lorries and vans constitute the largest share of registered goods vehicles in Singapore (see Figure 2.4).

**Figure 2.4. Annual goods vehicle fleet, by type, 2013-17**



Note: Figures exclude tax-exempt vehicles and off-road vehicles. Articulated vehicles include prime movers and low loaders.

Source: [https://data.gov.sg/dataset/annual-goods-vehicle-population-by-type-and-maximum-laden-weight?resource\\_id=ebdad545-cd65-4b74-9877-47ba7f3d4a14](https://data.gov.sg/dataset/annual-goods-vehicle-population-by-type-and-maximum-laden-weight?resource_id=ebdad545-cd65-4b74-9877-47ba7f3d4a14).

### *Vessel fleet*

The number of merchant vessels registered in Singapore generally increased between 2011 and 2018, rising by 27% (Table 2.2).

**Table 2.2. ASEAN merchant fleet ships by flag of registration, 2011-18**

	2011	2012	2013	2014	2015	2016	2017	2018
Brunei Darussalam	82	82	81	81	97	102	104	100
Cambodia	836	754	740	699	606	580	351	364
Indonesia	5 960	6 341	6 768	7 542	8 132	8 472	8 974	9 053
Lao PDR	1	2	1	1	1	1	1	1
Malaysia	1 405	1 456	1 525	1 561	1 617	1 658	1 682	1 704
Myanmar	83	86	86	88	98	98	96	95
Philippines	1 407	1 403	1 390	1 436	1 461	1 534	1 565	1 615
<b>Singapore</b>	<b>2 772</b>	<b>3 117</b>	<b>3 239</b>	<b>3 166</b>	<b>3 339</b>	<b>3 438</b>	<b>3 465</b>	<b>3 406</b>
Thailand	769	746	747	767	776	795	795	807
Viet Nam	1 756	1 774	1 776	1 752	1 761	1 798	1 836	1 863

Source: UNCTAD, <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=93>.



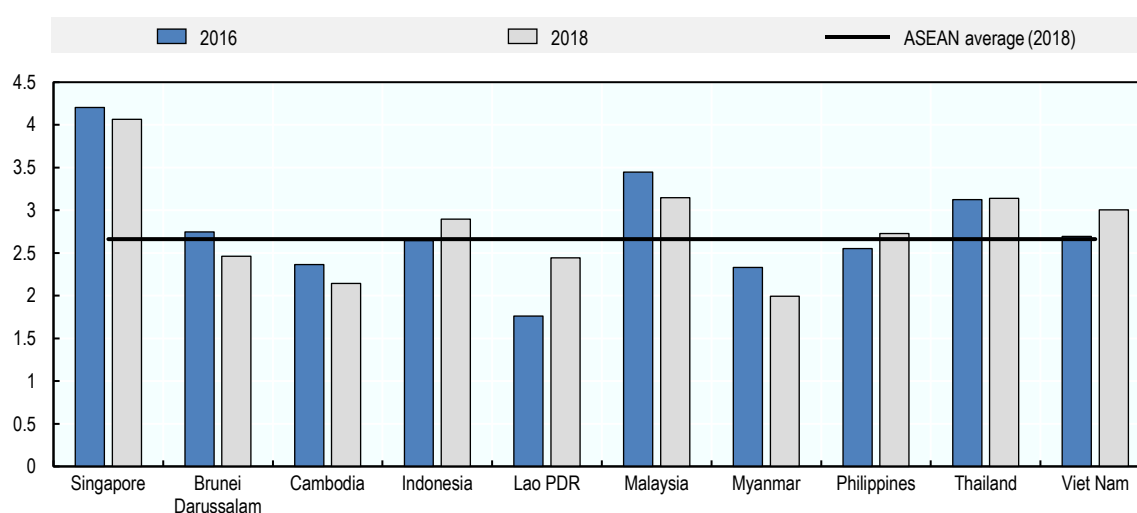
### 2.1.4. Infrastructure

Given the scarcity of land and a rising population, Singapore has looked into alternative ways of developing domestic infrastructure, such as underground goods movement systems (Basu Das and Widjaja, 2018, p. 174<sup>[23]</sup>) and has developed a masterplan to use underground spaces to move and store goods.<sup>37</sup> This plan will guide Singapore's development of underground space over the next 15 years and will be reviewed every 5 years

Singapore scores extremely well for infrastructure quality on the World Bank's Logistics Performance Index, an aggregate indicator across 160 countries that uses data on the quality of trade and transport-related infrastructure. The Index captures logistics professionals' perception of the quality of a country's trade and transport-related infrastructure, including ports, railways, roads and information technology. The index ranges from one (very low quality) to five (very high quality).

As shown in Figure 2.5, the average quality of trade and transport-related infrastructure in East Asia and Pacific in 2018 was 3.05 and only three ASEAN members (Malaysia, Singapore and Thailand) score above this average. Singapore is the best performer in the region, ranking even higher than the OECD average.

Figure 2.5. Quality of trade and transport-related infrastructure, 2016 and 2018



Source: World Bank and Turku School of Economics, Logistic Performance Index Surveys, <https://lpi.worldbank.org>.

There are significant differences in infrastructure quality across ASEAN countries. As shown in Table 2.3, Singapore scores extremely high in terms of quality of roads and efficiency of seaports.

Table 2.3. Infrastructure rankings of selected ASEAN countries, 2019

	Singapore	Thailand	Viet Nam	Indonesia	Malaysia
Road quality	1	55	103	60	19
Efficiency of train services	5	75	54	19	13
Efficiency of seaport services	1	73	83	61	19

Source: World Economic Forum, *The Global Competitiveness Report, 2019*  
[http://www3.weforum.org/docs/WEF\\_TheGlobalCompetitivenessReport2019.pdf](http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf).

### Roads

Singapore's road network of more than 9 500 lane-kilometres of paved roads is managed and maintained by the Land Transport Authority (LTA); they occupy 12% of the country's land area.

### Ports

Singapore is one of the main global trading hubs, in part thanks to the quality of its port infrastructure. The country's port terminals are managed by two commercial operators: PSA Corporation, which manages the majority of container handling, and Jurong Port, which deals mainly with bulk and conventional cargo.

PSA Singapore's four container terminals with connections to more than 600 ports in over 120 countries are today international hubs for transshipments. PSA's main business sector is transshipment as 85% of containers arriving in Singapore are then transhipped to another port of call.<sup>38</sup> Despite competition for other hubs such as Hong Kong or neighbouring countries including Malaysia, Singapore's port remains first in ASEAN for container throughput.

Jurong Port is Singapore's multipurpose port and the primary gateway for a diverse range of general, bulk and container cargo coming into Singapore. It was corporatised in 2001 and is a fully owned subsidiary of JTC Corporation. It has connections to more than 190 ports in over 47 countries.

**Table 2.4. Ranking of ASEAN ports by throughput, 2018**

Rank	Port
1	<b>Singapore</b>
2	Port Klang (Malaysia)
3	Tanjung Priok (Indonesia)
4	Penang (Malaysia)
5	Bangkok (Thailand)
6	Tanjung Perak (Indonesia)
7	Batangas (Philippines)
8	Tanjung Pelepas (Malaysia)
9	Laem Chabang (Thailand)
10	Manila (Philippines)
11	Belawan (Indonesia)
12	Davao (Philippines)
13	Kuantan (Malaysia)
14	Tanjung Emas (Indonesia)
15	Ho Chi Minh City (Viet Nam)
16	Cebu (Philippines)
17	Kota Kinabalu (Malaysia)
18	Kuching (Malaysia)
19	Muara (Brunei Darussalam)

Source: (Kutin, Saget and Vallee, 2018<sup>[38]</sup>).

Since 2010, Singapore's port container throughput has been constantly increasing to reach 37.2 million TEUs in 2019, an increase of 20% compared to 2016, as shown in Table 2.5.

**Table 2.5. Singapore total cargo and total container throughput, 2010-19**

	Total Cargo (thousand tonnes)	General cargo (thousand tonnes)	Bulk cargo (thousand tonnes)	Total container throughput (thousand twenty-foot equivalent units)
2010	503 342.1	313 683.2	189 658.9	28 431.1
2011	531 175.6	335 510.5	195 665.1	29 937.7
2012	538 012.1	353 541.7	184 470.5	31 649.4
2013	560 887.7	365 116.2	195 771.5	32 578.7
2014	581 268	384 418.4	196 849.7	33 869.3
2015	575 845.8	361 858.5	213 987.3	30 922.3
2016	593 296.7	353 243.4	240 053.3	30 903.6
2017	627 688.1	376 045.7	251 642.3	33 666.6
2018	630 125.3	391 745.2	238 380	36 599.3
2019	626 521.2	389 435.6	237 085.5	37 195.6

Note: Data cover both PSA and Jurong terminals.

Source: Department of Statistics Singapore, [www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data](http://www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data).

To accommodate its ever-growing throughput, Singapore is currently building the Tuas Terminal, a mega-port in the western part of the city. According to publicly available sources, when completed in 2040, it will be the world's largest fully automated terminal,<sup>39</sup> with “unmanned vehicles such as automated yard cranes, drones, data analytics and driverless trucks for port transport”.<sup>40</sup>

### 2.1.5. International trade and connectivity

As can be seen from Table 2.6, between 2005 and 2018, exports of transport services increased from almost SGD 33 billion (USD 20 billion) to more than SGD 70 billion (USD 51 billion).

**Table 2.6. Singapore's total trade in transport services, millions USD, 2005-18**

	2005	2010	2015	2018
Transport services, exports	19 673	38 705	47 073	51 458
Transport services, imports	20 543	29 773	47 031	54 032
Transport services, trade balance	-870	8 932	42	-2 574

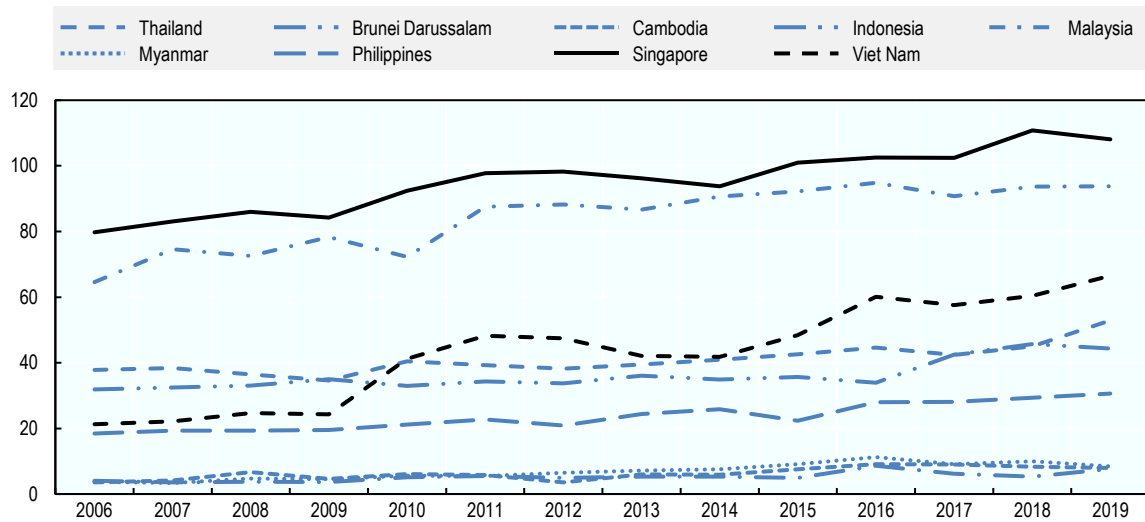
Source: UNCTAD, “Maritime Profile: Singapore”, <https://unctadstat.unctad.org/CountryProfile/MaritimeProfile/en-GB/702/index.html>.

#### *Liner shipping*

Singapore's liner shipping connections with other countries have improved continually over time. Figure 2.6 shows Singapore and other ASEAN countries' performance in the connectivity indexes, which reveal countries' levels of integration into the global networks of liner shipping. Singapore's liner shipping connectivity index has increased from 79.77 out of 100 in 2006 to 108.08 in 2019.

Figure 2.7 shows those countries with which Singapore had the strongest bilateral connections in 2019,<sup>41</sup> a crucial determinant of bilateral exports. Literature shows a close relationship between bilateral maritime liner-shipping connectivity and exports in containerised goods. A lack of a direct maritime connection with a country results in lower values of exports with that country (Fugazza and Hoffmann, 2017<sup>[39]</sup>).

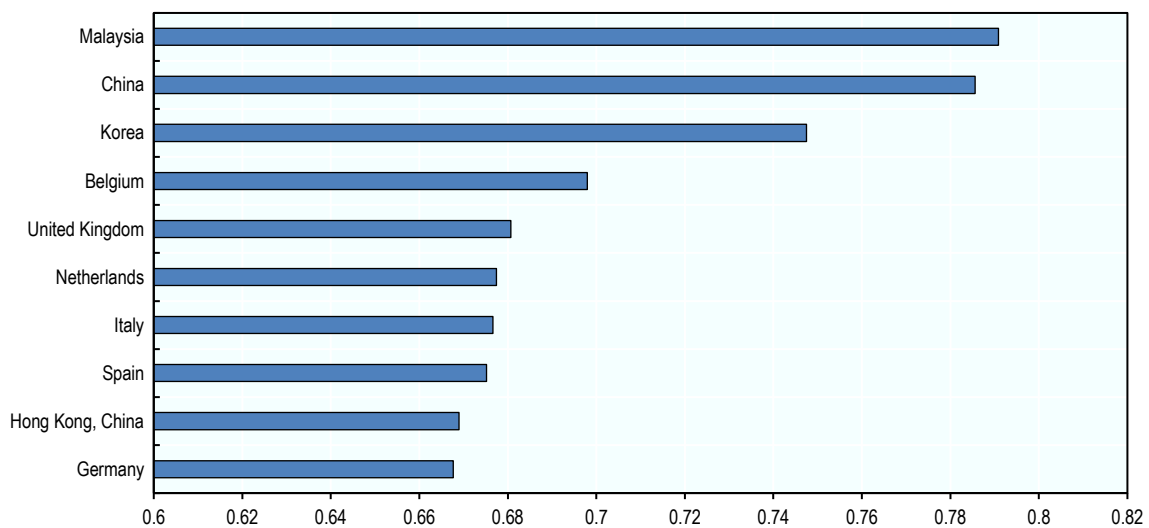
Figure 2.6. Annual Liner Shipping Connectivity Index, 2006-19



Note: The index is based upon the country with the highest score in 2006 (China); this sets the baseline of 100 with all other indices in relation to this value.

Source: UNCTADStat, generated from data provided by MDS Transmodal, [https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?IF\\_ActivePath=P%2C11%2C45&sCS\\_ChosenLang=en](https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?IF_ActivePath=P%2C11%2C45&sCS_ChosenLang=en).

Figure 2.7. Liner shipping bilateral connectivity index (LSBCI), 2019



Source: UNCTAD, "Liner shipping bilateral connectivity index, annual", <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=96618>.

## 2.1.6. World Logistics Performance Index ranking

### Box 2.1. Logistics Performance Index

The World Bank's Logistics Performance Index (LPI) is "an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance". It benchmarks countries' logistics sectors using six indicators scored 1 (lowest) to 5 (highest) to create an overall index that allows for worldwide, regional and income-group country comparisons.

The LPI uses a "weighted average of the country scores on the six key dimensions" that are the:

1. efficiency of the clearance process – such as the speed, simplicity and predictability of formalities – by border-control agencies, including customs
2. quality of trade and transport related infrastructure, including ports, railroads, roads and information technology
3. ease of arranging competitively priced shipments
4. competence and quality of logistics services, such as transport operators and customs brokers;
5. ability to track and trace consignments
6. timeliness of shipments in reaching destination within the scheduled or expected delivery time.

Source: World Bank, <https://wb-lpi-media.s3.amazonaws.com/LPI%20Methodology.pdf>.

As seen in Table 2.7, in 2018, Singapore ranked 7 out of 160 countries in the Logistics Performance Index (LPI), a dropping since 2014 (5) and 2016 (5). Although still ranked globally, Singapore registered its biggest fall for infrastructure, which reflects the quality of trade and transport related infrastructure.

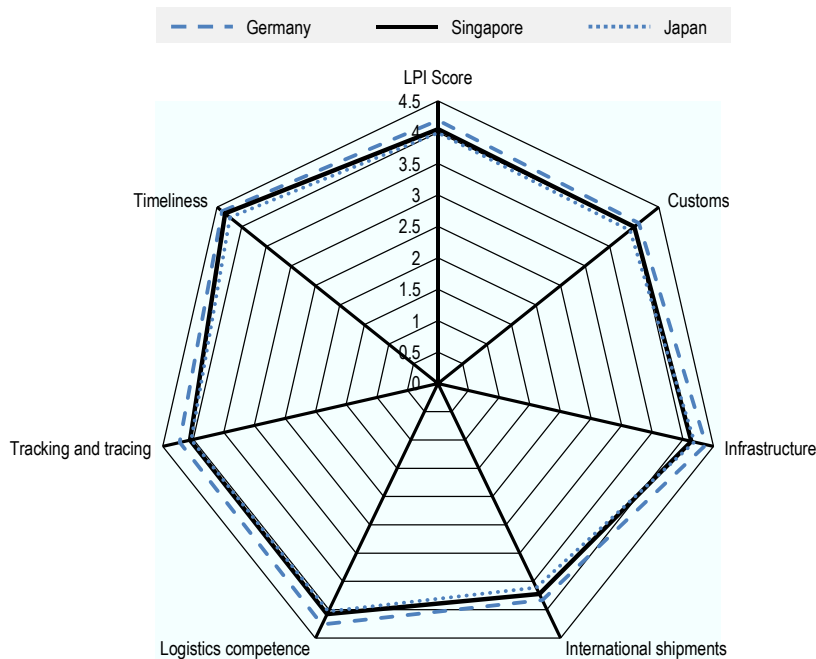
**Table 2.7. LPI overall ranking, 2018**

Overall ranking	Country
1	Germany
2	Sweden
3	Belgium
4	Austria
5	Japan
6	Netherlands
<b>7</b>	<b>Singapore</b>
8	Denmark
9	United Kingdom
10	Finland
	[...]
32	Thailand
39	Viet Nam
41	Malaysia
46	Indonesia
60	Philippines
80	Brunei Darussalam
82	Lao PDR
98	Cambodia
137	Myanmar

Source: World Bank, "International LPI", <https://lpi.worldbank.org/international/global>.

Figure 2.8 compares Singapore's overall score and sub-indicators against Japan, the top performer in the region, and Germany, the global leader. The analysis of each of the six indicators suggests that Singapore is extremely close to these top performers, lagging only slightly behind on infrastructure, and tracking and tracing. By contrast, it scores better than Japan when it comes to logistics competence, tracking and tracing and timeliness.

**Figure 2.8. LPI of Singapore against world and regional top performers, 2018**



Source: World Bank, "Country Card Score: Singapore 2018", <https://lpi.worldbank.org/international/scorecard/radar/254/C/SGP/2018/C/JPN/2018#chartarea>.

