ECONOMIC SURVEY OF SINGAPORE

Third Quarter 2021

MTI MINISTRY OF TRADE AND INDUSTRY SINGAPORE

November 2021

Ministry of Trade and Industry
Republic of Singapore

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CONTENTS

MAIN INDICATORS OF THE SINGAPORE ECONOMY

OVERALL ECONOMY

Real GDP
(Year-on-Year-Growth)

2Q21	3Q21
+15.2%	+7.1%

GDP
at Current Market Price

2Q21	3Q21
$128.5 billion	$130.5 billion

PRICES

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

2Q21	3Q21
+2.3%	+2.5%

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

2Q21	3Q21
+17.5%	+18.5%

LABOUR MARKET

Change in Employment
(Quarter-on-Quarter)

2Q21	3Q21
-19.9 thousand	-9.4 thousand

Overall Unemployment Rate

2Q21	3Q21
2.7%	2.6%

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

2Q21	3Q21
+2.1%	+4.6%

COSTS

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

2Q21	3Q21
+17.8%	+6.1%

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

2Q21	3Q21
-3.3%	-0.3%

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

2Q21	3Q21
+21.3%	+7.9%

MERCHANDISE TRADE

Merchandise Exports

2Q21	3Q21
$147,602 million	$154,001 million
+26.1% Year-on-Year Growth	+17.4% Year-on-Year Growth

Merchandise Imports

2Q21	3Q21
$131,801 million	$136,971 million
+28.6% Year-on-Year Growth	+21.1% Year-on-Year Growth

SERVICES TRADE

Services Exports

2Q21	3Q21
$67,337 million	$68,168 million
+13.3% Year-on-Year Growth	+6.7% Year-on-Year Growth

Services Imports

2Q21	3Q21
$60,685 million	$61,857 million
+11.2% Year-on-Year Growth	+8.3% Year-on-Year Growth

CHAPTER

01

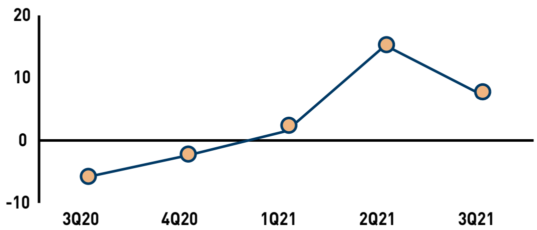
THE SINGAPORE ECONOMY

CHAPTER 1
THE SINGAPORE ECONOMY

ECONOMIC PERFORMANCE

Real GDP grew by
7.1% in 3Q21

Quarterly Growth (Year-on-Year)



Main Drivers of Growth in 3Q21

Manufacturing

1.5%-point contribution

Finance & Insurance

1.3%-point contribution

LABOUR MARKET

Resident Unemployment Rate

3.5% in 3Q21

Employment (Q-O-Q Change)

-9,400 employed

Sectors with the Highest Employment Growth in 3Q21

+3,600 employed
Information & Communications

+2,800 employed
Professional Services

+1,700 employed
Finance & Insurance

PRODUCTIVITY

Value-Added per Actual Hour Worked increased by
4.6% in 3Q21

Sectors with the Highest Growth in Value-Added per Actual Hour Worked in 3Q21

42.3%
Construction

18.2%
Real Estate

COSTS

Overall Unit Labour Cost increased by

6.1% in 3Q21

Within the Manufacturing Sector

-0.3% Unit Business Cost

7.9% Unit Labour Cost

INTERNATIONAL TRADE

Total Merchandise Exports increased by

17.4% in 3Q21

49.2% Oil Domestic Exports

16.4% Re-Exports

9.0% Non-Oil Domestic Exports

PRICES

The Consumer Price Index (CPI) rose by

2.5% in 3Q21

Categories with Price Increases

8.7% Transport

2.1% Housing & Utilities

1.7% Health Care

Total Services Exports grew by

6.7% in 3Q21

Services Exports Increase was led by...

2.4%-pt Other Business Services

1.4%-pt Financial Services

0.7%-pt Maintenance and Repair Services

OVERVIEW

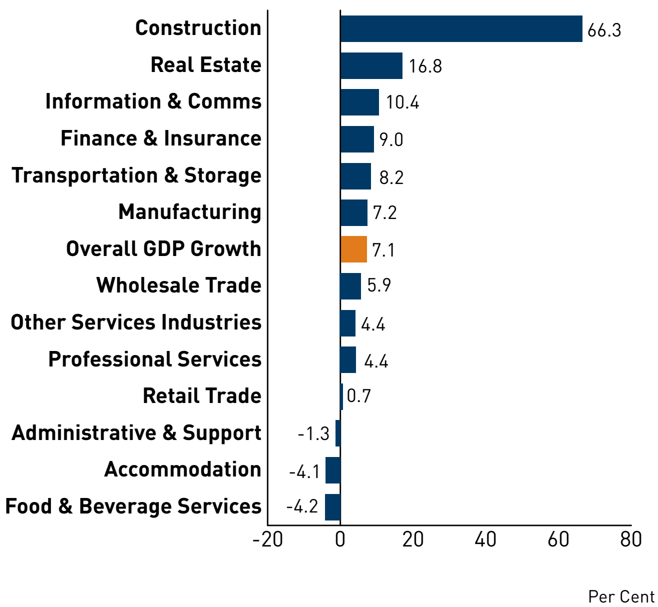
In the third quarter of 2021,

- The Singapore economy expanded by 7.1 per cent on a year-on-year basis. The sectors that contributed the most to GDP growth were manufacturing, finance & insurance and construction.
- The seasonally-adjusted overall unemployment rate declined between June 2021 and September 2021, while the resident and citizen unemployment rates remained unchanged over the quarter. The number of retrenchments also declined over the quarter.
- Total employment fell by 9,400 on a quarter-on-quarter basis, moderating from the decline registered in the preceding quarter. Excluding Migrant Domestic Workers (MDWs), total employment contracted by 3,400, as a continued decline in non-resident employment outweighed an increase in resident employment.
- The Consumer Price Index-All Items (CPI-All Items) rose by 2.5 per cent on a year-on-year basis, extending the 2.3 per cent increase in the previous quarter.

OVERALL PERFORMANCE

The Singapore economy expanded by 7.1 per cent on a year-on-year basis in the third quarter of 2021, slower than the 15.2 per cent growth in the preceding quarter[1] (Exhibit 1.1). On a quarter-on-quarter seasonally-adjusted basis, the economy grew by 1.3 per cent, a turnaround from the 1.4 per cent contraction in the second quarter.

Exhibit 1.1: GDP and Sectoral Growth Rates in 3Q 2021



By sectors, the manufacturing sector grew by 7.2 per cent year-on-year in the third quarter, moderating from the 18 per cent growth in the previous quarter. Growth during the quarter was supported by output expansions in all manufacturing clusters, except for the biomedical manufacturing cluster, which contracted by 4.3 per cent. Among the clusters that expanded, the precision engineering (24 per cent) and transport engineering (22 per cent) clusters recorded the largest increases in output.

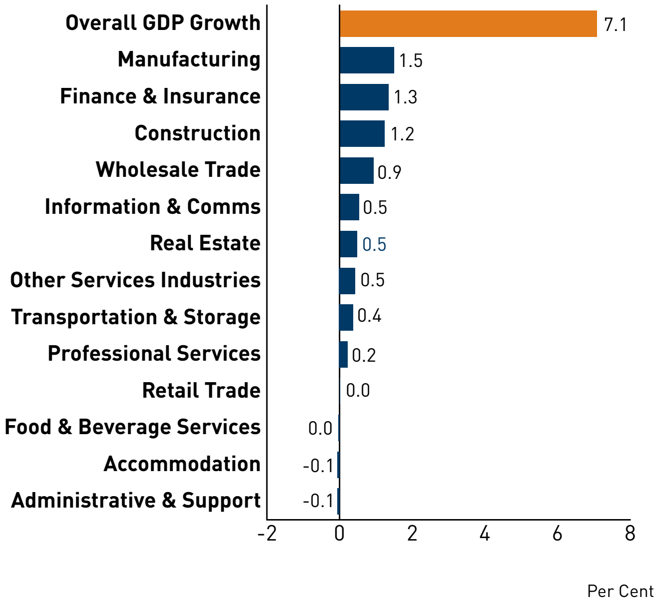
The services producing industries posted growth of 6.3 per cent year-on-year in the third quarter, a step-down from the 11 per cent growth recorded in the preceding quarter. All services sectors expanded during the quarter, except for the food & beverage services, accommodation and administrative & support services sectors, which contracted by 4.2 per cent, 4.1 per cent and 1.3 per cent respectively. Among the sectors that grew, real estate (17 per cent) and information & communications (10 per cent) recorded the strongest expansions.

1 *The strong year-on-year GDP growth recorded in the second quarter of 2021 was largely due to the low base in the corresponding quarter of 2020 when GDP fell by 13.3 per cent due to the Circuit Breaker (CB) measures implemented from 7 April to 1 June 2020, as well as the sharp fall in external demand amidst the COVID-19 pandemic.*

The construction sector grew by 66 per cent year-on-year in the third quarter, slowing from the 117 per cent expansion in the previous quarter[2], as both public and private sector construction output rose. The strong growth during the quarter was mainly because of low base effects given the slow resumption of construction activities after the Circuit Breaker (CB) period last year.

The top three contributors to GDP growth in the third quarter were the manufacturing, finance & insurance and construction sectors (Exhibit 1.2).

Exhibit 1.2: Percentage-Point Contribution to Growth in Real GDP in 3Q 2021 (By Industry)



SOURCES OF GROWTH

Total demand expanded by 7.1 per cent year-on-year in the third quarter of 2021, extending the 16 per cent growth in the previous quarter (Exhibit 1.3). Growth came on the back of higher external and domestic demand.

External demand rose by 6.3 per cent year-on-year, following the 15 per cent expansion in the previous quarter. Similarly, domestic demand increased by 9.1 per cent year-on-year, moderating from the 21 per cent expansion in the preceding quarter. Domestic demand was supported by gains in both consumption expenditure and gross fixed capital formation (GFCF).

Within domestic demand, consumption expenditure grew by 3.2 per cent year-on-year, moderating from the 17 per cent increase in the second quarter. Both public and private consumption expenditure rose during the quarter, at a rate of 3.3 per cent and 3.2 per cent respectively.

Meanwhile, GFCF expanded by 25 per cent year-on-year, extending the 31 per cent increase in the previous quarter. Overall GFCF was bolstered by a 55 per cent and 21 per cent increase in public and private sector GFCF respectively, as public and private investments in construction & works both stepped up from a low base last year caused by the slow resumption of construction activities after the CB period.

Exhibit 1.3: Changes in Total Demand*

	2020		2021		
	III	IV	I	II	III
Total Demand	-7.1	-4.5	-2.1	16.4	**7.1**
External Demand	-5.0	-3.5	-1.5	14.9	**6.3**
Total Domestic Demand	-12.5	-7.0	-3.8	20.9	**9.1**
Consumption Expenditure	-6.7	-6.7	-3.2	17.4	**3.2**
Public	15.8	9.6	7.3	1.5	**3.3**
Private	-13.0	-11.3	-7.1	24.3	**3.2**
Gross Fixed Capital Formation	-23.0	-4.7	-5.0	31.0	**25.4**
Changes in Inventories	-0.3	-0.8	-0.1	-0.3	**-0.3**

** For inventories, this refers to the contribution to GDP growth.*

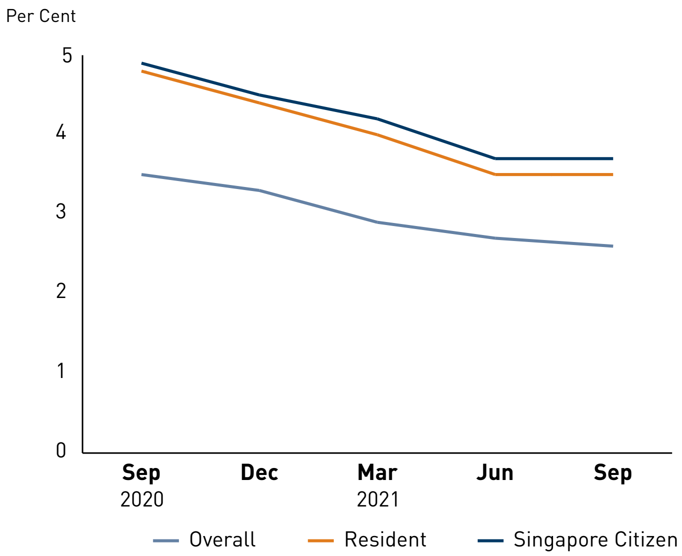
2 *The strong year-on-year growth in the second quarter of 2021 was due to low base effects as most construction activities were suspended during the CB period a year ago.*

LABOUR MARKET

Unemployment and Retrenchment[3]

Between June and September 2021, the seasonally-adjusted unemployment rates fell at the overall level (from 2.7 per cent to 2.6 per cent), but remained unchanged for residents (3.5 per cent) and citizens (3.7 per cent) (Exhibit 1.4). Although unemployment rates have declined from their respective peaks in September 2020[4], they remained above pre-pandemic levels[5].

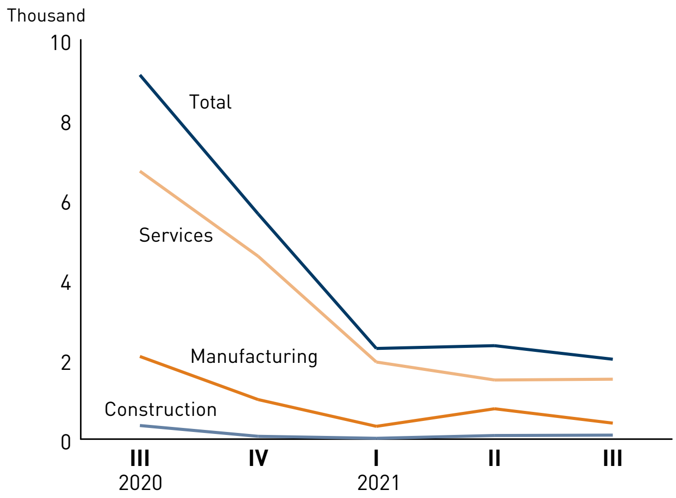
Exhibit 1.4: Unemployment Rate (Seasonally-Adjusted)



In September 2021, an estimated 83,000 residents, including 75,000 Singapore citizens, were unemployed. Compared to their levels in June 2021, the number of unemployed residents declined (from 84,500), while the number of unemployed citizens remained unchanged.[6]

Total retrenchments decreased to 2,000 in the third quarter, from 2,340 in the preceding quarter (Exhibit 1.5). Over the quarter, retrenchments fell in the manufacturing sector (from 760 to 400), but stayed broadly unchanged in the services (from 1,480 to 1,500) and construction (from 90 to 100) sectors.

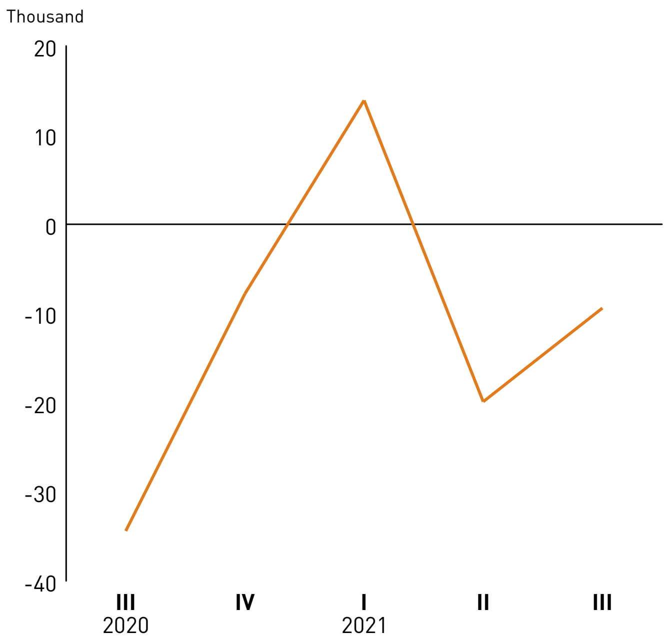
Exhibit 1.5: Retrenchments



Employment[7]

Total employment declined by 9,400 on a quarter-on-quarter basis in the third quarter, moderating from the contraction registered in the previous quarter (-19,900) (Exhibit 1.6). Excluding MDWs, total employment fell by 3,400 on the back of a decline in non-resident employment that more than offset an increase in resident employment.

Exhibit 1.6: Change in Total Employment, Quarter-on-Quarter



Employment declines were observed across all broad sectors (i.e., manufacturing, construction and overall services) in the third quarter (Exhibit 1.7). The construction sector (-6,300) saw the largest decline, followed by the overall services (-2,000) and manufacturing (-1,000) sectors. Within the overall services sector, employment fell the most in the other services industries (-3,900), food & beverage services (-2,900) and retail trade (-1,500) sectors. Excluding MDWs, employment in the overall services sector rose by 4,000.

