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MTI MINISTRY OF TRADE
AND INDUSTRY
SINGAPORE



ECONOMIC SURVEY ^{OF} SINGAPORE 2024

February 2025

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

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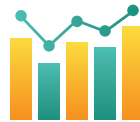
MAIN INDICATORS OF THE SINGAPORE ECONOMY

OVERALL ECONOMY



GDP
at Current
Market Price

2023
\$678.7 billion
2024
\$731.4 billion



Real GDP
(YoY Growth)

2023
+1.8%
2024
+4.4%



GNI
Per Capita

2023
\$93,592
2024
\$101,464

STRUCTURE OF THE ECONOMY IN 2024 (% OF NOMINAL VA)



Services Producing
Industries
73.2%

Ownership
of Dwellings
4.1%

Goods Producing
Industries
22.7%

Manufacturing
17.3%

Construction
3.8%

BREAKDOWN OF SERVICES PRODUCING INDUSTRIES



Wholesale
Trade
20.3%



Finance &
Insurance
14.3%



Transportation
& Storage
9.1%



Information &
Communications
6.0%



Professional
Services
5.5%



Real
Estate
2.9%



Administrative &
Support Services
2.6%



Retail
Trade
1.2%



Accommodation
0.8%



Food & Beverage
Services
0.8%



Other Services
Industries
9.6%

LABOUR MARKET



Employment
(as at year end)

2023
3,986.4
thousand

2024
4,047.2
thousand



Overall
Unemployment Rate

2023
1.9%

2024
2.0%



Value-Added per
Actual Hour Worked

2023
-1.5%

2024
+3.6%

COST



Unit Labour Cost of
Overall Economy

2023
+6.5%

2024
+1.2%



Unit Business Cost
of Manufacturing

2023
+5.8%

2024
+0.2%



Unit Labour Cost
of Manufacturing

2023
+9.5%

2024
-0.8%

PRICES



Consumer Price Index
– All Items

2023
+4.8%

2024
+2.4%



Domestic Supply
Price Index

2023
-6.7%

2024
-1.3%



Singapore Manufactured
Products Price Index

2023
-4.5%

2024
-0.5%

MERCHANDISE TRADE



Merchandise Exports

2023	2024
\$638,403 million	\$674,505 million
-10.1%	+5.7%



Merchandise Imports

2023	2024
\$567,319 million	\$611,359 million
-13.4%	+7.8%

Share of Total Merchandise Exports in 2024



57.5%
Re-exports

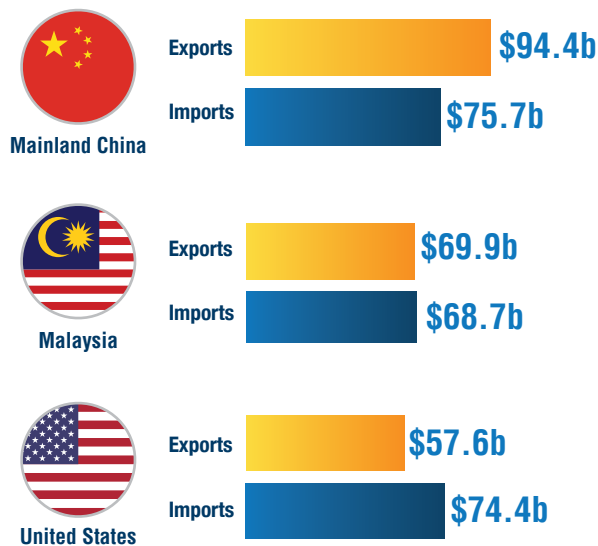


25.7%
Non-Oil Domestic Exports



16.8%
Oil Domestic Exports

Top Trading Partners in 2024



SERVICES TRADE



Services Exports

2023	2024
\$481,009 million	\$528,568 million
+2.7%	+9.9%



Services Imports

2023	2024
\$438,108 million	\$469,182 million
+7.1%	+7.1%

Share of Total Services Exports in 2024



32.7%
Transport Services



29.0%
Other Business Services



13.5%
Financial Services

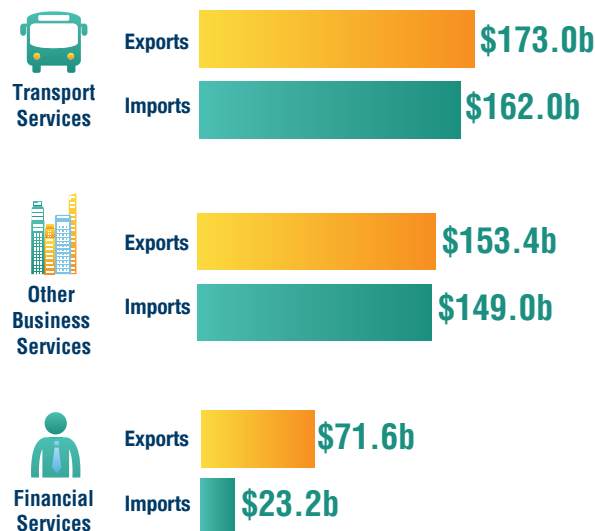


7.8%
Telecomms, Computer and Information



6.0%
Travel Services

Top Trading Categories in 2024



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CHAPTER

1

ECONOMIC PERFORMANCE



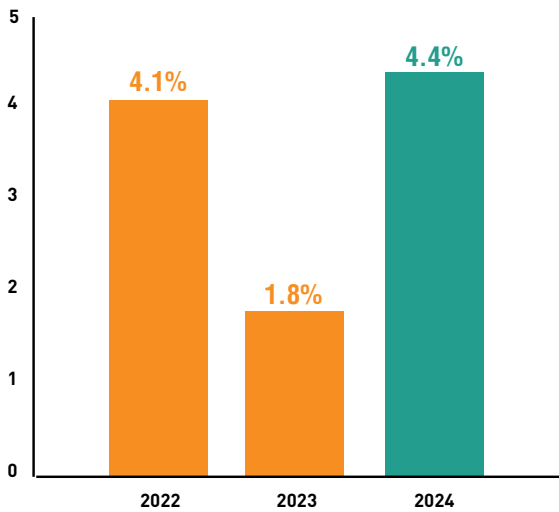
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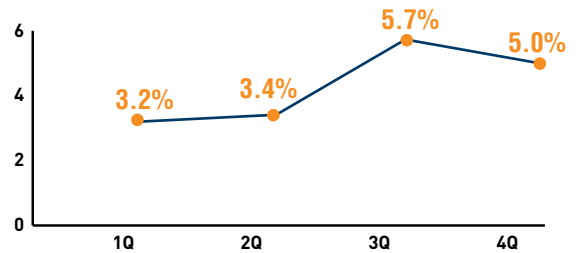
Chapter 1

ECONOMIC PERFORMANCE

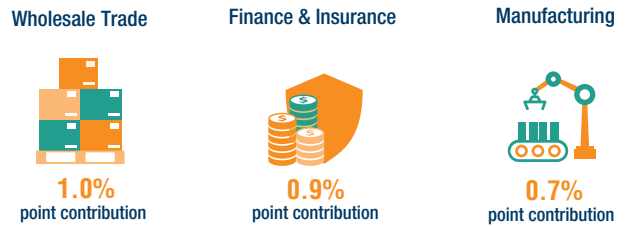
REAL GDP GREW BY 4.4% IN 2024



QUARTERLY GDP GROWTH IN 2024 (YoY Growth)



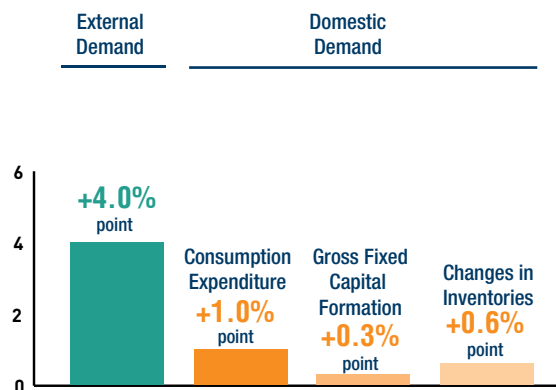
MAIN DRIVERS OF GDP GROWTH IN 2024



INCOME COMPONENTS OF GDP IN 2024



SOURCES OF GROWTH IN 2024



OVERVIEW

In the fourth quarter of 2024, the Singapore economy expanded by 5.0 per cent on a year-on-year basis, moderating from the 5.7 per cent growth in the previous quarter. All sectors expanded during the quarter, with the exception of the retail trade, administrative & support services and food & beverage services sectors. The sectors that contributed the most to growth during the quarter were the wholesale trade, manufacturing and finance & insurance sectors.

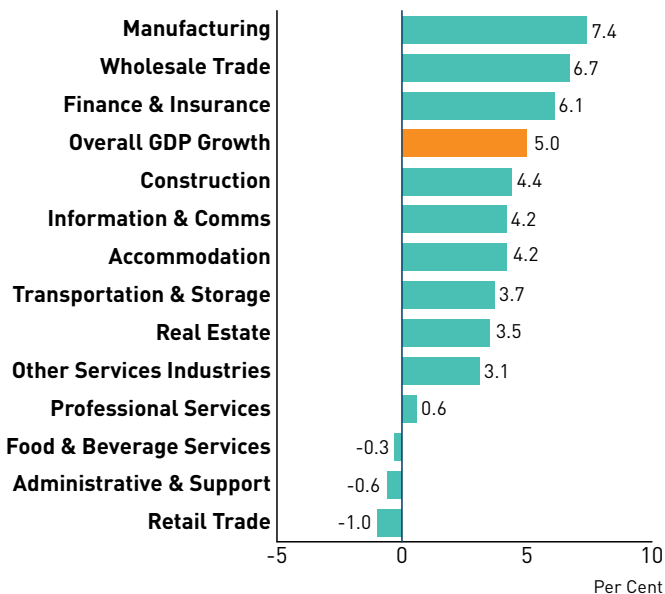
For the full year, the Singapore economy grew by 4.4 per cent, faster than the 1.8 per cent expansion in 2023. All sectors except for the food & beverage services and retail trade sectors recorded positive growth, with the wholesale trade, finance & insurance and manufacturing sectors contributing the most to GDP growth for the year.

OVERALL PERFORMANCE

Fourth Quarter 2024

The Singapore economy expanded by 5.0 per cent year-on-year in the fourth quarter, moderating from the 5.7 per cent growth in the previous quarter (Exhibit 1.1). On a quarter-on-quarter seasonally-adjusted basis, GDP grew by 0.5 per cent, slower than the 3.0 per cent growth in the third quarter.

Exhibit 1.1: GDP and Sectoral Growth Rates in 4Q 2024



The manufacturing sector expanded by 7.4 per cent year-on-year in the fourth quarter, easing from the 11.2 per cent growth in the preceding quarter. All clusters within the sector recorded expansions during the quarter, except for the biomedical manufacturing, precision engineering and chemicals clusters.

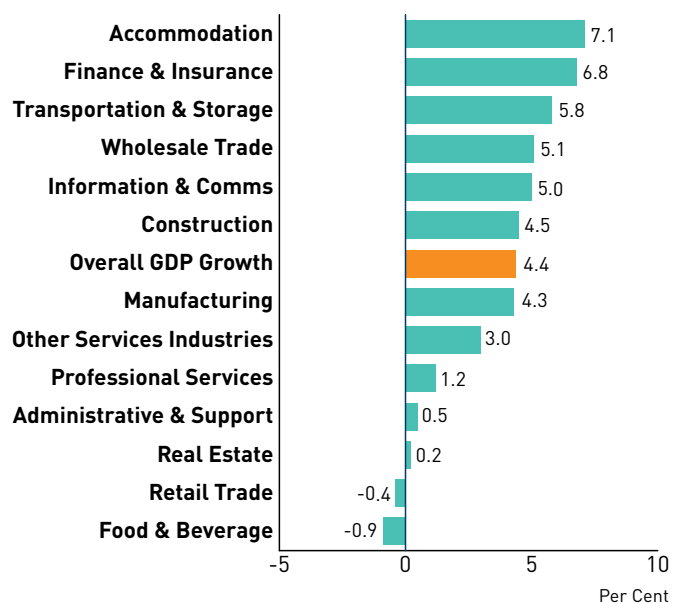
The services producing industries collectively grew by 4.6 per cent year-on-year in the fourth quarter, slightly faster than the 4.4 per cent growth in the previous quarter. All services sectors expanded during the quarter, except for the retail trade, administrative & support services and food & beverage services sectors. Among the services sectors that grew, the wholesale trade (6.7 per cent) and finance & insurance (6.1 per cent) sectors posted the fastest growth.

The construction sector grew by 4.4 per cent year-on-year in the fourth quarter, slower than the 5.6 per cent growth in the third quarter. Output growth during the quarter was supported by an increase in both public sector and private sector construction works.

Full Year of 2024

For the whole of 2024, the Singapore economy grew by 4.4 per cent, faster than the 1.8 per cent expansion in 2023 (Exhibit 1.2).

Exhibit 1.2: GDP and Sectoral Growth Rates in 2024



By sectors, the manufacturing sector expanded by 4.3 per cent in 2024, a reversal from the 4.2 per cent contraction in the preceding year. All clusters except for the biomedical manufacturing cluster saw increases in output for the year.

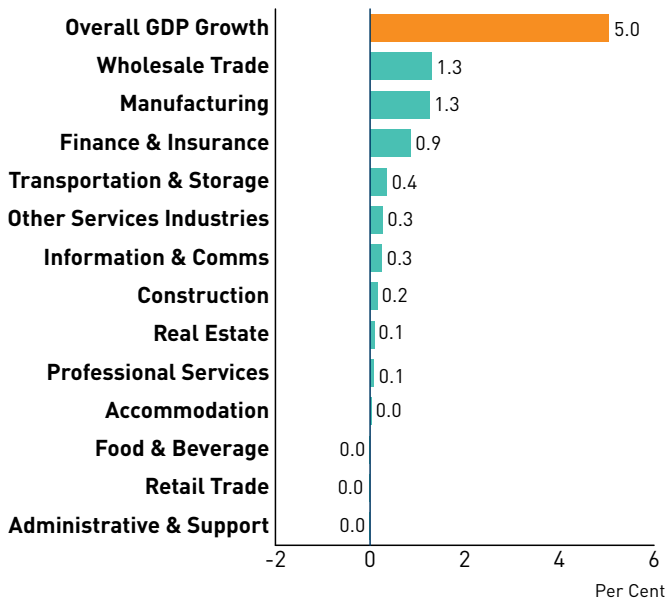
Services producing industries posted growth of 4.4 per cent in 2024, picking up from the 3.3 per cent expansion in 2023. All services sectors, except for the food & beverages services and retail trade sectors, registered full-year expansions. The accommodation (7.1 per cent) and finance & insurance (6.8 per cent) sectors recorded the fastest growth in 2024.

Meanwhile, the construction sector grew by 4.5 per cent in 2024, down from the 5.8 per cent expansion in the preceding year. Both public and private sector construction output increased during the year.

Contribution to Growth

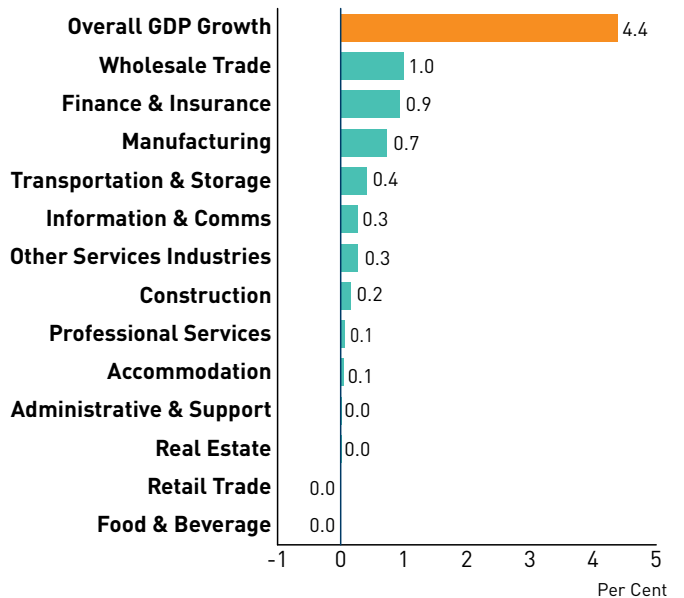
In the fourth quarter, all sectors contributed positively to GDP growth, except for the administrative & support services, retail trade and food & beverage services sectors (Exhibit 1.3). Among the sectors that expanded, the wholesale trade, manufacturing and finance & insurance sectors were the top contributors to GDP growth during the quarter.

Exhibit 1.3: Percentage-Point Contribution to Growth in Real GDP in 4Q 2024 (By Sectors)



For the whole of 2024, all sectors except for the food & beverage services and retail trade sectors recorded full-year expansions, with the wholesale trade, finance & insurance and manufacturing sectors contributing the most to GDP growth for the year (Exhibit 1.4).

Exhibit 1.4: Percentage-Point Contribution to Growth in Real GDP in 2024 (By Sectors)



SOURCES OF GROWTH

Total demand rose by 4.4 per cent year-on-year in the fourth quarter, easing from the 5.1 per cent expansion in the previous quarter (Exhibit 1.5). Growth during the quarter was due to increases in both external and domestic demand.

For 2024 as a whole, total demand increased by 5.9 per cent, strengthening from the 3.8 per cent growth in 2023. The increase in total demand was supported by a rise in both external demand (4.0 percentage-points) and domestic demand (1.8 percentage-points).

Exhibit 1.5: Percentage-Point Contribution to Total Demand Growth

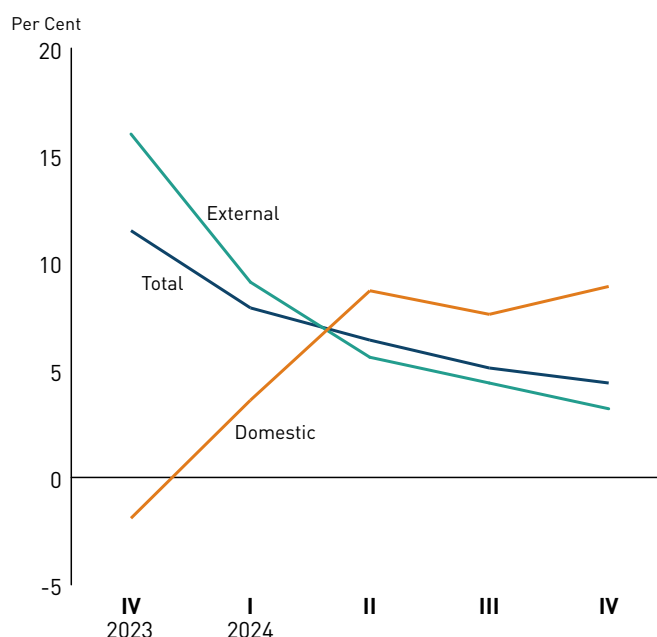
	2023	2024				2024
		I	II	III	IV	
Total Demand	3.8	7.9	6.4	5.1	4.4	5.9
External Demand	4.3	6.7	4.2	3.3	2.4	4.0
Total Domestic Demand	-0.5	1.2	2.2	1.8	2.0	1.8
Consumption Expenditure	0.6	1.3	0.8	1.1	0.8	1.0
Public	0.1	0.4	0.1	0.3	0.5	0.3
Private	0.6	0.8	0.7	0.8	0.2	0.6
Gross Fixed Capital Formation	-0.1	-0.1	0.3	0.4	0.4	0.3
Changes in Inventories	-1.1	0.1	1.1	0.4	0.9	0.6

External Demand

External demand rose by 3.2 per cent year-on-year in the fourth quarter, easing from the 4.4 per cent expansion in the previous quarter (Exhibit 1.6). The rise in external demand could be attributed to an increase in the real exports of goods, even as the real exports of services fell.

For the full year, external demand expanded by 5.4 per cent, slightly slower than the 5.7 per cent expansion in 2023. The increase in external demand could be attributed to increases in both real merchandise and services exports. In turn, these were led by higher real exports of machinery & transport equipment and financial services respectively.

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



Domestic Demand

Total domestic demand rose by 8.9 per cent year-on-year in the fourth quarter, faster than the 7.6 per cent expansion in the previous quarter. The increase in domestic demand during the quarter was due to increases in inventories, consumption expenditure and gross fixed capital formation.

For 2024 as a whole, total domestic demand rose by 7.2 per cent, a rebound from the 2.2 per cent contraction in 2023. The rise in domestic demand was due to increases in consumption expenditure, inventories and gross fixed capital formation.

Consumption Expenditure

Total consumption expenditure rose by 5.3 per cent year-on-year in the fourth quarter, slower than the 6.9 per cent growth in the previous quarter.

For the full year, total consumption expenditure rose by 5.7 per cent, faster than the 4.1 per cent growth in 2023. Consumption expenditure growth was due to both private and public consumption. Private consumption rose by 4.8 per cent, led by increases in transport, health and miscellaneous goods & services. At the same time, public consumption rose by 8.3 per cent, accelerating from the 1.8 per cent expansion in 2023.

Gross Fixed Capital Formation

Gross fixed capital formation (GFCF) rose by 4.9 per cent year-on-year in the fourth quarter, extending the 4.7 per cent expansion in the preceding quarter. GFCF rose during the quarter on account of increases in public GFCF (10.8 per cent) and private GFCF (3.6 per cent).

For the full year, GFCF rose by 2.9 per cent, a turnaround from the 0.9 per cent contraction in 2023 (Exhibit 1.7). Private GFCF increased by 0.8 per cent, a reversal from the 1.7 per cent contraction in 2023, mainly due to higher investment spending on intellectual property products (Exhibit 1.8). Meanwhile, public GFCF rose by 12.4 per cent, accelerating from the 3.1 per cent expansion in 2023. The increase in public GFCF was due to higher investment spending across all components.

Exhibit 1.7: Annual Changes in Gross Fixed Capital Formation in Chained (2015) Dollars, 2024

	Total	Public	Private
Total	2.9	12.4	0.8
Construction & Works	3.2	12.7	-2.0
Transport Equipment	6.1	15.6	5.7
Machinery & Equipment	2.8	29.6	1.1
Intellectual Property Products	1.9	1.4	2.0

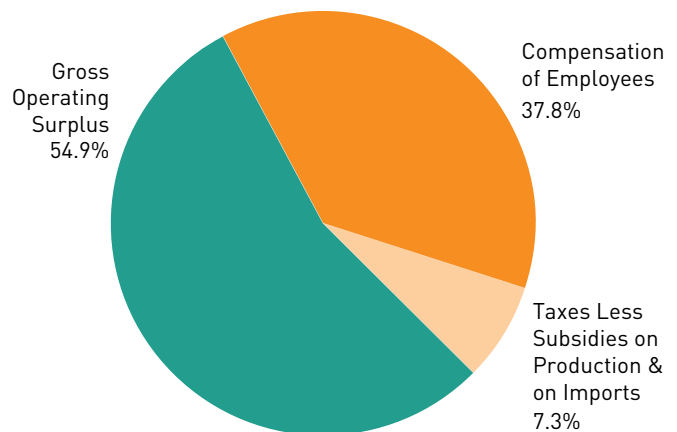
Exhibit 1.8: Percentage-Point Contribution to Growth of Gross Fixed Capital Formation in Chained (2015) Dollars, 2024

	Total	Public	Private
Total	2.9	2.3	0.6
Construction & Works	1.4	1.9	-0.5
Transport Equipment	0.5	0.0	0.4
Machinery & Equipment	0.5	0.3	0.2
Intellectual Property Products	0.6	0.0	0.6

INCOME COMPONENTS OF NOMINAL GDP

Singapore's nominal GDP amounted to \$731 billion in 2024, a 7.8 per cent increase over 2023. Gross operating surplus accounted for 54.9 per cent of nominal GDP, while compensation of employees accounted for 37.8 per cent (Exhibit 1.9). Taxes (less subsidies) on production and imports made up the remaining 7.3 per cent of nominal GDP.

Exhibit 1.9: Income Components of GDP at Current Prices, 2024



NATIONAL SAVING

With factor income outflows exceeding inflows by \$119 billion, Gross National Income (GNI) came in at \$613 billion in 2024, lower than the \$731 billion in nominal GDP.

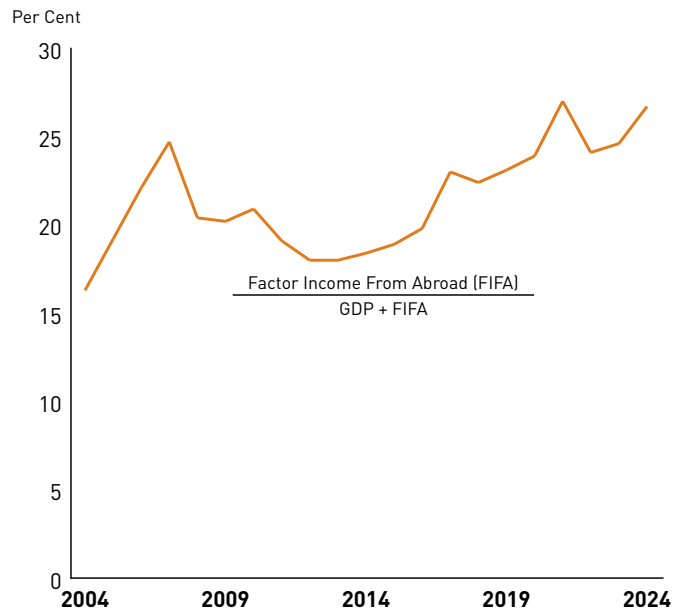
Gross National Saving (GNS) increased by 10.0 per cent to \$291 billion in 2024. This comprised a net outflow of \$128 billion that was lent or transferred abroad, and \$162 billion in Gross Capital Formation. The national savings rate was 47.5 per cent of GNI in 2024, slightly lower than the 47.7 per cent in 2023.

GNI AND THE EXTERNAL ECONOMY

Factor income from abroad reached \$267 billion in 2024, up from the \$221 billion in 2023. The contribution of factor income from abroad to the total economy was 26.7 per cent in 2024, slightly higher than the contribution of 24.6 per cent recorded in 2023 (Exhibit 1.10).

Based on the Department of Statistics' Survey of Singapore's Investment Abroad, the stock of direct investment abroad increased from \$1,461 billion in 2022 to \$1,525 billion in 2023.

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



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CHAPTER

2

LABOUR MARKET AND PRODUCTIVITY

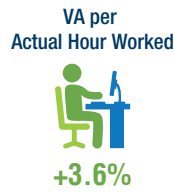
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Chapter 2

LABOUR MARKET AND PRODUCTIVITY

EMPLOYMENT AND PRODUCTIVITY GROWTH IN 2024



MAIN DRIVERS OF EMPLOYMENT GROWTH IN 2024

+35,300
employed



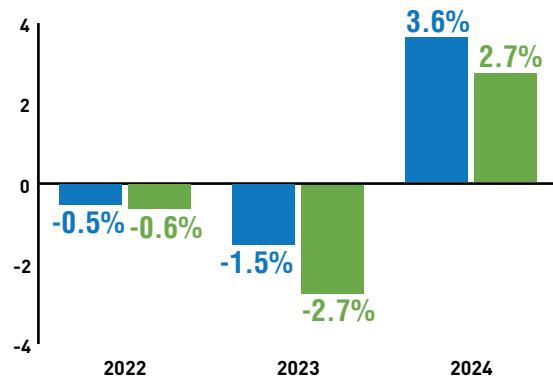
Other Services
Industries

+11,300
employed



Construction

VA PER ACTUAL HOUR WORKED AND VA PER WORKER GROWTH



■ VA per Actual Hour Worked
■ VA per Worker

SECTORS WITH THE HIGHEST VA PER ACTUAL HOUR WORKED GROWTH IN 2024



UNEMPLOYMENT RATES IN 2024

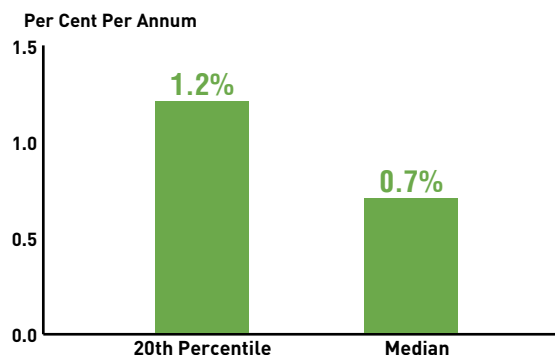
Overall
Unemployment Rate



Resident
Unemployment Rate



ANNUALISED CHANGE IN REAL GROSS MONTHLY INCOME FROM WORK



Real median gross monthly income of full-time employed residents rose by **+0.7% per annum** from June 2019 to June 2024



OVERVIEW¹

Total employment grew by 60,700 in 2024, driven by gains in both resident and non-resident employment. By broad sectors, the services and construction sectors saw employment gains, while employment contracted in the manufacturing sector. Excluding Migrant Domestic Workers (MDWs), total employment grew by 45,500.