## 2.2. Key stakeholders

Singapore has a stable and efficient institutional framework. The Economic Development Board (EDB) acts as an investment promotion agency and attracting foreign investment, in co-ordination with other agencies such as Enterprise Singapore (which was the result of merger of two agencies, International Enterprise and SPRING Singapore in 2018) charged with supporting Singapore-based companies' growth.

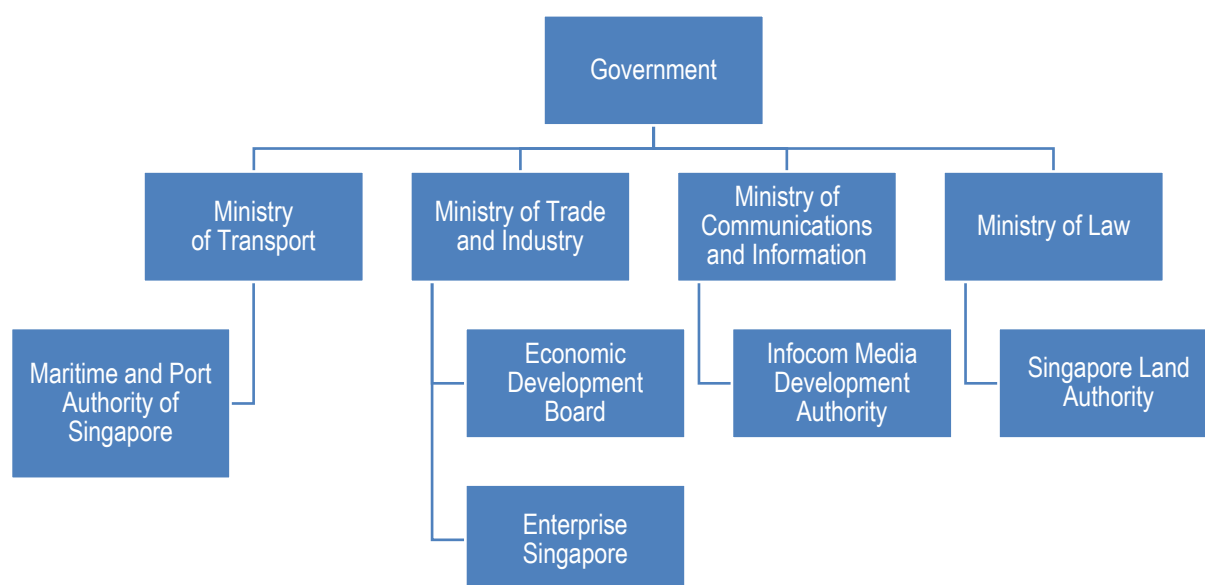
The country's legal and administrative regimes are an additional reason for foreign investment: the country offers several arbitral institutions and an arbitration award made in Singapore takes only approximately eight weeks to enforce (Basu Das and Widjaja, 2018<sup>[23]</sup>).

### 2.2.1. Government stakeholders and institutional framework

Within the government, the Ministry of Transport (MOT) is in charge of strengthening the country's connectivity and developing transport services to advance Singapore's economic competitiveness.

MOT oversees land transportation policies. It is responsible for optimising road transport by expanding infrastructure and managing vehicle population. For instance its Land Transport Division is currently responsible for the Electronic Road Pricing system and the Vehicle Quota System (see Section on Singapore Vehicle Quota System and issuance of Certificates of Entitlement).

Figure 2.9. Structure of the relevant institutions in the logistics sector



Source: Ministry of Transport of Singapore, [www.mot.gov.sg/about-mot/corporate-profile/organisation-structure](http://www.mot.gov.sg/about-mot/corporate-profile/organisation-structure).

MOT also oversees policies in key areas including strengthening Singapore's port. The Maritime and Port Authority of Singapore (MPA) was established in 1996 to take on the roles of port authority, port regulator and planner, promoter and developer of Maritime Singapore, and represent Singapore's maritime and port interests in international fora.

MOT is responsible for developing strategies to prepare for future challenges and opportunities, supporting strategic and transformation work across the Ministry and related agencies.

Another government authority directly dealing with logistics policies is **Infocomm Media Development Authority (IMDA)**, which explores potential innovative uses of disruptive technologies to address logistics issues in specific areas, such as urban logistics and international trade. For instance, it developed the Logistics Industry Digital Plan (IDP), a guide for local SMEs in the logistics industry to digitalise their business, fill skills gaps and participate in industry pilot projects.<sup>42</sup> Furthermore, as discussed in the section on Locker Alliance, in collaboration with other government agencies, IMDA developed the Locker Alliance, a new initiative to meet the needs arising from the rapid growth of the e-commerce market in Singapore.

In addition to these bodies, other bodies and authorities can affect logistics while implementing their own policies.

1. The **Singapore Land Authority** is responsible for optimising land use by overseeing management of state-owned land, land sales, leases, acquisitions and allocations. It has also regulatory functions, such as maintaining the national land information database and acting as the national land registration authority.
2. The **Economic Development Board (EDB)** is a government agency that plans and implements strategies to sustain Singapore as a global business centre. In the past, it has attracted leading third-party logistics providers such as Exel and DB Schenker and helped locally based firms to develop their capacities. Furthermore, it has been responsible for several long-term plans, such as the five-year productivity roadmap launched in 2012 together with SPRING Singapore (now part of Enterprise Singapore) to increase the long-term productivity of Singapore's logistics and

transportation industry, by developing supply-chain management expertise and enhancing innovation and efficiency (Basu Das and Widjaja, 2018, p. 162<sup>[23]</sup>).

3. **Enterprise Singapore (ESG)** was established in 2018 to support SME development and help them to build capabilities, innovate and internationalise.
4. **JTC Corporation (JTC)**, the lead agency dealing with planning promotion and development of the country's industrial landscape, currently, manages industrial land and business parks in Singapore.

### 2.2.2. State-owned enterprises

The main state-owned enterprises (SOEs) active in the logistics sector in Singapore are:

1. **Singapore Post (SingPost)**, whose shareholders include Temasek Holdings and Singapore Telecommunications (which holds 21.96%).<sup>43</sup> The company operates through three business segments: mail; logistics; and retail and e-commerce. The logistics segment provides a range of logistics services, such as freight, warehousing, domestic and international distribution, and delivery services, while the retail and e-commerce segment provides financial services and front-end e-commerce solutions.
2. **Temasek Holdings**, a Singaporean holding company, has a large portfolio worth SGD 313 billion in a variety of sectors, including logistics. For example, it has holdings in conglomerate Keppel Corporation, PSA International and Singapore Airlines.<sup>44</sup>
3. One of the world's largest port operators, **PSA International** has port projects in Asia, Europe and the Americas. In Singapore, PSA operates a total of 66 berths with a handling capacity of 43 million TEUs yearly at its container terminals in Tanjong Pagar, Keppel, Brani and Pasir Panjang. In 2019, it handled 36.9 million TEUs of containers.<sup>45</sup>
4. **Jurong Port**, a corporatised port operator fully owned by JTC Corporation, handles bulk, conventional and containerised cargo. In 2019, it handled 15.5 million tonnes of cargo and 310 000 TEUs of containers.

### 2.2.3. Main trade associations

Singapore's main logistics trade associations are:

1. **Singapore Logistics Association** which aims to promote Singapore's logistics industry
  2. **Singapore Transport Association (STA)**, representing and promoting the development of the land transport industry through the adoption of new technologies and knowledge sharing
  3. **Supply Chain Asia**, a networking platform of supply chain and logistics professionals
  4. **Logistics & Supply Chain Management Society**, a regional professional body for logistics practitioners, including shippers, freight forwarders, academics and carriers
- Container Depot Association (CDAS)**, representing container depot operators and associated transport operators in local logistics supply-chain services.



# 3 Overview of the legislation in the logistics sector in Singapore

## 3.1. Road freight transport

The Road Traffic Act is the main law regulating road freight transport. It classifies motor vehicles into categories and sets out different licensing requirements for each. Each vehicle must hold a licence issued by the Registrar of Vehicles in Singapore, with special licences required for transportation vehicles whose maximum laden weight exceeds 5 000 kilogrammes.

Following an analysis of selected legislation as well as discussions with stakeholders, the OECD considers that entry requirements for road freight transport operators as currently set out in the law do not harm competition. It nevertheless highlighted the following potential concerns that if left unaddressed or not monitored have the potential to harm competition. Alongside potential concerns, the OECD also highlights certain good practices implemented in the country that address similar specific issues also faced by other ASEAN countries.

### 3.1.1. Policy issues and regulatory responses

#### *Singapore Vehicle Quota System and issuance of Certificates of Entitlement*

**Description of obstacle.** Singapore's Vehicle Quota System (VQS), which came into effect in May 1990, allows the government to manage the growth of Singapore's vehicle fleet in a sustainable manner.

It is based upon Certificates of Entitlement (COEs), which give the holder the right to register, own and use a vehicle in Singapore for ten years, renewable for a five or ten-year period. These are limited under the quota system, which classifies motor vehicles into five categories, each with a distinct COE quota.<sup>46</sup> The quotas are reviewed quarterly on average by the Land Transport Authority (LTA), which takes into account 1) the number of vehicles taken off the roads; 2) the allowable annual growth in vehicle population; and 3) adjustments arising from temporary expired or cancelled COEs.

For vehicles in categories A (cars 1 600cc and below) B (cars 1 600cc and above), and D (motorcycles), the COE is non-transferable;<sup>47</sup> it is transferable for category C (goods vehicles). The number of category C vehicles has slightly decreased over time, passing from approximately 154 000 in early 2010 to around 151 000 in 2020.

**Table 3.1. Motor vehicle fleet under the Vehicle Quota System, monthly, 2019**

	Total motor vehicles	Category C: goods vehicles and buses
Jan 19	959 468	152 236
Feb 19	959 584	152 098
Mar 19	959 864	151 596
Apr 19	961 606	151 583
May 19	963 335	151 465
Jun 19	965 547	151 530
Jul 19	967 768	151 573
Aug 19	968 959	151 708
Sep 19	970 344	151 813
Oct 19	971 244	151 807
Nov 19	972 224	151 783
Dec 19	973 101	151 753

Source: Civil Aviation Authority of Singapore, Land Transport Authority, Maritime and Port Authority of Singapore and Department of Statistics, "Transport", [www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data](http://www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data).

Owners are incentivised through other policies, such as cash incentives to take older, more highly polluting vehicles off the road and registration rebates, to deregister their vehicle before their COE expires instead of renewing it. Each deregistration results in a new COE returned to the market for public bidding.

COEs are obtained through an open auction, the COE electronic Open Bidding System, which is held twice a month. The number of COEs available in each auction varies from auction to auction. As shown in Table 3.2, the final price for a COE, known as the quota premium, fluctuates depending on supply and demand and the value attached to the COE, which depends on bidders' reserve prices, externalities and other criteria reflected in the price formula. For instance, an increase in penalties for breaking exhaust emission standards, such as the recently extended Vehicular Emissions Scheme (VES) for newly registered cars, led to an increase in consumer demand for cleaner compliant vehicles, which resulted in an increase of the COE quota premium.<sup>48</sup> Data show that this scheme was an effective tool in directing consumers' choice towards clean-car models: between July 2018 and June 2019, the number of new cars registered in COE categories A and B qualifying for the rebates increased by about 60%.

In 2019, the number of bidders steadily exceeded that of available COEs with the quota premium for Category C varying from around SGD 23 000 to SGD 32 000.

Overall, this system contributes to keeping the number of new vehicle registrations low.

**Table 3.2. Motor vehicle quota, quota premium and prevailing quota premium for goods vehicles and buses, monthly, 2019-20**

	Goods vehicles and buses, quota, 1st auction (number)	Goods vehicles and buses, quota premium, 1st auction (SGD)	Goods vehicles and buses, quota, 2nd auction (number)	Goods Vehicles & Buses, quota Premium, 2nd auction (SGD)
Jan 19	330	27 002	344	26 230
Feb 19	326	26 378	306	26 914
Mar 19	306	27 010	304	27 021
Apr 19	309	27 589	304	32 001
May 19	394	28 559	409	27 400
Jun 19	389	25 502	393	25 501
Jul 19	390	25 089	393	24 599
Aug 19	292	27 800	283	26 501
Sep 19	302	25 502	283	25 556
Oct 19	286	26 509	284	26 001

	Goods vehicles and buses, quota, 1st auction (number)	Goods vehicles and buses, quota premium, 1st auction (SGD)	Goods vehicles and buses, quota, 2nd auction (number)	Goods Vehicles & Buses, quota Premium, 2nd auction (SGD)
Nov 19	318	25 392	322	24 502
Dec 19	318	23 704	318	23 200
Jan 20	321	24 402	329	25 001

Note: Quota is the number of registration certificates for each category set under the Singapore Vehicle Quota System; Quota Premium is the price of a COE for a vehicle.

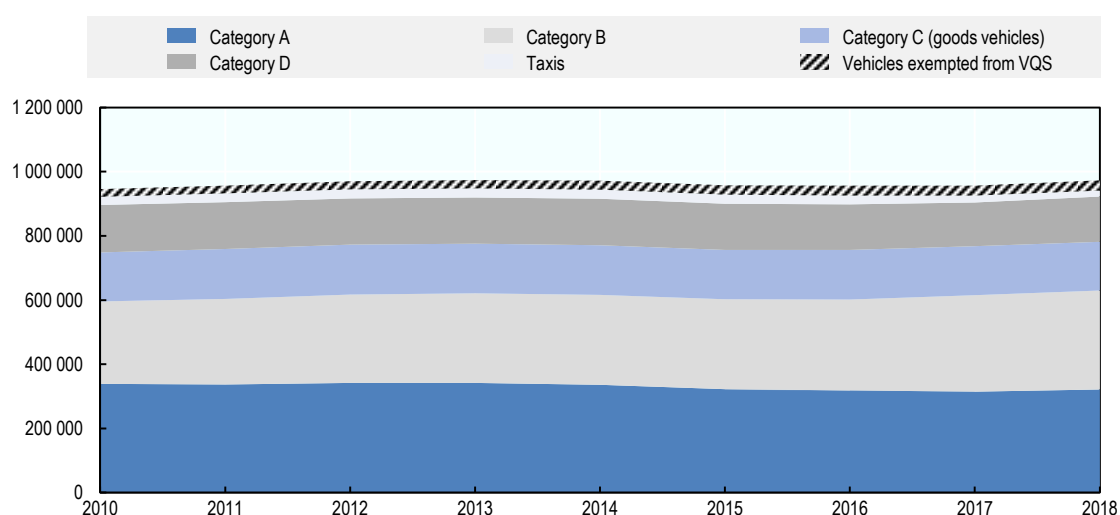
Source: Civil Aviation Authority of Singapore, Land Transport Authority, Maritime and Port Authority of Singapore and Department of Statistics, "Transport", [www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data](http://www.singstat.gov.sg/find-data/search-by-theme/industry/transport/latest-data).

**Harm to competition.** The VQS controls the overall vehicle fleet by assigning a fixed number of ownership and usage permits to the highest bidders. Given that the COE quota determination depends on the number of vehicle deregistrations, this has created boom and bust quota cycles. This creates undesirable price volatility and uncertainty about costs for new entrants, such as for companies wishing to enter the market of goods transport services (Chu, 2014<sup>[40]</sup>). In addition, potentially high costs of COEs and inaccessibility of new COEs due to their limited number may prevent operators from increasing the size of their vehicle fleet, and so limit service output.

Furthermore, fluctuations in quota premiums create uncertainty over the cost of vehicle ownership and have led in the past to high car prices unaffordable by a substantial proportion of Singaporean households (Seik, 1998<sup>[41]</sup>).

**Policymakers' objective.** The VQS system was implemented to control overall vehicle fleet size and first recommended in 1990 as a long-term solution to the issue of rapid growth of car ownership by a parliamentary select committee established to examine measures to curb road usage. Although it has arguably led to high car prices that are unaffordable by a substantial proportion of Singaporean households (Seik, 1998<sup>[41]</sup>), VQS has successfully controlled the vehicle fleet. In the first two years of its implementation, the scheme reduced the growth rate of car ownership from 5.4% in 1990 to 4.7% in 1991 and 0.8% in 1992 with many old vehicles scrapped and licences not renewed (Yuan, 1997<sup>[42]</sup>). Vehicle population, including for Category C vehicles, has been stable between 2010 and 2018 (Figure 3.1).

**Figure 3.1. Vehicle population in Singapore by category**



Note: Vehicle categories are the following: A (Cars 1600cc & below, and the engine power should not exceed 97 kilowatts (kW)), B (Cars 1600cc & above, or the engine power output exceeds 97 Kw), C (Goods Vehicles & Buses), D (Motorcycles) and E (open for any kind of vehicle).

Source: Land Transport Authority, Land Transport Data Mall, [www.mytransport.sg/content/mytransport/home/dataMall/static-data.html#Vehicle%20Population](http://www.mytransport.sg/content/mytransport/home/dataMall/static-data.html#Vehicle%20Population).

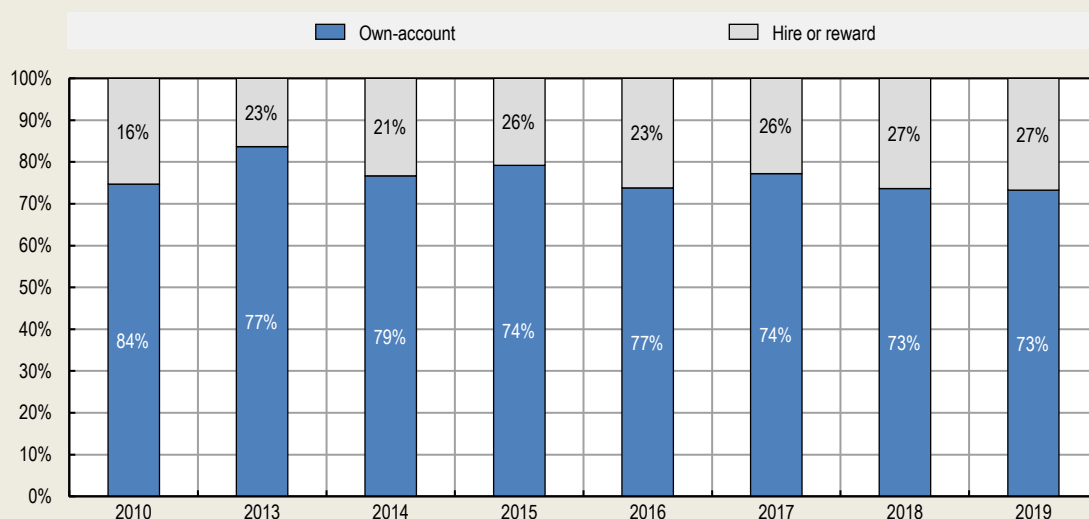
### Box 3.1. Limited number of good transport licences in Greece

Certain countries apply a model for national transport restricting both the number of authorised carriers and the size of their fleet, with new entrants only allowed to compensate the exit of other players from the market.

