



# ECONOMIC SURVEY <sup>OF</sup> SINGAPORE 2021

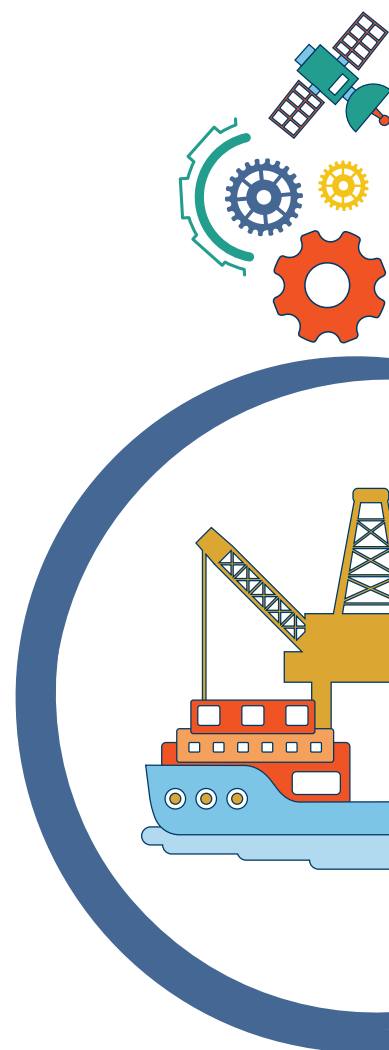
February 2022

**Ministry of Trade and Industry**  
**Republic of Singapore**

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# MAIN INDICATORS OF THE SINGAPORE ECONOMY

## OVERALL ECONOMY



**GDP**  
at Current  
Market Price

2020  
**\$476.4 billion**  
2021  
**\$533.4 billion**



**Real GDP**  
(Year-on-Year-Growth)

2020  
**-4.1%**  
2021  
**+7.6%**



**GNI**  
Per Capita

2020  
**\$72,570**  
2021  
**\$86,015**

## STRUCTURE OF THE ECONOMY IN 2021 (% OF NOMINAL VA)



Services Producing  
Industries  
**69.8%**

Ownership  
of Dwellings  
**3.8%**

Goods Producing  
Industries  
**26.4%**

Manufacturing  
**22.3%**

Construction  
**2.9%**

### BREAKDOWN OF SERVICES PRODUCING INDUSTRIES



Wholesale  
Trade  
**17.9%**



Finance &  
Insurance  
**14.6%**



Transportation  
& Storage  
**6.1%**



Professional  
Services  
**5.8%**



Information &  
Communications  
**5.6%**



Administrative &  
Support Services  
**3.6%**



Real  
Estate  
**2.9%**



Retail  
Trade  
**1.4%**



Food & Beverage  
Services  
**0.9%**



Accommodation  
**0.5%**



Other Services  
Industries  
**10.5%**

## LABOUR MARKET



Employment  
(as at year end)

2020  
**3,603.3**  
thousand  
2021  
**3,643.0**  
thousand



Overall  
Unemployment Rate

2020  
**3.0%**  
2021  
**2.6%**



Value-Added per  
Actual Hour Worked  
(Year-on-Year Growth)

2020  
**+2.6%**  
2021  
**+5.2%**

## COST



Unit Labour Cost of  
Overall Economy  
(Year-on-Year Growth)

2020  
**-8.9%**  
2021  
**+4.2%**



Unit Business Cost  
of Manufacturing  
(Year-on-Year Growth)

2020  
**-12.5%**  
2021  
**-3.3%**



Unit Labour Cost  
of Manufacturing  
(Year-on-Year Growth)

2020  
**-21.2%**  
2021  
**-1.3%**

## PRICES



Consumer Price Index  
– All Items  
(Year-on-Year Growth)

2020  
**-0.2%**  
2021  
**+2.3%**



Domestic Supply  
Price Index  
(Year-on-Year Growth)

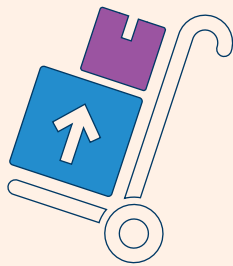
2020  
**-8.7%**  
2021  
**+15.2%**



Singapore Manufactured  
Products Price Index  
(Year-on-Year Growth)

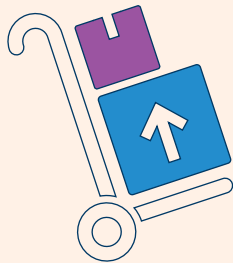
2020  
**-6.9%**  
2021  
**+9.5%**

## MERCHANDISE TRADE



### Merchandise Exports

| 2020                                   | 2021                                    |
|--|---|
| <b>\$515,645</b><br>million            | <b>\$614,081</b><br>million             |
| <b>-3.2%</b><br>Year-on-Year<br>Growth | <b>+19.1%</b><br>Year-on-Year<br>Growth |



### Merchandise Imports

| 2020                                   | 2021                                    |
|--|---|
| <b>\$453,467</b><br>million            | <b>\$545,882</b><br>million             |
| <b>-7.4%</b><br>Year-on-Year<br>Growth | <b>+20.4%</b><br>Year-on-Year<br>Growth |

### Share of Total Merchandise Exports in 2021



**54.6%**  
Re-exports



**31.5%**  
Non-Oil Domestic  
Exports



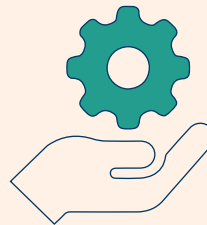
**13.9%**  
Oil Domestic  
Exports

## SERVICES TRADE



### Services Exports

| 2020                                   | 2021                                   |
|--|--|
| <b>\$289,303</b><br>million            | <b>\$308,821</b><br>million            |
| <b>-1.6%</b><br>Year-on-Year<br>Growth | <b>+6.7%</b><br>Year-on-Year<br>Growth |



### Services Imports

| 2020                                   | 2021                                   |
|--|--|
| <b>\$281,236</b><br>million            | <b>\$300,376</b><br>million            |
| <b>+0.2%</b><br>Year-on-Year<br>Growth | <b>+6.8%</b><br>Year-on-Year<br>Growth |

### Top 5 Services Exports Categories in 2021 (Share of Total Services Exports)



**32.3%**  
Other  
Business  
Services



**29.6%**  
Transport  
Services



**16.2%**  
Financial  
Services



**8.1%**  
Telecomms,  
Computer and  
Information



**5.1%**  
Charges for  
the use of  
Intellectual  
Property

## TOP TRADING PARTNERS AND SHARE OF TOTAL MERCHANDISE TRADE IN 2021

**9.1%**  
US

**8.8%**  
EU



**14.2%**  
China

**11.1%**  
Malaysia









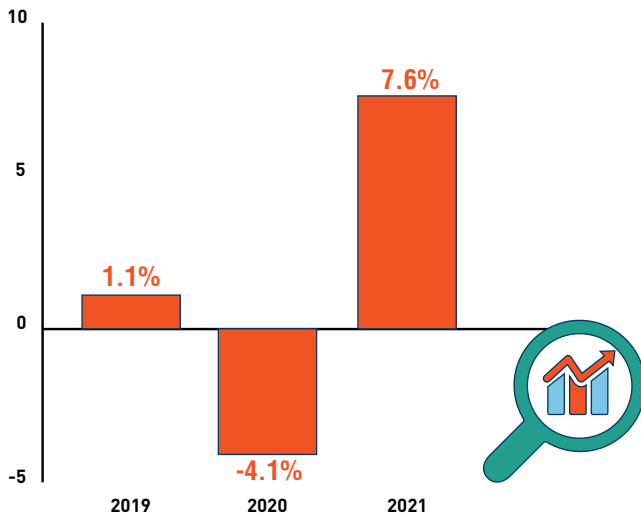
CHAPTER

01

# ECONOMIC PERFORMANCE

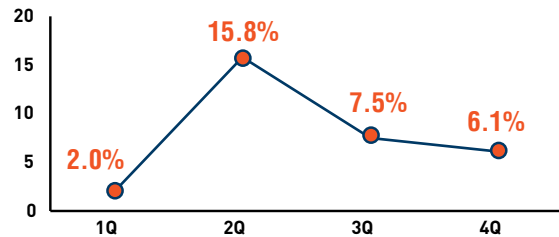
# ECONOMIC PERFORMANCE

## REAL GDP GREW BY 7.6% IN 2021



## QUARTERLY GDP GROWTH IN 2021

(Year-On-Year Growth)



## MAIN DRIVERS OF GDP GROWTH IN 2021

### Manufacturing



2.6%  
point contribution

### Finance & Insurance



1.1%  
point contribution

### Wholesale Trade

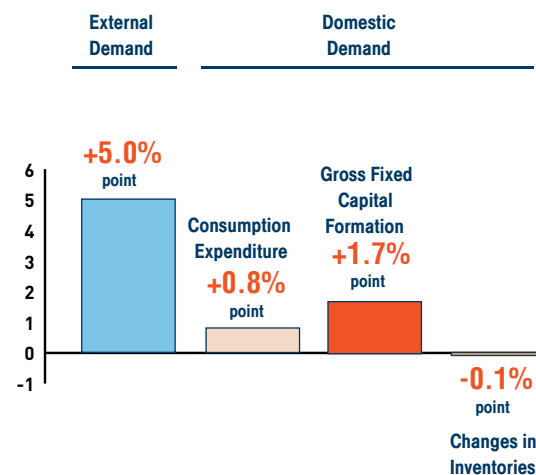


0.7%  
point contribution

## INCOME COMPONENTS OF GDP IN 2021



## SOURCES OF GROWTH IN 2021





## OVERVIEW

In the fourth quarter of 2021, the Singapore economy grew by 6.1 per cent on a year-on-year basis, moderating from the 7.5 per cent growth in the previous quarter. All sectors expanded during the quarter, with the exception of the accommodation and food & beverage services sectors. The sectors that contributed the most to growth during the quarter were the manufacturing and finance & insurance sectors.

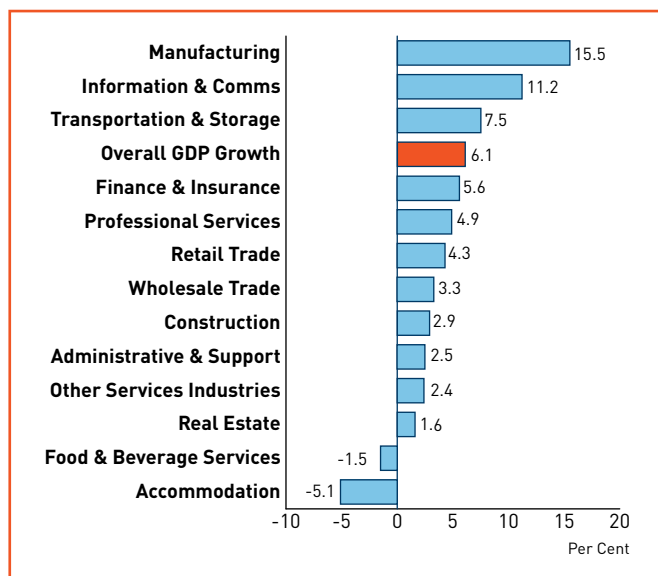
For the whole of 2021, the Singapore economy expanded by 7.6 per cent, rebounding from the 4.1 per cent contraction in 2020. All sectors recorded full-year expansions, except for the administrative & support services sector. The manufacturing and finance & insurance sectors were the top contributors to GDP growth for the year.

## OVERALL PERFORMANCE

### Fourth Quarter 2021

The Singapore economy grew by 6.1 per cent year-on-year in the fourth quarter, moderating from the 7.5 per cent growth in the preceding quarter (Exhibit 1.1). On a quarter-on-quarter seasonally-adjusted basis, GDP growth came in at 2.3 per cent, faster than the 1.5 per cent recorded in the third quarter.

**Exhibit 1.1: GDP and Sectoral Growth Rates in 4Q 2021**



The manufacturing sector expanded by 15.5 per cent year-on-year in the fourth quarter, accelerating from the 7.9 per cent growth in the previous quarter. Growth was supported by output expansions across all clusters, with the biomedical manufacturing and transport engineering clusters posting the largest increases in output.

The services producing industries collectively grew by 4.4 per cent year-on-year in the fourth quarter, moderating from the 6.8 per cent growth in the previous quarter. All services sectors, except for the accommodation and food & beverage services sectors, registered positive growth. Among them, the information & communications (11.2 per cent) and transportation & storage (7.5 per cent) sectors recorded the largest expansions.

Meanwhile, the construction sector grew by 2.9 per cent year-on-year in the fourth quarter, slower than the 69.9 per cent growth in the third quarter<sup>1</sup>. Growth during the quarter was supported by a step-up in both public sector and private sector construction works.

### Full Year of 2021

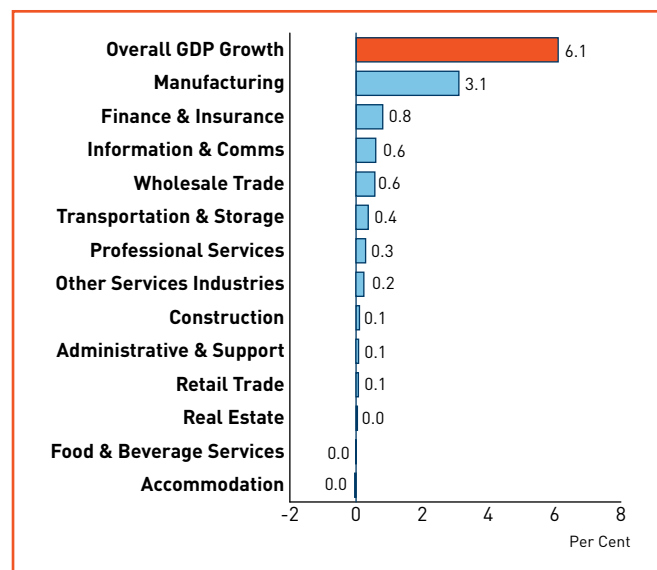
For the whole of 2021, the Singapore economy expanded by 7.6 per cent, rebounding from the 4.1 per cent contraction in 2020 (Exhibit 1.2).

By sectors, the manufacturing sector grew by 13.2 per cent in 2021, faster than the 7.5 per cent growth in the preceding year. The sector's growth was supported by expansions across all clusters, with the precision engineering, electronics and transport engineering clusters seeing the fastest growth.

Services producing industries posted growth of 5.6 per cent in 2021, a reversal from the 5.1 per cent contraction in 2020. All services sectors registered full-year expansions, with the exception of the administrative & support services (-3.8 per cent) sector.

Meanwhile, the construction sector expanded by 20.1 per cent in 2021, a turnaround from the 38.4 per cent contraction in the preceding year. Output in the sector was supported by an increase in both public and private sector construction works.

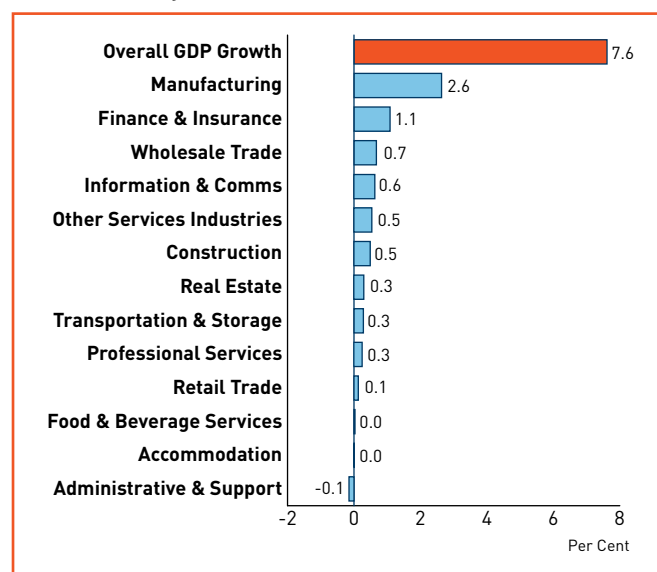
<sup>1</sup> The strong growth of the construction sector in the third quarter of 2021 was mainly due to low base effects given the slow resumption of construction activities after the Circuit Breaker in 2020.

**Exhibit 1.2: GDP and Sectoral Growth Rates in 2021****Exhibit 1.3: Percentage-Point Contribution to Growth in Real GDP in 4Q 2021 (By Industries)**

## Contribution to Growth

In the fourth quarter, all sectors contributed positively to GDP growth, except for the accommodation and food & beverage services sectors (Exhibit 1.3). Among the sectors that expanded, the manufacturing and finance & insurance sectors contributed the most to GDP growth during the quarter.

For the whole of 2021, all sectors contributed positively to GDP growth, except for the administrative & support services sector (Exhibit 1.4). The manufacturing and finance & insurance sectors were the top contributors to GDP growth for the year.

**Exhibit 1.4: Percentage-Point Contribution to Growth in Real GDP in 2021 (By Industries)**

## SOURCES OF GROWTH

Total demand rose by 7.0 per cent year-on-year in the fourth quarter, extending the 8.2 per cent expansion in the preceding quarter (Exhibit 1.5).

For 2021 as a whole, total demand increased by 7.3 per cent, rebounding from the 3.0 per cent decline in 2020. Both external demand (5.0 percentage-points) and domestic demand (2.4 percentage-points) supported the pickup in total demand during the year.

**Exhibit 1.5: Percentage-Point Contribution to Total Demand Growth**

|                                      | 2020 | 2020 |      |     | 2021        |
|--------------------------------------|------|------|------|-----|-------------|
|                                      |      | II   | III  | IV  |             |
| <b>Total Demand</b>                  | -3.0 | 16.5 | 8.2  | 7.0 | <b>7.3</b>  |
| <b>External Demand</b>               | -0.2 | 10.6 | 5.1  | 5.7 | <b>5.0</b>  |
| <b>Total Domestic Demand</b>         | -2.8 | 5.9  | 3.1  | 1.3 | <b>2.4</b>  |
| <b>Consumption Expenditure</b>       | -1.3 | 2.8  | 0.7  | 0.5 | <b>0.8</b>  |
| <b>Public</b>                        | 0.6  | 0.0  | 0.2  | 0.2 | <b>0.2</b>  |
| <b>Private</b>                       | -1.9 | 2.7  | 0.5  | 0.3 | <b>0.6</b>  |
| <b>Gross Fixed Capital Formation</b> | -1.3 | 3.3  | 2.5  | 0.8 | <b>1.7</b>  |
| <b>Changes in Inventories</b>        | -0.2 | -0.2 | -0.1 | 0.0 | <b>-0.1</b> |

## External Demand

External demand rose by 7.9 per cent year-on-year in the fourth quarter, improving from the 6.9 per cent growth in the previous quarter (Exhibit 1.6). The increase in external demand could be attributed to an expansion in the real exports of both goods and services.

For the full year, external demand grew by 6.8 per cent, a reversal from the 0.2 per cent contraction in 2020. The increase in external demand was largely driven by higher real merchandise exports, which was in turn mainly due to an expansion in the exports of machinery and transport equipment. Real services exports also rose, helped by an increase in the exports of other business services.

## Domestic Demand

Total domestic demand increased by 4.6 per cent year-on-year in the fourth quarter, moderating from the 11.8 per cent growth in the previous quarter. The increase in domestic demand in the fourth quarter was supported by growth in gross fixed capital formation and consumption expenditure.

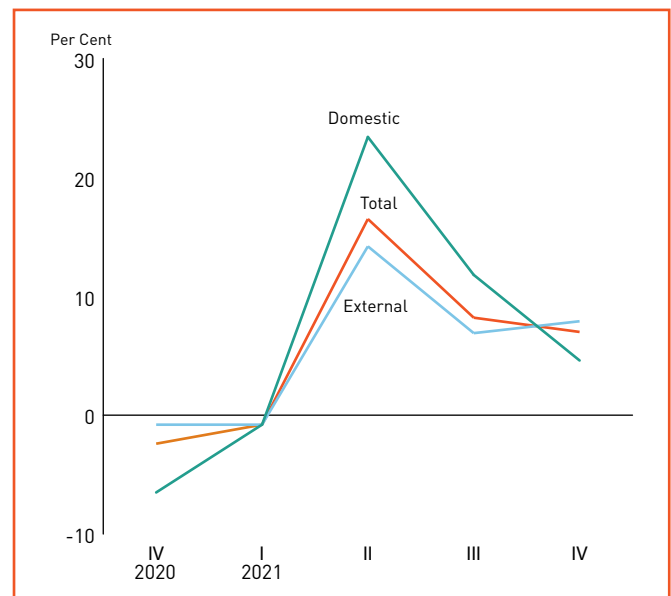
For 2021 as a whole, total domestic demand expanded by 8.8 per cent, a reversal from the 9.7 per cent contraction in 2020. The increase in domestic demand was largely due to growth in gross fixed capital formation and consumption expenditure, which more than offset a drawdown in inventories.

## Consumption Expenditure

Total consumption expenditure increased by 2.8 per cent year-on-year in the fourth quarter, extending the 3.9 per cent increase in the previous quarter.

For the full year, total consumption expenditure rose by 4.5 per cent, a turnaround from the 7.0 per cent decline in 2020, driven by increases in both private and public consumption. Specifically, private consumption rebounded from the 12.9 per cent decline in 2020 to grow by 4.5 per cent in 2021, mainly due to an increase in expenditure on miscellaneous goods & services and recreation & culture. At the same time, growth in public consumption moderated from 13.3 per cent in 2020 to 4.5 per cent in 2021.

**Exhibit 1.6: Changes in Total Demand in Chained (2015) Dollars**



## Gross Fixed Capital Formation

Gross fixed capital formation (GFCF) expanded by 8.3 per cent year-on-year in the fourth quarter, a sharp moderation from the 32.8 per cent expansion in the preceding quarter. The rise in GFCF during the quarter was supported by both private and public GFCF, which increased by 8.6 per cent and 7.4 per cent respectively.

For the full year, GFCF rose by 19.6 per cent, a reversal from the 14.2 per cent decline in 2020 (Exhibit 1.7). Public GFCF expanded by 18.8 per cent, a turnaround from the 25.0 per cent contraction in 2020, supported largely by higher investment spending on public construction & works (Exhibit 1.8). Meanwhile, private GFCF rose by 19.7 per cent, a reversal from the 11.6 per cent contraction in 2020. The pickup in private GFCF was due to higher investment spending across all components, with investments in private construction & works being the largest contributor.

**Exhibit 1.7: Annual Changes in Gross Fixed Capital Formation in Chained (2015) Dollars, 2021**

|                                       | Total | Public | Private |
|---------------------------------------|-------|--------|---------|
| <b>Total</b>                          | 19.6  | 18.8   | 19.7    |
| <b>Construction &amp; Works</b>       | 28.4  | 18.3   | 34.4    |
| <b>Transport Equipment</b>            | 25.8  | 30.8   | 25.4    |
| <b>Machinery &amp; Equipment</b>      | 18.4  | 43.5   | 17.1    |
| <b>Intellectual Property Products</b> | 11.0  | 7.7    | 11.3    |

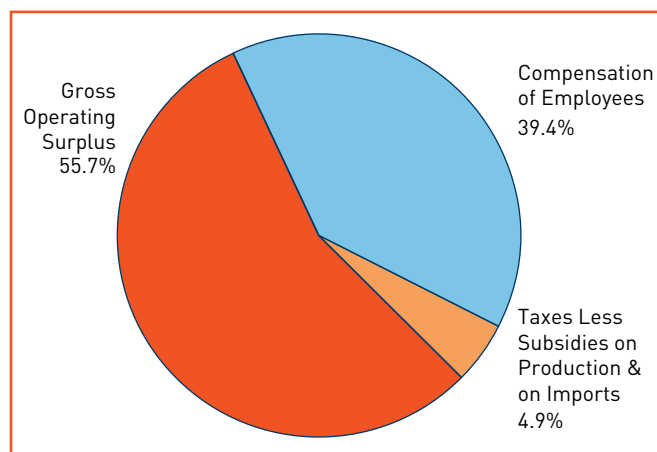
**Exhibit 1.8: Percentage-Point Contribution to Growth of Gross Fixed Capital Formation in Chained (2015) Dollars, 2021**

|                                       | Total | Public | Private |
|---------------------------------------|-------|--------|---------|
| <b>Total</b>                          | 19.6  | 3.2    | 16.4    |
| <b>Construction &amp; Works</b>       | 9.6   | 2.3    | 7.3     |
| <b>Transport Equipment</b>            | 1.7   | 0.1    | 1.5     |
| <b>Machinery &amp; Equipment</b>      | 4.3   | 0.5    | 3.8     |
| <b>Intellectual Property Products</b> | 4.0   | 0.2    | 3.8     |

## INCOME COMPONENTS OF NOMINAL GDP

Singapore's nominal GDP amounted to \$533 billion in 2021, an increase of 12.0 per cent over 2020. Gross operating surplus accounted for 55.7 per cent of nominal GDP, while compensation of employees accounted for 39.4 per cent (Exhibit 1.9). Taxes (less subsidies) on production and imports made up the remaining share of nominal GDP.

**Exhibit 1.9: Income Components of GDP at Current Prices**



## NATIONAL SAVING

With factor income outflows exceeding inflows by \$64.3 billion, Gross National Income (GNI) came in at \$469 billion in 2021, lower than the \$533 billion in nominal GDP.

Gross National Savings (GNS) increased by 21.0 per cent to \$227 billion in 2021. This comprised a net outflow of \$96.6 billion that was lent or transferred abroad, and \$130 billion in Gross Capital Formation. The national savings rate was 48.3 per cent of GNI in 2021, higher than the 45.4 per cent observed in 2020.



## GNI AND THE EXTERNAL ECONOMY

Factor income from abroad reached \$168 billion in 2021, up from \$144 billion in 2020. The contribution of overseas operations to the total economy was 24.0 per cent in 2021, an increase from the contribution of 23.2 per cent recorded in 2020 (Exhibit 1.10).

Based on the Survey of Singapore's Investment Abroad, the stock of direct investment abroad increased from \$990 billion in 2018 to about \$1,040 billion in 2019.

**Exhibit 1.10: Singapore's Earnings from External Economy as a Proportion of Total Income**

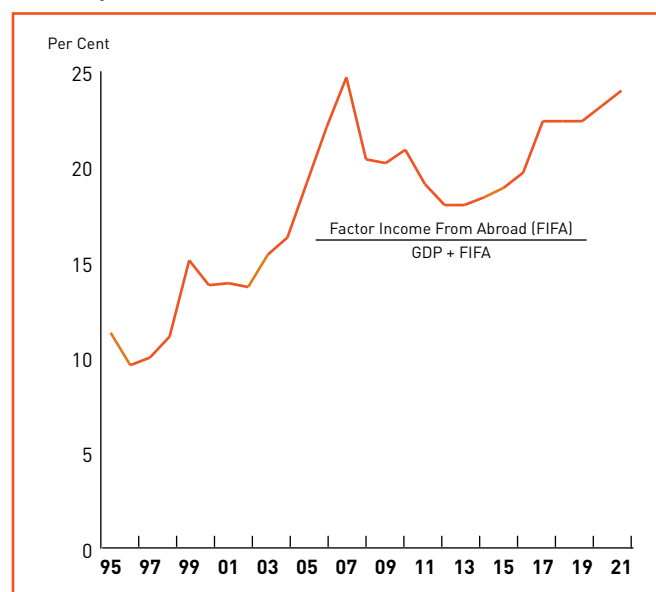




Image courtesy of Kulicke & Soffa





CHAPTER

**02**

# **LABOUR MARKET AND PRODUCTIVITY**

# LABOUR MARKET AND PRODUCTIVITY

## EMPLOYMENT AND PRODUCTIVITY GROWTH IN 2021

Employment  
(as at year end)



+39,700

VA per  
Actual Hour Worked



+5.2%

## MAIN DRIVERS OF EMPLOYMENT GROWTH IN 2021

+14,000  
employed



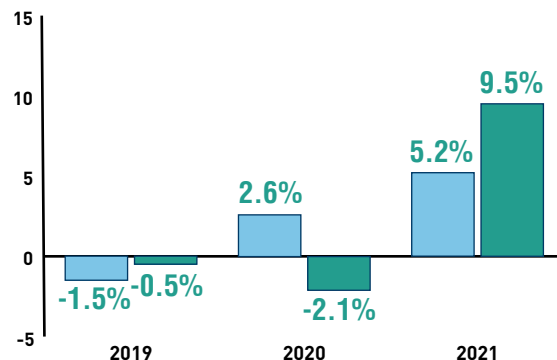
Information &  
Communications

+11,500  
employed



Other Services  
Industries

## VA PER ACTUAL HOUR WORKED AND VA PER WORKER GROWTH



■ VA per Actual Hour Worked  
■ VA per Worker

## SECTORS WITH THE HIGHEST VA PER ACTUAL HOUR WORKED GROWTH IN 2021

+16.4%



Accommodation

+14.3%



Real Estate

+12.1%



Manufacturing

## UNEMPLOYMENT RATES IN 2021

Overall  
Unemployment Rate



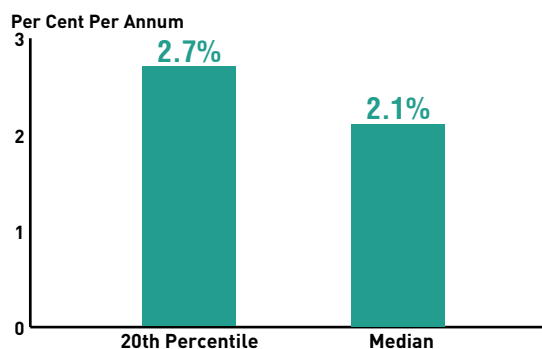
2.6%

Resident  
Unemployment Rate



3.5%

## ANNUALISED CHANGE IN REAL GROSS MONTHLY INCOME FROM WORK



Real median gross monthly income of full-time employed residents rose by **+2.1% per annum** from June 2016 to June 2021





## OVERVIEW<sup>1</sup>

Total employment expanded by 39,700 in 2021, a reversal from the decline of 181,000 in 2020. Growth in total employment occurred on the back of stronger resident employment growth and a smaller contraction in non-resident employment. By broad sectors, total employment rose in the services and construction sectors, but declined slightly in the manufacturing sector. Excluding Migrant Domestic Workers (MDWs), total employment grew by 40,800.

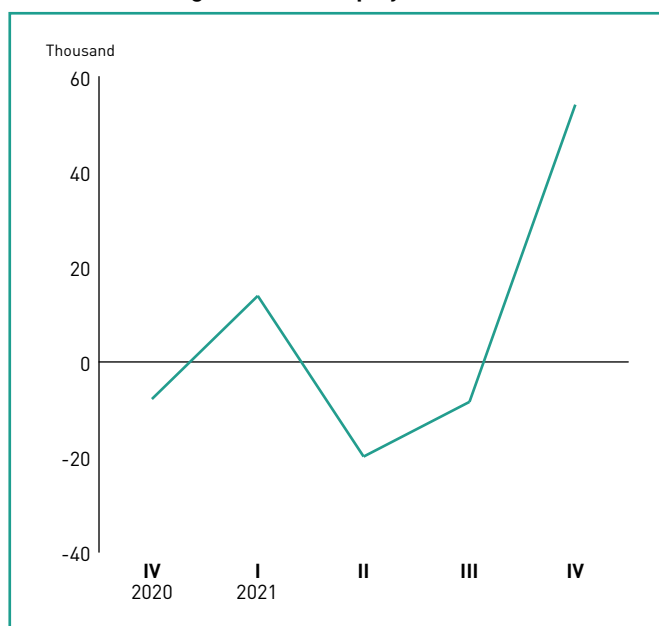
Unemployment rates and the number of retrenchments declined in 2021.

The real gross monthly income of full-time employed residents at the median and 20<sup>th</sup> percentile increased by 2.1 per cent per annum and 2.7 per cent per annum respectively between 2016 and 2021.

## EMPLOYMENT

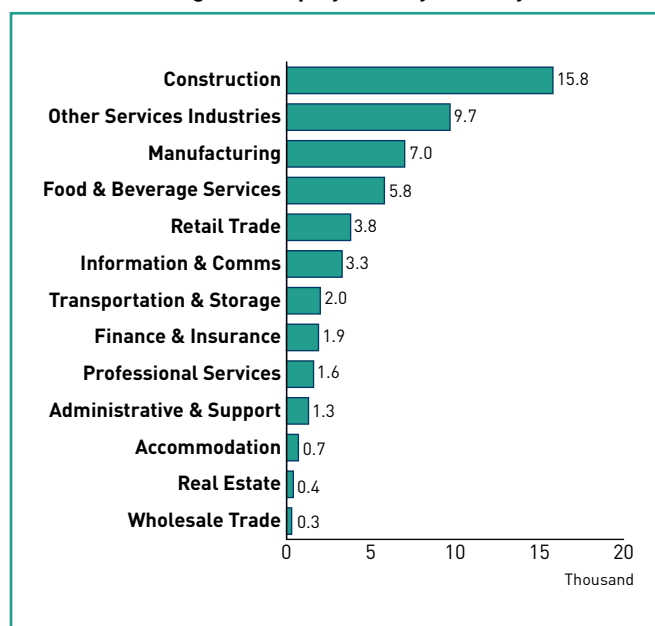
Total employment increased by 54,100 in the fourth quarter, more than offsetting the declines seen in the second (-19,900) and third (-8,400) quarters (Exhibit 2.1). A similar trend was observed for total employment excluding MDWs.

**Exhibit 2.1: Changes in Total Employment**



By broad sectors, employment rose in the services (+30,600), construction (+15,800) and manufacturing (+7,000) sectors in the fourth quarter. Within the services sector, employment gains were the largest in the other services industries and food & beverage services sector (Exhibit 2.2).

**Exhibit 2.2: Changes in Employment by Industry in 4Q 2021**



<sup>1</sup> Figures for the fourth quarter of 2021 and full year of 2021 are based on preliminary estimates.

For the whole of 2021, total employment increased by 39,700, a turnaround from the contraction of 181,000 in 2020. Total employment expanded in the services (+36,300) and construction (+4,700) sectors, but declined slightly in the manufacturing sector (-1,800).

The expansion in total employment occurred on the back of stronger resident employment growth, with most sectors recording an increase in resident employment in 2021.<sup>2</sup> At the same time, the pace of contraction in non-resident employment moderated in 2021, with most sectors registering a slower decline in non-resident employment compared to 2020. Notably, the construction sector saw a modest increase in non-resident employment in 2021, a reversal from the substantial decline posted in 2020.

## UNEMPLOYMENT

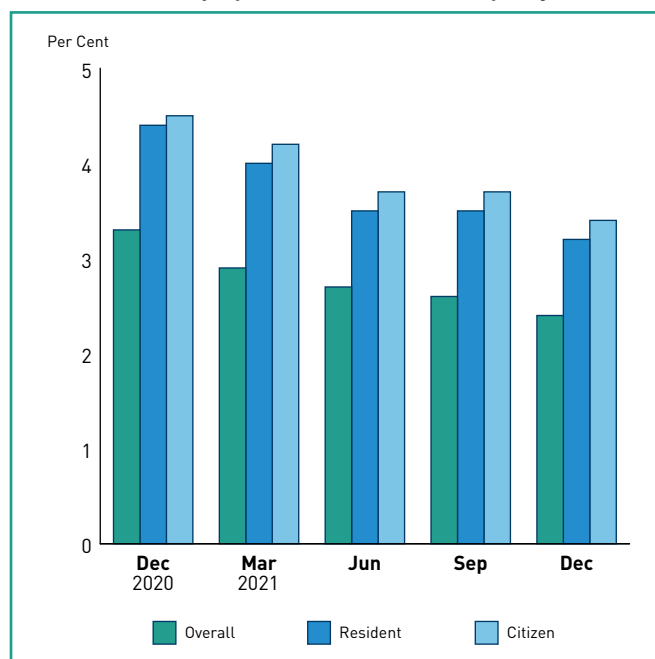
The seasonally-adjusted overall (from 2.6 per cent to 2.4 per cent), resident (from 3.5 per cent to 3.2 per cent) and citizen (from 3.7 per cent to 3.4 per cent) unemployment rates eased between September and December 2021 (Exhibit 2.3).

In December 2021, there were 75,800 unemployed residents, of whom 69,400 were Singapore citizens. These were lower than the number of unemployed residents (83,000) and citizens (75,000) in September 2021.

For the full year of 2021, the annual average unemployment rate declined at the overall level (from 3.0 per cent in 2020 to 2.6 per cent), as well as for residents (from 4.1 per cent to 3.5 per cent) and citizens (from 4.2 per cent to 3.7 per cent). However, they remained above the levels recorded in 2019.<sup>3</sup>

In 2021, 84,200 residents, of whom 75,700 were Singapore citizens, were unemployed on average. These were lower than their respective figures in 2020 (96,400 and 84,000).

**Exhibit 2.3: Unemployment Rates (Seasonally-Adjusted)**



## RETRENCHMENTS

The number of retrenchments declined in the fourth quarter compared to the third quarter (from 1,900 to 1,300). Over the quarter, retrenchments fell in the services (from 1,450 to 1,000), construction (from 90 to 0) and manufacturing (from 360 to 300) sectors.