3 *Retrenchment figures pertain to private sector establishments with at least 25 employees and the public sector.*
4 *The seasonally-adjusted overall, resident and citizen unemployment rates in September 2020 were 3.5 per cent, 4.8 per cent and 4.9 per cent respectively.*
5 *The annual average overall, resident and citizen unemployment rates in 2019 were 2.3 per cent, 3.1 per cent and 3.3 per cent respectively.*
6 *Based on seasonally-adjusted data on the number of unemployed persons.*
7 *Based on preliminary estimates.*

Exhibit 1.7: Changes in Employment by Industry in 3Q 2021

Hiring Expectations

According to EDB's latest Business Expectations Survey for the Manufacturing Sector, hiring expectations in the sector were positive, with a net weighted balance of 11 per cent of manufacturers expecting to increase hiring in the fourth quarter of 2021 as compared to the third quarter. Firms in the aerospace segment of the transport engineering cluster were the most optimistic, with a net weighted balance of 42 per cent of firms expecting to increase hiring in the fourth quarter. By contrast, firms in the land segment of the transport engineering cluster were the most pessimistic, with a net weighted balance of 20 per cent of firms expecting lower levels of hiring in the fourth quarter.

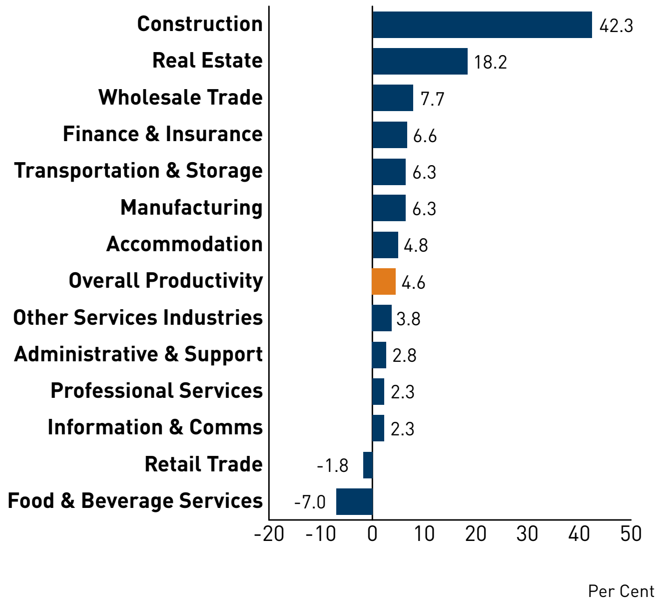
Hiring expectations for services firms were also positive. According to DOS' latest Business Expectations Survey for the Services Sector, a net weighted balance of 10 per cent of services firms expected to increase hiring in the fourth quarter of 2021 as compared to the third quarter. All services sectors reported a positive hiring outlook. Firms in the retail trade sector had the strongest hiring sentiments, with a net weighted balance of 29 per cent of firms expecting to increase hiring in the fourth quarter. On the other hand, firms in the real estate sector had the least positive hiring sentiments, with a net weighted balance of 4 per cent of firms expecting to hire more workers in the fourth quarter.

COMPETITIVENESS

Productivity

Overall labour productivity, as measured by real value-added per actual hour worked, rose by 4.6 per cent on a year-on-year basis in the third quarter of 2021, faster than the 2.1 per cent increase recorded in the previous quarter (Exhibit 1.8).[8]

Exhibit 1.8: Changes in Value-Added per Actual Hour Worked for the Overall Economy and Sectors in 3Q 2021



Most sectors registered productivity growth in the third quarter, with double-digit gains observed in the construction (42 per cent) and real estate (18 per cent) sectors. The wholesale trade (7.7 per cent), finance & insurance (6.6 per cent), transportation & storage (6.3 per cent), manufacturing (6.3 per cent), accommodation (4.8 per cent), other services industries (3.8 per cent), administrative & support services (2.8 per cent), professional services (2.3 per cent) and information & communications (2.3 per cent) sectors also saw productivity improvements. By contrast, productivity fell in the food & beverage services (-7.0 per cent) and retail trade (-1.8 per cent) sectors.

In the third quarter, the productivity of outward-oriented sectors as a whole rose by 5.6 per cent year-on-year, moderating from the 6.7 per cent increase in the previous quarter.[9] In comparison, the productivity of domestically-oriented sectors as a whole grew by 6.1 per cent year-on-year, improving from the 2.4 per cent increase observed in the preceding quarter.

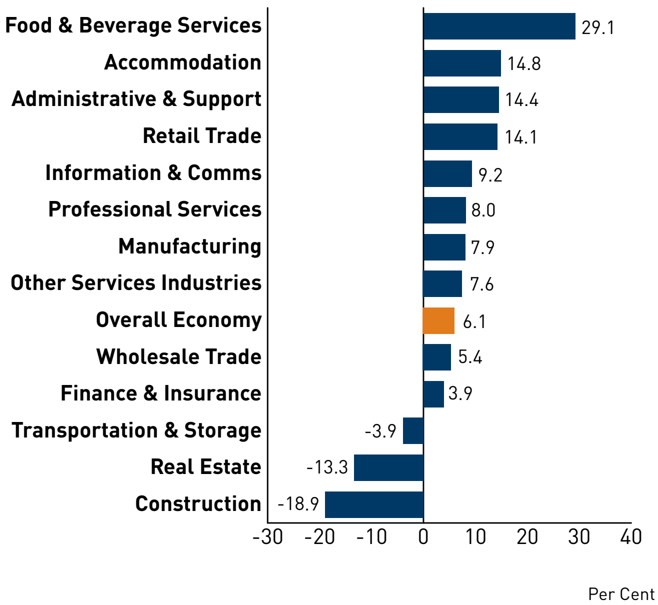
8 *Overall labour productivity, as measured by real value-added per worker, rose by 8.2 per cent in the third quarter as compared to the 17 per cent growth in the preceding quarter. The larger increase in real value-added per worker compared to real value-added per actual hour worked (4.6 per cent) in the third quarter was due to an increase in the number of actual hours worked per worker as a result of the low base in the third quarter of 2020 when there was a phased resumption of activities after the CB.*

9 *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.*

Unit Labour Cost and Unit Business Cost

Overall unit labour cost (ULC) for the economy rose by 6.1 per cent on a year-on-year basis in the third quarter, a moderation from the 18 per cent increase in the preceding quarter (Exhibit 1.9). The rise in overall ULC was due to higher total labour cost per worker which outstripped labour productivity growth (as measured by real value-added per worker).

Exhibit 1.9: Changes in Unit Labour Cost in 3Q 2021



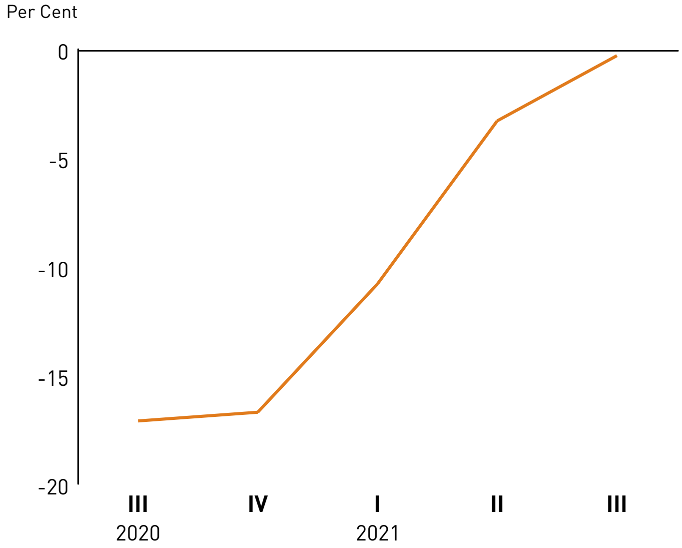
By broad sectors, the ULC for the manufacturing sector picked up by 7.9 per cent year-on-year in the third quarter, although this was lower than the 21 per cent increase seen in the second quarter. The rise in manufacturing ULC was due to higher total labour cost per worker which more than offset labour productivity gains in the sector.

Similarly, the ULC for services producing industries rose by 5.9 per cent, slower than the 18 per cent increase recorded in the previous quarter. Most services sectors saw a rise in their ULCs in the third quarter, with the food & beverage services sector registering the largest increase (29 per cent). The latter occurred as total labour cost per worker rose while labour productivity declined in the sector.

By contrast, the ULC for the construction sector fell by 19 per cent, a more moderate pace of decline as compared to the 24 per cent drop in the preceding quarter. The fall in ULC during the quarter came on the back of strong labour productivity gains, which exceeded an increase in total labour cost per worker in the sector.

Unit business cost (UBC) for the manufacturing sector dipped by 0.3 per cent year-on-year in the third quarter, moderating from the 3.3 per cent decline in the preceding quarter. The fall in the manufacturing UBC was on account of a decline in its unit services cost (-2.8 per cent), even as ULC (7.9 per cent) and unit non-labour production taxes (19 per cent) rose.

Exhibit 1.10: Changes in the Manufacturing Unit Business Cost

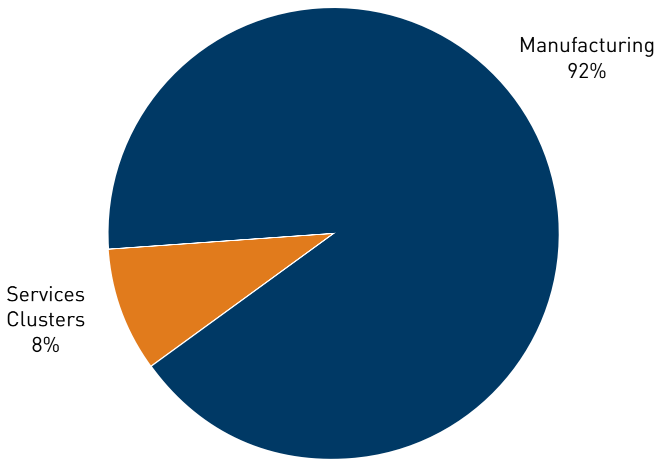


Investment Commitments

Investment commitments garnered by the Economic Development Board (EDB) in terms of Fixed Asset Investments (FAI) and Total Business Expenditure (TBE) amounted to $3.7 billion and $230 million respectively in the third quarter of 2021 (Exhibit 1.11 and Exhibit 1.12).

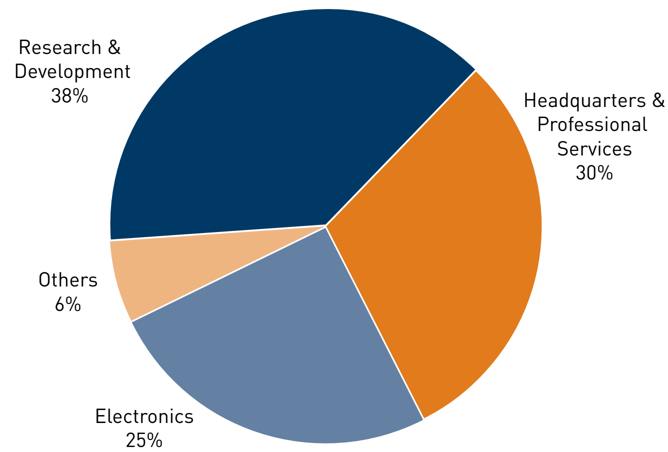
For FAI, the largest contribution came from the manufacturing sector, which attracted $3.4 billion worth of commitments, driven mainly by the electronics cluster. Meanwhile, the research & development cluster garnered the most FAI commitments within the services sector, at $311 million. Investors from the United States contributed the most to total FAI, at $3.3 billion (90 per cent).

Exhibit 1.11: Fixed Asset Investments by Industry Cluster in 3Q 2021



For TBE, the services clusters attracted the highest amount of commitments, at $158 million, with the research & development and headquarters & professional clusters accounting for $88 million and $70 million of the commitments respectively. Within the manufacturing sector, the electronics and biomedical manufacturing clusters garnered $59 million and $14 million worth of TBE commitments respectively. Investors from the United States were the largest source of TBE commitments, with commitments of $117 million (51 per cent).

Exhibit 1.12: Total Business Expenditure by Industry Cluster in 3Q 2021



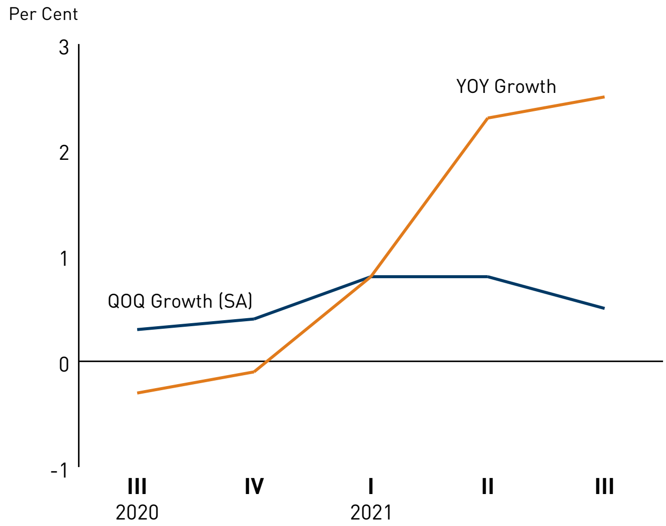
When these projects are fully implemented, they are expected to generate $2.0 billion of value-added and create close to 900 jobs in the coming years.

PRICES

Consumer Price Index

The Consumer Price Index-All Items (CPI-All Items) rose by 2.5 per cent on a year-on-year basis in the third quarter of 2021, extending the 2.3 per cent increase in the previous quarter (Exhibit 1.13). On a quarter-on-quarter seasonally-adjusted basis, CPI-All Items edged up by 0.5 per cent, moderating from the 0.8 per cent increase in the previous quarter.

Exhibit 1.13: Changes in CPI



Price increases in the following CPI categories contributed positively to CPI-All Items inflation on a year-on-year basis in the third quarter (Exhibit 1.14). 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 2.1 per cent due to higher accommodation costs, as well as electricity and gas tariffs. Prices of household durables & services went up by 1.6 per cent on account of more expensive domestic & household services and household durables. Healthcare costs rose by 1.7 per cent because of an increase in the costs of health insurance, hospital services and outpatient services. Transport costs climbed by 8.7 per cent due to a rise in the prices of cars and petrol. Recreation & culture prices picked up by 1.4 per cent as a result of the higher cost of recreational & cultural services.[10] Education costs rose by 1.3 per cent as higher fees at universities and commercial institutions more than offset lower fees at childcare centres.

10 Holiday expenses also contributed to the increase in recreation & culture costs. However, as overseas travel remained limited in the third quarter of 2021, the CPI for holiday expenses was still largely imputed using the overall change in CPI-All Items, in line with international practice. As such, it might not fully reflect actual price changes for holiday services.

Exhibit 1.14: Percentage Changes in CPI over Corresponding Quarter of Previous Year

Per Cent

	2020		2021		
	III	IV	I	II	III
All items	-0.3	-0.1	0.8	2.3	**2.5**
Food	1.9	1.7	1.5	1.0	**1.4**
Clothing & Footwear	-4.0	-4.7	-5.3	-6.0	**-5.6**
Housing & Utilities	-0.7	-0.3	-0.3	0.6	**2.1**
Household Durables & Services	0.4	0.5	1.1	1.4	**1.6**
Health Care	-1.9	-0.9	0.3	1.0	**1.7**
Transport	-0.8	-0.1	3.1	10.6	**8.7**
Communication	1.8	0.8	0.9	0.1	**-2.0**
Recreation & Culture	-1.6	-2.0	-0.2	1.0	**1.4**
Education	-0.5	-0.9	0.9	1.1	**1.3**
Miscellaneous Goods & Services	-1.7	-1.5	-1.3	-0.2	**-0.4**

By contrast, price declines in the following CPI categories contributed negatively to CPI-All Items inflation in the third quarter. Clothing & footwear prices fell by 5.6 per cent due to cheaper ready-made garments and footwear. Communication costs dropped by 2.0 per cent on the back of lower telecommunication services and equipment costs. Prices of miscellaneous goods & services edged down by 0.4 per cent on account of a fall in the cost of personal care items.

INTERNATIONAL TRADE

Merchandise Trade

Singapore's total merchandise trade rose by 19 per cent on a year-on-year basis in the third quarter of 2021, extending the 27 per cent expansion in the preceding quarter (Exhibit 1.15). Both oil (50 per cent) and non-oil (15 per cent) trade increased during the quarter.

Exhibit 1.15: Growth Rates of Total Merchandise Trade, Merchandise Exports and Merchandise Imports (In Nominal Terms)

Per Cent

	2020			2021		
	III	IV	Ann	I	II	III
Merchandise Trade	-4.8	-5.1	-5.2	4.9	27.3	**19.1**
Merchandise Exports	-2.2	-2.9	-3.2	6.9	26.1	**17.4**
Domestic Exports	-5.1	-10.3	-6.8	-0.2	25.8	**18.8**
Oil	-29.1	-30.6	-28.1	-19.3	85.5	**49.2**
Non-Oil	6.5	-0.5	4.3	9.6	10.1	**9.0**
Re-Exports	0.3	3.4	0.1	13.6	26.4	**16.4**
Merchandise Imports	-7.6	-7.6	-7.4	2.7	28.6	**21.1**
Oil	-32.3	-39.2	-34.0	-12.5	115.4	**51.9**
Non-Oil	-1.5	0.4	-0.3	6.5	17.7	**15.8**

Total merchandise exports expanded by 17 per cent in the third quarter, moderating from the 26 per cent growth in the preceding quarter. The expansion in merchandise exports was due to an increase in both domestic exports (19 per cent) and re-exports (16 per cent).