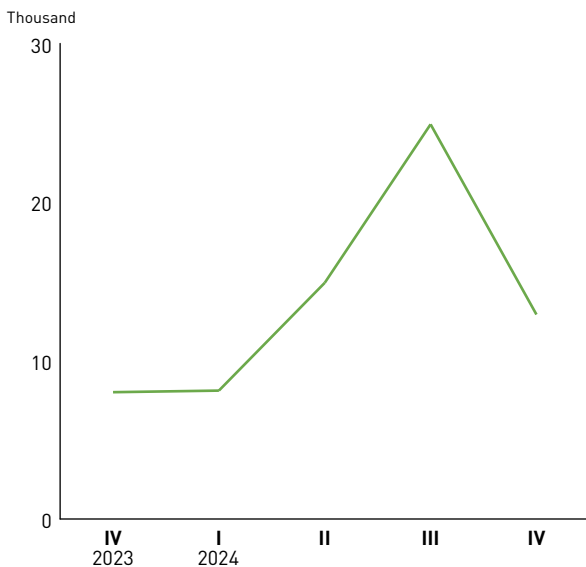
At the same time, unemployment rates remained stable and low, while the number of retrenchments fell in 2024.

Between 2019 and 2024, the real gross monthly income of full-time employed residents at the median and 20th percentile grew by 0.7 per cent per annum and 1.2 per cent per annum, respectively.

EMPLOYMENT

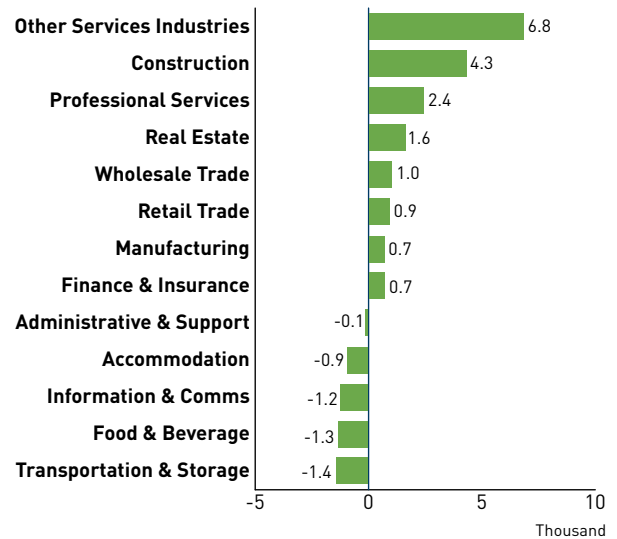
Total employment increased by 12,900 in the fourth quarter, a slowdown from the gains in the second (+14,900) and third (+24,900) quarters (Exhibit 2.1). Likewise, total employment growth excluding MDWs was slower in the fourth quarter compared to the third quarter.

Exhibit 2.1: Changes in Total Employment



By broad sectors, employment rose in the services (+8,500), construction (+4,300) and manufacturing (+700) sectors in the fourth quarter. Across the services sectors, employment gains were the largest in the other services and professional services sectors (Exhibit 2.2).

Exhibit 2.2: Changes in Employment by Industry in 4Q 2024



¹ Figures for the fourth quarter of 2024 and full year of 2024 are preliminary estimates.

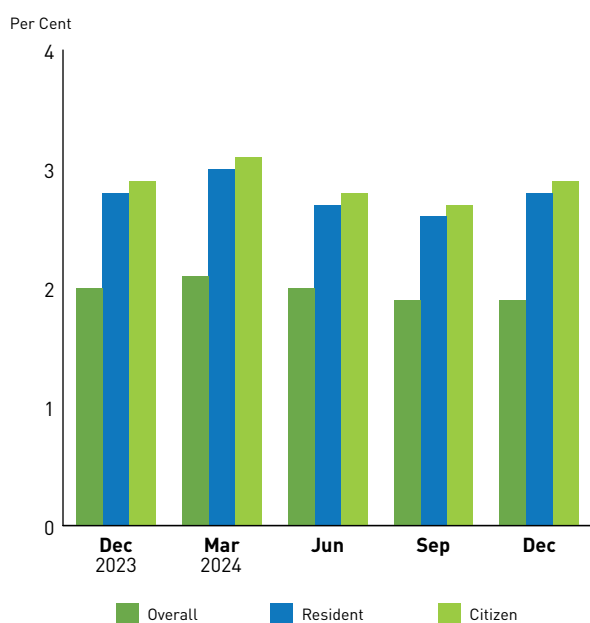
For the whole of 2024, total employment expanded by 60,700, moderating from the 96,700 increase in 2023. Across the broad sectors, employment gains were registered in the services (+50,900) and construction (+11,300) sectors, while the manufacturing (-500) sector posted a decline.

Resident employment growth in 2024 is expected to be higher than in 2023, when resident employment declined. In contrast, non-resident employment growth in 2024 is expected to slow considerably from 2023.²

UNEMPLOYMENT

Between September and December 2024, the seasonally-adjusted unemployment rate at the overall level was unchanged (1.9 per cent), while the resident and citizen unemployment rates rose marginally, from 2.6 per cent to 2.8 per cent and from 2.7 per cent to 2.9 per cent respectively (Exhibit 2.3).

Exhibit 2.3: Unemployment Rates (Seasonally-Adjusted)



In December 2024, there were 67,500 unemployed residents, of whom 59,700 were Singapore citizens. This was an increase from the 62,500 and 54,900 unemployed residents and Singapore citizens in September 2024, respectively.

For the full year of 2024, the annual average unemployment rate increased slightly at the overall level (from 1.9 per cent in 2023 to 2.0 per cent), as well as for residents (from 2.7 per cent to 2.8 per cent), but was unchanged for citizens (2.9 per cent).

In 2024, 67,600 residents, of whom 59,300 were Singapore citizens, were unemployed. These were marginally higher than their respective figures in 2023 (65,700 and 58,200).

RETRENCHMENTS

The number of retrenchments rose in the fourth quarter (3,600), compared to the third quarter (3,050). Over the quarter, the increase in retrenchments in the services (from 2,220 to 2,800) and manufacturing (from 580 to 700) sectors outweighed the decline in retrenchments in the construction (from 140 to 100) sector.

The total number of retrenchments for 2024 (12,930) fell from the 14,590 retrenchments registered in 2023. The number of retrenchments fell across all broad sectors, led by the manufacturing (from 3,470 to 2,630) sector, followed by the services sectors collectively (from 10,440 to 9,720) and the construction (from 590 to 460) sector.

² Further details of the breakdown of employment growth in the fourth quarter and full year for 2024, including by resident status, will be released by MOM in the Labour Market Report Fourth Quarter 2024 in mid-March 2025.

PRODUCTIVITY

Real Value-Added per Actual Hour Worked

Overall labour productivity, as measured by real value-added per actual hour worked, rose by 3.2 per cent in the fourth quarter, extending the 4.5 per cent increase in the previous quarter.

By sectors, the productivity of the wholesale trade, manufacturing, information & communications, construction, real estate, accommodation, transportation & storage, finance & insurance and food & beverage services sectors rose in the fourth quarter. By contrast, the productivity of the administrative & support services, professional services, other services and retail trade sectors fell.

Collectively, the productivity of outward-oriented sectors increased by 4.8 per cent in the fourth quarter, while that of domestically-oriented sectors rose by 0.3 per cent over the same period.³

For the full year, real value-added per actual hour worked grew by 3.6 per cent, reversing the 1.5 per cent decline in 2023 (Exhibit 2.4). The productivity performance for the overall economy was supported by productivity improvements across most sectors, with the information & communications sector experiencing the largest gains in productivity. By contrast, productivity fell in the administrative & support services, real estate and other services sectors (Exhibit 2.5).

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

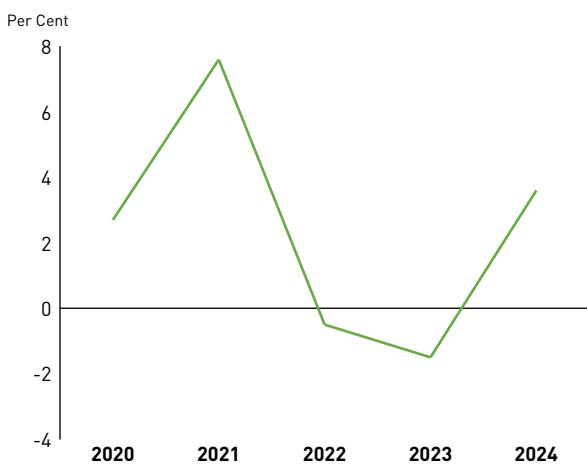
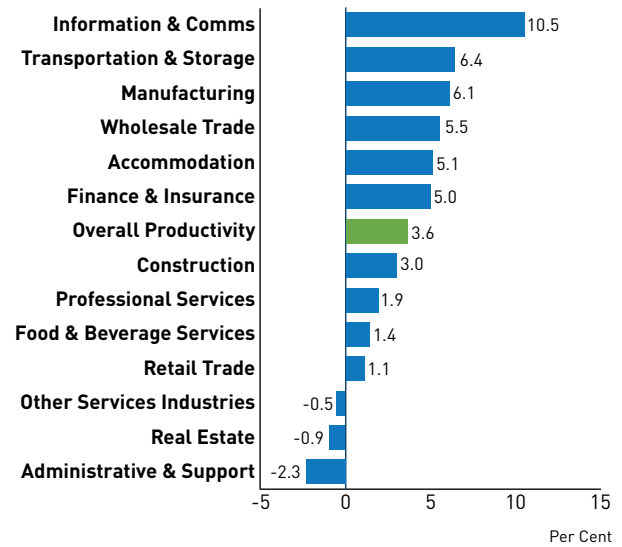


Exhibit 2.5: Changes in Value-Added per Actual Hour Worked by Industry in 2024



Real Value-Added per Worker

Real value-added per worker rose by 3.5 per cent in the fourth quarter, continuing the 4.2 per cent increase in the preceding quarter.

For 2024, real value-added per worker rose by 2.7 per cent, reversing the decline of 2.7 per cent in 2023.

The weaker performance of real value-added per worker compared to real value-added per actual hour worked in 2024 was because of a decline in the average number of actual hours worked per worker during the year.

³ 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.

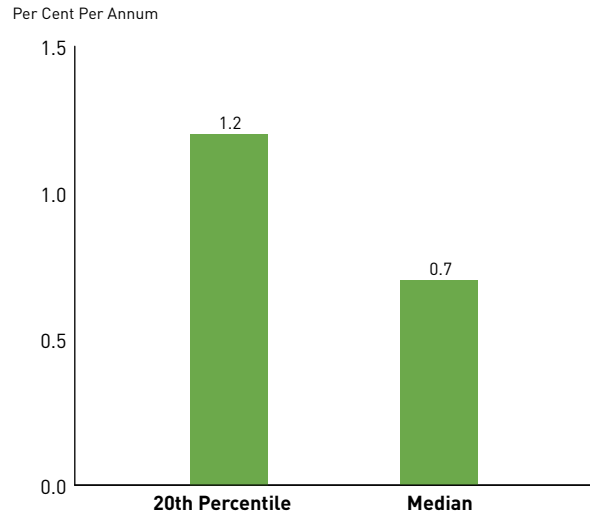
INCOME FROM WORK

In 2024, nominal gross monthly income of resident workers grew at a faster pace as compared to the previous year. Median nominal gross monthly income (including employer CPF contributions) of full-time employed residents grew by 5.8 per cent to \$5,500, an increase from the 2.5 per cent growth in 2023.

After adjusting for inflation⁴, real median income rose by 3.4 per cent in 2024. Lower-income earners also saw an increase in their incomes after taking inflation into account, with real income at the 20th percentile growing by 4.6 per cent in 2024. With WIS and related payments included, real income at the 20th percentile saw a smaller increase (4.0 per cent).

Over the last five years (i.e., June 2019 to June 2024), real median income rose by 0.7 per cent per annum (Exhibit 2.6). During this period, real income growth at the 20th percentile was stronger (1.2 per cent per annum), thus narrowing the income gap with the median income earner.

Exhibit 2.6: Annualised Change in Real Gross Monthly Income from Work of Full-Time Employed Residents, 2019-2024



⁴ The Consumer Price Index (CPI) for all items rose by 2.4 per cent in 2024.



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CHAPTER

3

COSTS, INVESTMENTS AND PRICES



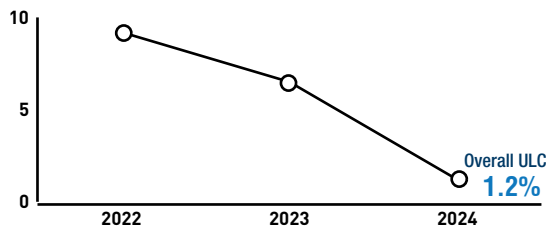
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Chapter 3

COSTS, INVESTMENTS AND PRICES

OVERALL UNIT LABOUR COST (YoY Growth)



WITHIN THE MANUFACTURING SECTOR



0.2%
in 2024
Unit Business Cost



-0.8%
in 2024
Unit Labour Cost

INVESTMENT COMMITMENTS IN 2024



Fixed Asset
Investment
Commitments
**\$13.5
billion**



Total Business
Expenditure
Commitments
**\$8.4
billion**

CLUSTERS THAT ATTRACTED THE HIGHEST FIXED ASSET INVESTMENT COMMITMENTS



Electronics



Services Clusters



Biomedical Manufacturing

CLUSTERS THAT ATTRACTED THE HIGHEST TOTAL BUSINESS EXPENDITURE COMMITMENTS



Headquarters &
Professional Services

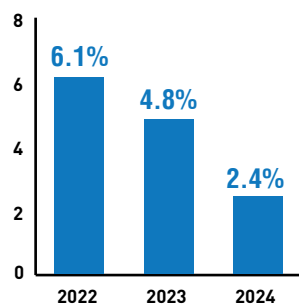


Research &
Development



Electronics

CPI-ALL ITEMS INFLATION



IN 2024, THE INCREASE IN CPI WAS MAINLY DUE TO THE INCREASE IN PRICES OF

Housing & Utilities



0.8%
point contribution

Food



0.6%
point contribution

Recreation & Culture



0.3%
point contribution

OVERVIEW

Overall ULC for the economy rose by 1.0 per cent year-on-year in the fourth quarter, reversing the decline of 0.4 per cent in the preceding quarter. For the whole of 2024, overall ULC rose by 1.2 per cent.

Total investment commitments attracted by EDB remained healthy in 2024. The manufacturing sector garnered a larger amount of commitments in terms of fixed asset investments (FAI) than the services sector, while the latter attracted a larger amount of total business expenditure (TBE) commitments. By clusters, the electronics and biomedical manufacturing clusters within the manufacturing sector were the biggest contributors to FAI commitments, while the headquarters & professional services cluster within the services sector contributed the most to TBE commitments.

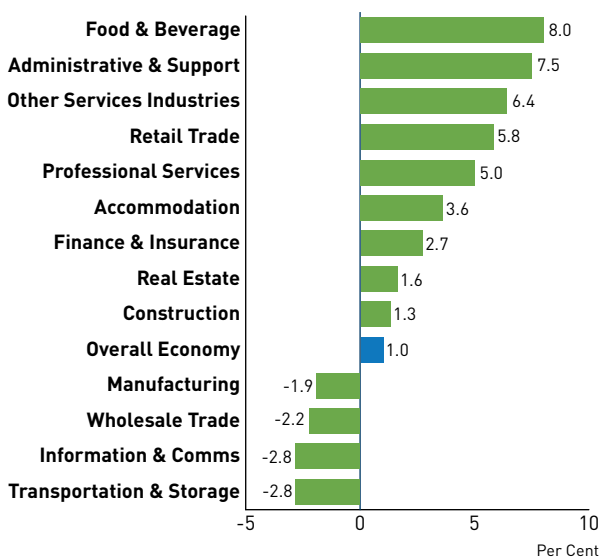
The Consumer Price Index-All Items (CPI-All Items) rose by 1.6 per cent year-on-year in the fourth quarter, moderating from the 2.2 per cent increase in the previous quarter. For 2024 as a whole, CPI-All Items inflation came in at 2.4 per cent, lower than the 4.8 per cent recorded in 2023.

Producer prices, as measured by the domestic supply price index (DSPPI), the Singapore manufactured products price index (SMPPPI) as well as the import and export price indices, fell on a year-on-year basis in the fourth quarter. For the whole of 2024, the DSPPI, SMPPPI, as well as the import and export price indices decreased by 1.3 per cent, 0.5 per cent, 3.9 per cent and 3.7 per cent respectively.

COSTS

Overall ULC for the economy rose by 1.0 per cent year-on-year in the fourth quarter, reversing the decline of 0.4 per cent in the preceding quarter (Exhibit 3.1). The pickup in overall ULC during the quarter came on the back of an increase in total labour cost per worker that outpaced the rise in labour productivity (as measured by real value-added per worker).

Exhibit 3.1: Changes in Unit Labour Cost in 4Q 2024



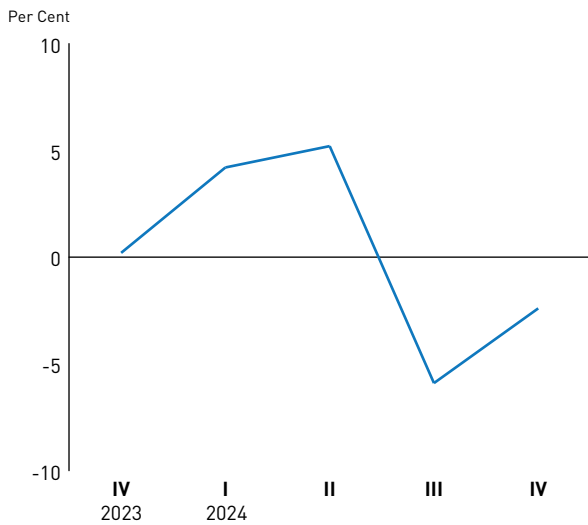
By broad sectors, the ULC of services producing industries rose by 1.5 per cent in the fourth quarter, faster than the 1.2 per cent increase in the previous quarter. Most services sectors saw a pickup in their ULCs, with the food & beverage services sector registering the largest increase (8.0 per cent) on account of an increase in total labour cost per worker and a decline in labour productivity. Meanwhile, the construction sector registered a ULC increase of 1.3 per cent in the fourth quarter, a reversal from the 0.1 per cent decrease in the previous quarter. The increase in ULC in the construction sector was due to an increase in total labour cost per worker which outpaced an increase in labour productivity.

The ULC for the manufacturing sector fell by 1.9 per cent in the fourth quarter, following the 8.1 per cent decline in the third quarter. This decline was due to an increase in labour productivity, which more than offset an increase in total labour cost per worker.

For the whole of 2024, the overall ULC rose at a slower pace of 1.2 per cent, compared to the 6.5 per cent increase in 2023. The rise in overall ULC was due to an increase in total labour cost per worker that outpaced labour productivity gains.

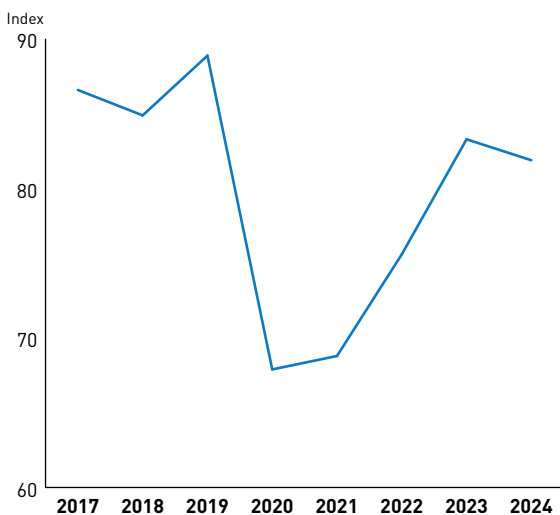
Manufacturing unit business cost (UBC) fell by 2.4 per cent year-on-year in the fourth quarter, extending the 5.9 per cent decline in the previous quarter (Exhibit 3.2). The decrease in manufacturing UBC came on the back of a decrease in unit services costs (-2.7 per cent) and manufacturing ULC (-1.9 per cent), which more than offset an increase in unit non-labour production taxes (33.9 per cent). For 2024 as a whole, manufacturing UBC increased by 0.2 per cent, moderating from the 5.8 per cent increase in 2023.

Exhibit 3.2: Changes in Unit Business Cost for Manufacturing



Singapore’s relative unit labour cost (RULC) for manufacturing – a measure of Singapore’s labour cost competitiveness against 16 economies¹– fell in 2024 (i.e., more competitive) as compared to 2023 (Exhibit 3.3). The decline was mainly on account of a decrease in Singapore’s manufacturing ULC relative to its competitor economies, which outweighed the stronger Singapore dollar.

Exhibit 3.3: Singapore’s Relative Unit Labour Cost in Manufacturing Against Selected 16 Economies



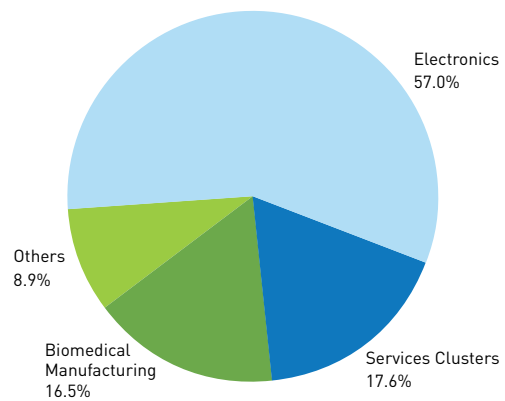
¹ The 16 economies are Australia, China, France, Germany, Hong Kong, India, Indonesia, Japan, Malaysia, Netherlands, South Korea, Taiwan, Thailand, the United Kingdom, the United States and Vietnam.

INVESTMENT COMMITMENTS

EDB attracted healthy levels of investment commitments in 2024. For the full year, FAI and TBE commitments came in at \$13.5 billion and \$8.4 billion respectively.

In terms of FAI, the largest contribution came from the manufacturing sector, which garnered \$11.1 billion in commitments. Within manufacturing, the electronics cluster attracted the largest amount of FAI commitments, at \$7.7 billion, followed by the biomedical manufacturing cluster, at \$2.2 billion. Within the services sector, the headquarters & professional services and research & development clusters contributed the most to total FAI commitments, amounting to \$1.1 billion each (Exhibit 3.4).

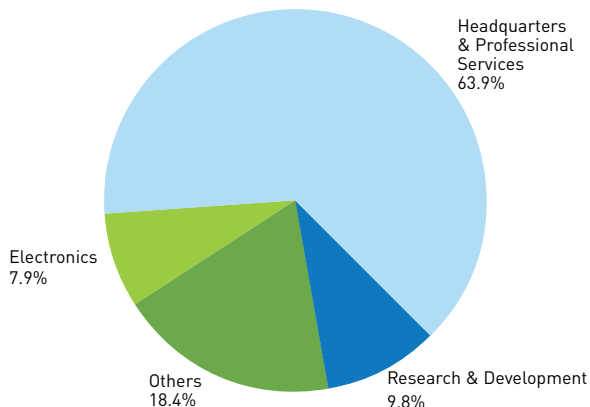
Exhibit 3.4: Fixed Asset Investments by Industry Clusters in 2024



Investors from the United States were the largest source of FAI commitments, with \$7.5 billion (55.5 per cent). They were followed by investors from Europe who contributed about \$3.3 billion of FAI commitments (24.8 per cent).

For TBE, the services sector attracted the highest amount of commitments, at \$6.5 billion. This was driven by the headquarters & professional services cluster, which garnered \$5.3 billion in TBE commitments, followed by the research & development cluster, with \$818 million. Among the manufacturing clusters, the electronics cluster contributed the highest amount of TBE commitments, at \$662 million (Exhibit 3.5).

Exhibit 3.5: Total Business Expenditure by Industry Clusters in 2024



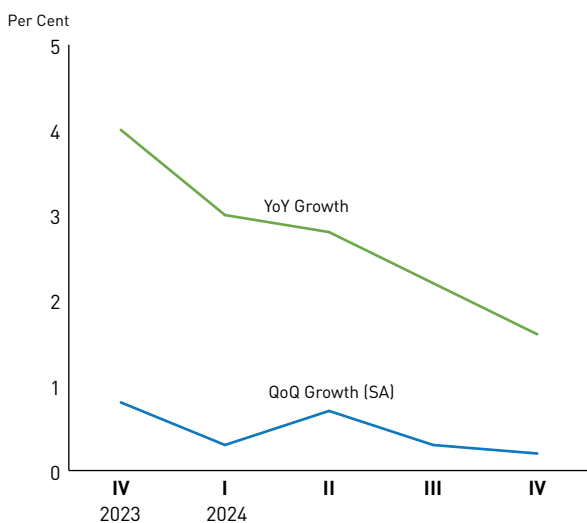
Local investors accounted for most of the TBE commitments, at \$3.3 billion (39.2 per cent).

When these projects are fully implemented, they are expected to generate \$23.5 billion of value-added per annum and create more than 18,700 jobs in the coming years.

CONSUMER PRICE INDEX

Singapore’s CPI-All Items rose by 1.6 per cent on a year-on-year basis in the fourth quarter, moderating from the 2.2 per cent increase in the previous quarter (Exhibit 3.6). On a quarter-on-quarter seasonally-adjusted basis, CPI-All Items inflation came in at 0.2 per cent, edging down from the 0.3 per cent in the previous quarter.

Exhibit 3.6: Changes in Overall CPI



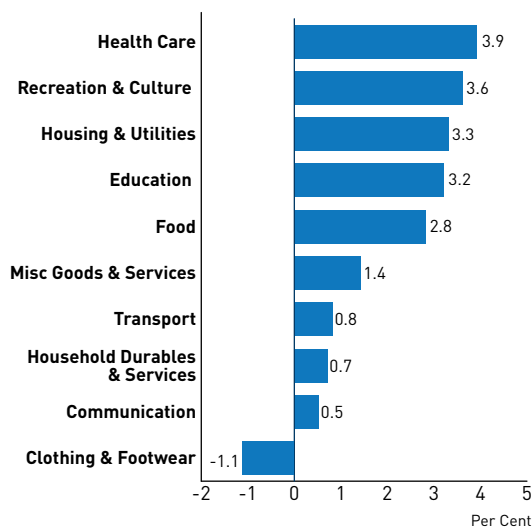
For 2024 as a whole, CPI-All Items inflation came in at 2.4 per cent, lower than the 4.8 per cent recorded in 2023.

Price increases in the following CPI categories contributed positively to CPI-All Items inflation in 2024 (Exhibit 3.7). Healthcare costs climbed by 3.9 per cent on the back of more expensive outpatient and hospital services, as well as health insurance. Recreation & culture prices rose by 3.6 per cent due to increases in the costs of holiday travel and recreational & cultural services. Housing & utilities costs went up by 3.3 per cent as a result of higher accommodation costs. Education costs picked up by 3.2 per cent because of higher fees at commercial institutions, universities, childcare centres and kindergartens.