For the full year of 2021, total retrenchments (7,820) moderated significantly from the level recorded in 2020 (26,110). The fall in retrenchments was registered across the services (from 19,760 to 5,860), manufacturing (from 5,320 to 1,730) and construction (from 990 to 200) sectors.

<sup>2</sup> Figures for resident and non-resident employment changes for the full year of 2021 will be released in MOM's Labour Market Report 2021 in mid-March 2022.

<sup>3</sup> In 2019, the annual average overall, resident and citizen unemployment rates were 2.3 per cent, 3.1 per cent and 3.3 per cent respectively.

## PRODUCTIVITY

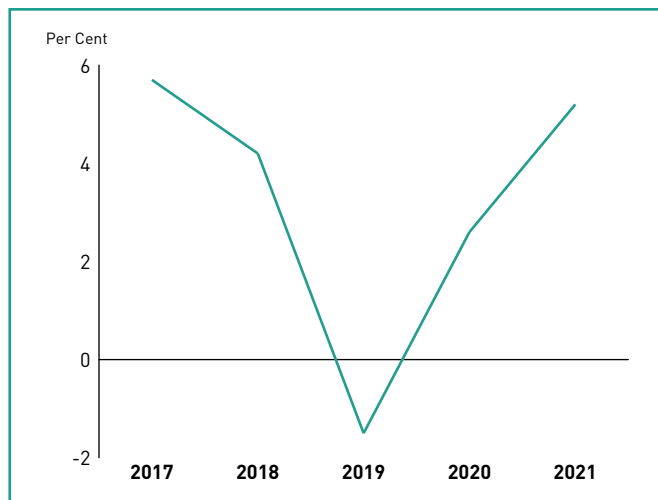
### Real Value-Added per Actual Hour Worked

Overall labour productivity, as measured by real value-added per actual hour worked, rose by 5.5 per cent in the fourth quarter, extending the 5.0 per cent growth in the previous quarter. Productivity of all sectors rose, except in the case of the food & beverage services and information & communications sectors.

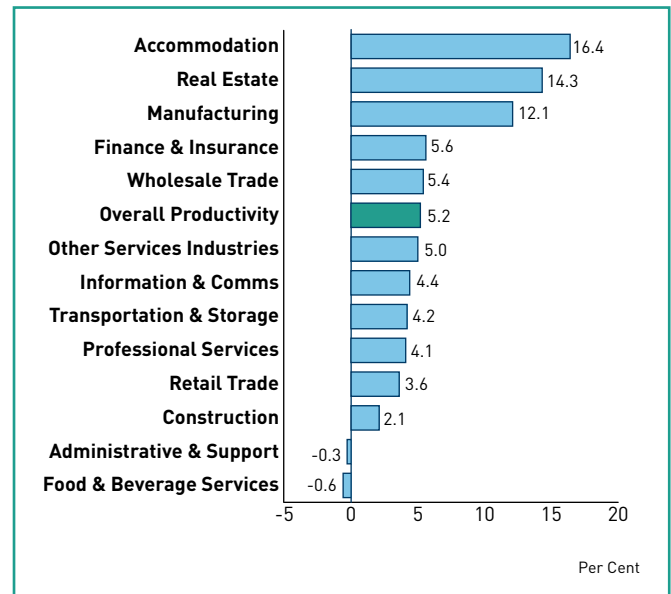
Collectively, the productivity of outward-oriented sectors increased by 7.1 per cent in the fourth quarter, while that of domestically-oriented sectors rose by 2.1 per cent over the same period.<sup>4</sup>

For the full year, real value-added per actual hour worked grew by 5.2 per cent, an improvement from the 2.6 per cent increase in 2020 (Exhibit 2.4). The accommodation, real estate and manufacturing sectors experienced the strongest growth in real value-added per actual hour worked in 2021 (Exhibit 2.5).

**Exhibit 2.4: Changes in Value-Added per Actual Hour Worked for the Overall Economy**



**Exhibit 2.5: Changes in Value-Added per Actual Hour Worked by Industry in 2020**



### Real Value-Added per Worker

Real value-added per worker rose by 5.8 per cent in the fourth quarter, moderating from the 8.7 per cent growth in the preceding quarter.

For 2021 as a whole, real value-added per worker increased by 9.5 per cent, reversing the 2.1 per cent decline in 2020.

The stronger growth in real value-added per worker compared to real value-added per actual hour worked in 2021 was because of a rebound in the average number of actual hours worked per worker during the year on the back of the resumption in economic activities.<sup>5</sup>

## INCOME FROM WORK

Reflecting the recovery of the labour market in 2021, both nominal and real gross monthly income rebounded. Specifically, nominal median gross monthly income (including employer CPF contributions) of full-time employed residents grew by 3.2 per cent to reach \$4,680 in 2021, reversing the decline of 0.6 per cent in 2020.

After adjusting for inflation<sup>6</sup>, median income increased by 0.9 per cent in 2021, a turnaround from the decline of 0.4 per cent in the previous year. Lower-income earners also saw growth in their incomes after taking inflation into account, with real income at the 20<sup>th</sup> percentile rising by 4.4 per cent in 2021, recovering to around its pre-COVID level in 2019.

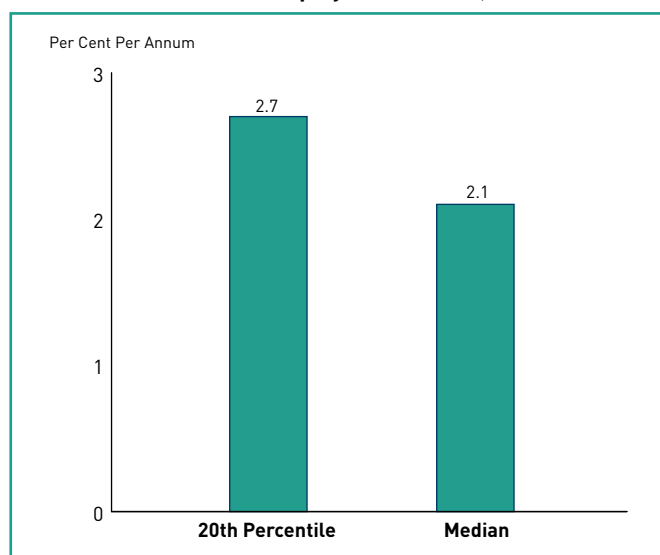
<sup>4</sup> Outward-oriented sectors refer to manufacturing, wholesale trade, transportation & storage, accommodation, information & communications, finance & insurance and professional services. Domestically-oriented sectors refer to construction, retail trade, food & beverage services, real estate, administrative & support services and other services industries.

<sup>5</sup> This contrasted with 2020 when Circuit Breaker measures were implemented in the second quarter of the year and the economy only gradually re-opened thereafter.

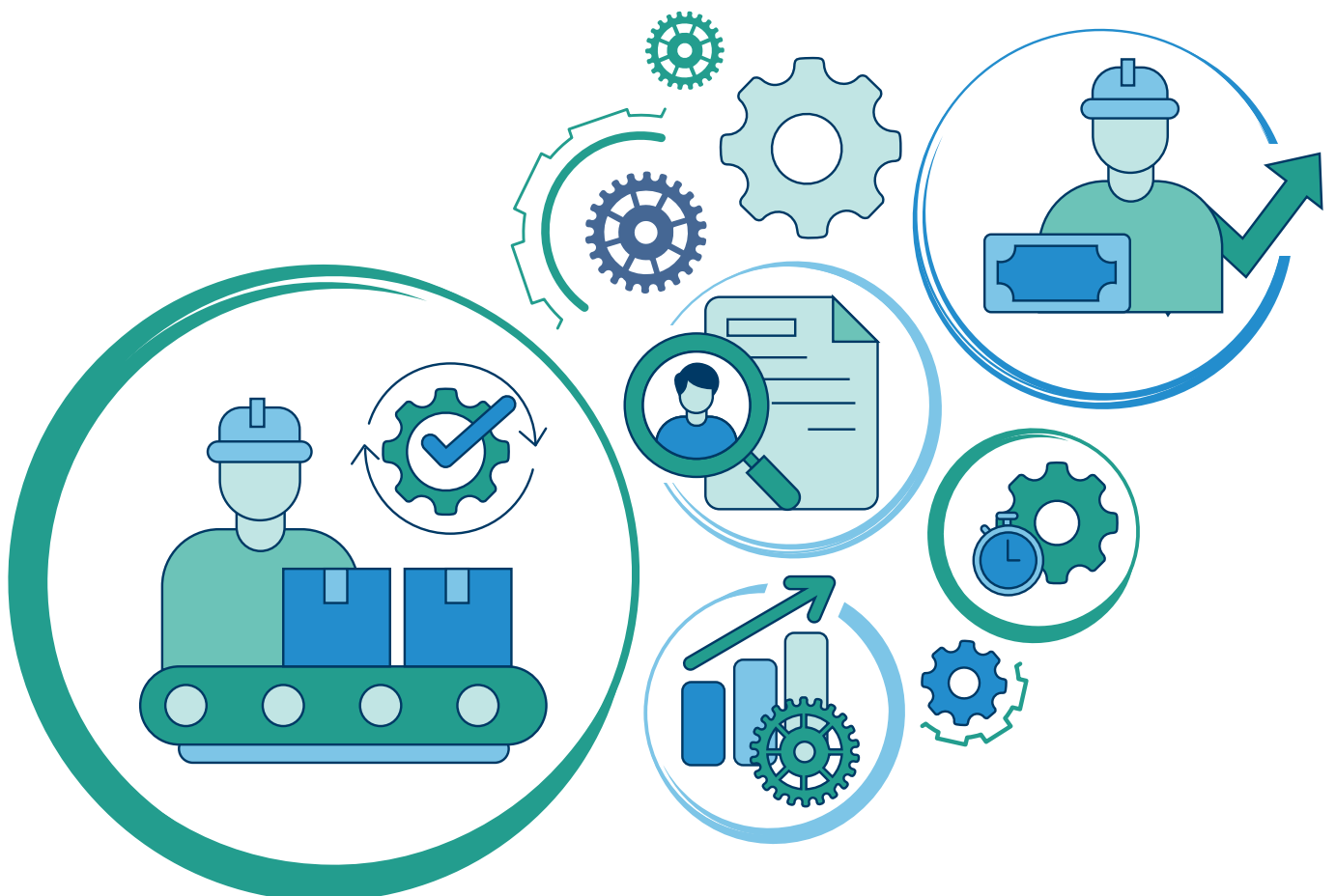
<sup>6</sup> The Consumer Price Index (CPI) for all items rose by 2.3 per cent in 2021.

Over the last five years (i.e., 2016 to 2021), real median income rose by 11.2 per cent cumulatively, or 2.1 per cent per annum (Exhibit 2.6). During this period, real income growth at the 20th percentile exhibited stronger growth (14.4 per cent cumulatively, or 2.7 per cent per annum), narrowing the income gap with the median income earner.

**Exhibit 2.6: Annualised Change in Real Gross Monthly Income from Work of Full-Time Employed Residents, 2016-2021**















CHAPTER

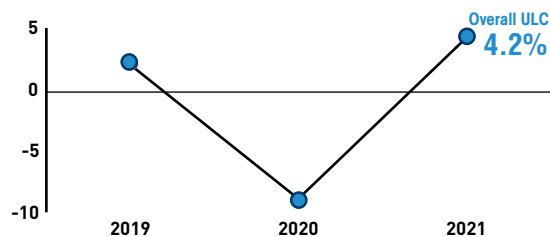
**03**

# **COSTS, INVESTMENTS AND PRICES**

# COSTS, INVESTMENTS AND PRICES

## OVERALL UNIT LABOUR COST

(Year-On-Year Growth)

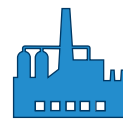


## WITHIN THE MANUFACTURING SECTOR



-1.3%  
in 2021

Unit Labour Cost



-3.3%  
in 2021

Unit Business Cost

## INVESTMENT COMMITMENTS IN 2021

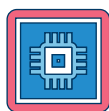


Fixed Asset Investment Commitments  
**\$11.8 billion**



Total Business Expenditure Commitments  
**\$5.2 billion**

## CLUSTERS THAT ATTRACTED THE HIGHEST FIXED ASSET INVESTMENT COMMITMENTS



Electronics



Services Clusters



Biomedical Manufacturing

## CLUSTERS THAT ATTRACTED THE HIGHEST TOTAL BUSINESS EXPENDITURE COMMITMENTS



Headquarters & Professional Services

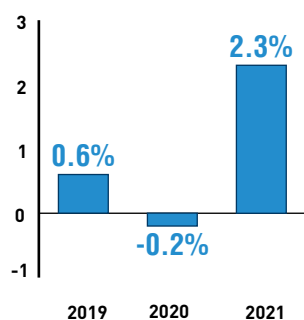


Infocommunications & Media

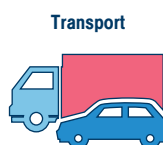


Research & Development

## CPI-ALL ITEMS INFLATION



## IN 2021, THE INCREASE IN CPI WAS MAINLY DUE TO THE INCREASE IN PRICES OF



1.5%  
point contribution

Housing & Utilities



0.3%  
point contribution



0.3%  
point contribution

## OVERVIEW

Overall Unit Labour Cost (ULC) rose by 6.7 per cent on a year-on-year basis in the fourth quarter of 2021, easing from the 7.0 per cent increase recorded in the preceding quarter. For the whole of 2021, the overall ULC increased by 4.2 per cent, a reversal from the 8.9 per cent decline in 2020.

Total investment commitments attracted by EDB in the manufacturing and services sectors remained healthy in 2021. The manufacturing sector garnered a larger amount of commitments in terms of fixed asset investments (FAI), while the services sector attracted a larger amount of total business expenditure (TBE) commitments. By clusters, the electronics and biomedical manufacturing clusters within the manufacturing sector were the biggest contributors to FAI commitments, while the headquarters & professional cluster within the services sector contributed the most to TBE commitments.

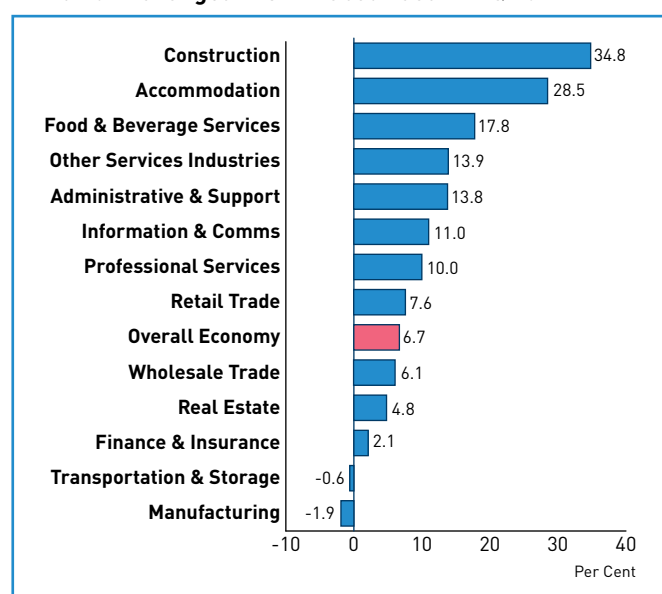
The Consumer Price Index-All Items (CPI-All Items) rose by 3.7 per cent on a year-on-year basis in the fourth quarter, faster than the 2.5 per cent increase in the previous quarter. For 2021 as a whole, CPI-All Items increased by 2.3 per cent, a reversal from the 0.2 per cent decline in 2020.

Producer prices, as measured by the domestic supply price index (DSPI), the Singapore manufactured products price index (SMPPI) as well as the import and export price indices, all rose on a year-on-year basis in the fourth quarter. For the whole of 2021, the DSPI, SMPPI as well as the import and export price indices increased by 15.2 per cent, 9.5 per cent, 11.6 per cent and 11.3 per cent respectively.

## COSTS

Overall ULC for the economy rose by 6.7 per cent year-on-year in the fourth quarter, easing from the 7.0 per cent increase in the preceding quarter (Exhibit 3.1). The pickup in overall ULC came on the back of an increase in total labour cost per worker that outweighed labour productivity growth (as measured by real value-added per worker).

**Exhibit 3.1: Changes in Unit Labour Cost in 4Q 2021**



By broad sectors, the construction sector registered the largest ULC increase (34.8 per cent) in the fourth quarter, a reversal from the contraction of 9.8 per cent in the previous quarter. The large increase in ULC was due to a significant increase in total labour cost per worker, which exceeded productivity gains in the sector.

The ULC for services producing industries rose by 8.3 per cent in the fourth quarter, extending the 6.5 per cent increase in the previous quarter. Most services sectors saw a pickup in their ULCs, with the accommodation sector registering the largest increase (28.5 per cent) as a significant rise in total labour cost per worker more than offset an increase in labour productivity in the sector.

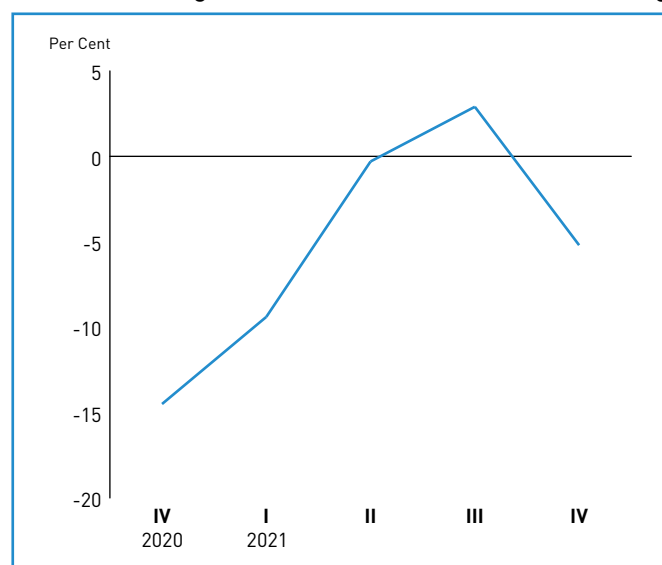
By contrast, the ULC for the manufacturing sector dipped by 1.9 per cent in the fourth quarter, a turnaround from the increase of 9.2 per cent in the preceding quarter. The ULC decline occurred on the back of productivity improvements which slightly outstripped the increase in total labour cost per worker.

For the full year of 2021, overall ULC rose by 4.2 per cent, a reversal from the 8.9 per cent decline in 2020. The rise in the overall ULC was on account of an increase in total labour cost per worker which outpaced labour productivity growth in the economy.



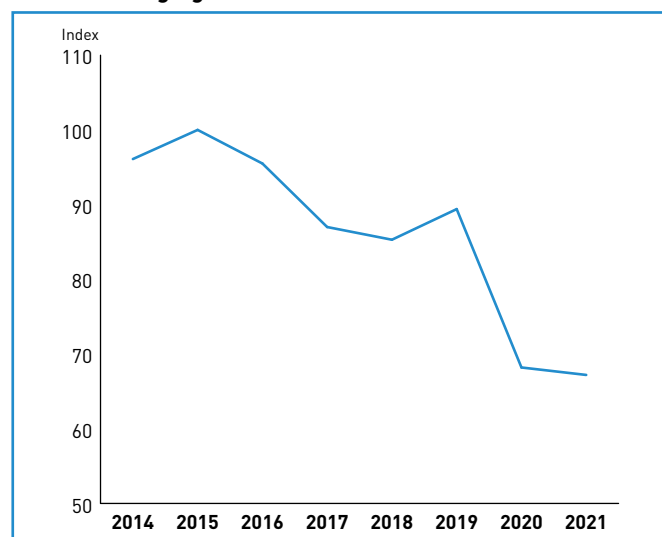
Manufacturing unit business cost (UBC) fell by 5.2 per cent year-on-year in the fourth quarter, a turnaround from the 2.9 per cent increase in the previous quarter (Exhibit 3.2). The drop in manufacturing UBC came on the back of declines in both the unit services costs (-6.7 per cent) and the manufacturing ULC (-1.9 per cent), which more than offset an increase in unit non-labour production taxes (16.4 per cent). For 2021 as a whole, the manufacturing UBC fell by 3.3 per cent, moderating from the 12.5 per cent decline in 2020.

**Exhibit 3.2: Changes in Unit Business Cost for Manufacturing**



Singapore's relative unit labour cost (RULC) for manufacturing – a measure of Singapore's competitiveness against 16 economies<sup>1</sup> – fell in 2021 (i.e., more competitive) as compared to 2020 (Exhibit 3.3). The decline in the RULC was mainly on account of the fall in Singapore's manufacturing ULC.

**Exhibit 3.3: Singapore's Relative Unit Labour Cost in Manufacturing Against Selected 16 Economies<sup>1</sup>**

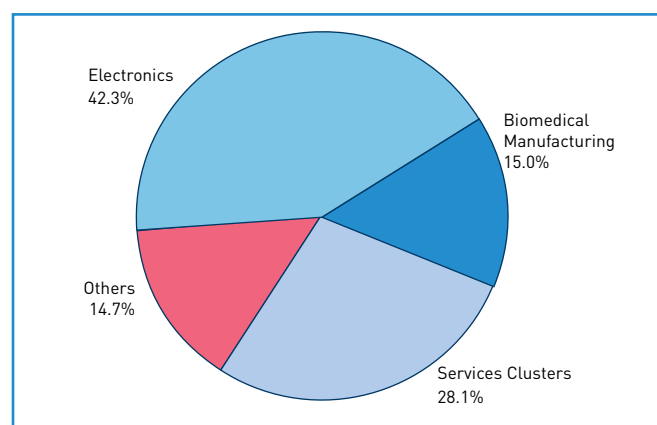


## INVESTMENT COMMITMENTS

EDB attracted healthy levels of investment commitments in 2021. For the full year, FAI and TBE commitments came in at \$11.8 billion and \$5.2 billion respectively.

In terms of FAI, the largest contribution came from the manufacturing sector, which garnered \$8.5 billion in commitments. Within manufacturing, the electronics cluster attracted the largest amount of FAI commitments, at \$5.0 billion, followed by the biomedical manufacturing cluster, at \$1.8 billion. Within the services sector, the research & development and infocommunications & media clusters contributed the most to total FAI commitments, with \$1.5 billion and \$1.3 billion respectively (Exhibit 3.4).

**Exhibit 3.4: Fixed Asset Investments by Industry Clusters in 2021**



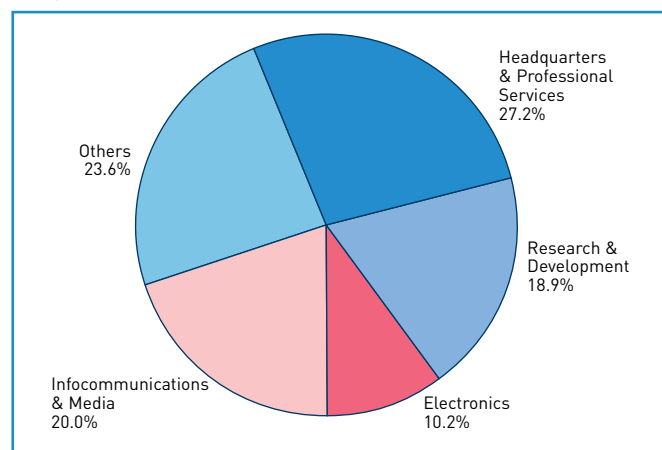
Investors from the United States were the largest source of FAI commitments with \$7.9 billion (67.1 per cent). They were followed by investors from Europe who contributed about \$1.5 billion of FAI commitments (13.1 per cent).

For TBE, the services sector attracted the highest amount of commitments, at \$3.8 billion. This was driven by the headquarters & professional services cluster, which garnered \$1.4 billion in TBE commitments, followed by the infocommunications & media cluster, with \$1.0 billion. Among the manufacturing clusters, the electronics cluster contributed the highest amount of TBE commitments, at \$527 million (Exhibit 3.5).

<sup>1</sup> The 16 economies are Australia, China, France, Germany, Hong Kong, India, Indonesia, Japan, Malaysia, Netherlands, South Korea, Taiwan, Thailand, the United Kingdom, the United States and Vietnam..



**Exhibit 3.5: Total Business Expenditure by Industry Clusters in 2021**



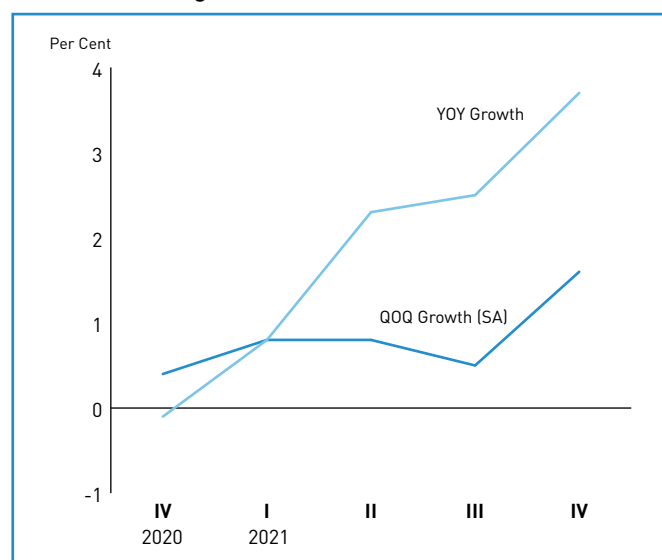
Investors from the United States accounted for most of the TBE commitments, at \$2.1 billion (40.9 per cent).

When these projects are fully implemented, they are expected to generate \$16.8 billion of value-added per annum and create more than 17,000 jobs in the coming years.

## CONSUMER PRICE INDEX

Singapore's CPI-All Items rose by 3.7 per cent on a year-on-year basis in the fourth quarter, faster than the 2.5 per cent increase in the previous quarter (Exhibit 3.6). On a quarter-on-quarter seasonally-adjusted basis, CPI-All Items inflation came in at 1.6 per cent, higher than the 0.5 per cent in the previous quarter.

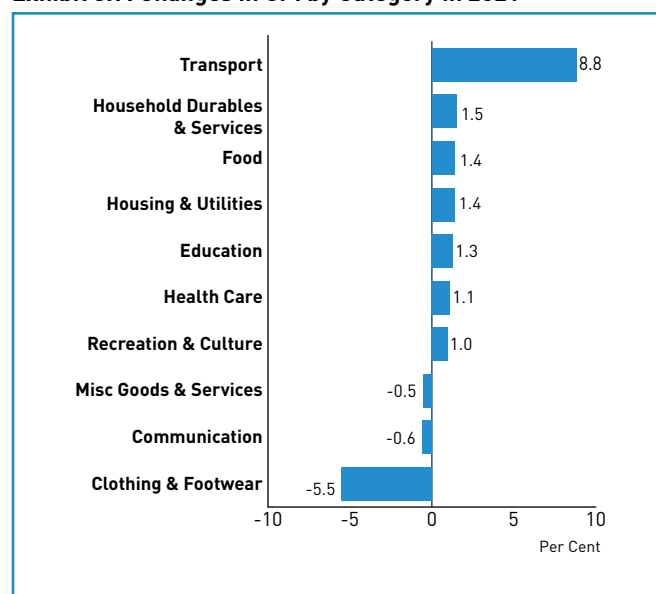
**Exhibit 3.6: Changes in Overall CPI**



For 2021 as a whole, CPI-All Items increased by 2.3 per cent, a reversal from the 0.2 per cent decline in 2020.

Price increases in the following CPI categories contributed positively to CPI-All Items inflation in 2021 (Exhibit 3.7). Transport costs climbed by 8.8 per cent as the prices of cars and petrol, as well as airfares<sup>2</sup> increased. Prices of household durables & services went up by 1.5 per cent on account of more expensive domestic & household services and household durables. Food prices rose by 1.4 per cent on the back of an increase in the costs of food serving services like hawker food and restaurant meals, as well as non-cooked food items such as vegetables and fruits. Housing & utilities costs increased by 1.4 per cent due to a rise in accommodation costs, as well as gas and electricity tariffs. Education costs edged up by 1.3 per cent as higher fees at universities and commercial institutions more than offset lower fees at childcare centres. Healthcare costs picked up by 1.1 per cent because of an increase in the costs of health insurance, hospital services and outpatient services. Recreation & culture prices rose by 1.0 per cent as a result of the higher cost of holiday travel<sup>3</sup> and recreational & cultural services.

**Exhibit 3.7: Changes in CPI by Category in 2021**



By contrast there were price declines in other CPI categories. Clothing & footwear prices fell by 5.5 per cent due to cheaper ready-made garments and footwear. Communication costs dropped by 0.6 per cent on the back of lower telecommunication services & equipment costs. Prices of miscellaneous goods & services edged down by 0.5 per cent because of a fall in the cost of personal care items.

<sup>2</sup> These services were either fully or partially unavailable in April – December 2020 due to international and safe-distancing measures to contain the COVID-19 pandemic. Price changes were imputed, in line with international guidelines.

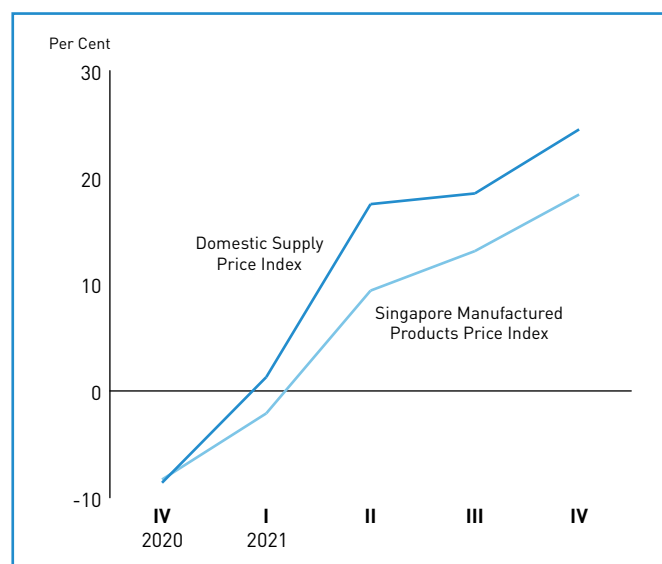
<sup>3</sup> Similarly, as overseas travel was limited, the CPI for holiday expenses was imputed using the overall change in CPI-All Items. With the easing of border restrictions and establishment of Vaccinated Travel Lanes, actual prices of available holiday-related services are being progressively incorporated into the CPI.

## PRODUCER PRICE INFLATION

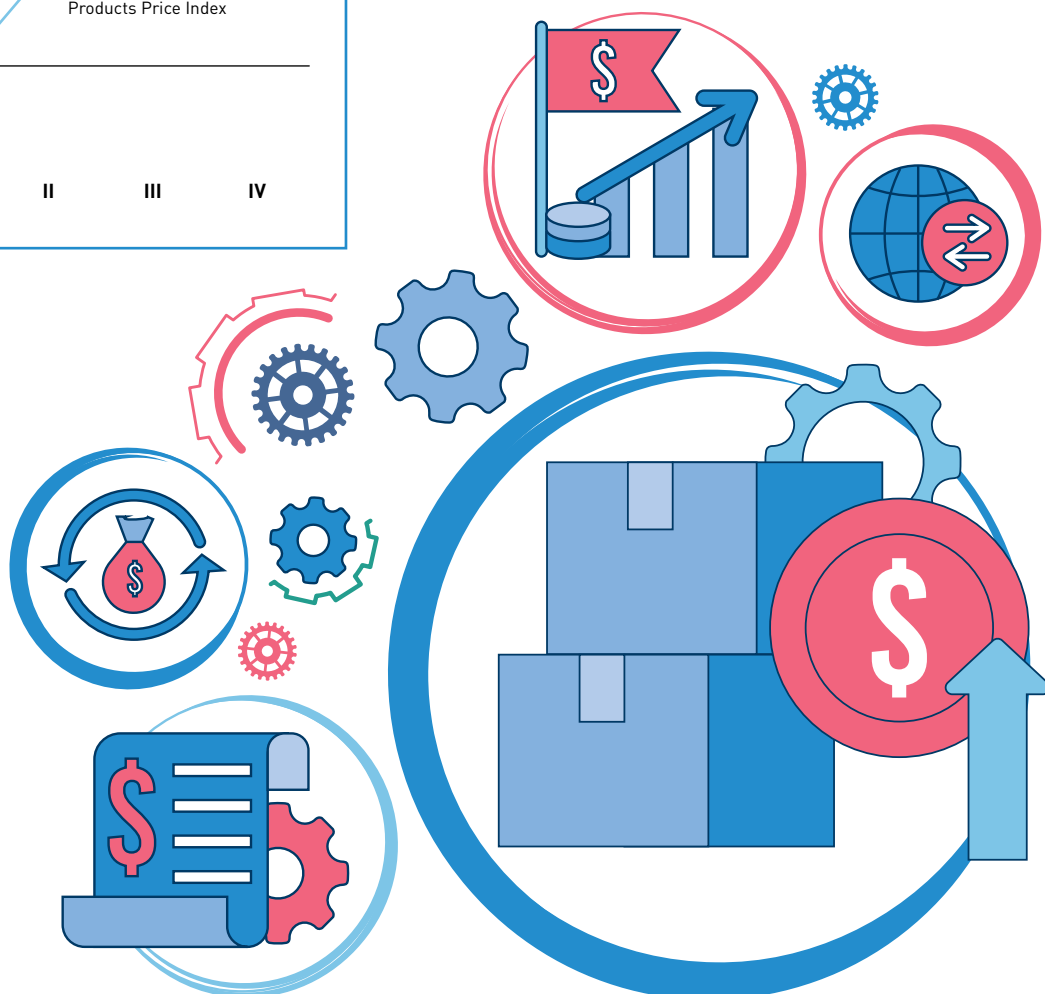
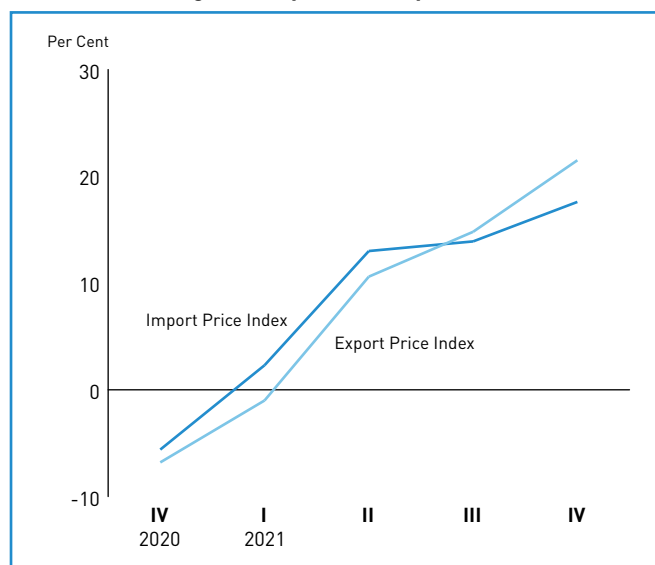
Producer prices, as measured by the DSPI, SMPPI, as well as the import and export price indices, all rose on a year-on-year basis in the fourth quarter (Exhibits 3.8 and 3.9). The increases seen during the quarter came partly on the back of a rise in the prices of diesel fuel and motor spirit of ron 90-97.

For the full year, the DSPI and SMPPI increased by 15.2 per cent and 9.5 per cent respectively, while the import and export price indices rose by 11.6 per cent and 11.3 per cent respectively. Higher diesel fuel and motor spirit of ron 90-97 also contributed to the increase in these producer price indices for the year.

### Exhibit 3.8: Changes in Domestic Supply Price and Singapore Manufactured Products Price Indices



### Exhibit 3.9: Changes in Import and Export Price Indices



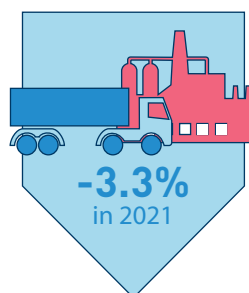
# BUSINESS COST CONDITIONS IN SINGAPORE'S MANUFACTURING AND SERVICES SECTORS

## OVERVIEW

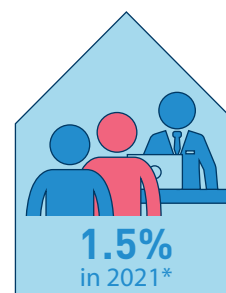
In 2021, unit business cost (UBC) in the manufacturing sector fell, while that in the overall services sector rose.

### DEFINITION OF UBC

$$\text{UBC} = \frac{\text{Total Business Cost}}{\text{Gross Real Value-Added}}$$



UBC for Manufacturing



UBC for Services

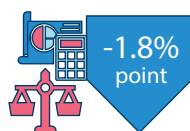
\*Refers to first three quarters of 2021

## KEY DRIVERS

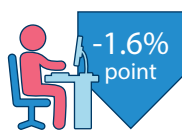
The fall in manufacturing UBC in 2021 was mainly on account of declines in the "others" component, work given out and royalties.

The increase in services UBC in 2021 came on the back of an increase in both unit labour cost and other services costs.