The increase in domestic exports was on account of gains in both oil and non-oil domestic exports. In particular, oil domestic exports rose by 49 per cent from a low base, reflecting higher oil prices compared to a year ago. In volume terms, oil domestic exports declined by 6.5 per cent, following the 3.3 per cent contraction in the previous quarter.

Meanwhile, non-oil domestic exports (NODX) grew by 9.0 per cent, extending the 10 per cent increase in the previous quarter. The gains made in NODX were supported by an increase in both non-electronics and electronics domestic exports.

Total merchandise imports rose by 21 per cent in the third quarter, following the 29 per cent increase in the previous quarter. The expansion in imports was due to higher oil (52 per cent) and non-oil (16 per cent) imports. Within non-oil imports, both non-electronics and electronics imports rose.

Services Trade

Total services trade expanded by 7.5 per cent on a year-on-year basis in the third quarter of 2021, moderating from the 12 per cent increase in the previous quarter (Exhibit 1.16). Both the exports and imports of services recorded growth during the quarter.

Services exports rose by 6.7 per cent in the third quarter, compared to the 13 per cent increase in the preceding quarter. The growth in services exports was largely due to a rise in the exports of other business services, financial services and maintenance & repair services. Meanwhile, services imports expanded by 8.3 per cent, extending the 11 per cent increase in the previous quarter. The rise in services imports mainly reflected an increase in the imports of other business services, manufacturing services and telecommunications, computer & information services.

Exhibit 1.16: Growth Rates of Total Services Trade, Services Exports and Services Imports (In Nominal Terms)

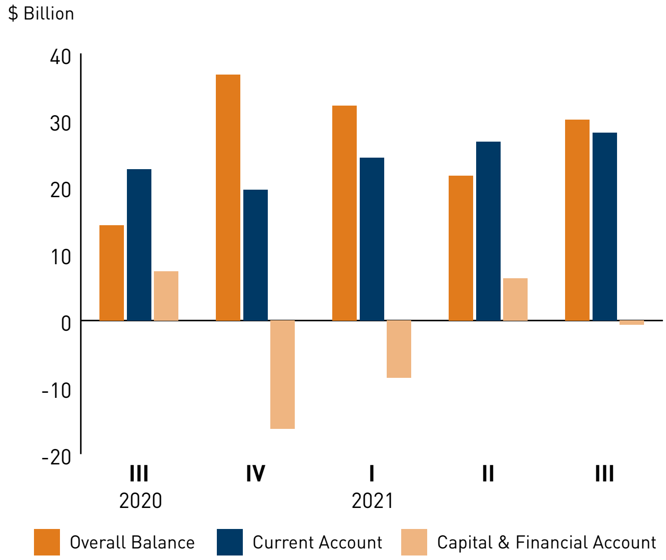
Per Cent

	2020			2021		
	III	IV	Ann	I	II	III
Total Services Trade	-16.3	-16.3	-14.3	-9.2	12.3	**7.5**
Services Exports	-14.1	-13.8	-12.7	-7.1	13.3	**6.7**
Services Imports	-18.7	-18.9	-16.1	-11.4	11.2	**8.3**

BALANCE OF PAYMENTS

The overall balance of payments recorded a larger surplus of $30 billion in the third quarter of 2021, compared to the surplus of $22 billion in the preceding quarter (Exhibit 1.17).

Exhibit 1.17: Balance of Payments



Current Account

The current account surplus rose slightly to $28 billion in the third quarter, from $27 billion in the previous quarter. This was due to an increase in the goods trade surplus and a narrowing of the primary income deficit, which more than offset a decline in the services trade surplus.

The surplus in the goods balance edged up by $0.3 billion quarter-on-quarter to $38 billion in the third quarter, as goods exports rose more than goods imports.

At the same time, the primary income deficit narrowed to $13 billion in the third quarter, from $15 billion in the preceding quarter, as higher primary income receipts outweighed an increase in primary income payments.

By contrast, the surplus in the services balance fell from $6.7 billion in the second quarter to $6.3 billion in the third quarter. An increase in net receipts for financial services and maintenance & repair services was more than offset by a fall in net receipts for other business services and an increase in net payments for telecommunications, computer & information services.

Meanwhile, the secondary income deficit was broadly unchanged from the previous quarter at $2.4 billion, as secondary income payments and receipts rose by similar magnitudes.

Capital and Financial Account[11]

The capital and financial account registered a net inflow of $0.6 billion in the third quarter, a reversal from the net outflow of $6.3 billion seen in the preceding quarter. This was due to a sharp turnaround to a net inflow position from a net outflow position in the "other investment" account and a fall in the net outflows of financial derivatives. These more than offset an increase in the net outflows of portfolio investment and a decrease in the net inflows of direct investment.

"Other investment" recorded a net inflow of $7.3 billion in the third quarter, following a net outflow of $3.4 billion in the previous quarter. This was partly attributable to an increase in net inflows to the non-bank private sector.

At the same time, net outflows of financial derivatives fell to $0.5 billion in the third quarter, from $4.1 billion in the preceding quarter.

In comparison, net outflows of portfolio investment rose to $30 billion in the third quarter, from $25 billion in the previous quarter. This was partly because of an increase in net outflows from the non-bank private sector, which outweighed a fall in net outflows from resident deposit-taking corporations.

Finally, net inflows of direct investment fell to $23 billion in the third quarter, from $26 billion in the preceding quarter, as residents' direct investments abroad rose while foreign direct investments into Singapore fell.

11 *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".*

BOX ARTICLE 1.1

EMPLOYMENT TRENDS DURING THE COVID-19 PANDEMIC

(I) Overview

Since the 1990s, Singapore has experienced four major economic downturns – the Asian Financial Crisis in 1998, dot-com bust in 2001, Global Financial Crisis in 2009 and COVID-19 pandemic in 2020.[1] While each of these recessions had different origins and exhibited different characteristics[2] (see Toh & Lim, 2001; Lee, 2009; Soon & Tee, 2009; Saw et al., 2020; Rahmat et al., 2021), they all entailed employment losses alongside a contraction or sharp slowdown in real Gross Domestic Product (GDP).

This box article examines the employment trends in Singapore during the COVID-19 pandemic, including a comparison with the peak-to-trough employment declines seen in previous recessions; and also changes in its unemployment rate over the course of the pandemic compared to other advanced economies.

(II) Employment Trends Compared to Previous Recessions in Singapore

Employment losses during the COVID-19 pandemic outstripped the peak-to-trough employment declines seen in previous recessions

In Singapore, the COVID-19 pandemic had its early beginnings in January 2020. On 30 January 2020, the World Health Organisation declared COVID-19 a Public Health Emergency of International Concern (PHEIC). In the same month, Singapore recorded its first COVID-19 case, and undertook swift measures to detect cases early as well as minimise the risk of imported cases and community spread. Between 7 April and 1 June 2020, Singapore implemented Circuit Breaker (CB) measures (including the closure of most physical workplaces, and restrictions on movements and the size of gatherings) to stem the rise in local COVID-19 transmissions and save lives. Externally, other economies were similarly grappling with the pandemic and had to impose lockdowns and mobility restrictions to curb the spread of the virus.

These resulted in significant demand and supply shocks to the Singapore economy. Correspondingly, the Singapore economy fell into recession in 2Q20 as GDP contracted on a quarter-on-quarter basis for two consecutive quarters (-0.6 per cent in 1Q20 and -13 per cent in 2Q20). The quarter-on-quarter contraction in GDP registered in 2Q20, largely due to the CB measures, was also the largest on record.

Historically, Singapore's labour market tends to lag changes in GDP by two to three quarters (Soon, 2010). However, given the large-scale disruptions to economic activity caused by the COVID-19 pandemic and ensuing CB measures in the first half of 2020, total employment in Singapore fell contemporaneously. Between 4Q19 and 2Q20, total employment saw a decline of 138,800.

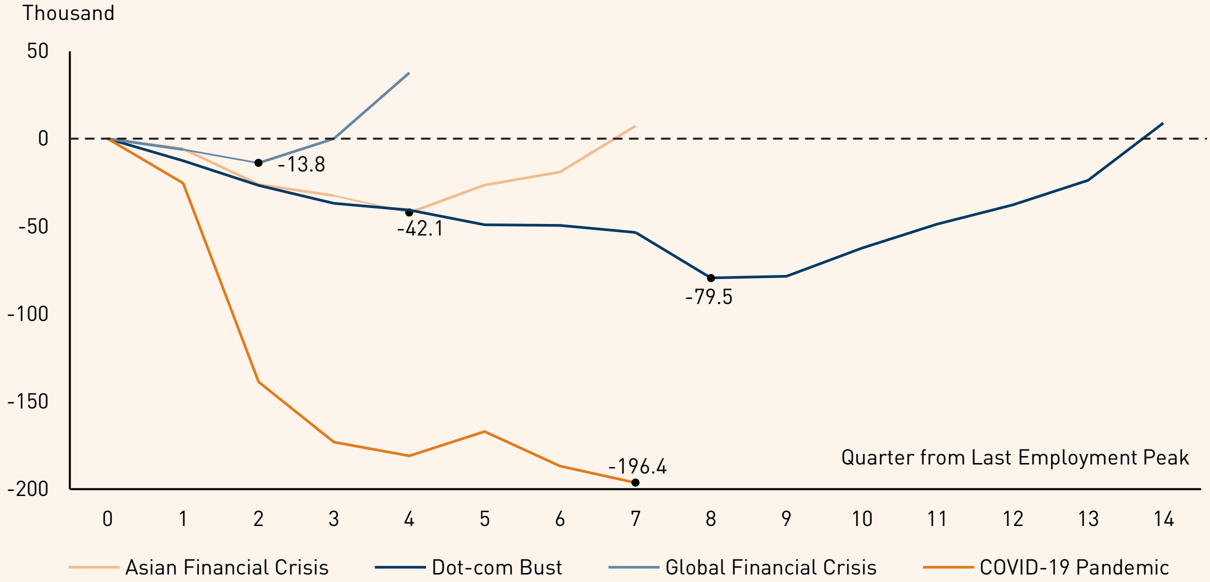
As the pandemic unfolded over the rest of 2020 and 2021, total employment in Singapore continued to fall. By 3Q21[3], total employment had declined by 196,400 cumulatively, with 113,500 (or 58 per cent) of the contraction occurring in 2Q20 (i.e., CB period) alone. The magnitude of the decline was unprecedented, surpassing the peak-to-trough employment declines observed during the dot-com bust (-79,500), Asian Financial Crisis (-42,100) and Global Financial Crisis (-13,800) (Exhibit 1).

1 *During these downturns, real Gross Domestic Product (GDP) fell or moderated significantly – i.e., Asian Financial Crisis (-2.2 per cent in 1998), dot-com bust (-1.1 per cent in 2001), Global Financial Crisis (0.1 per cent in 2009) and COVID-19 pandemic (-5.4 per cent in 2020).*

2 *Due to differences in the demand- and supply-side channels of transmissions, each recession affected the various sectors of the Singapore economy differently. For instance, in 2001 (i.e., dot-com bust), the fall in real GDP (-1.1 per cent) was primarily driven by a contraction in the manufacturing sector (-12 per cent), even as the services producing industries expanded (3.5 per cent). By contrast, in 2020 (i.e., COVID-19 pandemic), Singapore's economy shrank by 5.4 per cent on the back of a contraction in the services producing industries (-6.9 per cent), while the manufacturing sector grew strongly (7.3 per cent).*

3 *Employment data for 3Q21 is based on advance estimates.*

Exhibit 1: Cumulative Employment Change During Recessions in Singapore



Sources: MTI staff estimates; Administrative Records and Labour Force Survey, Manpower Research & Statistics Department, MOM
Notes: Data are primarily from administrative records, with the self-employed component estimated from MOM's Labour Force Survey. Quarter 0 represents the last peak in employment for each recessionary episode. Black dots represent the quarter with the lowest employment level (i.e., trough) during the recession. The employment peak to trough for the Asian Financial Crisis, dot-com bust and Global Financial Crisis occurred from 1Q98 to 1Q99, 2Q01 to 2Q03, and 4Q08 to 2Q09, respectively. The impact of the severe acute respiratory syndrome (SARS) outbreak in 2Q03 was captured in the analysis for the dot-com bust. For the COVID-19 pandemic, quarters 0 to 7 refer to the period from 4Q19 to 3Q21.

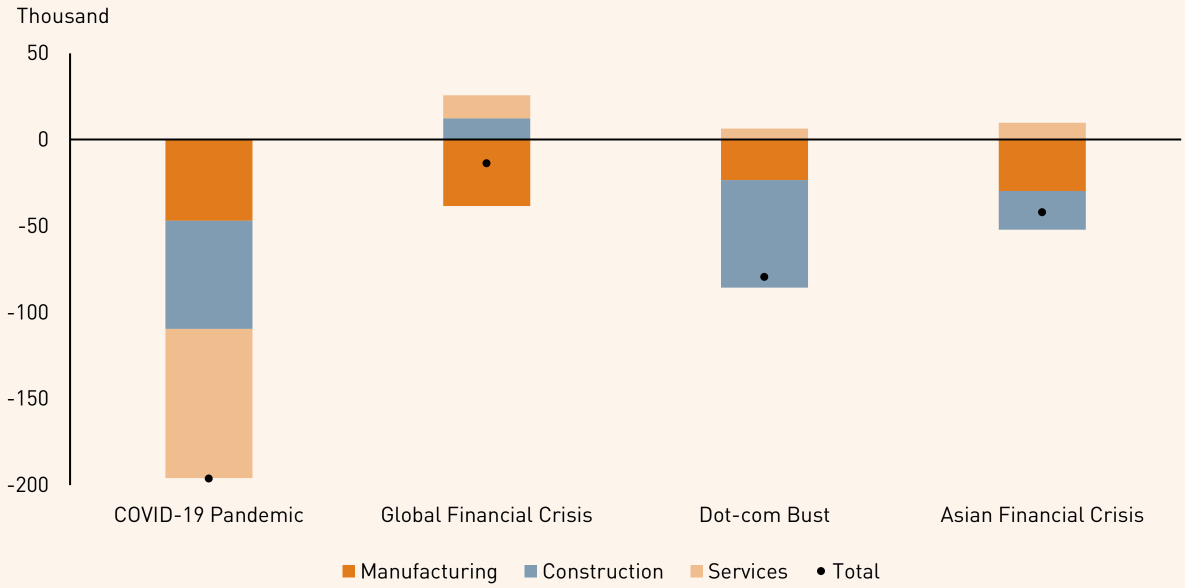
Employment losses during the COVID-19 pandemic were more broad-based across sectors compared to previous recessions

Unlike previous downturns, the COVID-19 pandemic simultaneously affected the Singapore economy through five transmission channels, especially in the earlier stages of the pandemic (see Rahmat et al., 2021). First, the plunge in international visitor arrivals and air travel due to global travel restrictions severely affected tourism- and aviation-related sectors such as accommodation and air transport. Second, domestic safe management measures and a fall in domestic consumption negatively affected consumer-facing sectors such as retail trade and food & beverage services. Third, weak external demand and supply chain disruptions dampened the performance of outward-oriented sectors such as wholesale trade and water transport for the most part of 2020. Fourth, negative spillovers from the slowdown in domestic economic activity led to lower demand in sectors such as real estate in 2020 and early 2021. Fifth, manpower disruptions resulting from outbreaks in migrant worker dormitories followed by border restrictions, as well as the requirement to implement safe management measures in workplaces, weighed on sectors with a high dependence on migrant workers, including the construction and marine sectors.

Arising from these transmission channels that affected many sectors of the economy, job losses during the COVID-19 pandemic were more broad-based compared to previous recessions. Between 4Q19 and 3Q21, employment fell the most in the services sector (-86,400), followed by the construction (-62,600) and manufacturing (-47,000) sectors (Exhibit 2). This was in contrast to previous experiences during the Global Financial Crisis, dot-com bust and Asian Financial Crisis, where services employment growth remained positive despite overall peak-to-trough employment losses.[4]

4 *Over the employment peak-to-trough period during the dot-com bust, Asian Financial Crisis and Global Financial Crisis, services employment rose by 6,400, 9,700 and 13,300, respectively.*

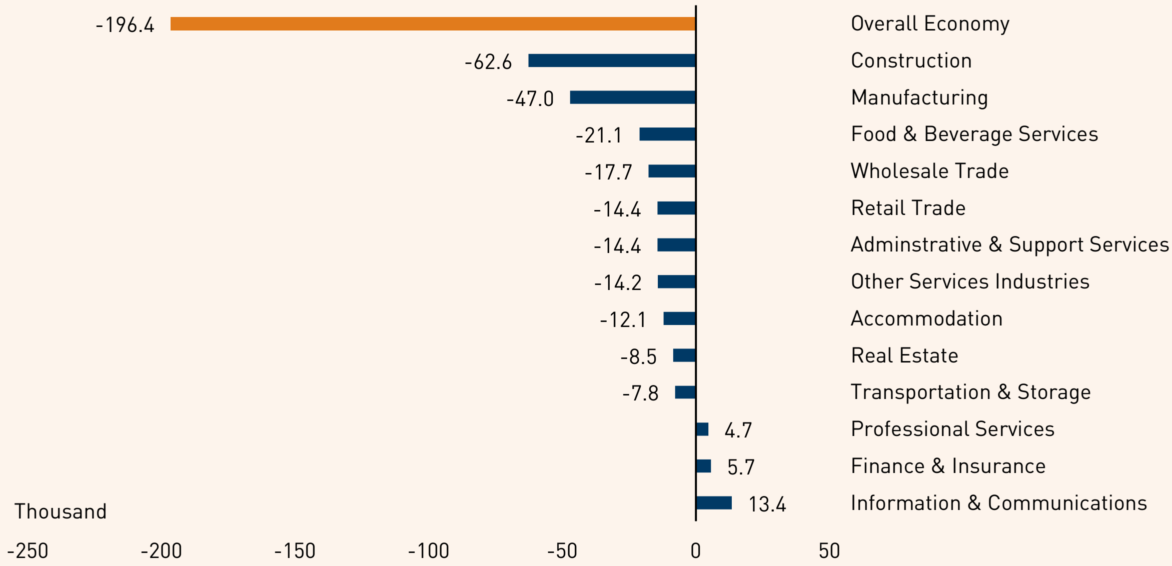
Exhibit 2: Cumulative Employment Change by Broad Sector and Recessionary Episode



Sources: MTI staff estimates; Administrative Records and Labour Force Survey, Manpower Research & Statistics Department, MOM
Notes: Data are primarily from administrative records, with the self-employed component estimated from MOM's Labour Force Survey. Total employment change includes employment changes in the broad sectors (i.e., manufacturing, construction and services) and other industries (e.g., agriculture, fishing, quarrying, utilities). Employment losses for the COVID-19 pandemic are for the period of 4Q19 to 3Q21. Peak-to-trough employment losses are reported for the other recessions – i.e., Global Financial Crisis (4Q08–2Q09), dot-com bust (2Q01–2Q03) and Asian Financial Crisis (1Q98–1Q99).

