

# Experimental Estimates on Singapore’s Balance of Payments Services Trade by Modes of Supply

by Leon Tay and Soh Sing Pei  
International Accounts Division  
Singapore Department of Statistics

## Introduction





Under the World Trade Organisation’s (WTO) General Agreement on Trade in Services<sup>1</sup> (GATS), trade in services is defined to cover four different modes of supply based on the locations of the supplier and consumer when a service is supplied. Conventional trade in services statistics present trade flows between countries by type of services.

Information on trade in services by modes of supply offers an extended dimension on how services are supplied to overseas customers, which are useful in policymaking and trade negotiations. For example, in Singapore, trade in services by modes of supply estimates were used to analyse the impact of the

COVID-19 pandemic<sup>2</sup> on international travel due to global lockdowns and travel restrictions, to support policy work on facilitating business travel during the pandemic and the eventual reopening of Singapore’s travel borders.

The Singapore Department of Statistics (DOS) has compiled experimental estimates on Singapore’s services trade via cross-border supply (mode 1), consumption abroad (mode 2) and presence of natural persons (mode 4). This article provides an overview of the compilation methodology and key findings for the different modes of supply under the Services Account of Singapore’s Balance of Payments (BOP)<sup>3</sup>, for the period of 2016 to 2021.

## WHAT ARE THE FOUR MODES OF SUPPLY?

Modes of Supply under the GATS	Examples	
	Exports	Imports
<b>Mode 1: Cross-border supply</b>  <p>A service is delivered across borders, with both the supplier and consumer being in their respective territories.</p>	A law firm in Singapore delivers legal advice to an overseas client through email.	A law firm located overseas provides legal advice to a client located in Singapore through video call.
<b>Mode 2: Consumption abroad</b>  <p>Consumer travels abroad to consume services outside his or her home territory.</p>	Foreign tourists travelling to Singapore to attend a local concert.	Singaporeans travelling abroad and visiting museums overseas.
<b>Mode 3: Commercial presence</b>  <p>Service supplier establishes an affiliate, branch or representative office in another economy through which services are provided.</p>	A Singapore-based firm sets up an overseas branch abroad to provide consultancy services to residents of the country in which the branch is located in.	An overseas financial firm establishes a branch in Singapore to provide financial advisory services directly to its clients in Singapore.
<b>Mode 4: Presence of natural persons</b>  <p>Individual is temporarily present in an economy other than his or her own to provide a service.</p>	A Singapore-based auditing firm sends its auditor abroad for a month to conduct an audit for a client firm which is located abroad.	A consultant from another country is temporarily stationed in Singapore for a week to provide advisory services to Singapore-based clients.

1 First multilaterally agreed framework on trade in services which came into force in 1995.

2 The World Health Organisation declared the COVID-19 outbreak a pandemic on 11 March 2020.

3 The supply of services through mode 3 is delivered by an affiliate company (of a non-resident supplier) to residents in the same economy. These transactions are not within the scope of the Balance of Payments as the affiliate company is treated as a resident in that economy.

## Data Sources and Methodology

The primary data source for Singapore's BOP services trade is the International Trade in Services Survey, which covers services transactions between residents and non-residents. Based on the recommendations and guidelines from the Manual on Statistics of International Trade in Services (MSITS) 2010, each services category is attributed to either one dominant mode (or most significant mode when there is no single dominant mode) or multiple modes (Table 1).

For services categories with several modes, a multi-pronged approach was adopted by leveraging administrative and survey data, firm-level analysis and research, as well as international recommendations including the Eurostat-WTO model<sup>4</sup> to determine the allocation for each mode of supply.

The following sections present the key findings from the experimental estimates, with an analysis of the overall modes of supply trend from 2016 to 2021 and

a study of the services category contribution by each mode of supply in recent years.