Food prices increased by 2.8 per cent on account of the higher costs of food serving services such as hawker food and restaurant meals, as well as non-cooked food items such as bread & cereals and vegetables. Prices of miscellaneous goods & services increased by 1.4 per cent because of the higher prices of personal care items and alcoholic drinks & tobacco. Transport costs rose by 0.8 per cent as higher bus & train fares and more expensive point-to-point services and petrol more than offset lower car prices and airfares. Prices of household durables & services increased by 0.7 per cent on the back of more expensive domestic & household services. Communication costs edged up by 0.5 per cent due to the higher costs of telecommunication services.

By contrast, clothing & footwear prices fell by 1.1 per cent ready-made garments and footwear became less expensive.

Exhibit 3.7: Changes in CPI by Category in 2024



PRODUCER PRICE INFLATION

Producer prices – as measured by the domestic supply price index (DSPI), Singapore manufactured products price index (SMPPPI), and import and export price indices – all fell on a year-on-year basis in the fourth quarter (Exhibits 3.8 and 3.9). The declines during the quarter for DSPI and SMPPPI came partly on the back of lower prices of mineral fuels and chemicals & chemical products. The import and export price indices fell in part due to cheaper mineral fuels and machinery & transport equipment.

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

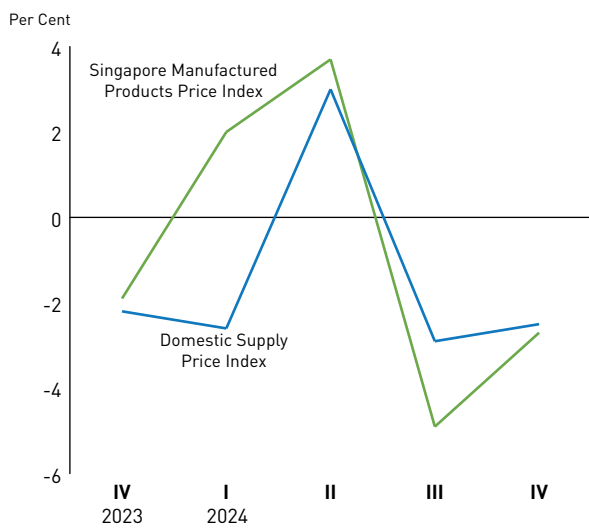
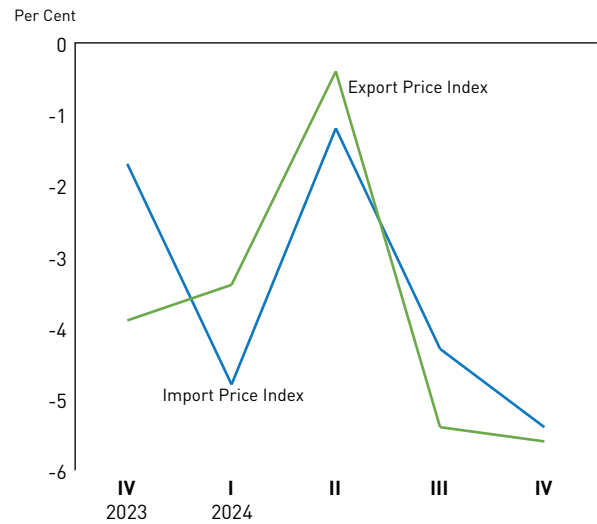


Exhibit 3.9: Changes in Import and Export Price Indices



For the full year, the DSPI and SMPPPI decreased by 1.3 per cent and 0.5 per cent respectively, while the import and export price indices fell by 3.9 per cent and 3.7 per cent respectively. The DSPI and SMPPPI declined partly as a result of lower prices of mineral fuels and miscellaneous manufactured products. Meanwhile, the import and export price indices fell in part because of lower prices of machinery & transport equipment.

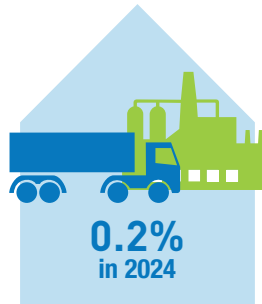
Box Article 3.1

BUSINESS COST CONDITIONS IN SINGAPORE'S MANUFACTURING AND SERVICES SECTORS

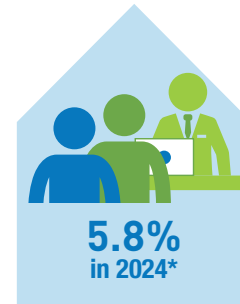
OVERVIEW

In 2024, unit business cost (UBC) in the manufacturing and services sectors rose.

DEFINITION OF UBC

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


UBC for Manufacturing



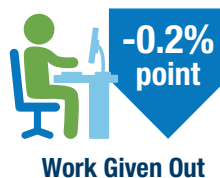
UBC for Services

*Refers to the first three quarters of 2024

KEY DRIVERS

The marginal increase in UBC for manufacturing in 2024 was due to the increase in the "others" cost component, which offset the declines in royalty payments, unit labour cost and the costs of work given out.

CONTRIBUTION TO MANUFACTURING UBC IN 2024



The increase in services UBC in 2024 came on the back of increases in both non-labour costs and unit labour cost.

CONTRIBUTION TO SERVICES UBC IN 2024



OUTLOOK

For 2025, the overall unit labour cost for the economy is likely to continue to rise at a pace that is broadly similar to that in 2024. Against the backdrop of rising global economic uncertainty, increases in remuneration per worker are likely to slow over the course of the year, even as productivity growth is expected to moderate in tandem with a slower pace of growth in the Singapore economy. At the same time, the costs of utilities, fuel and transportation are likely to moderate, in line with the outlook for global oil prices in 2025.

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

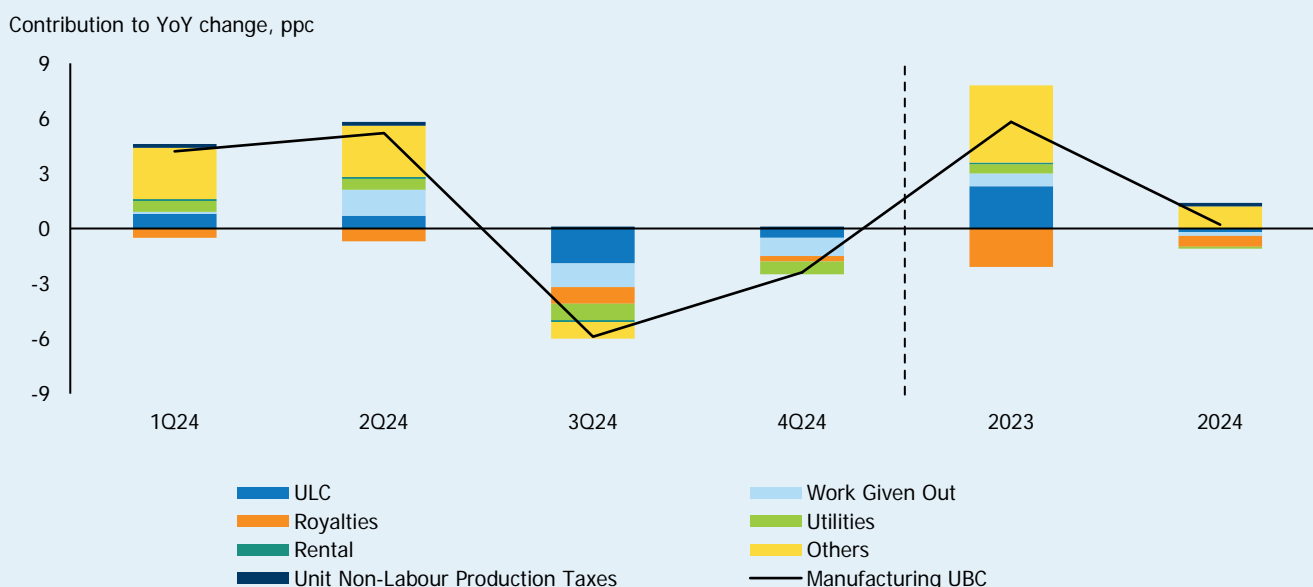
This box article highlights the latest trends in business costs for firms in Singapore's manufacturing and services sectors, as well as the outlook for key components of business costs in 2025.

(I) Unit Business Cost¹ in the Manufacturing and Services Sectors

In 2024, unit business cost in the manufacturing and services sectors rose

In 2024, the unit business cost index for the manufacturing sector (UBCI) rose marginally by 0.2 per cent, easing from the 5.8 per cent increase in 2023 (Exhibit 1). The main contributor to the increase in UBCI in 2024 was the "others" cost component², which accounted for 1.2 percentage-points (pp) of the increase. This offset the declines in royalty payments³, manufacturing unit labour cost (ULC) and the costs of work given out, which collectively contributed -1.0 pp to the UBCI increase. Meanwhile, the remaining cost components such as non-labour production taxes⁴, utilities and rental costs⁵ had a relatively small impact on the UBCI, in part due to their small shares in overall business costs. (Please refer to the Annex for the business cost structure of firms in the manufacturing and services sectors.)

Exhibit 1: Contribution to the UBCI Change by Key Cost Components



Source: Department of Statistics

As for the overall services sector, its unit business cost index (UBC-*Services Index*)⁶ rose by 5.8 per cent year-on-year in the first three quarters of 2024, a reversal from the 3.9 per cent year-on-year decline recorded for the same period in 2023 (Exhibit 2).⁷ The pickup in the UBC-*Services Index* came on the back of increases in both non-labour costs (+5.1 pp contribution) and services ULC (+0.8 pp). In turn, the increase in non-labour costs was partly driven by higher sea freight rates compared to the first three quarters of 2023, which more than offset lower air freight rates over the same period.

1 Business costs tend to increase when firms produce a higher amount of output to meet demand. Unit business cost accounts for the change in output by measuring the business costs incurred to produce one unit of output. Only operating expenses (i.e., excluding materials costs and depreciation) are included in business costs based on the definition adopted by the Department of Statistics (DOS) in its computation of the Unit Business Cost for Manufacturing. See DOS's Information Paper, "Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)", at <https://www.singstat.gov.sg/-/media/files/publications/economy/ip-e38.pdf>.

2 "Others" costs include professional fees, advertising, commission & agency fees, sundry expenses etc.

3 Royalty payments refer to payments to another party (the licensor or franchisor who owns a particular asset) for the right to the ongoing use of that asset. There could be many reasons for changes in royalty payments. For instance, royalty payments vary with company-specific licensing agreements which could differ from year to year. Furthermore, royalties are usually computed as a percentage of sales, which could be volatile each year.

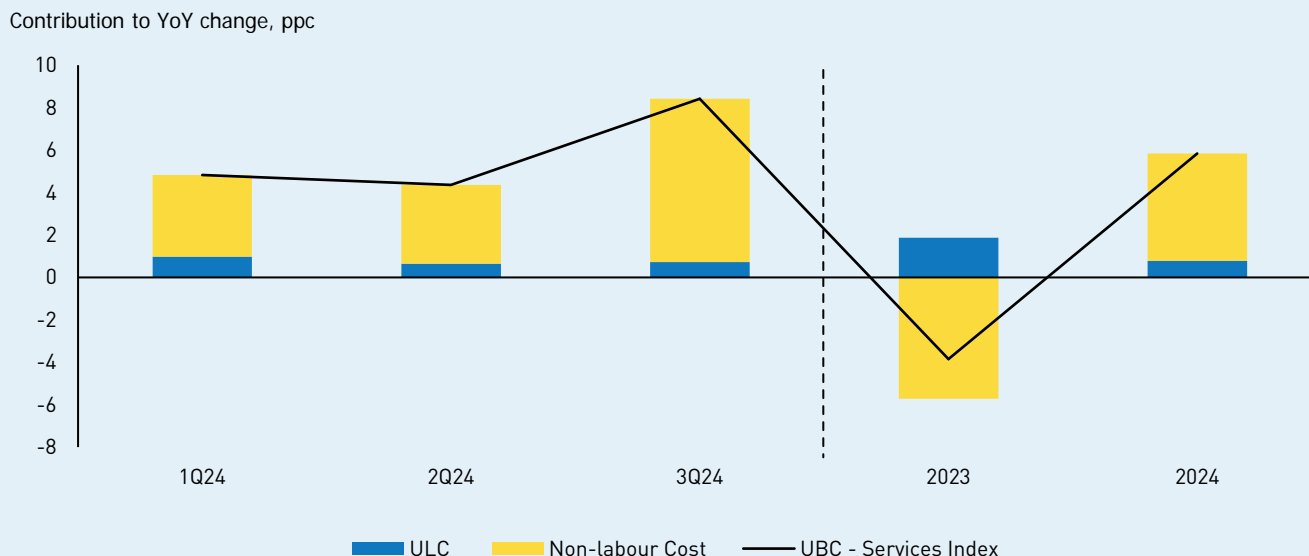
4 Non-labour production taxes include property, road and other indirect taxes. Labour-related taxes on production (e.g., foreign worker levy) are classified under labour cost. Taxes on income (e.g., corporate income tax) are not included in business costs.

5 Industrial rentals rose by 3.5 per cent in 2024, moderating from the 8.9 per cent increase in 2023.

6 The UBC-*Services Index* assesses cost conditions in the services sector. It is a composite index of proxy cost indicators for each component of business costs, combined using weights estimated from expenditure data in DOS' *Services Survey Series 2019*, as well as the 2019 Input-Output tables.

7 The latest available UBC-*Services Index* is up to the third quarter of 2024.

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



Source: MTI Staff estimates

Notes: (1) The 2023 and 2024 figures refer to the average of the UBC-Services Index for the first three quarters of the respective years; (2) Detailed cost component breakdown of the UBC-Services Index is not available; (3) Non-labour costs include air & sea freight costs, cargo handling costs and warehousing & storage costs.

(II) Latest Trends and Outlook for Key Cost Components

Following a moderation in its pace of increase in 2024, the ULC for the overall economy is expected to rise at a broadly similar pace in 2025

The ULC for the overall economy rose by 1.2 per cent in 2024, moderating from the 6.5 per cent increase in 2023 largely because of a pickup in productivity growth in 2024.^{8,9} The increase in the overall ULC in 2024 was due to a rise in total labour cost¹⁰ (TLC) per worker (4.0 per cent) which outstripped the increase in labour productivity¹¹ (2.7 per cent) (Exhibit 3). In turn, the increase in TLC per worker was mainly driven by higher remuneration per worker (+3.3 pp contribution).

At the broad sectoral level, the ULC of the services producing industries (1.5 per cent) and construction sector (1.6 per cent) both increased in 2024 due to a rise in TLC per worker that outweighed labour productivity growth within the sector (Exhibit 4). By contrast, the manufacturing sector (-0.8 per cent) recorded a fall in ULC as labour productivity gains more than offset an increase in TLC per worker.

Meanwhile, within the services producing industries, the food & beverage services (10.2 per cent), retail trade (6.2 per cent) and administrative & support services (6.2 per cent) sectors registered the largest ULC increases. For these three sectors, the increase in their ULCs was due to the combined effects of an increase in TLC per worker and a fall in labour productivity.

For 2025, the ULC for the overall economy is likely to continue to rise at a pace that is broadly similar to that in 2024. Against the backdrop of rising global economic uncertainty, increases in remuneration per worker are likely to slow over the course of the year as employers turn more cautious and tightness in the labour market continues to ease. This will be broadly offset by an expected moderation in productivity growth in tandem with a slower pace of growth in the Singapore economy.

⁸ A change in the ULC can be approximately decomposed as the change in total labour cost per worker minus the change in labour productivity (proxied by gross real value-added per worker). The approximation holds better when the changes are small.

⁹ In 2024, labour productivity growth came in at 2.7 per cent, a reversal from the 2.8 per cent decline in 2023.

¹⁰ TLC comprises remuneration, wage subsidies and other labour-related costs, which include the skills development levy, foreign worker levy, and recruitment and net training costs.

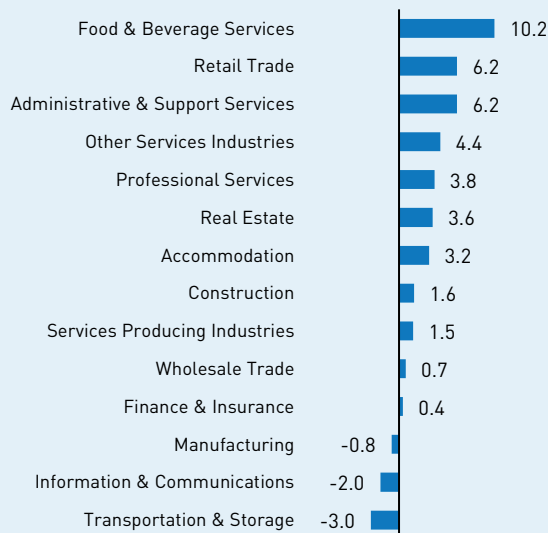
¹¹ Labour productivity in this decomposition is proxied by real gross value-added per worker.

Exhibit 3: Decomposition of ULC Growth for Overall Economy, 2024

ULC	1.2%
TLC per worker	4.0%
<i>Remuneration per worker</i>	+3.3pp
<i>FWL per worker</i>	+0.1pp
<i>Wage subsidies per worker</i>	+0.3pp
<i>Other labour costs</i>	+0.3pp
Gross real labour productivity*	2.7%

* Measured as real gross value-added per worker.

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

Exhibit 4: ULC Change by Sectors, 2024

Costs of utilities, fuel and transportation are likely to moderate in 2025

The cost of utilities borne by firms is closely linked to electricity costs,¹² which are in turn influenced by global oil prices.¹³ Oil prices also contribute to business costs through fuel and transportation costs.

In 2024, the average wholesale electricity price declined by 35 per cent (i.e., from \$251/MWh in 2023 to \$163/MWh in 2024), in part reflecting the moderation in global oil prices in the second half of 2024 (Exhibit 5).

Global oil prices are projected to ease further in 2025 as the Organisation of Petroleum Exporting Countries and selected non-member countries (i.e., OPEC+) gradually unwind their oil production cuts over the course of the year and global oil demand moderates. For 2025 as a whole, the US Energy Information Administration (EIA) has projected that global oil prices will average US\$74 per barrel (/bbl)¹⁴, lower than the 2024 average of US\$81/bbl.

Correspondingly, domestic fuel and transportation costs are expected to moderate in 2025. Similarly, the domestic cost of utilities is expected to ease, notwithstanding the phased increase in water price¹⁵ in 2025.

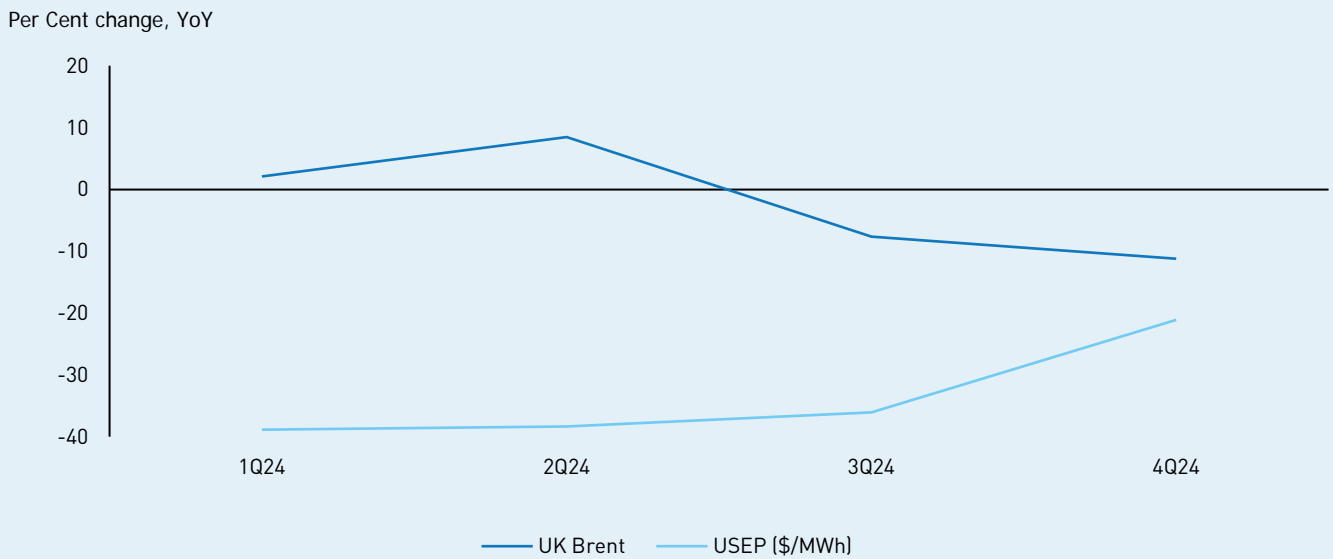
¹² For example, electricity cost accounted for around 89 per cent of the cost of utilities borne by firms in the manufacturing sector in 2023.

¹³ Around 95 per cent of Singapore's electricity is generated from natural gas, the price of which is indexed to oil prices. This is a common market practice in Asia.

¹⁴ EIA Short-Term Energy Outlook Report, February 2025.

¹⁵ As announced earlier by MSE, to meet the higher costs of supplying and producing water, the potable water price will increase by 50 cents per cubic metre in two phases over 2024 and 2025. This represents an increase in the water price of about 2.5 per cent per year since the last round of price revision in 2018.

Exhibit 5: Global Oil Prices and Uniform Singapore Energy Prices (USEP), 1Q24 – 4Q24



Source: International Monetary Fund, CEIC, Energy Market Company

Note: The USEP is the wholesale price of electricity determined in the Singapore Wholesale Electricity Market. The USEP fluctuates every half-hour and is determined by various factors. Besides fuel costs, the USEP is also influenced by prevailing demand and supply conditions which may fluctuate significantly within the day.

Conclusion

In 2024, the UBCI for the manufacturing sector rose marginally as an increase in the “others” cost component outweighed the declines in royalty payments, manufacturing ULC and the costs of work given out. Meanwhile, the UBC-Services Index increased in the first three quarters of 2024 on account of an increase in non-labour costs and services ULC.

For 2025, the overall ULC for the economy is likely to continue to rise at a pace that is broadly similar to that in 2024. Against the backdrop of rising global economic uncertainty, increases in remuneration per worker are likely to slow over the course of the year, even as productivity growth is expected to moderate in tandem with a slower pace of growth in the Singapore economy. At the same time, the costs of utilities, fuel and transportation are likely to moderate, in line with the outlook for global oil prices in 2025.

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REFERENCES

Singapore Department of Statistics (2014), “Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)” November. <https://www.singstat.gov.sg/-/media/files/publications/economy/ip-e38.pdf>.

U.S. Energy Information Administration (2025), “Short-Term Energy Outlook (STEO)” February. <https://www.eia.gov/outlooks/steo/>.

ANNEX: BUSINESS COST STRUCTURE OF MANUFACTURING AND SERVICES SECTORS IN 2023

Manufacturing Sector

In the manufacturing sector, labour cost, work given out and “others” constituted the largest components of business costs. These three components collectively accounted for around 84 per cent of the business costs of small- and medium-sized enterprises (SMEs) and around 78 per cent of the business costs of non-SMEs in the sector in 2023.

The remaining cost components, including utilities, fuel, rental of building/premises and charges paid to other firms for inland transportation and ocean/air/other freight, made up a smaller share of business costs, at around 16 per cent for SMEs and 22 per cent for non-SMEs in 2023. Non-labour production taxes, which include property, road and other indirect taxes, accounted for around 0.5 per cent of the business costs of both SMEs and non-SMEs over the same period.

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

Services Sectors

Labour cost constituted a major cost component for firms in the services sectors, with its share of business costs ranging from around 4 per cent on average for SMEs in the transportation & storage sector, to around 36 per cent or more for SMEs in labour-intensive sectors such as food & beverage services, accommodation and retail trade in 2023.

On the other hand, utilities cost was a relatively small cost component for services firms, accounting for less than 2 per cent of the business costs of SMEs in most services sectors in 2023. Key exceptions were the accommodation and food & beverage services sectors, where utilities cost constituted 8 per cent and 6 per cent of the business costs of SMEs in these sectors respectively. Similarly, rental cost accounted for a small share of the business costs of SMEs in most services sectors. Key exceptions were the retail trade and food & beverage services sectors, where rental costs constituted around 23 per cent and 21 per cent of the business costs of SMEs in these sectors respectively.

Similar to the manufacturing sector, non-labour production taxes accounted for less than 1 per cent of the business costs of firms in most services sectors.