As noted by the World Bank and IRU in their 2016 report on *Road Freight Transport Services Reform: Guiding Principles for Practitioners and Policy Makers*: “this is a highly restrictive model whereby all access conditions are under strict control. Market forces are highly subdued and replaced by central decision making with a high degree of potential error” (World Bank/IRU, 2016, pp. 31-32<sup>[43]</sup>)

In Greece, the government was in charge of issuing licences to hauliers authorising them to carry goods and in 1970 decided that 33 000 licences were sufficient to satisfy the country’s freight transport demands; it therefore stopped issuing additional licences. The law then stipulated that the total number of permits could be increased only if an appropriate study documented a specific need. In practice, until the deregulation of the sector, only a couple of such studies were conducted and none recommended the issuance of more for-hire permits (Katsiardis, 2019<sup>[44]</sup>). As a result, the total number of for-hire truck permits remained fixed for nearly 40 years and the cost of licences rose, reaching EUR 250 000 a truck in 2010. This system protected the profession from competition by new entrants, which was in turn translated into a lack of incentives to innovate. Furthermore, since the same rules did not apply to transport for own account, there was a shift to internalising such transport services. More than 1.4 million vehicles were supposed to carry only their companies’ products, thus leading to low economies of scale and low use of capacity. Indeed, given that own-account trucks cannot move other firms’ products, their share of empty-vehicle kilometres was higher than that of for-hire trucks. In 2010 in Greece, trucks travelled empty 41% of the time, compared to the European average of 25% (Katsiardis, 2019<sup>[44]</sup>).

**Figure 3.2. Share of road freight transport for own-account and hire-or-reward to total freight transport, thousand tonnes in Greece, 2013-19**



Note: Data for 2011 and 2012 were not available.

Source: Eurostat, (World Bank/IRU, 2016, p. 33<sup>[43]</sup>), and Centre of Planning and Economic Research (2019), *Structural reforms in Greece 2010-2018*, <https://op.europa.eu/en/publication-detail/-/publication/9e68a55f-a129-11e9-9d01-01aa75ed71a1>.

Since 2010, Greece has introduced reforms to liberalise the road freight transport sector. The first piece of legislation was passed in September 2010. This framework allowed the issuance of new for-hire permits to all firms that wanted to enter the market and met certain qualitative and financial requirements. Prices could be freely set for trucking services. To lessen disruption to the sector, a three-year transition period was enacted, during which new entrants could obtain a permit subject to a fee of EUR 75 000 for the heaviest vehicles in 2010, which decreased to zero over the three-year period. Then, pursuant to Law No. 1/2012, according to the Law No. 3887/2010, Greece has removed entry barriers and price constraints in order to reduce transport costs, increase competition, create economies of scale, and improve service quality.

Following these reforms, since 2013, the share of road freight transport by hire or reward has increased to the detriment of own-account freight transport (see figure below).

The improvements in the regulatory framework and the increased maturity of firms in the sector led to a significant increase in the technical efficiency of road freight transport firms. After the reform, the average share of empty vehicle per kilometre decreased by 1.6 percentage points for own-account trucks and by 2 percentage points for for-hire trucks (Katsiardi, 2019<sup>[44]</sup>).

Note: Data for 2011 and 2012 were not available.

Source: Eurostat, <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> (accessed on 19 August 2020); (World Bank/IRU, 2016<sup>[43]</sup>), and Centre of Planning and Economic Research (KEPE, 2019), *Structural Reforms in Greece 2010-2018*, [www.dx.doi.org/10.2873/100377](http://www.dx.doi.org/10.2873/100377); (Katsiardi, 2019<sup>[44]</sup>).

**Recommendation.** In light of the legitimate policy objective and the success of the VQS and despite other measures in managing traffic congestion that, if excessive, may result in high costs on individuals, society and the country as a whole, the OECD makes no recommendation.

#### *Scheduling platform for monitor trucks within the port*

**Description of obstacle.** GPS-based tracking systems to monitor trucks within Singapore's port have been introduced in several terminals, for instance, by Jurong Port in the Combi Terminal.<sup>49</sup> The system was introduced to address traffic congestion within the port by regulating the circulation of trucks in frequently congested areas. Jurong Port, for example, uses booking systems to achieve a turnaround time of 30 minutes for every container and reduce traffic congestion and so increase vessel productivity. This and similar company-led platforms can function as alternatives to truck bans imposed by regulations in other countries to address traffic congestion during certain times and in certain areas.

In order to reduce the time that trucks spend on roads close to the port and within the port area, hauliers must schedule their trucks' trips to the ports on the platform by booking time slots for dropping off or picking up freight in the port. By using a GPS-based tracking technology, terminals are notified when trucks are approaching their facilities and can provide them with directions on how to proceed. Once a trucking company has booked its time slot, its truck can enter the port within a certain "grace period" before or after its booked time slot, subject to specific charges that aim to incentivise compliance with the booked slot. Beyond this grace period, entry is not allowed and charges are imposed for no show.

**Potential harm to competition.** Although this system may allow better traffic management in space-constrained areas such as ports, the OECD notes certain potential competition risks that may arise from the implementation of time-slot booking systems, even if these have yet to materialise in those operational systems, to the best of the OECD's knowledge.

When designing a time-slot booking system, port operators should consider the following potential competition-related concerns and, once implemented, competition authorities should be particularly aware of the following potential risks.

1. Risk of **tacit collusion** and **market sharing**. Too much transparency will allow companies to see which companies have booked a certain time slot. Using this information, they can then identify trends and, in the long run, reach tacitly collude, for instance, to share the market. In practice, if not carefully designed, a time-slot booking system can become an additional tool that increases market transparency, which can be exploited for anticompetitive practices. The OECD understands that the current booking system for hauliers at Jurong Port shows which slots are available, but does not show information on which companies have booked other slots.
2. In addition, if companies are able to see who booked a certain time slot, they might use this information as a tool to **monitor any collusion** more easily and facilitate punishment, deterring deviation from a anticompetitive agreement and making collusion more stable. If companies have indeed concluded a market-sharing agreement, this system might help them monitor compliance with such agreement.
3. Possible difficulties for **new entrants** to book time slots and have visibility with shippers. The OECD understands that to book time slots currently, new entrants only need to register with Jurong Port for a haulier account and show proof of their having been hired by consignees or agents to transport and deliver their cargo, without discriminating or favouring any party. Nevertheless, to facilitate the visibility of new entrants, barriers to entry should be removed and new competitors into the market encouraged. Authorities may consider reserving a certain percentage of time slots for new entrants.
4. **Discrimination** between national and foreign providers, for instance, if certain types of bookings are not open to some service providers.<sup>50</sup>

**Policymakers' objective.** These booking systems have been generally initiatives by port operators rather than policies designed centrally by policymakers. They aim to reduce congestion in space-constrained areas such as ports.

**Recommendation.** The OECD recommends taking into account the above-mentioned risks for competition when designing the time-slot booking system. The Consumer and Competition Commission of Singapore (CCCS) should be consulted on the design of the system and, once the system has been implemented, be vigilant for any potential anticompetitive practices.

### 3.2. Maritime freight transport

With more than 5 000 companies and employing more than 170 000 people, Singapore's maritime industry is of utmost importance to the country. In January 2018, the Maritime and Port Authority launched a Sea Transport Industry Transformation Map, which aims to catalyse innovation, drive productivity improvements, enhance the skills of the maritime workforce, grow the industry, and create jobs.<sup>51</sup> A key initiative is the digitisation of the Port of Singapore and trade and maritime documentation, such as electronic bills of lading using blockchain technology (Box 3.2).

#### Box 3.2. Singapore's initiative on electronic bills of lading using blockchain technology

Bills of lading were traditionally exchanged among the parties in paper format, which created costs, and the potential for delays, errors and tampering. Their transformation in electronic format since the late 1980s improved the situation, although their transfer and management still required a central repository run by a trusted third party, as well as registration by each party involved in the transaction.

Today, several maritime hubs are exploring possible ways to digitalise trade and maritime documentation including bills of lading.

In early 2019, Singapore – through IMDA and MPA – announced a co-operation agreement with the International Chamber of Commerce and a number of leading international companies to develop the global TradeTrust initiative to improve electronic bills of lading. This system will enable the secure digital exchange of trade documents and so reduce inefficiencies and complexities of paper -based cross-border trade. To ensure authenticity of documents and their origin, the system will use a type of blockchain technology, which creates a continuous electronic chain of verifiable and unalterable information and transactions.

Source: MPA, “New Initiatives to Strengthen Singapore as a Global Maritime Hub”, [www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/1c140fa7-f08b-430a-a1bf-e72b85ab450f](http://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/1c140fa7-f08b-430a-a1bf-e72b85ab450f); MCI, “Trade Trust: A Trusted Global Network for Digitally Interconnected Trade Documents”, [www.mci.gov.sg/-/media/mcicorp/doc/budget-workplan/cos-2019/cos-2019-factsheet---tradetrust.ashx](http://www.mci.gov.sg/-/media/mcicorp/doc/budget-workplan/cos-2019/cos-2019-factsheet---tradetrust.ashx); J-P. Rodrigue (2018), “Efficiency and Sustainability in Multimodal Supply Chains”, International Transport Forum Discussion Papers: 171, OECD Publishing, Paris.

In order to set up a shipping company, Singapore regulations set out a straightforward process. Following incorporation with the Accounting and Corporate Regulatory Authority (ACRA), investors apply for the relevant licences and permits, depending on the scope of the envisaged business activities. Basic licences require:

1. a ship registration certificate for the transport of passengers or goods
2. a harbour craft licence to operate vessels within Singapore’s port
3. a port clearance certificate to operate vessels beyond Singapore’s port
4. a port limit manning licence allowing crew members to work on board vessels
5. a permit to discharge, load and transit dangerous goods and dock vessels carrying such goods.

Based on its analysis of legislation as well as discussions with stakeholders during the fact-finding mission, the OECD has the following remarks.

### 3.2.1. Policy issues and regulatory responses

#### *Selection of operator providing pilotage services*

**Description of obstacle.** Pursuant to Article 81 of the Maritime and Port Authority of Singapore Act: “No person shall provide – a) any marine service; or b) any port service or facility unless [...] authorised to do by a public licence or an exemption granted by the Authority” in the port of Singapore.

Towage services were fully liberalised at the end of the 1990s,<sup>52</sup> but for safety and efficiency reasons, pilotage services continue to be provided only by PSA Marine, a wholly owned subsidiary of PSA International since its corporatisation in 1997. As seen in Table 3.3, PSA Marine is performing well in its provision of services.

**Table 3.3. PSA Marine’s service level, 2020**

November 2020	Target: 90% within 30 minutes from service-required time (SRT)
PSA Marine’s performance	95.36%
Total number of piloted jobs	13 069

Source: PSA Marine, “Pilotage”, [www.psamarine.com/businesses/pilotage](http://www.psamarine.com/businesses/pilotage).

To ensure competence and safety, pilots need to hold a valid licence issued under Article 68 of the Maritime and Port Authority of Singapore Act. A specific Pilotage Committee appointed under Article 66 holds examinations and issues such authorised pilot licences.

Pilotage fees are regulated by MPA and were last revised in 2018 using a new pilotage tariff adjustment formula was introduced after co-operation between PSA Marine and MPA.<sup>53</sup>

**International comparison.** In its *Competition Assessment Review of Portugal*, the OECD recommended amending the decree-laws regulating piloting services in Portugal, so that direct provision by port authorities is only possible whenever there is no manifest interest by the private sector in providing the service due to lack of economic viability (OECD, 2018<sup>[35]</sup>). The OECD recommended that the lack of interest by the private sector be re-evaluated on a regular basis, in order to make sure that direct provision is not unduly restricting entry. It estimated that making piloting services contestable would result in an estimated annual benefit to freight handlers between EUR 3.6 and 9 million, potentially also increasing the attractiveness of the port to cargo-handling companies and improving the quality of the service, especially waiting times.

### Box 3.3. Overview of models for the provision of piloting services

In almost all countries, pilotage services are delivered through a regulated monopoly with few jurisdictions allowing competition in the market. Generally, national or sub-national legislation provides the framework within which pilotage services are delivered with the most prominent objective of legislation being safety. Efficiency and competitive pilotage tariffs are other important legislated objectives.

Table 3.4 provides an overview of the different models for the provision of pilotage services around the world. Singapore falls within model two, with its pilotage services provided by a profit-oriented private corporation in which the Singaporean government is the majority shareholder.

**Table 3.4. Overview of models**

	Description
Model 1	Pilotage service delivered by the federal government
Model 2	Pilotage service delivered by a government-owned corporation
Model 3	Pilotage service delivered by municipal, regional or provincial government
Model 4	Pilotage service delivered by a standalone entity
Model 5	Pilotage service delivered by a port model
Model 6	Pilotage service delivered by licensed pilots through a regulated monopoly
Model 7	Pilotage service delivered by licensed pilots through regulated competing organisations
Model 8	Pilotage service delivered by a corporation through a regulated monopoly
Model 9	Pilotage service delivered by a corporation through regulated competition
Model 10	Pilotage service delivered by shipowners

Source: Transport Canada/KPMG (2018), "Pilotage Act Review: Research Summary – International Comparisons", [www.tc.gc.ca/en/reviews/international-comparisons.html](http://www.tc.gc.ca/en/reviews/international-comparisons.html).

In an opinion issued in 2012, the Italian Competition Authority (AGCM) noted that the principle of competition should generally govern the provision of technical and nautical services, while legal monopolies should only be limited to situations where they are "absolutely indispensable."<sup>54</sup> Safety reasons cannot a priori justify the exclusion of any competition mechanism in the provision of port services. Indeed, "the objective of guaranteeing safety is not necessarily in conflict with competition among firms, nor with certain institutional settings that introduce the same efficiency incentives as those of a free market."<sup>55</sup> If



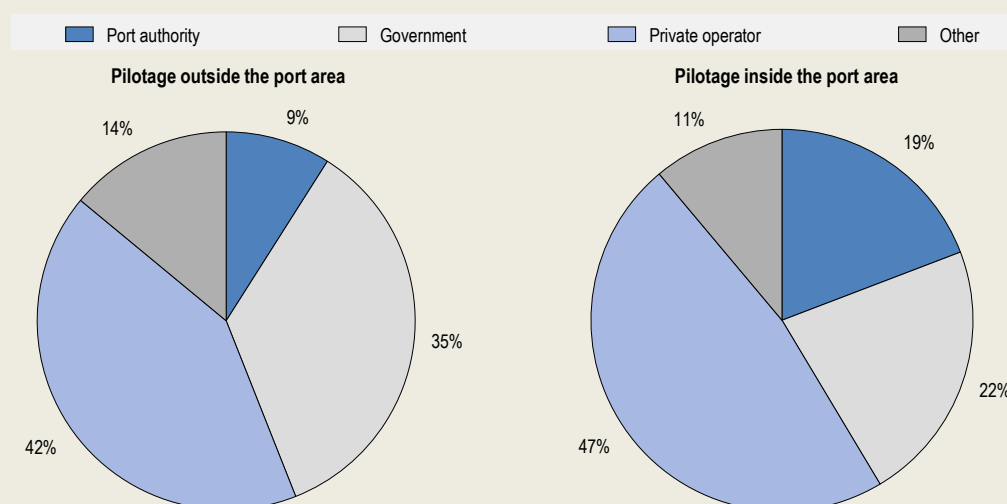
any market failure exists, justifying a legal monopoly regime and excluding competition among several firms *in* the market, authorities should consider whether competition *for* the market is possible in order to maximise efficiency and reduce tariffs, while ensuring safety (For an overview of the types of monopoly in which competition for-the-market might occur, see OECD (2019<sup>[46]</sup>). This possibility must be assessed on a case-by-case basis rather than excluding any form of competition. In the AGCM's view, if competition for the market is preferred, open tender procedures should be regularly held.

The box below provides a snapshot of the predominant models in EU countries.

### Box 3.4. Pilotage: Service providers in certain EU countries

In European ports, the operation of important services is generally done by the private sector. Although under significant public influence, the provision of pilotage services by private operators both inside (47%) and outside (42%) the port area was the most common model in EU ports in 2016.

Figure 3.3. Pilotage outside and inside the port area



Source: European Sea Ports Organisation (ESPO), *Trends in EU Ports Governance* (2016), [www.espo.be/media/espopublications/Trends in EU ports governance 2016 FINAL VERSION.pdf](http://www.espo.be/media/espopublications/Trends%20in%20EU%20ports%20governance%202016%20FINAL%20VERSION.pdf).

**Policymakers' objective.** In many countries, pilotage is considered a public service, given its role of protecting navigational safety, preserving port infrastructure and preventing environmental hazards. A lack of experience and knowledge of specific port conditions may indeed pose risks for the safety of cargo and other port users, as well as damage port infrastructure. For these reasons, piloting is subject to strict regulations that aim to promote safety and protect the environment. However, some provisions might have the effect of restricting competition more than is strictly necessary to achieve a legitimate policy objective.

**Recommendation.** The Singaporean authorities should investigate whether there is private-sector interest in providing pilotage services. If so, they should create appropriate legal framework so that piloting services are tendered based on fair and non-discriminatory terms that guarantee competition for the market.

### *Extension of the liner shipping block exemption*

**Policy concerned.** Section 36 (“Block exemptions”) of the 2004 Competition Act provides that CCCS may recommend that Ministry of Trade and Industry exempts certain categories of agreements from Section 34 of the Competition Act if they satisfy specific requirements set out in Section 41. These block exemption orders (BEOs) for agreements, decisions and concerted practices that have as their object or effect the prevention, restriction or distortion of competition in Singapore may be applied if, on balance, they have net economic benefits that:

1. contribute to improving production or distribution or promoting technical or economic progress
2. do not impose on the businesses concerned restrictions that are not indispensable to the attainment of those objectives, nor afford them the possibility of eliminating competition in respect of a substantial part of the goods or services in question.<sup>56</sup>

Since 14 July 2006, Singapore has in force a BEO for liner shipping agreements that exempts such agreements from Section 34 of the Competition Act. The BEO had been extended twice since 2006 and on 26 August 2020 was extended again until 31 December 2021. The Minister of Trade and Industry justified the most recent extension by the fact that the COVID-19 pandemic has resulted in contractions of global manufacturing and trade, supply-chain disruptions, a dip in global demand, and uncertainty for the maritime sector both internationally and in Singapore.<sup>57</sup> Unlike previous five-year BEO extensions, the most recent was only for one year. Prior to its expiry in 2021, CCCS will assess and make a recommendation to the ministry about the BEO.

The BEO exempts parties to a liner shipping agreement that do not exceed an aggregate market share of 50%<sup>58</sup> from Section 34 of the Competition Act if the following conditions are fulfilled.

1. The agreement allows liner operators
  - a. to offer, on the basis of individual confidential contracting, their own service arrangements
  - b. to withdraw from the agreement on giving any agreed period of notice without financial or other penalty such as, in particular, an obligation to cease providing liner shipping services in a market, whether or not coupled with the condition that such activity may be resumed only after a certain period has elapsed.
2. The agreement does not require any of the following activities to be undertaken by the liner operators:
  - a. mandatory adherence to a tariff
  - b. the disclosure, whether to other liner operators or otherwise, of confidential information concerning service arrangements.