## Overall Modes of Supply Trend from 2016 to 2021

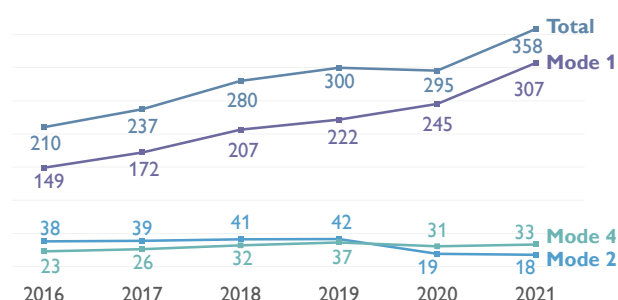
From 2016 to 2021, cross-border supply (mode 1) was the predominant mode of supply for both services exports and imports. Services exports and imports via mode 1 continued to increase between 2016 to 2021, registering strong year-on-year growth rates of 25 per cent and 16 per cent respectively in 2021 (Charts 1A and 1B).

In contrast, the consumption abroad (mode 2) and presence of natural persons (mode 4) supply of services recorded declines since the start of the COVID-19 pandemic and remained below the pre-pandemic 2019 level, although the exports and imports by mode 4 recovered slightly in 2021 relative to 2020 with gradual resumption in business travel.

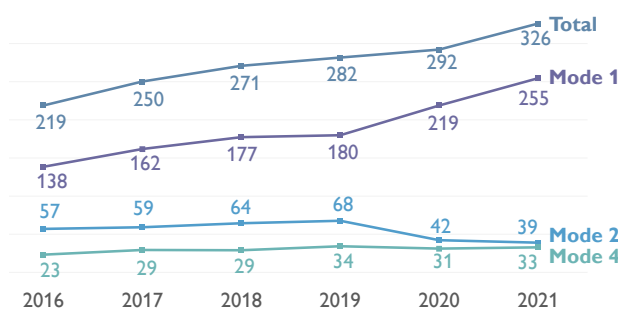
**TABLE 1** TRADE IN SERVICES WITH MODES OF SUPPLY ALLOCATION

Balance of Payments Services Category Classification <sup>5</sup>	Modes of Supply Allocation
Manufacturing Services on Physical Inputs Owned by Others	2
Maintenance & Repair	2 & 4
Transport	1 & 2
Travel	2
Insurance	1
Government Goods & Services	1, 2 & 4
Construction	4
Financial	1
Telecommunications, Computer & Information	1 & 4
Charges for the Use of Intellectual Property	1 & 4
Personal, Cultural & Recreational	1 & 4
Other Business Services	1, 2 & 4

**CHART 1A** TOTAL SERVICES EXPORTS BY MODES 1, 2 AND 4 (\$\$BIL)



**CHART 1B** TOTAL SERVICES IMPORTS BY MODES 1, 2 AND 4 (\$\$BIL)



4 The Eurostat-WTO model builds on the simplified approach and the allocation of EBOPS (Extended Balance of Payments Services Classification) item is assigned to the modes based on MSITS 2010 suggestions and experts' assessment on how specific services items are most likely to be supplied to consumers. More information is available at: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services\\_trade\\_statistics\\_by\\_modes\\_of\\_supply#Applied\\_methodology](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services_trade_statistics_by_modes_of_supply#Applied_methodology).

5 A detailed description of each services category is available at [https://www.singstat.gov.sg/-/media/files/find\\_data/trade-and-investment/notesintrade](https://www.singstat.gov.sg/-/media/files/find_data/trade-and-investment/notesintrade)