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

Exhibit A1: Business Cost Structure of the Manufacturing Sector by Firm Size, 2023

	Total		Electronics		Chemicals		Biomedical Manufacturing		Precision Engineering		Transport Engineering		General Manufacturing	
	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs
Labour Cost	18.5	32.7	11.8	8.4	16.2	25.6	27.1	14.0	30.3	51.6	28.5	51.7	31.3	48.2
Services Cost	81.0	66.8	87.9	91.5	82.7	73.6	72.5	85.7	69.2	47.7	71.1	47.7	68.1	51.1
Work given out	19.6	21.1	23.2	44.8	2.4	7.4	4.6	25.8	12.0	14.1	48.6	16.1	6.0	11.4
Royalty Payments	8.2	4.9	6.5	4.2	5.4	5.5	29.8	18.8	7.0	1.3	2.1	2.8	13.6	1.0
Utilities	5.3	3.8	5.4	0.7	10.7	12.5	2.4	1.0	2.2	3.3	2.2	1.8	7.2	3.9
Fuel	5.1	1.4	1.4	0.1	28.8	5.7	0.9	0.2	0.1	0.4	0.3	0.4	1.1	1.9
Rental of building/ premises	0.3	1.9	0.1	0.2	0.3	1.3	0.8	0.4	0.8	2.5	0.6	2.1	1.0	4.5
Charges paid to other firms for inland transportation and ocean/ air/ other freight	2.7	3.7	1.3	1.2	6.6	9.3	3.5	4.5	4.3	2.2	1.3	1.6	3.8	4.2
Others	39.8	30.1	50.1	40.4	28.6	31.9	30.5	35.0	42.8	23.8	16.2	22.8	35.5	24.2
Non-Labour Production Taxes	0.5	0.5	0.3	0.1	1.1	0.8	0.4	0.3	0.5	0.7	0.4	0.6	0.5	0.7

Source: Economic Development Board

Notes:

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

Exhibit A2: Business Cost Structure of the Services Sectors by Firm Size, 2023

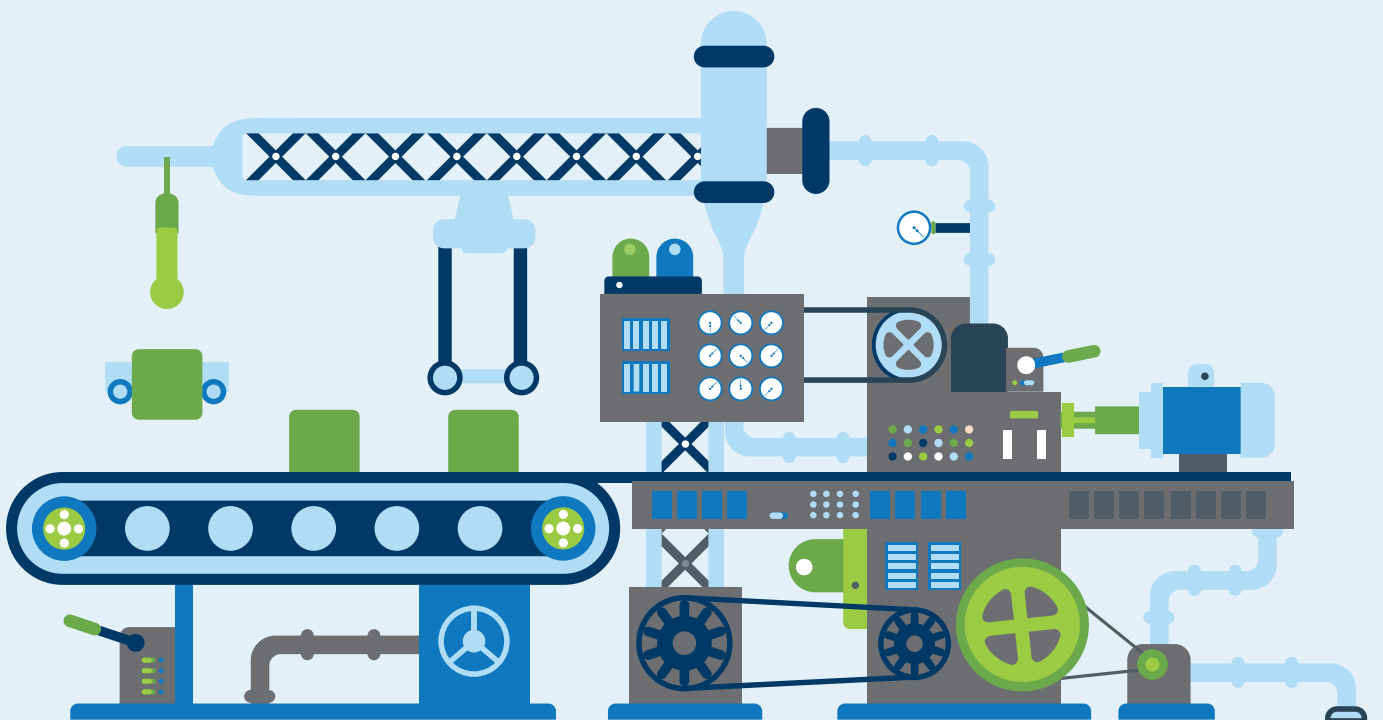
	Wholesale Trade		Retail Trade		Accommodation		Food & Beverage Services		Transportation & Storage		Information & Communications		Finance & Insurance		Real Estate, Professional Services and Administrative & Support Services	
	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs
Labour Cost	18.5	15.1	36.9	39.2	51.5	36.3	44.6	47.5	13.1	4.1	13.5	17.9	9.4	12.1	32.0	30.8
Services Cost	76.9	84.4	62.3	60.1	45.6	61.2	55.1	52.2	86.6	95.7	86.2	81.6	90.4	87.6	65.6	66.9
Utilities	0.4	0.2	3.4	1.5	7.1	7.7	6.1	5.5	1.1	0.2	0.8	1.1	-	0.1	0.6	1.5
Freight & Transport	31.1	39.5	3.9	3.1	-	-	2.0	1.2	52.9	68.9	0.2	0.3	-	-	1.0	1.2
Financial Services	2.1	1.9	2.4	2.3	1.7	2.3	1.1	1.4	0.4	0.5	0.3	1.7	3.1	3.8	0.1	0.7
Communications	0.3	0.2	0.3	0.8	0.3	0.9	0.2	0.3	0.1	0.1	0.7	6.5	-	0.1	0.1	0.4
Renting of Premises	2.5	3.0	28.9	23.2	5.3	13.8	17.9	20.9	0.7	1.5	0.8	2.1	0.5	0.9	2.0	3.3
Professional Services	5.1	3.3	2.1	2.4	1.8	2.1	0.6	1.4	1.1	0.6	9.6	15.1	1.5	5.5	3.7	6.7
Other Services	35.4	36.3	21.3	26.8	29.5	34.4	27.2	21.4	30.4	24.0	73.8	54.8	85.2	77.2	58.1	53.2
<i>Advertising & Entertainment</i>	5.2	14.5	5.6	9.1	4.0	4.0	3.9	2.6	0.3	0.7	6.2	16.4	1.2	1.2	0.7	6.8
<i>Admin & Management Fees</i>	13.2	6.0	3.2	3.7	5.9	9.7	2.6	3.6	0.8	1.9	14.7	10.4	4.0	10.0	8.6	9.0
<i>Contract labour & work given out</i>	2.0	1.3	0.5	1.7	1.9	1.5	2.3	2.5	0.7	0.8	3.6	6.4	-	0.2	21.9	14.4
<i>Commission</i>	2.8	3.3	1.0	3.7	2.4	5.3	1.2	2.5	2.0	1.3	1.7	2.9	2.4	5.7	0.7	3.0
<i>Royalties</i>	7.4	4.8	1.1	0.9	2.7	0.9	6.6	2.6	-	0.3	40.5	7.4	0.1	0.2	0.4	0.6
<i>Maintenance & repairs</i>	0.6	0.9	2.8	1.7	3.9	5.5	4.9	2.8	3.5	1.7	0.5	1.5	0.5	0.3	1.6	3.0
<i>Fuel</i>	0.6	0.6	0.1	0.1	-	-	0.1	0.2	20.2	13.2	-	-	-	-	-	0.2
<i>Others</i>	3.5	4.9	7.0	5.9	8.7	7.4	5.6	4.7	3.0	4.0	6.5	9.9	77.1	59.8	24.2	16.3
Non-Labour Production Taxes	4.5	0.5	0.9	0.7	2.9	2.5	0.3	0.3	0.3	0.1	0.3	0.5	0.2	0.4	2.4	2.3

Source: Department of Statistics and Monetary Authority of Singapore

Notes:

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

2. "-" refers to nil or negligible.



CHAPTER

4

INTERNATIONAL TRADE

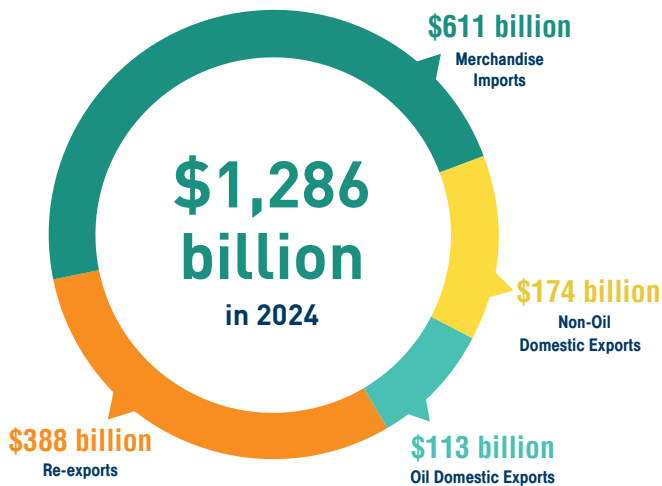




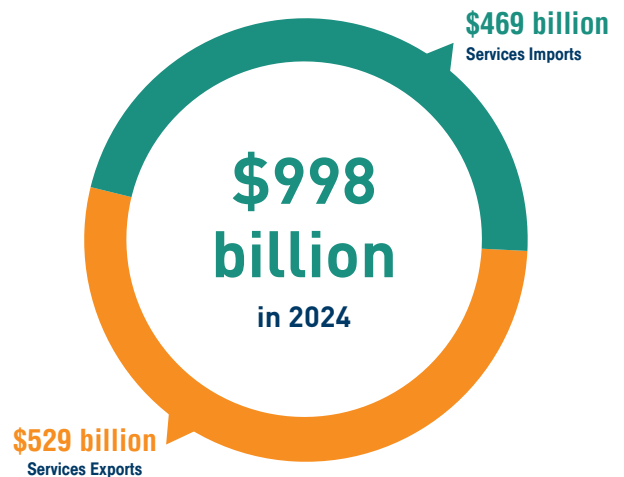
Chapter 4

INTERNATIONAL TRADE

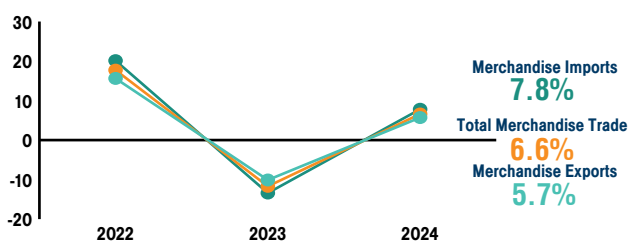
TOTAL MERCHANDISE TRADE AMOUNTED TO...



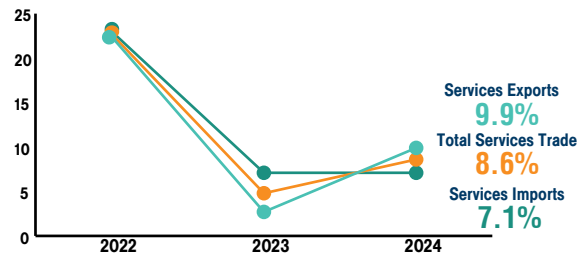
TOTAL SERVICES TRADE AMOUNTED TO...



GROWTH IN MERCHANDISE TRADE



GROWTH IN SERVICES TRADE



COMPONENTS OF MERCHANDISE EXPORTS (YoY Growth)



THE INCREASE IN SERVICES EXPORTS WAS LED BY...



OVERVIEW

Singapore’s total merchandise trade increased by 6.8 per cent year-on-year in the fourth quarter of 2024, faster than the 5.3 per cent growth in the preceding quarter. At the same time, total services trade increased by 7.4 per cent year-on-year, moderating from the 10.8 per cent growth in the third quarter.

For the whole of 2024, Singapore’s total merchandise trade expanded by 6.6 per cent to S\$1.3 trillion, compared to the S\$1.2 trillion in 2023. Oil trade declined by 0.1 per cent amidst lower oil prices compared to a year ago, while non-oil trade increased by 8.3 per cent. Merchandise exports and imports increased by 5.7 per cent and 7.8 per cent respectively.

Total services trade grew by 8.6 per cent to \$998 billion in 2024, up from \$919 billion in 2023. Services exports and imports increased by 9.9 per cent and 7.1 per cent respectively in 2024.

MERCHANDISE TRADE

Merchandise Exports

Total merchandise exports rose by 5.1 per cent year-on-year in the fourth quarter, following the 5.7 per cent growth in the preceding quarter (Exhibit 4.1). The increase was due to the growth in re-exports, which outweighed the decline in domestic exports. Domestic exports fell by 6.0 per cent, a pullback from the 5.4 per cent growth in the third quarter. Meanwhile, re-exports expanded by 13.9 per cent, accelerating from the 5.9 per cent growth in the previous quarter.

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

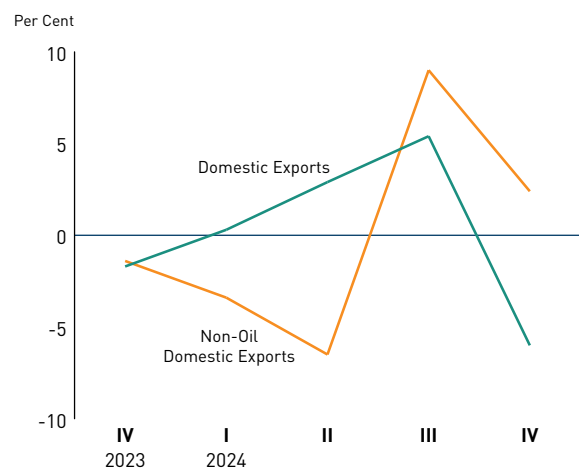
	2023	2024				2024
		I	II	III	IV	
Total Merchandise Trade	-11.7	4.6	9.9	5.3	6.8	6.6
Merchandise Exports	-10.1	4.4	7.5	5.7	5.1	5.7
Domestic Exports	-13.5	0.3	2.9	5.4	-6.0	0.5
Oil	-14.2	6.0	19.0	-0.2	-17.9	1.0
Non-Oil	-13.1	-3.4	-6.5	9.0	2.4	0.2
Re-Exports	-7.1	7.8	11.5	5.9	13.9	9.8
Merchandise Imports	-13.4	5.0	12.5	5.0	8.7	7.8
Oil	-19.0	2.1	16.0	-7.7	-9.5	-0.3
Non-oil	-11.9	5.7	11.7	8.3	13.7	9.9

For the whole of 2024, total merchandise exports expanded by 5.7 per cent, a reversal from the 10.1 per cent contraction in 2023.

Non-Oil Domestic Exports

Non-oil domestic exports (NODX) grew by 2.4 per cent year-on-year in the fourth quarter, easing from the 9.0 per cent growth in the preceding quarter (Exhibit 4.2). The increase in NODX was due to the growth in electronics NODX, even as non-electronics NODX fell.

Exhibit 4.2: Changes in Domestic Exports

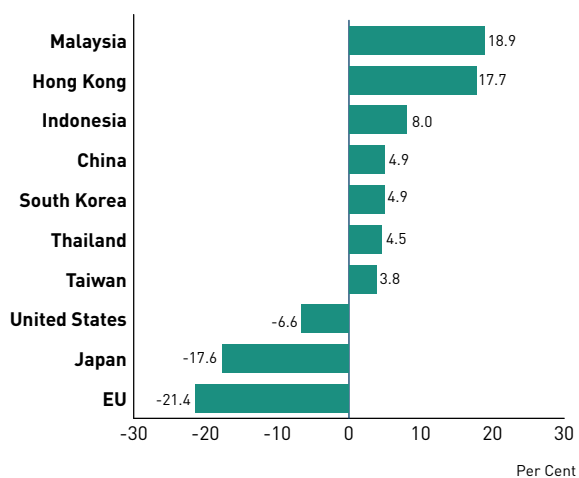


Electronics NODX grew by 14.2 per cent in the fourth quarter, moderating from the 16.3 per cent expansion in the previous quarter. The growth in electronic NODX was primarily due to an increase in the domestic exports of ICs, disk media products and PCs. Non-electronics NODX declined by 0.7 per cent in the fourth quarter, a reversal from the 7.0 per cent growth in the previous quarter. The decline in non-electronics NODX was primarily due to lower domestic exports of pharmaceuticals, specialised machinery and petrochemicals.

For the full year, NODX grew by 0.2 per cent, a reversal from the 13.1 per cent contraction in 2023. The growth in NODX was due to increased shipments of electronics (+8.2 per cent), which outweighed the decline in non-electronics (-1.9 per cent).

The top 10 NODX markets accounted for 80.0 per cent of Singapore’s total NODX in 2024. Singapore’s NODX to most markets increased even as NODX to the EU 27 (-21.4 per cent), Japan (-17.6 per cent) and the US (-6.6 per cent) declined.

Exhibit 4.3: Growth Rates of Non-Oil Domestic Exports to Top 10 Markets in 2024



NODX to EU 27 contracted mainly because of a decline in the exports of pharmaceuticals, telecommunications equipment and specialised machinery. NODX to the US fell on the back of a decline in the exports of pharmaceuticals, structures of ships & boats and telecommunications equipment. Meanwhile, pharmaceuticals, miscellaneous manufactured articles and measuring instruments contributed the most to the decline in NODX to Japan. On the other hand, NODX to Malaysia grew due to higher exports of ICs, other computer peripherals and non-monetary gold.

Oil Domestic Exports

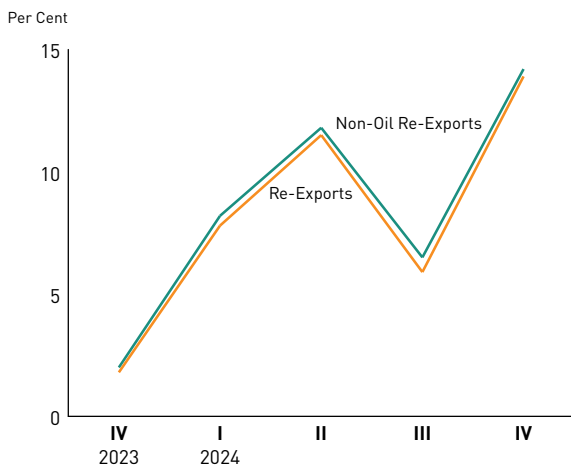
Oil domestic exports contracted by 17.9 per cent year-on-year in the fourth quarter, extending the 0.2 per cent decline in the previous quarter. The decline in oil domestic exports was led by lower exports to economies such as Indonesia, Malaysia and Australia. The decrease also partly reflected lower oil prices compared to the same quarter a year ago. In volume terms, oil domestic exports declined by 5.6 per cent in the fourth quarter, a reversal from the 15.9 per cent expansion in the previous quarter.

For the full year, oil domestic exports rose by 1.0 per cent year-on-year, a turnaround from the 14.2 per cent contraction in 2023. By economies, it was driven mainly by higher exports to Indonesia, China and Liberia. In volume terms, oil domestic exports increased by 5.7 per cent in 2024, picking up from the 2.2 per cent growth in 2023.

Non-Oil Re-Exports

Non-oil re-exports (NORX) expanded by 14.2 per cent year-on-year in the fourth quarter, accelerating from the 6.5 per cent growth in the preceding quarter (Exhibit 4.4). The growth in NORX could be attributed to an increase in both electronics and non-electronics NORX. Electronics NORX rose by 16.4 per cent, extending the 12.3 per cent increase in the third quarter, as the re-exports of ICs, PCs and parts of PCs grew. Meanwhile, non-electronics NORX rose by 11.8 per cent, faster than the 0.1 per cent growth in the preceding quarter. The growth in non-electronics NORX was mainly driven by higher re-exports of non-monetary gold, non-electric engines & motors and specialised machinery.

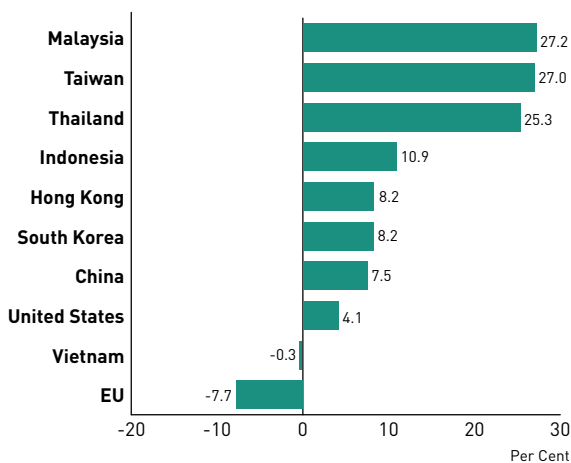
Exhibit 4.4: Changes in Re-Exports



For the whole of 2024, NORX expanded by 10.2 per cent, rebounding from the 7.3 per cent decline in 2023. The growth in NORX was due to an increase in both electronics NORX (+16.2 per cent) and non-electronics NORX (+3.8 per cent).

NORX to the top 10 NORX markets as a whole grew in 2024 (Exhibit 4.5). NORX to Malaysia expanded on the back of an increase in the re-exports of PCs, other computer peripherals and parts of PCs. Meanwhile, higher shipments of ICs, PCs and telecommunications equipment led to an increase in NORX to Hong Kong. Re-exports to Thailand rose on account of an increase in the shipments of ICs, consumer electronics and parts of PCs.

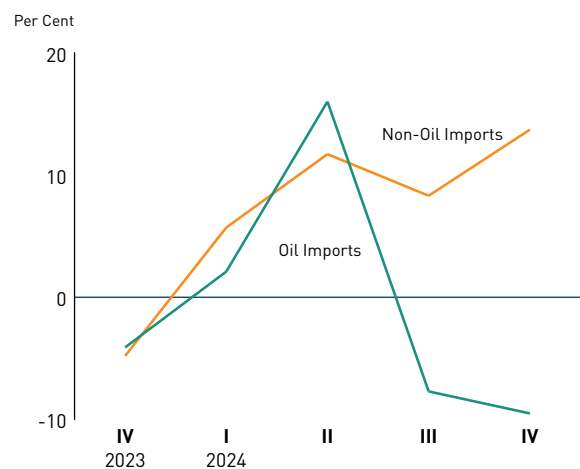
Exhibit 4.5: Growth Rates of Non-Oil Re-Exports to Top 10 Markets in 2024



Merchandise Imports

Non-oil imports expanded by 13.7 per cent year-on-year in the fourth quarter, following the 8.3 per cent growth in the preceding quarter (Exhibit 4.6). The growth in non-oil imports was due to an increase in both electronics (+28.8 per cent) and non-electronics imports (+4.3 per cent). In turn, the growth in electronics imports was due to an increase in the imports of ICs, PCs and other computer peripherals. Meanwhile, the growth in non-electronics imports was due to the imports of non-electric engines & motors, non-monetary gold and specialised machinery.

Exhibit 4.6: Changes in Merchandise Imports



Oil imports declined by 9.5 per cent year-on-year in the fourth quarter, extending the 7.7 per cent decline in the preceding quarter. The decrease in oil imports was due partly to lower oil prices. In volume terms, oil imports increased by 1.1 per cent, improving from the 3.8 per cent decline in the third quarter.

For the full year of 2024, non-oil imports rose by 9.9 per cent, a turnaround from the 11.9 per cent contraction in 2023. Meanwhile, oil imports declined by 0.3 per cent, easing from the 19.0 per cent contraction in 2023.

SERVICES TRADE

Services Exports

Services exports grew by 8.4 per cent year-on-year in the fourth quarter, moderating from the 12.0 per cent growth in the preceding quarter. The growth in services exports was primarily driven by the exports of transport services and financial services, which grew by 14.6 per cent and 13.7 per cent respectively.

For the full year, services exports expanded by 9.9 per cent, picking up from the 2.7 per cent increase in 2023. The increase in services exports was attributable mainly to the exports of transport services, other business services and financial services, which grew by 15.7 per cent, 5.7 per cent and 9.6 per cent respectively.

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

	2023	2024				2024
		I	II	III	IV	
Total Services Trade	4.8	8.1	7.9	10.8	7.4	8.6
Services Exports	2.7	10.1	9.2	12.0	8.4	9.9
Services Imports	7.1	5.9	6.5	9.5	6.4	7.1

Services Imports

Services imports expanded by 6.4 per cent year-on-year in the fourth quarter, easing from the 9.5 per cent growth in the previous quarter. The growth in services imports was led by the imports of transport services, other business services and travel services, which expanded by 7.4 per cent, 4.0 per cent and 13.8 per cent respectively.

For the whole of 2024, services imports expanded by 7.1 per cent, the same rate of growth as in 2023. The growth in services imports was mainly due to the imports of transport services and travel services, which grew by 8.3 per cent and 20.2 per cent respectively.



CHAPTER

5

BALANCE OF PAYMENTS



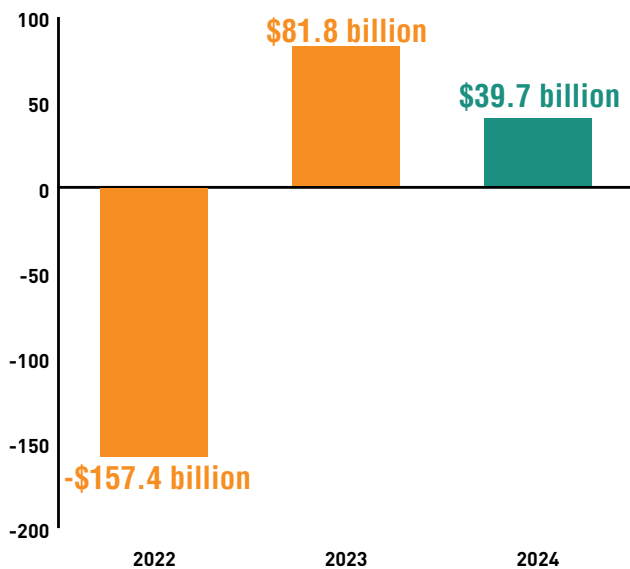
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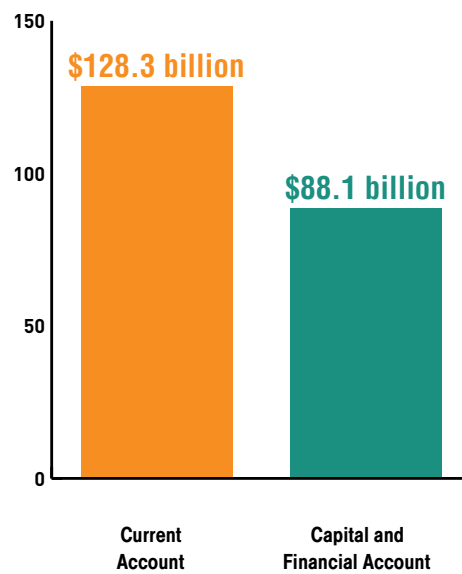
Chapter 5

BALANCE OF PAYMENTS

Singapore's balance of payments surplus came in at **\$39.7 billion** in 2024



BALANCE OF PAYMENTS COMPONENTS IN 2024



COMPONENTS OF CURRENT ACCOUNT

\$197.9 billion



Goods Balance

\$59.4 billion



Services Balance

-\$118.9 billion



Primary Income Balance

-\$10.1 billion



Secondary Income Balance

COMPONENTS OF CAPITAL & FINANCIAL ACCOUNT

-\$129.2 billion



Direct Investment

\$105.1 billion



Portfolio Investment

\$2.4 billion



Financial Derivatives

\$109.8 billion



Other Investment

OVERVIEW

Singapore's overall balance of payments recorded a deficit of \$11.2 billion in the fourth quarter of 2024, a reversal from the surplus of \$17.3 billion in the third quarter. For the whole of 2024, the overall balance of payments registered a surplus of \$39.7 billion, lower than the surplus of \$81.8 billion in 2023. The smaller surplus was mainly due to an increase in net outflows from the capital and financial account. Singapore's official foreign reserves rose to \$507 billion at the end of 2024.

CURRENT ACCOUNT

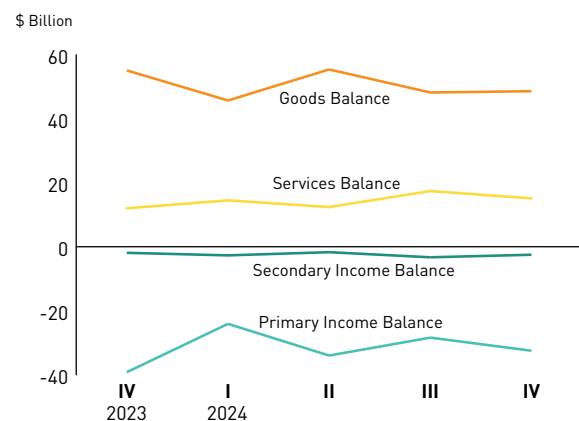
The current account surplus fell to \$28.8 billion in the fourth quarter, from \$33.9 billion in the third quarter (Exhibit 5.1). For 2024 as a whole, the current account surplus rose by \$8.3 billion to \$128 billion (17.5 per cent of GDP). The increase was driven by a larger services account surplus and a narrowing of the primary income deficit, which more than offset a smaller goods account surplus and a larger secondary income deficit.

Exhibit 5.1: Current Account Balance



In terms of the components of the current account, the goods surplus came in at \$48.6 billion in the fourth quarter of 2024, edging up from \$48.2 billion in the third quarter, as exports rose more than imports (Exhibit 5.2). For 2024 as a whole, the goods surplus stood at \$198 billion, lower than the \$211 billion in 2023, as imports increased more than exports.

Exhibit 5.2: Components of Current Account Balance



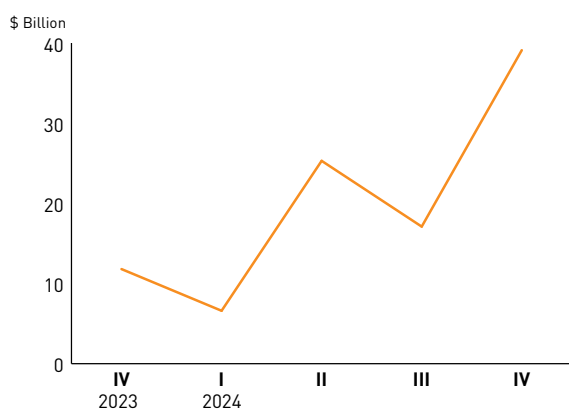
The surplus in the services balance fell to \$15.1 billion in the fourth quarter, from \$17.4 billion in the preceding quarter. For the whole of 2024, the surplus in the services balance increased to \$59.4 billion, from \$42.9 billion in 2023. This was mainly driven by a rise in net receipts for transport services, financial services, and other business services. These more than offset the rise in net payments for travel services.

The primary income deficit widened by \$4.0 billion from the previous quarter to \$32.5 billion in the fourth quarter. For the year as a whole, the deficit narrowed by \$5.9 billion to \$119 billion, as receipts rose more than payments.