Notwithstanding the overall fall in services employment during the COVID-19 pandemic, employment outcomes were uneven across the various services sectors (Exhibit 3). On the one hand, employment contracted the most in the food & beverage services (-21,100) and wholesale trade (-17,700) sectors between 4Q19 and 3Q21. On the other hand, employment rose in the information & communications (+13,400), finance & insurance (+5,700) and professional services (+4,700) sectors over the same period, partly reflecting the recovery in external demand towards the later part of 2020 and in 2021. These sectors were also likely to have been less affected by workplace closures during the CB period and maximum work-from-home requirements during periods of tightening because of their suitability for remote work.[5]

Exhibit 3: Change in Total Employment by Sectors, 4Q19–3Q21



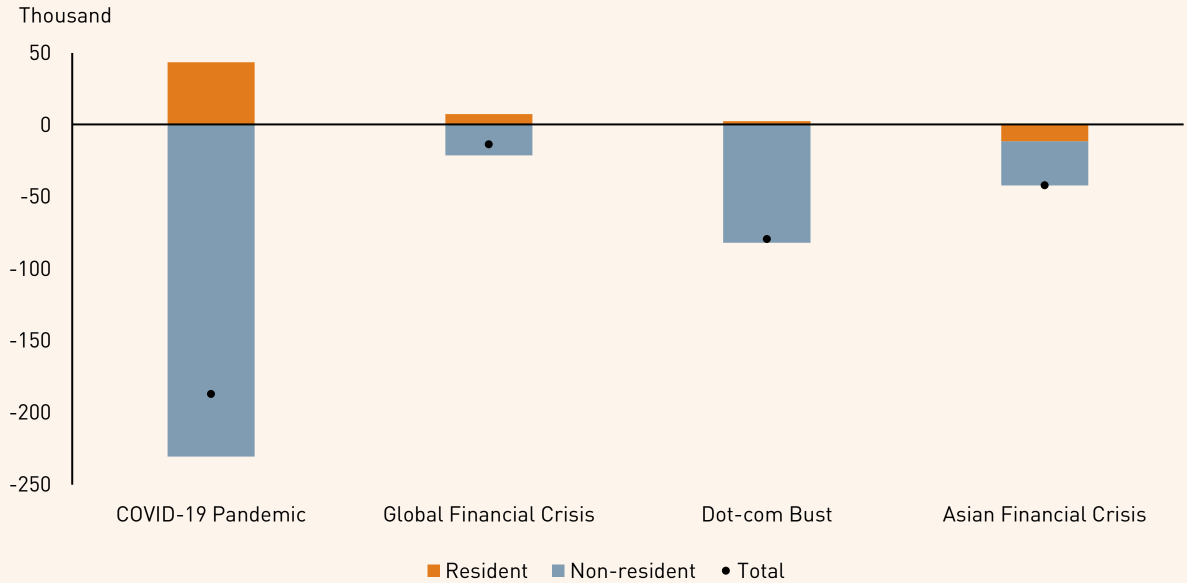
Sources: MTI staff estimates; Administrative Records and Labour Force Survey, Manpower Research & Statistics Department, MOM
Note: Data are primarily from administrative records, with the self-employed component estimated from MOM's Labour Force Survey.

5 *In 2020, the incidence of residents who worked from home in Singapore was the highest in the information & communications (78 per cent), finance & insurance (76 per cent) and professional services (75 per cent) sectors (MOM, 2021a). As a comparison, 49 per cent of all employed residents worked from home because of the COVID-19 pandemic in 2020.*

Like past recessions, non-resident workers buffered resident workers from employment losses during the COVID-19 pandemic

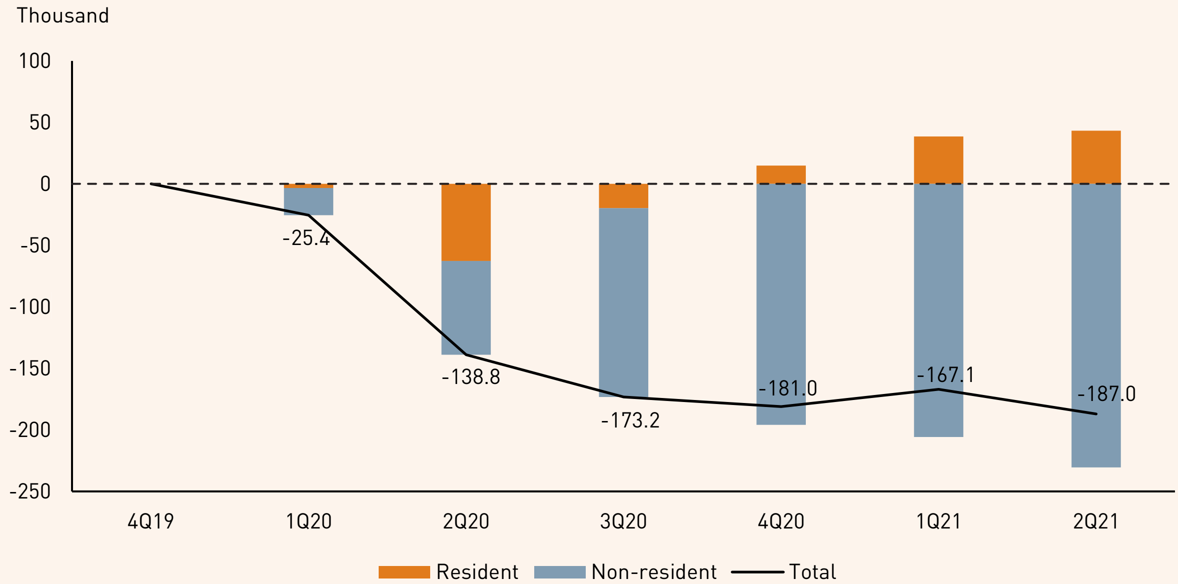
Similar to previous downturns[6], the non-resident workforce buffered resident workers from employment losses during the pandemic (Exhibit 4). Between 4Q19 and 2Q21[7], the overall decline in employment (-187,000) was driven by non-resident employment losses (-230,400), which had exceeded resident employment gains (+43,400). Although resident employment fell in the first half of 2020 (-62,700), it trended upwards subsequently and had surpassed pre-COVID levels by 4Q20 (Exhibit 5). On the other hand, non-resident employment continued to contract between 2Q20 and 2Q21, primarily due to ongoing border restrictions. Apart from being buffered by the non-resident workforce, targeted support measures for residents (e.g., Jobs Support Scheme and Jobs Growth Incentive) may have also supported resident employment outcomes during the COVID-19 pandemic (see MAS, 2021).

Exhibit 4: Cumulative Employment Change by Residency Status and Recessionary Episode



Sources: MTI staff estimates; Administrative Records and Labour Force Survey, Manpower Research & Statistics Department, MOM
Notes: Data are primarily from administrative records, with the self-employed component estimated from MOM's Labour Force Survey. Employment losses for the COVID-19 pandemic are for the period of 4Q19 to 2Q21 because employment data by residency status for 3Q21 are not available in MOM's advance estimates. Peak-to-trough employment losses are reported for the other recessions – i.e., Global Financial Crisis (4Q08–2Q09), dot-com bust (2Q01–2Q03) and Asian Financial Crisis (1Q98–1Q99).

Exhibit 5: Cumulative Employment Change by Residency Status, 4Q19–2Q21



Sources: MTI staff estimates; Administrative Records and Labour Force Survey, Manpower Research & Statistics Department, MOM
Notes: Data are primarily from administrative records, with the self-employed component estimated from MOM's Labour Force Survey. The above exhibit shows the cumulative employment change from the pre-COVID reference quarter of 4Q19. For example, the employment change in 2Q21 (i.e., -187,000) reflects the cumulative employment change between 4Q19 and 2Q21.

6 *During the Global Financial Crisis and dot-com bust, peak-to-trough employment losses (-13,800 and -79,500, respectively) were due to declines in non-resident employment (-21,200 and -82,000, respectively) that offset gains in resident employment (+7,400 and +2,500, respectively). For the Asian Financial Crisis, the peak-to-trough employment loss of 42,100 was primarily driven by a fall in non-resident employment (-30,600).*

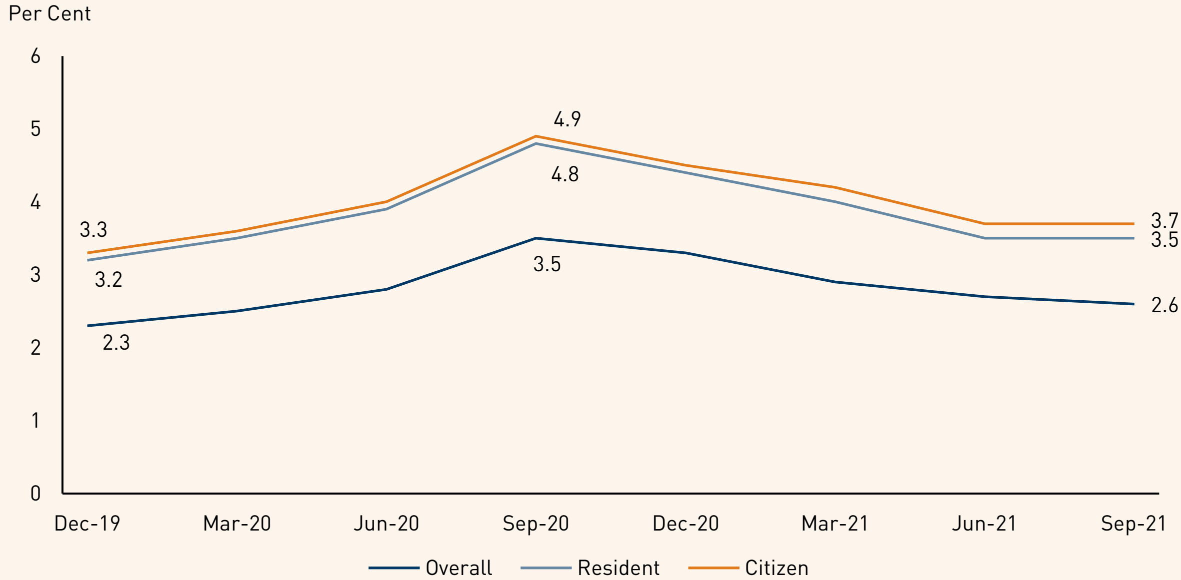
7 *Employment data by residency status for 3Q21 are not available in MOM's advance estimates. Nonetheless, the employment trends seen between 4Q19 and 2Q21 are likely to have continued in 3Q21, with MOM (2021b) noting that resident employment expanded substantially while non-resident employment contracted in 3Q21.*

(III) Singapore's Unemployment Rate Compared with Other Advanced Economies

Singapore's unemployment rate remained lower than that in other advanced economies

Reflecting the early impact of the COVID-19 pandemic on the labour market, Singapore's seasonally-adjusted unemployment rates rose at the overall level (from 2.3 per cent to 3.5 per cent) and for residents (3.2 per cent to 4.8 per cent) and citizens (3.3 per cent to 4.9 per cent) between December 2019 and September 2020 (Exhibit 6). However, unemployment rates subsequently eased in tandem with the gradual recovery of economic activity. By September 2021, the overall, resident and citizen unemployment rates had moderated to 2.6 per cent, 3.5 per cent and 3.7 per cent, respectively, although these remained above December 2019 levels.

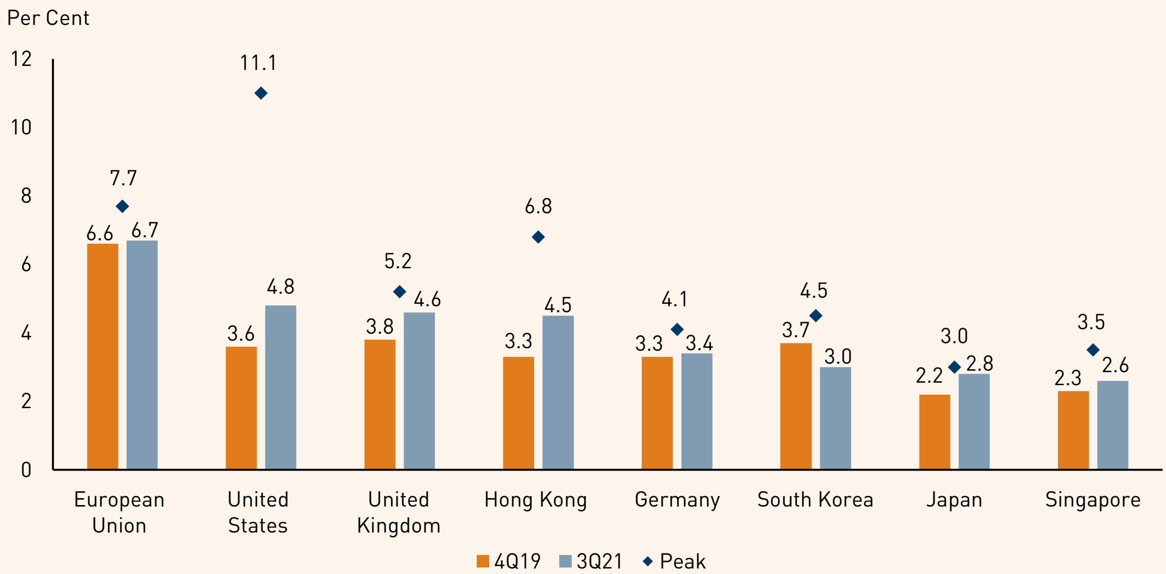
Exhibit 6: Unemployment Rates in Singapore, December 2019–September 2021



Sources: Labour Force Survey, Manpower Research & Statistics Department, MOM
Note: Unemployment rates are seasonally adjusted and reported on an end-of-quarter basis.

Singapore's experience over the course of the pandemic was not unique. Across many advanced economies, unemployment rates similarly rose due to the impact of the pandemic. For instance, the unemployment rate in the United States increased from 3.6 per cent to 11 per cent between December 2019 and June 2020. As the various economies began to recover, their unemployment rates likewise started to moderate. As at 3Q21, however, the unemployment rates in most of the advanced economies remained higher than their pre-pandemic levels (i.e., unemployment rates in 4Q19) (Exhibit 7).[8]

Exhibit 7: Unemployment Rates, 4Q19–3Q21



Sources: MTI staff estimates, MOM and CEIC
Notes: Unemployment rates are seasonally adjusted and reported on an end-of-quarter basis (i.e., March, June, September and December of the respective years), apart from that of Hong Kong, which is reported on a quarterly average basis. The diamonds refer to the highest unemployment rate reached between 4Q19 and 3Q21 in the various economies.

8 *Among the basket of advanced economies, South Korea stands out as an exception. In September 2021, South Korea's unemployment rate was 3.0 per cent, lower than its pre-COVID level of 3.7 per cent in December 2019.*

Compared to the other economies, Singapore's overall unemployment rate has remained relatively low notwithstanding the large employment losses suffered during the pandemic. As at September 2021, Singapore's overall unemployment rate (2.6 per cent) was lower than that of the United States (4.8 per cent), United Kingdom (4.6 per cent), Hong Kong (4.5 per cent), Germany (3.4 per cent), South Korea (3.0 per cent) and Japan (2.8 per cent) (Exhibit 7). Singapore's low overall unemployment rate partly reflected the availability of employment opportunities[9], as well as the loss of non-resident workers who exited Singapore's labour force amidst the downturn.

(IV) Conclusion

COVID-19 and the public health responses to it have resulted in an unprecedented level of employment losses in Singapore. An examination of the employment trends highlights that these losses have been more broad-based across sectors compared to previous recessions, with employment falling the most in the services (e.g., food & beverage services, wholesale trade) and construction sectors. Similar to past recessions, non-resident workers have buffered resident workers from employment losses during the downturn, with non-resident employment declining even as resident employment rose.