Different conditions are laid down in the BEO if the parties to the agreement exceed 50% market share, in particular relating to filing of the agreement, publication of information concerning tariffs, and the structure and service levels of the liner shipping services, as well as providing documents and details on such matters and other aspects to CCCS.

If such conditions are met, the agreement will be considered *prima facie* to meet the requirements under Section 41 of the Competition Act without conducting a specific examination. Liner operators will therefore be allowed to pursue a wide range of liner activities, for instance concluding agreements between themselves on detailed capacity decisions and prices.

**Harm to competition.** In Singapore, the block exemption for liner operators to conclude agreements on detailed capacity decisions and prices allows more leeway to co-ordinate than similar block exemptions in other jurisdictions.<sup>59</sup> Given the wide range of regulatory regimes for competition in international shipping globally, such heterogeneity of regulations might be exploited to reach some form of collusion, for instance, through hub-and-spoke cartels. Carriers may use Singapore as the hub’s location to co-operate on prices

or to exchange strategically sensitive information between competitors (Braakman, 2017<sup>[45]</sup>). This may be further facilitated by the Shanghai Shipping Exchange that publishes weekly updates on freight rates and surcharges for intra-Asia trade, which has the potential effect of policing agreed rates and surcharges (International Transport Forum, 2018, p. 79<sup>[34]</sup>).

There are also some general considerations that could be made regarding liner shipping block exemptions. As noted by the OECD in a 2015 working paper on “Competition Issues in Liner Shipping”, the liner shipping industry has seen important changes in the last decades including “regulatory changes, the weakening of the conference system, the increase in the relevance of individual confidential service contracts, the tendency towards ever bigger vessels, the search for economies of scale and scope through horizontal and vertical integration, and the increasing relevance of strategic alliances” (OECD, 2015<sup>[49]</sup>).

Alliances are also said to have “had an impact on the possibility for carriers to differentiate themselves”, making the overall offer more uniform, contributing to “lower service frequency, fewer direct port-to-port connections, declining schedule reliability and longer waiting times” (International Transport Forum, 2018, p. 7<sup>[34]</sup>). During the Covid-19 crisis, carriers have been effective in withdrawing ship supply, which has contributed to sustained and even increasing freight rates, despite lower demand for shipping services.

**International comparison.** Several jurisdictions have block exemption regulations in place for liner shipping agreements, although the type of co-operation and practices covered vary.

**Table 3.5. Liner shipping and competition law in selected countries**

Treatment in competition law	Countries
No shipping-specific exemptions	China; Turkey; Brazil; South Africa; Russia; Viet Nam; Indonesia
Block exemption for shipping alliances	EU; Hong Kong, China; New Zealand; Israel; Malaysia
Exemption for all agreements (including on prices)	US; Australia; Singapore; Japan; Korea; Canada

Source: (International Transport Forum, 2018, p. 73<sup>[34]</sup>).

**Policymakers’ objective.** Generally, the rationale for granting exemptions is that consortia can lead to economies of scale and better use of the space in vessels. It is argued that a fair share of the benefits resulting from these efficiencies are then passed on to shipping customers in terms of better coverage of ports and improved services.<sup>60</sup> Following an assessment in its *Evaluation of Consortia Block Exemption Regulation*, the European Commission found that despite an evolution towards greater concentration in the liner shipping industry, prices have diminished alongside costs, while levels of service appear to have remained broadly stable (European Commission, 2019<sup>[47]</sup>).

**Recommendation.** The OECD notes that the current BEO expires in December 2021 and that its last brief extension was motivated by the particular circumstances of the COVID-19 pandemic, which has resulted in contractions of global manufacturing and trade, supply-chain disruption, a dip in global demand, and subsequent uncertainties for the maritime sector both internationally and in Singapore. The OECD also notes that, prior to its expiry in December 2021, the authorities will assess whether to re-extend the BEO.

The OECD recommends that any assessment focus on any positive and specific grounds that might justify a re-extension of the BEO beyond 2021 and take the following factors into account.

1. The **scope** of the block exemption compared to the scope of similar provisions in other jurisdictions (Table 3.5).<sup>61</sup> For instance, unlike other jurisdictions, Singapore allows carriers to co-operate on prices and remuneration terms or to exchange other strategically sensitive information.<sup>62</sup>
2. The **effectiveness of the BEO**, taking into account major developments in the industry and whether it still facilitates economic co-operation that is beneficial to consumers. In particular, authorities should assess whether any potential surpluses arising from alliances are passed onto

consumers, for instance, through shippers having lower costs and higher reliability in goods delivery. Some studies have highlighted that, compared to the early generation alliances in the mid-1990s, today's alliances are mainly co-operation tools among the largest container lines (the three global alliances regroup the world's eight largest container carriers, which represent around 80% of overall container trade) (International Transport Forum, 2018<sup>[34]</sup>). This is particularly important as evidence suggests that alliances seem to have contributed to overcapacity, more uniform supply and more limited possibilities for carriers to differentiate themselves, with potential effects on lower service frequencies, fewer direct port-to-port connections, declining schedule reliability and longer waiting times.

3. **The BOE's coherence** with general competition policy. This might require assessing whether liner shipping has unique characteristics that justify exemptions from competition law based on sector-specific rules. Some of the factors alleged to be unique to the liner shipping industry (high and lumpy capacity investments, fluctuating demand, structural overcapacity requirements, and marginal costs below average costs when supply exceeds demand) are actually shared with other industries providing regular scheduled services, such as rail and air transportation (OECD, 2015, p. 13<sup>[49]</sup>).
4. The **added value of having such sector-specific guidance** in addition to the general guidelines, such as CCCS "Guidelines on the Section 34 Prohibition", and the possibility of seeking guidance from CCCS, such as "Filing Notifications for Guidance or Decision with Respect to the Section 34 Prohibition and Section 47 Prohibition, 2016".
5. The impact of its repeal on **legal certainty** for the liner shipping industry. This factor should not be overestimated, however, as explained in Box 3.5; in order to ensure legal certainty, alternative measures may be envisaged, such as temporary guidelines on how to treat liner shipping under competition law.
6. The **efficiency** of the BOE, notably its impact on compliance costs, and possible alternatives that would cause less burden or complexity.

### Box 3.5. Legal certainty and block exemptions

In March 2020, the European Commission prolonged the EU Block Exemption for Liner Shipping Consortia for another four years.

During the stakeholders' consultation, the liner shipping industry expressed its fear that repealing the block exemption would introduce legal uncertainty, resulting in higher compliance costs. In the industry's view, the block exemption provides the liner industry with more certainty on which collaborative practices are allowed and repealing it would reduce this (World Shipping Council; European Community Shipowners' Associations; International Chamber of Shipping; Asian Shipowners' Association, 2018<sup>[48]</sup>). Repeal of the block exemption would mean that carriers engaging in collaboration would need to **conduct a self-assessment on how their collaboration fits in with generic competition law**. Depending on country and legal system, carriers could submit notification or seek clearance from the regulator for the collaboration proposed. In the EU, repeal of the block exemption would mean that carriers would need to **self-assess their alliance agreements under the Commission's Horizontal Guidelines** ("Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements").

It is sometimes argued that other transport stakeholders might also feel more secure in a regulatory environment in which the **possibilities of market abuse are specifically constrained**, as they are in a block exemption. Many shippers, ports, terminal operators or other stakeholders feel unable to complain about their treatment by carriers, due to their market power: carriers have huge leverage

through their decisions about where to call and which cargo to accept. A regular review of a block exemption could – at least in theory – correct abuse of market power through the intervention of representative organisations in consultation processes, whereas individual firms might be reluctant to file a complaint in individual cases. However, the **increase in compliance costs might be fairly marginal**. A regulatory impact statement published in 2015 of new competition regulation of international shipping in New Zealand estimated that the increase of compliance costs in case of a full repeal of block exemptions for liner shipping would be in the order of NZD 1-4 million, based on 30 known agreements between liner companies that relate to New Zealand. In the case of larger markets, such as the EU, with possibly more agreements, compliance costs could be higher, which might also incentivise carriers to streamline their various agreements into fewer but more comprehensive agreements.

Higher compliance costs resulting in fewer or less dominant alliances might actually be desirable from the perspective of maritime logistics-chain performance. The EU's 2009 amendment to the block exemption for shipping liner consortia regulation appears to have brought little benefit to transport users, leading to the question of whether the sanction of repealing the exemption is an effective incentive for improving the maritime logistics chain's performance. It should also be noted that certain alliances are already supposed to conduct self-assessments. The EU Block Exemption applies to alliances that remain below the relevant market share of 30%; alliances need to conduct self-assessments in case they exceed this ceiling. Both 2M and Ocean Alliance exceed that threshold for certain relevant markets, so are already expected to be conducting self-assessments.

Moreover, **repeal of the consortia block exemption does not create a legal vacuum**. In the case of the EU, there are guidelines on horizontal co-operation agreements. Industry associations have indicated, however, that these horizontal guidelines might not be perfectly applicable to the liner-shipment sector (World Shipping Council; European Community Shipowners' Associations; International Chamber of Shipping; Asian Shipowners' Association, 2018<sup>[48]</sup>). Within that context, the Commission could consider providing temporary guidelines for the application of the horizontal guidelines to liner shipping, similar to the temporary guidelines put in place after the repeal of the block exemption for liner conferences. Such guidelines could focus on the need for alliances to ensure the transfer of a fair share of benefits from their operations to consumers and downstream supply-chain operators, in accordance with the requirements of Article 101 (3) of the Treaty on the Functioning of the European Union.

Source: (International Transport Forum, 2018<sup>[34]</sup>).

### 3.3. Warehouses

To establish a storage business in Singapore, investors must first incorporate it with the Accounting and Corporate Regulatory Authority (ACRA). Once they have registered as a sole proprietorship, partnership or private limited company, they obtain a permit from the Urban Redevelopment Authority (URA), which requires premises that must comply with the 60:40 rule: at least 60% of the gross floor area must be used for warehousing and a maximum of 40% for ancillary uses, such as office space. Specific licences are also needed for certain types of storage business; for instance, goods exempted from the Goods and Services Tax (GST) require a licence from Singapore Customs.

Compliance with specific safety measures is also required with a business operator needing a safe-workplace licence from the Occupational Safety and Health Division at the Ministry of Manpower and a fire safety certificate from Singapore Civil Defence Force prior to occupying the building.

Based on its analysis of legislation and discussions with stakeholders, the OECD has the following recommendations.

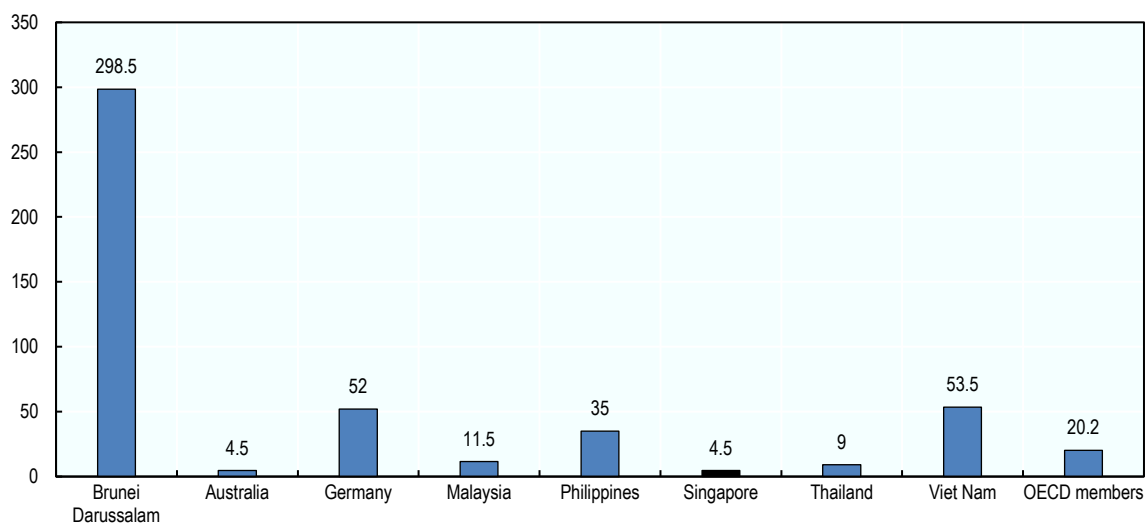
### 3.3.1. Policy issues and regulatory responses

#### *Access to land by private operators*

**Description of obstacle.** Private companies and individuals can use state land through a lease, tenancy agreement, or temporary occupation licence.

The Singapore Land Authority (SLA) controls the majority of land in Singapore and is also responsible for keeping the land-title registry. As shown in Figure 3.4, property registration is extremely efficient in Singapore, requiring only 4.5 days on average, in line with the best performing OECD countries. Land-title searches and checks on property owners can be carried out online using the Integrated Land Information Service (INLIS).<sup>63</sup>

**Figure 3.4. Days required to register property in ASEAN and OECD countries, 2018**



Source: World Bank, World Development Indicators, "Time required to register a property (days)", 2018, <https://databank.worldbank.org/source/world-development-indicators>.

Leasing rights provide predictability and flexibility to investors and Singapore offers generous rights that enable investors to sublet or use land as collateral (Basu Das and Widjaja, 2018, p. 156<sup>[23]</sup>). For example, to operate a warehouse, companies can either lease one or lease vacant land on which to build premises. While the maximum duration of land leases for commercial properties by the State is 99 years, vacant land is generally leased for 30 years, with the option to renew it for further 30 years.

Upon expiry of the agreed duration as per leasing contract, the government may consider extension of leases of industrial land "if there is substantial investment on the land or property and the use is in line with the prevailing economic priorities".<sup>64</sup>

**Harm to competition.** Limiting the possibility to own or lease land for long periods may deter investment in specific activities, such as warehouses. However, the OECD considers that Singapore provides for sufficiently long leasing contracts, typically of 30 years, renewable, to allow for the recoupment of investments. Private parties can apply to the SLA to renew their lease up to 30 years, with the payment of a land premium: a payment for the land-use rights that takes into account changes in the land's value. SLA assesses how each extension application fits into the government's land long-term planning objectives and whether the proposed use optimises the land's use.

Finally, after a recent public consultation by CCCS within the framework of a merger review, the commission found that obtaining industrial land to open or expand warehousing operations in Singapore is “unlikely to be a prohibitive entry barrier for potential entrants”, citing the “relatively short time frame” needed for one entrant to acquire six warehouse properties in the country. In its final decision, CCCS concluded that the “barriers to entry for the supply of warehouse space for rental in Singapore are not high”.<sup>65</sup>

**Policymakers’ objective.** Given the scarcity of land in Singapore, a leasehold system gives the government the ability to reallocate land when a leasehold expires in order to meet the changing socio-economic needs and maximise the utilisation of land in line with other government’s policies. When a leasehold expires, the government considers whether to grant an extension, depending on whether the continued use of the land is in line with its long-term planning and whether the lease extension will be accompanied by intensification and optimisation of land use.

**Recommendation.** Given the sufficiently long duration of leases and extensive rights granted under such contracts, and considering the availability of different options to access state-owned land for industrial activities, the OECD makes no recommendation.

### 3.4. Small-package delivery services

Singaporean legislation does not provide a definition of small packages nor a weight limit generally applicable to them. Industry practice defines them as packages including merchandise and goods – and so most of those that result from e-commerce – while postal services classify them as those not exceeding two kilogrammes, with packages above this weight and up to 30 kilogrammes considered “parcels”. In Singapore, these are delivered through Speedpost, a last mile door-to-door express delivery service provided by SP Parcels, a subsidiary of Singapore Post (SingPost).

The Postal Services Act (Chapter 273A; 1999, revised 2000) and subsidiary legislation governs postal services in Singapore. The Infocomm Media Development Authority (IMDA), a statutory body of the Ministry of Communications and Information, is the authority responsible for the administration of the Postal Services Act.

Competition in the basic letter service segment is regulated by the Postal Competition Code 2017 (Chapter 237A), with IMDA holding sole competition-law powers over this segment. Other activities such as small-package delivery services (SPDS) are subject to general competition-law provisions, and anticompetitive practices, including those involving SingPost, are handled by CCCS. Merger-control powers are also outside the general Competition Act and IMDA’s approval is required for acquisitions and consolidations that might substantively reduce competition in basic letter services.

SingPost’s monopolies of express letter services and basic letter services were lifted in 1995 and 2007 respectively. Companies interested in providing domestic and international letter services can obtain a licence from IMDA, which can assign two types of licences: a class licence for express letter services, and a licence to act as a postal services operator (PSO), which may then be designated as a public postal licensee (PPL) to fulfil universal service obligations. As of today, IMDA has granted four PSO licences, even if SingPost remains the only designated PPL; its licence was renewed in 2017 for a 20-year period.

Outside the scope of the Postal Services Act, the SPDS market is deregulated and fully open to competition; no licence is required to operate.

### 3.4.1. Policy issues and regulatory responses

#### *Ban on all service providers except SingPost using master keys for two-way design letter boxes*

**Description of obstacle.** In Singapore, traditional letter boxes in residential buildings are pigeonholes with individual doors inside a large structure (or “nest”) with a masterdoor (also known as, two-way design letter boxes). Users access their own letter boxes by the front, while postal delivery workers access letter boxes using the masterdoor with a pigeonhole masterdoor key that reveals all pigeonholes.

Pursuant to Section 9.1 of the Postal Services Operations Code (2017), only licensees authorised by IMDA can obtain and use masterdoor keys to access letter-box pigeonholes. As the sole PPL, only SingPost is currently authorised to have and use masterdoor keys for pigeonhole letter boxes; PSO licensees are not issued keys.

The situation is different in buildings with so-called three-way design letter boxes that allow access to the single letter boxes. When such letter boxes are present, IMDA does not prohibit postal licensees of all types from obtaining the aperture masterdoor key. Town councils hold the aperture masterdoor keys for three-way design letter boxes and other postal-service operators are currently able to access the letter boxes through the aperture masterdoor.

**Harm to competition.** SingPost has exclusive access to two-way design letter boxes, which according to market participants are present in approximately 80% of Singapore’s buildings managed by Singapore’s public-housing authority, the Housing & Development Board (HDB). Although a large volume of small items would fit into these letter boxes, the above-mentioned restrictions prevent SPDS providers from using them. They are therefore left with three options to perform their deliveries.

1. Incur extra costs, such as the need to contact final customers for door delivery;
2. Install their own lockers outside buildings
3. Outsource last-mile deliveries of small items that fit into the letter boxes to SingPost.

According to SPDS providers, direct access to letter boxes would reduce costs and allow them to provide better services at lower prices, for instance, by delivering during quieter night-time hours.