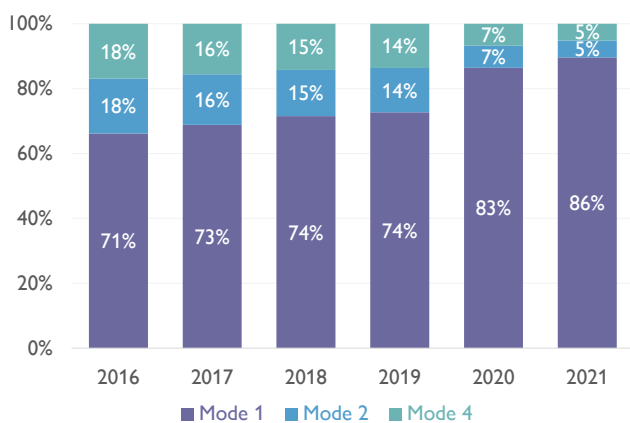
The contribution of mode 1 to the total services exports and imports increased from 74 per cent in 2019 to 86 per cent in 2021 and 64 per cent in 2019 to 78 per cent in 2021 respectively, as businesses were more likely to rely on the remote provision of services (Charts 2A and 2B). At the same time, the contributions of mode 2 and mode 4 fell since 2020 due to disruptions to supply chains and the halting of international travel, following global lockdowns and travel restrictions due to COVID-19.

The extent of the adverse impact arising from global travel restrictions and lockdowns during the COVID-19 pandemic on each services category was dependent on how they were mainly delivered. Services categories

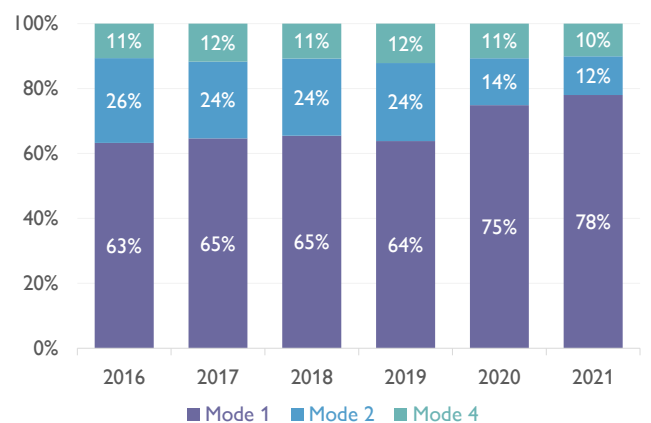
that were primarily delivered through mode 1 recorded positive compound annual growth rates (CAGRs) between 2019 and 2021.

For example, services in the Telecommunications, Computer & Information, Transport, Advertising & Market Research, Business Management and Financial categories registered positive CAGRs during this period (Charts 3A and 3B). Conversely, services categories that were predominantly delivered via mode 2, such as Travel and Maintenance & Repair services were negatively impacted. The exports and imports of these services remained below their pre-pandemic 2019 levels as both suppliers and consumers were required to be physically present in the same location.

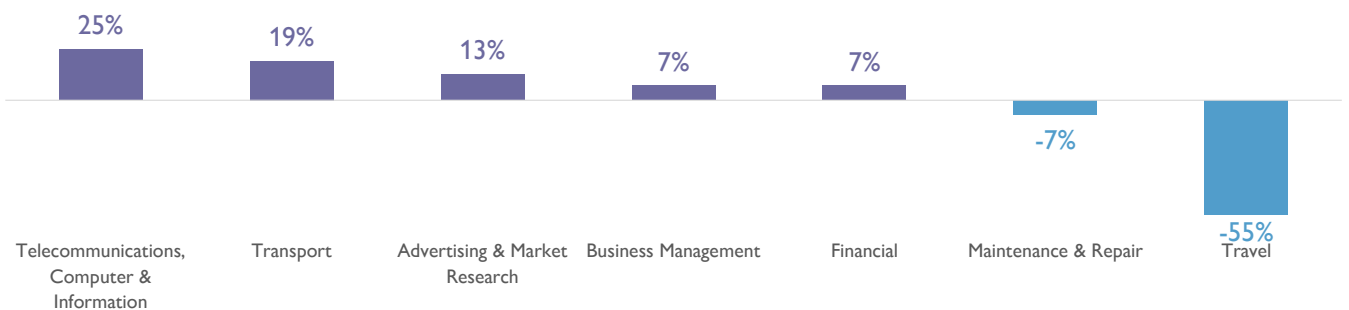
**CHART 2A** SHARE OF SERVICES EXPORTS BY MODES 1, 2 AND 4 (%)