Despite the employment losses, unemployment rates in Singapore have remained relatively low, in part reflecting the increasing availability of employment opportunities as the economy recovers. To further strengthen the recovery of the labour market, the Government will continue to (i) help bring together jobs and skills opportunities under the SGUnited Jobs and Skills Package to support local jobseekers, (ii) help companies to expand local hiring through the Jobs Growth Incentive, and (iii) support companies (particularly those in the construction, marine and process sectors) in retaining their existing migrant workers and facilitating the safe inflow of new migrant workers.

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9 In 2Q21, the ratio of job vacancies to unemployed persons was 1.63, indicating that there were more job vacancies than unemployed persons in the Singapore economy. The ratio was the highest level recorded over the past decade.

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CHAPTER

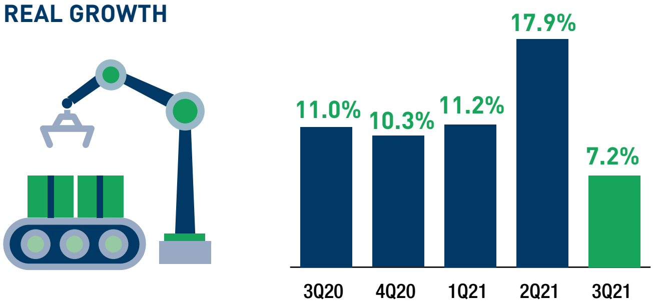
02

SECTORAL PERFORMANCE

CHAPTER 2
SECTORAL PERFORMANCE

MANUFACTURING

REAL GROWTH

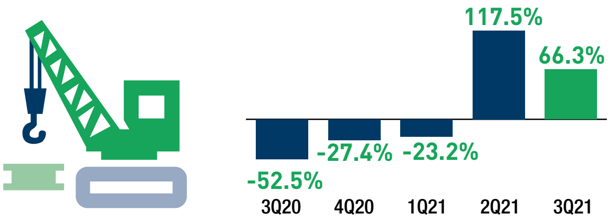


CLUSTERS IN MANUFACTURING SECTOR (Y-O-Y CHANGE)

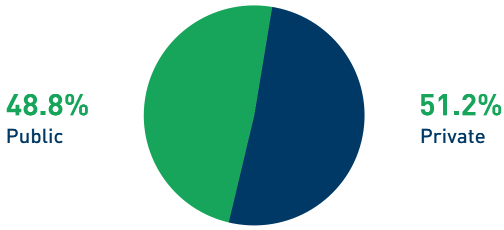
- 24.2% Precision Engineering
- 22.3% Transport Engineering
- 7.7% Electronics
- 4.8% General Manufacturing Industries
- 2.4% Chemicals
- -4.3% Biomedical Manufacturing

CONSTRUCTION

REAL GROWTH



CERTIFIED PAYMENTS IN 3Q21

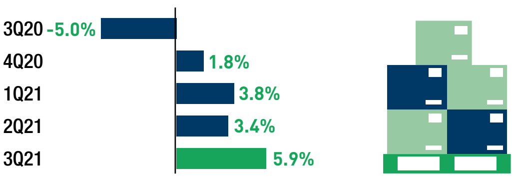


CONTRACTS AWARDED IN 3Q21 (Y-O-Y CHANGE)

352.7%	111.1%	67.2%	49.1%	-39.8%
Residential	Commercial	Institutional & Others	Civil Engineering	Industrial

WHOLESALE TRADE

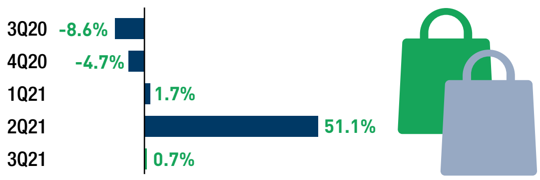
REAL GROWTH



Foreign Wholesale Trade Index Growth	9.4%
Domestic Wholesale Trade Index Growth	5.1%

RETAIL TRADE

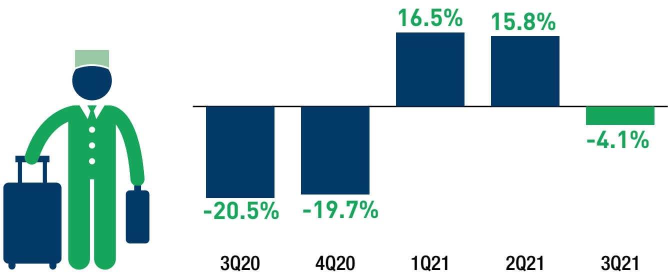
REAL GROWTH



Retail Sales Index Growth (Non-Motor Vehicles)	3.3%
Retail Sales Index Growth (Motor Vehicles)	-12.6%

ACCOMMODATION

REAL GROWTH



OCCUPANCY RATES OF HOTELS (Y-O-Y CHANGE)

Luxury
10.8%-pt

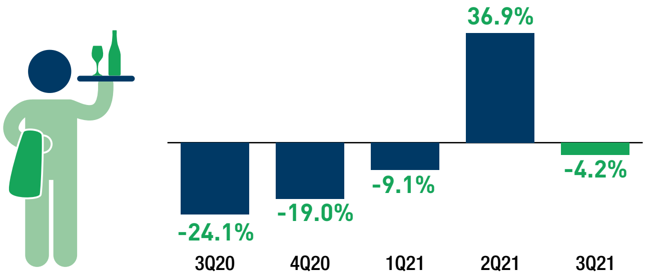
Upscale
5.5%-pt

Mid-Tier
-20.8%-pt

Economy
-14.9%-pt

FOOD & BEVERAGE SERVICES

REAL GROWTH



F&B SALES INDEX GROWTH (Y-O-Y CHANGE)

Fast Food Outlets
10.6%

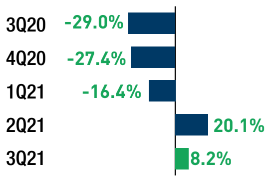
Others
4.1%

Food Caterers
-16.7%

Restaurants
-18.0%

TRANSPORTATION & STORAGE

REAL GROWTH

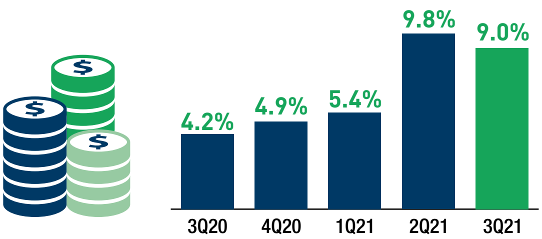


Total Sea Cargo Handled Growth **0.1%**

Air Passengers Handled Growth **141.4%**

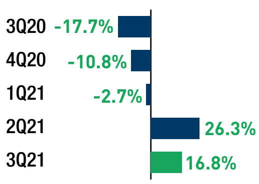
FINANCE & INSURANCE

REAL GROWTH



REAL ESTATE

REAL GROWTH



PRIVATE RESIDENTIAL REAL ESTATE

Units Transacted (Y-O-Y Change) **28.9%**

Price Index (Q-O-Q Change) **1.1%**

OVERVIEW

In the third quarter of 2021,

- The manufacturing sector grew by 7.2 per cent year-on-year, moderating from the 18 per cent growth in the preceding quarter. All clusters recorded positive growth, except for the biomedical manufacturing cluster, which recorded a decline in output.
- The construction sector expanded by 66 per cent year-on-year, slowing from the 117 per cent expansion in the second quarter. The strong growth during the quarter was mainly due to low base effects as construction activities were slow to resume after the Circuit Breaker (CB) period last year.
- Growth in the wholesale trade sector came in at 5.9 per cent year-on-year, faster than the 3.4 per cent recorded in the previous quarter.
- The retail trade sector expanded by 0.7 per cent year-on-year, a slowdown from the 51 per cent growth in the preceding quarter.
- The transportation & storage sector posted growth of 8.2 per cent year-on-year, moderating from the 20 per cent growth in the previous quarter. The expansion of the sector was driven mainly by the air transport segment, which grew from a low base.
- The accommodation sector contracted by 4.1 per cent year-on-year, reversing from the 16 per cent growth recorded in the preceding quarter.
- The food & beverage services sector shrank by 4.2 per cent year-on-year, a reversal from the 37 per cent expansion in the second quarter.
- Growth in the finance & insurance sector came in at 9.0 per cent year-on-year, extending the 9.8 per cent expansion in the previous quarter.
- The real estate sector expanded by 17 per cent year-on-year, extending the 26 per cent growth in the previous quarter, on account of low base effects.
- The professional services sector grew by 4.4 per cent year-on-year, moderating from the 11 per cent expansion in the previous quarter.

MANUFACTURING

The manufacturing sector expanded by 7.2 per cent on a year-on-year basis in the third quarter of 2021, moderating from the 18 per cent growth in the preceding quarter (Exhibit 2.1). Growth during the quarter was supported by output expansions across all clusters except for the biomedical manufacturing cluster (Exhibit 2.2).

Exhibit 2.1: Manufacturing Sector's Growth Rate

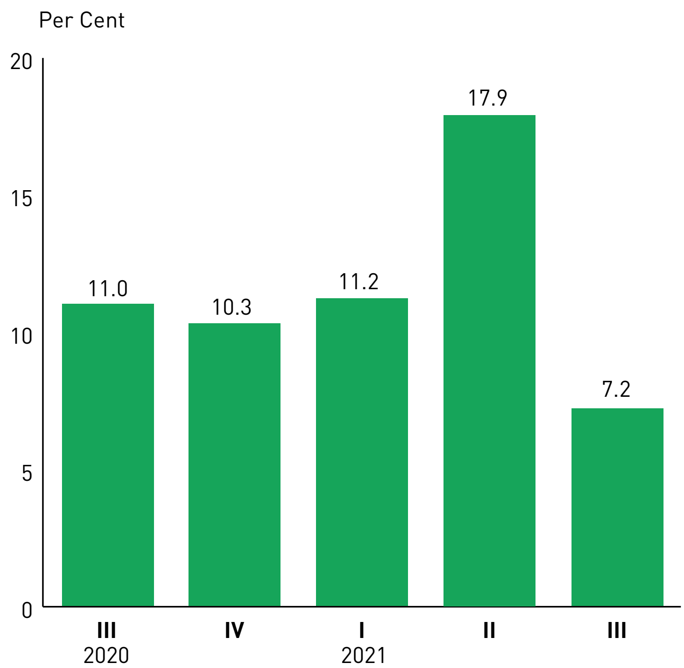
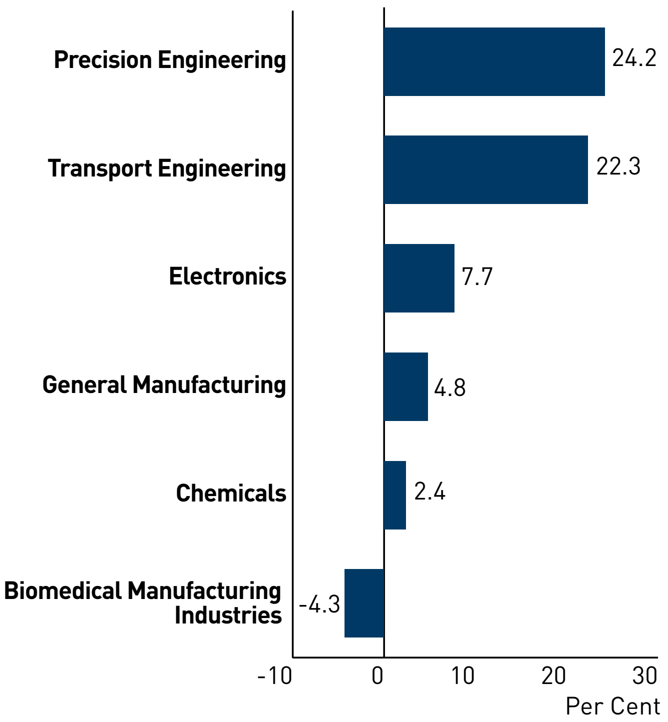


Exhibit 2.2: Manufacturing Clusters' Growth Rates in 3Q 2021



The precision engineering cluster expanded by 24 per cent in the third quarter, supported by output expansions in both the machinery & systems (M&S) and precision modules & components (PMC) segments. The M&S segment grew by 32 per cent due to an increase in the output of semiconductor and industrial process equipment. In particular, demand for semiconductor equipment was driven by strong capital investments in the global semiconductor industry amidst the global semiconductor shortage. Similarly, the PMC segment expanded by 8.3 per cent, on account of a higher level of output of optical products, metal and plastic precision components, in part due to a step-up in demand from the consumer electronics and healthcare industries.

Output in the transport engineering cluster rose by 22 per cent in the third quarter, supported by expansions in all segments. In particular, output in the marine & offshore engineering segment increased by 31 per cent from a low base last year when movement restrictions at migrant worker dormitories had adversely affected the level of activity in shipyards. Similarly, the aerospace segment grew by 22 per cent from a low base of maintenance, repair & overhaul activities last year due to the widespread grounding of aircraft amidst COVID-19 travel restrictions. Meanwhile, the land transport segment expanded by 8.3 per cent due to an increase in the production of parts and accessories for motor vehicles and bicycles.

The electronics cluster grew by 7.7 per cent in the third quarter, supported by output expansions in all segments. Specifically, output in the semiconductors segment increased by 7.5 per cent on account of sustained global demand for semiconductors. Meanwhile, the other electronics modules & components, infocomms & consumer electronics and computer peripherals & data storage segments expanded by 33 per cent, 21 per cent and 1.3 per cent respectively.

Output in the general manufacturing cluster increased by 4.8 per cent in the third quarter. The cluster's growth was mainly driven by the miscellaneous industries segment, which grew by 36 per cent from a low base in the third quarter of 2020 when demand for construction-related materials was adversely affected by the slow resumption of domestic construction activities after the Circuit Breaker (CB) period. By contrast, output in the food, beverages & tobacco (FBT) and printing segments declined by 10 per cent and 15 per cent respectively, with the former largely weighed down by a fall in the production of milk products on the back of weak export demand and plant maintenance shutdowns.

The chemicals cluster grew by 2.4 per cent in the third quarter, supported by output expansions in all segments except for the specialty chemicals segment. The petroleum and petrochemicals segments expanded by 26 per cent and 7.5 per cent respectively from low bases a year ago when production was weighed down by plant maintenance shutdowns, as well as weak export demand as major economies around the world implemented travel and domestic movement restrictions to contain the spread of COVID-19. Similarly, output in the other chemicals segment rose by 1.5 per cent on the back of a higher level of production of fragrances. Conversely, the specialty chemicals segment contracted by 7.7 per cent on account of plant maintenance shutdowns.

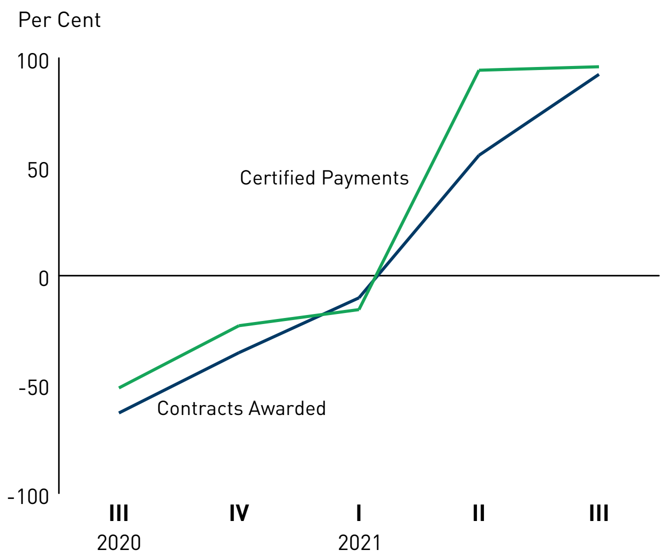
The biomedical manufacturing cluster shrank by 4.3 per cent in the third quarter, as a contraction in the pharmaceuticals segment outweighed an expansion in the medical technology segment. The pharmaceuticals segment contracted by 8.6 per cent on account of a different mix of active pharmaceutical ingredients (APIs) produced. On the other hand, the medical technology segment expanded by 8.6 per cent due to higher export demand for medical devices.

CONSTRUCTION

The construction sector grew by 66 per cent year-on-year in the third quarter of 2021, slowing from the 117 per cent expansion recorded in the previous quarter[1]. The strong growth during the quarter was mainly due to the low base in the third quarter of 2020 caused by the slow resumption of construction activities after the CB period. Compared to its pre-pandemic level in the third quarter of 2019, the value-added of the construction sector remained 21 per cent lower in the third quarter of 2021.

In the third quarter of 2021, nominal certified progress payments (a proxy for construction output) surged by 96 per cent, extending the 94 per cent increase in the previous quarter (Exhibit 2.3). Expansions in certified progress payments were seen in both the private (85 per cent) and public (108 per cent) sectors. The pickup in private certified progress payments was largely driven by private industrial (60 per cent) and residential (100 per cent) building works. On the other hand, the increase in public certified progress payments was led by public civil engineering (159 per cent) and institutional & others building (149 per cent) works.

Exhibit 2.3: Changes in Contracts Awarded and Certified Payments



Meanwhile, construction demand in terms of contracts awarded rose by 93 per cent in the third quarter, improving from the 55 per cent expansion in the second quarter. This was due to higher demand for both private (23 per cent) and public (165 per cent) sector construction works. The former was driven by a rise in contracts awarded for private residential (241 per cent) and commercial (131 per cent) building works, while the latter was led by an increase in contracts awarded for public residential building (515 per cent) and civil engineering (100 per cent) works.