CAPITAL AND FINANCIAL ACCOUNT

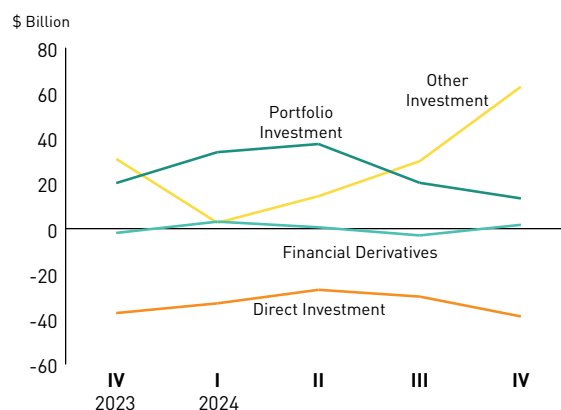
The capital and financial account¹ registered a larger net outflow of \$39.1 billion in the fourth quarter, compared to \$17.1 billion in the preceding quarter (Exhibit 5.3). For 2024 as a whole, net outflows amounted to \$88.1 billion (12.0 per cent of GDP), up from the \$39.4 billion in 2023. The increase was due mainly to higher net outflows of “other investment”, and financial derivatives switching to net outflows from net inflows in the preceding year. These more than offset the rise in net inflows of direct investment and a decline in net outflows of portfolio investment.

Exhibit 5.3: Capital and Financial Account Balance



In terms of the components of the capital and financial account, net outflows of “other investment” came in at \$62.9 billion in the fourth quarter, up from \$29.9 billion in the preceding quarter (Exhibit 5.4). For the full year, net outflows of “other investment” rose to \$110 billion, an increase from the \$35.4 billion registered in 2023. This was in part due to higher net outflows from resident deposit-taking corporations as well as the resident non-bank private sector.

Exhibit 5.4: Components of Financial Account (Net)



At the same time, net inflows of direct investment reached \$38.9 billion in the fourth quarter, higher than the \$30.1 billion in the previous quarter. For 2024 as a whole, net inflows of direct investment rose by \$3.6 billion to \$129 billion, as the increase in foreign direct investment flows into Singapore exceeded that of residents’ direct investments abroad.

Financial derivatives switched to net outflows of \$1.7 billion in the fourth quarter, from net inflows of \$3.0 billion in the preceding quarter. For 2024 as a whole, financial derivatives reversed to net outflows of \$2.4 billion, from net inflows of \$1.9 billion in 2023.

Net outflows of portfolio investment fell to \$13.4 billion in the fourth quarter, from \$20.3 billion in the previous quarter. For the full year, net outflows of portfolio investment fell by \$26.4 billion to \$105 billion in 2024. The decline in net outflows was attributable to resident deposit-taking corporations, as well as the resident non-bank private sector which switched to net inflows in 2024 from net outflows in the previous year.

¹ 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”.



CHAPTER

6

SECTORAL PERFORMANCE



Embargoed until 14 February 2025, 8.00 a.m.









Chapter 6

SECTORAL PERFORMANCE

OVERALL ECONOMY

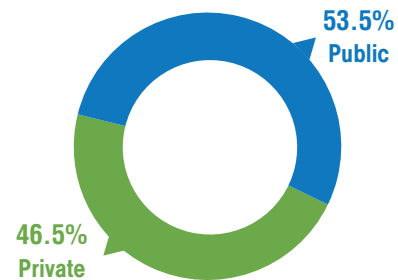
STRUCTURE OF ECONOMY	Nominal Value Added Share (%)	Real Growth (%)
Total	100.0	4.4
Goods Producing Industries	22.7	4.2
Manufacturing	17.3	4.3
Construction	3.8	4.5
Utilities	1.6	2.8
Other Goods Industries	0.0	3.0
Services Producing Industries	73.2	4.4
Wholesale Trade	20.3	5.1
Retail Trade	1.2	-0.4
Transportation & Storage	9.1	5.8
Accommodation	0.8	7.1
Food & Beverage Services	0.8	-0.9
Information & Communications	6.0	5.0
Finance & Insurance	14.3	6.8
Real Estate	2.9	0.2
Professional Services	5.5	1.2
Administrative & Support Services	2.6	0.5
Other Services Industries	9.6	3.0
Ownership of Dwellings	4.1	4.7

MANUFACTURING

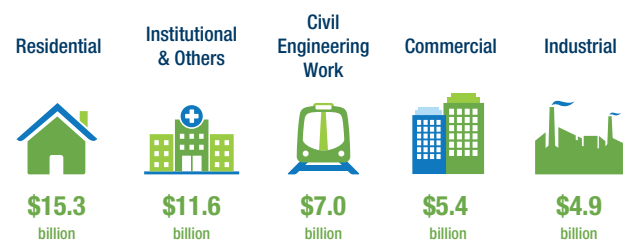
CLUSTERS	Nominal Value Added Share (%)	Real Growth (%)
 Electronics	38.5	8.4
 Chemicals	16.4	4.3
 Biomedical Manufacturing	13.4	-12.5
 Precision Engineering	15.4	2.3
 Transport Engineering	9.2	9.4
 General Manufacturing Industries	7.2	1.3

CONSTRUCTION

CERTIFIED PAYMENTS IN 2024



CONTRACTS AWARDED IN 2024



WHOLESALE TRADE



Foreign Wholesale Trade Index growth
+7.6%



Domestic Wholesale Trade Index growth
-1.5%

RETAIL TRADE



Retail Sales Index Growth (Motor Vehicles)
+15.1%



Retail Sales Index Growth (Non-Motor Vehicles)
-2.2%

TRANSPORTATION & STORAGE

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Land Transport*	10.2	0.4
Water Transport*	68.4	4.7
Air Transport*	8.6	12.9
Storage & Other Support Services	10.7	12.7
Post & Courier Activities	2.1	-2.6

*Including supporting services

ACCOMMODATION

PERFORMANCE OF HOTELS



Hotel Room Revenue Growth
+11.4%



Gross Lettings Growth
+10.0%

FOOD & BEVERAGE SERVICES

PERFORMANCE OF F&B (SALES GROWTH)



Food Caterers
+15.9%



Cafes, Food Courts & Other Eating Places
-0.7%



Restaurants
-3.2%



Fast Food Outlets
-5.4%

INFORMATION & COMMUNICATIONS

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Telecommunications	11.9	0.2
IT & Information Services	64.5	6.8
Others	23.5	2.5

FINANCE & INSURANCE

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Banking	44.1	6.5
Activities Auxiliary to Financial Services	19.8	7.1
Fund Management	12.8	13.5
Insurance	15.5	3.4
Others	7.8	4.6

REAL ESTATE

PRIVATE RESIDENTIAL



COMMERCIAL AND INDUSTRIAL (TOTAL OCCUPIED SPACE GROWTH)



OTHER SERVICES INDUSTRIES

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Public Administration & Defence	25.3	0.6
Education	25.9	1.9
Health & Social Work	27.4	5.0
Arts, Entertainment & Recreation	9.9	5.9
Others	11.4	4.3

PROFESSIONAL SERVICES

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Legal	8.6	-0.6
Accounting	6.3	2.7
Head Offices & Business Representative Offices	33.1	4.3
Business & Management Consultancy	10.3	1.8
Architectural & Engineering, Technical Testing & Analysis	21.9	-1.6
Other Professional, Scientific & Technical Services	19.8	-0.6

ADMINISTRATIVE & SUPPORT SERVICES

SEGMENTS	Nominal Value Added Share (%)	Real Growth (%)
Rental & Leasing	43.9	0.2
Other Administrative & Support Services	56.1	0.7



Chapter 6.1

MANUFACTURING

OVERVIEW

The manufacturing sector expanded by 7.4 per cent year-on-year in the fourth quarter of 2024, moderating from the 11.2 per cent increase in the preceding quarter. Growth was largely led by the electronics and transport engineering clusters.

For the whole of 2024, the manufacturing sector grew by 4.3 per cent, reversing the 4.2 per cent decline in 2023. All clusters recorded output expansions except for the biomedical manufacturing cluster.

OVERALL MANUFACTURING PERFORMANCE

The manufacturing sector expanded by 7.4 per cent year-on-year in the fourth quarter of 2024, largely led by higher production in the electronics and transport engineering clusters (Exhibit 6.1).

For the whole of 2024, the manufacturing sector grew by 4.3 per cent, reversing the 4.2 per cent decline in 2023. Growth in the sector was supported by output expansions across all clusters except the biomedical manufacturing cluster (Exhibit 6.2).

Exhibit 6.1: Manufacturing Growth Rates

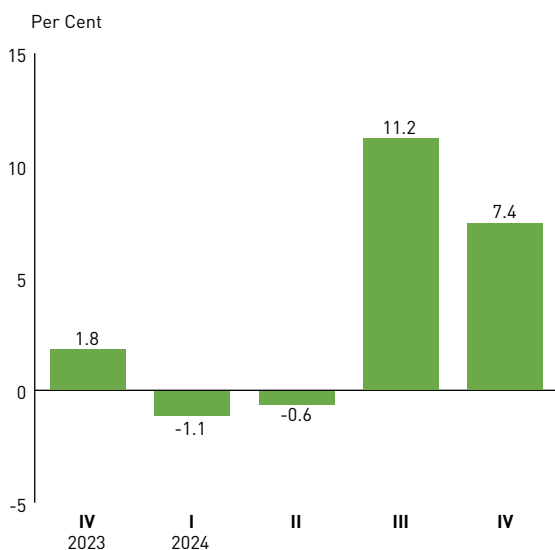
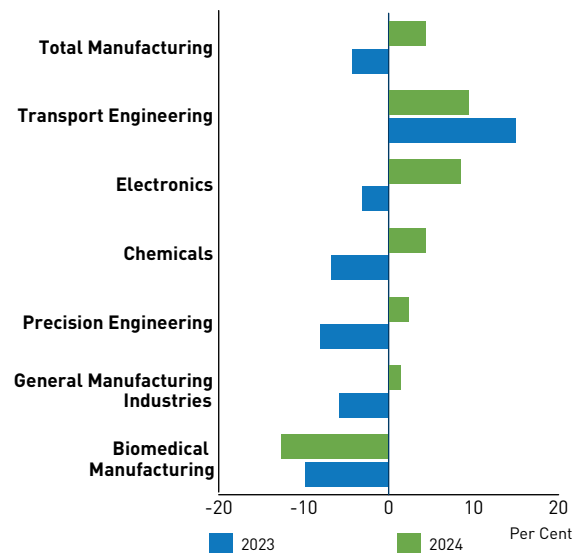


Exhibit 6.2: Manufacturing Clusters' Growth



PERFORMANCE OF CLUSTERS

The electronics cluster grew by 15.9 per cent year-on-year in the fourth quarter, supported by output expansions in all segments except for the other electronic modules & components segment. Output of the infocomms & consumer electronics, computer peripherals & data storage and semiconductors segments grew by 26.2 per cent, 24.1 per cent and 15.0 per cent respectively, on the back of improved demand. By contrast, output of the other electronic modules & components segment declined by 2.0 per cent. For the whole of 2024, the electronics cluster expanded by 8.4 per cent.

Output in the transport engineering cluster increased by 8.9 per cent year-on-year in the fourth quarter, led by the 15.8 per cent growth in the aerospace segment on account of a higher level of demand for aircraft parts and an increase in maintenance, repair and overhaul jobs from commercial airlines. The land and marine & offshore engineering segments grew by 5.6 per cent and 0.8 per cent respectively. For the full year, the transport engineering cluster expanded by 9.4 per cent.

The general manufacturing cluster grew by 0.2 per cent year-on-year in the fourth quarter, supported by higher production in the food, beverages & tobacco segment. The food, beverages & tobacco segment grew 3.6 per cent on account of a higher production of milk powder, cocoa products and animal feed additives. On the other hand, output of the printing and miscellaneous industries segments declined by 1.0 per cent and 3.8 per cent respectively, with the latter recording a lower production of structural metal products and paperboard containers and boxes. For the whole of 2024, the general manufacturing cluster expanded by 1.3 per cent.

The chemicals cluster contracted by 0.1 per cent year-on-year in the fourth quarter, driven by an output contraction in the specialties segment. Output in the specialties segment declined by 26.2 per cent on account of a lower level of production of mineral oil additives and biofuels. By contrast, output of the other chemicals segment grew 7.6 per cent with a higher level of output of fragrances. The petroleum and petrochemicals segments grew 6.1 per cent and 4.0 per cent respectively, with the former growing from a low base the previous year due to plant maintenance shutdowns. For the whole of 2024, output of the chemicals cluster rose by 4.3 per cent.

Output in the precision engineering cluster declined by 3.9 per cent year-on-year in the fourth quarter. The machinery and systems segment contracted by 5.7 per cent due to a lower production of semiconductor-related equipment. By contrast, the precision modules & components segment grew by 1.8 per cent on account of a higher output of optical instruments, plastic precision components and electronic connectors. For 2024 as a whole, output in the precision engineering cluster grew by 2.3 per cent.

The biomedical manufacturing cluster contracted by 4.4 per cent year-on-year in the fourth quarter, driven by an output contraction in the pharmaceuticals segment. The pharmaceuticals segment declined by 10.7 per cent on account of a lower level of production of biological products and a different mix of active pharmaceutical ingredients (APIs) being produced. On the other hand, output in the medical technology segment expanded by 4.6 per cent, supported by continued export demand for medical devices. For the whole of 2024, the biomedical manufacturing cluster declined by 12.5 per cent.

Chapter 6.2

CONSTRUCTION

OVERVIEW

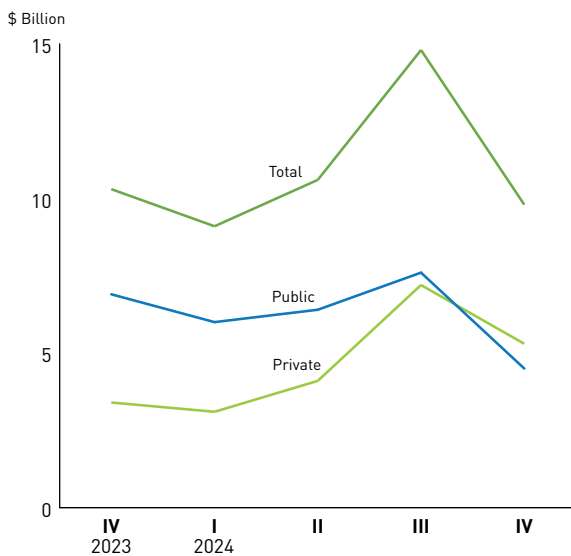
The construction sector grew by 4.4 per cent year-on-year in the fourth quarter of 2024, slower than the 5.6 per cent expansion in the previous quarter.

For the whole of 2024, the sector expanded by 4.5 per cent, slower than the 5.8 per cent growth in 2023.

CONSTRUCTION DEMAND

Construction demand (contracts awarded) dropped by 4.6 per cent year-on-year to \$9.8 billion in the fourth quarter. The contraction in public construction demand weighed down the expansion in private sector construction demand (Exhibit 6.3).

Exhibit 6.3: Contracts Awarded



For the full year, total construction demand expanded by 29.5 per cent to \$44.2 billion (Exhibit 6.4), due to increases of 27.2 per cent in public sector construction demand and 32.5 per cent in private sector construction demand.

Exhibit 6.4: Contracts Awarded, 2024 (\$ Billion)

	Total	Public	Private
Total	44.2	24.6	19.7
Residential	15.3	7.3	8.0
Commercial	5.4	0.3	5.1
Industrial	4.9	0.3	4.6
Institutional & Others	11.6	10.4	1.2
Civil Engineering Works	7.0	6.3	0.8

Public Sector

In the fourth quarter, public sector construction demand contracted by 34.1 per cent year-on-year to \$4.5 billion. Residential and civil engineering construction demand declined by 68.3 per cent and 56.6 per cent respectively. On the other hand, construction demand for the rest of the building types expanded, ranging from 74.5 per cent for institutional building projects to 921 per cent for commercial building projects.

For the full year, public sector construction demand increased by 27.2 per cent to \$24.6 billion (Exhibit 6.4). The expansion was supported by an increase in contracts awarded for public commercial buildings (284 per cent) and public institutional and other buildings (117 per cent), Some of the major projects awarded during the year include (i) MPA’s office building at Cantonment Road; (ii) foundation works for MOH’s Eastern Integrated Health Campus and the redevelopment of Alexandra Hospital; (iii) NHB’s Founders’ Memorial; (iv) MOH’s Health Sciences Authority Building; (v) SCB’s New Science Centre; (vi) PA’s Bukit Timah Integrated Development; and (vii) various contracts under LTA’s Cross Island MRT Line (Phase 2).

Private Sector

In the fourth quarter, private sector construction demand increased by 54.6 per cent year-on-year to \$5.3 billion. Except for commercial building and civil engineering projects, which registered contractions of 10.0 per cent and 89.8 per cent respectively, demand expanded for all other types of projects, ranging from 7.7 per cent for institutional building projects to 152 per cent for residential building projects.

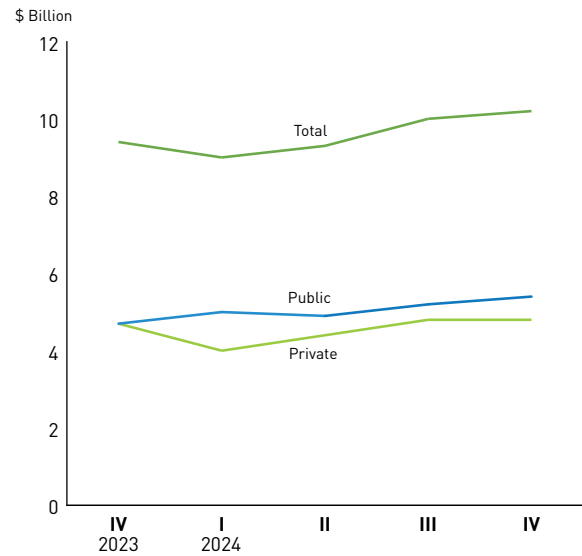
For the full year, private sector construction demand grew by 32.5 per cent to \$19.7 billion, on the back of higher demand for all building developments, including private residential (43.8 per cent), commercial (44.5 per cent), industrial (9.2 per cent) and institutional and other building (74.4 per cent) projects (Exhibit 6.4). Major projects awarded in 2024 include (i) development of various past en-bloc sales and GLS sites; (ii) Resorts World at Sentosa 2.0; (iii) Singtel’s Comcentre redevelopment; (iv) VisionPower’s semiconductor wafer manufacturing facility at Tampines; (v) PSA Supply Chain Hub@Tuas; (vi) YTL Powerseraya’s Combined Cycle Power Plant and (vii) Perennial Holdings’ Geriatric Care Home at Parry Avenue.

CONSTRUCTION OUTPUT

Construction output (or nominal certified payments) rose by 8.4 per cent year-on-year to \$10.2 billion in the fourth quarter, supported by expansions in both public and private sector construction output (Exhibit 6.5).

For the full year, construction output increased by 10.0 per cent to \$38.4 billion, extending the 15.4 per cent growth in 2023.

Exhibit 6.5: Certified Payments



Public Sector

Public sector construction output rose by 16.1 per cent year-on-year to \$5.4 billion in the fourth quarter. Construction output for all development types increased, supported by residential building (15.9 per cent), commercial building (25.6 per cent), industrial building (12.5 per cent), institutional and other building (10.8 per cent) and civil engineering (19.4 per cent) projects.

For the full year, public sector construction output increased by 19.1 per cent to \$20.6 billion, underpinned by expansion in outputs of all development types including residential building (20.0 per cent), commercial building (15.4 per cent), industrial building (44.4 per cent), institutional and other building (10.1 per cent) and civil engineering (19.5 per cent) works. Apart from public housing projects, other major projects supporting the growth included (i) MHA’s extension of the ICA Building; (ii) JTC’s Punggol Digital District, Space@AMK and Bulim Square; (iii) NEA’s Integrated Waste Management Facility; (iv) MOH’s SGH Elective Care Centre/National Dental Centre; (v) LTA’s Singapore Rail Test Centre; (vi) Sport Singapore’s Punggol Regional Sports Centre; (vii) SIT Campus@Punggol North (Plot 1); and (viii) LTA’s Cross Island MRT Line, Jurong Region MRT Line, East Coast Integrated Depot and North South Corridor.

Private Sector

In the fourth quarter, private sector construction output increased slightly by 0.7 per cent year-on-year to \$4.8 billion. The growth in residential building (5.2 per cent), institutional and other building (21.6 per cent) and civil engineering (20.2 per cent) works was weighed down by the contractions in commercial (-2.0 per cent) and industrial (-7.4 per cent) building works.

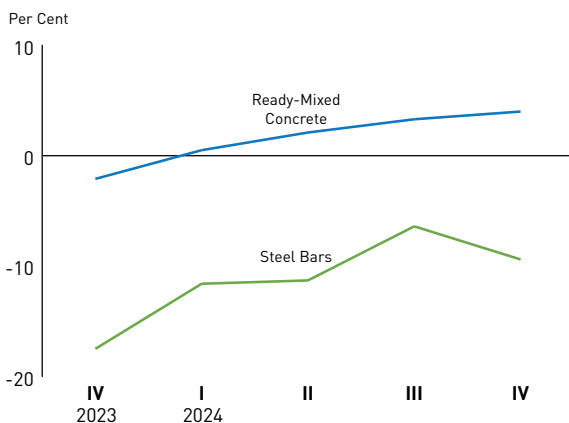
For the full year, private sector construction output grew by 1.2 per cent to \$17.9 billion. The expansions in construction output for residential building (2.4 per cent), institutional and other building (4.9 per cent) and civil engineering (28.1 per cent) works were weighed down by the declines in commercial (-3.1 per cent) and industrial (-2.8 per cent) building works. Major ongoing projects include (i) various condominiums from past en-bloc sales sites and GLS sites; (ii) mixed-used integrated developments; (iii) RWS' Singapore Oceanarium; (iv) Mandai Park Development's Rainforest Park North and East Arrival Node; and (v) SP Powerassets' power cabling and installation works.

CONSTRUCTION MATERIALS

In tandem with the rise in construction output, total consumption of ready-mixed concrete increased by 9.1 per cent in 2024 to 13.4 million m³. Similarly, total consumption of steel rebars¹ rose by 3.9 per cent to about 1.6 million tonnes in 2024.

The average market price of Grade 40 pump ready-mixed concrete² increased by 4.0 per cent to about \$120.37 per m³ in the fourth quarter of 2024, due to stronger local demand for ready-mixed concrete. On the other hand, the average market price of steel rebars³ fell by 9.4 per cent to around \$746.87 per tonne in the fourth quarter, due to softening of global steel demand (Exhibit 6.6).

Exhibit 6.6: Changes in Market Prices of Construction Materials



¹ Rebar consumption is estimated from net imports plus local production (without factoring in stock levels).

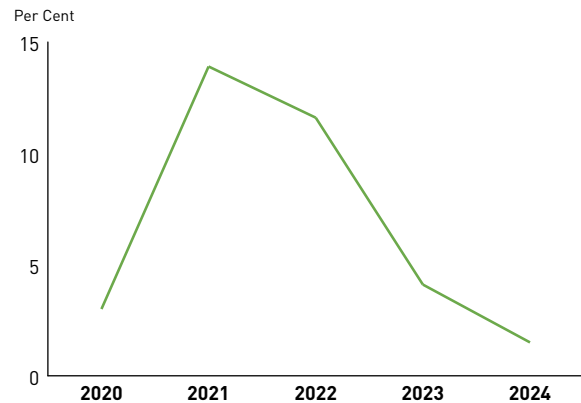
² The market prices are based on contracts with non-fixed price and market retail price.

³ The market prices refer to 16mm to 32mm High Tensile rebars and are based on fixed price supply contracts with a contract period of 6 months or below.

CONSTRUCTION COSTS

BCA's Building Works Tender Price Index (TPI) remained relatively stable and is estimated to have increased by 1 per cent to 2 per cent year-on-year in 2024 (Exhibit 6.7). Looking ahead, domestic construction tender prices are likely to be supported by strong demand for construction works over the medium-term.

Exhibit 6.7: Changes in Tender Price Index



CONSTRUCTION OUTLOOK IN 2025

According to BCA, total construction demand is projected to be between \$47.0 billion and \$53.0 billion in 2025 (Exhibit 6.8). The strong construction demand in 2025 is mainly due to the expected awards of large-scale projects such as expansion of Marina Bay Sands Integrated Resort (MBS IR2) and development of Changi Airport Terminal 5 (T5).

Taking into account contracts awarded in recent years and the construction demand forecast for 2025, total nominal construction output is projected to be between \$39 billion and \$42 billion in 2025, higher than the preliminary estimate of about \$38.4 billion in 2024. This growth is expected to be bolstered by strong construction demand over the past few years and a projected increase in demand in 2025.

Exhibit 6.8: Projected Construction Demand in 2025

	\$ Billion
TOTAL CONSTRUCTION DEMAND	47.0 - 53.0
Building Construction Sub-total	38.1 - 43.0
Residential	13.8 - 15.2
Commercial	3.6 - 5.1
Industrial	5.1 - 5.6
Institutional & Others	15.6 - 17.0
Civil Engineering Works Sub-total	9.0 - 10.0

Chapter 6.3

WHOLESALE TRADE

OVERVIEW

The wholesale trade sector expanded by 6.7 per cent year-on-year in the fourth quarter of 2024, extending the 6.0 per cent growth in the previous quarter. Growth during the quarter was largely supported by the machinery, equipment & supplies segment on the back of the wholesale sales of electronic components and telecommunications & computers. At the same time, the fuels & chemicals segment grew due to an increase in the wholesale volume of petroleum & petroleum products and chemicals & chemical products.

For the whole of 2024, the sector grew by 5.1 per cent, picking up from the 0.9 per cent expansion in 2023.

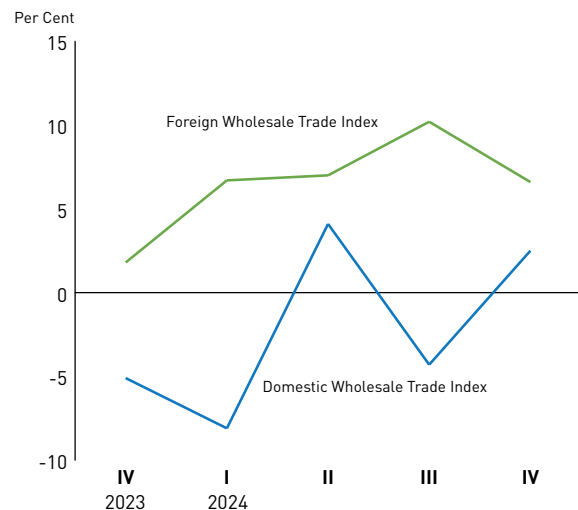
WHOLESALE SALES

In the fourth quarter, the wholesale trade sector was supported by an increase in both foreign and domestic wholesale sales volumes.

Specifically, foreign wholesale sales volume rose by 6.6 per cent year-on-year in the fourth quarter, easing from the 10.2 per cent increase in the preceding quarter (Exhibit 6.9). Growth in sales volume was fastest in the household equipment & furniture (23.1 per cent), general wholesale trade (19.0 per cent), and food, beverages & tobacco (16.5 per cent) segments, which outpaced the decline in the sales volume of the industrial & construction machinery (-10.8 per cent), transport equipment (-0.9 per cent) and metals, timber & construction materials (-0.1 per cent). For the whole of 2024, the foreign wholesale trade index rose by 7.6 per cent, a marked acceleration from the 1.0 per cent growth in the previous year.

Meanwhile, domestic wholesale sales volume expanded by 2.5 per cent year-on-year in the fourth quarter, a reversal from the 4.3 per cent decline in the preceding quarter. Growth in sales volume was the strongest in the metals, timber & construction materials (32.1 per cent), transport equipment (20.2 per cent) and general wholesale trade (20.1 per cent) segments, offsetting the contraction in the sales volume of industrial & construction machinery (-22.3 per cent) and electronic components (-11.0 per cent). For the whole of 2024, the domestic wholesale trade index contracted by 1.5 per cent, extending the 1.1 per cent decline posted in 2023.

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



Chapter 6.4

RETAIL TRADE

OVERVIEW

The retail trade sector contracted by 1.0 per cent year-on-year in the fourth quarter of 2024, extending the 0.7 per cent decline in the previous quarter.

For the whole of 2024, the sector contracted by 0.4 per cent, reversing from the 2.8 per cent growth in 2023.