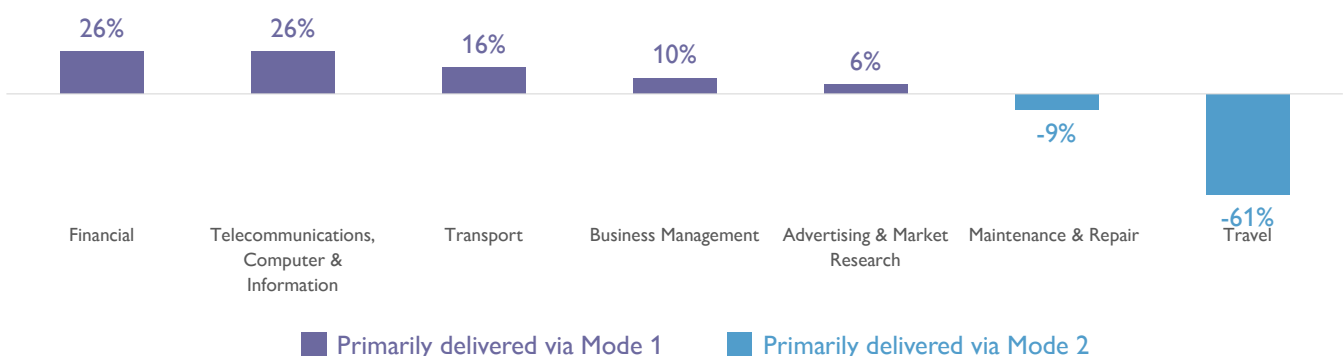
**CHART 2B** SHARE OF SERVICES IMPORTS BY MODES 1, 2 AND 4 (%)



**CHART 3A** CAGR OF SERVICES EXPORTS FOR SELECTED SERVICES CATEGORIES, 2019 - 2021



**CHART 3B** CAGR OF SERVICES IMPORTS FOR SELECTED SERVICES CATEGORIES, 2019 - 2021



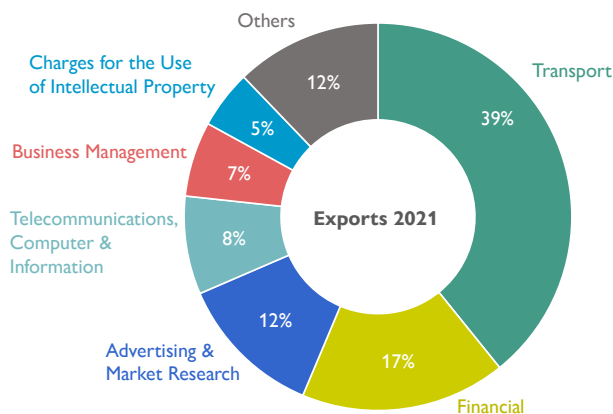
■ Primarily delivered via Mode 1    ■ Primarily delivered via Mode 2