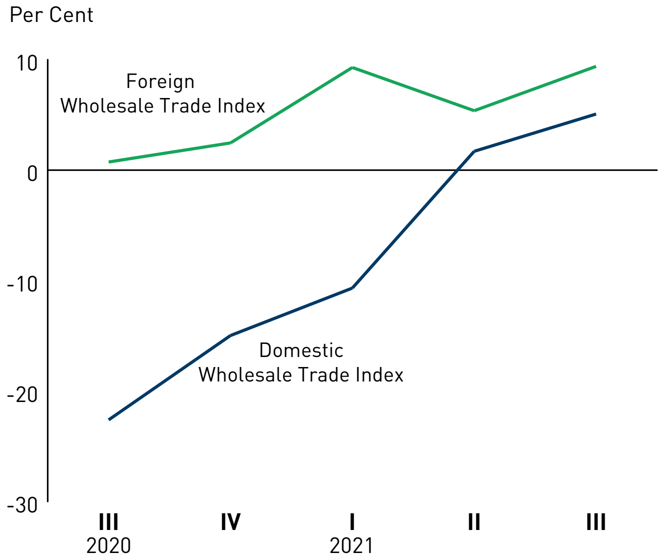
WHOLESALE TRADE

The wholesale trade sector grew by 5.9 per cent year-on-year in the third quarter of 2021, extending the 3.4 per cent expansion in the previous quarter.

The performance of the sector was bolstered by a 9.4 per cent increase in foreign wholesale trade sales volume (Exhibit 2.4), which was higher than the 5.4 per cent growth seen in the previous quarter. The pickup in foreign wholesale trade sales volume came on the back of an increase in the sales volumes of telecommunications & computers (39 per cent), electronic components (17 per cent) and petroleum & petroleum products (9.7 per cent).

Meanwhile, the domestic wholesale trade sales volume rose by 5.1 per cent in the third quarter, extending the 1.7 per cent increase in the previous quarter. Growth during the quarter was largely the result of an increase in the sales volumes of telecommunications & computers (16 per cent) and metals, timber & construction materials (27 per cent).

Exhibit 2.4: Changes in Wholesale Trade Index in Chained Volume Terms



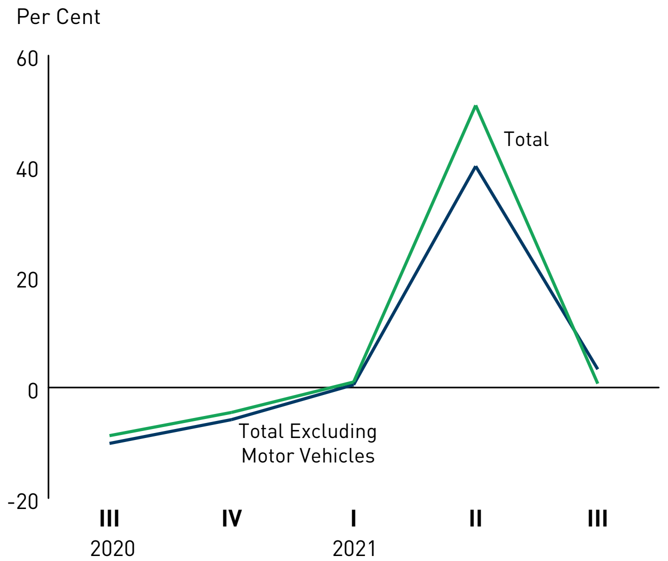
1 *The strong year-on-year growth in the second quarter of 2021 was due to low base effects as most construction activities were suspended during the CB period a year ago.*

RETAIL TRADE

The retail trade sector expanded by 0.7 per cent, a slowdown from the 51 per cent growth recorded in the previous quarter[2].

Overall retail sales volume increased by 0.7 per cent year-on-year in the third quarter, slower than the 51 per cent growth in the second quarter (Exhibit 2.5). Growth in retail sales volume was attributable to non-motor vehicular sales (3.3 per cent), as motor vehicular sales (-13 per cent) saw a decline due to a fall in COE quotas. In turn, non-motor vehicular sales were supported by an increase in the sales of computer & telecommunications equipment (28 per cent) due to new off-cycle smartphone releases, as well as food & alcohol (4.9 per cent) and supermarkets & hypermarkets (4.4 per cent) sales, which benefitted from the substitution towards home-cooked meals as dine-in restrictions were tightened in the third quarter. The sales of watches & jewellery (13 per cent) and wearing apparel & footwear (7.5 per cent) also rose from their low bases in the third quarter of 2020. By contrast, the furniture & household equipment (-4.2 per cent) and mini-marts & convenience stores (-5.3 per cent) segments shrank as a result of their high bases in the same quarter a year ago.

Exhibit 2.5: Changes in Retail Sales Index in Chained Volume Terms

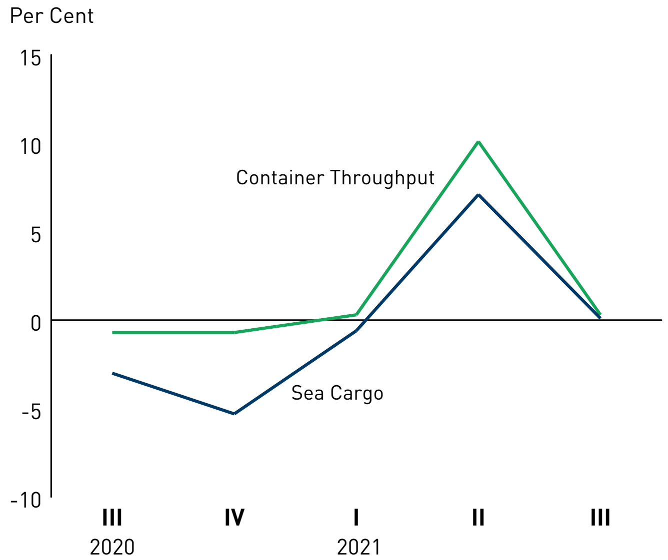


TRANSPORTATION & STORAGE

The transportation & storage sector grew by 8.2 per cent year-on-year in the third quarter of 2021, moderating from the 20 per cent expansion in the previous quarter. The growth of the sector was driven mainly by the air transport segment, which expanded from a low base.

For the water transport segment, the volume of sea cargo handled rose marginally by 0.1 per cent year-on-year in the third quarter, slowing from the 7.1 per cent increase recorded in the previous quarter (Exhibit 2.6). The expansion in sea cargo volume handled was due to an increase in general cargo volume (1.1 per cent), which slightly outweighed a decline in oil-in-bulk cargo volume (3.2 per cent). Meanwhile, container throughput rose by 0.3 per cent during the quarter.

Exhibit 2.6: Changes in Container Throughput and Sea Cargo Handled



The air transport segment expanded year-on-year in the third quarter, on account of low base effects as international travel restrictions and domestic border controls to contain the cross-border spread of COVID-19 brought air passenger traffic to a near-standstill during the same period last year. In particular, the volume of air passenger traffic handled at Changi Airport surged by 141 per cent year-on-year in the third quarter, extending the 440 per cent increase in the previous quarter (Exhibit 2.7). Nonetheless, in absolute terms, air passenger traffic volume only reached 3.7 per cent of the volume seen in the third quarter of 2019. Meanwhile, total air cargo shipments handled at Changi Airport rose by 38 per cent in the third quarter of 2021, moderating from the 53 per cent growth recorded in the previous quarter. At the same time, the number of aircraft landings climbed by 71 per cent to reach 14,046 in the third quarter, extending the 96 per cent increase in the previous quarter.

2 *The strong year-on-year growth in the second quarter of 2021 was due to low base effects as sales at most physical retail premises were not allowed during the CB period last year.*

Exhibit 2.7: Changes in Air Transport

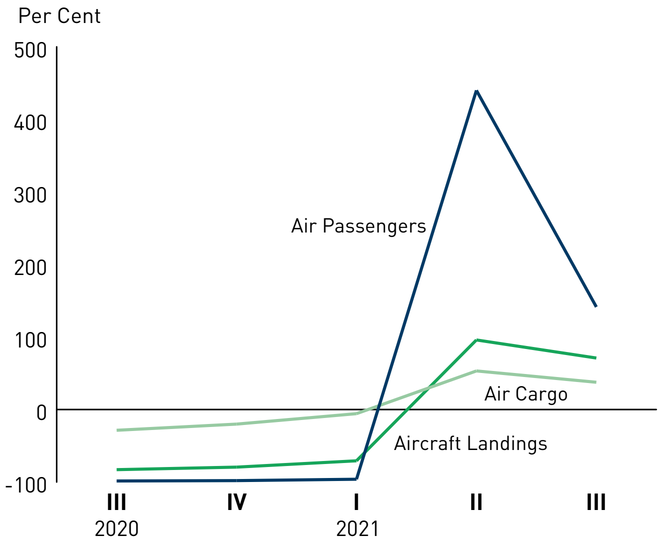
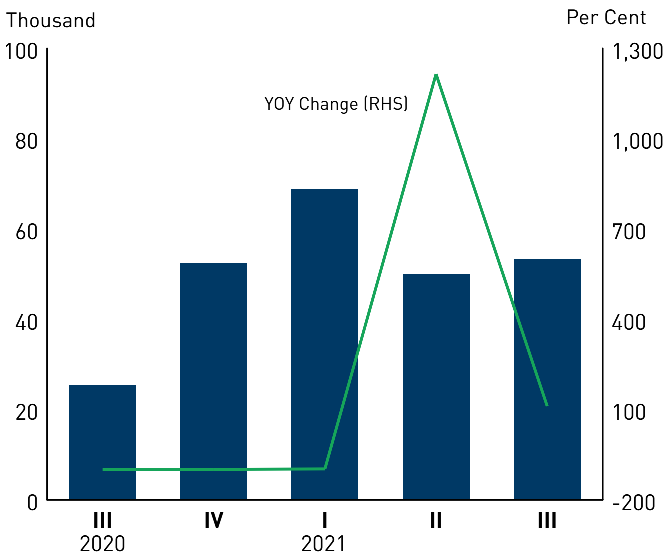


Exhibit 2.8: Visitor Arrivals



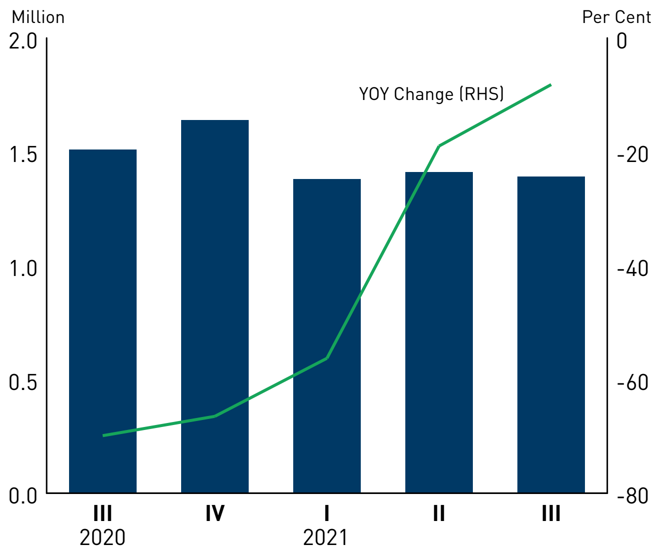
ACCOMMODATION

The accommodation sector contracted by 4.1 per cent year-on-year in the third quarter of 2021, a reversal from the 16 per cent growth in the preceding quarter. The performance of the sector was weighed down by weak international visitor arrivals as a result of ongoing travel restrictions. Local demand for staycations also fell in the third quarter due to the Phase 2 (Heightened Alert) (P2HA) restrictions. On the other hand, the sector was supported by government demand for hotel rooms to serve as government quarantine facilities, given the rise in COVID-19 cases during the quarter.

Total visitor arrivals increased by 111 per cent year-on-year in the third quarter, extending the 1,214 per cent growth recorded in the second quarter (Exhibit 2.8). The strong growth in both quarters was on account of low base effects, as the number of visitor arrivals plunged by nearly 100 per cent in both the second and third quarters of 2020. In absolute terms, visitor arrivals in the third quarter of 2021 were around 53,400, representing just 1.1 per cent of the 5.0 million visitor arrivals registered in the third quarter of 2019.

At the same time, gross lettings at gazetted hotels declined by 8.2 per cent in the third quarter, improving from the 19 per cent contraction in the second quarter (Exhibit 2.9). As available room-nights rose while gross lettings declined, the average occupancy rate of gazetted hotels fell by 8.5 percentage-points on a year-on-year basis to reach 56 per cent in the third quarter. This was higher than the average occupancy rate of 50 per cent recorded in the previous quarter.

Exhibit 2.9: Gross Lettings at Gazetted Hotels

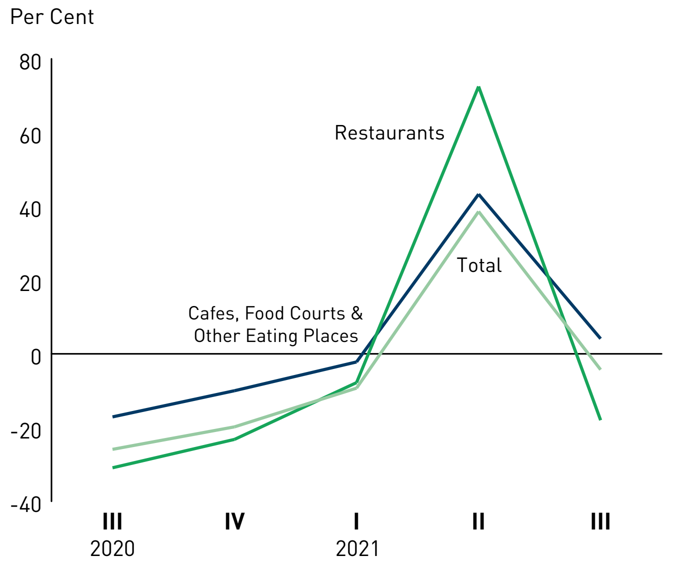


FOOD & BEVERAGE SERVICES

The food & beverage services sector contracted by 4.2 per cent year-on-year in the third quarter of 2021, in contrast to the 37 per cent expansion in the preceding quarter[3].

Overall food & beverage sales volume declined by 4.3 per cent in the third quarter, a reversal from the 39 per cent expansion in the second quarter (Exhibit 2.10). The drop in sales volume was due to the re-imposition of P2HA restrictions in the third quarter. The restaurants (-18 per cent) and food caterers (-17 per cent) segments saw declines in their sales volumes, while the fast food (11 per cent) segment continued to be buoyed by strong demand.

Exhibit 2.10: Changes in Food & Beverage Services Index in Chained Volume Terms

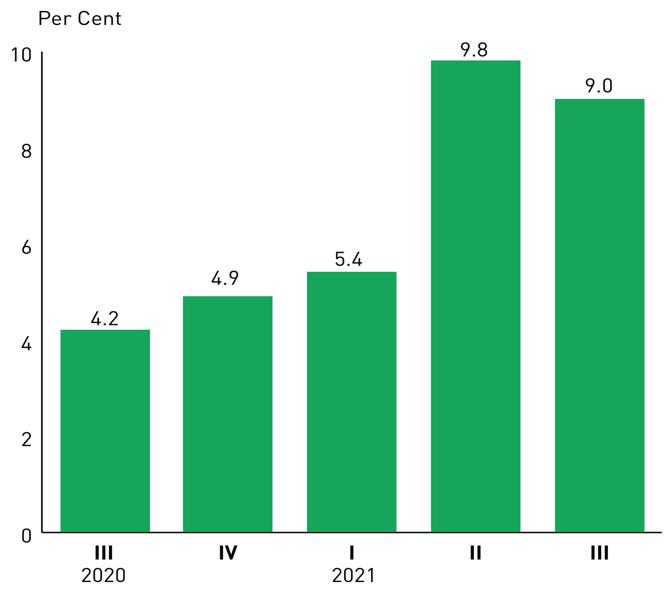


FINANCE & INSURANCE

The finance & insurance sector grew by 9.0 per cent year-on-year in the third quarter of 2021, extending the 9.8 per cent expansion in the preceding quarter (Exhibit 2.11).

The strong growth of the sector in the third quarter was mainly driven by the insurance segment, which was supported by firm demand for life insurance products, while demand for general insurance saw some uptick as overall business activity improved. Other auxiliary activities, which largely comprise payments processing players, also recorded a strong performance amidst the rise in e-payments. Likewise, the sentiment-sensitive segments (fund management, security dealing activities and forex segments) continued to post robust expansions. The banks segment registered positive albeit weaker growth than the other segments, reflecting a slower increase in net fees and commissions.