**Policymakers’ objective.** IMDA has long said that limited access to letter boxes is justified by security concerns. In its document “IDA’s Explanatory Memorandum on the Postal Services Regulations, Issued on 2 May 2008”, IMDA stated that it had:

*recommended that all building developers/owners/managing agents hand over the Pigeonhole Masterdoor Keys to SingPost only, in order to ensure that only one postal licensee would be held accountable for the security and integrity of the mail. If only SingPost possesses these Pigeonhole Masterdoor Keys, then it would be clear that other third parties possessing such keys would have obtained it [sic] improperly.*

In IMDA’s view, if such masterdoor keys were given to several licensees, in the event of mail theft or swap, it would be difficult to determine which party had stolen, replaced or lost a mail item that had already been delivered to a letter box. IMDA also added that the same concerns do not apply to the three-way design letter boxes and:

*does not prohibit any postal licensees from obtaining Aperture Masterdoor Keys from building developers/owners/managing agents. For the purpose of mail delivery, having Aperture Masterdoor Keys would be equivalent to having access to the letter boxes with open apertures. There is minimal threat to mail security or integrity with multiple postal licensees holding Aperture Masterdoor Keys for mail delivery.*

For these three-way design letter boxes IMDA left the decision of providing aperture masterdoor keys to multiple licensees to the building developers, owners and managing agents.<sup>66</sup> The issue was raised again with IMDA in 2019, when SPDS providers requested direct access to letter boxes to reduce costs and



improve services. They submitted that package tracking could mitigate the security risks, but during the discussion with the OECD, IMDA ultimately observed that enabling access to masterdoors would require heavy investments and that while package tracking may help confirm that a package has been delivered into the letter box, it does not fully address the issue of mail security and integrity.

As an alternative to the access to masterdoor keys, in the December 2020 “Public Consultation on Draft Postal Services (Amendment) Bill”, the Ministry of Communications and Information and IMDA proposed granting additional powers to IMDA under the Postal Services Act. Based on the proposed amendments, IMDA can require the provision of delivery of small packages into letter boxes by the PPL, SingPost, and regulate wholesale access to letter boxes, complementing the existing requirement to provide wholesale access for letters delivery into letter boxes at regulated prices. According to the ministry and IMDA, this wholesale access to letterboxes would permit the delivery of small, lower-value items sent without tracking service. The “Public Consultation Paper” states that:

*such regulated wholesale access will level the playing field for other logistics service providers and enhance competition in the last-mile delivery services market by extending letter box access for the delivery of non-letter items at regulated terms and conditions.<sup>67</sup>*

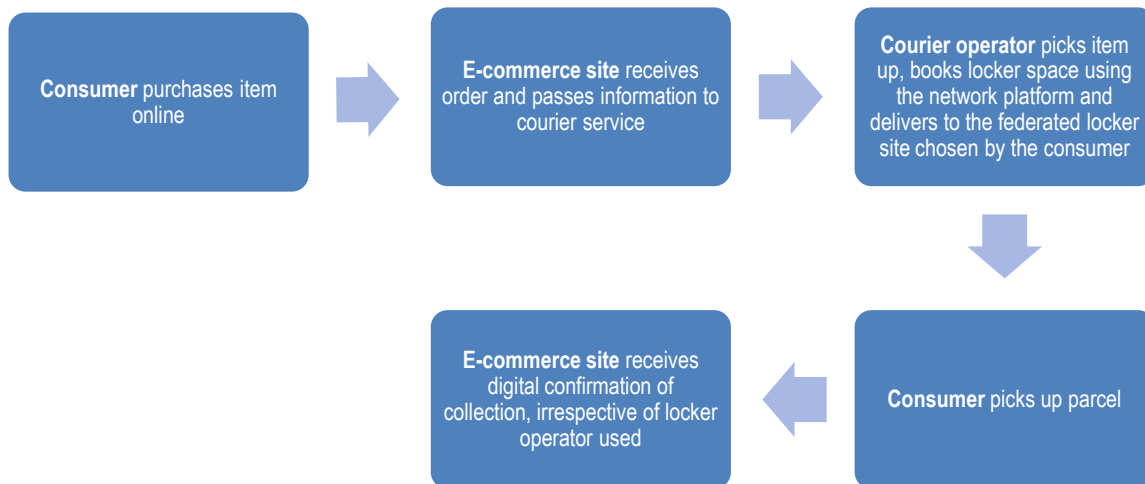
**Recommendation.** The OECD recommends one of the following options.

1. In the short term, IMDA should grant equal and non-discriminatory access to letterboxes for all SPDS providers. To do this, IMDA should be granted (and should exercise) the power to regulate wholesale access to letterboxes for SPDS, as proposed in the draft Postal Services (Amendment) Bill.<sup>68</sup>
2. In the longer term, pursuant to Section 16 of the Postal Services Act (Chapter 237A), which grants IMDA the power to issue or approve any specifications relating to letter boxes, including amending and revoking such specifications, the OECD recommends developing new specifications or amending the current ones on letter boxes to identify technical solutions that address security concerns, while granting equal access to SPDS providers. Alternatively, IMDA and HDB should assess the feasibility of replacing two-way design letter boxes with alternative designs or complementing them with new technology that would allow access to SPDS providers, while avoiding security issues.

### *Locker Alliance*

**Policy concerned.** In April 2016, Deputy Prime Minister Tharman Shanmugaratnam launched the Federated Lockers and Collection Points programme (subsequently renamed as Locker Alliance programme). The purpose of this programme was to create a single interoperability platform for SPDS providers with standardised data exchange. When a consumer purchases an item online, the e-commerce operator receives the order and passes the information to the courier service operator. The latter checks availability and, before the shipment leaves the distribution hub, a locker is reserved using the Locker Alliance platform and the e-commerce site receives digital confirmation irrespective of the chosen locker operator, as all data is exchanged in a standardised fashion. Customers then receive notification of the availability of their parcel and are able to pick it up at the locker location of their choosing at their earliest convenience.

Figure 3.5. Locker Alliance functional chain



The purposes of this programme are multiple and include:

- facilitating last-mile deliveries, by increasing efficiency and cost savings through aggregated deliveries to the same location
- widening coverage by increasing locker availability for e-commerce sites and consumers, and ensuring interoperability and standardised data exchanges
- improving liveability in the city, by reducing traffic congestion and carbon footprint linked to parcel delivery
- avoiding multiplication of underutilised locker sites around the city that may run counter Singapore's policies addressing land scarcity
- offering wider locker coverage to consumers able to choose the most convenient delivery location and preventing consumers from having to wait at home for deliveries.

The locker system benefits all parties involved in the delivery chain, including merchants, market places, logistic service providers and consumers.

During the pilot phase, IMDA in collaboration with HDB and LTA awarded the deployment and operation of two locker networks to two operators, and the interoperability platform tender to another operator responsible for designing, developing and running the platform.<sup>69</sup> For the network's nationwide deployment, IMDA incorporated a new company, Pick Network, charged with operating the locker network, overseeing infrastructure, and identifying suitable sites for locker stations, ensuring that logistic service providers have fair and open access to the network and facilitating industry and consumer involvement.<sup>70</sup> To ensure among other things the correct application of this neutrality principle, IMDA, the statutory body under the Ministry of Communications and Information responsible for the administration of the Postal Services Act, launched a public consultation on the Draft Postal Services (Amendment) Bill to seek the industry's views on the proposal to expand IMDA's exclusive privilege to include the installation, ownership and operation of the locker network. In IMDA's views, this would "address the industry's concerns by having a neutral parcel locker operator that allocates lockers to logistics service providers, which compete with each other, on a non-discriminatory basis".<sup>71</sup> If this amendment were approved, IMDA would appoint a public parcel locker network operator to perform the function and duty to establish, operator and maintain the network.

The programme offers a number of advantages and, if all logistics providers are given open and neutral access, could promote competition and lower barriers to entry for new logistics providers and e-commerce players. It may, however, also create potential competition concerns, and the OECD understands that

CCCS has discussed them with IMDA during the programme's design and its current work with the authority during its commercial roll-out.

These potential competition risks should be taken into account when developing and implementing the programme, as it may be difficult to encourage competition once the regulatory framework is in place and operational (this point was also mentioned in ICN Advocacy Working Group (2019<sup>[49]</sup>)).

The OECD notes the following potential competition risks.

- **Risk of existing locker operators being squeezed out** if their number is too low and they cannot legally operate outside this network, depending on the operation of the Locker Alliance. The government needs to strike a balance between efficiencies of scale and ensuring that current operators are not unnecessarily driven out of the market, and so should carefully consider the advantage and disadvantages of a single-operator model (ICN Advocacy Working Group, 2019<sup>[49]</sup>). These risks are yet to materialise because first, locker providers connected to the platform are allowed to operate also outside the Locker Alliance network, and second, based on publicly available information the chosen platform operator is working with existing providers through partnerships, giving those providers the option rather than the obligation to connect their lockers to the nationwide locker network through the interoperability platform.
- Risk of reducing the **incentives to invest and innovate**. Tenders, especially their duration and requirements, should keep incentives for locker-service operators to invest and innovate.
- Risk of interoperable platform operator's access offer **limiting the efficient use of lockers in practice**. As mentioned above, according to publicly available information, the platform will be "open and neutral" and IMDA has incorporated a wholly owned subsidiary charged with deploying, owning and operating the network. This operator will be subject to an obligation "to ensure that logistics service providers (LSPs) have fair and open access to the locker network".<sup>72</sup> However, this risk should be taken into account when designing the access system in detail, deploying the network, and when considering future changes to the system, such as quality of access, terms and conditions, regulatory evolutions, future acquisitions or cross-shareholding.
- Risk of **favouring certain logistics service providers** by choosing a certain technology over another. As noted by IMDA, "in order to send, retrieve, return and track parcels on a shared platform, a common communication and messaging protocol must be adopted by different industry players".<sup>73</sup> In the short term, the choice of a specific technology might affect the ability of certain operators to join the network and therefore favour those logistics service providers that are already using the protocol chosen to operate with the platform. This potential risk should also be taken into account before future changes to the communication and messaging protocol.
- Risk of **exchange of information through the platform**. Given the concentrated nature of the market, the limited number of downstream locker operators, and the frequent vertical exchange of sensitive information between the platform operator and the locker-service providers, such as information on capacity, number of clients and delivery times, there is a risk that the platform operator acts as a hub for the transmission of information between locker-service providers. This could indirectly favour their co-ordination. As noted in the OECD's Background Note, "Roundtable on Hub-and-Spoke Arrangements", this form of co-ordination is more likely when there is a certain degree of market power on one or both sides of the market (OECD, 2019<sup>[53]</sup>). The platform operator should therefore avoid passing on information to downstream operators and should be particularly careful not to act as a facilitator in a hub-and-spoke type of agreement.

**Policymakers' objective.** The Locker Alliance network aims to facilitate last-mile deliveries, and in particular, to provide greater coverage to consumers and companies by increasing locker availability while avoiding the multiplication of underutilised locker sites. This, in turn, should also improve urban liveability, by reducing traffic congestion and the carbon footprint of parcel delivery.

**Recommendation.** The OECD recommends taking into account the above-mentioned risks for competition from before the full launch of this programme.

1. Authorities should carefully assess the advantages and disadvantages of a single-operator model as opposed to a system with multiple locker operators. The OECD understands that current locker operators, can operate also outside the Locker Alliance network, even when connected to the platform.
2. In line with current IMDA policy, a system should be implemented in which the platform infrastructure operator is structurally independent from the downstream locker service providers. In this regard, the OECD supports Singapore's efforts in ensuring structural independence of the company responsible for designing, developing and running the platform. This should remove any incentive to discriminate and ensure fair and open access to the infrastructure.
3. Design tenders, in particular their duration, to ensure incentives to invest and innovate. The length of the contract should balance the need for competition and investment incentives in order to avoid a situation in which long contracts discourage new entry and result in incumbency advantages.
4. Avoid allowing the choice of a certain technology or protocol for data exchange with platforms to favour certain operators. In line with IMDA's policy principles, ensure interoperability so that multiple companies can access the platform.
5. Ensure that the platform operator does not act as a hub for anticompetitive conduct, for instance, by favouring exchange of strategically sensitive information between downstream operators through the platform. This could be done, for instance, by requiring the platform operator to put sufficient safeguards in place.

### 3.5. Horizontal and others

Singapore has long been committed to improving its regulatory environment and ease of doing business. For example, in 2016, the Accounting and Corporate Regulatory Authority (ACRA) and the Ministry of Finance launched two public consultations to propose amendments to the Companies Act (Chapter 50) and the Limited Liability Partnerships Act (Chapter 163A). The Companies Act was first enacted in 1967, but has undergone several reviews to ensure that it continues to be supportive of Singapore's growth. Following the consultations in 2016, revisions included the introduction of an inward re-domiciliation regime, which allows corporations to transfer their registration from their home jurisdiction to another, and a number of initiatives to reduce regulatory burden, such as the simplification of the requirements for private companies to hold annual general meetings (OECD, 2018<sup>[51]</sup>).

As one of ASEAN member states, Singapore is committed to liberalising a number of sectors, including logistics, under the ASEAN Framework Agreement on Services (AFAS). In 2007, ASEAN countries signed the Sectoral Integration Protocol for the Logistics Services Sector and committed to increase foreign-equity caps to 49% by 2008, 51% by 2010 and 70% by 2013.

Singapore has no investment restrictions in most subsectors for ASEAN member states. In the logistics sector, it has no restrictions, for example, for packaging services, courier services, and rail freight transport. Maritime cargo handling and maritime freight have no limitation specified, while access by foreigners to the operation of storage and warehousing facilities is negotiated in bilateral agreements (Basu Das and Widjaja, 2018<sup>[23]</sup>).

This has contributed to a significant flow of FDI into the country, including in the logistics sector, as shown by Table 3.6. In 2018, water transport and supporting services accounted for 82.8% of FDI in transport and storage services, showing the utmost importance of this sub-sector for a country that is one of the world's busiest transshipment hubs. Between 2005 and 2017, the share of warehousing, post and courier services increased, while a negative value of FDI in land and air transport was recorded until 2018, presumably due to the excess capacity in this subsector (Basu Das and Widjaja, 2018<sup>[23]</sup>).

**Table 3.6. FDI in Singapore in transport and storage industry (stock as at year end), annual, in millions SGD**

	2014	2015	2016	2017	2018
<b>Transport and storage</b>	38 409.3	40 505	27 910.9	29 846.3	32 145.4
Water transport and support services	31 519.2	32 782.4	20 990.5	23 140.6	26 606.1
Freight water transport	27 334.8	29 737	16 929	19 260.7	23 285.4
Other water transport	4 184.4	3 045.4	4 061.5	3 879.9	3 320.8
Land and air transport and support services	-167.9	-237.8	-425.2	-821.4	-1,019
Warehousing, post and courier services	7 058	7 960.4	7 345.6	7 527.1	6 558.3

Source: Singapore Department of Statistics, [www.singstat.gov.sg/find-data/search-by-theme/trade-and-investment/foreign-direct-investment/latest-data](http://www.singstat.gov.sg/find-data/search-by-theme/trade-and-investment/foreign-direct-investment/latest-data).

Furthermore, Singapore's authorities are supporting the development of innovation in the logistics sector through a number of policy initiatives. Such innovation will most likely contribute to reducing transportation costs and bringing efficiencies in the logistics sector. The box below provides a short overview of some innovative initiatives and their possible impact on the logistics sector in Singapore.

### Box 3.6. Innovation in the freight transport industry and its impact on Singapore

The freight-transport sector is undergoing a significant digital transformation that has changed or is expected to change to a large extent freight-transport activities in Singapore:

1. **Digitalisation of supply chain:** The government of Singapore revamped its Logistics Industry Digital Plan (IDP) introduced under the Logistics Industry Transformation Map (ITM) to provide guidance to SMEs on the adoption of digital solutions. For instance, the plan aims to support SMEs in digitalising information flows in freight-forwarding operations, thus enabling SMEs to achieve information accuracy and time savings when extracting, exchanging and using data for trade declarations. Furthermore, in order to enable SMEs to take informed decisions and more easily adapt to market changes, the IDP aims to incentivise them to use supply chain data analytics, so as to gain deeper insights on business operations and improve operational efficiency and resource utilisation. At a more operational level, the IDP intends to support the use of automated technologies to increase productivity in logistics facilities such as warehouses and container depots.
2. **Blockchain technology:** Singapore is developing an interoperability framework, named TradeTrust, for the exchange of digital trade documentation in the maritime sector with the objective to digitalise the paper-based lading bills through blockchain technology. In order to accommodate this digital transformation, the government is also planning to amend the Electronic Transactions Act to give legal recognition to digital bills of lading generated through blockchain technology.
3. **Warehousing:** Developed by a government agency, JTC Logistics Hub is the country's first hub, which integrates a multi-storey inland container depot, warehouses and a heavy vehicle park. The design of an efficient automated container storage facility with appropriate technology will intensify land use and lower costs of operations.
4. **Marketplaces:** cloud-based market platforms for booking freight transportation services aim to match logistics demand with supply by means of an e-marketplace, as also envisioned by the IDP. The platform has the capability of providing access to a broader customer and supplier base and achieve increased price transparency and optimisation of

capacity and truck trips. In the highly fragmented Southeast Asia's freight transport market by road, the platform connects businesses that need transportation services with pre-qualified carriers for freight haulage services by road. Shippers can book short-haul, long haul and cross-border shipping services.

These initiatives will likely contribute to reducing transportation and administrative costs, bringing efficiencies in transport management and connecting better demand and supply.

The implementation of the IDP is a step forward in this direction and is expected to lead to better collaboration across the value chain. At the same time, supporting SMEs as well as maintaining low barriers to entry creates a dynamic ecosystem so that incumbents and new entrants invest in innovation and achieve economies of scale and higher efficiency.

However, these developments might also give rise to competition concerns. For instance, possible mergers aimed at acquiring innovative nascent potential competitors or merger between incumbents may reduce competition. While price transparency can have positive effects for customers, the increase in market transparency thanks to online platforms and the sharing of confidential information among competitors can facilitate competitors' monitoring and enable immediate reactions to deviations from a collusive scheme. Rapid innovation may also lead to the obsolescence of regulations, particularly those that impede beneficial innovations. Singapore is already working on such regulations, for instance a Committee on Autonomous Road Transport for Singapore (CARTS) has been set up to chart the strategic direction for autonomous vehicles-enabled land mobility concepts in Singapore.

Source: IMDA, *Logistics Industry Digital Plan*, [www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp](http://www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp); IMDA, *Trade Trust*, [www.imda.gov.sg/programme-listing/international-trade-and-logistics/tradetrust](http://www.imda.gov.sg/programme-listing/international-trade-and-logistics/tradetrust); Jurong Town Corporation;; JTC Logistics Hub @ Gul, [www.jtc.gov.sg/industrial-land-and-space/Pages/jtc-log-hub-gul.aspx](http://www.jtc.gov.sg/industrial-land-and-space/Pages/jtc-log-hub-gul.aspx).