## Key Services Categories by Mode of Supply

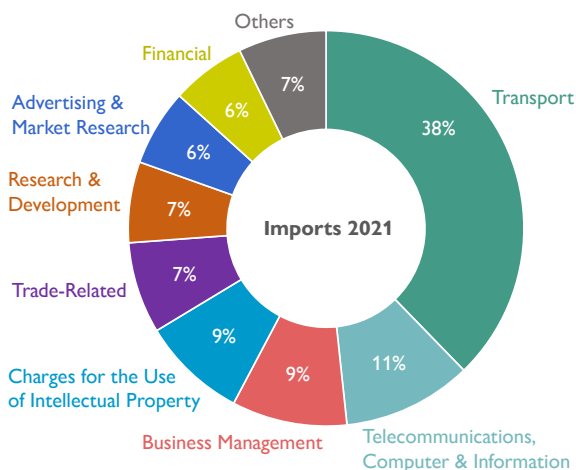
### Mode 1 - Cross Border Supply

Transport services was the largest contributor of services exports via mode 1, accounting for 39 per cent of mode 1 exports in 2021 (Chart 4A). Exports of Transport services include freight and postal & courier services, which are delivered from a supplier in Singapore to consumers located overseas. Financial services and Advertising & Market Research services were the other key contributors to mode 1 exports, contributing 17 per cent and 12 per cent respectively. The nature of these services allows them to be provided digitally.

**CHART 4A** MODE 1 SERVICES EXPORTS BY SERVICES CATEGORY, 2021



**CHART 4B** MODE 1 SERVICES IMPORTS BY SERVICES CATEGORY, 2021



Note: For Charts 4A and 4B, services categories with less than 5 per cent of contribution to mode 1 exports and imports are subsumed under 'Others'.

Similarly for imports, Transport services was the top services category supplied via mode 1 in 2021, followed by the Telecommunications, Computer & Information services and Business Management services (Chart 4B). These services categories jointly accounted for 58 per cent of mode 1 imports. Imports of Telecommunications, Computer & Information services under mode 1 include cloud computing and internet backbone services which are delivered via remote means, while business management services include the virtual provision of business consultancy and advisory services.

### Mode 2 - Consumption Abroad

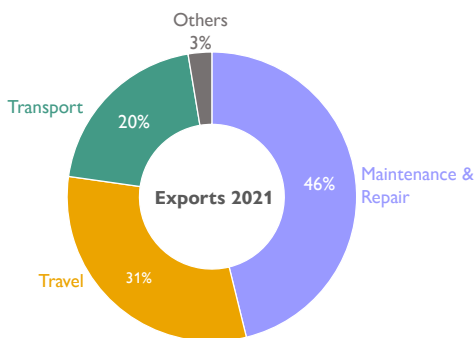
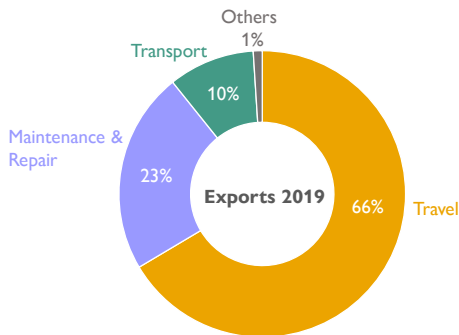
Mode 2 requires consumers to travel abroad to acquire services outside their home territory. Prior to the COVID-19 pandemic, Travel services was the largest contributor for mode 2 supply of services in 2019 (Charts 5A and 5B). The supply of Travel services via mode 2 includes the purchase of accommodation, meals abroad, souvenirs, visits to museums and theme parks, medical treatment and education received outside of the home territory.

With global lockdowns and travel restrictions put in place during the pandemic, travel services declined considerably and services categories such as Maintenance & Repair services and Transport services became key contributors to mode 2 services exports and imports respectively in 2021 (Charts 5A and 5B). Examples of Maintenance & Repair services exports via mode 2 include repair works performed in Singapore on ships and aircraft operated by overseas firms that are temporarily stationed in Singapore, while the imports of Transport services via mode 2 constitutes port-related services provided to Singapore-based carriers in overseas ports such as cargo handling, warehousing and logistic services. Similarly, the imports of Manufacturing services, which include the service payments on products sent abroad for processing or assembly, recorded an increase in its contribution of mode 2 services imports in 2021.