RETAIL SALES

Overall retail sales volume decreased by 1.2 per cent year-on-year in the fourth quarter, extending the 0.3 per cent decline in the third quarter (Exhibit 6.10). Overall retail sales were weighed down by the decrease in non-motor vehicle sales volume (-3.1 per cent). This was led by declines in the sales volumes of computer & telecommunications equipment (-14.1 per cent), watches & jewellery (-11.6 per cent), and optical goods & books (-4.6 per cent). On the other hand, the recreational goods (3.7 per cent), cosmetics, toiletries & medical goods (2.9 per cent) and supermarkets & hypermarkets (1.6 per cent) segments grew. Meanwhile, motor vehicle sales volume grew by 13.9 per cent due to an increase in COE quotas.

For the full year, overall retail sales volume decreased by 0.2 per cent, reversing from the 0.4 per cent expansion in 2023.

In 2024, non-motor vehicle sales volume shrank by 2.2 per cent. The decline in non-motor vehicle sales was led by the sales of computer & telecommunications equipment (-8.8 per cent), watches & jewellery (-6.7 per cent) and wearing apparel & footwear (-4.1 per cent). On the other hand, the sales volumes of food & alcohol (7.1 per cent), cosmetics, toiletries & medical goods (1.6 per cent) and supermarkets & hypermarkets (1.1 per cent) grew. Meanwhile, motor vehicle sales volume grew by 15.1 per cent due to an increase in COE quotas (Exhibit 6.11).

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

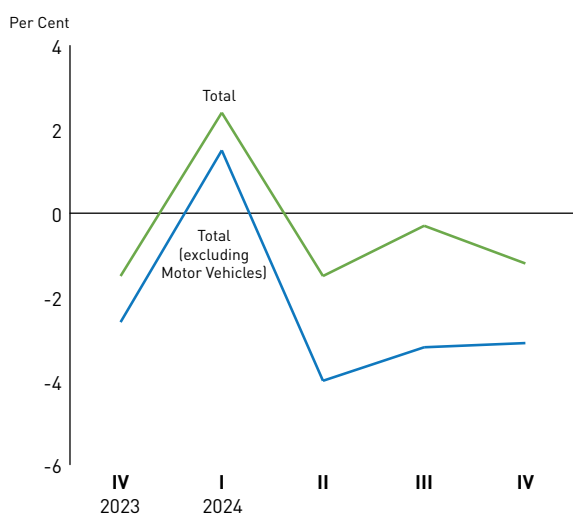
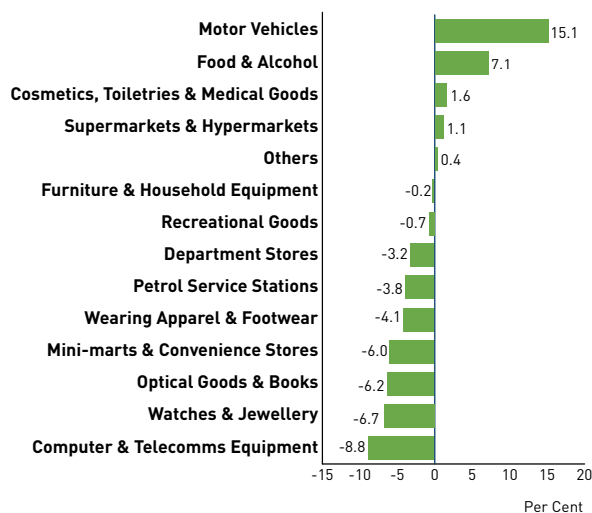


Exhibit 6.11: Changes in Retail Sales Index in Chained Volume Terms for Major Segments in 2024



Chapter 6.5

TRANSPORTATION & STORAGE

OVERVIEW

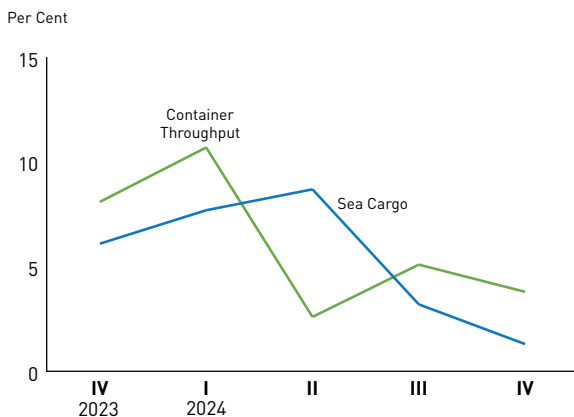
The transportation & storage sector expanded by 3.7 per cent year-on-year in the fourth quarter of 2024, moderating from the 7.9 per cent growth in the previous quarter.

For the whole of 2024, the sector grew at a faster pace of 5.8 per cent compared to the 3.5 per cent expansion recorded in 2023. The expansion of the sector was supported largely by the water transport, air transport and storage & other support services segments.

WATER TRANSPORT

Container throughput grew by 3.8 per cent year-on-year in the fourth quarter, easing from the 5.1 per cent expansion in the previous quarter (Exhibit 6.12). For the full year, the number of TEUs (Twenty-Foot Equivalent Units) handled by Singapore’s ports came in at 41.1 million, representing a 5.4 per cent expansion, accelerating from the 4.6 per cent growth clocked in 2023.

Exhibit 6.12: Changes in Container Throughput and Sea Cargo Handled



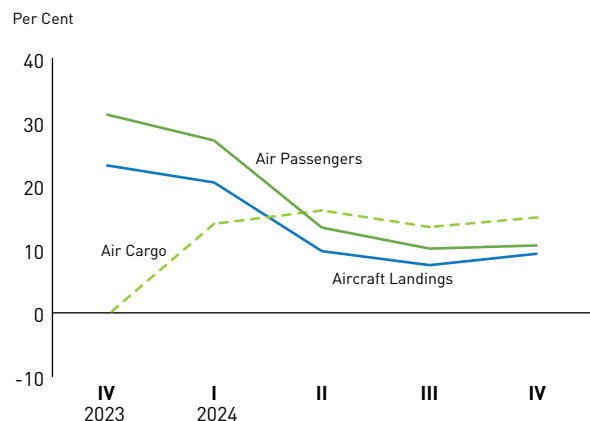
Overall sea cargo volume expanded by 1.3 per cent year-on-year in the fourth quarter, moderating from the 3.2 per cent growth in the preceding quarter. The expansion in sea cargo volume was led by growth in general cargo shipments, which expanded by 1.1 per cent during the quarter, easing from the 5.8 per cent growth registered in the third quarter. For the whole of 2024, overall sea cargo volume grew by 5.2 per cent, improving from the 2.4 per cent increase in the previous year.

AIR TRANSPORT

Total air passenger traffic (less transit) handled by Changi Airport climbed by 10.6 per cent year-on-year in the fourth quarter, extending the 10.1 per cent growth in the previous quarter (Exhibit 6.13). In absolute terms, air passenger traffic volume recovered to 100 per cent of the volume seen in the fourth quarter of 2019 (pre-pandemic).

For the full year, total air passenger traffic passing through Changi Airport climbed by 14.8 per cent to come in at 67.1 million, moderating from the 83.1 per cent increase posted in 2023.

Exhibit 6.13: Changes in Air Transport



Meanwhile, air cargo volume grew by 15.0 per cent year-on-year in the fourth quarter, following the 13.5 per cent expansion in the previous quarter. In absolute terms, total air cargo volume was at 99.9 per cent of pre-pandemic levels (i.e., in the fourth quarter of 2019). For 2024 as a whole, air cargo shipments grew by 14.6 per cent, reversing the 6.1 per cent contraction posted in 2023.

Meanwhile, aircraft landings climbed by 9.3 per cent year-on-year to reach 47,630 in the fourth quarter, following the 7.5 per cent increase in the third quarter. This brought the total number of aircraft landings in 2024 to 182,951, which was 11.5 per cent higher than in 2023.

Chapter 6.6

ACCOMMODATION

OVERVIEW

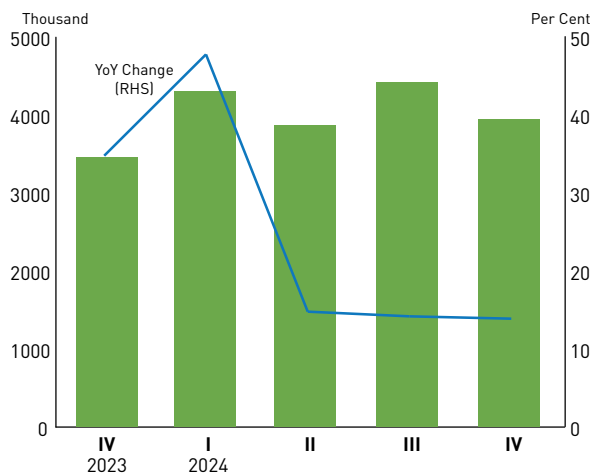
The accommodation sector grew by 4.2 per cent year-on-year in the fourth quarter of 2024, moderating from the 5.6 per cent expansion in the previous quarter.

For the whole of 2024, the sector expanded by 7.1 per cent, slowing from the 15.7 per cent growth in 2023.

VISITOR ARRIVALS

Singapore received around 3.9 million visitors in the fourth quarter, 13.9 per cent higher compared to the same period a year ago (Exhibit 6.14). Compared to the same quarter in 2019 (pre-pandemic), visitor arrivals remained 17.7 per cent lower. For the full year, visitor arrivals increased by 21.5 per cent, slowing from the 116 per cent expansion in 2023.

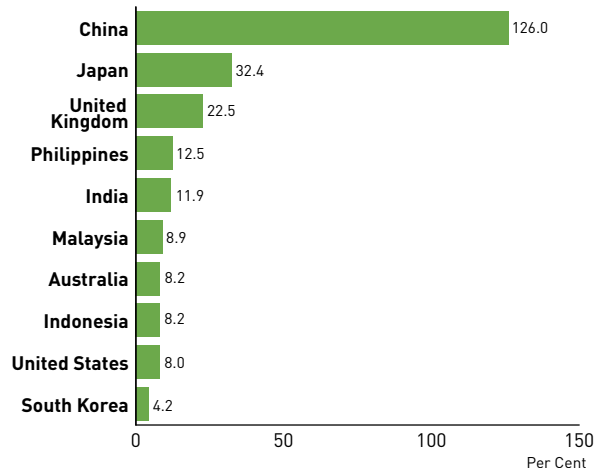
Exhibit 6.14: Visitor Arrivals



In terms of source markets, Singapore's top ten markets in 2024 were China (3.1 million visitors), Indonesia (2.5 million), India (1.2 million), Malaysia (1.2 million), Australia (1.2 million), the Philippines (779 thousand), the USA (692 thousand), South Korea (595 thousand), the UK (580 thousand) and Japan (573 thousand). Together, they accounted for 74.7 per cent of total visitor arrivals in 2024.

Among the top 10 source markets, China (126 per cent), Japan (32.4 per cent) and the UK (22.5 per cent) posted the strongest growth in visitor arrivals in 2024 (Exhibit 6.15).

Exhibit 6.15: Growth Rates of Top 10 Visitor-Generating Markets in 2024

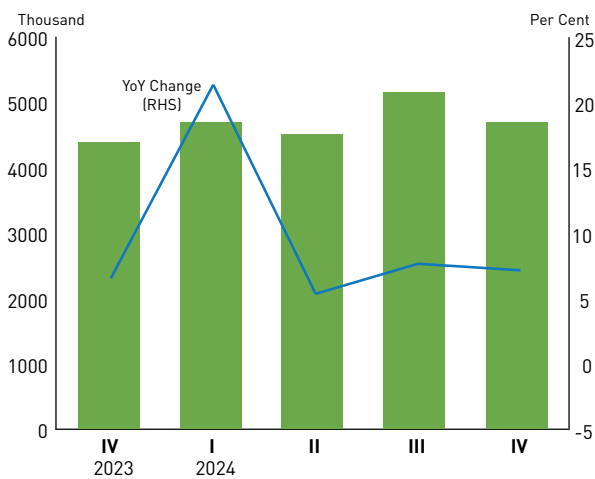


ACCOMMODATION

In tandem with the strong recovery in visitor arrivals, gross lettings of gazetted hotel rooms grew by 7.2 per cent year-on-year in the fourth quarter, extending the 7.7 per cent growth in the previous quarter (Exhibit 6.16). Similarly, room revenue expanded by 7.2 per cent, picking up from the 5.2 per cent increase in the preceding quarter. This was accompanied by increases in average room rates and in average occupancy rates of gazetted hotels. Specifically, the average occupancy rate rose by 3.4 percentage points, while the average room rate grew by 0.1 per cent to \$271 in the fourth quarter.

For 2024 as a whole, the accommodation sector grew by 7.1 per cent, driven by the recovery in tourism demand. The overall room revenue of gazetted hotels climbed by 11.4 per cent to reach \$5.3 billion in 2024, driven by a 10.0 per cent expansion in gross lettings and a 1.4 per cent increase in average daily room rates.

Exhibit 6.16: Gross Lettings



Chapter 6.7

FOOD & BEVERAGE SERVICES

OVERVIEW

The food & beverage services sector contracted by 0.3 per cent year-on-year in the fourth quarter of 2024, extending the 1.3 per cent decline in the previous quarter.

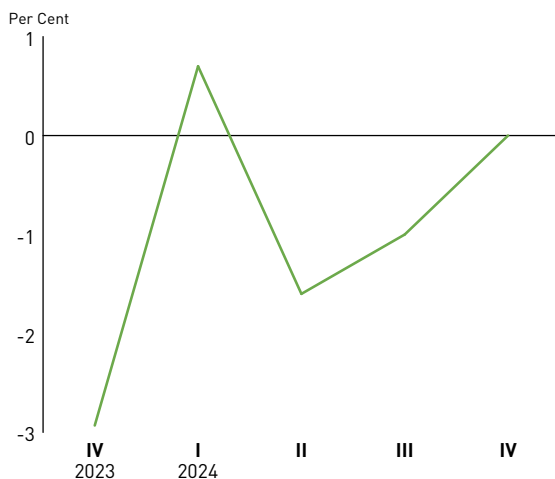
For the whole of 2024, the sector contracted by 0.9 per cent, a reversal from the 5.6 per cent expansion in 2023.

FOOD & BEVERAGE SALES

Overall food & beverage sales volume declined marginally¹ year-on-year in the fourth quarter of 2024, extending the 1.0 per cent contraction in the preceding quarter (Exhibit 6.17). This was led by declines in the sales volume of fast food outlets (-3.2 per cent), cafes, food courts & other eating places (-2.4 per cent) and restaurants (-1.0 per cent) segments. On the other hand, sales of the food caterers segment continued to grow (14.7 per cent) in tandem with the continued recovery in inbound tourism demand.

For the whole of 2024, the food & beverage services volume index declined by 0.5 per cent. This was a reversal from the 3.3 per cent expansion registered in 2023. At the segment level, the sales volumes of food caterers (15.9 per cent) grew, while that of fast food outlets (-5.4 per cent), restaurants (-3.2 per cent) and cafes, food courts & other eating places (-0.7 per cent) shrank.

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



¹ Sales volume declined by -0.04 per cent.

Chapter 6.8

INFORMATION & COMMUNICATIONS

OVERVIEW

The information & communications sector expanded by 4.2 per cent year-on-year in the fourth quarter of 2024, extending the 4.0 per cent growth in the previous quarter. This positive outturn was largely due to strong growth in the IT & information services and “others” segments¹, while the telecommunications segment contracted during the quarter.

For the whole of 2024, the sector grew by 5.0 per cent, a slowdown from the 11.2 per cent expansion in 2023.

IT & INFORMATION SERVICES

In 2024, the growth of the information & communications sector was led by the IT & information services segment. Specifically, the segment expanded by 6.8 per cent, driven by strong enterprise demand for digital solutions and services.

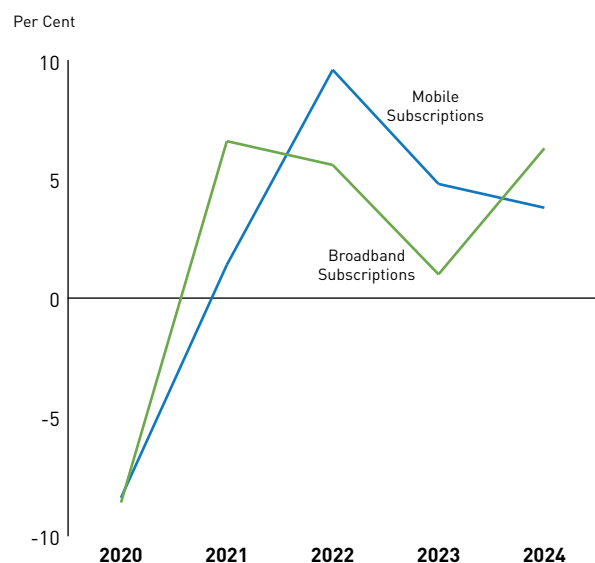
TELECOMMUNICATIONS

The telecommunications segment grew by 0.2 per cent in 2024. In the third quarter of 2024, the latest period where data is available, total fixed line subscriptions grew by 3.5 per cent.

As at October 2024², the number of mobile subscriptions grew by 3.8 per cent compared to the same month in 2023 (Exhibit 6.18). While there was a 97.3 per cent decline in the number of 3G subscriptions to 2,200, this was offset by the 0.2 per cent increase in 4G subscriptions to 7.5 million and the 23.9 per cent increase in 5G subscriptions to around 2.2 million.

In October 2024, the number of broadband subscriptions rose by 6.3 per cent. The increase was driven by optical fibre broadband (2.1 per cent) and wireless broadband (7.0 per cent) subscriptions.

Exhibit 6.18: Information & Communications Growth



¹ The “others” segment consists of (i) publishing activities (including computer games and software publishing), (ii) motion picture, video and other programme production, sound recording, and music publishing activities, and (iii) radio and television broadcasting activities.

² Full-year data are not available at the time of publication.

Chapter 6.9

FINANCE & INSURANCE

OVERVIEW

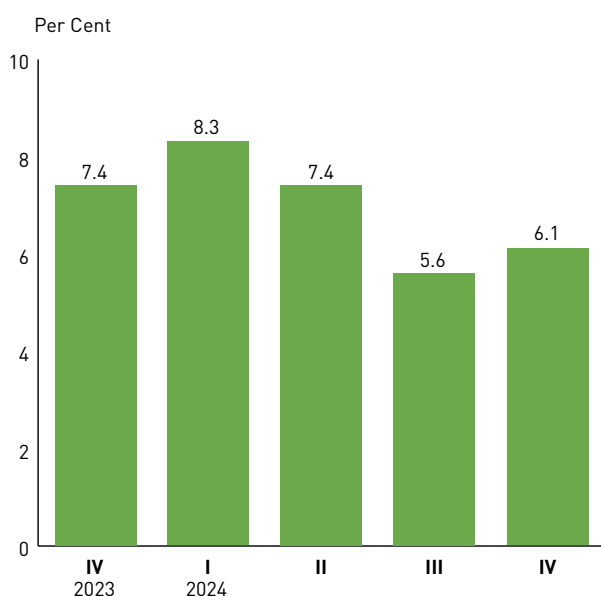
The finance & insurance sector expanded by 6.1 per cent year-on-year in the fourth quarter of 2024, improving from the 5.6 per cent growth in the previous quarter. For the whole of 2024, the sector expanded by 6.8 per cent, up from the 3.1 per cent growth in the preceding year.

OVERALL PERFORMANCE

The finance & insurance sector grew strongly in 2024, with broad-based expansions recorded across the segments, including banking, fund management, insurance and activities auxiliary to financial services (which largely comprise the payments firms) (Exhibit 6.19).

Trading activity was generally elevated during the year amid shifts in global and domestic financial market sentiments, leading to strong growth in net fees and commissions among banks and fund managers. The insurance industry recorded a surge in new premiums among life insurers, while the auxiliary financial services segment benefited from higher cross border transactions associated with greater travel spending.

Exhibit 6.19: Finance & Insurance Growth Rates



BANKING

Credit intermediation strengthened in 2024, following the contraction recorded in 2023 (Exhibit 6.20). Loans to residents rose by 5.2 per cent, driven by business loans to the transport & communications sector, although this was partially offset by the decline in loans extended to manufacturing.

Exhibit 6.20: Growth of Bank Loans and Advances to Non-Bank Residents and Non-Residents (Per Cent)

	2023	2024
Bank Loans & Advances to Non-Bank Residents	-2.4	5.2
Business Loans	-3.9	6.2
Building & Construction	-0.3	4.3
Transportation & Communications	-4.6	20.4
Non-Bank Financial Institutions	0.1	5.3
General Commerce	-15.6	7.5
Manufacturing	-13.4	-4.2
Business Services	14.3	9.6
Others	-0.8	6.4
Consumer Loans	-0.1	3.6
Housing & Bridging Loans	1.3	2.8
Professional & Private Individuals	-3.5	5.9
Bank Loans & Advances to Non-Bank Non-Residents	-3.8	4.1
Americas	-6.3	1.0
Europe	4.1	7.9
East Asia	-5.0	-0.5
Others	-2.6	13.4

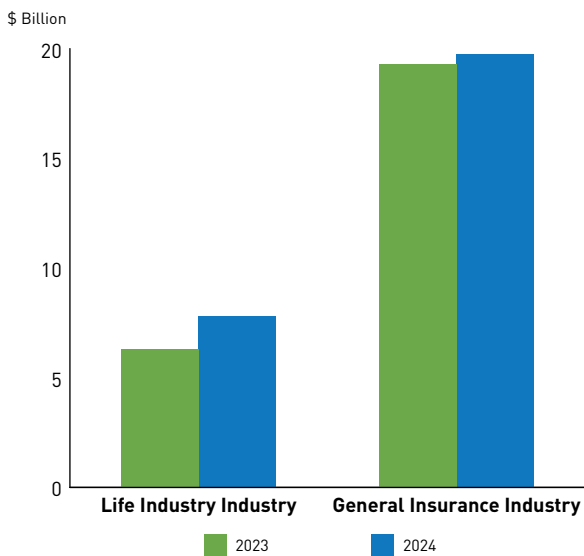
Consumer lending also increased, supported in part by housing & bridging loans. Externally, loans to non-residents grew by 4.1 per cent, bolstered by lending to regions outside of East Asia.

INSURANCE

Total weighted new business premiums in the life insurance industry increased by 23.3 per cent to \$7.8 billion in 2024 (Exhibit 6.21). Single premium business rose by 7.4 per cent to \$16.7 billion while regular premium business expanded by 28.5 per cent to \$6.1 billion.

In the general insurance industry, gross premiums expanded by 2.5 per cent to \$19.8 billion in 2024, with offshore and domestic businesses accounting for \$14.0 billion and \$5.8 billion, respectively.

Exhibit 6.21: Premiums in the Insurance Industry

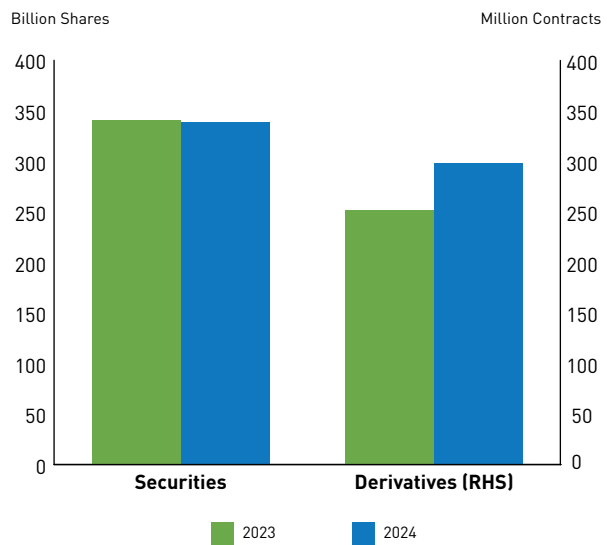


SECURITY DEALING ACTIVITIES

In 2024, the turnover volume of the securities market fell by 0.7 per cent to 338.4 billion shares, even as portfolios shifted towards non-cash equivalent assets amid the global easing in monetary policy.

The turnover volume of the derivatives market grew by 18.4 per cent to 298 contracts in 2024, expanding steadily throughout the year underpinned by elevated futures trading activity (Exhibit 6.22).

Exhibit 6.22: Securities and Derivatives Turnover Volumes



Chapter 6.10

REAL ESTATE & PROFESSIONAL SERVICES

OVERVIEW

The real estate sector expanded by 3.5 per cent year-on-year in the fourth quarter of 2024, extending the 1.0 per cent growth in the previous quarter. For the whole of 2024, the sector grew by 0.2 per cent, moderating from the 3.8 per cent growth in 2023.

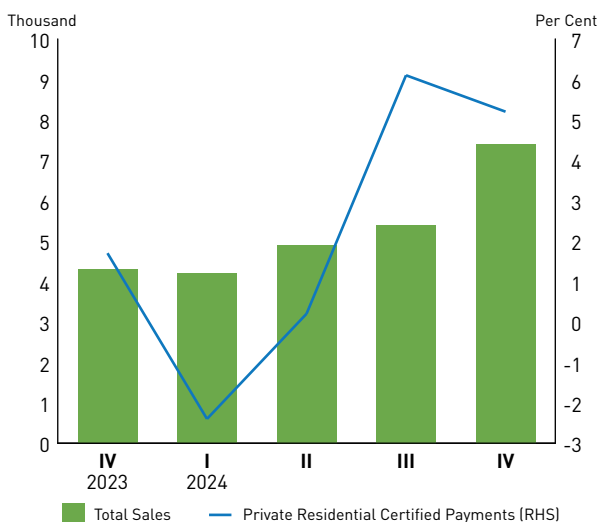
The professional services sector expanded by 0.6 per cent year-on-year in the fourth quarter of 2024, extending the 1.2 per cent growth in the previous quarter. For the whole of 2024, the sector grew by 1.2 per cent, moderating from the 3.4 per cent growth in 2023.

REAL ESTATE

The private residential property market expanded on a year-on-year basis in the fourth quarter, as total private residential property sales rose by 71.5 per cent, accelerating from the 3.3 per cent increase in the previous quarter. For the full year, total sales rose by 15.3 per cent to 21,950 units, from the 19,044 units sold in 2023.

Private residential certified progress payments (a proxy for developers' margins) rose by 5.2 per cent year-on-year in the fourth quarter, extending the 6.1 per cent increase in the preceding quarter. For the whole of 2024, private residential certified progress payments climbed by 2.4 per cent, moderating from the increase of 11.0 per cent in 2023 (Exhibit 6.23).

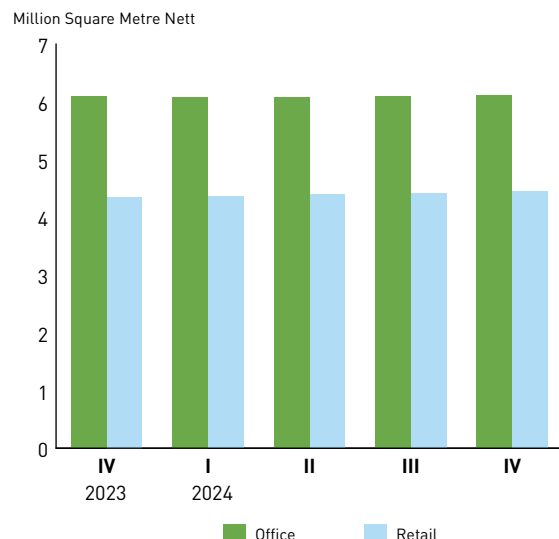
Exhibit 6.23: Total Sales for Private Residential Units and Private Residential Certified Payments



In the private commercial retail space market, the performance remained resilient in the fourth quarter. Specifically, demand for private commercial retail space (measured by total occupied space) rose by 2.1 per cent year-on-year, extending the 2.8 per cent increase in the third quarter. For the full year, demand for private commercial retail space grew by 2.4 per cent, higher than the 2.0 per cent increase in 2023.

Meanwhile, demand for private commercial office space rose by 0.3 per cent year-on-year in the fourth quarter, extending the 0.2 per cent growth in the preceding quarter. For the full year, demand for private commercial office space grew by 0.4 per cent, lower than the 1.5 per cent increase in 2023 (Exhibit 6.24).