### CONTRIBUTION TO MANUFACTURING UBC IN 2021



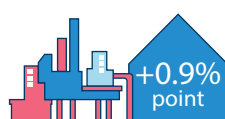
Others



Work Given Out



Royalties



Utilities

### CONTRIBUTION TO SERVICES UBC IN 2021



Labour Cost

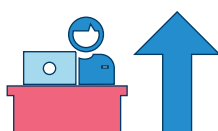


Services Cost

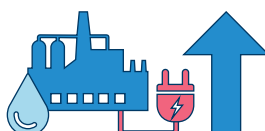
## OUTLOOK

Looking ahead, the overall unit labour cost for the economy is likely to continue to rise in 2022 on account of sustained wage growth in line with economic growth. Meanwhile, commercial rentals are projected to see a gradual recovery, even as industrial rental is likely to remain relatively stable in 2022. At the same time, the costs of utilities, fuel and transportation are expected to increase due to higher global oil prices, although upward pressures could ease over the course of the year.

### UNIT LABOUR COST



### UTILITIES COST



### RENTAL COST



## BOX 3.1: BUSINESS COST CONDITIONS IN SINGAPORE'S MANUFACTURING AND SERVICES SECTORS

This box article highlights the latest trends in business costs for firms in Singapore's manufacturing and services sectors, as well as the outlook for key components of business costs in 2022.

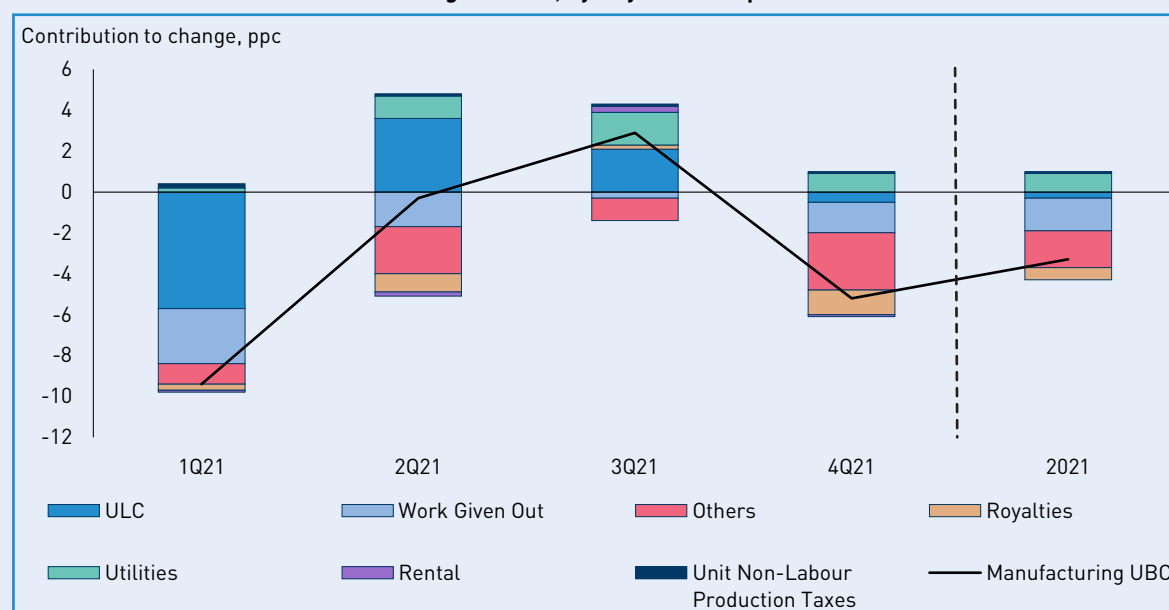
### (1) Unit Business Cost<sup>1</sup> in the Manufacturing and Services Sectors

**In 2021, unit business cost in the manufacturing sector fell, while that in the overall services-sector rose**

In 2021, the unit business cost index for the manufacturing sector (UBCI) fell by 3.3 per cent (Exhibit 1).<sup>2</sup> The main contributors to the decline were a fall in the costs of the "others" component<sup>3</sup>, work given out and royalties<sup>4</sup>, with their contributions collectively accounting for 4.0 percentage-points (pp) of the decline in the UBCI. In addition, a drop in the manufacturing ULC also contributed 0.3pp to the decline in the UBCI. These declines more than offset the positive contribution of utilities cost (+0.9pp) to the UBCI. Utilities cost had increased in tandem with the rebound in global oil prices, which was in turn due to the global economic recovery amidst tight supply conditions.

Meanwhile, the other cost components such as non-labour production taxes<sup>5</sup> (e.g., property, road and other indirect taxes) and rental costs had a relatively small impact on the UBCI, in part because of their low share of business costs. (Please refer to Annex A for the business cost structure of firms in the manufacturing and services sectors.)

**Exhibit 1: Contribution to the UBCI Change in 2021, by Key Cost Components**



Source: Department of Statistics

Note: "Others" consists of sub-components such as professional fees, advertising, commission and agency fees, sundry expenses, etc.

<sup>1</sup> Unit business cost measures the business costs incurred to produce one unit of output. Only operating expenses (without material costs and depreciation) are included in business costs. This follows the definition adopted by the Department of Statistics (DOS) in its computation of the Unit Business Cost for Manufacturing. See DOS' Information Paper, "Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)", at <https://www.singstat.gov.sg/-/media/files/publications/economy/ip-e38.pdf>.

<sup>2</sup> Business costs tend to increase when firms produce a higher amount of output to meet demand. Unit business cost accounts for this by measuring the business costs incurred to produce one unit of output.

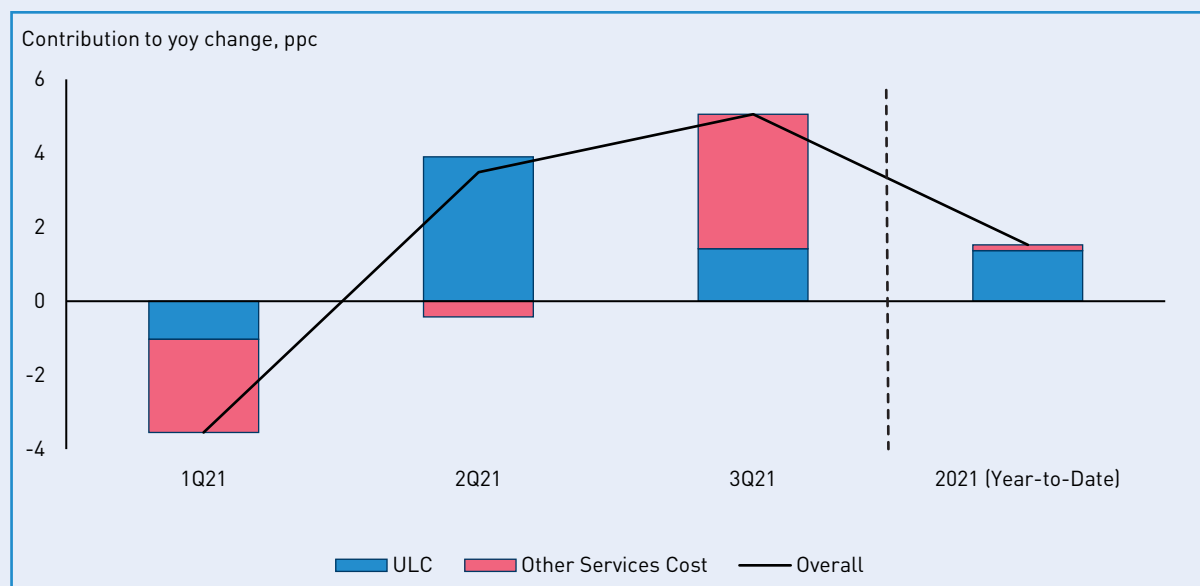
<sup>3</sup> "Others" consists of sub-components such as professional fees, advertising, commission and agency fees, sundry expenses, etc.

<sup>4</sup> Royalties cost refers to payments made to another party (the licensor or franchisor who owns a particular asset) for the right to the ongoing use of that asset.

<sup>5</sup> Labour-related taxes on production (e.g., foreign worker levy) are classified under labour cost. Taxes on income (e.g., corporate income tax) are not included in business cost.

On the other hand, the unit business cost index for the overall services sector (UBC-Services Index)<sup>6</sup> rose by 1.5 per cent in the first three quarters of 2021 compared to the same period a year ago (Exhibit 2).<sup>7</sup> This was due to an increase in both the ULC of the overall services sector (+1.4pp contribution) and other services costs (+0.2pp).<sup>8</sup> In turn, the increase in other services costs could be attributed to a steep increase in freight and transport charges faced by services firms, in part due to global supply bottlenecks.

**Exhibit 2: Contribution to UBC-Services Index Changes by Cost Components**



Source: Monetary Authority of Singapore

Notes: (1) The UBC-Services Index for 2021 refers to the average of the index for the first three quarters; (2) Detailed cost component breakdowns for the UBC-Services Index are not available; (3) Other services costs include air & sea freight costs, cargo handling costs and warehousing & storage costs.

### (III) Latest Trends and Outlook for Key Cost Components

#### The ULC for the overall economy increased in 2021, but remained below its pre-COVID level in 2019

The ULC for the overall economy rose by 4.2 per cent in 2021, a turnaround from the 8.9 per cent decline in 2020.<sup>9</sup> The increase in the ULC was due to a rise in the total labour cost<sup>10</sup> (TLC) per worker (13.8 per cent) which outpaced labour productivity growth<sup>11</sup> (9.2 per cent) (Exhibit 3). In turn, the increase in TLC per worker was driven by a pickup in remuneration, as well as the tapering of wage subsidies provided by the Government through support measures such as the Jobs Support Scheme.<sup>12</sup> Specifically, the increase in remuneration per worker and fall in wage subsidies per worker contributed 6.1pp and 5.9pp to the rise in TLC per worker in 2021 respectively. Nonetheless, the ULC for the overall economy remained 5.1 per cent below its pre-COVID level in 2019.

At the sectoral level, most sectors experienced an increase in their ULCs in 2021 (Exhibit 4). The ULC for the overall services sector rose by 5.5 per cent as the increase in its TLC per worker outpaced labour productivity growth. Among the services producing industries, most saw a higher ULC, with the food & beverage services (17.1 per cent) and administrative & support services (16.6 per cent) sectors registering the largest increases in ULC. In turn, these increases were on account of a pickup in TLC per worker and a slight decline in labour productivity in both sectors.

<sup>6</sup> The UBC-Services Index is estimated by MAS to assess cost conditions in the services sector. It is a composite index of proxy cost indicators for each component of business cost, combined using weights estimated from expenditure data in DOS' Services Survey Series 2019: The Services Sector, as well as the 2016 Input-Output tables.

<sup>7</sup> Latest available UBC-Services Index is up to the third quarter of 2021.

<sup>8</sup> The pp contributions do not sum to the overall change in the UBC-Services Index due to rounding.

<sup>9</sup> A change in the ULC can be approximately decomposed as the change in total labour cost per worker minus the change in labour productivity (proxied by gross real value-added per worker). The approximation holds better when the changes are small.

<sup>10</sup> TLC comprises remuneration, wage subsidies and other labour-related costs, which include the skills development levy, foreign worker levy, and recruitment and net training cost. An example of the wage subsidies provided to companies was the Jobs Support Scheme, which provided wage support of up to 75 per cent of the first \$4,600 of gross monthly wages paid to local employees to help employers retain their local employees during the COVID-19 pandemic.

<sup>11</sup> As labour productivity in this decomposition exercise is proxied by real gross value-added per worker, its magnitude of change may be different from that based on official labour productivity statistics.

<sup>12</sup> In a given year, wage subsidies would reduce the TLC per worker. However, the tapering of wage subsidies from one year to the next would contribute positively to changes in TLC per worker.

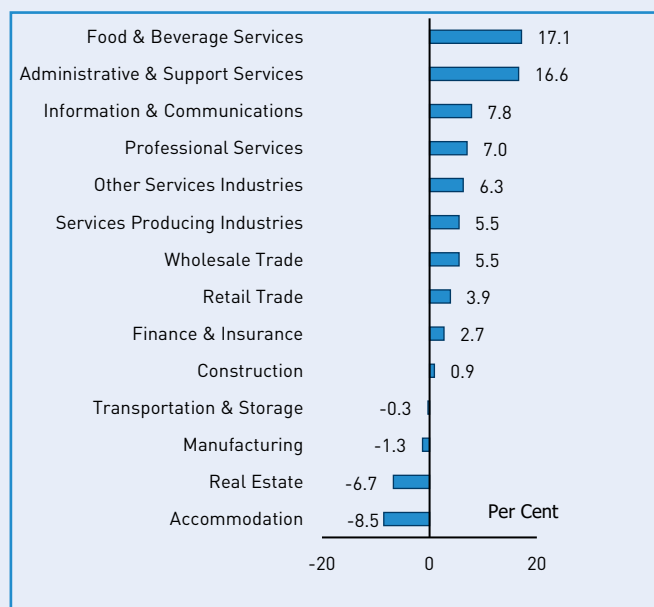
The ULC for the construction sector rose (0.9 per cent) as its TLC per worker grew at a slightly faster pace than labour productivity. By contrast, the ULC for the manufacturing sector decreased by 1.3 per cent, as labour productivity growth in the sector more than offset an increase in its TLC per worker.

For 2022, the ULC for the overall economy is likely to continue to rise on the back of sustained wage growth in line with economic growth.

**Exhibit 3: Decomposition of ULC Growth for Overall Economy, 2021**

|                                       |              |
|---------------------------------------|--------------|
| <b>ULC</b>                            | <b>4.2%</b>  |
| <b>TLC per worker</b>                 | <b>13.8%</b> |
| <i>Remuneration per worker</i>        | +6.1pp       |
| <i>FWL per worker</i>                 | +1.5pp       |
| <i>Wage subsidies per worker</i>      | +5.9pp       |
| <i>Other labour costs per worker</i>  | +0.3pp       |
| <b>Gross real labour productivity</b> | <b>9.2%</b>  |

**Exhibit 4: ULC Change by Sectors, 2021**



Source: MTI Staff estimates using data from the Department of Statistics and Ministry of Manpower

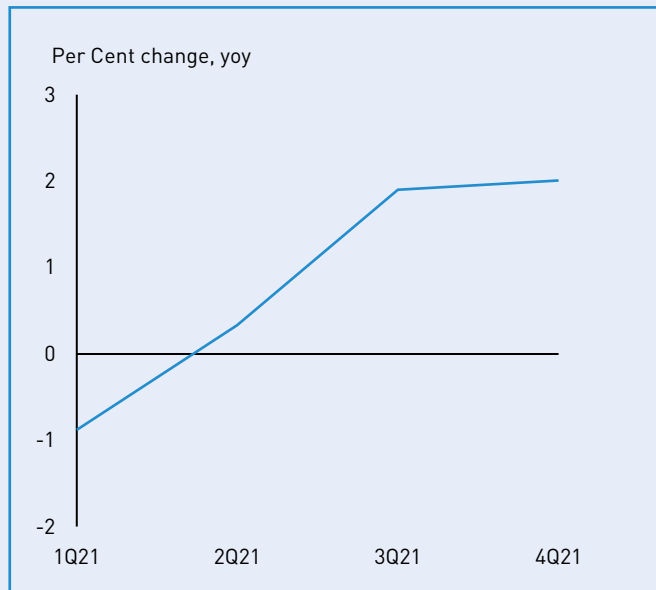
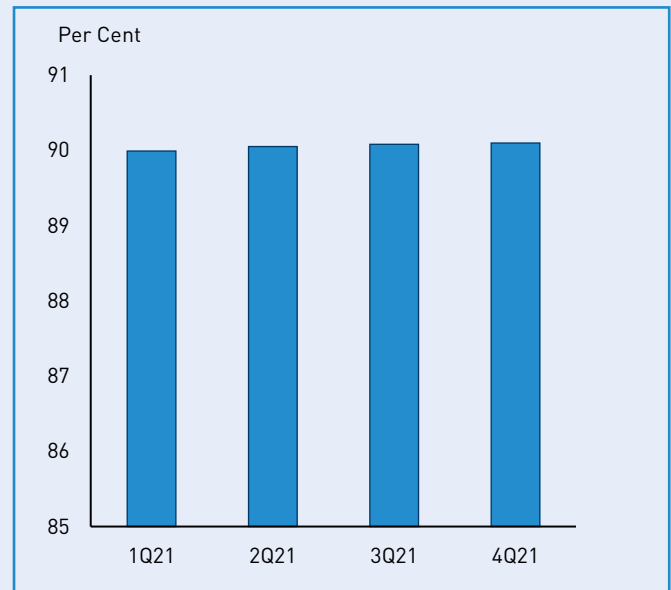
## Industrial rental is likely to remain relatively stable in 2022, while commercial rentals are expected to recover

Industrial rental rose by 2.0 per cent in 2021 due to an increase in demand for industrial space in tandem with the recovery of the economy, amidst continued delays in new completions (Exhibit 5). The industrial occupancy rate, which remained stable over the course of 2021, was slightly higher when compared to a year ago (Exhibit 6).

For 2022, the demand for industrial space is projected to be robust as the economy continues to recover. At the same time, around 2.8 million gross square metres of industrial space are expected to be completed<sup>13</sup> in 2022 (Annex B, Exhibit B1), which is higher than the average annual supply of industrial space between 2016 and 2021 (approximately 1.0 million gross square metres). As such, any potential increase in occupancy may be tempered by new completions. Against this backdrop, industrial rental is likely to remain relatively stable in 2022, with upsides in the near future if demand picks up more strongly than anticipated or there are delays in expected completions.

<sup>13</sup> About 0.8 million gross square metres of industrial space were delayed from 2021 due to the impact of COVID-19 on the construction sector.



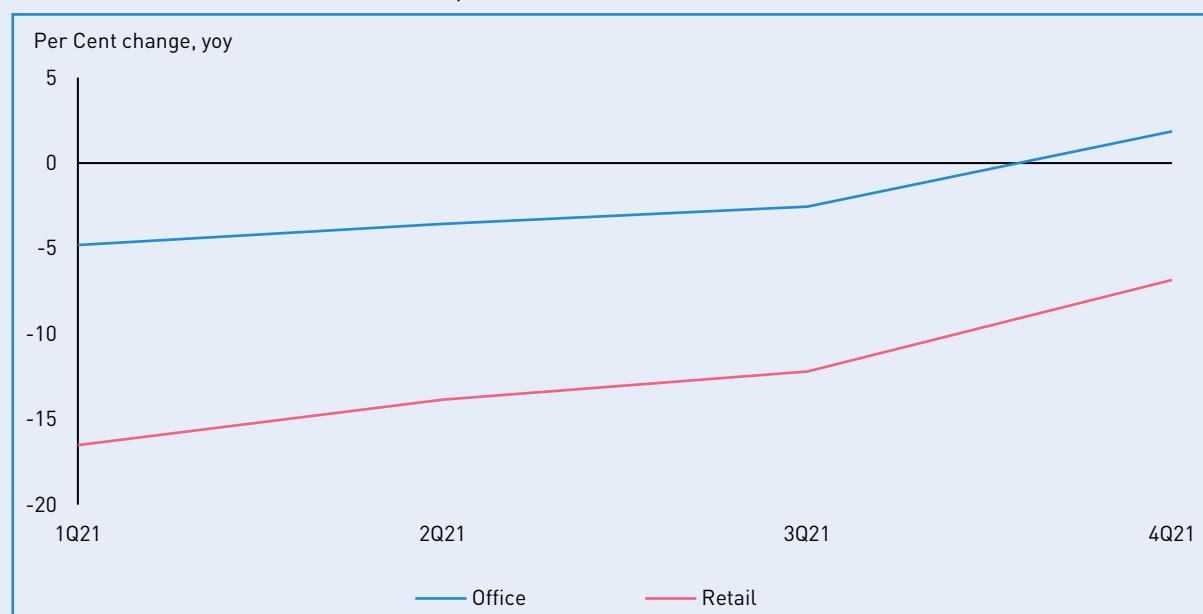
**Exhibit 5: Industrial Rental Index, 1Q21-4Q21****Exhibit 6: Industrial Occupancy Rate, 1Q21-4Q21**

Source: JTC Corporation

Note: Both the industrial rental index and the industrial occupancy rate cover multiple-user factory space, single-user factory space, business parks and warehouses

In terms of commercial space, the rental of office space increased by 1.9 per cent in 2021, a reversal from the 8.5 per cent decline in 2020, even though this remained 9.1 per cent below its average pre-pandemic level in 2019 (Exhibit 7). Looking ahead, continued economic recovery, positive business sentiments and the gradual resumption of in-office work in 2022 may lend some support to the demand for office space, even as companies review their medium- to longer-term workplace practices and office space needs. Meanwhile, the supply of office space expected to come on-stream this year is expected to moderate. Specifically, 0.08 million gross square metres of office space are projected to come on-stream within the year, lower than the annual average of 0.21 million gross square metres completed between 2016 and 2021 (Annex B, Exhibit B2). The continued recovery in demand, alongside the moderation in supply, may lead to upward pressures on office space rental in 2022.

As for retail space, rental fell by 6.8 per cent in 2021, as the demand for retail space continued to be weighed down by weak sentiments among retailers due to global travel restrictions and domestic safe management measures (SMMs). Retail rental conditions in 2022 may benefit from an improvement in business sentiments amidst the continued economic recovery, progressive easing of SMMs and the prospect of an increase in tourist demand with the expansion of Vaccinated Travel Lanes. The moderation in retail space supply coming on-stream could also lend further support to retail rental. In particular, 0.08 million gross square metres of retail space are expected to come on-stream in 2022, lower than the annual average of 0.15 million gross square metres completed between 2016 and 2021.

**Exhibit 7: Office and Retail Rental Indices, 1Q21 – 4Q21**

Source: Urban Redevelopment Authority

## Costs of utilities, fuel and transportation are likely to increase in 2022

The cost of utilities borne by firms is closely linked to electricity prices,<sup>14</sup> which are in turn influenced by movements in global oil prices.<sup>15</sup> Oil prices also contribute to business costs through fuel and transportation costs.

In 2021, the average wholesale electricity price rose by 179 per cent on the back of a rebound in global oil prices and a corresponding pickup in natural gas prices (Exhibit 8)<sup>16</sup>. The price increases for oil and natural gas came amidst a global energy crunch caused by a surge in energy demand fuelled by the global economic recovery alongside tight supply conditions. Disruptions to the supply of Piped Natural Gas (PNG) into Singapore in the second half of 2021 also added to the volatility of Singapore's wholesale electricity market, leading to a sharper increase in wholesale electricity prices.

Looking ahead, global oil prices are projected to remain elevated amidst tight supply conditions, as well as geopolitical tensions between Russia and Ukraine and in the Middle East region. For 2022 as a whole, the US Energy Information Administration has projected that global oil prices will average US\$83 per barrel (/bbl)<sup>17</sup>, higher than the 2021 average of US\$71/bbl as well as the 5-year annual average prior to 2021.<sup>18</sup> In turn, higher oil prices will lead to an increase in the domestic costs of utilities, fuel and transportation in 2022. Nonetheless, barring a sharp escalation in geopolitical tensions, oil prices are expected to ease gradually over the course of the year on the back of the unwinding of production cuts by the Organisation of Petroleum Exporting Countries & Partner Countries (OPEC+) and an anticipated increase in non-OPEC oil supply. Correspondingly, upward pressures on the domestic costs of utilities, fuel and transportation should moderate over the course of the year.

<sup>14</sup> Electricity cost is a component of utilities cost, which forms a relatively small share of total business costs. For example, utilities cost accounts for 2.4 per cent to 3.1 per cent of business costs for SMEs and non-SMEs in the manufacturing sector respectively (refer to Annex A for details). Similarly, utilities cost is a relatively small cost component for firms in the services sectors, accounting for less than 3 per cent of the business costs of firms in most sectors.

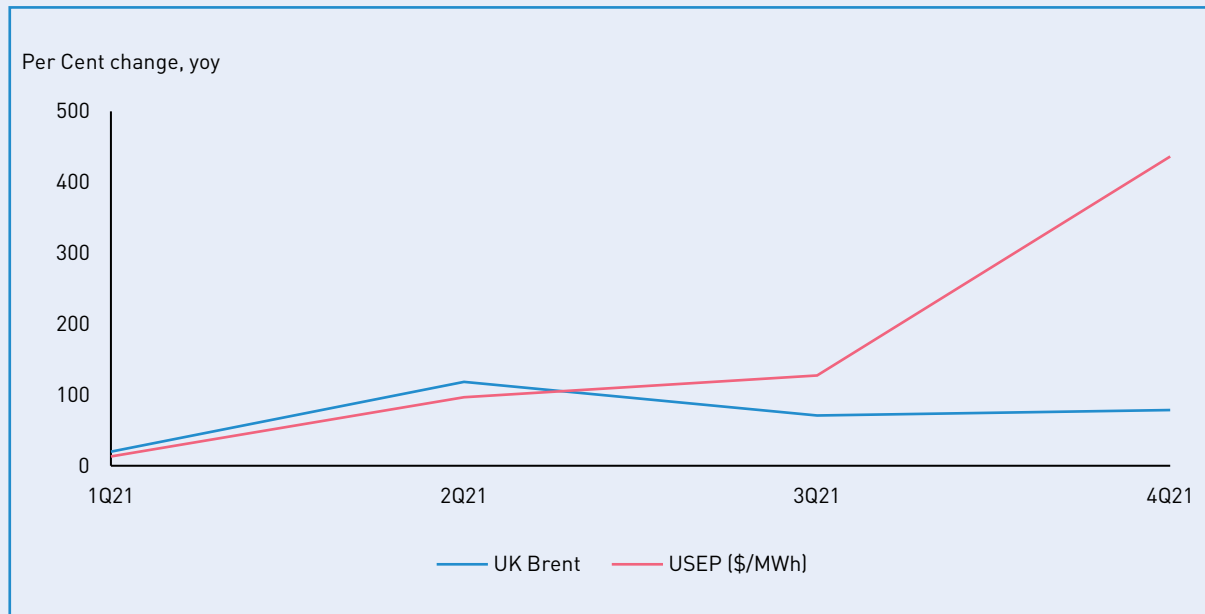
<sup>15</sup> Around 95 per cent of our electricity is generated from natural gas, the price of which is indexed to oil prices. This is a common market practice in Asia.

<sup>16</sup> This is based on the average half-hourly Uniform Singapore Energy Price (USEP), which is a proxy for average wholesale energy prices in the National Electricity Market of Singapore.

<sup>17</sup> EIA Short-Term Energy Outlook Report, February 2022.

<sup>18</sup> Between 2015 and 2019, global oil prices averaged US\$57/bbl.

**Exhibit 8: Global Oil Prices and Uniform Singapore Energy Prices, 1Q21 – 4Q21**



Source: International Monetary Fund, CEIC, Energy Market Company

## CONCLUSION

In 2021, the unit business cost for the manufacturing sector fell, in large part due to declines in the costs of the “others” component, work given out and royalties. Meanwhile, the unit business cost for the overall services sector rose in the first three quarters of 2021 on the back of increases in both the services ULC and other services costs.

Looking ahead, the overall ULC for the economy is likely to continue to rise in 2022 on account of sustained wage growth in line with economic growth. Meanwhile, commercial rentals are projected to see a gradual recovery, even as industrial rental is likely to remain relatively stable in 2022. At the same time, the costs of utilities, fuel and transportation are expected to increase due to higher global oil prices, although upward pressures could ease over the course of the year.

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## ANNEX A: BUSINESS COST STRUCTURE OF MANUFACTURING AND SERVICES SECTORS

### Manufacturing Sector

In the manufacturing sector, labour cost, work given out and “others” constitute the largest components of business costs. These three components collectively account for around 88 per cent of the business costs of small- and medium-sized enterprises (SMEs) and around 76 per cent of the business costs of non-SMEs in the sector.

The remaining services cost components, including utilities, fuel, rental of building/premises and charges paid to other firms for inland transportation and ocean/air/other freight, make up a smaller share of business costs, at around 24 per cent for non-SMEs and 12 per cent for SMEs. Non-labour production taxes, which include property, road and other indirect taxes, account for around 0.6 per cent and 0.3 per cent of the business costs of SMEs and non-SMEs respectively.

Details of the business cost structure of SMEs and non-SMEs in the various manufacturing clusters are in Exhibit A1.

### Services Sector

Labour cost constitutes a major cost component for firms in the services sectors, with its share of business costs ranging from around 8 per cent for firms in the transportation & storage sector, to around 36 per cent or more for firms in labour-intensive sectors such as food & beverage services, accommodation and real estate, professional services and administrative & support services sectors. Across all services sectors, except for the wholesale trade, accommodation and transportation & storage sectors, the labour cost share of business costs is larger for SMEs than for non-SMEs.

On the other hand, utilities cost is a relatively small cost component for firms in the services sectors, accounting for less than 3 per cent of the business costs of firms in most sectors. Key exceptions are firms in the accommodation and food & beverage services sectors, where utilities cost constitutes up to 6 per cent of their business costs. Similarly, rental cost accounts for a small share of the business costs of firms in most services sectors. Key exceptions include the retail, accommodation and food & beverage services sectors, where the rental cost share of business costs for SMEs is 29 per cent, 15 per cent and 25 per cent respectively.

Like in the manufacturing sector, non-labour production taxes account for less than 1 per cent of the business costs of firms in most services sectors. Even for the retail trade, accommodation and real estate, professional services and administrative & support services sectors, where the share of non-labour production taxes is the highest, it is relatively small, at less than 3 per cent.

Details of the business cost structure of SMEs and non-SMEs in the various services sectors are in Exhibit A2.

Exhibit A1: Business Cost Structure of the Manufacturing Sector by Firm Size, 2020

|  | Total    |      | Electronics |      | Chemicals |      | Biomedical Manufacturing |      | Precision Engineering |      | Transport Engineering |      | General Manufacturing |      |
|--|----------|------|-------------|------|-----------|------|--------------------------|------|-----------------------|------|-----------------------|------|-----------------------|------|
|  | Non-SMEs | SMEs | Non-SMEs    | SMEs | Non-SMEs  | SMEs | Non-SMEs                 | SMEs | Non-SMEs              | SMEs | Non-SMEs              | SMEs | Non-SMEs              | SMEs |
| <b>Labour Cost</b>   | 19.3     | 35.4 | 12.4        | 9.3  | 18.8      | 29.3 | 23.3                     | 20.4 | 30.3                  | 51.8 | 38.0                  | 47.3 | 41.8                  | 48.4 |
| <b>Services Cost</b>   | 80.3     | 64.0 | 87.4        | 90.3 | 80.3      | 69.8 | 76.4                     | 79.1 | 69.2                  | 47.6 | 61.6                  | 52.2 | 57.5                  | 51.0 |
| <b>Work given out</b>  | 18.4     | 19.5 | 24.3        | 42.3 | 8.1       | 3.4  | 3.2                      | 19.1 | 9.4                   | 14.9 | 34.2                  | 16.9 | 2.5                   | 12.0 |
| <b>Royalty payments</b>  | 13.0     | 2.8  | 10.7        | 3.7  | 5.4       | 5.9  | 36.5                     | 3.2  | 25.4                  | 1.5  | 2.3                   | 2.2  | 4.1                   | 1.3  |
| <b>Utilities</b>   | 3.1      | 2.4  | 2.5         | 0.5  | 7.3       | 8.4  | 1.3                      | 0.9  | 1.6                   | 2.0  | 1.7                   | 1.1  | 6.4                   | 2.6  |
| <b>Fuel</b>  | 4.4      | 1.0  | 0.9         | 0.1  | 24.9      | 4.6  | 0.5                      | 0.3  | 0.2                   | 0.3  | 0.4                   | 0.3  | 3.4                   | 1.2  |
| <b>Rental of building/ premises</b>  | 0.3      | 2.1  | 0.1         | 0.2  | 0.2       | 1.3  | 0.8                      | 0.9  | 0.6                   | 2.1  | 0.5                   | 2.6  | 1.8                   | 4.5  |
| <b>Charges paid to other firms for inland transportation and ocean/ air/ other freight</b> | 2.6      | 3.5  | 1.5         | 1.0  | 5.6       | 10.2 | 2.7                      | 6.1  | 4.0                   | 2.6  | 1.7                   | 1.2  | 5.5                   | 3.2  |
| <b>Others</b>  | 38.5     | 32.8 | 47.5        | 42.5 | 28.7      | 36.0 | 31.5                     | 48.6 | 28.2                  | 24.0 | 20.8                  | 28.0 | 33.9                  | 26.1 |
| <b>Non-Labour Production Taxes</b>   | 0.3      | 0.6  | 0.2         | 0.4  | 0.9       | 0.9  | 0.3                      | 0.5  | 0.5                   | 0.6  | 0.4                   | 0.5  | 0.6                   | 0.6  |

Source: Economic Development Board

Note: SMEs refer to enterprises with operating receipts of not more than \$100 million or employment of not more than 200 workers. Non-SMEs refer to enterprises with operating receipts of more than \$100 million and employment of more than 200 workers. "Others" consists of sub-components such as professional fees, advertising, commission and agency fees, sundry expenses, etc.



Exhibit A2: Business Cost Structure of the Services Sectors by Firm Size, 2020

|   | Wholesale Trade |             |  | Retail Trade |             |  | Accommodation |             |  | Food & Beverage Services |             |  | Transportation & Storage |             |  | Information & Communications |             |  | Finance & Insurance |             |  | Real Estate, Professional Services and Administrative & Support Services |             |  |
|---|-----------------|-------------|--|--------------|-------------|--|---------------|-------------|--|--------------------------|-------------|--|--------------------------|-------------|--|------------------------------|-------------|--|---------------------|-------------|--|--|-------------|--|
|   | Non-SMEs        | SMEs        |  | Non-SMEs     | SMEs        |  | Non-SMEs      | SMEs        |  | Non-SMEs                 | SMEs        |  | Non-SMEs                 | SMEs        |  | Non-SMEs                     | SMEs        |  | Non-SMEs            | SMEs        |  | Non-SMEs   | SMEs        |  |
| <b>Labour Cost</b>                          | <b>18.0</b>     | <b>17.7</b> |  | <b>24.2</b>  | <b>39.2</b> |  | <b>51.1</b>   | <b>43.1</b> |  | <b>47.4</b>              | <b>49.9</b> |  | <b>12.8</b>              | <b>5.9</b>  |  | <b>14.7</b>                  | <b>21.8</b> |  | <b>10.9</b>         | <b>13.1</b> |  | <b>34.9</b>  | <b>37.2</b> |  |
| <b>Services Cost</b>                        | <b>81.3</b>     | <b>81.7</b> |  | <b>73.2</b>  | <b>60.1</b> |  | <b>46.5</b>   | <b>54.1</b> |  | <b>52.3</b>              | <b>49.8</b> |  | <b>86.7</b>              | <b>93.9</b> |  | <b>84.9</b>                  | <b>77.6</b> |  | <b>89.0</b>         | <b>86.6</b> |  | <b>63.2</b>  | <b>60.3</b> |  |
| <b>Utilities</b>                            | 0.3             | 0.2         |  | 2.3          | 1.5         |  | 4.5           | 5.7         |  | 3.8                      | 4.5         |  | 0.4                      | 0.1         |  | 0.4                          | 0.5         |  | 0.1                 | -           |  | 0.4  | 1.1         |  |
| <b>Freight &amp; Transport</b>              | 14.3            | 39.3        |  | 10.6         | 2.7         |  | -             | 0.1         |  | 3.4                      | 0.7         |  | 56.3                     | 65.7        |  | 0.1                          | 0.7         |  | -                   | -           |  | 0.5  | 1.8         |  |
| <b>Financial Services</b>                   | 3.0             | 2.1         |  | 1.8          | 2.5         |  | 0.9           | 2.1         |  | 0.8                      | 1.3         |  | 0.6                      | 0.5         |  | 0.3                          | 1.9         |  | 4.7                 | 5.0         |  | 0.1  | 0.8         |  |
| <b>Communications</b>                       | 0.6             | 0.4         |  | 0.5          | 0.9         |  | 0.3           | 0.7         |  | 0.1                      | 0.4         |  | 0.9                      | 0.3         |  | 2.0                          | 9.6         |  | 0.2                 | 0.2         |  | 0.2  | 0.5         |  |
| <b>Renting of Premises</b>                  | 3.3             | 5.0         |  | 19.5         | 28.7        |  | 17.5          | 15.3        |  | 20.5                     | 24.5        |  | 1.0                      | 1.7         |  | 1.0                          | 2.9         |  | 0.8                 | 1.0         |  | 2.3  | 4.8         |  |
| <b>Professional Services</b>                | 7.4             | 4.0         |  | 8.0          | 2.3         |  | 3.3           | 1.8         |  | 0.6                      | 1.4         |  | 1.4                      | 0.8         |  | 8.3                          | 10.8        |  | 2.6                 | 3.3         |  | 11.1   | 5.5         |  |
| <b>Other Services</b>                       | 52.3            | 30.6        |  | 30.5         | 21.5        |  | 20.0          | 28.3        |  | 23.1                     | 17.1        |  | 26.2                     | 24.8        |  | 72.8                         | 51.2        |  | 80.7                | 77.0        |  | 48.6   | 45.8        |  |
| <i>Advertising &amp; Entertainment</i>      | 4.3             | 4.6         |  | 12.5         | 6.4         |  | 2.1           | 2.9         |  | 5.0                      | 2.0         |  | 0.2                      | 0.6         |  | 12.6                         | 11.7        |  | 1.4                 | 0.6         |  | 0.3  | 4.0         |  |
| <i>Admin &amp; Management Fees</i>          | 11.2            | 6.1         |  | 1.6          | 3.2         |  | 4.3           | 7.6         |  | 1.7                      | 3.8         |  | 3.5                      | 2.8         |  | 3.5                          | 10.5        |  | 4.3                 | 8.5         |  | 4.9  | 9.6         |  |
| <i>Contract labour &amp; work given out</i> | 15.1            | 3.4         |  | 1.5          | 1.6         |  | 0.5           | 2.6         |  | -                        | 1.9         |  | 1.6                      | 1.2         |  | 3.5                          | 6.7         |  | 0.3                 | 0.3         |  | 21.2   | 9.2         |  |
| <i>Commission</i>                           | 3.2             | 4.9         |  | 0.2          | 3.3         |  | 0.6           | 3.0         |  | 1.5                      | 1.3         |  | 3.5                      | 1.9         |  | 2.0                          | 1.5         |  | 4.6                 | 9.3         |  | 1.1  | 2.9         |  |
| <i>Royalties</i>                            | 12.6            | 3.8         |  | 0.8          | 0.7         |  | 2.1           | 0.4         |  | 7.9                      | 1.8         |  | -                        | -           |  | 40.1                         | 5.3         |  | 0.3                 | 0.2         |  | 0.6  | 0.8         |  |
| <i>Maintenance &amp; repairs</i>            | 1.0             | 0.7         |  | 6.5          | 1.8         |  | 2.4           | 5.2         |  | 3.6                      | 2.5         |  | 4.2                      | 1.8         |  | 0.8                          | 1.0         |  | 0.5                 | 0.2         |  | 1.7  | 3.5         |  |
| <i>Fuel</i>                                 | -               | 0.5         |  | 0.1          | 0.1         |  | -             | -           |  | -                        | 0.1         |  | 9.3                      | 11.4        |  | -                            | -           |  | -                   | -           |  | -  | 0.4         |  |
| <i>Others</i>                               | 4.9             | 6.4         |  | 7.3          | 4.4         |  | 7.9           | 6.7         |  | 3.5                      | 3.7         |  | 3.9                      | 5.1         |  | 10.3                         | 14.4        |  | 69.3                | 57.9        |  | 18.7   | 15.5        |  |
| <b>Non-Labour Production Taxes</b>          | <b>0.7</b>      | <b>0.6</b>  |  | <b>2.6</b>   | <b>0.7</b>  |  | <b>2.4</b>    | <b>2.9</b>  |  | <b>0.4</b>               | <b>0.3</b>  |  | <b>0.5</b>               | <b>0.2</b>  |  | <b>0.4</b>                   | <b>0.6</b>  |  | <b>0.2</b>          | <b>0.3</b>  |  | <b>1.9</b>   | <b>2.5</b>  |  |

Source: Department of Statistics and Monetary Authority of Singapore

Notes:

1. SMEs refer to enterprises with operating receipts of not more than \$100 million or employment of not more than 200 workers. Non-SMEs refer to enterprises with operating receipts of more than \$100 million and employment of more than 200 workers.