Exhibit 2.11: Finance & Insurance Sector's Growth Rate



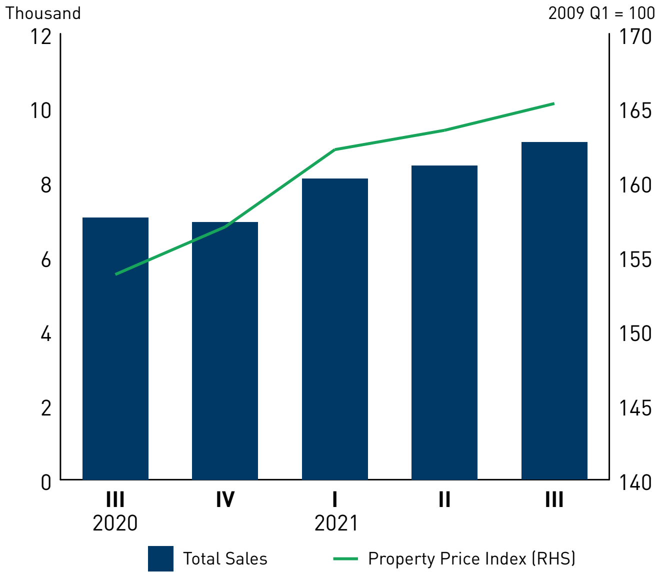
3 *The strong year-on-year growth in the second quarter of 2021 was due to low base effects as dine-in was prohibited during the CB period last year.*

REAL ESTATE

The real estate sector expanded by 17 per cent year-on-year in third quarter of 2021, extending the 26 per cent growth in the preceding quarter. The strong growth of the sector was on account of a low base in the same quarter of last year when rentals for commercial office and retail space fell amidst economic uncertainties. However, compared to the same quarter in 2019, the value-added of the sector remained 3.9 per cent lower.

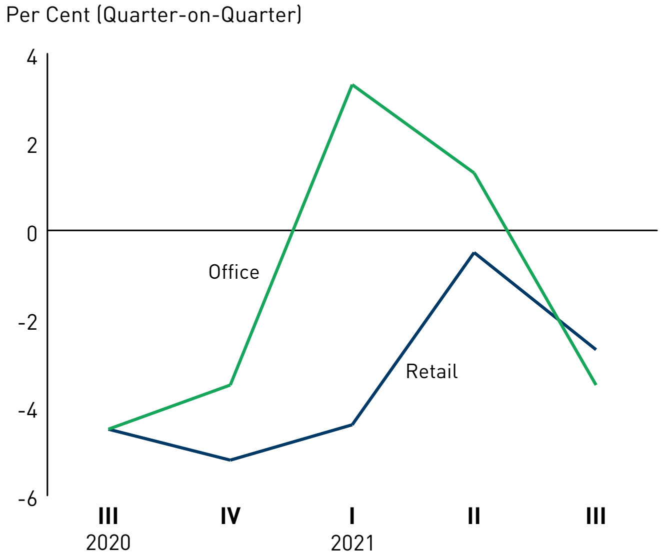
Within the sector, the number of private residential property sales transactions increased by 29 per cent on a year-on-year basis in the third quarter. Meanwhile, private residential property prices rose by 1.1 per cent on a quarter-on-quarter basis during the quarter, extending the 0.8 per cent increase in the previous quarter (Exhibit 2.12).

Exhibit 2.12: Total Sales Transactions for Private Residential Units and Private Residential Property Price Index



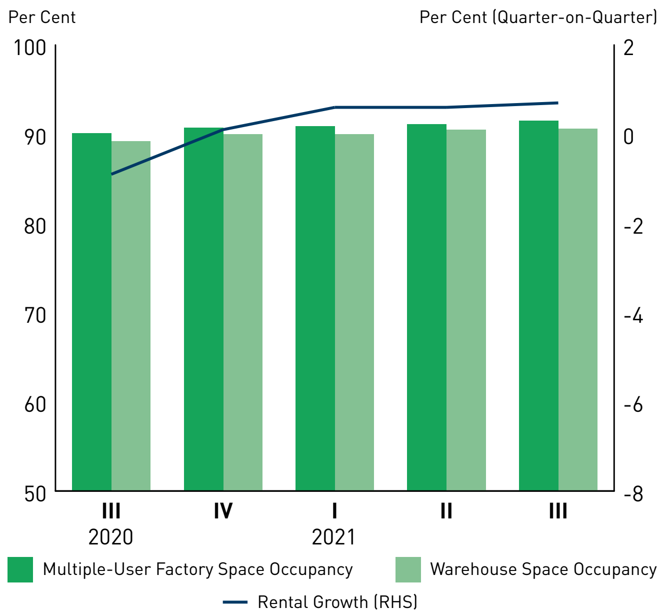
Conditions in the commercial and industrial property space markets were mixed. For the private retail space market, rentals declined by 2.7 per cent on a quarter-on-quarter basis in the third quarter, worsening from the 0.5 per cent drop in the previous quarter (Exhibit 2.13). At the same time, the average occupancy rate of private retail space came in at 91 per cent during the quarter, similar to the 90 per cent registered in the preceding quarter. Likewise, rentals for private office space fell by 3.5 per cent on a quarter-on-quarter basis, reversing the 1.3 per cent increase in the preceding quarter. The average occupancy rate of private office space was 86 per cent in the third quarter, unchanged from the preceding quarter.

Exhibit 2.13: Changes in Rentals of Private Sector Office and Retail Spaces



On the other hand, private industrial rentals rose by 0.7 per cent on a quarter-on-quarter basis in the third quarter, extending the 0.6 per cent increase in the second quarter. The occupancy rates of private sector multiple-user factory and warehouse spaces stood at 92 per cent and 91 per cent respectively, improving slightly from that seen in the previous quarter (Exhibit 2.14).

Exhibit 2.14: Occupancy Rate and Rental Growth of Private Sector Industrial Space



PROFESSIONAL SERVICES

In the third quarter of 2021, the professional services sector grew by 4.4 per cent year-on-year, moderating from the 11 per cent growth in the second quarter. All segments within the sector expanded, except for the head offices & business representative offices segment. The growth of the sector was mainly driven by the architectural & engineering, technical testing & analysis and other professional, scientific & technical services segments, both of which expanded from low bases a year ago.

CHAPTER

03

ECONOMIC OUTLOOK

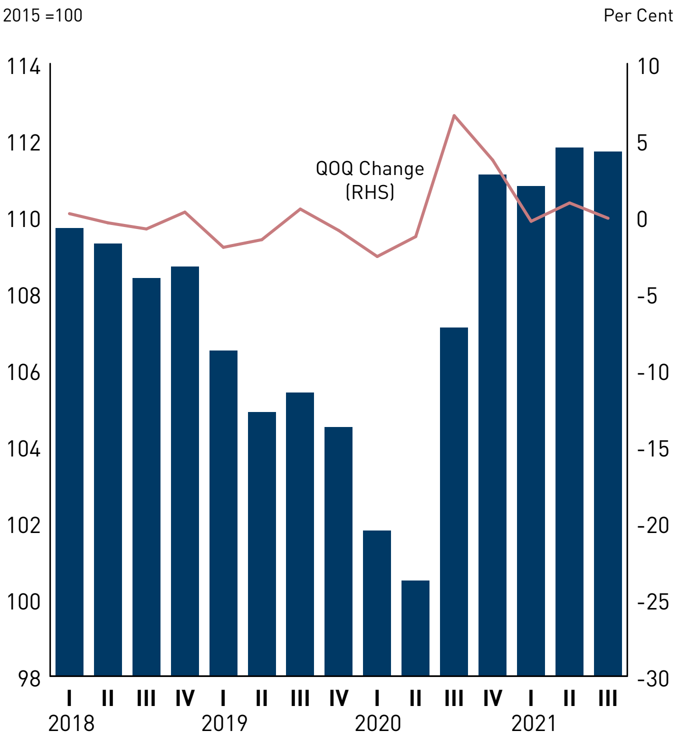
CHAPTER 3
ECONOMIC OUTLOOK

LEADING INDICATORS

On a quarter-on-quarter basis, the composite leading index (CLI) declined marginally by 0.1 per cent in the third quarter of 2021, a reversal from the 0.9 per cent increase in the previous quarter (Exhibit 3.1).

Of the nine components in the CLI, three components saw a quarter-on-quarter increase, namely the stock of finished goods, non-oil retained imports and domestic liquidity. By contrast, stock price, US Purchasing Managers' Index, new companies formed, non-oil sea cargo handled, money supply and wholesale trade declined compared to the previous quarter.

Exhibit 3.1: Composite Leading Index Levels and Growth Rate



OUTLOOK FOR 2021

Since the Economic Survey of Singapore in August, the global economy has performed broadly in line with expectations. Advanced economies which have achieved high vaccination rates and also started booster shots, such as the US and key Eurozone economies, have largely removed restriction measures even amidst the spread of the highly-infectious Delta variant. This has helped to sustain their economic recoveries. By contrast, COVID-19 outbreaks and the re-imposition of restrictions had disrupted the recoveries of key Southeast Asian economies, although some of these restrictions are being gradually lifted as their respective domestic health situations stabilise. In China, economic growth is expected to come in slower than earlier anticipated due to its property market downturn, energy crunch, as well as sluggish consumption growth amidst periodic local outbreaks that have led to the imposition of restrictions to contain the outbreaks.

Domestically, travel and domestic restrictions have continued to weigh on the recovery of aviation- and tourism-related sectors such as air transport and arts, entertainment & recreation, as well as consumer-facing sectors such as food & beverage services and retail trade. However, growth in outward-oriented sectors such as electronics and finance & insurance has been stronger than expected, bolstered by robust demand for semiconductors, and insurance products and fund management services, respectively. The recent easing of border restrictions on the entry of migrant workers from South Asia and Myanmar will also alleviate some of the ongoing labour shortages in the construction and marine & offshore engineering sectors, and support their recovery.

Taking into account the performance of the Singapore economy in the first three quarters of the year (i.e., 7.7 per cent year-on-year), as well as the latest external and domestic developments, the 2021 GDP growth forecast for Singapore is narrowed to **"around 7.0 per cent"**, from "6.0 to 7.0 per cent".

OUTLOOK FOR 2022

For 2022, GDP growth in most advanced economies is expected to moderate as compared to 2021 but remain above pre-COVID trend rates.[1] By contrast, key Southeast Asian economies are projected to see faster growth in 2022 as they progressively resume more economic activities. Meanwhile, supply bottlenecks and disruptions could continue to weigh on industrial production in some external economies in the near term.

In the US, economic growth is projected to moderate in 2022, although remaining above its pre-COVID trend rate. Stronger labour market conditions, along with elevated savings from previous fiscal stimulus packages, are expected to bolster consumer spending. Nonetheless, a reduction in the amount of fiscal stimulus likely to be disbursed in 2022 as compared to 2021, as well as lingering supply disruptions could pose a drag on growth. Similarly, GDP growth is expected to moderate but remain above trend in the Eurozone in 2022. Sustained improvements in labour market conditions and firm consumer confidence will continue to support domestic demand, even though industrial production is likely to be weighed down by supply bottlenecks in early 2022.

In Asia, China's growth is projected to slow due to its property market downturn, constraints imposed on energy use, and adherence to a zero-COVID policy, which could dampen consumption growth. Meanwhile, GDP growth in the key Southeast Asian economies of Malaysia, Thailand and Indonesia is expected to pick up alongside improvements in domestic demand, following the decline in COVID-19 infections in recent months and further progress in vaccine deployment, as well as sustained external demand.

At the same time, downside risks in the global economy remain. First, the trajectory of the COVID-19 pandemic remains a risk. While vaccination rates have picked up in many economies, there are concerns over waning vaccine efficacy and potential mutations of the virus. Hence, even in economies with high vaccination rates and booster rollouts, infections could still rise and weaken their recovery. Second, if global supply disruptions are more protracted than expected due to further COVID 19 outbreaks, logistical or production constraints, global industrial production may be constrained for longer. Third, protracted supply disruptions alongside a stronger pickup in demand, as well as rising energy commodity prices, could lead to more persistent inflation. This could in turn result in an earlier or larger increase in interest rates than anticipated, thereby triggering a tightening of global financial conditions. Fourth, continued geopolitical uncertainty involving the major economies could weigh on trade and the global economic recovery.

Domestically, our high vaccination rate and steady rollout of booster shots will continue to facilitate the progressive easing of domestic and border restrictions, which will support the recovery of 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 loosening of travel restrictions and expansion of Vaccinated Travel Lanes.

Against this backdrop, the recovery of the various sectors of the economy in 2022 is expected to remain uneven. First, the growth prospects for outward-oriented sectors (e.g., manufacturing and wholesale trade) remain strong given robust external demand. The manufacturing sector is projected to continue to expand, with growth in the electronics and precision engineering clusters supported by sustained global demand for semiconductor and semiconductor equipment respectively. At the same time, growth in the information & communications and finance & insurance sectors is expected to be driven by healthy 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 likely to be gradual as global travel demand will take time to recover and travel restrictions could persist in key visitor source markets. The accommodation sector will also be weighed down by a projected decline in domestic demand due to the tapering of government demand, as well as lower staycation demand with the relaxation of travel restrictions. Overall, activity in these sectors is expected to remain below pre-COVID levels throughout 2022.

Third, consumer-facing sectors (e.g., retail trade and food & beverage services) are projected to recover as domestic restrictions are progressively eased, and consumer sentiments improve amidst a gradual turnaround in labour market conditions. Nonetheless, the VA of the food & beverage services sector is not likely to return to pre-COVID levels by end-2022 as some dine-in and event restrictions could remain in place, while the recovery in visitor arrivals is expected to be slow. Similarly, even though the VA of the retail trade sector is projected to return to pre-pandemic levels by end-2022, some segments such as department stores are likely to remain lacklustre, in part due to weak visitor arrivals.

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

Taking these factors into account, and barring the materialisation of downside risks, the Singapore economy is expected to grow by **"3.0 to 5.0 per cent"** in 2022.

1 *Pre-COVID trend rate is measured as the average annual GDP growth rate from 2015 to 2019.*

FEATURE ARTICLE

FEATURE ARTICLE

IMPACT OF ENTERPRISE SINGAPORE'S GRANTS ON FIRMS' REVENUE AND EXPORTS

INTRODUCTION

The Capability Development Grant (CDG), Global Company Partnership (GCP) grant and Market Readiness Assistance (MRA) grant are financial assistance schemes managed by Enterprise Singapore, with the CDG and GCP having been merged to form the Enterprise Development Grant (EDG) with effect from October 2018. Prior to merging with the GCP, the CDG aimed to help small- and medium-sized enterprises (SMEs) in Singapore build internal capabilities across areas ranging from productivity improvement and human capital development to service excellence. The GCP aimed to encourage Singapore companies to internationalise and become globally competitive. It did so by helping companies to defray the eligible costs of their overseas expansion projects in the areas of capability building, market access and manpower development. As for the MRA, it was launched in 2013 to help SMEs take the first steps in their internationalisation journey.

INTERNATIONALISATION GRANTS

CDG

Build internal capabilities across areas ranging from productivity improvement and human capital to service excellence

GCP

Encourage Singapore companies to internationalise and become globally competitive

MRA

Encourage SMEs to take first steps in their internationalisation journey

FINDINGS

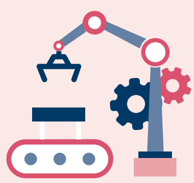
Using firm-level administrative data from the Department of Statistics and grant disbursement data from Enterprise Singapore, this study examines the impact of CDG, GCP grant and MRA grant on firms' revenue and exports.

CDG generally led to an improvement in firm-level outcomes, with statistically significant **increases in revenue and total exports** observed for the average firm that received the CDG.

The GCP and MRA also achieved their objectives of encouraging firms to deepen and take their first steps to internationalise respectively, with the grant recipients achieving **growth in both revenue and total exports**.

POLICY TAKEAWAY

To remain relevant and competitive, our companies must press on to adapt, transform, and seize opportunities as countries around the world reopen their borders, and the global economy restarts its engine. The Government remains committed to supporting companies in their internationalisation and transformation efforts.



EXECUTIVE SUMMARY

- Using firm-level administrative data from the Department of Statistics and grant disbursement data from Enterprise Singapore, this study examines the impact of the Capability Development Grant (CDG), Global Company Partnership (GCP) grant and Market Readiness Assistance (MRA) grant on firms' revenue and exports.

- Our findings showed that the CDG, which supported firms in a diverse range of capability upgrading projects, led to higher firm-level revenue and total exports.

- Similarly, the GCP, which aimed to encourage firms to deepen their international presence, and the MRA, which supported firms to take their first steps into overseas markets, were found to have positive effects on firm-level outcomes. In particular, both GCP and MRA recipients saw an increase in total exports and revenue due to the grants.

- To remain relevant and competitive, our companies must press on to adapt, transform and seize opportunities as countries around the world reopen their borders, and the global economy restarts its engine. The Government remains committed to supporting companies in their internationalisation and transformation efforts.

The views expressed in this paper are solely those of the authors and do not necessarily reflect those of the Ministry of Trade and Industry (MTI), Enterprise Singapore (ESG) or the Government of Singapore.[1]

INTRODUCTION

The Capability Development Grant (CDG), Global Company Partnership (GCP) grant and Market Readiness Assistance (MRA) grant are financial assistance schemes managed by Enterprise Singapore, with the CDG and GCP having been merged to form the Enterprise Development Grant (EDG) with effect from October 2018. These grants play an important role in the Government's efforts to deepen companies' capabilities so that they can capture growth opportunities, and also support their transformation efforts.

Prior to merging with the GCP, the CDG aimed to help small- and medium-sized enterprises (SMEs) in Singapore build internal capabilities across areas ranging from productivity improvement and human capital development to service excellence.[2] CDG supported up to 50 per cent of eligible equipment and hardware costs and 70 per cent of all other qualifying costs[3].

Before the merger with the CDG, the GCP aimed to encourage Singapore companies to internationalise and become globally competitive. It did so by helping companies to defray the eligible costs of their overseas expansion projects in the areas of capability building, market access and manpower development. Specifically, the GCP supported up to 70 per cent of qualifying costs for SMEs and up to 50 per cent for non-SMEs.