Exhibit 6.24: Total Occupied Space for Private Sector Commercial Office and Retail Spaces

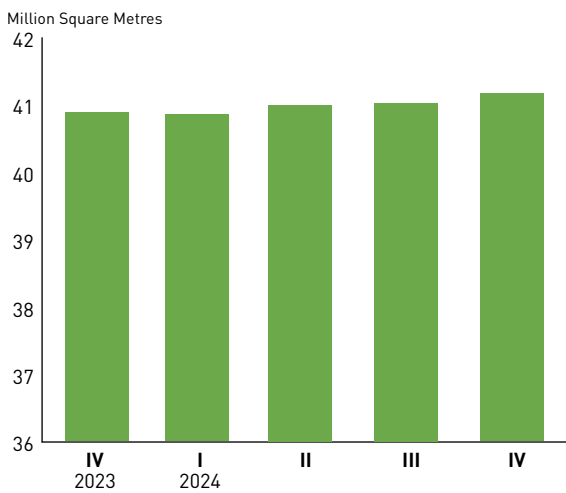


Overall demand for private industrial space rose by 0.7 per cent year-on-year in the fourth quarter, extending the 0.3 per cent increase seen in the previous quarter (Exhibit 6.25). Within the market, demand for all types of industrial space expanded during the fourth quarter. In particular, demand for business parks and warehouses increased by 2.3 per cent and 0.8 per cent respectively in the fourth quarter, whereas demand for single-user factories and multiple-user factories increased by 0.7 per cent and 0.1 per cent respectively. For the full year, demand for private industrial space rose by 0.6 per cent, extending the 0.9 per cent growth seen in 2023.

PROFESSIONAL SERVICES

In 2024, the professional services sector expanded, with the accounting, head offices & business representative offices and management consultancy activities segments registering growth. Growth in the sector was largely driven by the head offices and business representative offices segment, which expanded by 4.3 per cent.

Exhibit 6.25: Total Occupied Space for Private Sector Industrial Space



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CHAPTER

7

ECONOMIC OUTLOOK



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Chapter 7

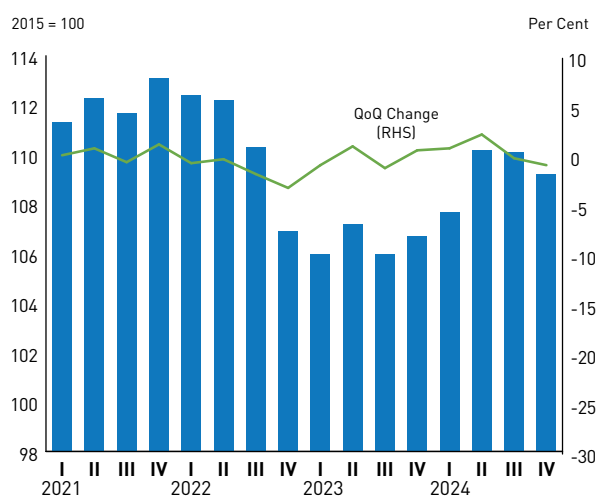
ECONOMIC OUTLOOK

LEADING INDICATORS

The composite leading index (CLI) for Singapore fell by 0.8 per cent on a quarter-on-quarter basis in the fourth quarter of 2024, following the 0.1 per cent decline in the previous quarter (Exhibit 7.1).

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

Exhibit 7.1: Composite Leading Index Levels and Growth Rate



OUTLOOK FOR 2025

Since the Economic Survey of Singapore in November 2024, major economies have remained resilient, performing largely in line with expectations in the fourth quarter of 2024 amidst rising global economic uncertainty. Singapore's external demand outlook for 2025 has also remained broadly unchanged, with overall GDP growth in Singapore's key trading partners expected to ease from 2024's level.

Among the advanced economies, GDP growth in the US is projected to moderate in 2025, as private consumption growth is expected to taper over the course of the year in tandem with easing tightness in the labour market. Nonetheless, there is a large cone of uncertainty surrounding the outlook of the US economy, with its trajectory depending on the policies of the new US administration. By contrast, GDP growth in the Eurozone is likely to improve on the back of stronger consumption growth and a gradual recovery in investments as monetary policy becomes more accommodative.

In Asia, China's GDP growth is expected to moderate on account of a slowdown in merchandise exports and investment growth due to tariff hikes and industrial overcapacity respectively. Meanwhile, growth in the key Southeast Asian economies should remain steady, supported by improving domestic demand and a sustained recovery in tourism demand.

At the same time, uncertainties in the global economy remain significant, with the risks tilted to the downside. First, ongoing trade frictions among major economies, alongside lingering risks of escalation in geopolitical conflicts, could lead to higher production costs, as well as greater global economic policy uncertainty. These could in turn dampen global investment and trade, and weigh on global growth. Second, disruptions to the global disinflation process could lead to tighter financial conditions for longer, potentially triggering latent vulnerabilities in banking and financial systems.

Against this backdrop, the manufacturing and trade-related services sectors in Singapore are expected to continue to expand in 2025, although their pace of growth is likely to moderate from 2024 levels. Within the manufacturing sector, the electronics cluster is projected to expand at a steady pace, supported by robust demand for semiconductor chips in the PC, smartphone and data centre end-markets. This will have positive spillover effects on the precision engineering cluster and the machinery, equipment & supplies segment of the wholesale trade sector. At the same time, strong order books in the aerospace and marine & offshore engineering segments should drive growth in the transport engineering cluster.

Meanwhile, outward-oriented services sectors such as information & communications and finance & insurance are projected to register healthy growth. The former will be supported by sustained enterprise demand for digital solutions and services, while the latter will be bolstered by stronger demand for cross-border transactions in the region, which will further boost payments processing activities.

On the other hand, the growth of consumer-facing sectors such as retail trade and food & beverage services is likely to remain lacklustre, weighed down in part by locals shifting their spending overseas, even though the continued recovery in international visitor arrivals should provide some support.

Taking into account the external and domestic economic environment, and barring the materialisation of downside risks, the Singapore economy is projected to expand by **“1.0 to 3.0 per cent”** in 2025.

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**FEATURE
ARTICLE**

IMPACT EVALUATION OF A*STAR'S TECHNOLOGY FOR ENTERPRISE CAPABILITY UPGRADING (T-UP) PROGRAMME



Embargoed until 14 February 2025, 8.00 a.m.



Feature Article

IMPACT EVALUATION OF A*STAR'S TECHNOLOGY FOR ENTERPRISE CAPABILITY UPGRADING (T-UP) PROGRAMME



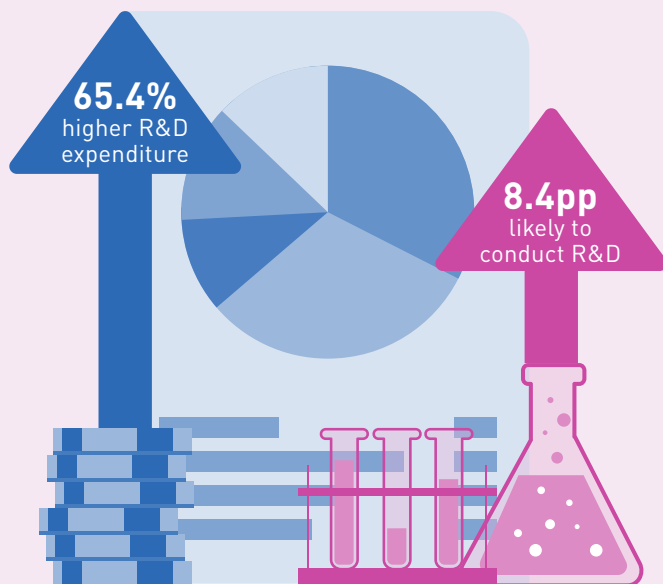
OVERVIEW

Technology for Enterprise Capability Upgrading (T-Up) is a secondment programme, funded through Enterprise Singapore and administered by A*STAR, where A*STAR's research scientists and engineers are seconded to local firms to help build in-house R&D capabilities and enhance business competitiveness.

FINDINGS

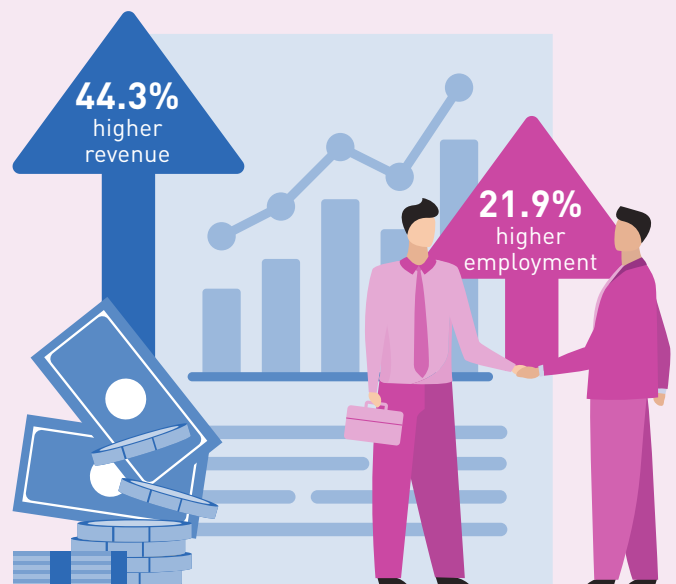
Finding 1:

We find that, on average, firms participating in the T-Up programme had 65.4 per cent higher R&D expenditure and were 8.4pp more likely to conduct R&D.



Finding 2:

Firms participating in the T-Up programme also saw 44.3 per cent higher revenue and 21.9 per cent higher employment.



POLICY TAKEAWAY

The T-Up programme was effective in supporting local firms in enhancing their business competitiveness through upgrading their R&D capabilities and growing business revenue. The T-Up programme is a Funding Initiative as part of the Research, Innovation and Enterprise (RIE) 2025 plan to develop Singapore into an innovation-driven economy. A*STAR will continue to support firms in enhancing their R&D capabilities through T-Up and other R&D-related schemes.



EXECUTIVE SUMMARY

- ▶ Launched in 2003, the Technology for Enterprise Capability Upgrading (T-Up) programme is a secondment programme funded by Enterprise Singapore and administered by A*STAR, where A*STAR's research scientists and engineers are seconded to local enterprises to help them build in-house research and development (R&D) capabilities and grow their business revenue. This study evaluates the impact of the T-Up programme on participating firms' outcomes.
- ▶ Our findings show that firms participating in the T-Up programme spent 65.4 per cent more on R&D and were 8.4 percentage-points more likely to conduct R&D in a given year compared to a control group. They also correspondingly enjoyed 44.3 per cent higher revenue and 21.9 per cent higher employment than the control group. These findings suggest that the T-Up programme has been effective in supporting local firms to upgrade their R&D capabilities and grow their business revenue.

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) or the Government of Singapore.¹

INTRODUCTION

The Technology for Enterprise Capability Upgrading (T-Up) programme is a funding initiative under the Research, Innovation and Enterprise (RIE) 2025 plan to develop Singapore into an innovation-driven economy. Started by A*STAR in 2003, T-Up aims to help promising local small- and medium-sized enterprises (SMEs) as well as large local enterprises (LLEs) build in-house research and development (R&D) capabilities and grow their revenue, by enabling them to tap on A*STAR's scientific talent pool.

As part of the scheme, A*STAR researchers are seconded to participating local enterprises for up to two years to aid in their R&D projects (see [Annex A](#) for examples of these projects). Seconded researchers share product development strategy and impart knowledge in technical areas to support the firm in the development of new products and processes, as well as build up their intellectual property portfolio. At the same time, participating firms are provided funding support by Enterprise Singapore, at up to 70% of allowable costs for SMEs or startups and up to 30% for LLEs, with the support levels capped at S\$250,000 per project.

This study evaluates the effectiveness of the T-Up programme in enhancing firms' outcomes in R&D, as well as their revenue, employment, value-added, productivity and wages.

The rest of the article is organised as follows. We first present a literature review of the impact that the movement of researchers from public research institutions to private entities has on the private entities. We then describe the data and methodology used in the study before reporting the results. The final section concludes.

LITERATURE REVIEW

In the literature, technology transfer is generally seen as essential to boost firms' competitiveness and foster innovation. Foundational research, which forms the basis of technological advancements, is often conducted by universities and public research institutions (Wrisich et al., 2016). Meanwhile, firms conducting R&D often face significant challenges, including high costs and uncertain outcomes. For SMEs in particular, these challenges are compounded by limited resources and constraints in their capacity to absorb complex technological advancements. To address the impediments to R&D in the private sector, government agencies often promote collaborations, such as through secondments, between public research institutions and the private sector (Hilkenmeier et al., 2021). These partnerships allow firms to adopt advanced technologies more quickly and enhance their overall innovative capacity.

¹ We would like to thank Ms Yong Yik Wei, Dr Andy Feng, Ms Jamie Poh, Mr Lee Zen Wea, Dr Gwee Yi Jie and Dr Tan Yi Jin for their useful suggestions and comments. We are also grateful to colleagues from MTI's Innovation, Research and Development Division, A*STAR as well as Enterprise Singapore for their input.

A review of the empirical literature highlights the positive outcomes of secondment policies and other initiatives involving the movement of researchers from public research institutions to private firms. For instance, Herrera (2010) found that Spanish firms that hired personnel from the public R&D system registered a 2.6 percentage-point (pp) increase in their total R&D intensity, measured as the ratio of total R&D expenditure to total sales. Hilkenmeier et al. (2021) surveyed firms that participated in a public-private partnership programme in Germany where scientists from a public research organisation were temporarily seconded to SMEs to jointly work on projects. The study found that apart from reporting technological advancements in their operations, the majority of the participating firms also engaged in follow-up projects as a result of the partnership.

In the local context, an earlier evaluation of the T-Up programme by Ho et al. (2016) found that the seconded researchers imparted new technologies to the participating firms, and also improved the firms' capacity for learning and innovation. In particular, the T-Up secondment improved firms' product innovation intensity, which was measured as the percentage of sales derived from new products, by 3.2 per cent.

This study extends Ho et al.'s 2016 study in two ways. First, while the previous study relied on survey data, this study leveraged firm-level administrative data, which in turn enabled more robust quantitative methods to be used and more firm outcomes of policy relevance to be examined. Second, this study tracked more recent cohorts of firms that participated in the T-Up programme (i.e., from 2011 to 2018), whereas the previous study covered firms that participated before 2012 when the scheme was at a more nascent stage.

DATA AND SUMMARY STATISTICS

For the purpose of our study, we merged three datasets: a longitudinal firm-level administrative dataset containing firms' characteristics from the Department of Statistics, data on T-Up participants from A*STAR, and data on R&D conducted by firms in Singapore from A*STAR's National Survey of Research, Innovation and Enterprise². The merged dataset contained firm-level data such as revenue, value-added, employment size and age of the firm, as well as R&D-related data³ like firms' R&D expenditure.

Our study focused on firms that participated in the T-Up programme for the first time between 2011 and 2018. We examined cohorts up to 2018 because the firm-level administrative and A*STAR's survey datasets at the point of the study were only available up to 2020.⁴ This is particularly since the effects of R&D policies may take time to materialise.⁵

Based on the dataset assembled, a total of 161 firms participated in the T-Up programme between 2011 and 2018. The number ranged from 15 to 30 firms per year throughout the period of analysis, with an average of 20 firms per year (Exhibit 1). The data also showed that T-Up firms tended to be micro and small firms with annual revenue below S\$10 million and fewer than 50 employees (Exhibit 2).

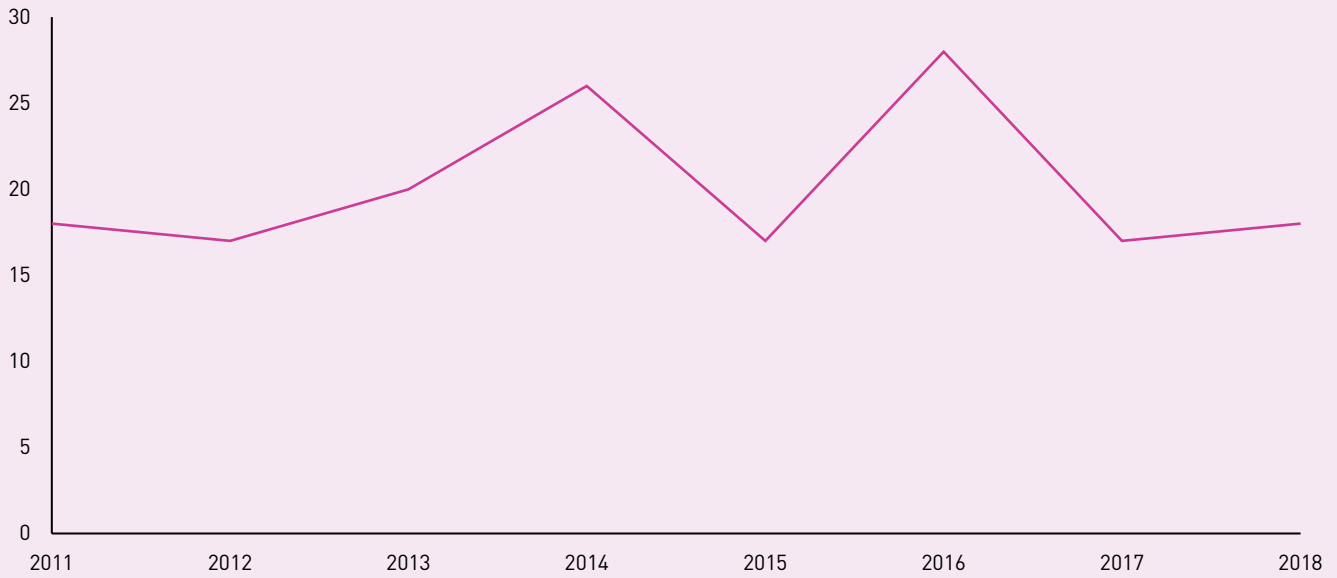
2 A*STAR's National Survey of Research, Innovation and Enterprise (RIE) is conducted annually and provides insights on Singapore's R&D ecosystem, including information on the R&D performed by firms.

3 R&D-related data are from A*STAR's RIE Survey, and are subject to entities' responses.

4 In recent years, the archetype of firms participating in the T-Up programme has evolved, with more T-Up projects involving start-ups within the deep tech, artificial intelligence and biomedical space. However, as we were only able to study T-Up cohorts up to 2018, our results would not incorporate the effects of these recent shifts.

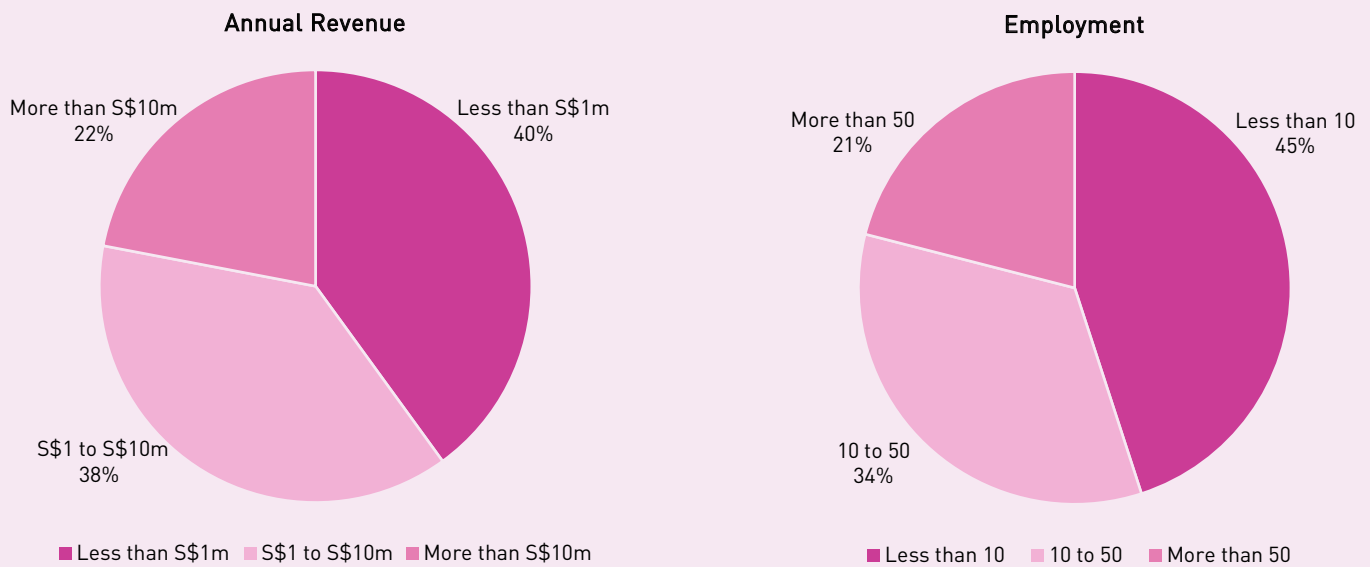
5 Moreover, while around 90% of the T-Up projects last for up to one year, there are some that could last for up to two years. Given that data on firms' outcomes are only available up to 2020, the 2018 cohort would represent the latest cohort that could be studied.

Exhibit 1: Number of Firms that Participated in T-Up, 2011 to 2018 cohorts



Source: Authors' estimates, based on data from A*STAR

Exhibit 2: Number of Firms that Participated in T-Up, 2011 to 2018 cohorts



Source: Authors' estimates, DOS, A*STAR

EMPIRICAL METHODOLOGY

Summary statistics from the data compiled showed that firms that participated in the T-Up programme differed in observable characteristics from firms that did not participate (Exhibit 3). In particular, compared to non-T-Up firms, T-Up firms had on average (i) higher employment, (ii) higher total R&D expenditure, but (iii) lower productivity (measured as value-added per worker). They were also more likely to be in the manufacturing sector.

Given these differences, there is a need to mitigate potential selection biases when examining the impact of the T-Up programme in order to obtain a causal estimate of the impact. To do so, we constructed a group of non-participating firms (i.e., control firms) with characteristics that were comparable to the participating firms (i.e., treated firms) through coarsened exact matching (CEM), with the matching performed separately for each T-Up cohort. The matching variables used included the firm's age, total R&D expenditure, value-added, value-added per worker, total employment and sector.⁶ Exhibit 3 shows that upon matching, firms in the control group were observably more similar to the treated firms in terms of their characteristics.

Exhibit 3: Summary Statistics on Firm Characteristics Before and After Matching⁷

	Before Matching		After Matching	
	Control	Treated	Control	Treated
Firm age (years)	10.9	11.5	12.5	12.4
Total R&D expenditure (S\$ Thousand)	45.2	222.9	155.7	187.5
Value-added (S\$ Million)	2.1	6.1	2.7	2.2
Value-added per worker (S\$ Thousand)	77.0	44.9	60.2	47.2
Total employment	19.6	68.2	34.1	33.3
Share of manufacturing sector (%)	5.6	33.3	34.0	34.0
Share of professional services sector (%)	12.4	24.0	21.8	21.8

As there were multiple treatment cohorts, we used a staggered Difference-in-Differences (DiD) regression model (Wooldridge, 2021) to uncover the causal impact of the T-Up programme on firm outcomes.⁸ Our main specification regression was as follows:

$$Y_{ict} = \gamma_{ic} + \theta_{tc} + \sum_{c=2011}^{2018} \sum_{t=2010}^{2020} \beta_{c,t} \cdot Treat_i \times Cohort_c \times Time_t + \varepsilon_{ict}$$

Where:

- Y_{ict} is the outcome variable for firm i in cohort c at time t ;
- $Treat_i \times Cohort_c \times Time_t$ is a dummy variable which takes on the value of 1 for the observation at year t for firm i , if firm i was treated at year c (i.e., treated firm belonging to cohort c);
- γ_{ic} denotes the firm \times cohort time-invariant fixed effects;
- θ_{tc} denotes the year \times cohort fixed effects; and
- ε_{ict} is the error term assumed to be uncorrelated with the independent variable in all time periods.

We included firm fixed effects to account for time-invariant firm characteristics (including those not observed in the dataset) that could affect firms' outcomes (e.g., managerial practices). We also included time fixed effects to control for factors that affected all firms over time (e.g., macroeconomic conditions). The firm and time fixed effects were interacted with cohort fixed effects to ensure that the comparisons were made between treated and control firms within cohorts.

⁶ For each cohort, the CEM algorithm was implemented using data in the year prior to the commencement of the T-Up project. For instance, 2014 data was used to identify a suitable control group for the 2015 cohort.

⁷ Summary statistics were generated based on the pooled data in the year before each cohort's participation in T-Up (i.e., in the year used for matching). For instance, for the 2015 cohort, the summary statistics were generated using the corresponding data in 2014, as well as 2014 data for control firms.

⁸ This was preferred to the traditional DiD using two-way fixed effects as the latter could lead to biased estimates when there is staggered treatment timing and treatment heterogeneity across cohorts or time.

The coefficients of interest, $\beta_{c,t}$ s, measure the causal impact of the T-Up programme on the outcomes of firms in cohort c at year t , relative to the base year of 2009. We aggregated combinations of $\beta_{c,t}$ into event-time (i.e., the time relative to the start year of the project) average treatment effects (ATEs). Specifically, to get the ATE for the year after treatment had started (i.e., the causal impact one year after the firm had started participating in the programme, which we denoted as $\tau = 1$), or $\beta_{\tau=1}$, we took the average of the coefficients $\beta_{c=2011,t=2012}, \beta_{c=2012,t=2013}, \dots, \beta_{c=2018,t=2019}$. Repeating this for different event-times will give us a set of event-time coefficients β_{τ} .

RESULTS AND DISCUSSION

The empirical strategy outlined above would be valid only if the trends in the outcomes of the T-Up firms were similar to those of the control firms in the years before the T-Up firms received treatment (i.e., the parallel trends assumption holds). We conducted a parallel trends test to examine this. The second column in Exhibit 4 below shows that none of the outcome variables have statistically significant coefficients in the one to three years before T-Up participation (i.e., $\tau < 0$), indicating that the treatment and control firms displayed similar trends in outcomes prior to the treatment firms' participation in T-Up.

We present the results as the averages of several event-time coefficients in Exhibit 4. For example, in the third column, $\beta_{\tau=0 \text{ to } 3}$ is the average of $\beta_{\tau=0}, \dots, \beta_{\tau=3}$, which reflects the average annual effect of the T-Up programme from the year of commencement of the T-Up project (i.e., $\tau = 0$) to three years after commencement (i.e., $\tau = 3$). Likewise, in the fourth column, $\beta_{\tau=0 \text{ to } 5}$ shows the average annual effect from the year of commencement of the T-Up project to five years after commencement.

Exhibit 4: Regression Results

(1)	(2)	(3)	(4)
Dependent Variable	-3 to -1 years ($\beta_{\tau=-3 \text{ to } -1}$)	0 to 3 years ($\beta_{\tau=0 \text{ to } 3}$)	0 to 5 years ($\beta_{\tau=0 \text{ to } 5}$)
R&D Outcomes			
Whether the firm did R&D	-4.3pp	8.4pp**	8.9pp**
Total R&D expenditure	-43.2%	65.4%*	73.2%**
Whether the firm filed any patents	0.5pp	1.0pp	0.6pp
Patents	-0.053	0.054	0.015
Revenue from R&D commercialisation	24.5%	63.5%*	71.8%**
Other Firm Outcomes			
Revenue	16.0%	44.3%***	44.5%***
Total employment	5.5%	21.9%***	21.8%***
Value-added	12.5%	15.3%	13.5%
Value-added per worker	6.6%	0.1%	0.8%
Average local wages	4.4%	5.3%	3.3%

*, ** and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively

The results suggest that the T-Up programme had a positive and significant impact on participating firms' outcomes.⁹ For the R&D-related outcomes up to three years after starting the T-Up project, we found that the T-Up programme was associated with positive and significant effects on firms' R&D expenditure. These effects occurred at both the intensive margin – R&D expenditure was 65.4 per cent higher, and extensive margin – the probability of conducting R&D in a given year was 8.4pp higher. Similarly, T-Up firms saw 63.5 per cent higher revenue derived from commercialised products, suggesting that the R&D efforts led to successful commercialisation. The effects on patents-related outcomes were also positive, although not statistically significant.