2. "-" refers to nil or negligible.

## ANNEX B: SUPPLY OF INDUSTRIAL AND COMMERCIAL SPACE

Exhibit B1: Supply of Industrial Space

|   | Total        | 2022         | 2023       | 2024       | 2025       | 2026      | >2026    |
|---|--------------|--------------|------------|------------|------------|-----------|----------|
| <b>Multiple-User Factory Space ('000 sqm gross)</b> |              |              |            |            |            |           |          |
| <b>Total</b>  | <b>1,450</b> | <b>997</b>   | <b>218</b> | <b>235</b> | <b>-</b>   | <b>-</b>  | <b>-</b> |
| Under Construction                                  | 1,340        | 944          | 187        | 210        | -          | -         | -        |
| Planned   | 110          | 53           | 32         | 25         | -          | -         | -        |
| <b>Single-User Factory Space ('000 sqm gross)</b>   |              |              |            |            |            |           |          |
| <b>Total</b>  | <b>1,998</b> | <b>1,221</b> | <b>330</b> | <b>255</b> | <b>152</b> | <b>39</b> | <b>-</b> |
| Under Construction                                  | 1,379        | 908          | 181        | 194        | 96         | -         | -        |
| Planned   | 619          | 313          | 149        | 61         | 56         | 39        | -        |
| <b>Business Park Space ('000 sqm gross)</b>         |              |              |            |            |            |           |          |
| <b>Total</b>  | <b>503</b>   | <b>79</b>    | <b>48</b>  | <b>194</b> | <b>181</b> | <b>-</b>  | <b>-</b> |
| Under Construction                                  | 321          | 79           | 48         | 194        | -          | -         | -        |
| Planned   | 182          | 0            | -          | -          | 181        | -         | -        |
| <b>Warehouse Space ('000 sqm gross)</b>             |              |              |            |            |            |           |          |
| <b>Total</b>  | <b>767</b>   | <b>483</b>   | <b>271</b> | <b>13</b>  | <b>-</b>   | <b>-</b>  | <b>-</b> |
| Under Construction                                  | 532          | 393          | 139        | -          | -          | -         | -        |
| Planned   | 235          | 91           | 132        | 13         | -          | -         | -        |
| <b>Total Industrial Space</b>                       | <b>4,717</b> | <b>2,780</b> | <b>867</b> | <b>697</b> | <b>334</b> | <b>39</b> | <b>-</b> |

Source: JTC Corporation

Note: The upcoming supply figures include supply from new development and redevelopment projects. They comprise:

- projects with Provisional Permission, Outline Provisional Permission and/or Written Permission;
- developments submitted for planning approval and which are under consideration;
- projects on awarded Government Land Sales (GLS) and Concept and Price Tender (CPT) sites for which plans have not been submitted for planning approval; and
- planned projects in the GLS (which refer to sites on the GLS confirmed list and sites on the GLS reserve list that have been triggered) and CPT sites launched for tender.

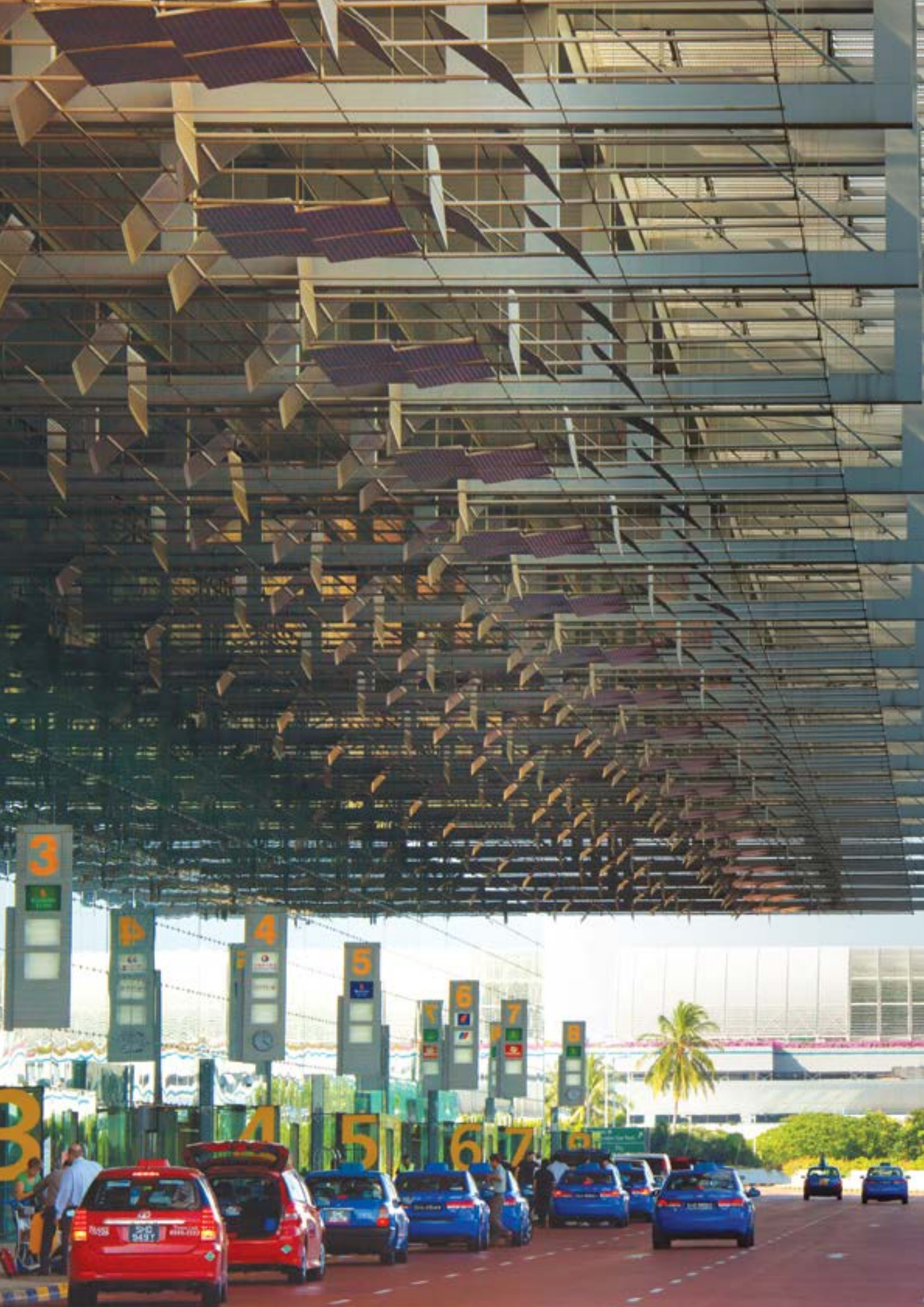
Exhibit B2: Supply of Commercial Space

|                                      | Total        | 2022       | 2023       | 2024       | 2025       | 2026       | >2026      |
|--------------------------------------|--------------|------------|------------|------------|------------|------------|------------|
| <b>Office Space ('000 sqm gross)</b> |              |            |            |            |            |            |            |
| <b>Total</b>                         | <b>786</b>   | <b>78</b>  | <b>219</b> | <b>176</b> | <b>126</b> | <b>121</b> | <b>66</b>  |
| Under Construction                   | 469          | 78         | 219        | 133        | 39         | -          | -          |
| Planned                              | 317          | -          | -          | 43         | 87         | 121        | 66         |
| <b>Retail Space ('000 sqm gross)</b> |              |            |            |            |            |            |            |
| <b>Total</b>                         | <b>405</b>   | <b>83</b>  | <b>70</b>  | <b>101</b> | <b>53</b>  | <b>22</b>  | <b>76</b>  |
| Under Construction                   | 274          | 83         | 65         | 89         | 35         | 2          | -          |
| Planned                              | 131          | -          | 5          | 12         | 18         | 20         | 76         |
| <b>Total Commercial Space</b>        | <b>1,191</b> | <b>161</b> | <b>289</b> | <b>277</b> | <b>179</b> | <b>143</b> | <b>142</b> |

Source: Urban Redevelopment Authority











CHAPTER

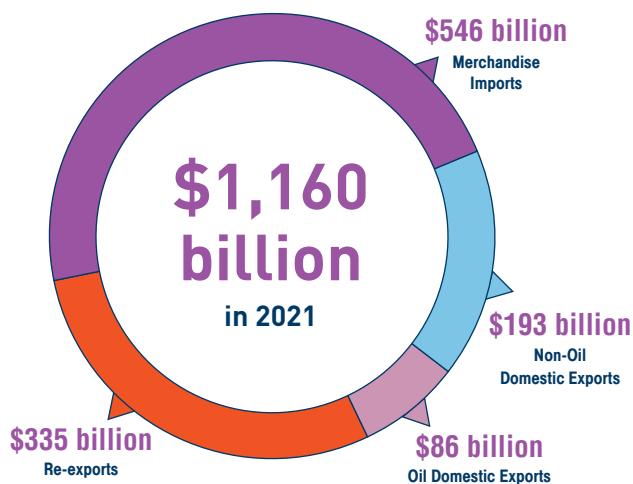
**04**

# INTERNATIONAL TRADE

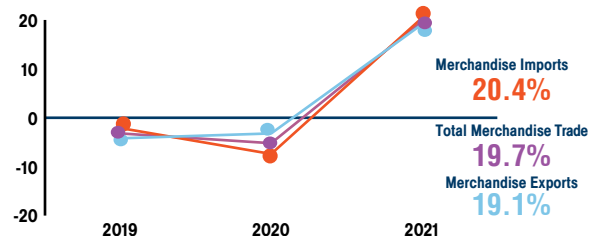


# INTERNATIONAL TRADE

## TOTAL MERCHANDISE TRADE AMOUNTED TO...



## GROWTH IN MERCHANDISE TRADE



## COMPONENTS OF MERCHANDISE EXPORTS (Year-On-Year Growth)

+38.0%



Oil Domestic Exports

+19.2%



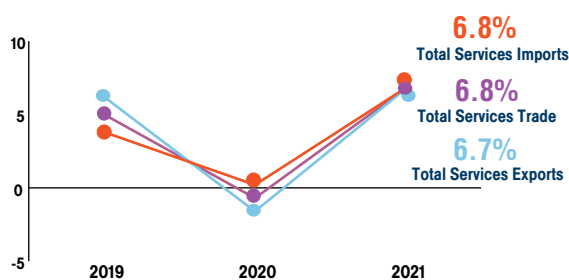
Re-exports

+12.1%

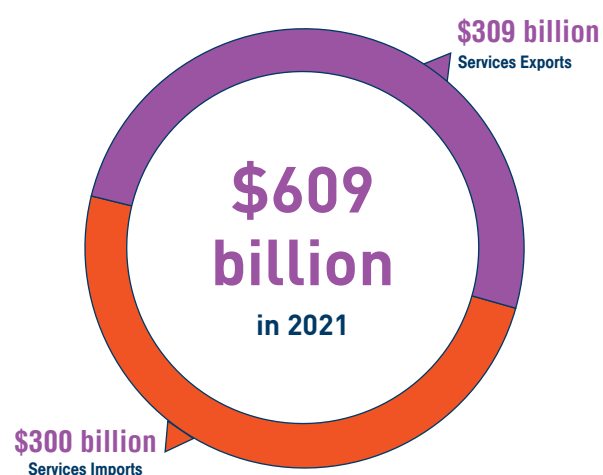


Non-Oil Domestic Exports

## GROWTH IN SERVICES TRADE



## TOTAL SERVICES TRADE AMOUNTED TO...



## THE INCREASE IN SERVICES EXPORTS WAS LED BY...

+3.1%  
point contribution

Other Business Services

+1.6%  
point contribution

Transport Services

## OVERVIEW

Singapore's total merchandise trade expanded by 28.8 per cent year-on-year in the fourth quarter of 2021, faster than the 19.0 per cent growth registered in the preceding quarter. At the same time, total services trade increased by 10.6 per cent year-on-year in the fourth quarter, extending the 11.5 per cent growth in the third quarter.

For the whole of 2021, Singapore's total merchandise trade rose by 19.7 per cent to reach \$1.2 trillion, compared to the \$969 billion in 2020. Oil trade expanded by 43.6 per cent amidst higher oil prices compared to a year ago, while non-oil trade grew by 15.9 per cent. Merchandise exports and imports increased by 19.1 per cent and 20.4 per cent respectively.

Overall services trade rose by 6.8 per cent to \$609 billion in 2021, from \$571 billion in 2020. Services exports and imports increased by 6.7 per cent and 6.8 per cent respectively in 2021.

## MERCHANDISE TRADE

### Merchandise Exports

Total merchandise exports expanded by 26.9 per cent year-on-year in the fourth quarter, faster than the 17.4 per cent increase in the preceding quarter (Exhibit 4.1). The expansion in total merchandise exports was due to both domestic exports and re-exports. Domestic exports grew by 34.8 per cent in the fourth quarter, up from the 18.8 per cent increase in the third quarter. Meanwhile, re-exports rose by 21.1 per cent, faster than the 16.2 per cent increase in the previous quarter.

**Exhibit 4.1: Growth Rates of Total Merchandise Trade, Merchandise Exports and Merchandise Imports (In Nominal Terms)**

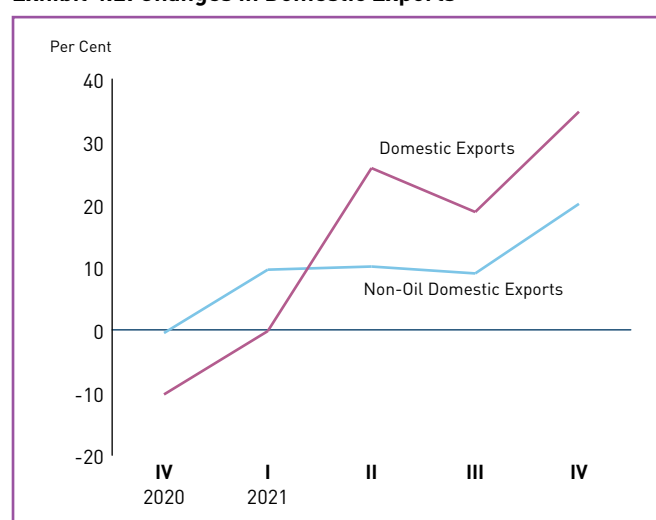
|                                | 2020        | 2021  |       |      |      | 2021        |
|--------------------------------|-------------|-------|-------|------|------|-------------|
|                                |             | I     | II    | III  | IV   |             |
| <b>Total Merchandise Trade</b> | <b>-5.2</b> | 4.9   | 27.2  | 19.0 | 28.8 | <b>19.7</b> |
| <b>Merchandise Exports</b>     | <b>-3.2</b> | 6.9   | 26.0  | 17.4 | 26.9 | <b>19.1</b> |
| Domestic Exports               | -6.8        | -0.2  | 25.8  | 18.8 | 34.8 | 19.0        |
| Oil                            | -28.1       | -19.2 | 85.7  | 49.2 | 78.2 | 38.0        |
| Non-Oil                        | 4.3         | 9.6   | 10.1  | 9.0  | 20.1 | 12.1        |
| Re-Exports                     | 0.1         | 13.6  | 26.3  | 16.2 | 21.1 | 19.2        |
| <b>Merchandise Imports</b>     | <b>-7.4</b> | 2.7   | 28.6  | 20.9 | 31.0 | <b>20.4</b> |
| Oil                            | -34.0       | -12.5 | 115.4 | 51.9 | 94.8 | 49.4        |
| Non-oil                        | -0.3        | 6.5   | 17.7  | 15.6 | 21.2 | 15.3        |

For the whole of 2021, total merchandise exports increased by 19.1 per cent, reversing the 3.2 per cent decline recorded in 2020.

### Non-Oil Domestic Exports

Non-oil domestic exports (NODX) increased by a robust 20.1 per cent year-on-year in the fourth quarter, accelerating from the 9.0 per cent growth in the preceding quarter (Exhibit 4.2). The increase in NODX was due to a pickup in both electronics and non-electronics domestic exports.

**Exhibit 4.2: Changes in Domestic Exports**

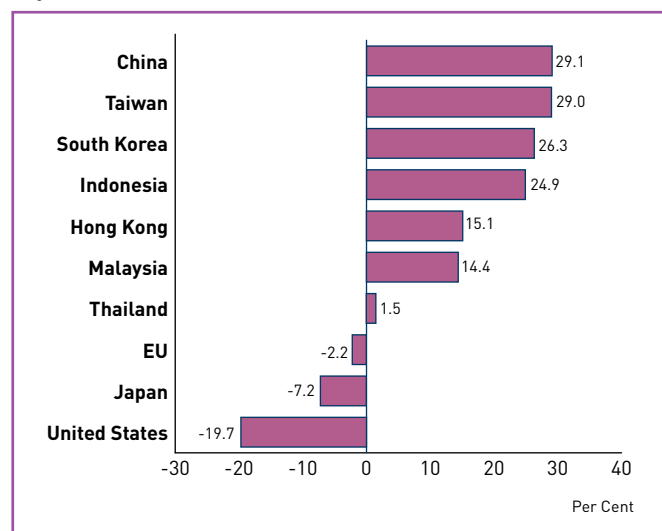


Electronics NODX grew by 19.1 per cent in the fourth quarter, extending the 15.3 per cent increase in the previous quarter. The rise in electronics NODX was primarily due to an increase in the domestic exports of ICs, PCs and diodes & transistors. Non-electronics NODX rose by 20.4 per cent, faster than the 7.1 per cent growth in the previous quarter. The increase in non-electronics NODX was due to higher domestic exports of specialised machinery, petrochemicals and pharmaceuticals.

For the full year, NODX expanded by 12.1 per cent, a significant step-up from the increase of 4.3 per cent seen in 2020. Growth in NODX in 2021 was due to higher shipments of both electronic (16.3 per cent) and non-electronic (10.9 per cent) products.

The top 10 NODX markets accounted for 79 per cent of Singapore's total NODX in 2021. Singapore's NODX to all the top 10 markets grew in 2021, except for the US, Japan and EU-27 (Exhibit 4.3). The biggest contributors to the growth in NODX were China (29.1 per cent), Taiwan (29.0 per cent) and South Korea (26.3 per cent).

**Exhibit 4.3: Growth Rates of Non-Oil Domestic Exports to Top Ten Markets in 2021**



NODX to China expanded mainly because of a rise in the exports of specialised machinery, petrochemicals and pharmaceuticals. NODX to Taiwan rose as a result of an increase in the exports of specialised machinery, ICs and measuring instruments. Meanwhile, specialised machinery, PCs and ICs contributed the most to the growth in NODX to South Korea. On the other hand, NODX to US decreased due to lower exports of non-monetary gold, non-electric engines & motors and disk media products.

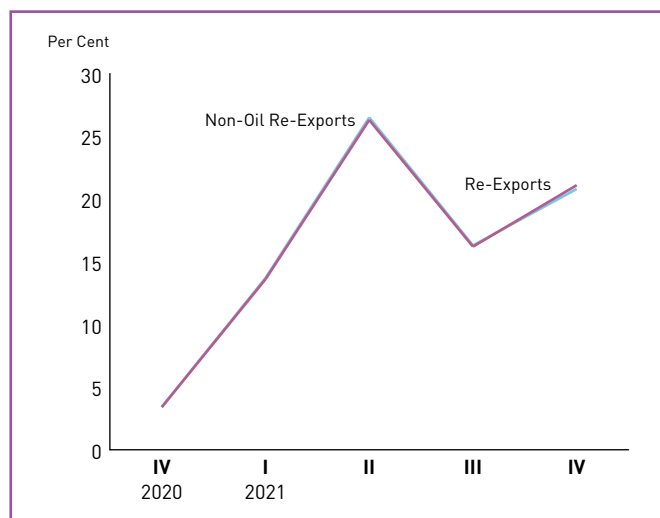
## Oil Domestic Exports

Oil domestic exports soared by 78.2 per cent year-on-year in the fourth quarter, surpassing the 49.2 per cent growth recorded in the previous quarter. The growth in oil domestic exports was led by higher exports to Australia, Malaysia and Indonesia, partly reflecting higher oil prices in the fourth quarter as compared to a year ago. In volume terms, oil domestic exports increased by 1.5 per cent, a reversal from the 6.5 per cent decline in the third quarter.

For the full year, oil domestic exports posted strong growth of 38.0 per cent, a turnaround from the 28.1 per cent contraction in 2020. This was on account of higher oil prices. The increase in oil domestic exports was driven mainly by higher exports to Australia, Indonesia and Malaysia. In volume terms, oil domestic exports declined by 10.2 per cent in 2021, after posting a 3.6 per cent increase in 2020.

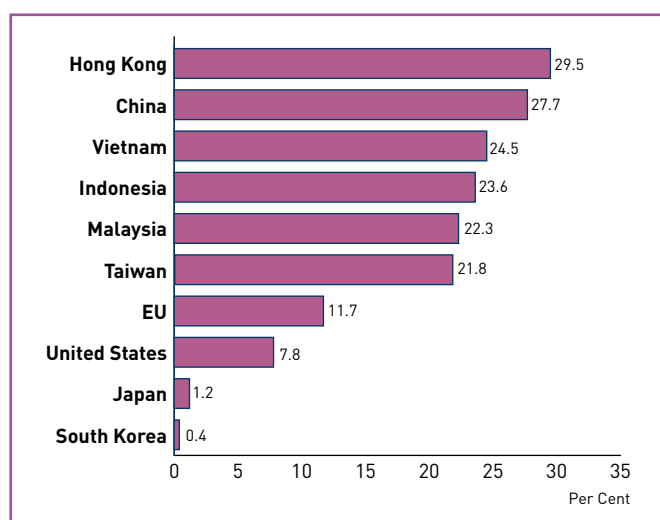
## Non-Oil Re-Exports

Non-oil re-exports (NORX) expanded by 20.8 per cent year-on-year in the fourth quarter, extending the 16.3 per cent increase in the preceding quarter (Exhibit 4.4). The growth in NORX was due to both electronics and non-electronics re-exports. Electronics NORX increased by 22.5 per cent, unchanged from the growth registered in the third quarter, as the re-exports of ICs, PCs and diodes & transistors rose. Meanwhile, non-electronics NORX grew by 18.7 per cent, extending the 9.0 per cent increase in the preceding quarter. The rise in non-electronics NORX was mainly due to the higher re-exports of non-monetary gold, non-electric engines & motors and specialised machinery.

**Exhibit 4.4: Changes in Re-Exports**

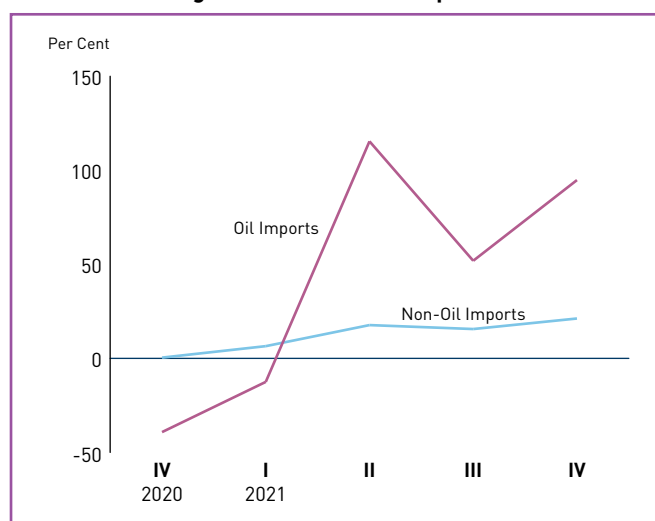
For the whole of 2021, NORX expanded by 19.2 per cent, much faster than the 0.1 per cent growth seen in 2020. Growth was due to the rise in both electronics NORX (24.8 per cent) and non-electronics NORX (12.9 per cent).

NORX to all the top 10 NORX markets rose in 2021 (Exhibit 4.5). NORX to Hong Kong increased on the back of a pickup in the re-exports of ICs, telecommunications equipment and alcoholic beverages. Meanwhile, higher shipments of ICs, specialised machinery and nickel led to an increase in NORX to China. On the other hand, re-exports to Malaysia grew due to higher shipments of non-monetary gold, telecommunications equipment and ICs.

**Exhibit 4.5: Growth Rates of Non-Oil Re-Exports to Top Ten Markets in 2021**

## Merchandise Imports

Non-oil imports registered an increase of 21.2 per cent year-on-year in the fourth quarter, extending the 15.6 per cent increase in the preceding quarter (Exhibit 4.6). The rise in non-oil imports came on the back of higher electronics (23.0 per cent) and non-electronics (19.8 per cent) imports. In turn, an increase in the imports of ICs, PCs and diodes & transistors contributed to the growth in electronics imports. Meanwhile, non-electronics imports rose due to the imports of specialised machinery, non-electric engines & motors and non-monetary gold.

**Exhibit 4.6: Changes in Merchandise Imports**

Oil imports surged by 94.8 per cent year-on-year in the fourth quarter, faster than the 51.9 per cent increase in the preceding quarter, amidst a pickup in oil prices. In volume terms, oil imports grew by 12.4 per cent, reversing the 8.4 per cent decline in the previous quarter.

For the full year of 2021, non-oil imports rose by 15.3 per cent, a turnaround from the decline of 0.3 per cent in 2020. Oil imports expanded by 49.4 per cent, reversing the 34.0 per cent contraction in 2020.

## SERVICES TRADE

### Services Exports

Services exports expanded by 9.2 per cent year-on-year in the fourth quarter, extending the 11.1 per cent expansion in the preceding quarter (Exhibit 4.7). The increase in services exports was primarily driven by a rise in the exports of transport services (8.7 per cent), other business services (7.7 per cent) and charges for the use of intellectual property (27.6 per cent). By contrast, the exports of insurance services and personal, cultural & recreation services shrank by 15.1 per cent and 1.9 per cent respectively.

For the full year, services exports grew by 6.7 per cent, reversing from the 1.6 per cent decline in 2020. The increase in services exports came on the back of an expansion in the exports of other business services (9.8 per cent), transport services (5.2 per cent) and charges for the use of intellectual property (30.8 per cent), which more than compensated for a fall in the exports of travel services (-28.4 per cent), insurance services (-4.0 per cent) and personal, cultural & recreational services (-2.0 per cent).

### Services Imports

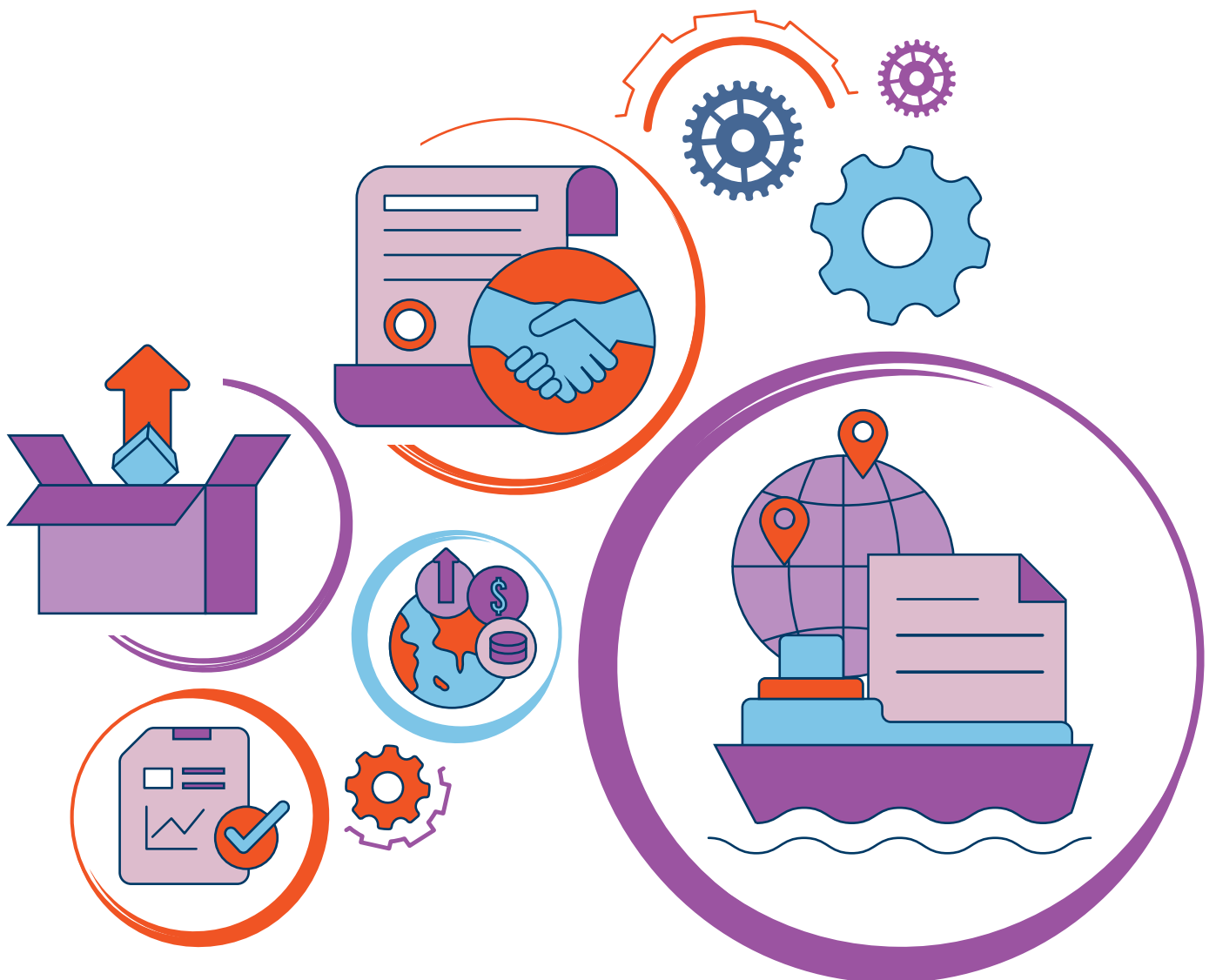
Services imports rose by 12.1 per cent year-on-year in the fourth quarter, extending the growth of 11.8 per cent posted in the previous quarter. The increase in services imports was on account of the higher imports of transport services (16.1 per cent), other business services (7.6 per cent) and travel services (103 per cent). Conversely, the imports of insurance services decreased by 5.6 per cent.

For the whole of 2021, services imports expanded at a faster pace of 6.8 per cent compared to the 0.2 per cent increase in 2020. The pickup in services imports was attributable to an expansion in the imports of transport services (9.1 per cent), other business services (6.8 per cent), and telecommunications, computer & information services (11.5 per cent). These gains were partially offset by a fall in the imports of travel services (-45.9 per cent), insurance services (-2.6 per cent) and maintenance & repair services (-2.8 per cent).

**Exhibit 4.7: Growth Rates of Total Services Trade, Services Exports and Services Imports (In Nominal Terms)**

|                             | 2020 | 2021 |      |      |      | 2021       |
|-----------------------------|------|------|------|------|------|------------|
|                             |      | I    | II   | III  | IV   |            |
| <b>Total Services Trade</b> | -0.7 | -6.8 | 14.2 | 11.5 | 10.6 | <b>6.8</b> |
| <b>Services Exports</b>     | -1.6 | -5.6 | 14.4 | 11.1 | 9.2  | <b>6.7</b> |
| <b>Services Imports</b>     | 0.2  | -8.0 | 14.0 | 11.8 | 12.1 | <b>6.8</b> |











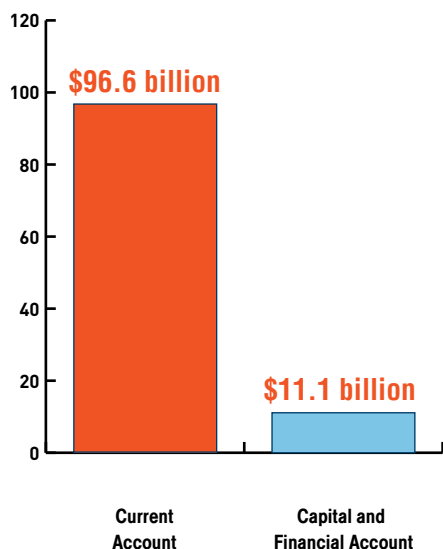
CHAPTER

**05**

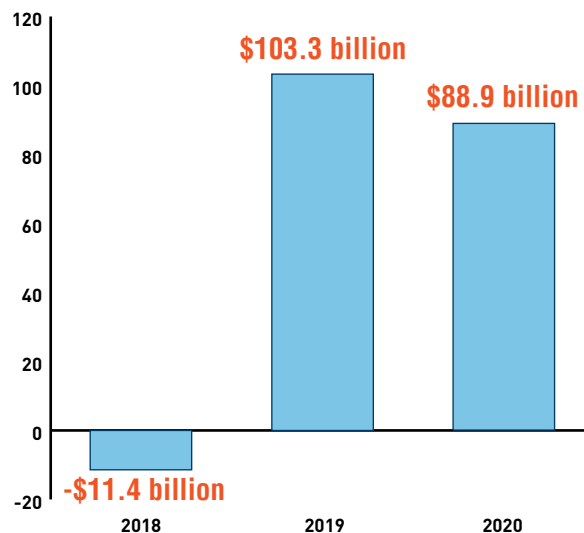
# **BALANCE OF PAYMENTS**

# BALANCE OF PAYMENTS

**Singapore's balance of payments surplus came in at \$88.9 billion at the end of 2021**



## BALANCE OF PAYMENTS TREND



## COMPONENTS OF CURRENT ACCOUNT

\$158.8 billion



Goods Balance

\$8.4 billion



Services Balance

-\$64.3 billion



Primary Income Balance

-\$6.4 billion



Secondary Income Balance

## COMPONENTS OF CAPITAL & FINANCIAL ACCOUNT

-\$78.1 billion



Direct Investment

\$76.6 billion



Portfolio Investment

\$4.1 billion



Financial Derivatives

\$8.4 billion



Other Investment

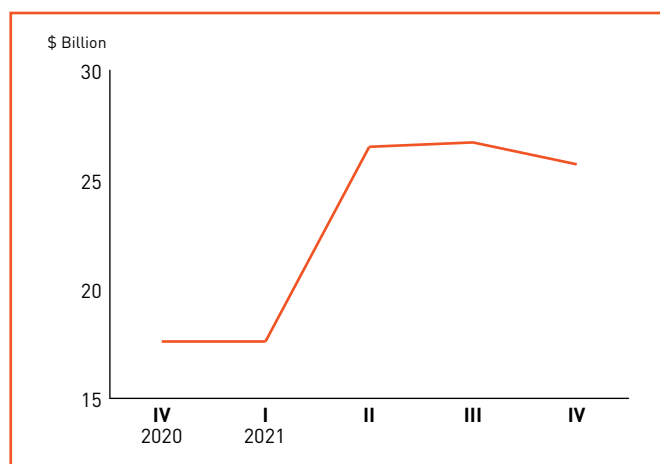
## OVERVIEW

Singapore's overall balance of payments fell to \$4.9 billion in the fourth quarter of 2021, from \$30.1 billion in the third quarter. For the year as a whole, the overall balance of payments registered a surplus of \$88.9 billion, lower than the \$103 billion recorded in 2020. This decline was mainly due to net outflows from the capital and financial account, which was a reversal from the net inflows registered in 2020. Singapore's official foreign reserves rose to \$563 billion at the end of 2021.