### 3.5.1. Policy issues and regulatory responses

#### *Limitations on hiring foreigners*

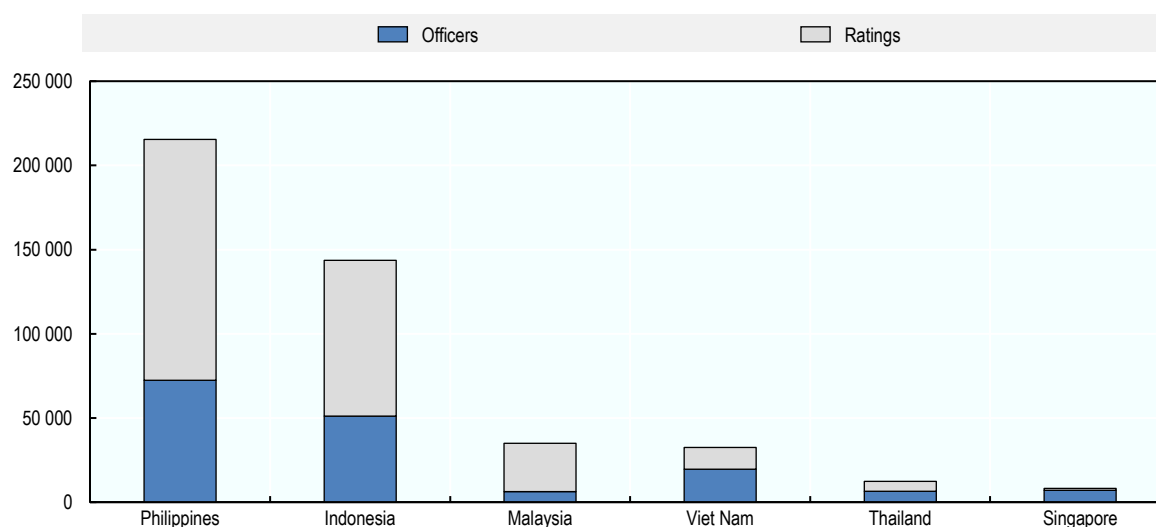
**Description of obstacle.** Logistics service providers face difficulties in hiring skilled and low-skilled workers, despite government-led initiatives to upskill logistics-related jobs.<sup>74</sup> This is due to several reasons, some linked to specific local circumstances (relatively low pay compared to other industries such as banking and finance, mismatch in expectations between employers and young workers), while others are tied to the regulatory framework.

In particular, logistics service providers find it difficult to hire foreigners due to specific Ministry of Manpower rules (Basu Das and Widjaja, 2018, p. 170<sub>[23]</sub>). To employ foreign workers in the transport and storage sector, companies need to meet certain requirements, such as employing foreigners from specific countries and complying with maximum period of employment rules, which vary depending on the worker's skills and origin country.<sup>75</sup> Furthermore, although they have been recently revised, the number of work-permit holders is still limited by set quotas and a dependency ratio ceiling (DRC), which limits the proportion of foreign workers a firm can employ.<sup>76</sup> It should be noted that these restrictions do not arise from legislation that is specific to maritime transport sector and the OECD has identified no restrictions on the nationality of seafarers.

**Harm to competition.** Workforce shortage is an issue for all segments of the logistic sector. A lack of truck drivers is driving transportation rates up and hampering available capacity.<sup>77</sup> Similarly, warehousing costs are increasing due to the difficulty in finding qualified warehouse workers.<sup>78</sup> Globally, in the maritime sector, the most recent BIMCO/ICS Manpower Report, published in 2015, identified a shortfall of 16 500 officers

and a need for additional 147 500 officers by 2025 to serve the world merchant fleet (BIMCO/ICS, 2015<sup>[52]</sup>). Figure 3.6 shows the number of available seafarers in Singapore compared to ASEAN countries.

**Figure 3.6. Number of seafarers in certain ASEAN member states, 2015**



Note: Officers are deck officers, engineer officers, telecommunications personnel holding certificates of competency issued by competent authorities. Ratings are seafarers other than officers.

Source: UNCTADStat, "Seafarer supply quinquennial, 2015", <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=157422>.

Although Singapore is heavily investing in automation and the number of ship crew members on foreign-going ships has fallen from 50 to 20 on average today,<sup>79</sup> employers in the logistics industry find that hiring skilled and low-skilled workers remains an important issue.<sup>80</sup> Similarly, according to a 2018 survey, 56% of Singapore employers report difficulties in recruiting, with jobs in truck driving and delivery among the most difficult to fill.<sup>81</sup> Such problems are even more significant for SMEs – businesses with 50-249 employees – with 62% reporting talent shortages in 2018. With the growth of online retail, logistics and last-mile delivery, demand for drivers is expected to grow, making recruitment difficulties even more serious.

**International comparison.** As part of its National Logistics Master Plan for 2011-2020, Korea has implemented a number of initiatives to become a leading hub for northeast Asia. These include training human resources for logistics, for instance via educational programmes and funding to research institutes, the development of logistics techniques and easing the employment rules for foreign nationals to fill in gaps in national know-how (UNESCAP, 2013<sup>[53]</sup>).

**Policymakers' objective.** The provisions on the employment of foreigners in the logistics industry aim to support the national labour market and ensure that Singaporeans acquire the necessary skills to take up jobs in the transport and storage sector. In 2014, to address demand and supply issues of the local seafarer workforce, the Tripartite Maritime Manpower Task Force for Seafaring (TF-Sea) was formed to identify training needs and develop programmes to support the seafaring sector as part of MPA's Sectoral Manpower Strategy, in line with the SkillsFuture movement that aims to support the development of skills relevant to the future (by supporting individuals in the choice of their training, developing education and training that responds to evolving industry needs and, more generally, by supporting lifelong learning).<sup>82</sup> A set of incentives was developed by TF-Sea to support Singaporean seafarers by defraying training costs and encouraging companies to hire Singapore seafarers. MPA also works with industry players to organise training programmes and career talks and fairs to encourage more Singaporeans to take up seafaring jobs.

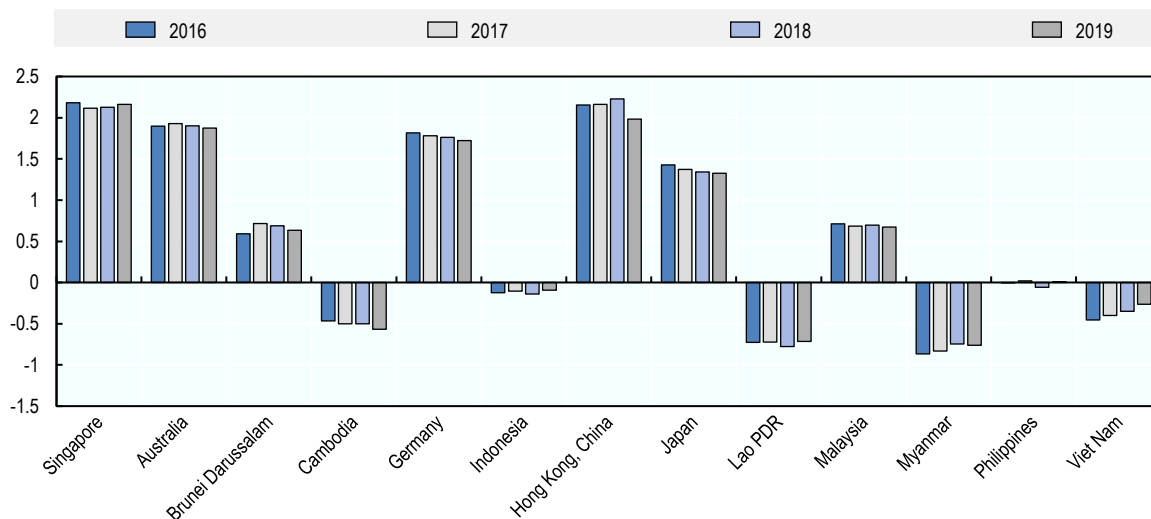
**Recommendation.** Conduct and publish annual surveys of demand and supply for ship crews and truck drivers, and, if needed, discuss with the industry possible measures to improve workforce shortages, such as the relaxation of certain regulatory quota requirements.

### *Access to legislation and regulatory quality*

A clear regulatory framework is essential for competition as it reduces compliance costs and facilitates the business environment, such as easing entry of new players. The codification, constant updating and publication of legislation in the logistic sector is beneficial especially for new entrants not necessarily familiar with national provisions, and smaller competitors for whom compliance costs and administrative burdens are relatively more important than for larger companies.<sup>83</sup>

The Legislation Division within the Attorney-General's Chambers (AGC Singapore) has the function to ensure high quality, impartial and efficient services in law drafting and revision of legislation to the government and public-sector agencies, with a view to producing clear, easily understandable, consistent and concise regulations that minimise scope for challenge.

**Figure 3.7. Regulatory quality estimate**



Note: Scores range between -2.5 (lowest) to 2.5 (highest).

Source: Worldwide Governance Indicators (2019), <https://info.worldbank.org/governance/wgi/Home/Reports>.

In addition, a dedicated body, the Law Publishing and Information Management Group, is charged with maintaining and updating the Singapore Statutes Online website, a comprehensive database that gathers all Singapore's written laws and ensures free online public access. It includes all current legislation and historical versions, with consolidated versions of any law or legislative amendment, including all revisions, updated within three working days of publication in the government gazette. The website features user-friendly functionality.

Such a high-quality system avoids businesses and consumers bearing the costs of identifying the relevant provisions in separate legal texts and helps them understand the legal framework that applies at a specific time.

These high levels of regulatory quality are reflected into the World Bank's Worldwide Governance Indicators, which show the perception of a government's ability to formulate and implement sound policies and regulations that permit and promote private sector development. Singapore scores extremely high and better than many OECD countries, and has continued to improve over time.



### Box 3.7. What is regulatory quality?

Regulations are the rules that govern the everyday life of businesses and citizens. They are essential for economic growth, social welfare and environmental protection, but they can also be costly in both economic and social terms. In that context, “regulatory quality” is about enhancing the performance, cost effectiveness, and legal quality of regulation and administrative formalities. The notion of regulatory quality covers process, which is the way regulations are developed and enforced, which should follow the key principles of consultation, transparency, accountability and evidence-base. Beyond process, the notion of regulatory quality also covers outcomes or how effective regulations are at achieving their objectives, their efficiency (by not imposing unnecessary costs), coherence (considered within the full regulatory regime), and simplicity (that both the regulations and their implementation rules are clear and understandable for users).

Building and expanding on the OECD’s *Recommendation on Improving the Quality of Government Regulation*, adopted in 1995, it is possible to define regulatory quality by regulations that:

1. serve clearly identified policy goals, and are effective in achieving those goals
2. are clear, simple, and practical for users
3. have a sound legal and empirical basis
4. are consistent with other regulations and policies
5. produce benefits that justify costs, considering the distribution of effects across society and taking economic, environmental and social effects into account
6. are implemented in a fair, transparent and proportionate way
7. minimise costs and market distortions
8. promote innovation through market incentives and goal-based approaches
9. are compatible as far as possible with competition, trade and investment-facilitating principles at domestic and international levels.

Source: OECD, *Recommendation of the Council on Improving the Quality of Government Regulation*, <https://legalinstruments.oecd.org/public/doc/128/128.en.pdf>.

### Box 3.8. World Bank's Worldwide Governance Indicators: The Regulatory Quality Estimate

The World Bank's Worldwide Governance Indicators (WGI) aim to capture six dimensions of governance for over 200 countries and territories. These are:

1. voice and accountability
2. political stability and absence of violence
3. governance effectiveness
4. regulatory quality
5. rule of law
6. control of corruption.

Each indicator then employs a statistical methodology known as the unobserved components model to standardise data from wide variety of sources, provide an aggregate indicator of governance as a weighted average of variables, and reflect possible imprecisions in measuring governance.

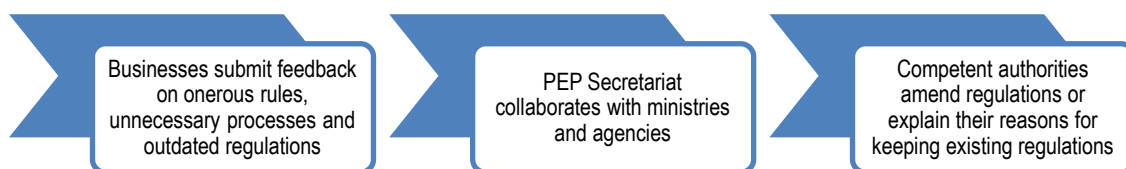
The regulatory quality (RQ) indicator aims to capture "perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development". A country's score is provided in an aggregate indicator, ranging from -2.5 (lowest score) to 2.5 (highest score).

Source: Kaufmann, D., Kraay, A. & Mastruzzi, M. (2011), Hague Journal of the Rule of Law, 3:220, <https://doi.org/10.1017/S1876404511200046>.

#### *Pro-enterprise panel to address regulatory concerns faced by businesses*

In 2000, Singapore established the Pro-Enterprise Panel (PEP) with the objective of simplifying or removing excessive rules and regulations that may hinder businesses and hold back entrepreneurship. The panel invites stakeholders such as companies operating in Singapore to submit feedback on rules and regulations, such as how legislation might accommodate new challenges caused by disruptive technologies and new business models.<sup>84</sup> PEP reviews feedback and suggestions and, in co-operation with other competent ministries and agencies, co-ordinates any required changes of rules and regulations. Figure 3.8 provides a short overview of the process before the PEP.

**Figure 3.8. PEP submission and amendment process**



Source: Ministry of Trade and Industry of Singapore, <https://www.mti.gov.sg/PEP/About>.

To ensure that a wide range of views are considered, PEP is made up of business leaders and senior public officials and collaborates closely with competent authorities. This ensures both private stakeholder and public authorities' involvement, improving the panel's effectiveness.

The initiative has advantages both for the public and private sectors. For public institutions, it spreads a pro-enterprise culture within public agencies and encourages greater co-operation between different

authorities, and between authorities and the private sector. For businesses, it provides a one-stop-shop platform to connect with statutory boards and the MTI and submit concerns and suggestions, while leaving final decisions to public authorities. It also allows greater participation in regulatory reviews and policymaking, given that businesses are better placed to submit ideas on how better to formulate and implement rules that create a more pro-business environment (OECD, 2018, p. 189<sup>[51]</sup>).<sup>85</sup>

### Box 3.9. The Special Task Force to Facilitate Business (PEMUDAH) in Malaysia

In 2007, Malaysia established PEMUDAH, the Special Task Force to Facilitate Business (Pasukan Petugas Khas Pemudahcara Perniagaan) to address bureaucracy and avoid regulations that place an excessive burden on companies.

The task force currently comprises 23 experts from the private and public sectors whose tasks include:

1. reviewing existing regulations in terms of processes and proposing new policies for improvements
2. benchmarking best practices to improve the ease of doing business
3. enhancing co-operation between the public and private sectors to improve Malaysia's competitiveness.

As noted by the OECD in its 2018 report on *Good Regulatory Practices to Support Small and Medium Enterprises in Southeast Asia*:

*in addition to taking an active role in the regulatory making process, PEMUDAH also holds monthly meetings with the public to discuss initiatives to enhance the country's business environment. To do this, the government has established a number of focus groups and working groups to devote their attention to specific issues of interest. Furthermore, PEMUDAH also welcomes complaints and suggestions through their web portal from the public, to consider in their annual work programme. (OECD, 2018, p. 125<sup>[51]</sup>)*

Since its establishment, PEMUDAH has accomplished a number of initiatives to improve the business environment, which in turn have led to savings in time, cost and effort for businesses. Since the World Bank's Doing Business study in 2010, 24 reforms for SMEs have been implemented to shorten the gap with international good practices. They have led to a rise in the country's Ease of Doing business score, allowing Malaysia to rank 12<sup>th</sup> amongst 190 economies in 2020.

Source: [www.mpc.gov.my/pemudah/background](http://www.mpc.gov.my/pemudah/background) and (OECD, 2018<sup>[51]</sup>).

By December 2020, PEP had received more than 2 067 suggestions, out of which 1 212 have led to changes in rules and regulations.

In addition, each year, PEP recognises ideas and suggestions from public agencies that have boosted innovation by contributing to a pro-enterprise public service.

### Box 3.10. Annual PEP campaigns for public-sector, pro-enterprise initiatives

To promote ideas and suggestions that foster a pro-enterprise public service within the public sector, PEP awards annual prizes to those agencies that have contributed the most innovative initiatives.

For example, in 2017, MPA and the Port Dues Working Group (PDWG) implemented a new IT system allowing applicants to submit online their request for concessionary port dues at shipyard and offshore marine facilities. In the past, PDWG used hard copies to make its assessment and then submitted hard-copy recommendations to MPA a system that created delays and inefficiencies. The new IT platform allowed applications to be processed more efficiently, with all applications and decisions collected in a database on the platform. This new integrated IT depository and management platform was recognised by PEP as that year's best pro-enterprise public service initiative.

Another MPA initiative was recognised as the second best pro-enterprise initiative in 2017. In the past, applicants for harbour craft manning licences (ML) and certificates of endorsement had to submit documents and data to three different departments within MPA. A new IT system now allows them to approach a single department to complete different procedures.

Source: MTI, "Public Sector PEP Initiative", <https://www.mti.gov.sg/-/media/MTI/Newsroom/Press-Releases/2017/11/PRIVATE-SECTOR-AND-GOVERNMENT-AGENCIES-RECOGNISED-FOR/media-release-for-pep-sbf-awards-2017.pdf>.

## 3.6. International agreements

In 2004, the heads of state and government of all ASEAN countries signed the ASEAN Framework Agreement for the Integration of Priority Sectors.<sup>86</sup> Its purpose was to identify measures that would enable the progressive and systematic integration in those sectors within ASEAN, following precise timelines. Logistics was not, however, included as one of the 11 priority sectors.<sup>87</sup> It was only in 2006 that ASEAN economic ministers decided to add logistics as a twelfth priority sector and developed the *Roadmap for the Integration of Logistics Services*, which was adopted in 2007 and includes specific measures aimed at creating an ASEAN single market "by strengthening ASEAN economic integration through liberalisation and facilitation measures in the area of logistics services".<sup>88</sup>

Singapore is a signatory of several regional transport agreements, including the 1998 ASEAN Framework Agreement on the Facilitation of Goods in Transit (AFAFGIT) and the Agreement on Commercial Vehicle Inspection Certificates for Goods Vehicles and Public Service Vehicles issued by ASEAN Member Countries. As an ASEAN member state, Singapore is also a signatory of the Agreement on the 1985 Agreement on the Recognition of Domestic Driving Licenses issued by ASEAN Countries and the 2007 Agreement on Maritime Transport between the Governments of the Member Countries of the Association of Southeast Asian Nations and the Government of the People's Republic of China.

### 3.6.1. Policy issues and regulatory responses

#### *Quotas on the number of licences for cross-border transport services*

**Description of the obstacle.** Pursuant to the Road Traffic (ASEAN Goods Vehicle Cross-border Permit Holders – Exemption) Order 2019 – an authorising order of the Road Traffic Act – holders of an ASEAN goods vehicle cross- border permit (AGVCBP) issued by an ASEAN authority can drive a goods vehicle from another ASEAN member state into Singapore. LTA is the competent authority issuing this permit for Singapore-registered goods vehicles.