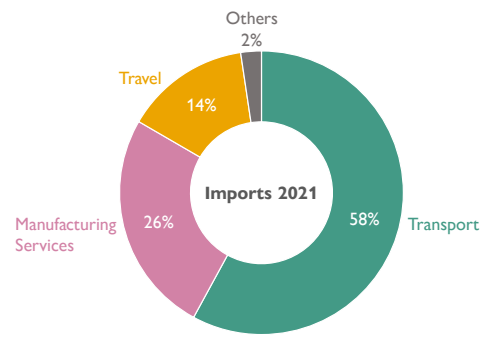
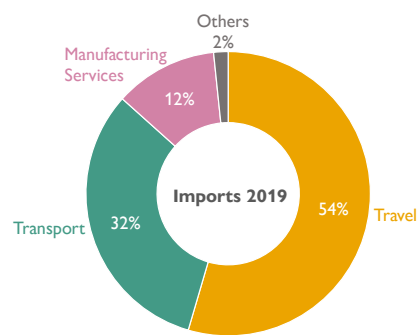
### Mode 4 - Presence of Natural Persons

Mode 4 occurs when an individual is temporarily present in an economy other than his or her own to provide a service. In 2021, more than half of the services exported via mode 4 were attributed to Advertising & Market Research and Business Management services (Chart 6A). Examples of services

**CHART 5A** MODE 2 SERVICES EXPORTS BY SERVICES CATEGORY, 2021

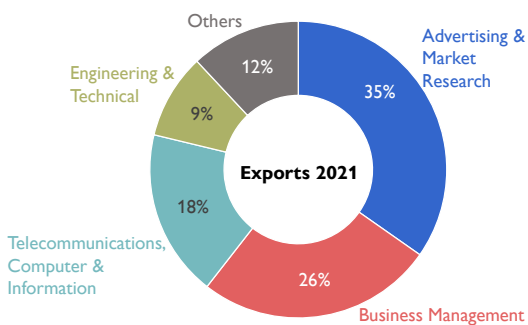


**CHART 5B** MODE 2 SERVICES IMPORTS BY SERVICES CATEGORY, 2021

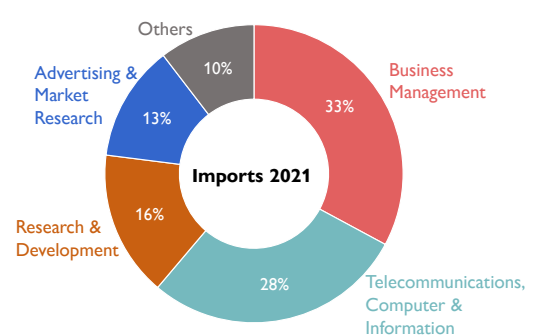


Note: For Charts 5A and 5B, services categories with less than 5 per cent of contribution to mode 2 exports and imports are subsumed under 'Others'.

**CHART 6A** MODE 4 SERVICES EXPORTS BY SERVICES CATEGORY, 2021



**CHART 6B** MODE 4 SERVICES IMPORTS BY SERVICES CATEGORY, 2021



Note: For Charts 6A and 6B, services categories with less than 5 per cent of contribution to mode 4 exports and imports are subsumed under 'Others'.

delivered include business consultants and visual directors temporarily going abroad to provide business advice and production of advertisements respectively. Imports were largely contributed by the Business Management and Telecommunications, Computer & Information services (Chart 6B). Under mode 4, Telecommunications, Computer & Information services include companies sending IT professionals abroad to provide IT systems and software support for their overseas clients.

**Conclusion**

Statistics on trade in services by modes of supply provide a better understanding of how services

are supplied across international borders. These experimental estimates have been used to support policy work during the COVID-19 pandemic.

The findings indicated that Singapore’s services exports and imports have been primarily supplied via mode 1 in recent years and that its growth had accelerated since the start of the pandemic. Services trade via mode 1 is expected to continue growing in importance with the rapid digitalisation of services, while modes 2 and 4 will remain relevant due to the inherent nature of the specific types of services (e.g., travel, maintenance & repair) which require suppliers and consumers to be physically present in the same location.