## CURRENT ACCOUNT

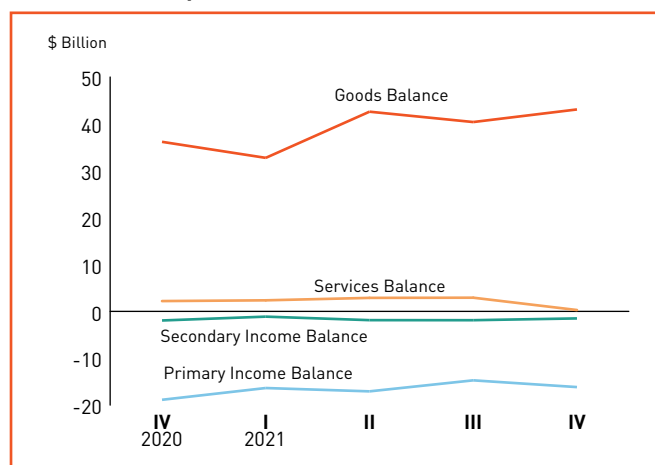
The current account surplus narrowed to \$25.7 billion in the fourth quarter, from \$26.7 billion in the third quarter (Exhibit 5.1). For 2021 as a whole, the current account surplus rose by \$16.4 billion to \$96.6 billion (18.1 per cent of GDP). The increase was driven primarily by a larger surplus in the goods balance. The services account surplus also saw an increase. At the same time, a smaller deficit in the secondary income balance more than offset the slightly larger deficit in the primary income balance.

**Exhibit 5.1: Current Account Balance**



In terms of the sub-components of the current account, the goods account surplus increased by \$2.7 billion from the third quarter to \$43.1 billion in the fourth quarter, as exports grew more quickly than imports (Exhibit 5.2). Similarly, for 2021 as a whole, the goods balance registered a larger surplus of \$159 billion, compared to the \$143 billion recorded in 2020, as the exports of goods increased by more than imports.

**Exhibit 5.2: Components of Current Account Balance**



The surplus in the services balance came in at \$0.3 billion in the fourth quarter, lower than the \$2.9 billion surplus in the preceding quarter. However, for the whole of 2021, the surplus in the services balance widened to \$8.4 billion, from \$8.1 billion in 2020. This was driven mainly by a shift from net payments to net receipts for other business services, lower net payments for travel services and charges for the use of intellectual property, and an increase in net receipts from financial services and maintenance & repair services. These more than offset the higher net payments for transport services, manufacturing services on physical inputs owned by others, as well as telecommunications, computer & information services.

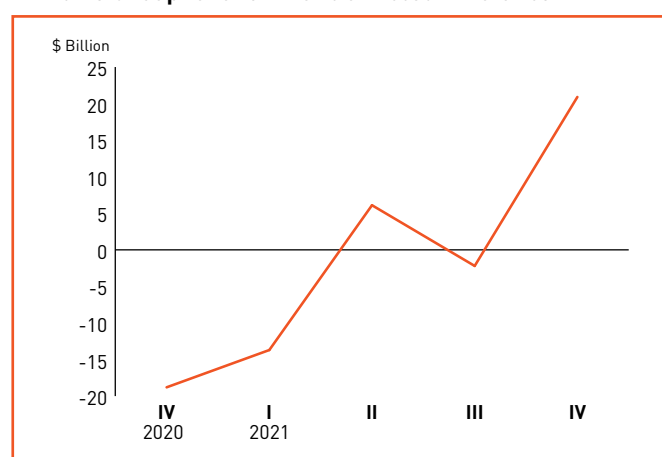
For the primary income balance, the deficit increased by \$1.4 billion from the previous quarter to \$16.1 billion in the fourth quarter. For the year as a whole, the deficit widened slightly by \$0.5 billion to \$64.3 billion, as payments rose more than receipts.



## CAPITAL AND FINANCIAL ACCOUNT

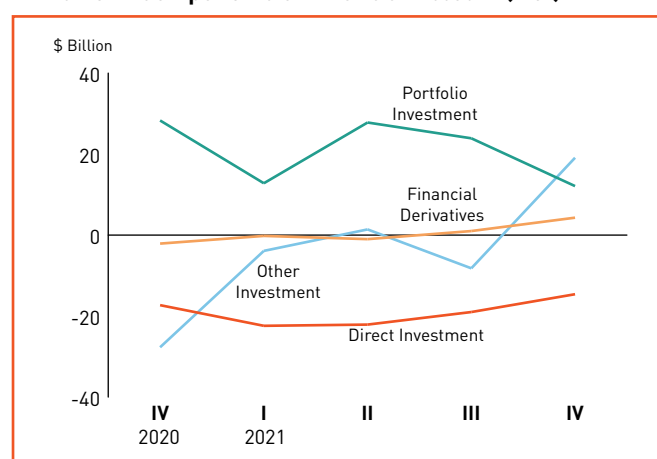
The capital and financial account<sup>1</sup> registered a net outflow of \$20.9 billion in the fourth quarter, in contrast to the net inflow of \$2.2 billion in the preceding quarter (Exhibit 5.3). For 2021 as a whole, there were net outflows of \$11.1 billion (2.1 per cent of GDP), a reversal from the net inflows of \$21.7 billion in 2020. The reversal reflected a shift from net inflows to net outflows for “other investment” and financial derivatives. These outweighed an increase in the net inflows of direct investment and a decline in the net outflows of portfolio investment.

**Exhibit 5.3: Capital and Financial Account Balance**



In terms of the sub-components of the capital and financial account, net outflows of “other investment” came in at \$19.1 billion in the fourth quarter, a turnaround from the net inflows of \$8.2 billion in the preceding quarter (Exhibit 5.4). For the full year, net outflows of “other investment” amounted to \$8.4 billion, a reversal from the \$43.9 billion in net inflows recorded in 2020. This was partly attributable to a decrease in net inflows in the domestic non-bank private sector, which outweighed the shift from net outflows to net inflows in resident deposit-taking corporations.

**Exhibit 5.4: Components of Financial Account (Net)**



Net outflows of financial derivatives rose to \$4.3 billion in the fourth quarter, from \$1.0 billion in the previous quarter. For 2021 as a whole, financial derivatives reversed to net outflows of \$4.1 billion, from net inflows of \$2.0 billion in 2020.

Direct investment saw net inflows amounting to \$14.6 billion in the fourth quarter, lower than the \$19.0 billion in the previous quarter. For 2021 as a whole, net inflows of direct investment rose by \$18.7 billion to \$78.1 billion, as the increase in foreign direct investment in Singapore exceeded that of residents' direct investment abroad.

Net outflows of portfolio investment fell to \$12.1 billion in the fourth quarter, from \$23.9 billion in the previous quarter. For the full year, net outflows of portfolio investment declined by \$6.9 billion to \$76.6 billion in 2021. Although resident deposit-taking corporations reversed from net divestments to net investments of overseas securities, the decrease in net outflows from the resident non-bank private sector was larger.

<sup>1</sup> Net inflows in net balances are indicated by a minus (-) sign. For more details regarding the change in sign convention to the financial account, please refer to DOS's information paper on "Singapore's International Accounts: Methodological Updates and Recent Developments".







Image courtesy of PSA Singapore





CHAPTER

**06**







# SECTORAL PERFORMANCE

# SECTORAL PERFORMANCE

## OVERALL ECONOMY

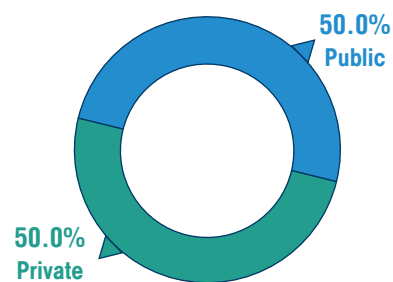
| STRUCTURE OF ECONOMY              | Nominal Value Added Share (%) | Real Growth (%) |
|-----------------------------------|-------------------------------|-----------------|
| Total                             | 100.0                         | 7.6             |
| Goods Producing Industries        | 26.4                          | 13.4            |
| Manufacturing                     | 22.3                          | 13.2            |
| Construction                      | 2.9                           | 20.1            |
| Utilities                         | 1.2                           | 4.1             |
| Other Goods Industries            | 0.0                           | 10.8            |
| Services Producing Industries     | 69.8                          | 5.6             |
| Wholesale Trade                   | 17.9                          | 3.9             |
| Retail Trade                      | 1.4                           | 10.2            |
| Transportation & Storage          | 6.1                           | 5.0             |
| Accommodation                     | 0.5                           | 1.7             |
| Food & Beverage Services          | 0.9                           | 3.0             |
| Information & Communications      | 5.6                           | 12.2            |
| Finance & Insurance               | 14.6                          | 7.4             |
| Real Estate                       | 2.9                           | 10.7            |
| Professional Services             | 5.8                           | 4.4             |
| Administrative & Support Services | 3.6                           | -3.8            |
| Other Services Industries         | 10.5                          | 5.2             |
| Ownership of Dwellings            | 3.8                           | 0.1             |

## MANUFACTURING

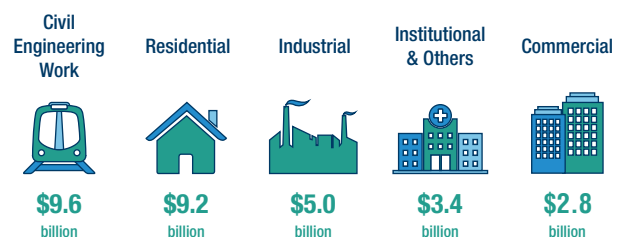
| CLUSTERS   | Nominal Value Added Share (%) | Real Growth (%) |
|--|-------------------------------|-----------------|
|  Electronics                        | 40.7                          | 14.5            |
|  Chemicals                          | 16.6                          | 9.2             |
|  Biomedical Manufacturing           | 14.7                          | 11.1            |
|  Precision Engineering             | 13.4                          | 18.9            |
|  Transport Engineering            | 6.9                           | 13.2            |
|  General Manufacturing Industries | 7.7                           | 6.6             |

## CONSTRUCTION

### CERTIFIED PAYMENTS IN 2021



### CONTRACTS AWARDED IN 2021





## WHOLESALE TRADE



Foreign  
Wholesale Trade  
Index growth  
**+7.2%**



Domestic  
Wholesale Trade  
Index growth  
**-1.9%**

## RETAIL TRADE



Retail Sales  
Index Growth  
(Non-Motor Vehicles)  
**+10.8%**



Retail Sales  
Index Growth  
(Motor Vehicles)  
**+10.8%**

## TRANSPORTATION & STORAGE

| SEGMENTS                         | Nominal<br>Value<br>Added<br>Share (%) | Real<br>Growth<br>(%) |
|----------------------------------|--|-----------------------|
| Land Transport*                  | 15.4                                   | 6.0                   |
| Water Transport*                 | 56.8                                   | 1.7                   |
| Air Transport*                   | 4.3                                    | 15.0                  |
| Storage & Other Support Services | 19.7                                   | 10.6                  |
| Post & Courier                   | 3.9                                    | 9.7                   |

\*Including supporting services



**+1.5%**

Total Sea Cargo Handled Growth



**-74.0%**

Air Passengers Handled Growth

## ACCOMMODATION

### PERFORMANCE OF HOTELS



Hotel Room  
Revenue Growth  
**-21.0%**



Gross Lettings  
Growth  
**-23.5%**

## FOOD & BEVERAGE SERVICES

### PERFORMANCE OF F&B (SALES GROWTH)



Cafes, Food Courts &  
Other Eating Places  
**+9.0%**



Fast Food Outlets  
**+8.4%**






Restaurants  
**-0.2%**



Food Caterers  
**-33.3%**

## INFORMATION & COMMUNICATIONS

| SEGMENTS   | Nominal<br>Value<br>Added<br>Share (%) | Real<br>Growth<br>(%) |
|--|--|-----------------------|
|  Telecommunications           | 15.9                                   | -1.0                  |
|  IT & Information<br>Services | 64.0                                   | 11.7                  |
|  Others                       | 20.0                                   | 28.5                  |

## FINANCE &amp; INSURANCE

| SEGMENTS                                   | Nominal Value Added Share (%) | Real Growth (%) |
|--|-------------------------------|-----------------|
| Banking                                    | 39.6                          | 3.5             |
| Activities Auxiliary to Financial Services | 20.4                          | 7.5             |
| Fund Management                            | 11.7                          | 14.5            |
| Insurance                                  | 19.5                          | 12.4            |
| Others                                     | 8.7                           | 6.4             |

## REAL ESTATE

## PRIVATE RESIDENTIAL



Units Transacted Growth  
**+60.5%**



Price Index Growth  
**+10.6%**

COMMERCIAL AND INDUSTRIAL  
(RENTAL INDEX GROWTH)

Commercial Office Space  
**+1.9%**



Commercial Retail Space  
**-6.8%**



Industrial Space Rental  
**+2.0%**

## OTHER SERVICES INDUSTRIES

| SEGMENTS                         | Nominal Value Added Share (%) | Real Growth (%) |
|----------------------------------|-------------------------------|-----------------|
| Public Administration & Defence  | 26.8                          | 3.6             |
| Education, Health & Social Work  | 55.0                          | 5.9             |
| Arts, Entertainment & Recreation | 6.9                           | 8.3             |
| Others                           | 11.3                          | 4.5             |

## PROFESSIONAL SERVICES

| SEGMENTS  | Nominal Value Added Share (%) | Real Growth (%) |
|---|-------------------------------|-----------------|
| Legal   | 8.3                           | 2.1             |
| Accounting  | 6.5                           | 5.2             |
| Head Offices & Business Representative Offices            | 33.2                          | -1.6            |
| Business & Management Consultancy                         | 9.8                           | 3.4             |
| Architectural & Engineering, Technical Testing & Analysis | 24.9                          | 10.6            |
| Other Professional, Scientific & Technical Services       | 17.4                          | 9.1             |

## ADMINISTRATIVE &amp; SUPPORT SERVICES

| SEGMENTS                                | Nominal Value Added Share (%) | Real Growth (%) |
|---|-------------------------------|-----------------|
| Rental & Leasing                        | 54.5                          | -7.0            |
| Other Administrative & Support Services | 45.5                          | 0.4             |



# MANUFACTURING

## OVERVIEW

The manufacturing sector expanded by 15.5 per cent year-on-year in the fourth quarter of 2021, faster than the 7.9 per cent growth clocked in the preceding quarter. Growth in the sector was supported by output expansions across all clusters.

For the whole of 2021, the manufacturing sector grew by 13.2 per cent, extending the 7.5 per cent growth in 2020. All clusters recorded output growth.

## OVERALL MANUFACTURING PERFORMANCE

Manufacturing output increased by 15.5 per cent year-on-year in the fourth quarter of 2021 on account of output expansions across all clusters (Exhibit 6.1).

For the whole of 2021, the manufacturing sector expanded by 13.2 per cent, extending the 7.5 per cent growth in 2020. The strong performance of the sector was driven by output growth across all clusters (Exhibit 6.2).

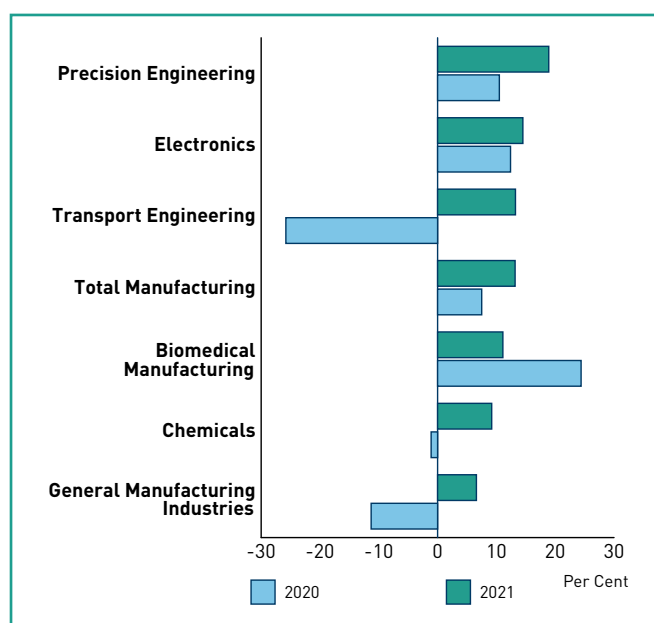
**Exhibit 6.1: Manufacturing Growth Rates**



## PERFORMANCE OF CLUSTERS

The biomedical manufacturing cluster grew robustly by 52.1 per cent year-on-year in the fourth quarter of 2021. Growth was driven by the pharmaceuticals segment, which saw its output surge by 87.4 per cent on account of a different mix of active pharmaceutical ingredients (APIs) produced and a higher level of biological products produced. On the other hand, output in the medical technology segment declined by 6.5 per cent as export demand for medical devices fell from the high base in the fourth quarter of 2020. For 2021 as a whole, output in the biomedical manufacturing cluster increased by 11.1 per cent, supported by growth in both segments.

**Exhibit 6.2: Manufacturing Clusters' Growth**



Output in the transport engineering cluster rose by 36.0 per cent year-on-year in the fourth quarter on account of expansions in the marine & offshore engineering (M&OE) and aerospace segments. In particular, the M&OE segment expanded by 52.8 per cent from a low base in the fourth quarter of 2020, supported by a higher level of work done in shipbuilding & repairing activities. Likewise, output in the aerospace segment grew by 43.2 per cent as demand for maintenance, repair & overhaul activities rose due to the loosening of global travel restrictions in the fourth quarter of 2021 compared to that in the same quarter of 2020. By contrast, the land transport segment contracted by 13.8 per cent from the high base in the fourth quarter of 2020, due to a lower level of output of parts and accessories for motor vehicles. For the whole of 2021, the transport engineering cluster expanded by 13.2 per cent, bolstered by output expansions in all segments.

The precision engineering cluster grew by 12.9 per cent year-on-year in the fourth quarter. Growth in the cluster was bolstered by the machinery & systems segment, which saw its output rise by 23.3 per cent on account of a higher level of production of semiconductor equipment and process control equipment. On the other hand, output in the precision modules & components segment declined by 7.4 per cent, weighed down by a fall in the production of optical products. For the full year, the precision engineering cluster expanded by 18.9 per cent, driven by output expansions in both segments.

The chemicals cluster posted growth of 7.9 per cent year-on-year in the fourth quarter, supported by output growth in all segments except for the other chemicals segment. The petroleum and petrochemicals segment expanded by 16.0 per cent and 14.0 per cent respectively, with the former recording growth from a low base caused by plant maintenance shutdowns and soft exports demand amidst the COVID-19 outbreak a year ago. Likewise, output in the specialty chemicals segment rose by 2.0 per cent on the back of an increase in the output of industrial gases. Conversely, the other chemicals segment contracted by 1.0 per cent, weighed down by a lower level of output of fragrances. For 2021 as a whole, the chemicals cluster grew by 9.2 per cent, supported by output expansions in all segments.

The general manufacturing cluster expanded by 5.4 per cent year-on-year in the fourth quarter. Growth was supported by the miscellaneous industries segment, which grew by 18.0 per cent on account of an increase in the production of construction-related materials, jewellery and wearing apparel. By contrast, the printing and food, beverages & tobacco segments recorded output declines of 6.1 per cent and 0.6 per cent respectively, with the latter weighed down by a fall in the output of milk products due to weaker export demand. For the whole of 2021, the general manufacturing cluster grew by 6.6 per cent.

Growth in the electronics cluster came in at 4.0 per cent year-on-year in the fourth quarter, supported by output expansions across all segments. The infocomms & consumer electronics, other electronic modules & components, computer peripherals & data storage and semiconductors segments expanded by 27.4 per cent, 12.4 per cent, 11.2 per cent and 1.8 per cent respectively. In particular, the semiconductors segment continued to be supported by robust demand for semiconductors from the 5G markets. For 2021 as a whole, the electronics cluster grew by 14.5 per cent on account of the strong demand for semiconductors amidst the global shortage of semiconductors.



# CONSTRUCTION

## OVERVIEW

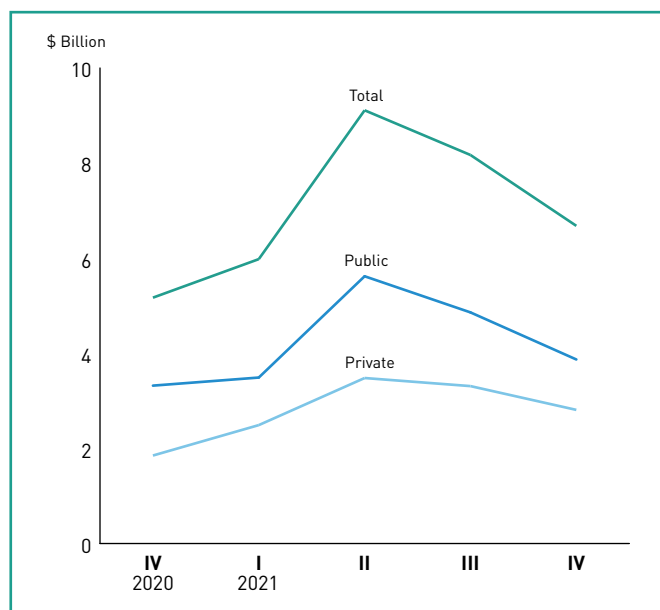
The construction sector grew by 2.9 per cent year-on-year in the fourth quarter of 2021, slower than the 69.9 per cent expansion recorded in the previous quarter.<sup>1</sup>

For the whole of 2021, the sector grew by 20.1 per cent, a sharp reversal from the 38.4 per cent contraction in 2020.

## CONSTRUCTION DEMAND

Construction demand (contracts awarded) increased by 29.1 per cent year-on-year to \$6.7 billion in the fourth quarter, supported by expansions in both public and private sector construction demand (Exhibit 6.3).

**Exhibit 6.3: Contracts Awarded**



For the full year, total construction demand rose by 42.2 per cent to \$29.9 billion (Exhibit 6.4), driven by public residential and infrastructural projects as well as private commercial, industrial and residential projects.

**Exhibit 6.4: Contracts Awarded, 2021 (\$ Billion)**

|                                   | Total | Public | Private |
|-----------------------------------|-------|--------|---------|
| <b>Total</b>                      | 29.9  | 17.8   | 12.1    |
| <b>Residential</b>                | 9.2   | 5.3    | 3.9     |
| <b>Commercial</b>                 | 2.8   | 0.1    | 2.7     |
| <b>Industrial</b>                 | 5.0   | 0.9    | 4.1     |
| <b>Institutional &amp; Others</b> | 3.4   | 2.3    | 1.0     |
| <b>Civil Engineering Works</b>    | 9.6   | 9.2    | 0.5     |

## Public Sector

In the fourth quarter, public sector construction demand grew by 16.6 per cent year-on-year to \$3.9 billion. This could be attributed to higher demand for public civil engineering (87.3 per cent) and commercial building (118 per cent) works. These increases were partially offset by declines in contracts awarded for public residential building (-23.6 per cent), institutional & others building (-40.5 per cent) and industrial building (-18.4 per cent) works.

<sup>1</sup> The strong growth of the construction sector in the third quarter of 2021 was mainly due to low base effects given the slow resumption of construction activities after the Circuit Breaker in 2020.

For the full year, public sector construction demand increased by 46.6 per cent to \$17.8 billion. The expansion was due to a rise in contracts awarded for public civil engineering (95.5 per cent) and residential building (103 per cent) works. Some of the major projects awarded during the year include (i) LTA's MRT contracts for the Cross Island Line and the Jurong Region Line, as well as its Integrated Transport Hub; (ii) NEA's Integrated Waste Management Facility (IWWMF) (Package 2); and (iii) PUB's contracts for the Deep Tunnel Sewerage System (DTSS) (Phase 2).

## Private Sector

Private sector construction demand increased by 51.5 per cent year-on-year to \$2.8 billion in the fourth quarter, supported by higher demand for private industrial building (115 per cent) and residential building (27.6 per cent) works. These increases were moderated by declines in contracts awarded for private civil engineering (-79.2 per cent), commercial building (-22.1 per cent) and institutional & others building (-25.5 per cent) works.

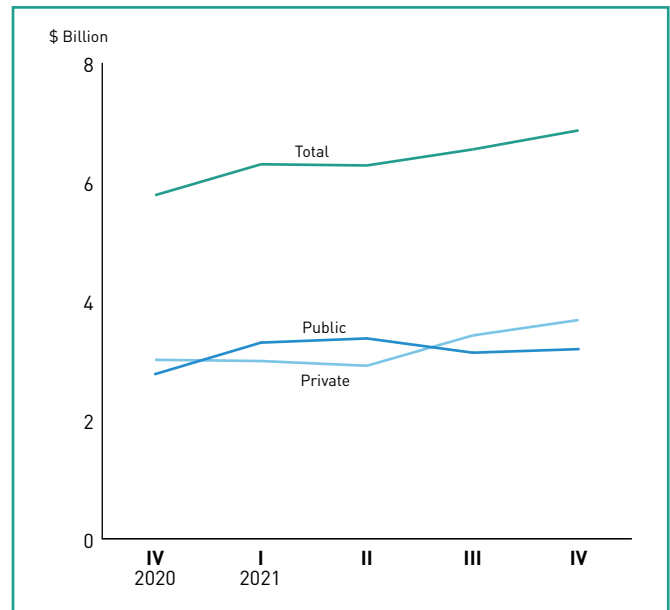
For the full year, private sector construction demand grew by 36.3 per cent to \$12.1 billion, on the back of higher demand for private commercial building (114 per cent), industrial building (50.9 per cent) and residential building (38.2 per cent) projects. Major projects awarded in 2021 include (i) commercial building developments at Hoe Chiang Road and Beach Road; (ii) industrial building developments for GlobalFoundries and Siltronic; and (iii) integrated developments such as Pasir Ris 8 and Canninghill Piers.

## CONSTRUCTION ACTIVITIES

Construction output (or certified payments) rose by 18.9 per cent year-on-year to \$6.9 billion in the fourth quarter, backed by expansions in both public and private sector construction output (Exhibit 6.5).

For the full year, construction output increased by 31.7 per cent to \$26.0 billion, a significant turnaround from the 30.2 per cent contraction in 2020 when most construction activities were suspended during the Circuit Breaker period.

**Exhibit 6.5: Certified Payments**



## Public Sector

Public sector construction output rose by 15.1 per cent year-on-year to \$3.2 billion in the fourth quarter. With the exception of public residential building works, construction output for all types of works expanded, driven by public civil engineering (20.0 per cent) and industrial building (47.8 per cent) works.

For the full year, public sector construction output increased by 28.5 per cent to \$13.0 billion, driven by expansions in public civil engineering (36.0 per cent) and residential building (34.1 per cent) works. Major projects supporting public sector construction output include (i) LTA's East Coast Integrated Depot, Thomson-East Coast MRT Line, Circle MRT Line 6 and Rapid Transit System (RTS) Link; (ii) MOH's Woodlands Health Campus; (iii) JTC's business park development at the Punggol Digital District; (iv) ICA's New Annex Building; and (iv) PUB's DTSS (Phase 2).

## Private Sector

In the fourth quarter, private sector construction output grew by 22.4 per cent year-on-year to \$3.7 billion, as all types of construction works expanded, including private industrial building (18.7 per cent) and residential building (24.2 per cent) works.

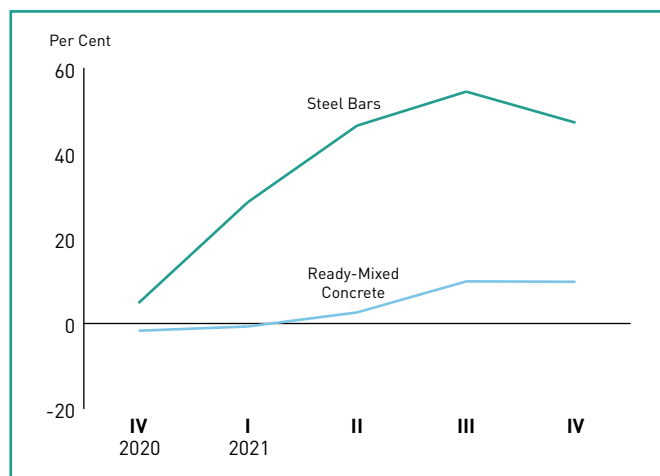
For the full year, private sector construction output increased by 35.1 per cent to \$13.0 billion. All types of construction output rose, led by private industrial building (29.5 per cent) and residential building (42.6 per cent) works. Major ongoing projects which contributed to private sector construction output include (i) redevelopments of past en-bloc sales sites, chemical and refining facilities at Jurong Island; (ii) semiconductor fabrication facilities; (iii) data centres; (iv) Changi Airport Terminal 2 expansion; and (v) island-wide cable installation projects.

## CONSTRUCTION MATERIALS

In tandem with the pickup in construction output, total consumption of ready-mixed concrete rose by 58.9 per cent to 11.6 million m<sup>3</sup> in 2021. Similarly, the total consumption of steel rebars<sup>2</sup> grew by 7.1 per cent to 0.9 million tonnes in 2021.

The average market price of Grade 40 pump ready-mixed concrete<sup>3</sup> increased by 9.8 per cent year-on-year to about \$104 per m<sup>3</sup> in the fourth quarter of 2021 (Exhibit 6.6). Likewise, the average market price of steel rebar<sup>4</sup> rose by 47.2 per cent year-on-year to around \$1,110 per tonne in the fourth quarter, due to the higher costs of raw materials and tighter supply of steel in the global market.

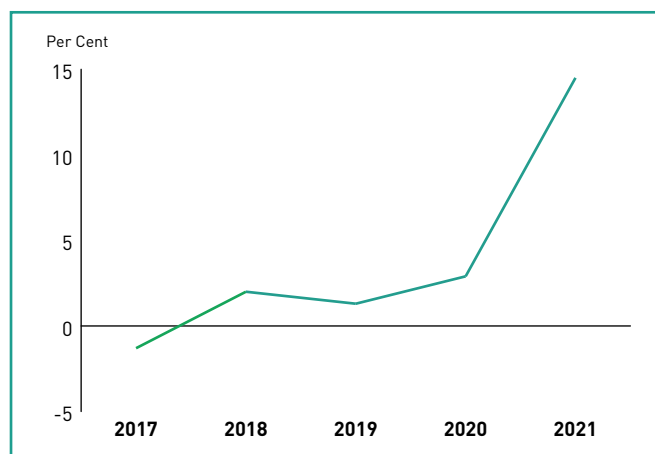
**Exhibit 6.6: Changes in Market Prices of Construction Materials**



## CONSTRUCTION COSTS

Based on BCA's Building Works Tender Price Index (TPI), tender prices in the construction sector rose by 14.5 per cent in 2021, mainly due to significant increases in the cost of manpower and key construction materials (Exhibit 6.7). Tender prices are likely to stay elevated in the first half of 2022, on the back of manpower and material cost inflation amidst continued disruptions caused by the COVID-19 pandemic.

**Exhibit 6.7: Changes in Tender Price Index**



<sup>2</sup> Rebar consumption is estimated from net imports plus local production (without factoring in stock levels).

<sup>3</sup> The market prices are based on contracts with non-fixed price, fixed price and market retail price.

<sup>4</sup> The market prices refer to 16mm to 32mm High Tensile rebar and are based on fixed price supply contracts with a contract period of 12 months or below.

## CONSTRUCTION OUTLOOK IN 2022

According to BCA, total construction demand is projected to be between \$27.0 billion and \$32.0 billion in 2022 (Exhibit 6.8). In particular, demand from the public sector is expected to stay firm at between \$16.0 billion and \$19.0 billion, with strong demand especially for public housing and major infrastructural projects. Meanwhile, total private sector construction demand is projected to be between \$11.0 billion and \$13.0 billion in 2022. This demand is expected to be supported by (i) the redevelopment of some previously transacted en-bloc sales sites; (ii) the Central Business District (CBD) Incentive Scheme on conversion to residences; (iii) commercial redevelopments such as hotel refurbishments; and (iv) construction of high-specification industrial buildings.

Total construction output in 2022 is projected to increase to between \$29.0 billion and \$32.0 billion, supported by a steady level of construction demand and the backlog of construction works disrupted by the COVID-19 pandemic since 2020.

Exhibit 6.8: Projected Construction Demand in 2022

|  | \$ Billion         |
|--|--------------------|
| <b>Public Sector</b>                     | <b>16.0 – 19.0</b> |
| <b>Building Construction Sub-total</b>   | <b>8.0 – 9.3</b>   |
| Residential                              | 4.8 – 5.1          |
| Commercial                               | 0.1 – 0.1          |
| Industrial                               | 0.6 – 1.0          |
| Institutional & Others                   | 2.5 – 3.1          |
| <b>Civil Engineering Works Sub-total</b> | <b>8.0 – 9.7</b>   |
| <b>Private Sector</b>                    | <b>11.0 – 13.0</b> |
| <b>Building Construction Sub-total</b>   | <b>10.4 – 12.2</b> |
| Residential                              | 3.5 – 4.0          |
| Commercial                               | 2.6 – 3.1          |
| Industrial                               | 3.5 – 4.1          |
| Institutional & Others                   | 0.8 – 1.0          |
| <b>Civil Engineering Works Sub-total</b> | <b>0.6 – 0.8</b>   |
| <b>TOTAL CONSTRUCTION DEMAND</b>         | <b>27.0 – 32.0</b> |

# WHOLESALE TRADE

## OVERVIEW

The wholesale trade sector expanded by 3.3 per cent year-on-year in the fourth quarter of 2021, moderating from the 5.5 per cent growth recorded in the previous quarter. Growth came largely on the back of an increase in the foreign wholesale sales of telecommunications & computers and electronic components.

For the whole of 2021, the sector grew by 3.9 per cent, a reversal from the 1.7 per cent contraction in 2020.

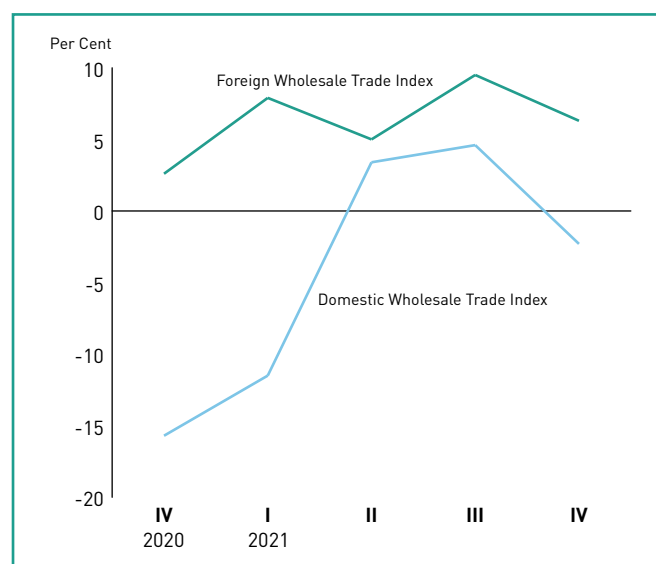
## WHOLESALE SALES

In the fourth quarter, the wholesale trade sector was supported by an increase in foreign wholesale sales volume, which outweighed a decline in domestic wholesale sales volume.

Specifically, foreign wholesale sales volume rose by 6.3 per cent year-on-year in the fourth quarter, moderating from the 9.5 per cent increase in the preceding quarter (Exhibit 6.9). Growth was largely due to an increase in the sales volumes of petroleum & petroleum-related products (8.0 per cent), other wholesale trade<sup>5</sup> (7.6 per cent) and telecommunications & computers (8.4 per cent), which outweighed a decline in the sales volume of metals, timber & construction materials (-0.9 per cent). For the whole of 2021, the foreign wholesale trade index expanded by 7.2 per cent, extending the 2.0 per cent increase in the previous year.