Yet Protocol 3, an annex of the ASEAN Framework Agreement for Goods in Transit (AFAFGIT) prescribes the types and quantity of road vehicles and provides that a country can issue only 60 permits allowing goods vehicles to carry goods across the territory of one or more ASEAN member state. At the 15<sup>th</sup> ASEAN Transport Ministers Meeting in 2009, ASEAN Ministries of Transport agreed to increase the number of permits to 500 per country.<sup>89</sup>

**Harm to competition.** Limiting the number of licences for cross-border goods vehicles constrains access to the market and constitutes a barrier to entry. In cases when a licensed truck is unavailable, cargo must be unloaded at the border from one truck and then reloaded onto another truck with a domestic licence. This may result in additional costs for companies.

**Policymakers' objective.** The likely objective seems to be to protect each country's national road transport providers from foreign competition. The World Bank and IRU report, *Road Freight Transport Services Reform*, notes that:

*Despite quota limitations, bilateral agreements have played a crucial role in developing international road freight transport during decades. They supported the spectacular growth of export-import and transit operations, as well as to a certain extent third-country road freight traffic (World Bank/IRU, 2016, p. 45<sub>(43)</sub>).*

**Recommendation.** The OECD recommends repealing the provision limiting licence numbers and granting licences to all applicants. As an alternative, Singapore should regularly assess market needs and demand, and consider increasing the number of licences that can be issued. Both these recommendations would require negotiations between the ASEAN member states.

#### *Ratification of ASEAN Framework Agreement on Multimodal Transport*

**Policy concerned.** Singapore signed the ASEAN Framework Agreement on Multimodal Transport (AFAMT) in 2005, but has yet to ratify.<sup>90</sup> The OECD understands that the necessary domestic ratification formalities and the deposit of the instrument of ratification to the ASEAN Secretary General will take place during 2021. A new Multimodal Transport Bill 2020 is currently being discussed to give effect to the AFAMT.

The AFAMT regulates liability, documents and operations of multimodal transport operators across ASEAN countries and will facilitate their activities. The agreement only concerns multimodal transport operators (MTO), which carry goods by at least two different modes of transport combined in a single multimodal transport contract. It does not replace existing national regulations on liability and authorisations for maritime and road transport.

Based on the draft under discussion, Singapore's Multimodal Transport Bill 2020 will cover four key areas, namely

1. Registration with the Singapore Competent National Body;
2. Issuance of Multimodal Transport Document;
3. Liabilities of Multimodal Transport Operators; and
4. Duties and Liabilities of Consignors.

**Harm to competition.** Delays to the implementation of AFAMT have increased costs for operators and limited their ability to provide services across ASEAN member states, and restricted the flow of goods and services. Implementation of AFAMT would potentially increase both the geographic area of competition for goods and services and the number of service providers.

**Policymakers' objective.** The objective of the ASEAN Framework Agreement on Multimodal Transport is to facilitate the "expansion of international trade among the members of ASEAN" and "to stimulate the development of smooth, economic and efficient multimodal transport services adequate to the requirements of international trade".

**Recommendation.** Ratify the AFAMT and introduce specific provisions or a new law to implement the ASEAN Framework Agreement on Multimodal Transport into national legislation. This will include identifying or establishing a competent national body to issue MTO registration certificates.<sup>91</sup> The OECD supports Singapore's ongoing efforts to facilitate the ratification of the AFAMT.

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# Notes

<sup>1</sup> The methodology followed in this project is consistent with the product market regulations (PMR) index, which measure a country's regulatory stance and track progress of reforms over time. First created in 1998, this indicator was updated in 2003, 2008 and 2013. See (Vitale, Moiso and Wanner, 2020<sup>[55]</sup>).

<sup>2</sup> Fournier, et al. (2015<sup>[5]</sup>) find that national regulations, as measured by the economy-wide PMR index, have a negative impact on exports and reduce trade intensity (defined as trade divided by GDP). Differences in regulations between countries also reduce trade intensity. For example, convergence of PMR among EU member states would increase trade intensity within the European Union by more than 10%. Fournier (2015<sup>[6]</sup>) studied the impact of heterogeneous PMR in OECD countries and concluded that lowering regulatory divergence by 20% would increase FDI by about 15% on average across OECD countries. He investigated specific components of the PMR index and found that command-and-control regulations and measures protecting incumbents (such as antitrust exemptions, entry barriers for networks and services) are especially harmful in reducing cross-border investments.

<sup>3</sup> Arnold, Nicoletti and Scarpetta (2011<sup>[8]</sup>) analysed firm-level data in 10 countries from 1998 to 2004 using the OECD's PMR index at industry-level, and found that more stringent PMR reduces firms' MFP.

<sup>4</sup> Égert (2017<sup>[9]</sup>) investigates the drivers of aggregate MFP in a sample of 30 OECD countries over a 30-year period.

<sup>5</sup> The study of 15 countries and 20 sectors from 1985 to 2007 estimated the effect of regulation of upstream service sectors on downstream productivity growth. The productivity frontier refers to the most productive countries and sectors in the sample. The farther a sector is from the frontier, the less productive it is.

<sup>6</sup> Égert (2017<sup>[9]</sup>) investigated the link between product and labour-market regulations with investment (capital stock) using a panel of 32 OECD countries from 1985 to 2013.

<sup>7</sup> Employment growth in France increased from 1.2% a year between 1981 and 1985 to 5.2% a year between 1986 and 1990. Between 1976 and 2001, total employment in the road transport sector doubled, from 170 000 to 340 000.

<sup>8</sup> The sample includes 18 countries over a 10-year period.

<sup>9</sup> Using the OECD's summary index of PMR in seven non-manufacturing industries in the energy, telecom and transport sectors, (Causa, de Serres and Ruiz, 2014<sup>[58]</sup>) found stringent PMR had a negative impact on household disposable income. This result held both on average and across the income distribution, and led to greater inequality. The authors noted that lower regulatory barriers to competition would "tend to boost household incomes and reduce income inequality, pointing to potential policy synergies between efficiency and equity objectives".

<sup>10</sup> Multi-factor productivity (MFP) is a measure of the "efficiency with which labour and capital inputs are used together in the production process". See <https://data.oecd.org/lprdy/multifactor-productivity.htm>.

<sup>11</sup> Total population as of end of June 2020. Total population includes residents and non-residents; total resident population, which includes Singapore citizens and permanent residents, was 4.04 million at the same date. See [www.singstat.gov.sg/modules/infographics/population](http://www.singstat.gov.sg/modules/infographics/population).

<sup>12</sup> See <http://data.uis.unesco.org/>. Data refer to the percentage of the population (both sexes) aged 25 to 64 years who can both read and write with understanding a short simple statement about their everyday life.

<sup>13</sup> See <http://data.uis.unesco.org/#>. Data refer to the highest International Standard Classification of Education (ISCED) level of education an individual has successfully completed. It is usually measured using the highest educational programme successfully completed; this is typically certified by a recognised qualification.

<sup>14</sup> See [www.singstat.gov.sg/find-data/search-by-theme/economy/national-accounts/latest-data](http://www.singstat.gov.sg/find-data/search-by-theme/economy/national-accounts/latest-data); World Bank, <https://datacatalog.worldbank.org/dataset/gdp-ranking>.

<sup>15</sup> See [https://data.worldbank.org/indicator/ny.gdp.pcap.cd?most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/ny.gdp.pcap.cd?most_recent_value_desc=true).

<sup>16</sup> See [www.worldbank.org/en/country/singapore/overview](http://www.worldbank.org/en/country/singapore/overview).

<sup>17</sup> See Singapore's Ministry of Manpower, <https://stats.mom.gov.sg/Pages/Unemployment-Summary-Table.aspx>.

<sup>18</sup> See [www.worldbank.org/en/country/singapore/overview](http://www.worldbank.org/en/country/singapore/overview).

<sup>19</sup> See [www.singstat.gov.sg/-/media/files/news/gdp4q2019.pdf](http://www.singstat.gov.sg/-/media/files/news/gdp4q2019.pdf).

<sup>20</sup> See <https://www.mti.gov.sg/Newsroom/Press-Releases/2020/11/MTI-Forecasts-GDP-Growth-of--6.5-to--6.0-Per-Cent-in-2020-and-4.0-to-6.0-Per-Cent-in-2021>.

<sup>21</sup> See <https://www.singstat.gov.sg/find-data/search-by-theme/trade-and-investment/merchandise-trade/latest-data>.

<sup>22</sup> See <https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS?locations=SG>.

<sup>23</sup> The ASEAN Framework Agreement on Services was signed in Bangkok on 15 December 1995; [https://asean.org/?static\\_post=asean-framework-agreement-on-services](https://asean.org/?static_post=asean-framework-agreement-on-services).

<sup>24</sup> *Economic Survey of Singapore*, Third Quarter, 2018, "Estimating Singapore's Value-Added in Gross Exports and Foreign Exports", [www.mti.gov.sg/-/media/MTI/Resources/Economic-Survey-of-Singapore/2018/Economic-Survey-of-Singapore-Third-Quarter-2018/BA\\_3Q18.pdf](http://www.mti.gov.sg/-/media/MTI/Resources/Economic-Survey-of-Singapore/2018/Economic-Survey-of-Singapore-Third-Quarter-2018/BA_3Q18.pdf).

<sup>25</sup> In 2001-2002, the bursting of the "dot-com bubble" caused large-scale cancellations of electronic orders, while the decline in 2008 was linked to the global financial crisis.

<sup>26</sup> See ASEANStatsDataPortal, <https://data.aseanstats.org/fdi-by-hosts-and-sources>.

<sup>27</sup> See [https://arquivo.pt/wayback/20160522172303/http://cscmp.org/sites/default/files/user\\_uploads/resources/downloads/glossary-2013.pdf](https://arquivo.pt/wayback/20160522172303/http://cscmp.org/sites/default/files/user_uploads/resources/downloads/glossary-2013.pdf).

<sup>28</sup> See, for instance, EC merger case COMP/M.7630 – Fedex / TNT Express of 8 January 2016, EC merger case COMP/M.6570 – UPS/ TNT Express of 30 January 2013.

<sup>29</sup> The separation between inland waterway transport and maritime transport is not always clear, as shown, for instance, in Viet Nam by the overlap of responsibilities between the Vietnam Inland Waterway Administration (VIWA) and the Vietnam Maritime Administration (VINAMARINE).

<sup>30</sup> See [www.worldshipping.org/about-the-industry/how-liner-shipping-works](http://www.worldshipping.org/about-the-industry/how-liner-shipping-works).

<sup>31</sup> See European Commission, Case AT.39850 Container Shipping, closed with commitments on 7 July 2016.

<sup>32</sup> This master plan follows the adoption of an earlier version, Master Plan on ASEAN Connectivity 2010. See <https://asean.org/storage/2016/09/Master-Plan-on-ASEAN-Connectivity-20251.pdf> for the full Master Plan on ASEAN Connectivity 2025 report.

<sup>33</sup> See [www.singstat.gov.sg/-/media/files/news/gdp4q2019.pdf](http://www.singstat.gov.sg/-/media/files/news/gdp4q2019.pdf).

<sup>34</sup> See [www.mti.gov.sg/-/media/MTI/Resources/Economic-Survey-of-Singapore/2020/Economic-Survey-of-Singapore-First-Quarter-2020/PR\\_1Q20.pdf](http://www.mti.gov.sg/-/media/MTI/Resources/Economic-Survey-of-Singapore/2020/Economic-Survey-of-Singapore-First-Quarter-2020/PR_1Q20.pdf).

<sup>35</sup> See <https://www.haulio.io/blog/building-haulio-zero/>

<sup>36</sup> Data.gov.sg, “Annual Motor Vehicle Population by Type”, [https://data.gov.sg/dataset/annual-motor-vehicle-population-by-vehicle-type?view\\_id=6641b19a-f266-4039-becf-98be4e6779de&resource\\_id=dec53407-9f97-47b8-ba89-b2070569a09e](https://data.gov.sg/dataset/annual-motor-vehicle-population-by-vehicle-type?view_id=6641b19a-f266-4039-becf-98be4e6779de&resource_id=dec53407-9f97-47b8-ba89-b2070569a09e).

<sup>37</sup> Urban Redevelopment Authority, “Underground Space”, [www.ura.gov.sg/Corporate/Get-Involved/Plan-Our-Future-SG/Innovative-Urban-Solutions/Underground-space](http://www.ura.gov.sg/Corporate/Get-Involved/Plan-Our-Future-SG/Innovative-Urban-Solutions/Underground-space) (accessed 22 December 2020).

<sup>38</sup> See [www.singaporepsa.com/about-us/core-business](http://www.singaporepsa.com/about-us/core-business).

<sup>39</sup> *The Straits Times* (2019), “Tuas Port to be world’s largest fully automated terminal when completed in 2040”, [www.straitstimes.com/singapore/tuas-port-to-be-worlds-largest-fully-automated-terminal-when-completed-in-2040-pm-lee](http://www.straitstimes.com/singapore/tuas-port-to-be-worlds-largest-fully-automated-terminal-when-completed-in-2040-pm-lee).

<sup>40</sup> Maritime Singapore Connect, “5 Things You Should Know About the New Tuas Mega-Port”, [www.maritimesgconnect.com/features/spotlight/5-things-you-should-know-about-new-tuas-mega-port](http://www.maritimesgconnect.com/features/spotlight/5-things-you-should-know-about-new-tuas-mega-port).

<sup>41</sup> The Liner Shipping Bilateral Connectivity Index (LSBCI) comprises five components: 1) the number of transshipments required to get from country A to country B; 2) the number of direct connections common to both country A and B; 3) the geometric mean of the number of direct connections of country A and of country B; 4) the level of competition in services that connect country A to country B; 5) the size of the largest ships on the weakest route connecting country A to country B. For more details on the methodology, see <https://unctadstat.unctad.org/wds/TableViewer/summary.aspx?ReportId=96618>.

<sup>42</sup> See [www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp](http://www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp).

<sup>43</sup> For a list of SingPost’s major shareholders as of May 2019, see [www.singpost.com/sites/default/files/publications\\_file/2019/06/21.%20Shareholding%20Statistics.pdf](http://www.singpost.com/sites/default/files/publications_file/2019/06/21.%20Shareholding%20Statistics.pdf).

<sup>44</sup> For a list of Temasek’s shareholdings in transportation and industrial, see [www.temasek.com.sg/en/wh-at-we-do/our-portfolio/transportation-industrials](http://www.temasek.com.sg/en/wh-at-we-do/our-portfolio/transportation-industrials).

<sup>45</sup> See [www.singaporepsa.com/about-us](http://www.singaporepsa.com/about-us).

<sup>46</sup> Categories are the following: A (cars 1 600cc and below, with engine power not exceeding 97 kilowatts), B (cars 1 600cc and above, with engine power exceeding 97 kilowatts), C (=goods vehicles and buses, including public transport buses), D (motorcycles) and E (any kind of other vehicle).

<sup>47</sup> When the scheme was first introduced, COEs were transferable and this led to widespread speculation. Within the first two months, 20% of the COEs were sold and speculators were making profits of up to SGD 5 000. The government then decided to make COEs non-transferable with the exception of category E and category C vehicles. Certain stakeholders at the time (1992) argued that this made the quota system less efficient, as the presence of secondary-market trading facilitated the optimal allocation of quota licences when market conditions changed.

<sup>48</sup> See National Environment Agency (2020), “Vehicular Emission Scheme to Be Extended By One Year to 31 December 2020”, [www.nea.gov.sg/media/news/news/index/vehicular-emission-scheme-to-be-extended-by-one-year-to-31-december-2020](http://www.nea.gov.sg/media/news/news/index/vehicular-emission-scheme-to-be-extended-by-one-year-to-31-december-2020) (accessed 16 September 2020).

<sup>49</sup> Boston Consulting Group (2018), “To Get Smart, Ports Go Digital”, <https://www.bcg.com/fr-fr/publications/2018/to-get-smart-ports-go-digital> and Jurong Port, [www.jurongportonline.com/JRPA/DisplayAnnouncement?AnnounceId=20200117181138148071](http://www.jurongportonline.com/JRPA/DisplayAnnouncement?AnnounceId=20200117181138148071).

<sup>50</sup> It seems, for instance, that block booking is not available to foreign laden trailers; see [www.jp.com.sg/ufags/what-is-the-process-for-foreign-vehicle-trailers-for-submitting-of-vehicle-time-slot-booking](http://www.jp.com.sg/ufags/what-is-the-process-for-foreign-vehicle-trailers-for-submitting-of-vehicle-time-slot-booking).

<sup>51</sup> MPA (2018), “Sea Transport Industry Transformation Map to Drive Singapore’s Vision to be a Global Maritime Hub for Connectivity, Innovation and Talent”, [www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/83647952-0b16-4a15-ba04-32f14ba29bb2](http://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/83647952-0b16-4a15-ba04-32f14ba29bb2). See also [www.mti.gov.sg/-/media/MTI/ITM/Trade-Connectivity/Sea-Transport/Sea-Transport-ITM---Infographic.pdf](http://www.mti.gov.sg/-/media/MTI/ITM/Trade-Connectivity/Sea-Transport/Sea-Transport-ITM---Infographic.pdf).

<sup>52</sup> See MPA (1998), “Liberalization of Tug Services – Issuance of Public License to Maju Maritime Pte Ltd”, <https://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/72a6cd61-edcf-4a95-9857-5076b402ef73> and *South China Morning Post* (1997), “Singapore opens tug market”, [www.scmp.com/article/209195/singapore-opens-tug-market](http://www.scmp.com/article/209195/singapore-opens-tug-market).

<sup>53</sup> PSA Marine (2014), “New Pilotage Tariff With Effect From 1 January 2014 Onwards”, [www.psamarine.com/wp-content/uploads/2015/11/Revision-of-Pilotage-Tariff-Effective-010114.pdf](http://www.psamarine.com/wp-content/uploads/2015/11/Revision-of-Pilotage-Tariff-Effective-010114.pdf).

<sup>54</sup> Italian Antitrust Authority (14 December 2011), AS905 – *Technical and nautical services and setting of the relevant tariffs in Italian ports*, in Bull. No. 1/2012, pages 30 et seq.

<sup>55</sup> Italian Antitrust Authority (1997), Note No. 5415/1997, p. 7, issued as a result of a Survey in the Area of Port Services.

<sup>56</sup> See Articles 36 and 41, Competition Act (Chapter 50B, 2004, revised 2006), <https://sso.agc.gov.sg/Act/CA2004#pr41->.

<sup>57</sup> MTI (2020), “Block Exemption Order For Liner Shipping Agreements Extended For One Year Until 31 December 2021”, [www.mti.gov.sg/-/media/MTI/Newsroom/Press-Releases/2020/08/For-Immediate-Release-Block-Exemption--Order-for-Liner-Shipping-Agreements-Extended-for-One-Year-Unt.pdf](http://www.mti.gov.sg/-/media/MTI/Newsroom/Press-Releases/2020/08/For-Immediate-Release-Block-Exemption--Order-for-Liner-Shipping-Agreements-Extended-for-One-Year-Unt.pdf).