1 *We would like to thank ESG for their inputs to this study and acknowledge the statistical support from the Department of Statistics. We would also like to acknowledge the contributions of Mr Christopher Saw, Ms Geraldine Lim and Ms Ong Swee Joo to the study, and thank Ms Yong Yik Wei for her useful suggestions and comments. All errors belong to the authors.*
2 *Project areas covered by the CDG included Branding & Marketing, Business Model Transformation, Productivity Improvement, Human Capital Development, Product Development, Service Excellence, Intellectual Property, Financial Management and Standards Adoption.*
3 *Examples of eligible expenses included hardware and software expenses, equipment expenses, employee salaries, and consultancy services.*

With the streamlining of the CDG and GCP into the EDG, the EDG will continue with the respective schemes' objectives of helping companies to upgrade their capabilities and venture overseas.

As for the MRA, it was launched in 2013 to help SMEs take the first steps in their internationalisation journey. MRA provides up to 70 per cent funding support for qualifying activities to help SMEs promote their products and services, identify business partners and set up overseas.

To ensure the continued relevance of the Government's assistance schemes, it is important to periodically review the effectiveness of the schemes in strengthening our companies' capabilities. This study evaluates the impact of the CDG, GCP grant and MRA grant on recipients' revenue and total exports.

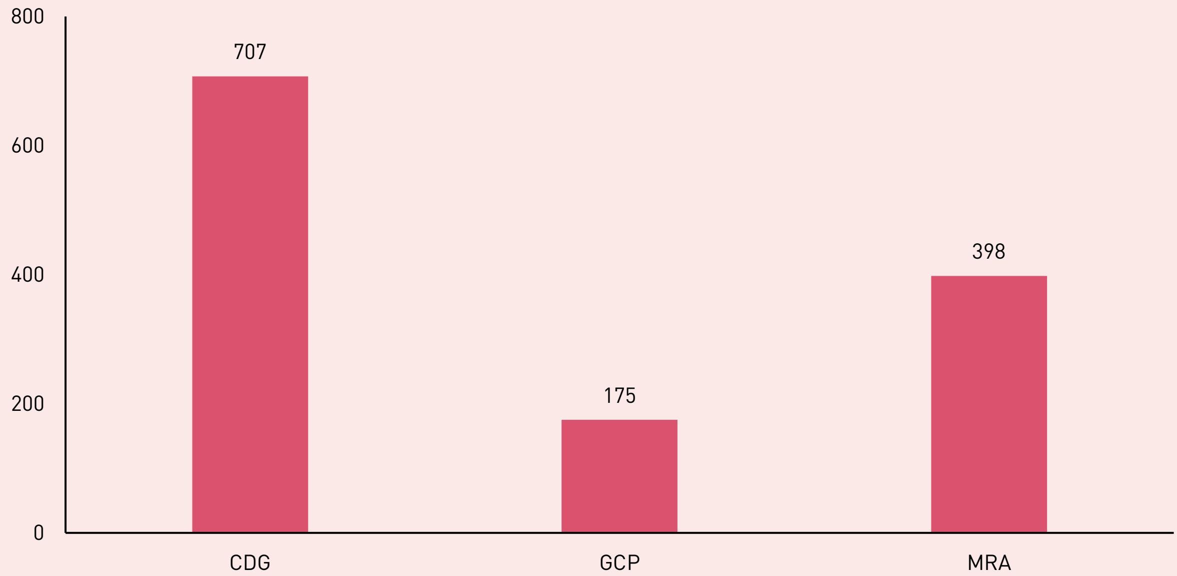
DATA

This study taps on firm-level administrative data from the Department of Statistics and grant data from Enterprise Singapore. The analysis sample is restricted to employing firms with available revenue data, and includes both grant recipients and non-recipients. The schemes are evaluated over the period of 2009-2018[4].

SUMMARY STATISTICS

Across the years where the grants were active, CDG had the largest average number of recipients per year (Exhibit 1). As for the profile of the grant recipients, CDG recipients tended to be similar to the non-recipients in terms of revenue size, but were less export-oriented than them. On the other hand, GCP recipients tended to be larger in terms of revenue and more export-oriented compared to non-recipients. Meanwhile, MRA recipients tended to be smaller and less export-oriented than non-recipients (Exhibits 2 and 3).

Exhibit 1: Average Number of Recipients[5] Per Year, Over Period Where Grant Was Active from 2009 to 2018



Source: Department of Statistics, Enterprise Singapore and Authors' estimates

4 *The coverage of the MRA grant is between 2013 and 2018, as the MRA was launched in 2013.*
5 *As firms can receive grants for different projects across the years, the number of recipients in any given year may include firms that had received grants in other years.*

Exhibit 2: Average Revenue of Recipients and Non-Recipients by Scheme Over Period that Grant Was Active

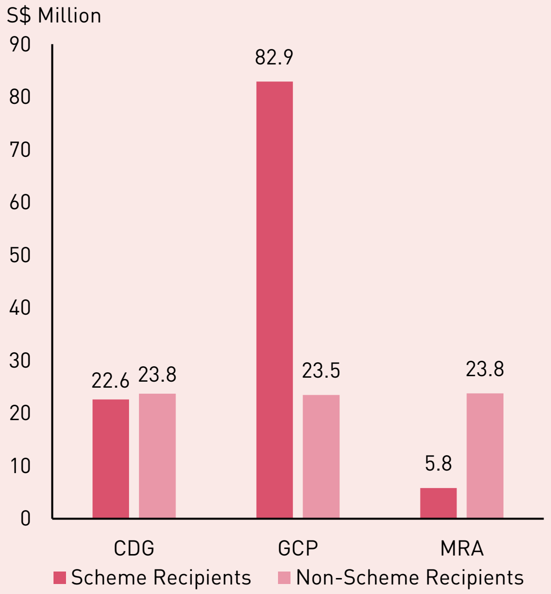
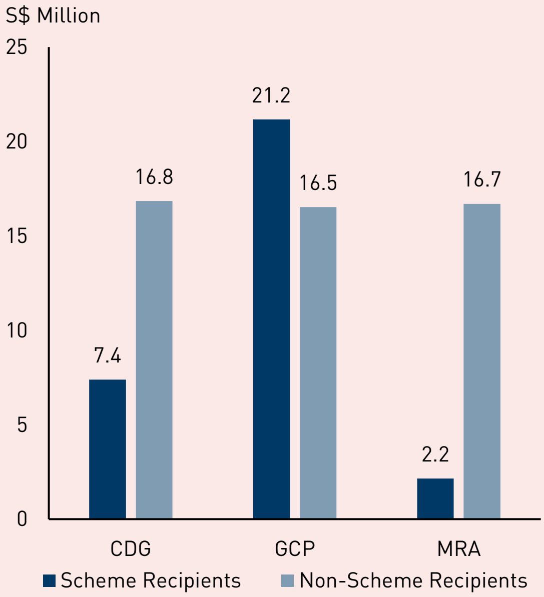


Exhibit 3: Average Total Exports of Recipients and Non-Recipients by Scheme Over Period that Grant Was Active



Source: Department of Statistics, Enterprise Singapore and Authors' estimates

EMPIRICAL METHODOLOGY

To study the causal impact of the grant schemes on firm-level outcomes, we adopt the fixed effects (FE) regression approach[6]. The FE approach controls for unobserved firm-specific factors that are time-invariant during the period of analysis (i.e., 2009 to 2018) such as managerial quality and organisational culture, as well as year fixed effects (e.g., macroeconomic shocks that affect all firms in a particular year). In addition, our regression model includes controls for observable characteristics of the firms such as their industry and ownership status. To isolate the effect of the grant being studied, our model also takes into account other grants that had been taken up by the same firm from 2009 up to the current year to control for the effects of these grants on the firm.[7]

Our regression specification is as follows, and the coefficient of interest (β) can be interpreted as the impact of the specific grant being studied on recipient firms as compared to similar firms that did not receive the grant:

$$\log(Outcome)_{it} = \beta \log(grant)_{it} + \xi \log(total\ excl\ grant)_{it} + X_{it} + \alpha_i + \theta_t + \varepsilon_{it}$$

Where:

- $Outcome_{it}$ represents the firm-level outcomes for firm i in year t: revenue and total exports.
- $grant_{it}$ represents the cumulative amount of the grant disbursed to firm i from 2009 up to, and including, year t.
- $totalexclgrant_{it}$ represents the cumulative amount of other grants (i.e., excluding the grant under study) disbursed to firm i from 2009 up to, and including, year t.
- X_{it} represents the set of controls for the firm, including ownership status and industry for firm i.
- α_i and θ_t represents the firm-level and year fixed effects, respectively.
- β measures the average per annum impact of an increase in the cumulative grant amount on firm-level outcomes.
- ε_{it} is the error term.

6 As our sample includes non-recipient firms, this approach differs from Chua et al. (2015), which evaluated the impact of CDG between 2005 and 2015 by restricting the sample to only CDG recipients. Chua et al. (2015) exploited differences in the timing of when firms embarked on CDG projects to evaluate the impact on revenue.

7 These would also include the grants that are not examined in our study (e.g., Wage Credit Scheme (WCS) and Innovation and Capability Voucher (ICV)).

RESULTS

CDG

The CDG generally led to an improvement in firm-level outcomes, with statistically significant increases in revenue and total exports observed for the average firm that received the CDG. In particular, an additional grant of average amount resulted in a 3.1 per cent increase in the firm's revenue and a 2.5 per cent increase in its total exports compared to similar firms that did not receive the grant (Exhibit 4).

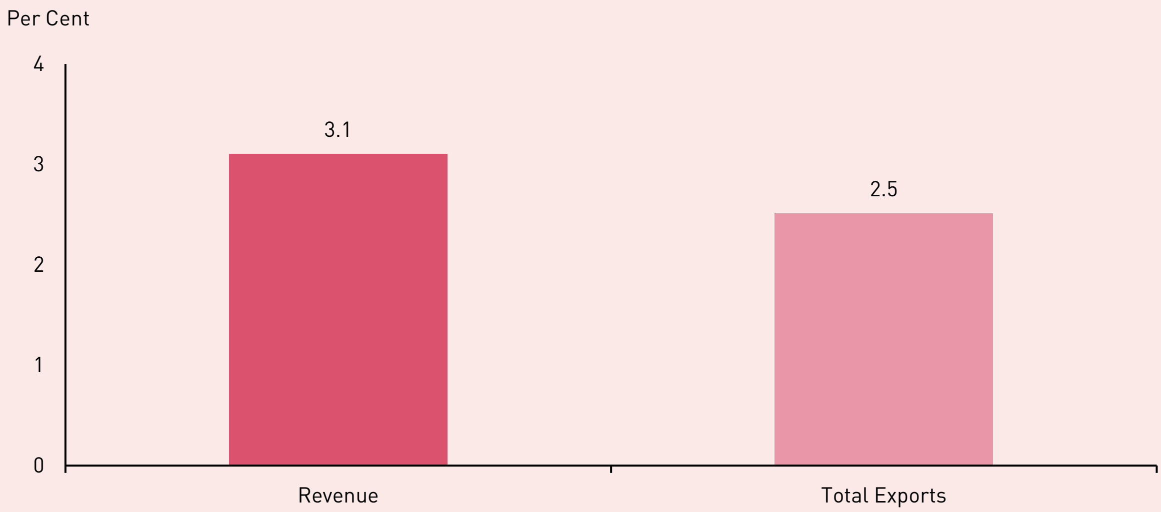
GCP

The GCP also led to an improvement in firm-level outcomes, with the average GCP grant recipient observing statistically significant increases in revenue and total exports. Specifically, an additional grant of average amount resulted in a 1.8 per cent increase in the recipient firm's revenue compared to similar firms that did not receive the grant (Exhibit 5). In line with the policy intent to promote internationalisation, the GCP also led to higher exports, with the additional grant of average amount translating to a 1.0 per cent increase in the firm's total exports.

MRA

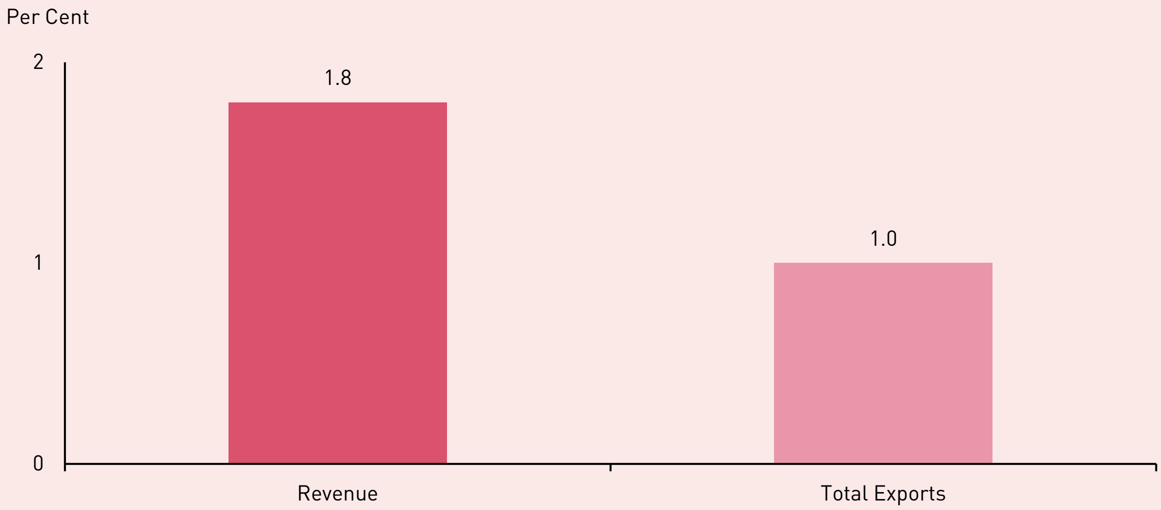
For the MRA, which supports firms in the early stages of internationalisation, the average MRA grant recipient saw statistically significant increases in both revenue and total exports. In elasticity terms, an additional grant of average amount led to a 5.3 per cent increase in the recipient firm's revenue and a 4.4 per cent increase in its total exports compared to similar firms that did not receive the grant (Exhibit 6).

Exhibit 4: Percentage Change in Firm-Level Outcomes From An Additional Grant of Average Amount for CDG Recipients Compared to Similar Non-Recipients



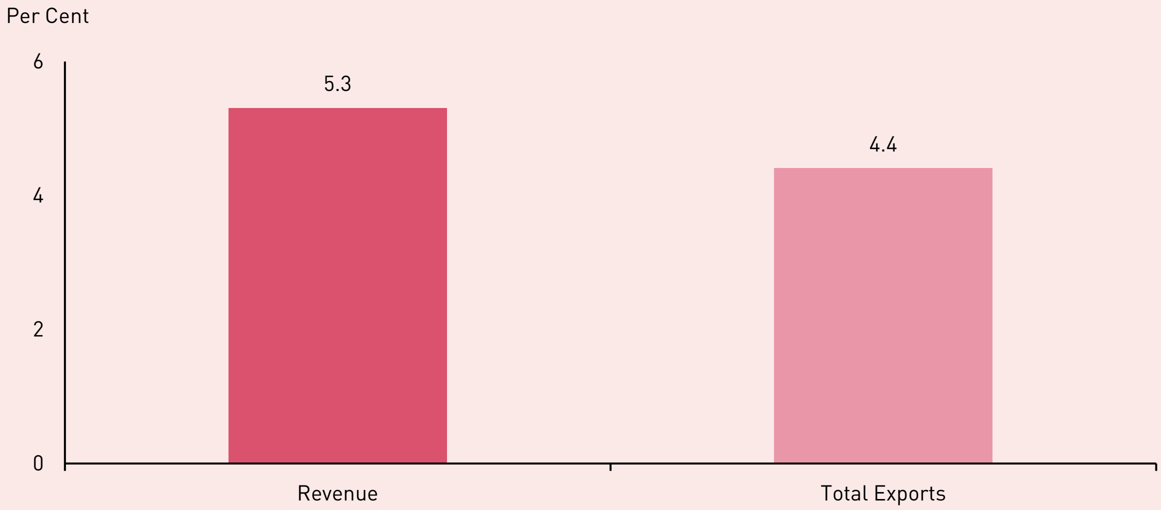
Source: Authors

Exhibit 5: Percentage Change in Firm-Level Outcomes From An Additional Grant of Average Amount for GCP Recipients Compared to Similar Non-Recipients



Source: Authors

Exhibit 6: Percentage Change in Firm-Level Outcomes From An Additional Grant of Average Amount for MRA Recipients Compared to Similar Non-Recipients



Source: Authors

CONCLUSION

Our study finds that the CDG, GCP grant and MRA grant had led to improvements in key firm-level outcomes for grant recipients. In particular, the CDG succeeded in its intent of helping enterprises to upgrade their capabilities, which in turn led to increased competitiveness and hence improvements in their revenue and exports.

The GCP and MRA also achieved their objectives of encouraging firms to deepen and take their first steps to internationalise respectively, with the grant recipients achieving growth in both revenue and total exports. MRA grant recipients enjoyed particularly strong growth in total exports, given the high marginal returns to investment arising from the support for direct go-to-market activities.

To remain relevant and competitive, our companies must press on to adapt, transform and seize emerging opportunities as countries around the world reopen their borders, and the global economy restarts its engine. The Government remains committed to supporting companies in their internationalisation and transformation efforts.

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