Meanwhile, domestic wholesale sales volume fell by 2.3 per cent year-on-year in the fourth quarter, a reversal from the 4.6 per cent growth in the preceding quarter. The decline was led by weaker sales volumes in segments such as petroleum & petroleum-related products (-12.9 per cent), electronic components (-7.0 per cent) and general wholesale trade (-8.4 per cent), which outweighed an increase in the sales volumes of telecommunications & computers (12.1 per cent) and other wholesale trade (7.7 per cent). For the whole of 2021, the domestic wholesale trade index fell by 1.9 per cent, easing from the decline of 12.1 per cent recorded in 2020.

**Exhibit 6.9: Changes in Wholesale Trade Index in Chained Volume Terms**



<sup>5</sup> The "other wholesale trade" segment consists of a diverse range of products that include agricultural raw materials and live animals, tropical produce, personal effects and medicinal and pharmaceutical products, among others.



# RETAIL TRADE

## OVERVIEW

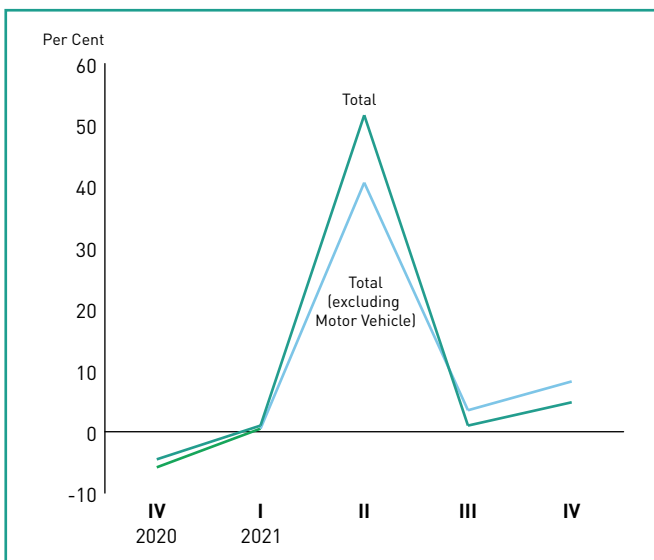
The retail trade sector grew by 4.3 per cent year-on-year in the fourth quarter of 2021, improving from the 0.9 per cent growth in the previous quarter.

For the whole of 2021, the sector expanded by 10.2 per cent, a turnaround from the 18.5 per cent contraction in 2020.

## RETAIL SALES

Overall retail sales volume increased by 4.8 per cent year-on-year in the fourth quarter, faster than the 1.0 per cent growth in the third quarter (Exhibit 6.10). Retail sales were supported by an increase in non-motor vehicle sales volume (8.2 per cent), which saw broad-based growth across segments. In particular, the sales volumes of watches & jewellery (27.0 per cent), computer & telecommunications equipment (20.9 per cent), wearing apparel & footwear (18.4 per cent) and cosmetics, toiletries & medical goods (14.0 per cent) registered the strongest growth. On the other hand, the sales volumes of optical goods & books (-10.7 per cent), mini-marts & convenience stores (-6.0 per cent) and petrol service stations (-5.9 per cent) registered the largest declines. Meanwhile, motor vehicle sales volume decreased by 16.2 per cent due to a decline in COE quotas.

**Exhibit 6.10: Changes in Retail Sales Index in Chained Volume Terms**

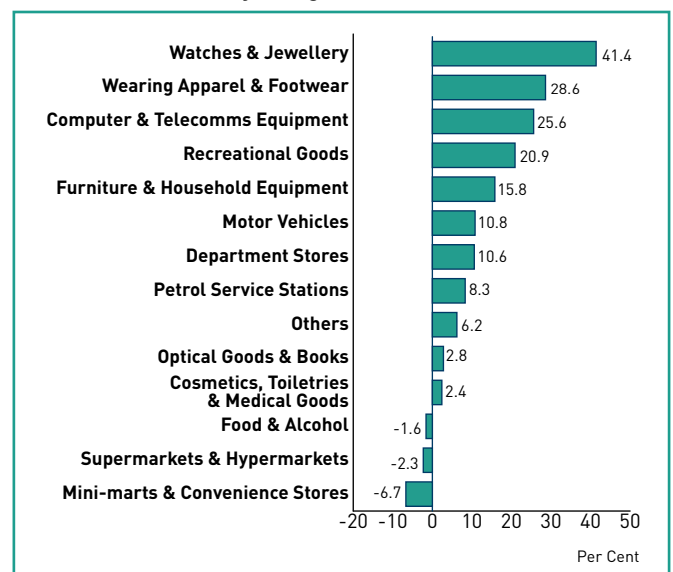


For the full year, overall retail sales volume rose by 10.7 per cent, sharply reversing the 15.8 per cent decline in 2020. Compared to 2019 (pre-pandemic), overall retail sales volume in 2021 remained 6.8 per cent lower.

During the year, both motor vehicle (10.8 per cent) and non-motor vehicle (10.8 per cent) sales volumes rose from their low bases in 2020.

The growth in non-motor vehicle sales volume was led by the sales of watches & jewellery (41.4 per cent), wearing apparel & footwear (28.6 per cent) and computer & telecommunications equipment (25.6 per cent). Meanwhile, the sales volumes of mini-marts & convenience stores (-6.7 per cent) and supermarkets & hypermarkets (-2.3 per cent) saw declines due to their higher bases in 2020 (Exhibit 6.11).

**Exhibit 6.11: Changes in Retail Sales Index in Chained Volume Terms for Major Segments in 2021**



# TRANSPORTATION & STORAGE

## OVERVIEW

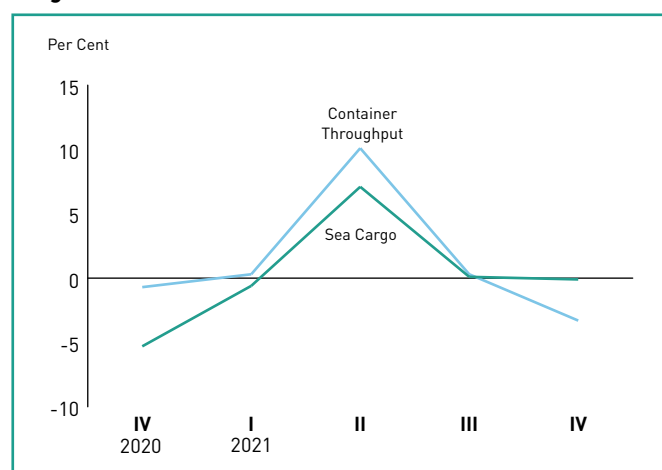
The transportation & storage sector expanded by 7.5 per cent year-on-year in the fourth quarter of 2021, extending the 9.2 per cent growth achieved in the previous quarter.

For the whole of 2021, the sector expanded by 5.0 per cent, a reversal from the 20.1 per cent contraction recorded in 2020. The expansion of the sector was supported largely by the air transport, land transport and water transport segments.

## WATER TRANSPORT

Container throughput fell by 3.3 per cent year-on-year in the fourth quarter, reversing the 0.3 per cent expansion in the previous quarter (Exhibit 6.12). For the full year, the number of TEUs (Twenty-Foot Equivalent Units) handled by Singapore's ports came in at 37.5 million, 1.6 per cent higher compared to 2020. This was a reversal from the 0.9 per cent contraction recorded in 2020.

**Exhibit 6.12: Changes in Container Throughput and Sea Cargo Handled**



Overall sea cargo volume declined by 0.1 per cent in the fourth quarter, reversing from the 0.1 per cent growth in the preceding quarter. The fall in sea cargo volume was largely due to general cargo shipments, which declined by 1.6 per cent in the fourth quarter, a reversal from the 1.1 per cent growth registered in the third quarter.

For the whole of 2021, overall sea cargo volume rose by 1.5 per cent, rebounding from the 5.7 per cent decline in the previous year.

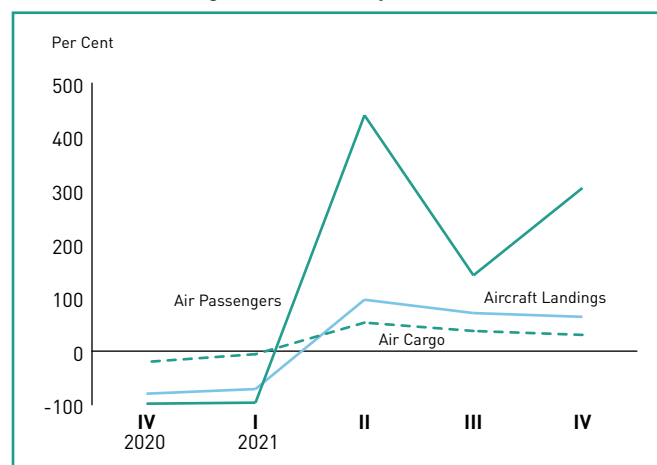
## AIR TRANSPORT

Total air passenger traffic (less transit) handled by Changi Airport surged by 304 per cent year-on-year in the fourth quarter, extending the 141 per cent growth in the previous quarter (Exhibit 6.13). Nonetheless, in absolute terms, the air passenger traffic volume was only at 8.3 per cent of the volume seen in the fourth quarter of 2019 (pre-pandemic).

For the full year, total air passenger traffic passing through Changi Airport declined by 74.0 per cent to come in at 3.0 million, moderating from the 82.8 per cent plunge seen in 2020. Air passenger traffic volumes across Singapore's routes with all major regions around the world saw declines.

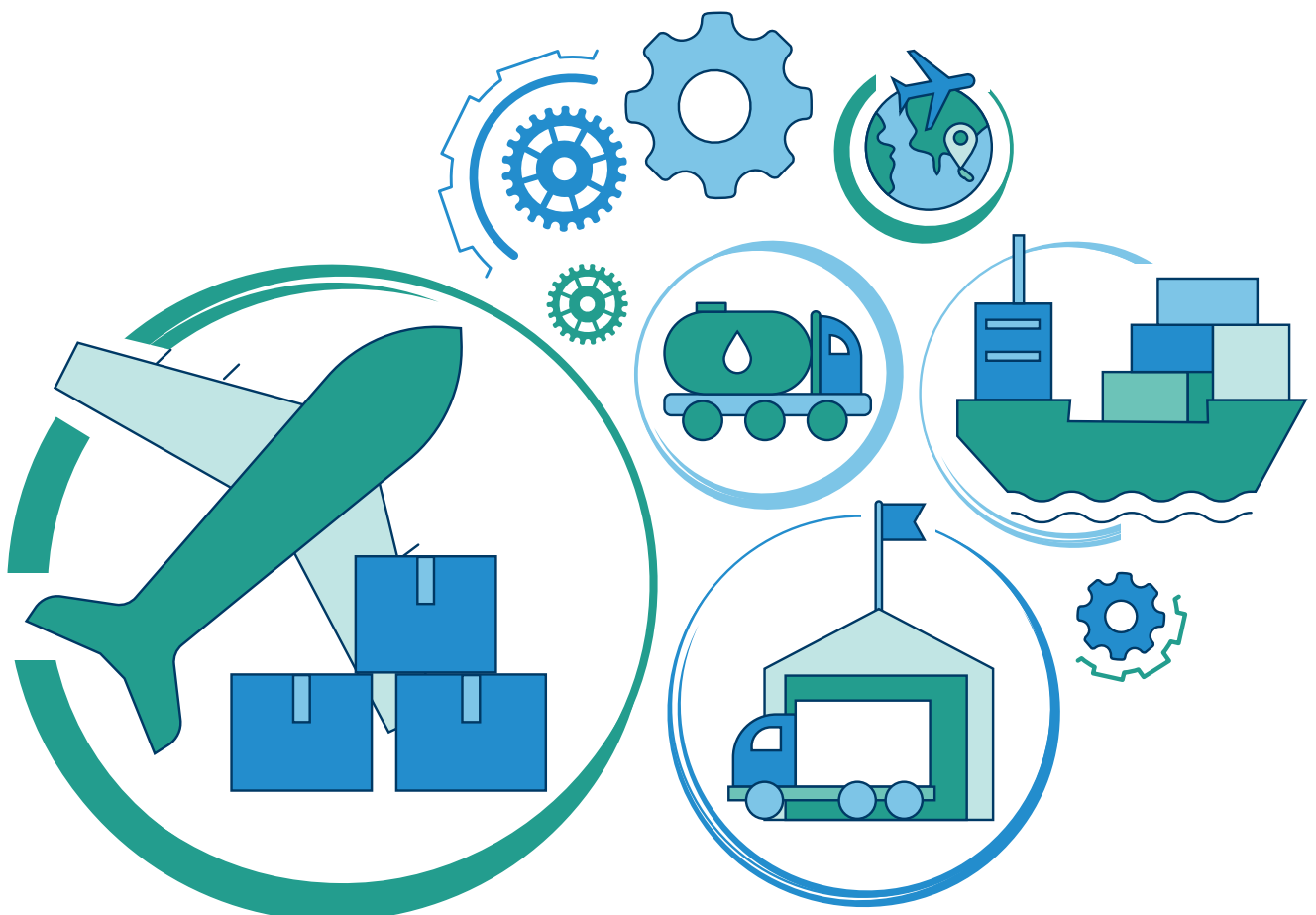
At the same time, air cargo volume grew by 30.3 per cent year-on-year in the fourth quarter, extending the 37.6 per cent expansion in the previous quarter. In absolute terms, total air cargo volume was 4.1 per cent higher than that

**Exhibit 6.13: Changes in Air Transport**



in the fourth quarter of 2019. For 2021 as a whole, air cargo shipments rose by 26.1 per cent, rebounding from the 23.3 per cent contraction in 2020.

Meanwhile, aircraft landings climbed by 64.0 per cent on-year to reach 16,372 in the fourth quarter, following the 71.0 per cent increase in the third quarter. This brought the total number of aircraft landings in 2021 to 54,387, which was 13.3 per cent lower compared to 2020.



# ACCOMMODATION

## OVERVIEW

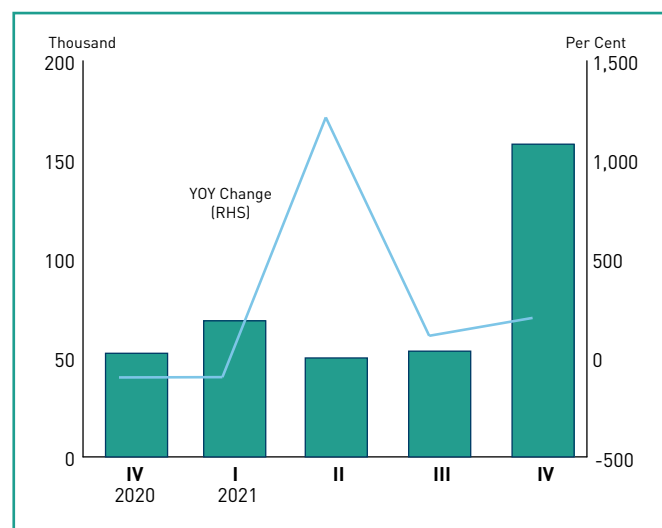
The accommodation sector contracted by 5.1 per cent year-on-year in the fourth quarter of 2021, extending the 5.7 per cent contraction in the previous quarter.

For the whole of 2021, the sector expanded by 1.7 per cent, a reversal from the 13.9 per cent contraction in 2020.

## VISITOR ARRIVALS

Singapore received around 158,000 visitors in the fourth quarter, 202 per cent higher compared to the same period a year ago (Exhibit 6.14). The increase in visitor arrivals was due to a combination of an expansion of Vaccinated Travel Lane (VTL) arrangements in November and December, as well as the low base in the fourth quarter of 2020. Relative to the same period in 2019, visitor arrivals remained 96.7 per cent lower.

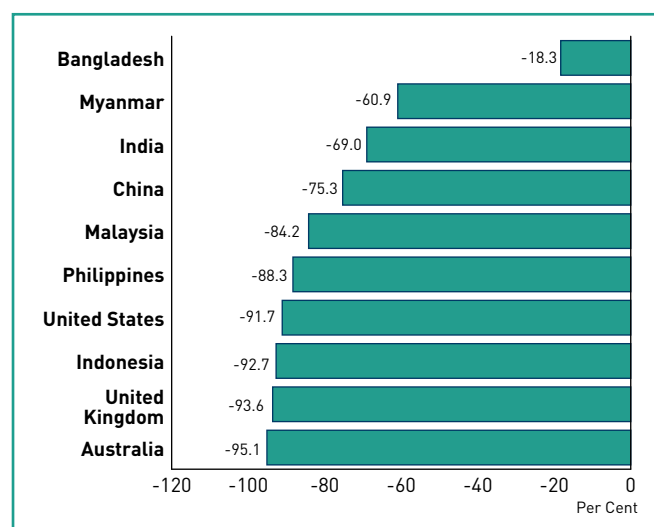
**Exhibit 6.14: Visitor Arrivals**



For the full year, visitor arrivals fell by 88.0 per cent, extending the 85.7 per cent decline recorded in 2020. The drop compared to a year ago was largely due to the 2.7 million visitor arrivals registered in the first quarter of 2020, before major border restrictions were implemented.<sup>6</sup> In total, visitor arrivals reached 330,000 in 2021, with 40.6 per cent of them coming to Singapore in the last two months of the year.

In terms of source markets, Singapore's top five visitor-generating markets in 2021 were China (88,000 visitors), India (54,000 visitors), Indonesia (33,000 visitors), Malaysia (24,000 visitors) and Bangladesh (18,000 visitors). Together, they accounted for 66.1 per cent of total visitor arrivals in 2021.

**Exhibit 6.15: Growth Rates of Top Ten Visitor Generating Markets in 2021**



<sup>6</sup> Singapore prohibited all short-term visitors from entering or transiting through Singapore on 24 March 2020.



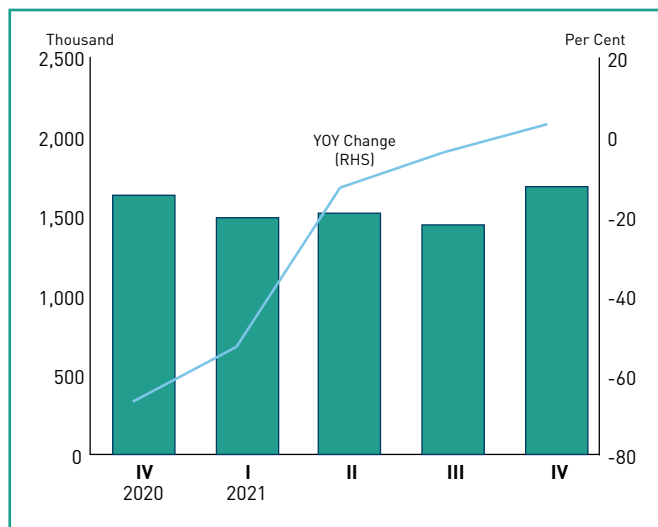
Among the top 10 visitor-generating markets, Bangladesh (-18.3 per cent), Myanmar (-60.9 per cent) and India (-69.0 per cent) posted the smallest contractions in visitor arrivals in 2021 (Exhibit 6.15).

## ACCOMMODATION

In tandem with the growth in visitor arrivals, gross lettings of gazetted hotel rooms increased by 3.3 per cent year-on-year in the fourth quarter, a reversal from the 3.8 per cent decline in the previous quarter (Exhibit 6.16). Similarly, room revenue grew by 20.8 per cent year-on-year, extending the 31.5 per cent increase in the preceding quarter. Higher room revenue was accompanied by a rise in both the average occupancy rate of gazetted hotels and the average daily room rate. Specifically, the average occupancy rate rose by 12.6 percentage-points to 70.9 per cent, while the average daily room rate increased by 15.6 per cent to \$187 in the fourth quarter.

For 2021 as a whole, the performance of the accommodation sector was weak, weighed down by global and domestic travel restrictions that led to a sharp drop in visitor arrivals. The overall room revenue of gazetted hotels fell by 21.0 per cent to reach \$979 million in 2021, driven by a 23.5 per cent decline in gross lettings, which was only partially offset by a 2.9 per cent increase in the average daily room rate.

**Exhibit 6.16: Gross Lettings**



# FOOD & BEVERAGE SERVICES

## OVERVIEW

The food & beverage services sector shrank by 1.5 per cent year-on-year in the fourth quarter of 2021, extending the 4.1 per cent contraction in the previous quarter.

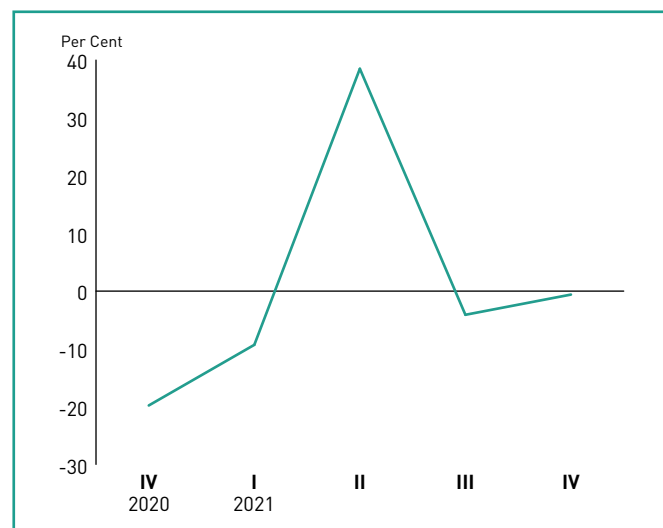
For the whole of 2021, the sector grew by 3.0 per cent, a turnaround from the 28.6 per cent contraction in 2020.

## FOOD & BEVERAGE SALES

Overall food & beverage sales volume fell by 0.6 per cent year-on-year in the fourth quarter, easing from the 4.1 per cent decline in the preceding quarter (Exhibit 6.17). The decline in sales volume came on the back of tighter restrictions under the Stabilisation Phase, compared to restrictions under Phase 2 of the re-opening of the economy in the fourth quarter of 2020<sup>7</sup>, to contain the spread of COVID-19. This resulted in a decline in the sales volume of restaurants (-6.4 per cent). On the other hand, segments such as fast food outlets (1.1 per cent) and cafes, food courts & other eating places (2.8 per cent) saw modest increases in sales volumes. The food caterers segment (41.5 per cent) saw strong growth due to low base effects and a nascent recovery in weddings and MICE events. Relative to the same period in 2019, the sale volume in the food caterers segment remained 64.9 per cent lower.

For the whole of 2021, the food & beverage services index grew by 2.5 per cent. This was a reversal of the 26.1 per cent decline recorded in 2020. However, the food & beverage sales volume continued to be weighed down by weak demand caused by the COVID-19 pandemic and attendant public health measures implemented to contain the pandemic (e.g., border restrictions, Phase 2 (Heightened Alert), safe distancing measures and capacity constraints). As such, compared to 2019, overall food & beverage sales volumes remained 24.3 per cent lower in 2021. At the segment level, the sales volumes of restaurants (-0.2 per cent) and food caterers (-33.3 per cent) declined, while that of fast food outlets (8.4 per cent) and cafes, food courts & other eating places (9.0 per cent) rose in 2021.

**Exhibit 6.17: Changes in Food and Beverage Services Index in Chained Volume Terms**



<sup>7</sup> For instance, from 1 October to 9 November 2021, dine-in group sizes were restricted to no more than two vaccinated persons. By contrast, during Phase 2 of the re-opening of the economy in 2020, dine-in group sizes were restricted to no more than five people, regardless of vaccination status.

# INFORMATION & COMMUNICATIONS

## OVERVIEW

The information & communications sector expanded by 11.2 per cent year-on-year in the fourth quarter of 2021, extending the 13.9 per cent growth in the previous quarter. The positive outturn was largely due to the IT & information services and “others” segments<sup>8</sup>, while the telecommunications segment saw more modest growth.

For the whole of 2021, the sector grew by 12.2 per cent, accelerating from the 8.4 per cent expansion in 2020.

## IT & INFORMATION SERVICES

In 2021, the growth of the information & communications sector was led by the IT & information services segment. Specifically, the segment expanded by 11.7 per cent, driven by strong enterprise demand for services such as web hosting and web portal.

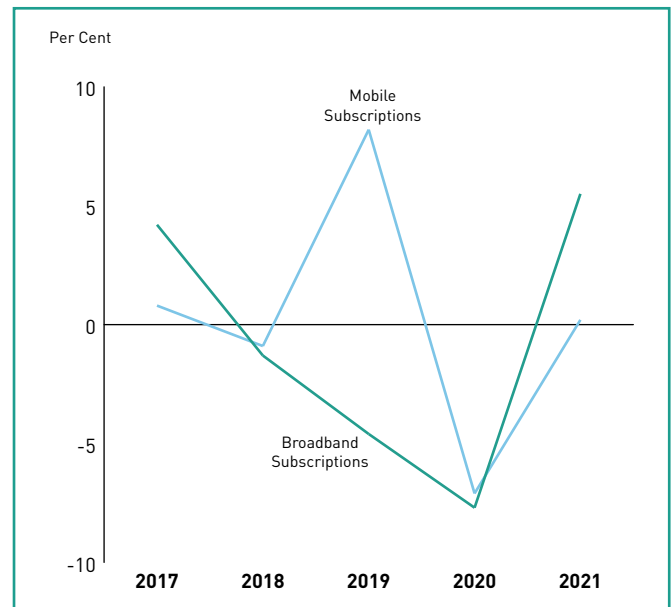
## TELECOMMUNICATIONS

The telecommunications segment shrank by 1.0 per cent in 2021, weighed down mainly by weaker demand for mobile and fixed line services. For instance, the total number of outgoing retail international telephone call minutes (including transit minutes) over the January to June 2021 period fell by 7.8 per cent compared to the same period a year ago.

As at September 2021<sup>9</sup>, the number of mobile subscriptions grew slightly by 0.2 per cent compared to the same period in 2020 (Exhibit 6.18). However, there was a fall in the number of prepaid subscriptions, with the total number of prepaid 3G and 4G subscriptions falling by 8.9 per cent to reach around 2.0 million in September 2021. This was offset by an increase in postpaid subscriptions, with the number of postpaid 4G subscriptions rising by 5.2 per cent to around 6.5 million.

In 2021, the number of broadband subscriptions rose by 5.5 per cent. The increase was broad-based, led by a 6.3 per cent increase in wireless broadband subscriptions, including more mobile data and Wireless@SG subscriptions<sup>10</sup>. The exception was the number of resident wired broadband connections, which declined slightly by 0.3 per cent.

Exhibit 6.18: Information & Communications Growth



<sup>8</sup> The “others” segment consists of (i) publishing activities (including computer games and software publishing), (ii) motion picture, video and other programme production, sound recording, and music publishing activities, and (iii) radio and television broadcasting activities.

<sup>9</sup> Full-year data are not available at the time of publication. October and November data are available but subject to further revisions.

<sup>10</sup> The number of Wireless@SG subscriptions in a month includes only active users for the month.

# FINANCE & INSURANCE

## OVERVIEW

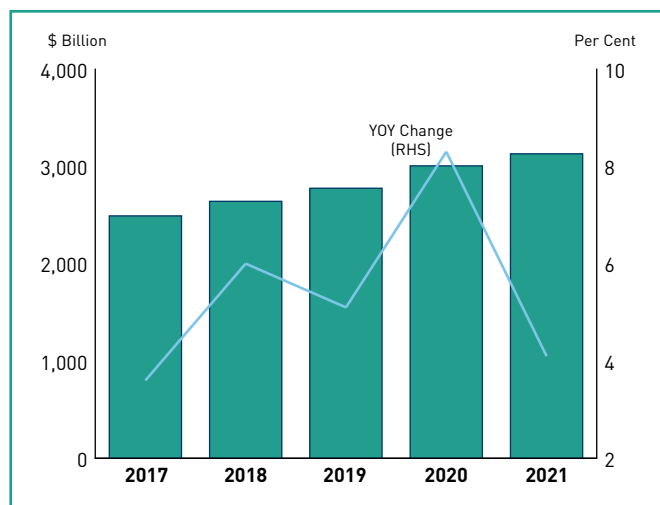
The finance & insurance sector grew by 5.6 per cent year-on-year in the fourth quarter of 2021, moderating from the 8.5 per cent expansion in the previous quarter.

For the whole of 2021, the sector expanded by 7.4 per cent, faster than the 6.9 per cent growth achieved in the preceding year.

## COMMERCIAL BANKS

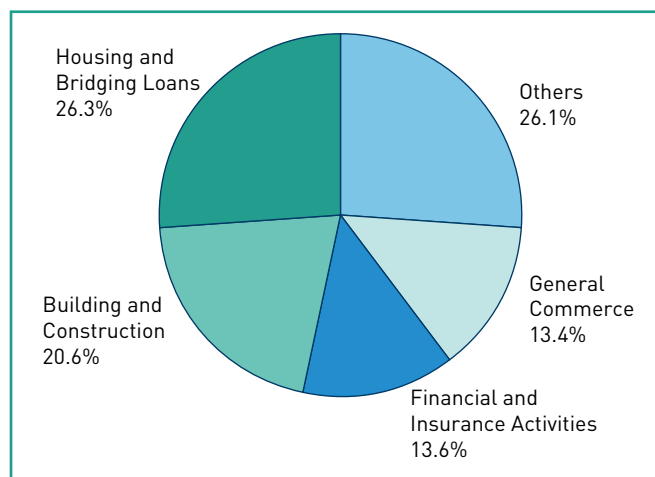
In 2021, total assets/liabilities of commercial banks increased by 4.1 per cent to \$3.1 trillion (Exhibit 6.19).

**Exhibit 6.19: Total Assets and Liabilities of Commercial Banks**

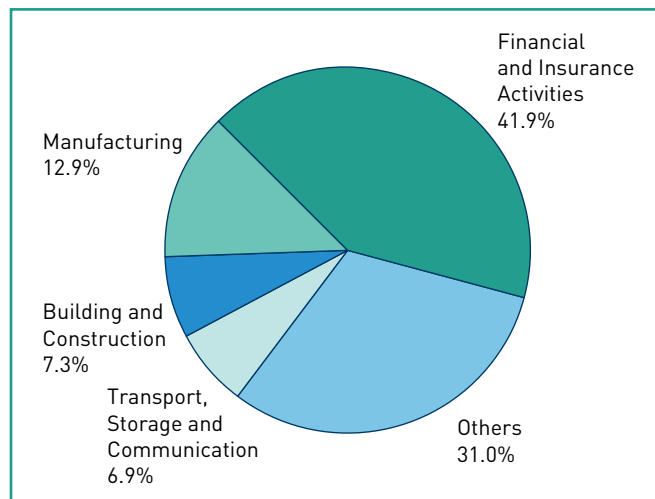


The expansion in the total assets/liabilities of commercial banks was driven by robust lending to both residents and non-residents in the non-bank segments. The former was largely supported by housing & bridging and building & construction loans (Exhibit 6.20), while the latter was buttressed by loans for financial & insurance and manufacturing activities (Exhibit 6.21).

**Exhibit 6.20: Loans and Advances to Residents by Industry in 2021**



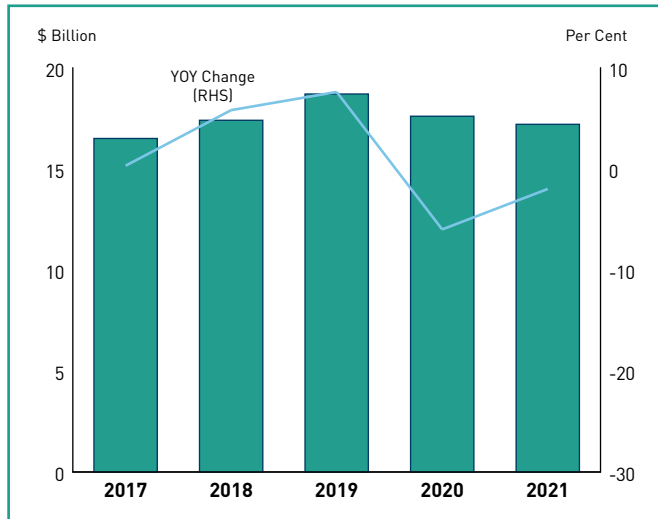
**Exhibit 6.21: Loans and Advances to Non-Residents by Industry in 2021**



## FINANCE COMPANIES

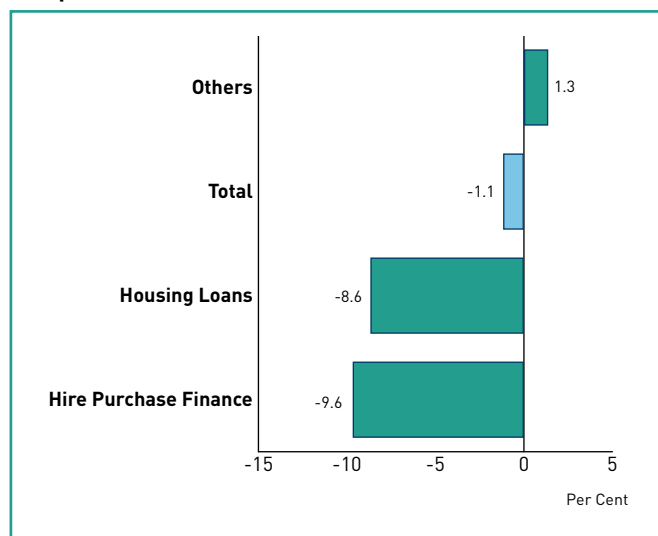
The total assets/liabilities of finance companies contracted by 2.0 per cent in 2021 to \$17.2 billion, a smaller decline compared to the 6.0 per cent contraction in 2020 (Exhibit 6.22).

**Exhibit 6.22: Total Assets and Liabilities of Finance Companies**



Non-bank lending fell by 1.1 per cent in 2021, following the 4.3 per cent contraction recorded in 2020, as the hire purchase and housing segments remained sluggish (Exhibit 6.23). Meanwhile, deposits of non-bank customers fell by 2.7 per cent in 2021, extending the 8.1 per cent decline in the preceding year.

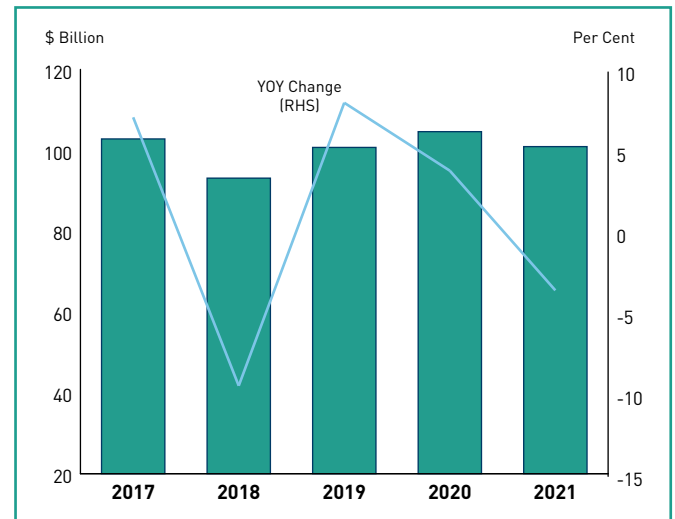
**Exhibit 6.23: Growth of Loans and Advances of Finance Companies in 2021**



## MERCHANT BANKS

The total assets/liabilities of merchant banks fell by 3.5 per cent to \$101 billion in 2021, a reversal from the 3.9 per cent growth in the previous year (Exhibit 6.24). The contraction stemmed from a decline in interbank lending, which was partially offset by steady growth in loans and advances to non-bank customers.

**Exhibit 6.24: Total Assets and Liabilities of Merchant Banks**



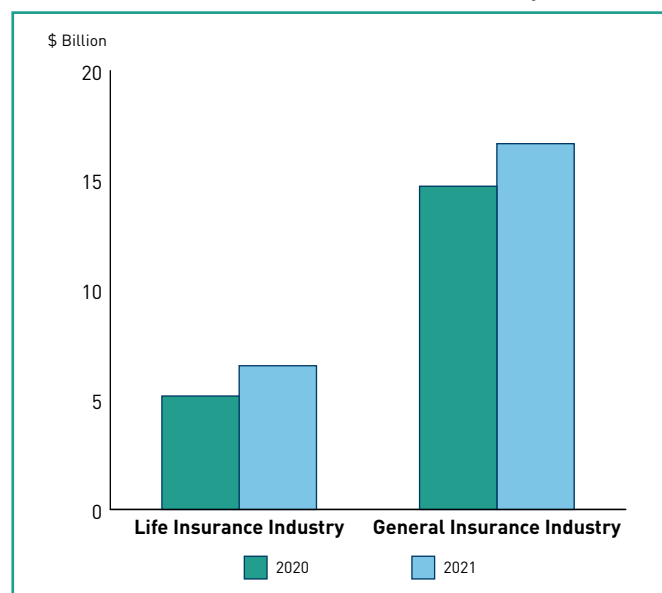


## INSURANCE INDUSTRY

Total weighted new business premiums in the direct life insurance industry increased by 26.7 per cent to \$6.5 billion in 2021 (Exhibit 6.25)<sup>11</sup>. Single premium business expanded by 39.8 per cent to \$26.0 billion and regular premium business increased by 19.3 per cent to \$3.9 billion. However, the net income of the direct life insurance industry decreased by 23.5 per cent to \$1.6 billion in 2021, dragged down by lower investment income.

In the general insurance industry, gross premiums increased by 13.2 per cent to \$16.7 billion in 2021, with offshore and domestic businesses accounting for \$12.0 billion and \$4.7 billion respectively. The general insurance industry recorded an operating profit of \$1.2 billion in 2021, largely due to improved underwriting activity.