<sup>58</sup> Pursuant to Article 4 of the Order, market shares are calculated by reference to 1) the volume of goods carried, or 2) the aggregate cargo carrying capacity of the vessels operating in the market measured by freight tonnes or twenty-foot equivalent units (TEUs).

<sup>59</sup> CCCS (2018), “CCCS Explanatory Note on the Block Exemption for Liner Shipping Agreements”, [www.cccs.gov.sg/-/media/custom/ccs/files/legislation/block-exemption-order/cccs-beo-explanatory-note-nov-2018.pdf](http://www.cccs.gov.sg/-/media/custom/ccs/files/legislation/block-exemption-order/cccs-beo-explanatory-note-nov-2018.pdf).

<sup>60</sup> European Commission (2020), “Antitrust: Commission prolongs the validity of block exemption for liner shipping consortia”, [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_518](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_518).

<sup>61</sup> For example, in 2008, the EU removed a sector-specific block exemption for liner carriers and introduced a narrower exemption for certain consortia agreements. Similarly, in 2019, New Zealand implemented a narrower block exemption that applies to: 1) the co-ordination of schedules and the determination of port calls; 2) the exchange, sale, hire, or lease (including the sublease) of space on a ship; 3) the pooling of ships to operate a network; 4) the sharing or exchanging of equipment, such as containers; and 5) capacity adjustments in response to fluctuations in supply and demand for international liner shipping services. This exemption only applied, however, when such co-operation improved the service supplied to cargo owners, and provide neither for any agreements or co-ordination on price nor a market share cap. See, ACCC (2019), *Proposed Class Exemption for Ocean Liner Shipping: Discussion Paper*, <https://www.accc.gov.au/system/files/public-registers/documents/ACCC%20discussion%20paper%20-%20ocean%20liner%20shipping%20class%20exemption.pdf>, p. 5.

<sup>62</sup> According to *CCCS Explanatory Note on the Block Exemption for Liner Shipping Agreements*, price means “the price for which a liner operator performs or offers to perform liner shipping services, and includes not only the base freight rate, but also any charge that is incidental to or reasonably connected with the provision of liner shipping services, whether arising by reason of the provision of the liner shipping services or by reason of the occurrence of an uncertainty.” Remuneration term means “any term affecting payment of the amount of the price in relation to the provision of liner shipping services (including a reduction thereof)”.

<sup>63</sup> See <https://app1.sla.gov.sg/inlis/#>. Certain specific information such as land valuations and environmental-impact assessments cannot be found on INLIS.

<sup>64</sup> See [www.sla.gov.sg/state-land-n-property/land-sales-and-lease-management/lease-management/lease-policy](http://www.sla.gov.sg/state-land-n-property/land-sales-and-lease-management/lease-management/lease-policy)

<sup>65</sup> “Grounds of Decision issued by the Competition and Consumer Commission of Singapore. In relation to the notification for decision of the proposed acquisition by ARA Logistics Ventures I Limited of shares in LOGOS China Investments Limited pursuant to section 57 of the Competition Act. 26 February 2020. Case number: CCCS 400/140/2020/001”, [www.cccs.gov.sg/-/media/custom/ccs/files/public-register-and-consultation/public-consultation-items/ara-logistic-and-logos-gd/grounds-of-decisionara-logisticlogos-14-apr-20.pdf](http://www.cccs.gov.sg/-/media/custom/ccs/files/public-register-and-consultation/public-consultation-items/ara-logistic-and-logos-gd/grounds-of-decisionara-logisticlogos-14-apr-20.pdf), p. 10.

<sup>66</sup> Info-communications Development Authority of Singapore (2008), “IDA’s Explanatory Memorandum on the Postal Services Regulations”, [https://www.imda.gov.sg/-/media/Imda/Files/Inner/PCDG/Consultations/20060818\\_FurtherLibPostalSvc/PSRExMemo.pdf](https://www.imda.gov.sg/-/media/Imda/Files/Inner/PCDG/Consultations/20060818_FurtherLibPostalSvc/PSRExMemo.pdf), pp. 6-7.

<sup>67</sup> See IMDA, “Public Consultation on Draft Postal Services (Amendment) Bill”, [www.imda.gov.sg/-/media/Imda/Files/News-and-Events/Media-Room/Media-Releases/12/Annex-A--Public-consultation-paper-on-draft-Postal-Services-Amendment-Bill.pdf?la=en](http://www.imda.gov.sg/-/media/Imda/Files/News-and-Events/Media-Room/Media-Releases/12/Annex-A--Public-consultation-paper-on-draft-Postal-Services-Amendment-Bill.pdf?la=en), paragraphs 34-37.

<sup>68</sup> See IMDA, “Public Consultation on the Draft Postal Services (Amendment) Bill”, [www.imda.gov.sg/regulations-and-licensing/Regulations/consultations/Consultation-Papers/2020/Public-Consultation-on-the-Draft-Postal-Services-Amendment-Bill](http://www.imda.gov.sg/regulations-and-licensing/Regulations/consultations/Consultation-Papers/2020/Public-Consultation-on-the-Draft-Postal-Services-Amendment-Bill).

<sup>69</sup> Infocomm Media Development Authority (2018), “Fact Sheet: Urban Logistics to receive significant boost with Last Mile Delivery via a Federated Lockers Network”, [www.imda.gov.sg/-/media/Imda/Files/About/Media-Releases/2018/Factsheet\\_Federated-Lockers-Overview.pdf](http://www.imda.gov.sg/-/media/Imda/Files/About/Media-Releases/2018/Factsheet_Federated-Lockers-Overview.pdf).

<sup>70</sup> Infocomm Media Development Authority (3 July 2020), “Formation of Pick to Roll Out Nationwide Parcel Locker Network”, [www.imda.gov.sg/news-and-events/Media-Room/Media-Releases/2020/Formation-of-Pick-to-Roll-Out-Nationwide-Parcel-Locker-Network](http://www.imda.gov.sg/news-and-events/Media-Room/Media-Releases/2020/Formation-of-Pick-to-Roll-Out-Nationwide-Parcel-Locker-Network).

<sup>71</sup> See IMDA, “Public Consultation on the Draft Postal Services (Amendment) Bill”, [www.imda.gov.sg/regulations-and-licensing/Regulations/consultations/Consultation-Papers/2020/Public-Consultation-on-the-Draft-Postal-Services-Amendment-Bill](http://www.imda.gov.sg/regulations-and-licensing/Regulations/consultations/Consultation-Papers/2020/Public-Consultation-on-the-Draft-Postal-Services-Amendment-Bill).

<sup>72</sup> Infocomm Media Development Authority (3 July 2020), “Formation of Pick to Roll Out Nationwide Parcel Locker Network”

<sup>73</sup> Infocomm Media Development Authority (2018), “Fact Sheet: Urban Logistics to receive significant boost with Last Mile Delivery via a Federated Lockers Network”.

<sup>74</sup> To support the logistics industry, in 2017, IMDA launched the Logistics Industry Digital Plan (IDP), a guide for local SMEs to digitalise their business. Amongst others, the IDP includes initiatives to upskill logistics-related ICT and non-ICT jobs, such as training programmes for skills upgrading, [www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp#:~:text=Aligned%20to%20the%20Logistics%20Industry,each%20stage%20of%20their%20growth](http://www.imda.gov.sg/programme-listing/smes-go-digital/industry-digital-plans/logistics-idp#:~:text=Aligned%20to%20the%20Logistics%20Industry,each%20stage%20of%20their%20growth).

<sup>75</sup> Companies in the transport, storage and communication service sector can hire foreigners from the following countries or regions: Malaysia; China; Hong Kong, China; Macau, China; Korea; and Chinese Taipei; [www.mom.gov.sg/passes-and-permits/work-permit-for-foreign-worker/sector-specific-rules/services-sector-requirements](http://www.mom.gov.sg/passes-and-permits/work-permit-for-foreign-worker/sector-specific-rules/services-sector-requirements).

<sup>76</sup> The current Dependency Ratio Ceiling (DRC) for the services sector is 38% and was scheduled to be reduced to 35% on 1 January 2021. See [www.singaporebudget.gov.sg/docs/default-source/budget\\_2020/download/pdf/annexb2.pdf](http://www.singaporebudget.gov.sg/docs/default-source/budget_2020/download/pdf/annexb2.pdf).

<sup>77</sup> See Zebelle (2018), “Challenges faced by the Singapore container trucking industry”, <https://zebelle.sg/2018/11/14/challenges-faced-by-the-singapore-container-trucking-industry/>. A similar shortage issue is present in the US, see, DHL (n.d.), “Demand for Supply Chain Talent Is at an All-Time High, But Demand Outstrips Supply”, [www.dhl.com/sg-en/home/our-divisions/supply-chain/thought-leadership/articles/the-deepening-talent-shortage.html](http://www.dhl.com/sg-en/home/our-divisions/supply-chain/thought-leadership/articles/the-deepening-talent-shortage.html).

<sup>78</sup> DHL (n.d.), “Demand for Supply Chain Talent Is at an All-Time High, But Demand Outstrips Supply”.

<sup>79</sup> *The Business Times* (26 April 2018), “Unions actively supporting talent development”, [www.businesstimes.com.sg/hub/singapore-maritime-week-2018/unions-actively-supporting-talent-development](http://www.businesstimes.com.sg/hub/singapore-maritime-week-2018/unions-actively-supporting-talent-development).

<sup>80</sup> According to publicly available information, MPA is aware that some companies prefer to hire foreigners. These sources report that: “MPA recognises that while many Singaporeans take up shore-based jobs, not many are attracted to seafaring jobs given their perceived onerous nature. Given this, there is a tendency



for companies to tap the ready pool of seafarers from the region.” To encourage more Singaporeans to take up seafaring jobs, MPA said it has been working with industry players to organise training programmes and career talks and fairs. See, *The Straits Times* (4 January 2015), “Maritime firms opting for foreigners”, [www.straitstimes.com/singapore/maritime-firms-opting-for-foreigners](http://www.straitstimes.com/singapore/maritime-firms-opting-for-foreigners).

<sup>81</sup> Manpower Group (2018), *Solving the talent Shortage: Build, Buy, Borrow and Bridge*, <https://manpowergroup.com.sg/talent-shortage-2018>.

<sup>82</sup> Ministry of Manpower, *SkillsFuture*, <https://www.mom.gov.sg/employment-practices/skills-training-and-development/skillsfuture>.

<sup>83</sup> Administrative burdens are the costs involved in obtaining, reading and understanding regulations, developing compliance strategies and meeting mandated reporting requirements, including data collection, processing, reporting and storage, but NOT including the capital costs of measures taken to comply with the regulations, nor the costs to the public sector of administering the regulations.

<sup>84</sup> See Ministry of Trade and Industry’s website, [www.mti.gov.sg/PEP/Contact-Us](http://www.mti.gov.sg/PEP/Contact-Us).

<sup>85</sup> *The Straits Times* (12 September 2019), “From cutting red tape to cutting-edge ideas”, [www.straitstimes.com/business/from-cutting-red-tape-to-cutting-edge-ideas](http://www.straitstimes.com/business/from-cutting-red-tape-to-cutting-edge-ideas).

<sup>86</sup> For the full text of the agreement, see [www.parliament.go.th/aseanrelated\\_law/files/file\\_20170808165335\\_txtattactEN\\_.pdf](http://www.parliament.go.th/aseanrelated_law/files/file_20170808165335_txtattactEN_.pdf).

<sup>87</sup> The priority sectors included in the ASEAN Framework Agreement for the Integration of Priority Sectors were: agro-based products, air travel, automotive industries, e-ASEAN, electronics, fisheries, healthcare, rubber-based products, textiles and apparels, tourism, and wood-based products.

<sup>88</sup> ASEAN Logistics and Transport Services Sectoral Working Group, <https://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/services/logistics-services/>.

<sup>89</sup> See Article 4, AFAFGIT Protocol 3, which provides that the number of “road transit transport vehicles” may be no more than 60 vehicles, but that the number “shall be discussed from time to time between the Contracting Parties”, <https://acts.asean.org/Publication/Legal-Framework/afafgit-protocol-3-types-and-quantity-road-vehicles>, p. 3.

<sup>90</sup> See [https://asean.org/storage/2019/11/Implementation-Framework-AFAMT\\_FINAL.pdf](https://asean.org/storage/2019/11/Implementation-Framework-AFAMT_FINAL.pdf).

<sup>91</sup> The Implementation Framework makes reference to a “Competent National Body as the authority for issuing MTOs registration certificate to be established and confirm its functions”, [https://asean.org/storage/2019/11/Implementation-Framework-AFAMT\\_FINAL.pdf](https://asean.org/storage/2019/11/Implementation-Framework-AFAMT_FINAL.pdf), p. 5.



# Annex A. Methodology

The assessment of laws and regulations in these sectors and its subsectors has been carried out in four stages. The present annex describes the methodology followed in each of these stages.

## Stage 1: Mapping the sectors

The objective of Stage 1 of the project which started in the second half of 2018 was to identify and collect sector-relevant laws and regulations. The main tools used to identify the applicable legislation were online databases, in particular the Singapore Statutes Online database. This was complemented by the websites of the relevant Singaporean authorities and of industry and consumer associations. Over the course of the project, the lists of legislation were refined, as additional pieces were discovered by the team or issued by the authorities, while other pieces initially identified were found not to be relevant to the sectors or no longer in force.

Another important objective of the first stage was the establishment of contact with the market through the main authorities, industry associations and private stakeholders active in the sectors. In January 2020, the OECD team conducted a fact-finding mission to Singapore to meet with government and private stakeholders. Interviews with market participants contributed to a better understanding of how the sub-sectors under investigation work in practice and helped in the discussion of potential barriers deriving from the legislation.

Based on those meetings and the discussion on practical problems stakeholders face, and backed up by further research, the OECD team identified the legislation to be prioritised for areas in which *prima facie* barriers to competition existed and therefore impact on competition could be expected.

## Stage 2: Screening of the legislation and selection of provisions for further analysis

The second stage of the project mainly entailed the screening of the legislation to identify potentially restrictive provisions, as well as providing an economic overview of the relevant sectors. Every piece of legislation was scanned by a team member and an outside national consultant (“four-eyes principle”).

The legislation collected in Stage 1 was analysed using the framework provided by the OECD’s *Competition Assessment Toolkit*. This toolkit, developed by the OECD, provides a general methodology for identifying unnecessary obstacles in laws and regulations and developing alternative, less restrictive policies that still achieve government objectives. One of the main elements of the toolkit is a competition-assessment checklist that asks a series of simple questions to screen laws and regulations with the potential to restrain competition unnecessarily.

### Box A A.1. OECD competition assessment checklist

Further competition assessment should be conducted if a piece of legislation answers “yes” to any of the following questions:

#### A) Limits the number or range of suppliers

This is likely to be the case if the piece of legislation:

1. grants a supplier exclusive rights to provide goods or services;
2. establishes a licence, permit or authorisation process as a requirement of operation;
3. limits the ability of some types of suppliers to provide a good or service;
4. significantly raises the cost of entry or exit by a supplier;
5. creates a geographical barrier to the ability of companies to supply goods, services or labour, or invest capital.

#### B) Limits the ability of suppliers to compete

This is likely to be the case if the piece of legislation:

1. limits sellers' ability to set the prices of goods or services;
2. limits the freedom of suppliers to advertise or market their goods or services;
3. sets standards for product quality that provide an advantage to some suppliers over others or that are above the level that some well-informed customers would choose;
4. significantly raises the costs of production for some suppliers relative to others (especially by treating incumbents differently from new entrants).

#### C) Reduces the incentive of suppliers to compete

This may be the case if the piece of legislation:

1. creates a self-regulatory or co-regulatory regime;
2. requires or encourages information on supplier outputs, prices, sales or costs to be published;
3. exempts the activity of a particular industry or group of suppliers from the operation of general competition law.

#### D) Limits the choices and information available to customers

This may be the case if the piece of legislation:

1. limits the ability of consumers to decide from whom they purchase;
2. reduces the mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers;
3. fundamentally changes the information required by buyers to shop effectively.

Source: (OECD, 2019<sup>[125]</sup>).

The OECD also prepared an extensive economic overview of the logistics sector (and refined it during later stages), covering industry trends and main indicators, such as output, employment and prices, including comparisons with other ASEAN and OECD member countries where relevant. It also analysed summary statistics on the main indicators of the state of competition typically used by competition authorities, especially information on the market shares of the largest players in each sector. Where possible, these statistics were broken down by sub-sector. The analysis conducted during this stage aimed to furnish background information to better understand the mechanisms of the sector, providing an overall assessment of competition, as well as explaining the important players and authorities.

### Stage 3: In-depth assessment of the harm to competition

The provisions identified in Stage 2 were investigated in order to assess whether they could result in harm to competition. In parallel, the team researched the policy objectives of the selected provisions, so as to better understand the regulation. An additional purpose in identifying the objectives was to prepare, in Stage 4, alternatives to existing regulations, taking account of the objective of the specific provisions when required. The objective of policymakers was researched in the recitals of the legislation, when applicable, or through discussions with the relevant public authorities.

The in-depth analysis of harm to competition was carried out qualitatively and involved a variety of tools, including economic analysis and research into the regulations applied in OECD countries. All provisions were analysed, relying on guidance provided by the OECD's *Competition Assessment Toolkit*.

### Stage 4: Formulation of recommendations

Building on the results of Stage 3, the OECD team developed preliminary recommendations for those provisions that were found to restrict competition. It tried to find alternatives that were less restrictive for suppliers, while still aiming to fulfil the policymakers' initial objective. For this process, the team relied on international experience – from the ASEAN region, and European and OECD countries – whenever available. The report was also shared with the OECD International Transport Forum (which also contributed with international experience in the transport sector) and the Investment Division.

During a stakeholder consultation in September 2020, the OECD presented preliminary findings and recommendations to the relevant Singaporean authorities and asked for their views on recommendations. All those comments were taken into account when deciding on final recommendations and writing the final report.





## OECD COMPETITION ASSESSMENT REVIEWS: LOGISTICS SECTOR IN SINGAPORE

Efficient logistics can play a significant role in increasing a country's economic development by facilitating international trade and improving its competitiveness. This report provides an overview of the logistics sector in Singapore and offers recommendations to lower regulatory barriers to competition. It covers freight transport by land and by water, freight forwarding, warehousing, small parcel delivery and value-added logistics services.

This report and the accompanying “OECD Competitive Neutrality Reviews: Small-Package Delivery Services in Singapore” are contributions to an ASEAN-wide project that implements part of the ASEAN Competition Action Plan 2016-2025 and is funded by the ASEAN Economic Reform Programme under the UK Foreign, Commonwealth & Development Office (UK Government). Designed to foster competition in ASEAN, the project involves conducting assessments of regulatory constraints on competition in the logistics services sector in all 10 ASEAN countries to identify regulations that hinder the efficient functioning of markets and create an unlevel playing field for business.

Access all reports and read more about the project at [oe.cd/comp-asean](http://oe.cd/comp-asean).

[www.oecd.org/competition](http://www.oecd.org/competition)