**Exhibit 6.25: Premiums in the Insurance Industry**

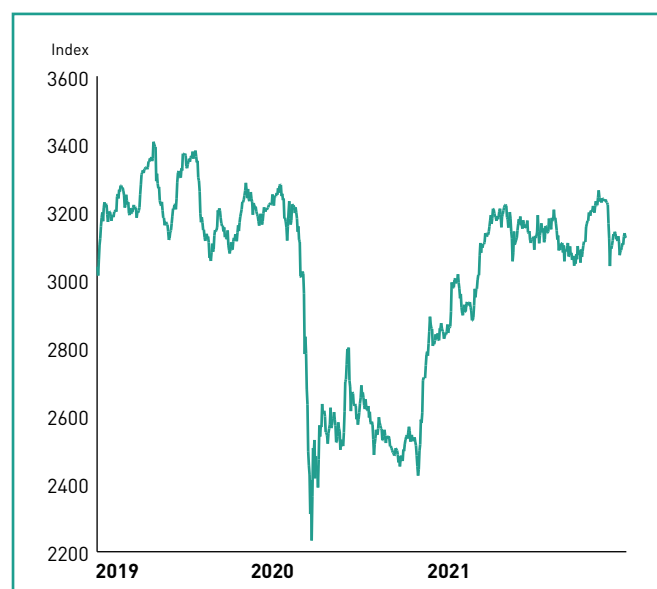


## STOCK MARKET

The benchmark Straits Times Index (STI) rose by 9.8 per cent in 2021, a rebound from the 11.8 per cent decline in 2020 (Exhibit 6.26). The market rallied in the first half of the year, underpinned by positive sentiments for banks, semiconductors, energy and trade-oriented industries on the back of firm external demand, while domestic consumer-facing industries also saw some recovery as COVID-19 restrictions were progressively eased.

In the second half of the year, the growth momentum moderated as the emergence of the Delta and Omicron variants, and their attendant restrictions, dampened activity in the domestic consumer-facing sectors. Nonetheless, market sentiment was generally buoyant in 2021, aided by swift vaccine rollouts and accommodative policy settings by major central banks globally.

**Exhibit 6.26: Straits Times Index**



<sup>11</sup> The premiums for the direct life insurance industry refer to total weighted new business premiums, while that for the general insurance industry refer to gross premiums.

## SECURITIES MARKET

In 2021, the total turnover value of the securities market decreased by 8.2 per cent to \$329 billion, while the total turnover volume increased by 8.2 per cent to 478 billion shares, compared with 2020. These translated to an 8.5 per cent decline in the average daily traded value to \$1.3 billion, while the average daily traded volume increased by 7.8 per cent to 1.9 billion shares.

At the end of 2021, the total number of listed companies in Singapore was 673, with a combined market capitalisation of \$897 billion, a 4.0 per cent increase from 2020. In 2021, there were 456 companies listed on SGX's Mainboard while the remaining 217 companies were listed on SGX's Catalist.

## DERIVATIVES MARKET

In 2021, SGX's derivatives market activity decreased by 6.2 per cent to 232 million contracts. Compared to 2020, total futures trading volume fell by 5.2 per cent to 223 million, while options on futures trading volume decreased by 25.2 per cent to 9.3 million contracts. The most actively traded contracts were the FTSE China A50 Index Futures, the Nikkei 225 Stock Index and the CNX Nifty Futures, which formed 59.0 per cent of the total volume traded on SGX's derivatives trading platform.

## FOREIGN EXCHANGE MARKET

In 2021, the Euro, Japanese Yen and British Pound weakened against the US Dollar, by 6.9 per cent, 11.4 per cent and 1.0 per cent, respectively. The US Dollar initially strengthened year-on-year in the first quarter of 2021 as investors expected a robust rebound in growth compared to a year ago given the progress in vaccine deployment, as well as the prospects of further fiscal stimulus in the US. However, the Federal Reserve (the "Fed") Chairman Powell's dovish speeches and reiteration of "transitory inflation" tempered expectations of policy rate increases and blunted the rise in the US Dollar in the second quarter of 2021. Nevertheless, with inflation rates surprising on the upside, alongside a hawkish pivot in the Fed's rhetoric at its June 2021 meeting where the Federal Open Market Committee (FOMC) participants pencilled in more policy rate hikes than expected, the US Dollar resumed its upward trek in the second half of 2021. Relative to the Euro and the Japanese Yen, the Pound was also supported towards the end of 2021 by an increase in the Bank of England's policy rate as inflation rose to its highest level in 30 years.

# REAL ESTATE & PROFESSIONAL SERVICES

## OVERVIEW

The real estate sector expanded by 1.6 per cent year-on-year in the fourth quarter of 2021, slowing from the 19.9 per cent growth in the previous quarter. For the whole of 2021, the sector grew by 10.7 per cent, a turnaround from the 13.7 per cent contraction recorded in 2020.

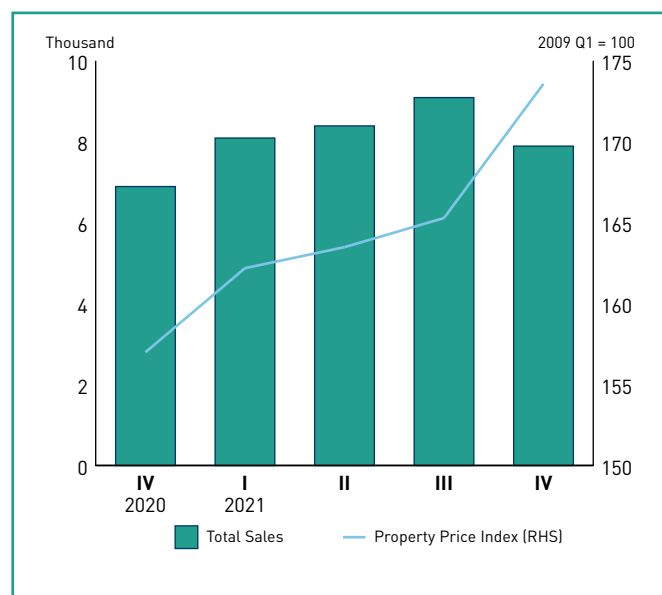
The professional services sector expanded by 4.9 per cent year-on-year in the fourth quarter of 2021, extending the 5.9 per cent growth in the previous quarter. For 2021 as a whole, the sector grew by 4.4 per cent, a reversal from the 8.0 per cent contraction in 2020.

## REAL ESTATE

The private residential property market remained resilient in the fourth quarter. On a quarter-on-quarter basis, private residential property prices rose by 5.0 per cent, faster than the 1.1 per cent increase in the preceding quarter. For the whole of 2021, prices climbed by 10.6 per cent, compared to the increase of 2.2 per cent seen in 2020.

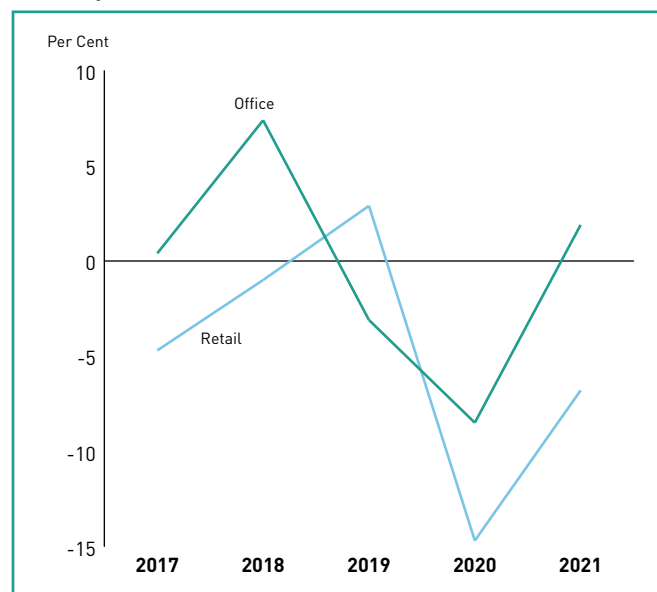
Alongside the rise in prices, private residential property sales volume increased in the fourth quarter. Specifically, total private residential property sales grew by 14.4 per cent year-on-year during the quarter, following the 28.9 per cent increase in the previous quarter. For the full year, total sales rose by 60.5 per cent to 33,557 units, from the 20,909 units sold in 2020 (Exhibit 6.27).

**Exhibit 6.27: Total Sales of Private Residential Units and Private Residential Property Price Index**



In the commercial space segment, the performance of the retail space market worsened in 2021. Specifically, private retail space rental fell by 6.8 per cent in 2021, extending the 14.7 per cent decline in the previous year (Exhibit 6.28). The weak rental performance was due to lower rentals in the Central Area (-7.2 per cent) and Fringe Area (-4.8 per cent). Similarly, the prices of private retail space declined by 4.2 per cent in 2021, extending the 4.5 per cent fall recorded in 2020. While prices in the Central Area dropped by 7.3 per cent, prices in the Fringe Area rose by 5.4 per cent.

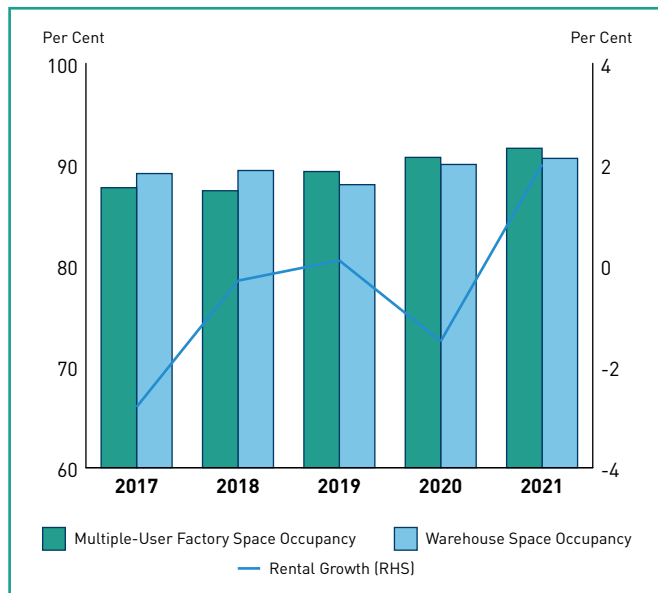
**Exhibit 6.28: Changes in Rentals of Private Sector Office and Retail Spaces**



The performance of the office space market was mixed in 2021. Office rental rose by 1.9 per cent, reversing the 8.5 per cent decline recorded in the previous year, on account of higher rentals in the Central Area (1.2 per cent) and Fringe Area (3.1 per cent). However, prices in the office space market fell by 5.8 per cent in 2021, albeit moderating from the 10.7 per cent decline posted in 2020.

In the industrial space market, overall rental rose by 2.0 per cent in 2021, a reversal from the 1.5 per cent decline seen in the previous year (Exhibit 6.29). Rentals of all types of industrial property space except for business parks (i.e., single-use factories, multiple-user factories and warehouses) increased in 2021. Meanwhile, overall industrial property prices grew by 4.4 per cent in 2021, turning around from the 2.7 per cent decline in 2020.

**Exhibit 6.29: Occupancy Rate and Rental Growth of Industrial Space**



## PROFESSIONAL SERVICES

In 2021, the professional services sector expanded, with all segments registering growth except for the head offices & business representative offices segment. Growth in the sector was largely driven by the architectural & engineering, technical testing & analysis segment, as well as the other professional, scientific & technical services segment, which expanded by 10.6 per cent and 9.1 per cent respectively.







CHAPTER

**07**

# ECONOMIC OUTLOOK

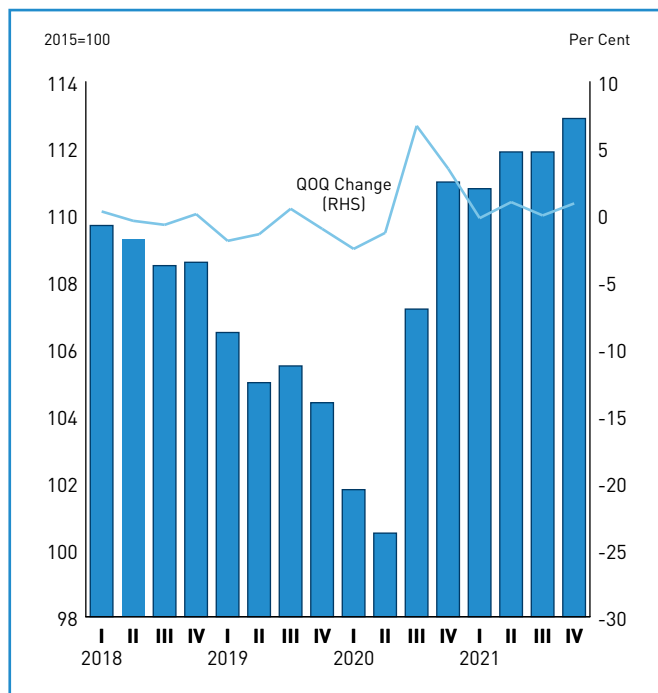
# ECONOMIC OUTLOOK

## LEADING INDICATORS

The composite leading index (CLI) points to a continued recovery in the Singapore economy in the near term. Specifically, the CLI rose by 0.9 per cent on a quarter-on-quarter basis in the fourth quarter of 2021, after remaining flat in the third quarter (Exhibit 7.1).

Of the nine components of the CLI, seven of them increased on a quarter-on-quarter basis, namely wholesale trade, new companies formed, money supply, stock price, non-oil sea cargo handled, non-oil retained imports and domestic liquidity. By contrast, the stock of finished goods was flat, while the US Purchasing Managers' Index declined compared to a quarter ago.

**Exhibit 7.1: Composite Leading Index Levels and Growth Rate**



## OUTLOOK FOR 2022

Since the Economic Survey of Singapore in November 2021, Singapore's external demand outlook has deteriorated slightly as the global surge in COVID-19 cases caused by the spread of the highly-transmissible Omicron variant has led to a tightening of restriction measures in many economies. Meanwhile, global supply bottlenecks remain and are expected to persist throughout the first half of 2022, thereby constraining industrial production and GDP growth in some external economies in the near term. Persistent supply bottlenecks, alongside rising energy prices due to geopolitical tensions, have also exacerbated global inflationary pressures.

Among the key economies, growth in the US economy in 2022 is projected to be slower than earlier expected. While personal consumption expenditure is likely to rise on the back of a sustained recovery in the labour market, a smaller additional fiscal stimulus than previously anticipated, near-term supply disruptions and more aggressive monetary policy tightening amidst elevated inflationary pressures may limit the extent of the increase. In the Eurozone, the Omicron-fuelled surge in COVID-19 cases and reinstatement of targeted restrictions are expected to weigh on economic activity in the near term. Nonetheless, economic growth is expected to pick up over the course of the year as the public health situation improves and production gathers pace in tandem with the gradual easing of supply bottlenecks.

In Asia, China's GDP growth is projected to slow as its COVID-19 measures and property market slowdown continue to dampen consumption and investment growth respectively. Meanwhile, the key Southeast Asian economies of Malaysia, Thailand and Indonesia are expected to grow at a faster pace this year due to a pickup in domestic demand and robust external demand. In particular, continued progress in vaccine deployment in Thailand and Indonesia should support the further easing of restrictions in these economies.

At the same time, downside risks in the global economy have increased. First, the trajectory of the COVID-19 pandemic remains a risk. While vaccination rates and booster rollouts have picked up in many economies, the potential emergence of more virulent strains of the virus continues to pose a risk to the global economic recovery. Second, if global supply disruptions are more protracted than expected due to further COVID-19 outbreaks and logistical or production constraints, global industrial production may be constrained for longer than currently projected. Third, there are significant upside risks to energy prices amidst supply concerns arising from escalating geopolitical tensions involving Russia and Ukraine, and in the Middle East, as well as unpredictable weather conditions. A spike in energy prices would exacerbate inflationary pressures and weigh on global economic growth. Fourth, if monetary policy tightening in the advanced economies is faster than expected, market adjustments could be disorderly and risks to financial stability could intensify. In particular, large capital outflows from regional economies with high dollar-denominated debt levels could lead to tighter financial conditions and derail growth in these economies.

Domestically, our high vaccination rate and steady rollout of booster shots should facilitate further progressive easing of domestic and border restrictions. This will support the recovery of our consumer-facing sectors and alleviate labour shortages in sectors that are reliant on migrant workers. Air travel and visitor arrivals are also expected to improve with the gradual loosening of travel restrictions and expansion of Vaccinated Travel Lanes.

Against this external and domestic backdrop, the Singapore economy is expected to continue to expand this year, although the outlook for the various sectors remains uneven. First, growth prospects for outward-oriented sectors (e.g., manufacturing and wholesale trade) remain strong given the continued global economic recovery. In particular, the manufacturing sector is projected to continue to expand, albeit at a more moderate pace following the strong outturn last year, supported by sustained global demand for semiconductors and semiconductor equipment. At the same time, growth in the information & communications and finance & insurance sectors is expected to remain healthy, driven by strong demand for IT and digital solutions, and credit and payment processing services respectively.

Second, the recovery of the aviation- and tourism-related sectors (e.g., air transport and accommodation) is expected to be slow as recurring COVID-19 outbreaks and potential virus mutations could delay the lifting of travel restrictions globally, and travel demand is also likely to take time to recover. Moreover, the accommodation sector will be weighed down by a projected fall in domestic demand as government demand for hotel rooms to serve as quarantine facilities decreases, and staycation demand drops with the relaxation of travel restrictions. Overall, activity in these sectors is expected to remain below pre-COVID levels even by the end of 2022.

Third, consumer-facing sectors (e.g., retail trade and food & beverage services) are projected to see a gradual recovery over the course of the year as domestic restrictions are progressively eased, and consumer sentiments improve amidst the turnaround in labour market conditions. However, the real value-added of the food & beverage services sector and some tourist-reliant segments of the retail trade sector are not expected to return to pre-COVID levels by end-2022, due in part to the slow recovery in visitor arrivals.

Fourth, activities in the construction and marine & offshore engineering sectors are projected to continue to recover on the back of the progressive easing of border restrictions on the entry of migrant workers from South Asia. Nonetheless, as it will take time to fully address the shortfall in labour required to meet business needs, labour shortages are likely to persist and weigh on the recovery of the sectors. In particular, the output of the construction sector is expected to remain below pre-pandemic levels throughout 2022.

Taking into account the global and domestic economic environment, and barring the materialisation of downside risks in the global economy, the Singapore economy is projected to expand by **“3.0 to 5.0 per cent”** in 2022.









## FEATURE ARTICLE

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IMPACT OF THE JOBS SUPPORT  
SCHEME (JSS) ON LABOUR  
MARKET OUTCOMES



# IMPACT OF THE JOBS SUPPORT SCHEME ON LABOUR MARKET OUTCOMES

## INTRODUCTION

To safeguard the livelihoods of local workers amidst the economic disruptions caused by COVID-19, the Government implemented the Jobs Support Scheme (JSS) which provides wage subsidies to employers to support the retention of local employees.

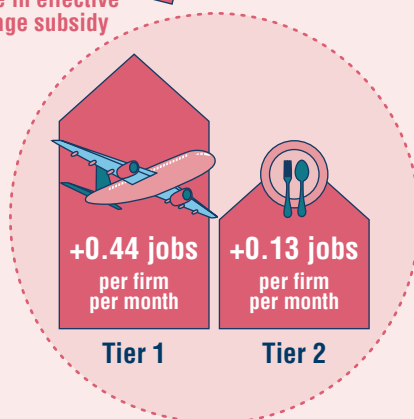


## FINDINGS

### Finding 1:

JSS was effective in helping locals to retain their jobs in sectors that were more severely affected by the pandemic. For every 10 percentage-point (pp) increase in the effective JSS wage subsidy, there was a net increase of 0.44 and 0.13 local jobs saved per firm per month for firms in JSS Tiers 1 and 2 respectively. These estimates translate to a total of 165,000 local jobs preserved over the period of March to December 2020.

For every  
10pp  
increase in effective  
JSS wage subsidy

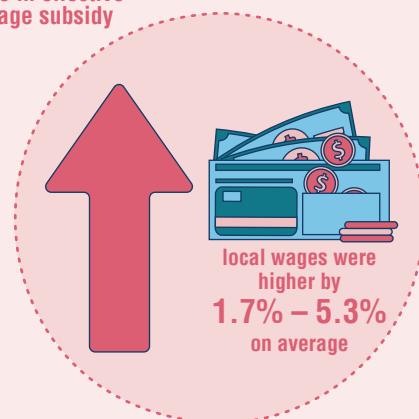


Translates to a total of 165,000 local jobs saved  
over March – December 2020

### Finding 2:

JSS also helped to preserve local workers' wages. For every 10pp increase in the effective JSS wage subsidy, local wages were about 1.7 to 5.3 per cent higher on average, depending on the JSS tier. This translates to higher average monthly wages of about \$70 to \$150 for local workers.

For every  
10pp  
increase in effective  
JSS wage subsidy



## POLICY TAKEAWAY

The findings of our study suggest that the adverse effect of COVID-19 on the livelihood of local workers would have been more severe without the JSS support, especially for workers in sectors that were more badly affected by the pandemic.



## EXECUTIVE SUMMARY

- ▶ To safeguard the livelihoods of local workers amidst the economic disruptions caused by COVID-19, the Government implemented the Jobs Support Scheme (JSS). Under the scheme, wage subsidies were provided to employers to support the retention of local employees. This study evaluates the effectiveness of the JSS in preserving local jobs and wages in 2020.
- ▶ Our findings suggest that the JSS was effective in helping locals to retain their jobs in sectors that were more severely affected by the pandemic. Specifically, for firms in JSS Tiers 1 and 2, we estimate that for every 10 percentage-point (pp) increase in the effective JSS wage subsidy, there was a net increase of 0.44 and 0.13 local jobs saved per firm per month respectively. These estimates translate to a total of 165,000 local jobs preserved over the period of March to December 2020.
- ▶ In addition, we find that the JSS helped to preserve local workers' wages. For every 10pp increase in the effective JSS wage subsidy, local wages were about 1.7 to 5.3 per cent higher on average, depending on the JSS tier. This translates to higher average monthly wages of about \$70 to \$150 for local workers.

*The views expressed in this paper are solely those of the authors and do not necessarily reflect those of the Ministry of Finance (MOF), Ministry of Manpower (MOM) or the Government of Singapore.<sup>1</sup>*

## INTRODUCTION

In the initial stages of the COVID-19 pandemic, governments around the world imposed lockdowns and movement restrictions to contain the spread of the virus. Singapore likewise imposed stringent travel and domestic restrictions, including a "Circuit Breaker"<sup>2</sup> which lasted eight weeks. While these strong public health measures helped to reduce the transmission of the virus and saved lives, they also disrupted domestic economic activity. Coupled with weaker external demand due to the pandemic-induced slowdown in major economies, the Singapore economy saw its deepest downturn on record in 2020.

Amidst the economic downturn and uncertainty, to safeguard the livelihoods of local workers, the Government implemented the Jobs Support Scheme (JSS) which provided wage subsidies to employers to help them retain local employees. JSS support for the various sectors was tiered based on the severity of the impact of COVID-19 on these sectors. Tier 1 sectors, comprising the Aviation, Aerospace and Tourism sectors, were the most badly affected due to global travel restrictions, and hence received the highest JSS support levels (i.e., for the 2020 payout, this amounted to 75 per cent of the first \$4,600 of gross monthly wages<sup>3</sup> paid to each local employee<sup>4</sup>). Tier 2 sectors, comprising the Food Services, Retail Trade, Arts & Entertainment, Land Transport, Marine & Offshore and Built Environment sectors, were adversely affected by safe management measures and weakened consumer sentiments; these sectors received the next highest level of support (i.e., 50 per cent). All other sectors were classified as Tier 3 and received 25 per cent of support.

The JSS scheme was announced in the Unity Budget in February 2020 and enhanced in subsequent rounds of supplementary Budgets to provide extended support to employers and workers due to the protracted nature of the pandemic. In 2020, there were four JSS payouts in total, with employers receiving the first payout in April, followed by payouts in May, July and October. The first JSS payout was based on wages paid to local employees in October to December 2019, prior to the onset of the pandemic and the announcement of the JSS. The subsequent payouts were based on more recent payroll data in 2020, to provide wage support for local employees who were retained.

<sup>1</sup> We would like to thank Ms Yong Yik Wei, Dr Yip Chun Seng, Mr Tan Kok Kong, Ms Jamie Poh and Mr Alphonsus Gomez for their useful suggestions and comments. All errors belong to the authors.

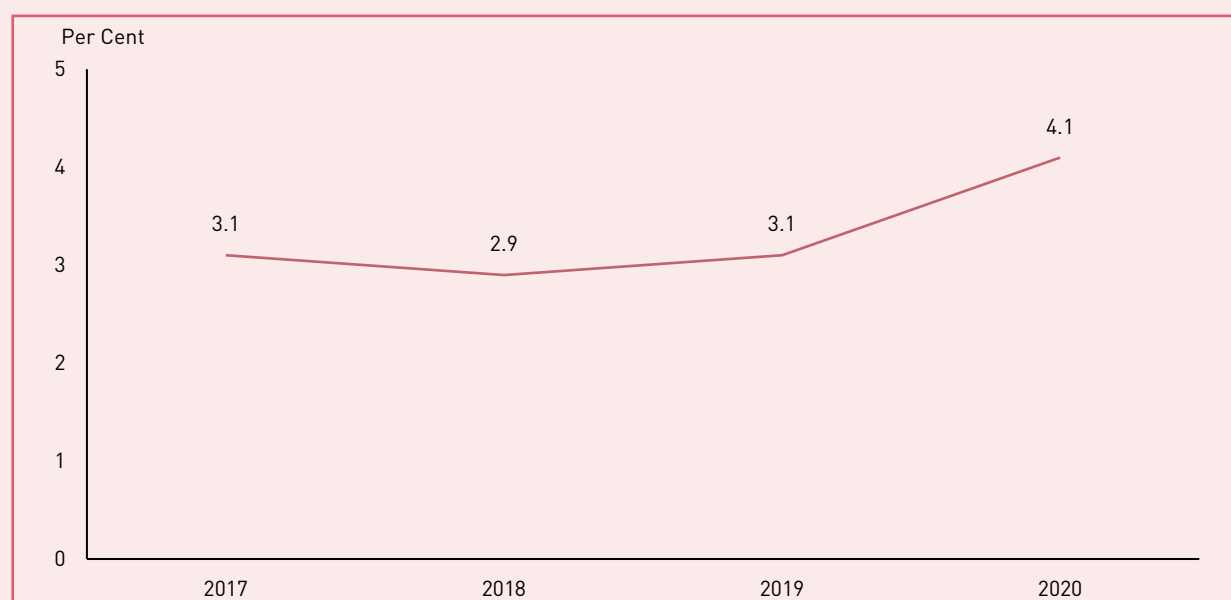
<sup>2</sup> The "Circuit Breaker" was from 7 April 2020 to 1 June 2020. Measures included physical closure of most workplace premises and full home-based learning for schools.

<sup>3</sup> Gross monthly wages include employee's CPF contribution but exclude employer's CPF contribution.

<sup>4</sup> Local employees refer to Singapore Citizens and Permanent Residents.

Notwithstanding the Government's efforts to help local employees retain their jobs, the annual average resident unemployment rate rose from 3.1 per cent in 2019 to 4.1 per cent in 2020 [Exhibit 1]. At the same time, the median gross monthly income from work (including employer's CPF contribution) for full-time employed locals fell by 0.6 per cent in 2020.<sup>5</sup> Nevertheless, the negative impact of the pandemic on local employment and wages could have been even more severe in the absence of the JSS. This study empirically examines the effectiveness of the JSS in preserving the jobs and wages of local workers in 2020.

**Exhibit 1: Annual Average Resident Unemployment Rate, %**



Source: MOM.

## LITERATURE REVIEW

In the initial months of the COVID-19 pandemic, many governments rolled out policies that were aimed at subsidising labour cost to mitigate the impact of the economic shock on employment. For example, the U.S. Congress enacted the Paycheck Protection Program (PPP)<sup>6</sup> to help small businesses to maintain employment and wages during the crisis. The effect of the PPP was examined by Autor et al. (2022), who compared the employment outcomes of PPP-eligible firms with those of PPP-ineligible firms. The researchers found that the PPP preserved between 2 and 3 million job-years<sup>7</sup> of employment over 14 months, at a cost of US\$170,000 to US\$257,000 per job-year retained.

At around the same time, the Australian Government implemented the JobKeeper Payment (JKP)<sup>8</sup> scheme to support businesses and preserve jobs over a 6-month period. Bishop and Day (2020) estimated that the JKP saved at least 700,000 jobs in the first four months by comparing the employment outcomes of Australian residents who were eligible for JKP to those who were not. To approximate the cost per job saved, the authors assumed similar effects in the remaining two months of the scheme and estimated that it cost about A\$100,000 (around US\$69,000)<sup>9</sup> to save each job over the period when the JKP was in place.

In summary, the experiences of the U.S. and Australia suggest that policies aimed at offsetting labour costs were effective in saving jobs during the COVID-19 pandemic.

<sup>5</sup> Data from "Labour Force in Singapore 2020", MOM.

<sup>6</sup> The PPP was structured as loans to small businesses which did not need to be repaid if the businesses were able to meet a specified set of criteria over 24 weeks from the receipt of the loan. This included maintaining their full-time equivalent employment at pre-crisis levels.

<sup>7</sup> One job-year refers to one worker working for one year.

<sup>8</sup> Under the JKP, eligible firms received A\$1,500 per fortnight for every employed Australian resident who had previously worked for at least 12 months. For a firm to qualify, it must have experienced a fall in revenue of at least 30 or 50 per cent, depending on its annual turnover size.

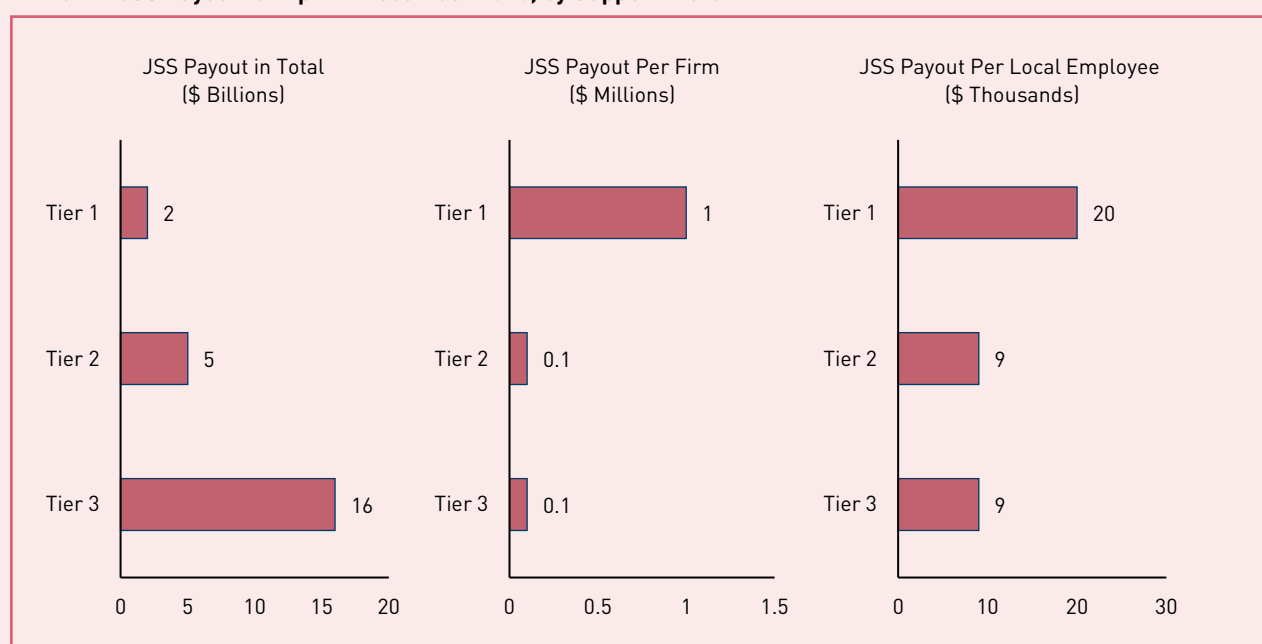
<sup>9</sup> Based on the average market exchange rate in 2020.

## DATA AND SUMMARY STATISTICS

This study utilises administrative data on local employees and foreign work pass holders from the Ministry of Manpower (MOM), as well as JSS payout data from the Inland Revenue Authority of Singapore (IRAS). The datasets cover the period of January 2018 to December 2020.

From April 2020 (first JSS payout) to December 2020, a total of \$22.6 billion of JSS payout was disbursed. In total, Tier 3 firms received the largest share of the JSS payout as they accounted for the largest share of the economy and local employment, compared to firms in the other two tiers.<sup>10</sup> However, on a per firm basis and per local employee basis, Tier 1 firms received a higher JSS payout [Exhibit 2].

**Exhibit 2: JSS Payout for April – December 2020, by Support Tiers**



Source: MOF (2021).

Apart from being affected by the pandemic to varying degrees, the firms in the various JSS tiers also had different characteristics. On average, Tier 1 firms had the largest number of local employees, while Tier 3 firms had the highest share of local workers earning monthly wages of \$4,600 and above, which lowered the JSS payout received as a share of their total local wage bill. By contrast, on average, Tier 2 firms had the lowest share of local workers earning \$4,600 and above, which meant that the JSS payout received as a share of their total local wage bill was closest to the corresponding tier's cap (i.e., 50 per cent for Tier 2 firms) [Exhibit 3].

**Exhibit 3: Firm Characteristics, October – December 2019**

| Firm Characteristics<br>(JSS wage support for the first \$4,600 gross monthly wages of local workers) | Tier 1<br>(75%) | Tier 2<br>(50%) | Tier 3<br>(25%) |
|---|-----------------|-----------------|-----------------|
| Average local employment count  | 62              | 20              | 14              |
| Average share of local workers earning \$4,600 & above  | 18%             | 3%              | 24%             |
| Average JSS receipt as a share of the total local wage bill   | 66%             | 49%             | 21%             |
| Average monthly wage per local worker (\$)  | 3,100           | 1,600           | 3,800           |

Source: Authors' estimates based on administrative data.

<sup>10</sup> Tier 3 firms accounted for more than 75 per cent of Singapore's real value-added and local employment.

## EMPIRICAL METHODOLOGY

To estimate the causal impact of JSS on local employment and wages, we exploit the exogenous variation in the share and wages of local workers who earned above the subsidy cap of \$4,600 prior to the JSS announcement. Specifically, the treatment variable is the JSS wage subsidy received as a share of total local wages (hereby “effective JSS wage subsidy”). To avoid simultaneity bias, the effective JSS wage subsidy was computed using wages reported for the period of October to December 2019, as they would not be influenced by the announcement and implementation of the JSS in 2020.<sup>11</sup> The population of firms in our study are those that employed workers in the period used to construct the treatment variable, including those that subsequently exited.

$$\text{Effective JSS Wage Subsidy for a firm} = \frac{\text{Average monthly JSS receipt based on Oct-Dec 2019 local wages}}{\text{Average monthly total local wages in Oct-Dec 2019}}$$

The variation in the effective JSS wage subsidy across firms stems from differences in the distribution of wages of local workers earning above the \$4,600 salary cap within the firm between October and December 2019. Consider two hypothetical Tier 2 firms, Firm A and B, and assume that each local worker in Firm A earns \$10,000 per month, while that in Firm B earns \$5,000 per month. Given the Tier 2 subsidy rate of 50 per cent of the first \$4,600 in monthly salary for each local worker, Firm A will receive a maximum JSS payout of \$2,300 for each local worker and its effective JSS wage subsidy is 23 per cent (\$2,300/\$10,000). Firm B will also receive \$2,300 for each local worker, but its effective JSS wage subsidy is higher at 46 per cent (\$2,300/\$5,000). This exogenous variation in the treatment variable allows us to compare the impact of the JSS on firms that received a higher effective JSS wage subsidy, with firms that received a lower effective JSS wage subsidy.

Due to differences in firm characteristics and the heterogenous impact of COVID-19 on firms across the different support tiers, regressions are run separately for each JSS support tier. The following fixed effects regression is used:

$$Y_{ijt} = \beta_{0,j} + \beta_{1,j} \text{Effsub\_JSS}_{ijt} \times \text{Trt\_period}_t + \alpha X_{ijt} + \delta_{jt} + \gamma_i + \varepsilon_{ijt}$$

Where:

- $Y_{ijt}$  denotes the outcome of interest (i.e., change in local employment, log local wage) for each firm  $i$  in JSS support tier  $j$  at time  $t$
- $\text{Effsub\_JSS}_{ijt}$  is the effective JSS wage subsidy for each firm, computed based on the firm’s CPF contributions in October – December 2019
- $\text{Trt\_period}_t$  is a dummy variable that takes on a value of 1 for the periods of March – December 2020 and 0 for other periods
- $X_{ijt}$  refers to a vector of firm-level time-varying control variables, including industry-time effects and foreign worker levy waivers and rebates
- $\delta_{jt}, \gamma_i$  refer to time and firm-level fixed effects respectively
- $\varepsilon_{ijt}$  refers to the error term

To isolate the impact of JSS, the regression model takes into account the influence of broader (non-JSS related) macroeconomic trends and other policies implemented over the same period as the JSS. For instance, we control for the effect of foreign worker levy rebates and waivers as these could potentially affect local employment outcomes.

The coefficient of interest is  $\beta_1$ , which measures the average impact of an increase in the effective JSS wage subsidy on firm-level outcomes.

<sup>11</sup> Other treatment variables, including using the exact JSS disbursement amounts, were also considered. The “effective JSS wage subsidy” variable constructed was deemed to be the most appropriate treatment variable that would allow the causal impact of the JSS to be uncovered.



To ensure the robustness of our findings, we conducted further checks. For example, we checked that the regression results were not overly sensitive to the selection of baseline period in the regression by excluding the local wage data for the period of January 2018 to December 2018, and the period of January 2018 to September 2019. In addition, to ensure that our results were not mainly driven by firms that exited, we ran the above fixed effects regression using a sample which included exiting firms. The results from these robustness checks were similar to our main results.

## RESULTS

We find that the JSS was effective in helping locals to retain their jobs in sectors that were more severely affected by the pandemic. Specifically, we estimate that over the period of March to December 2020, every 10 percentage-point (pp) increase in the effective JSS wage subsidy led to a 0.44 and 0.13 net increase in local jobs saved per firm per month for firms in JSS Tiers 1 and 2 respectively [Exhibit 4].

In comparison, the impact of JSS on the net change in local employment in Tier 3 firms was close to zero (and statistically insignificant). This could be because firms in Tier 3 were less adversely affected by COVID-19 and hence more likely to retain their local employees regardless of the quantum of effective JSS wage subsidy received.

The estimated monthly employment impact for firms in JSS Tiers 1 and 2 translates to a total of 165,000 local jobs that were preserved at the aggregate level between March and December 2020 [Exhibit 4]. Taking the total cost of the JSS divided by the total number of local jobs saved, we estimate that the cost per local job saved as a result of the JSS is around \$137,000 (US\$100,000)<sup>12</sup>.

**Exhibit 4: Impact of the JSS on net change in local employment, by JSS support tiers (March – December 2020)**

| JSS Support Tiers | Impact of every 10pp increase in effective JSS wage subsidy on net change in local employment per firm per month (count) | Aggregate impact on net change in local employment over March – December 2020 <sup>^</sup> (count) |
|-------------------|--|--|
| <b>Tier 1</b>     | 0.44*  | 55,000   |
| <b>Tier 2</b>     | 0.13*  | 110,000  |
| <b>Tier 3</b>     | 0.02   | -  |

\* Indicates statistical significance at the 10% level.

<sup>^</sup> To estimate the aggregate impact on net change in local employment over the 10-month period from March to December 2020, for Tiers 1 and 2, we multiply the monthly impact estimated from the regression by the number of firms, average effective JSS wage subsidy and 10 months for each tier respectively.

Source: Authors' estimates based on administrative data.

In response to the economic slowdown, some firms may choose to cut cost by reducing wages rather than shedding workers. However, as the JSS quantum was proportional to the wages paid up to the salary cap, reducing the wages of local workers (those earning less than \$4,600) would also mean lower JSS receipts for the firms. As the amount of cost savings that accrue to the firms would then become correspondingly smaller, the JSS may lower the incentive for firms to reduce wages, thereby helping to preserve local workers' wages.

This is corroborated by our findings on the impact of the JSS on the average wages of locals that were still on the payroll in recipient firms. We estimate that for every 10pp increase in the effective JSS wage subsidy, average local wages were about 1.7 to 5.3 per cent higher, depending on the JSS tier. This translates to higher average monthly wages of about \$70 to \$150 for local workers [Exhibit 5]. The results are driven by larger declines in average local wages among firms that received a lower effective JSS wage subsidy, compared to smaller declines or slight increases in average local wages among firms that received a higher effective JSS wage subsidy.

<sup>12</sup> Based on the average market exchange rate in 2020.

**Exhibit 5: Impact of the JSS on average gross monthly wages of locals, by JSS support tiers (March – December 2020)**

| JSS Support Tiers | Impact of every 10pp increase in effective JSS wage subsidy on average local wages (per cent) | Estimated change in average gross monthly wages of locals (\$) |
|-------------------|---|--|
| <b>Tier 1</b>     | 4.7%***   | \$150  |
| <b>Tier 2</b>     | 5.3%***   | \$80   |
| <b>Tier 3</b>     | 1.7%***   | \$70   |

\*\*\* Indicates statistical significance at the 1% level.

Source: Authors' estimates based on administrative data.

## CONCLUSION

The findings of our study suggest that the JSS was successful in preserving the jobs and wages of local workers during the COVID-19 pandemic. For the period of March to December 2020, the JSS is estimated to have saved about 165,000 local jobs in total, translating to a cost of \$137,000 per job saved. This is broadly comparable to the cost of wage support schemes implemented in the U.S. and Australia during the COVID period.<sup>13</sup> As for wages, we find that for every 10pp increase in the effective JSS wage subsidy, average local wages were about 1.7 to 5.3 per cent higher (which translates to an increase in average gross monthly wages of about \$70 to \$150).

Taken together, our results suggest that the adverse effect of COVID-19 on the livelihood of local workers would have been more severe without the JSS support, especially for workers in sectors that were more badly affected by the pandemic.

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<sup>13</sup> Due to differences in the economic situation, magnitude of impact from the pandemic and scheme design, it is not straightforward to compare the cost-effectiveness of the different programmes implemented by the different countries.

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# FEATURE ARTICLE

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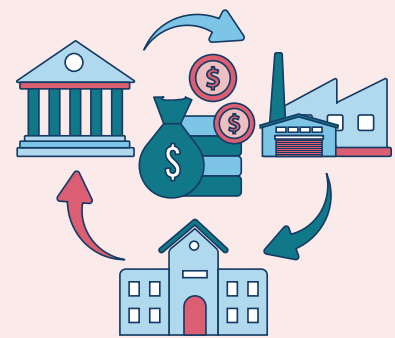
**IMPACT OF ENTERPRISE SINGAPORE'S  
FINANCING SCHEMES DURING  
THE COVID-19 PANDEMIC**



# IMPACT OF ENTERPRISE FINANCING SCHEMES DURING THE COVID-19 PANDEMIC

## INTRODUCTION

To ensure that viable firms, especially small- and medium-sized enterprises (SMEs), retain access to credit during the pandemic, the government expanded risk-sharing arrangements with Participating Financial Institutions to provide working capital loans to eligible firms through the introduction of a Temporary Bridging Loan (TBL) Programme and enhancements of the existing Enterprise Financing Scheme – SME Working Capital Loan (i.e., Enhanced EFS-WCL or EWCL). The TBL was first introduced in Budget 2020 (Unity Budget) for firms in the tourism sector, and later expanded to cover all enterprises under the Resilience Budget in March 2020. Both SMEs and large firms that meet the eligibility criteria can apply for loans under the TBL. Meanwhile, the existing EFS-WCL scheme was enhanced in the Unity Budget before being further enhanced in the Resilience and Solidarity Budgets in March and April 2020 respectively. Unlike the TBL, the EWCL was restricted to SMEs.



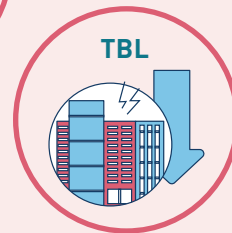
To ensure viable firms, especially SMEs, retain access to credit during the pandemic

## FINDINGS

As the main financing scheme to support firms during the crisis, the TBL had lowered the probability of firm financial distress (i.e., the probability of a firm missing its payment obligations) and helped to support firms' employment. The alleviation of financial distress was seen across firms of all sizes, while the impact on total employment was driven by smaller firms. Meanwhile, the EWCL was found to have no statistically significant impact on the probability of firm financial distress nor firms' total employment at the overall level, although it led to higher total employment for construction firms.



**Positive impact on firms' total employment**



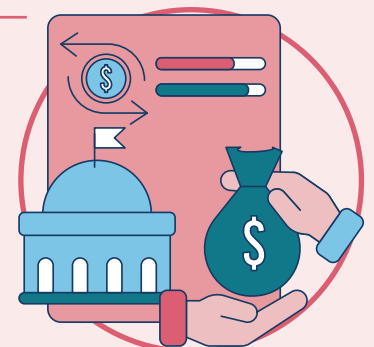
**Reduced the probability of firm financial distress**



**Positive impact on employment for construction firms**

## POLICY TAKEAWAY

Using high-frequency firm-level data, this study finds that the TBL, which is the key financing support scheme during the COVID-19 crisis, had lowered the probability of firm financial distress and helped to support firms' employment. The findings demonstrate the importance of providing immediate financing support to firms for their cashflow needs, especially at the onset of the COVID-19 pandemic.



## EXECUTIVE SUMMARY

- Using a set of monthly firm-level data compiled by various government agencies (e.g., Enterprise Singapore (ESG), Ministry of Manpower (MOM), Central Provident Fund Board (CPFB)), this study examines the impact of ESG's financing schemes (viz., Temporary Bridging Loan (TBL) Programme and Enhanced Enterprise Financing Scheme – SME Working Capital Loan (EWCL)) during the COVID-19 pandemic.
- In the past, such impact analyses would have been carried out with a significant time lag due to the use of annual data on firm-level outcomes that are compiled with a lag. Given the unprecedented scale of the economic fallout from the COVID-19 pandemic and the fast-evolving health situation, a more timely analysis of the impact of the government schemes put in place to help firms and workers tide over the crisis was needed in order to calibrate the government's responses to the pandemic more effectively. As such, this study tapped on high-frequency (monthly) firm-level outcome indicators to provide an assessment of the impact of the financing schemes during the crisis.
- In line with the policy intent, the results of the study showed that a TBL loan of average quantum reduced the probability of firm financial distress (i.e., probability of a firm missing its payment obligations) by 0.05 percentage-point (pp) and had a positive impact on firms' total employment of 0.26 per cent on average. The alleviation of financial distress was seen across firms of all sizes, while the impact on total employment was driven by smaller firms (i.e., firms with no more than 50 employees).
- Given the high-frequency nature of the data used for the study, the estimated impact of the financing schemes should be seen as the short-term impact. Its purpose is to provide a prompt sensing of the schemes' effectiveness during the pandemic. A more comprehensive study to analyse the longer-term benefits and costs of the schemes should be conducted once annual data on firm-level outcomes (e.g., financial information, value-added) are available.

*The views expressed in this paper are solely those of the author and do not necessarily reflect those of the Ministry of Trade and Industry (MTI) or other government agencies.<sup>1</sup>*

## INTRODUCTION

Since the onset of the COVID-19 pandemic, governments around the world have implemented a wide range of measures to mitigate the economic impact of the pandemic. In particular, as demand and revenue plummeted during the pandemic, viable firms with difficulties financing their operations required additional cashflow support. This led many countries to introduce new or enhance existing loan guarantee schemes to sustain bank lending and avoid a credit supply crunch during the pandemic. Under such schemes, governments commit to absorb a portion of the bank's losses on the loans made to firms (i.e., government risk share). This then incentivises banks to provide loans to meet the cashflow needs of firms during the crisis.

In Singapore, to ensure that viable firms, especially small- and medium-sized enterprises (SMEs), retain access to credit during the pandemic, the government expanded risk-sharing arrangements with Participating Financial Institutions to provide working capital loans to eligible firms through the introduction of a Temporary Bridging Loan (TBL) Programme and enhancements of the existing Enterprise Financing Scheme – SME Working Capital Loan (i.e., Enhanced EFS-WCL or EWCL).<sup>2</sup> The TBL was first introduced in Budget 2020 (Unity Budget) for firms in the tourism sector, and later expanded to cover all enterprises under the Resilience Budget in March 2020. Both SMEs and large firms that meet the eligibility criteria can apply for loans under the TBL. Meanwhile, the existing EFS-WCL scheme was enhanced in the Unity Budget before being further enhanced in the Resilience and Solidarity Budgets in March and April 2020 respectively. Unlike the TBL, the EWCL was restricted to SMEs (Exhibit 1).

<sup>1</sup> I would like to thank ESG for their inputs to this study and acknowledge the contributions of Mr Tan Di Song and Mr Kuhan Harichandra to the study. I would also like to thank Ms Yong Yik Wei for her useful suggestions and comments. All errors belong to me.

<sup>2</sup> Two other financing schemes by ESG, the Loan Insurance Scheme and Trade Loan Scheme, were also enhanced in the Resilience Budget. This study does not include these two schemes as they are not targeted specifically at the working capital needs of firms.

**Exhibit 1: Details and Timeline of the Financing Schemes**

|  | Prior to the<br>Unity Budget  | Unity Budget<br>(February 2020)   | Resilience Budget<br>(March 2020)   | Solidarity Budget<br>(April 2020)   | Taper from April<br>2021 onwards  |
|--|---|---|---|---|---|
| <b>Temporary Bridging<br/>Loan Programme</b>   | -   | 80% government<br>risk share;<br>maximum loan<br>quantum of \$1<br>million; only<br>for firms in the<br>tourism sector. | 80% government<br>risk share;<br>maximum loan<br>quantum of \$5<br>million.       | 90% government<br>risk share;<br>maximum loan<br>quantum of \$5<br>million.       | 70% government<br>risk share;<br>maximum loan<br>quantum of \$3<br>million. |
| <b>Enhanced<br/>Enterprise<br/>Financing Scheme<br/>– SME Working<br/>Capital Loan</b> | 50% government<br>risk share;<br>maximum loan<br>quantum of<br>\$300,000. | EWCL: 80%<br>government risk<br>share; maximum<br>loan quantum of<br>\$600,000.   | EWCL: 80%<br>government risk<br>share; maximum<br>loan quantum of<br>\$1 million. | EWCL: 90%<br>government risk<br>share; maximum<br>loan quantum of<br>\$1 million. | 50% government<br>risk share;<br>maximum loan<br>quantum of<br>\$300,000.   |

This study examines the impact of the TBL and EWCL on high-frequency (monthly) firm-level outcomes related to financial distress and employment. Focusing on these outcomes will help to shed light on whether the financing schemes helped to keep firms afloat and save jobs during the COVID-19-induced recession. In the past, such impact evaluations would have been carried out with a significant time lag due to the use of comprehensive annual data on firm-level outcomes that are compiled with a lag. Given the unprecedented scale of the economic fallout from the COVID-19 pandemic and the fast-evolving health situation, a more timely analysis of the impact of the government schemes put in place to help firms and workers tide over the crisis was needed in order to calibrate the government's responses to the pandemic more effectively.<sup>3</sup>

## LITERATURE REVIEW

Empirical studies in other countries on the impact of financing schemes on firm-level outcomes generally found positive results. For instance, Gereben et al. (2019) found that the European Investment Bank's lending schemes had a positive impact on SMEs' employment and revenue, while Brault and Signore (2019) found that the EU's guaranteed loans lowered firms' probability of default. Specific to the COVID-19 pandemic, Gourinchas et al. (2021) found that government policy support (including tax waivers, cash grants and pandemic loans) was successful in reducing the failure rate of SMEs relative to a normal (non-COVID) year, from around 9.0 per cent to 4.3 per cent. Similarly, Chetty et al. (2020) found that loans under the Paycheck Protection Program in the United States increased employment in small businesses by about 2.0 per cent.

In Singapore's context, Ng et al. (2018) found that ESG's loan schemes (specifically the Equipment, Micro and Enhanced Micro loans) had a positive impact on firms' revenue, possibly through helping firms with their working capital needs and thus allowing firms to increase sales.

<sup>3</sup> An example of a high-frequency impact assessment in the economic literature is the study by Chetty et al. (2020), which used high-frequency firm outcomes compiled from credit card processors, payroll firms, job posting aggregators and financial services firms to evaluate some of the US government's policies in response to COVID-19 in real time.

## DATA AND SUMMARY STATISTICS

To conduct the impact analysis, a set of high-frequency monthly firm-level data was assembled. The key firm-level outcome indicators in the dataset include (i) a binary indicator of firm financial distress constructed using data from various sources (see Exhibit 2), which indicates whether a firm was prompt in meeting its payment obligations in a particular month; and (ii) firms' total employment levels based on CPFB and MOM data. The firm financial distress indicator was used as a proxy for default risk in the study given that high-frequency data on more conventional cashflow indicators<sup>4</sup> at the firm level are not available. The high-frequency firm-level outcome indicators were matched to administrative data on the disbursements made to firms under the financing schemes<sup>5</sup> and other government support schemes, including the Jobs Support Scheme (JSS), Foreign Worker Levy Rebate (FWLR) and Wage Credit Scheme (WCS)<sup>6</sup>. The study covers the period from September 2019 to August 2021.

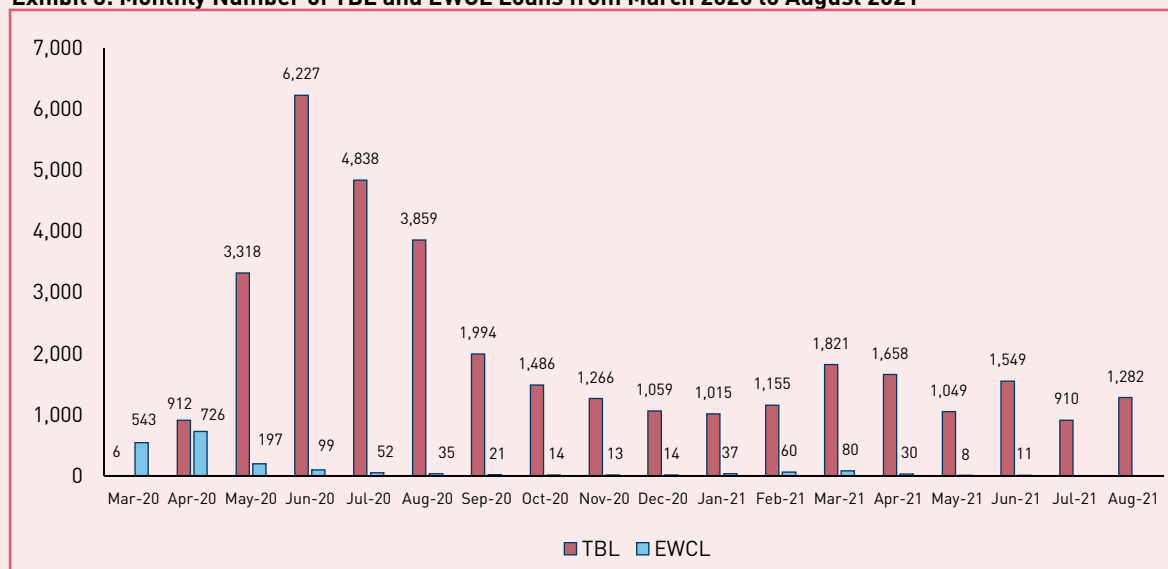
**Exhibit 2: Data Used in the Construction of the Firm Financial Distress Indicator**

| Firm-level outcome          | Source | Frequency |
|-----------------------------|--------|-----------|
| CPF late payments           | CPFB   | Monthly   |
| Rental arrears              | JTC    |           |
| Electricity payment arrears | EMA    |           |
| Foreign worker levy default | MOM    |           |

Note: A firm was identified to be in financial distress, in a particular month, if the firm (1) was late in making employer's CPF contribution for the month; or (2) had defaulted on its payment of foreign worker levy; or (3) had an increase in outstanding JTC rental arrears or electricity payment arrears owed to SP Group as compared to the previous month.

Over the period of March 2020 to August 2021, more than 24,000 and 1,800 firms took up the TBL and EWCL respectively. In particular, the number of loan recipients surged from March 2020 to June 2020 before moderating from July 2020 onwards (Exhibit 3). This was due to the implementation of the Circuit Breaker from April 2020 to June 2020<sup>7</sup>, which disrupted economic activity and strained the cashflows of firms. Most of the TBL and EWCL recipients were smaller firms with no more than 50 employees (Exhibit 4). Compared to non-recipients, TBL and EWCL recipients had higher average employment levels, and a smaller proportion of them were in distress based on the firm financial distress indicator constructed for the study (Exhibit 5).

**Exhibit 3: Monthly Number of TBL and EWCL Loans from March 2020 to August 2021**



Notes: (1) The numbers do not reflect unique loan recipients as some of the recipients took loans under multiple schemes and multiple loans in different months; (2) Data is as of September 2021.

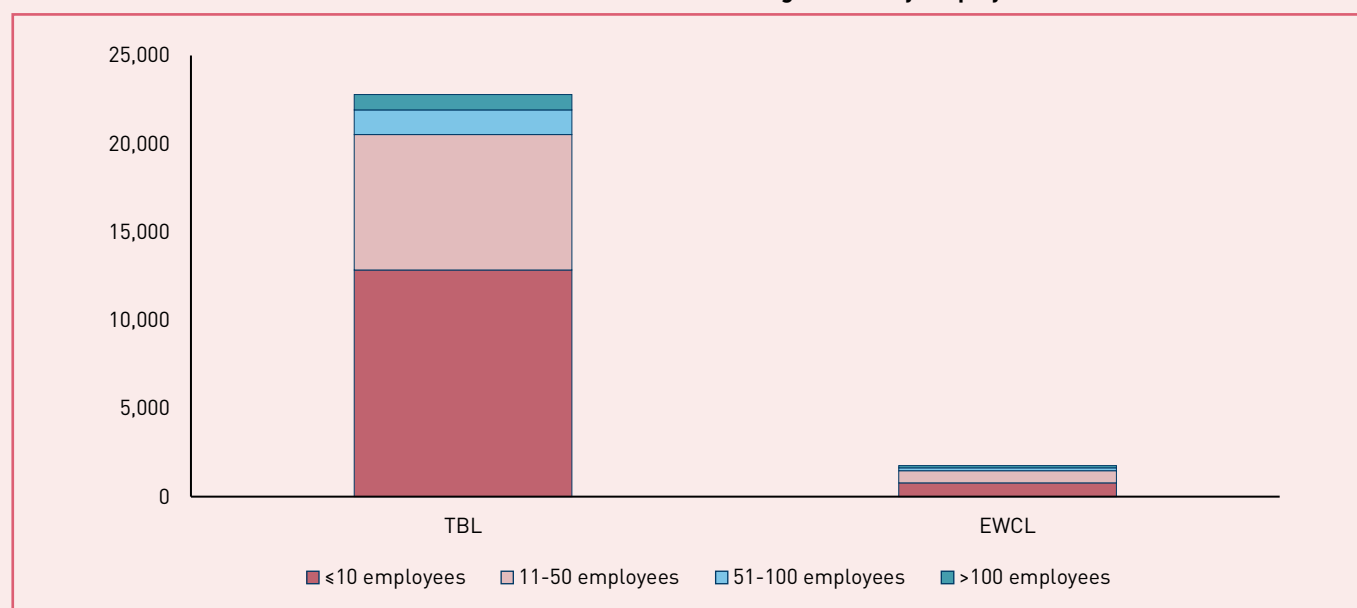
Source: ESG

<sup>4</sup> Typical indicators of firms' cash buffers include Cash Ratios and Interest Coverage Ratios. However, information on such indicators is not available in the high-frequency dataset assembled.

<sup>5</sup> The data on financing schemes include loans provided under ESG's trade financing schemes (i.e., Enhanced Financing Scheme – Trade Loan (ETL) and the Enhanced Loan Insurance Scheme (ELIS)). Loans under these schemes were used as control variables in the regression analysis on the impact of the TBL and EWCL.

<sup>6</sup> While the impact of the JSS, FWLR and WCS were not examined in this study, payouts from these schemes were used as control variables in the regression analysis. Further details can be found in the methodology section.

<sup>7</sup> The Circuit Breaker lasted from 7 April 2020 to 1 June 2020. Measures included the closure of most physical workplace premises (thereby affecting businesses which could not operate remotely from home) in order to control the local transmission of COVID-19.

**Exhibit 4: Total Number of TBL and EWCL Loans from March 2020 to August 2021 by Employment Size**

Notes: (1) The numbers do not reflect unique loan recipients as some of the recipients took loans under multiple schemes and multiple loans in different months; (2) Firms with missing employment data are dropped from the analysis; (3) Total employment is based on firm's employment size as at December 2019.  
Source: Authors' calculation, based on data from ESG and CPF

**Exhibit 5: Key Firm Characteristics of TBL and EWCL Recipients and Non-Recipients**

| Key Firm Characteristics        | TBL | EWCL | Non-Loan Recipients |
|---------------------------------|-----|------|---------------------|
| Proportion of Firms in Distress | 20% | 23%  | 48%                 |
| Average Total Employment        | 23  | 34   | 19                  |

Note: (1) The proportion of firms in distress is based on the values in April 2020, which is the earliest date where all four variables used to construct the indicator (in Exhibit 2) are available; (2) Average employment is based on firm's employment size as at December 2019.  
Source: Authors' calculation, based on data from ESG and other sources indicated at the start of this section

## METHODOLOGY

An important consideration when evaluating the causal impact of the TBL and EWCL on firm-level outcomes is that the types of firms that were eligible for and took up the financing schemes might be different from those that were ineligible for or did not tap on the schemes (i.e., selection bias). For instance, commercial banks were more likely to approve loans to firms with viable businesses or those with stronger balance sheets.

To mitigate such selection biases, the study adopted a two-way fixed effects regression model<sup>8</sup> to account for differences across firms that could have affected their take-up of the financing schemes. In particular, the model accounted for time trends that affected all firms (e.g., macroeconomic conditions) and unique firm characteristics (including those not observed in the dataset) that did not change during the period of study (e.g., firm managerial culture). To isolate the incremental impact of the financing schemes, disbursements from other major government support schemes, such as the JSS payments received by firms, were included as controls in the regression model. By mitigating selection biases<sup>9</sup>, the methodology employed provided more confidence that differences in firms' outcomes could be attributed to the take-up of the financing schemes. The regression specification used is as follows:

<sup>8</sup> Two-way fixed effects regression models are widely used by academics and government researchers to evaluate the impact of various policies. See Toh et al. (2021) and Banerjee & Iyer (2005) for examples of studies that used two-way fixed effects regression models.

<sup>9</sup> Nonetheless, selection bias could still exist if there were time-varying characteristics that affected firms' probability of obtaining loans but were not captured in the high-frequency dataset. For example, firms with similar financial health prior to the pandemic could have seen their financial health react differently to the pandemic, but the study was not able to account for this due to the lack of monthly financial data in the dataset.



$$\log Y_{it} = \beta' \log cumloan_{it} + \varphi' X_{it} + \gamma_i + \theta_t + \varepsilon_{it} \quad (1)$$

Where:

- $Y_{it}$  represents firm-level outcomes (i.e., firm financial distress, total employment) for firm  $i$  in month  $t$ . For firm financial distress, a binary outcome indicator was used<sup>10</sup>;
- $cumloan_{it}$  is a vector of cumulative loan amounts that firm  $i$  received in month  $t$ , with each element in the vector corresponding to each of the two loan schemes (i.e., TBL, EWCL);
- $X_{it}$  represents a set of controls that include disbursements under other major government schemes (i.e., JSS, FWLR, WCS, ETL and ELIS) received by firm  $i$  in month  $t$ ;
- $\gamma_i$  and  $\theta_t$  represent the firm-level (cross-sectional) and month (time) fixed effects, respectively;
- $\beta$  measures the average impact of an increase in cumulative loan amount on firm-level outcomes;
- $\varepsilon_{it}$  is the error term.

Separate regressions using equation (1) were run for manufacturing, services and construction firms to obtain sector-specific impact estimates. To investigate if the impact of the financing schemes varied across firms of different sizes, the following regression specification, where the cumulative loan variable was interacted with a categorical variable denoting the employment size category of the firm, was run:

$$\log Y_{it} = \beta' \log cumloan_{it} + \psi' firmsize_i \times \log cumloan_{it} + \theta' X_{it} + \gamma_i + \theta_t + \varepsilon_{it} \quad (2)$$

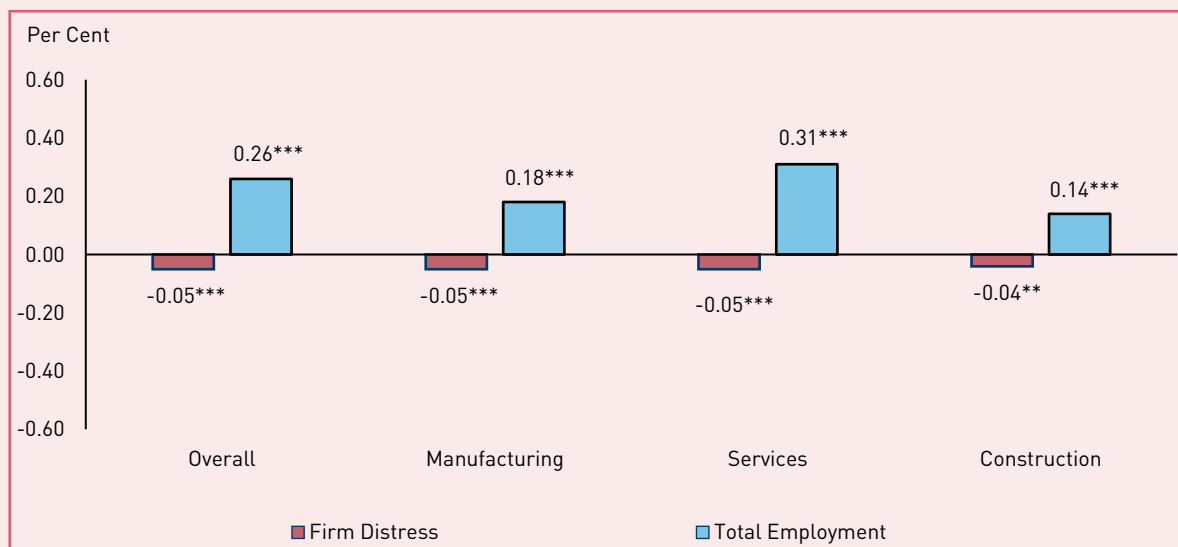
Where:

- $firmsize_i$  represents the employment size category of firm  $i$  proxied by its total employment size in December 2019 (categories:  $\leq 10$ , 11-50, 51-100,  $>100$ <sup>11</sup>);
- All other variables are as defined in equation (1).

## RESULTS

The regression results showed that the TBL helped to alleviate financial distress among firms across all sectors and led to improvements in firms' employment outcomes (Exhibit 6). In line with the policy intent, the financing assistance provided by a TBL loan of average quantum led to a 0.05 percentage-point (pp) fall in the probability of firm financial distress (i.e., the probability of a firm missing its payment obligations) at the overall level. The results also showed that firms' total employment rose by 0.26 per cent after receiving a TBL loan of average quantum, with services firms seeing the strongest employment impact compared to firms in other sectors.

**Exhibit 6: Impact of a TBL Loan of Average Quantum on Firm-Level Outcome by Sector (%)**



Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Notes: (1) Impact on firm distress refers to a percentage-point (pp) impact; (2) Bars with bolded borders indicate estimates that are statistically significant at the 10% level.

<sup>10</sup> For firm financial distress, a fixed effects logit model was used to estimate the impact of the schemes on the probability of a firm being in distress. Bias correction was implemented, following the results of Fernandez-Val (2009).

<sup>11</sup> Firms with employment size of  $>100$  were not broken down into finer categories due to the relatively small number of loan recipients in the large employment size categories.

By firm size, a fall in the probability of firm financial distress was seen across firms of all employment sizes. Smaller firms also saw a positive impact on total employment, with the smallest firms (i.e., those with no more than 10 workers) experiencing the largest effect (+0.33 per cent). On the other hand, larger firms (i.e., those with more than 50 workers) saw a slight negative impact on total employment.<sup>12</sup> These results suggest that the TBL was effective primarily in helping smaller firms to hire and retain workers (Exhibit 7).

**Exhibit 7: Impact of a TBL Loan of Average Quantum on Firm-Level Outcome by Total Employment Size (%)**



Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Notes: (1) Impact on firm distress refers to a percentage-point (pp) impact; (2) Bars with bolded borders indicate estimates that are statistically significant at the 10 per cent level.

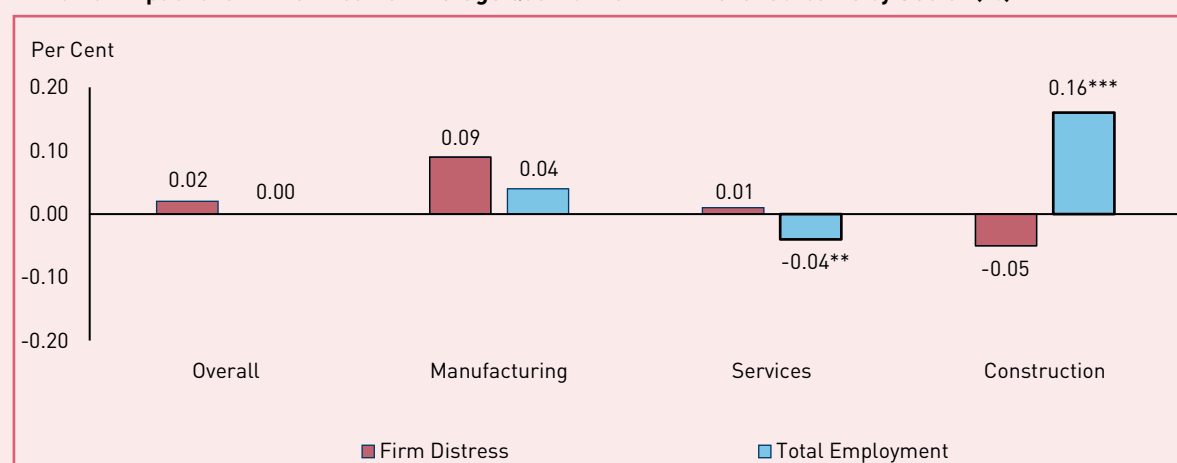
Meanwhile, the EWCL was found to have no statistically significant impact on the probability of firm financial distress nor firms' total employment (Exhibit 8). The lack of a significant impact from the receipt of an EWCL loan is likely because most EWCL recipients also took TBL loans<sup>13</sup>. As the TBL had a maximum loan quantum of \$5 million compared to the maximum loan quantum of \$1 million under the EWCL, the EWCL loan was found to have limited incremental impact after controlling for the receipt of a TBL loan.

At the sectoral level, construction firms saw a 0.16 per cent increase in total employment from the receipt of an additional average EWCL loan. This suggests that construction firms, which had been adversely affected by safe management measures and border restrictions on the entry of migrant workers, were facing severe cashflow constraints and hence required the EWCL on top of the TBL to support worker retention. Meanwhile, services firms experienced a negative impact on total employment from the receipt of an average EWCL loan. This could be due to the use of the loan by firms in consumer-facing sectors (e.g., retail trade, F&B services)<sup>14</sup> – which had seen a large fall in domestic and tourist demand as a result of COVID-19 restrictions – for restructuring purposes so that they are leaner on manpower.

<sup>12</sup> A closer examination of the data showed that local employment in larger firms rose during the period of analysis, suggesting that the slight negative impact on total employment for larger firms could be due to border restrictions during the pandemic which limited their ability to hire foreigners.

<sup>13</sup> 73 per cent of EWCL recipients also received the TBL. Amongst construction firms that received the EWCL, 83 per cent received the TBL.

<sup>14</sup> 23 per cent of EWCL recipients were from the retail trade and F&B services sectors.

**Exhibit 8: Impact of an EWCL Loan of Average Quantum on Firm-level Outcome by Sector (%)<sup>15</sup>**

Statistical significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Notes: (1) Impact on firm distress refers to a percentage-point (pp) impact; (2) Bars with bolded borders indicate estimates that are statistically significant at the 10 per cent level.

## CONCLUSION

This study finds that the TBL, which is the key financing support scheme rolled out during the COVID-19 crisis, had lowered the probability of firm financial distress and helped to support firms' employment. The findings demonstrate the importance of providing immediate financing support to firms for their cashflow needs, especially at the onset of the COVID-19 pandemic.

Given the high-frequency nature of the data used for the study, the estimated impact of the financing schemes should be seen as the short-term impact. Its purpose is to provide a prompt sensing of the schemes' effectiveness during the pandemic. Once comprehensive annual data on firm-level outcomes (e.g., financial information, value-added) are available, a further study should be conducted to analyse the longer-term benefits and costs of these schemes. This is especially since the average loan tenure is around five years and the final fiscal outlay from the government for the schemes (i.e., loan loss) would depend on the performance of the loans in the years ahead.

It is also useful to note that a key objective of government financing facilities during the COVID-19 crisis was to avoid a credit supply crunch and ensure that banks continued to lend amidst elevated macroeconomic uncertainty. This study focuses on micro firm-level outcomes and does not examine how government financing schemes affected overall liquidity conditions, which is key to avoiding macro-financial amplification effects during the crisis (e.g., waves of defaults by interconnected firms leading to banks tightening lending, which could lead to further waves of defaults).

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<sup>15</sup> The study did not examine the impact of the EWCL by firm size due to the small sample across most firm sizes, which would affect the precision of the estimates.

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