⁹ These findings were robust to the inclusion of additional control variables such as other government grants and firm age, different matching specifications, different transformations of the dependent variable (e.g., logs, levels), as well as different specifications of the staggered DiD regressions proposed in the literature (e.g., Callaway and Sant'Anna, 2021).

In terms of other firm outcomes up to three years after starting the T-Up project, our findings suggest that firms that participated in T-Up had higher revenue (44.3 per cent) and total employment¹⁰ (21.9 per cent) than non-participating firms. While the effects on value-added, value-added per worker and average local wages were positive, they were not statistically significant.

Finally, we found that the effects on both R&D-related and other firm outcomes persisted up to five years after the firm started participating in the T-Up programme.¹¹

CONCLUSION

This study found that the T-Up programme was effective in helping local firms to upgrade their R&D capabilities and grow their business revenue. In particular, participating in T-Up led to improvements in a number of outcomes for the firms, including R&D expenditure, revenue from commercialised products due to R&D, total revenue and total employment. Given these encouraging results, and T-Up's contribution to RIE 2025's goal of developing Singapore into an innovation-driven economy, A*STAR will continue to support firms in enhancing their R&D capabilities through T-Up and other R&D-related schemes.

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Ministry of Trade and Industry

REFERENCES

Herrera, L., Muñoz-Doyague, M. F., & Nieto, M. (2010). Mobility of public researchers, scientific knowledge transfer, and the firm's innovation process. *Journal of Business Research*, 63(5), 510-518.

Ho, Y. P., Ruan, Y., Hang, C. C., & Wong, P. K. (2016). Technology upgrading of small-and-medium-sized enterprises (SMEs) through a manpower secondment strategy—A mixed-methods study of Singapore's T-Up program. *Technovation*, 57, 21-29.

Ho, Y. P. & Wong, P. K. (2017). The Impact of R&D on the Singapore Economy: A Time Series Analysis. Available at SSRN: or <http://dx.doi.org/10.2139/ssrn.2719442>.

Kolympiris, C., Hoenen, S., & Klein, P. G. (2019). Learning by seconding: evidence from national science foundation rotators. *Organization Science*, 30(3), 528-551.

O'Donoghue Jenkins, L., & Anstey, K. (2017). The use of secondments as a tool to increase knowledge translation. *Public Health Res Pract.* 2017;27(1):e2711708.

10 We excluded the T-Up researcher(s) seconded to the firm from the total employment of the firm, and found that the results were robust to this adjustment, with the estimated impact of T-Up on employment remaining statistically significant at 18.4 per cent.

11 We were unable to examine firm outcomes more than five years after the firm started participating in the programme due to the lack of data available to precisely estimate these coefficients. Nevertheless, our analysis does not preclude the possibility that the positive effects of the T-Up programme lasted longer than five years after the firm started participating.

ANNEX A: EXAMPLES OF T-UP PROJECTS

Themes	Examples of Project Titles
Smart Integrated Systems and Automation	<ul style="list-style-type: none"> • Enhanced Work Order Module of Tracking System • Enterprise Resource Application Web Integrated Service (ERAWIS)
Advanced Materials and Manufacturing Processes	<ul style="list-style-type: none"> • Development of Nano-Composite Compounding Capabilities • Application of conformal cooling channels to injection moulding tool insert using additive manufacturing technology
Imaging and Object Detection	<ul style="list-style-type: none"> • LIDAR Navigation and Applications for Mobile Robot • Analytics for Vision and RFID
Medical Diagnostics and Validation	<ul style="list-style-type: none"> • Development of Self-Administered Medical Devices Using Microneedles • Design and Optimisation of Existing OCT Probe for Prostate Cancer
Energy Efficiency and Analysis	<ul style="list-style-type: none"> • Design and development of new water heater • Thermal Flow and Light Distribution Analysis for LED Lamp Design

Embargoed until 14 February 2025, 8.00 a.m.

**FEATURE
ARTICLE**

IMPACT EVALUATION OF WORKFORCE SINGAPORE'S PLACE-AND-TRAIN CAREER CONVERSION PROGRAMME



Embargoed until 14 February 2025, 8.00 a.m.



Feature Article

IMPACT EVALUATION OF WORKFORCE SINGAPORE'S PLACE-AND-TRAIN CAREER CONVERSION PROGRAMME

OVERVIEW

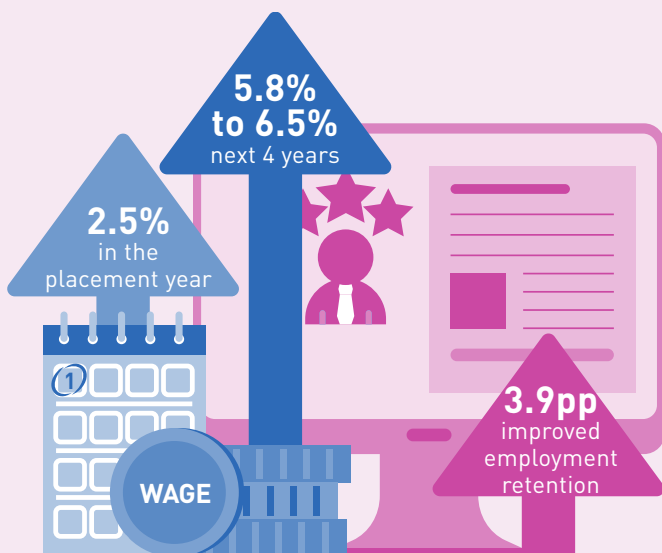
Workforce Singapore's (WSG) Place-and-Train Career Conversion Programme (PnT CCP) is a placement-centric programme that aims to address structural mismatches in the labour market. It provides salary support for employers to hire jobseekers and put them through on-the-job or industry-recognised training to take on new growth job roles.



FINDINGS

Finding 1:

The PnT CCP (i) increased participants' wages by 2.5% in the year of placement, with the impact rising further to 5.8% to 6.5% in the subsequent four years and (ii) improved their employment retention by 3.9 percentage-points (pp), compared to their control groups.



Finding 2:

The PnT CCP had a stronger impact on non-PMET and mature workers who were found to have benefitted more from the placement and accompanying training.



POLICY TAKEAWAY

WSG's PnT CCP plays a key role in addressing skills gaps and helping workers to take on growth job opportunities. By aligning talent with industry needs through the CCPs, workers can be empowered to pivot into future-ready roles, thereby enhancing their adaptability and resilience in a fast-evolving and dynamic Singapore economy.



EXECUTIVE SUMMARY

- ▶ Workforce Singapore's (WSG) Career Conversion Programmes (CCPs) are placement-centric programmes that aim to address structural mismatches in the labour market. Under the Place-and-Train (PnT) CCP, a company hires a jobseeker and puts him/her through on-the-job training or industry-recognised training to take on a new growth job role that aligns with its business and workforce transformation needs.
- ▶ Our study evaluated the impact of the PnT CCP and found that it improved the labour market outcomes of participants. Specifically, the PnT CCP (i) increased participants' wages by 2.5 per cent in the year of placement, with the impact rising further to 5.8 per cent to 6.5 per cent in the subsequent four years, and (ii) improved their employment retention by 3.9 percentage-points, compared to their control groups. Notably, the PnT CCP had a stronger impact on non-PMET and mature workers who were found to have benefitted more from the placement and accompanying training.
- ▶ Against the backdrop of rapid technological change, these findings suggest that schemes that target structural mismatches (including WSG's PnT CCP) play a key role in addressing skills gaps and helping workers to take on growth job opportunities. By aligning talent with industry needs through the CCPs, workers can be empowered to pivot into future-ready roles, thereby enhancing their adaptability and resilience in a fast-evolving and dynamic Singapore economy.

The views expressed in this paper are solely those of the authors and do not necessarily reflect those of the Ministry of Manpower (MOM), Ministry of Trade and Industry (MTI), Workforce Singapore (WSG) or the Government of Singapore.¹

INTRODUCTION

Workforce Singapore's (WSG) Career Conversion Programmes (CCPs) are placement-centric programmes that aim to address structural mismatches in the labour market. These programmes help employers broaden their talent pool by reskilling mid-career new hires or existing employees into growth job roles with good longer-term prospects, with salary support of up to 90 per cent.² The duration of CCPs (typically spanning from three to 24 months) varies according to programme specifications and job requirements.

Under the Place-and-Train (PnT) CCP, a company hires a jobseeker and puts him/her through on-the-job training or industry-recognised training to take on a new growth job role that aligns with its business and workforce transformation needs. This study examined the impact of the PnT CCP on the key labour market outcomes (i.e., wages, employment retention) of participants.

The rest of the article is organised as follows. We first provide a brief review of the literature relating to active labour market policies (ALMPs). We then describe the data and methodology employed for our study, before reporting our findings. The final section concludes.

LITERATURE REVIEW

ALMPs are government policies aimed at assisting and incentivising individuals to actively look for work and find suitable employment. According to the Organisation for Economic Co-operation and Development (OECD), there are four main categories of ALMPs: (i) employment subsidies, (ii) self-employment/start-up support, (iii) training, and (iv) public work/public sector jobs.³ The efficacy of ALMPs has been extensively studied in the literature, with findings generally indicating positive labour market outcomes for individuals over the medium to long run.

¹ We would like to thank Ms Yong Yik Wei, Dr Kuan Ming Leong and Mr Alphonsus Gomez for their useful suggestions and comments. We are also grateful to WSG for their inputs to this study. All remaining errors belong to the authors.

² Long-term unemployed or/and mature jobseekers aged 40 and above are eligible for higher funding support of 90%.

³ See OECD (2018) for more details.

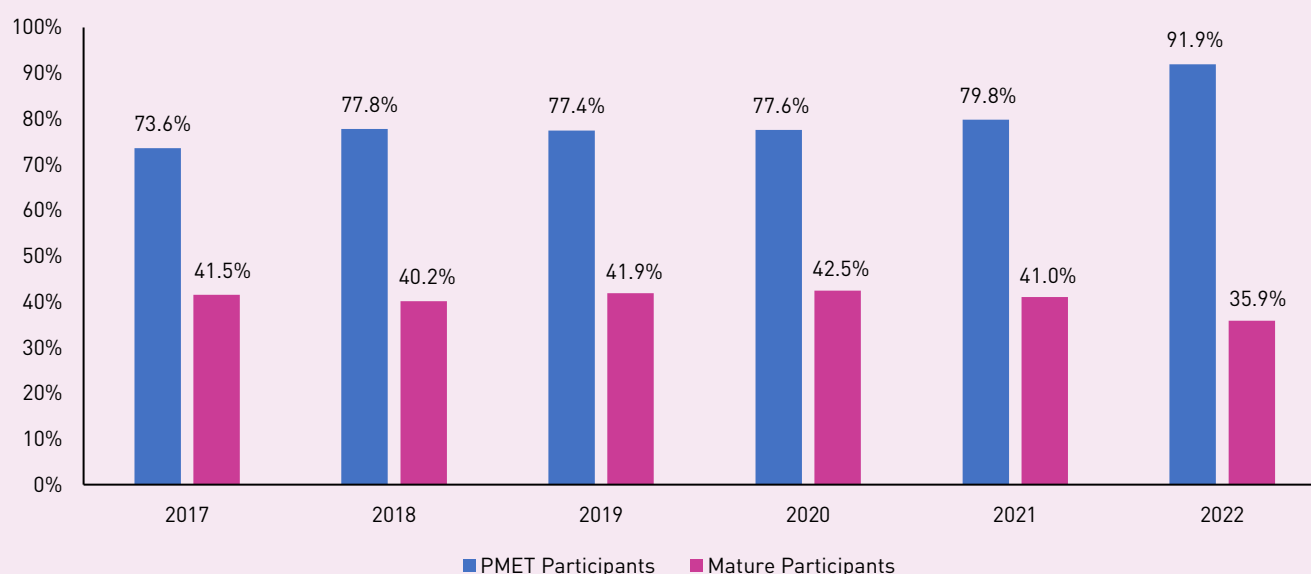
For instance, Vooren et al. (2019) examined 57 ALMP studies in OECD countries and found that training programmes had a positive impact on wages, employment probability and employment duration around six to 36 months after the start of the programme. Similarly, Card et al. (2018) found that training and retraining programmes had positive effects on wages, employment probability and employment duration around one to three years after programme completion. Estimating the impact of job placement programmes on participants with higher earnings, Autor et al. (2017) found that direct-hire placements significantly increased earnings over one to two years for half or more of all placed participants.

DATA AND SUMMARY STATISTICS

This study merged two key data sources: (i) data on participants placed in WSG’s PnT CCP from 2017 to 2022 and (ii) an individual-level administrative dataset containing information on the demographic characteristics, employment history and wages of all resident employees in Singapore.⁴ We excluded participants with less than three months of employment records in the company they were placed in given that the typical PnT CCP duration exceeded three months. Consequently, our final sample comprised over 17,900 PnT participants placed between 2017 and 2022.

Most PnT participants were (i) placed in Professional, Manager, Executive and Technician (PMET) roles and (ii) under 40 years of age (i.e., non-mature workers) (Exhibit 1). In particular, the share of PnT participants placed in PMET roles ranged from 74 per cent to 92 per cent between 2017 and 2022. Across the years, the share of mature workers remained relatively stable at around 40 per cent.

Exhibit 1: Share of PMET and Mature Participants by Cohort, 2017-2022

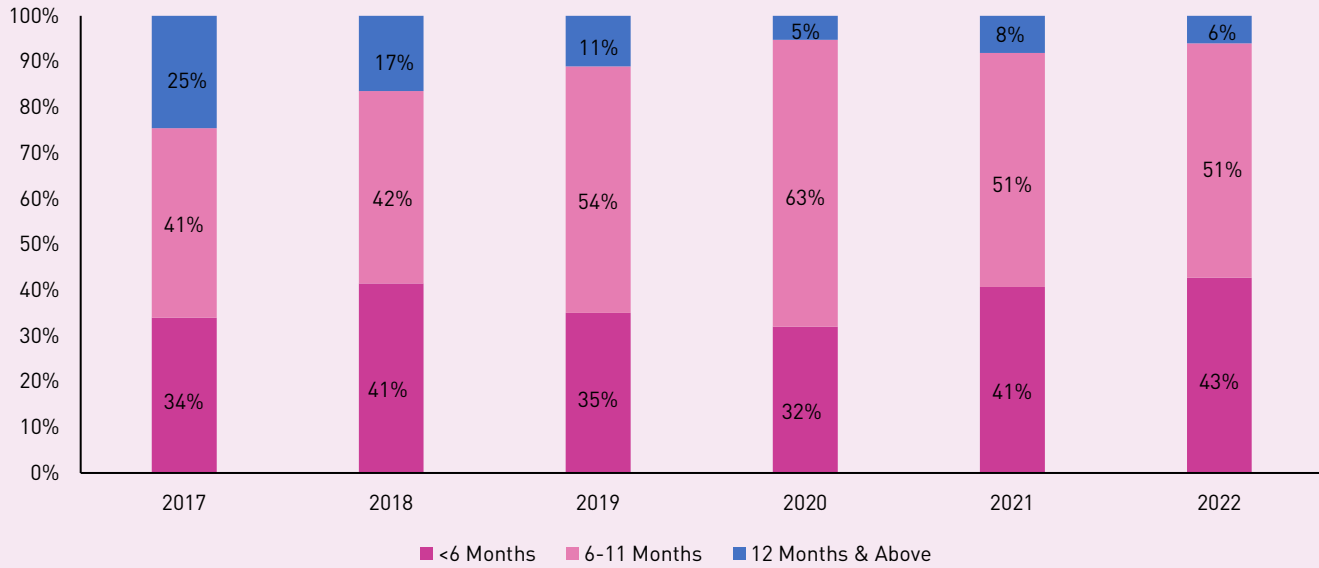


Source: MOM

Between 2017 and 2022, most PnT participants enrolled in programmes that lasted six to 11 months (41-63 per cent) or less than six months (32-43 per cent) (Exhibit 2). Programmes with a duration of 12 months or more had fewer participants. Over the period, the share of participants enrolled in longer programmes fell as WSG sharpened its focus towards shorter programmes that could more nimbly support businesses’ hiring and reskilling needs.

⁴ We used data from 2014 to 2023 from the individual-level administrative dataset to match PnT CCP participants with a control group of non-participants based on pre-placement characteristics, as well as to track their outcomes over time. More details can be found in the ‘Methodology’ section.

Exhibit 2: Share of PnT Participants with Different Training Durations by Cohort, 2017-2022



Source: MOM

METHODOLOGY

To estimate the causal impact of the PnT CCP, we combined matching methods with a difference-in-differences (DiD) regression analysis. This multi-step approach allowed us to compare the wage and employment retention outcomes of two groups of individuals: a “treated” group that participated in the PnT CCP and an observably-similar “control” group that did not participate in the PnT CCP.

First, to study the impact of the PnT CCP on wage outcomes, we used Coarsened Exact Matching (CEM) to find a group of non-participants who was similar in observable characteristics to each cohort of PnT participants. The matched characteristics included age, gender, firm size, sector of employment, and employment history (i.e., wages and number of months worked over the past three years) in the year prior to each cohort’s placement in the programme.⁵ The CEM technique enabled the construction of matched control groups that were comparable to the PnT participants.

Second, after matching, we performed the following DiD regression, separately for each cohort, to study the impact of the PnT CCP on the wage outcomes of participants:

$$Y_{it} = \alpha_i + \delta_t + \sum_{t=c-3}^{c+6} \beta_t Treated_i \times year_t + X_{it} + \varepsilon_{it}$$

Where:

- Y_{it} represents the log mean monthly wage for individual i in calendar year t ;
- $Treated_i$ is a dummy variable taking the value of 1 if individual i is treated (i.e., a PnT participant);
- $year_t$ are the dummies from year $c-3$ (three years before placement) to $c+6$ (up to six years after placement) for cohort c ;
- α_i are the individual fixed effects;
- δ_t are the time fixed effects;
- X_{it} are the time-varying covariates (e.g., age, number of months worked, firm size and sector of employment); and
- ε_{it} is the regression error term.

5 For each cohort, the CEM algorithm was implemented using data in the year before each cohort’s placement (e.g., for the 2019 cohort, data from 2018 was used to identify a suitable non-participant group).

The pre-treatment coefficients β_{c-3} and β_{c-2} were used to test for pre-treatment trends and should be small and/or not statistically significant to support the parallel trends assumption.⁶ The post-treatment coefficients $\beta_c, \dots, \beta_{c+6}$ indicated the impact of the programme on wages in the year of treatment up to six years post-treatment.

Third, to examine the effect on employment retention from the start of placement, we identified a control group of individuals who had similarly begun a new job at around the same time as the PnT participants were placed in the programme. Specifically, we matched all PnT participants to non-participants based on the month and year of the latter's first instance of a job switch within the period studied (i.e., 2017 to 2022), in addition to the characteristics used in the earlier CEM matching.

Fourth, we performed a probit regression to compare the probability of remaining in employment for the PnT participants and their matched counterparts. We estimated the probability of remaining in employment (i.e., β_m) in each month after placement or upon taking on a new job (i.e., starting from three to 24 months⁷ after placement or taking on a new job) using the following probit regression:

$$\Pr(Y_{im}) = \beta_m \text{Treated}_i + X_i + \varepsilon_i$$

Where:

- Y_{im} is a dummy variable for whether individual i remains in employment m months after placement / taking on a new job;
- Treated_i is the dummy variable taking the value of 1 if individual i is treated (i.e., a PnT participant);
- X_i are the individual's characteristics in the year before placement / taking on a new job (e.g., age, number of months worked, firm size and sector of employment, month-year of job switch); and
- ε_i is the regression error term.

Finally, we performed heterogeneity analyses to examine whether there were differences in the wage outcomes of PMET compared to non-PMET PnT participants, as well as mature compared to non-mature PnT participants, following the methodology described in the first and second steps.

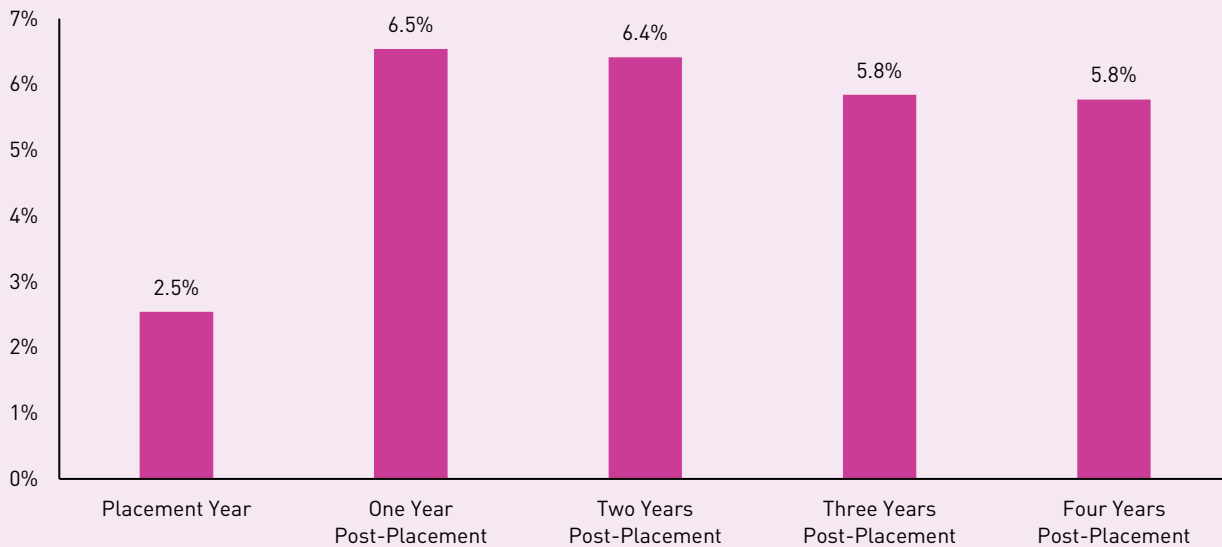
RESULTS

We found that the PnT CCP increased the wages of participants across all cohorts. Specifically, the PnT CCP raised the wages of participants by 2.5 per cent on average in the year of placement, with the impact rising further to 5.8 per cent to 6.5 per cent in the subsequent four years (Exhibit 3). These results were robust to running a stacked regression, with each cohort's dataset stacked together to form a combined dataset.

⁶ In the absence of treatment (i.e., placement in CCP), outcomes for the treatment and control groups should follow the same trend over time.

⁷ The PnT CCP typically lasts for three to 24 months, with the placement month considered as month 0. Therefore, for a training programme with a three-month duration, the first month after the training would be three months after placement.

Exhibit 3: Average Impact of the PnT CCP on Wages by Years Post-Placement

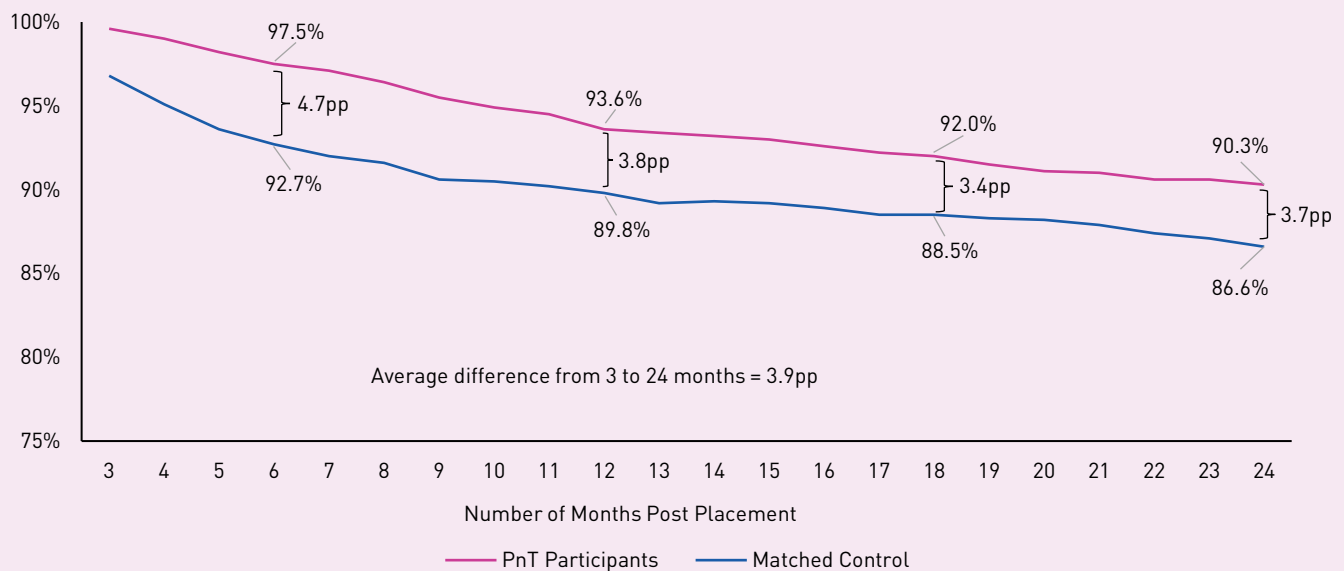


Source: Authors' estimates

Notes: The parallel trend assumption was met for all cohorts. Post-treatment coefficients for each cohort were statistically significant at the 1% level. The average wage effects for five and six years post-placement were omitted from Exhibit 3, as only at most two cohorts (i.e., 2017 and 2018) had available data to reach these points of time.

We also found that the PnT CCP improved the employment retention of participants, with a higher proportion of participants remaining in employment three to 24 months after placement compared to non-participants. On average, the retention rate for PnT participants was 3.9 percentage-points (pp) higher than that of non-participants. The difference in retention rate was the largest, at about 4.7pp, around six months after placement. Even at the 24-month mark, the employment retention rate for PnT participants (90.3 per cent) remained 3.7pp higher than that for non-participants (86.6 per cent) (Exhibit 4).

Exhibit 4: Retention Rate for PnT Participants and Non-Participants



Source: Authors' estimates

Finally, our heterogeneity analyses highlighted that the impact of the PnT CCP differed across occupational (PMET and non-PMET) and demographic (mature and non-mature) groups, even though participation in the programme benefitted all groups.

Notably, the PnT CCP had a stronger impact on non-PMET and mature (aged 40 years and above) workers, who were found to benefit more from the placement and accompanying training. In the four years post-placement, non-PMET PnT participants experienced stronger wage gains (approximately 2pp higher) than PMET PnT participants (Exhibit 5). The PnT CCP likely assisted non-PMET workers to switch into growth job roles with more potential, leading to better outcomes in wages. Similarly, mature PnT participants saw stronger wage increases (approximately 3.1pp higher) than their non-mature counterparts (Exhibit 6). The higher salary support for mature workers likely incentivised businesses to hire and train mature workers previously in lower-potential jobs, who then benefitted from a larger wage uplift in their new growth job roles.

Exhibit 5: Average Impact of the PnT CCP on Wages in the Four Years Post-Placement by Participants' Broad Occupation

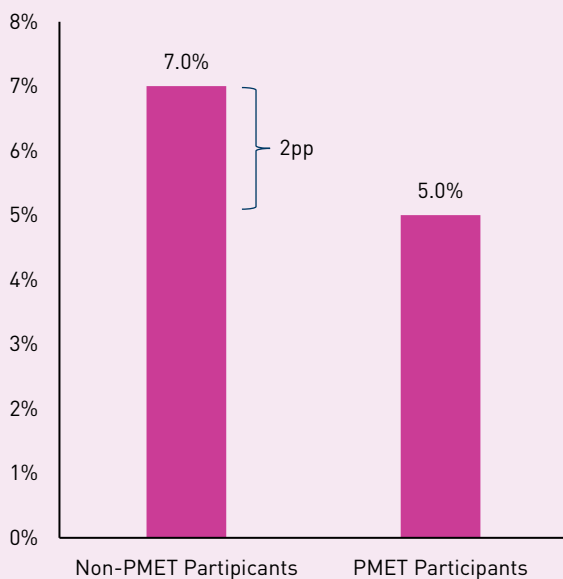
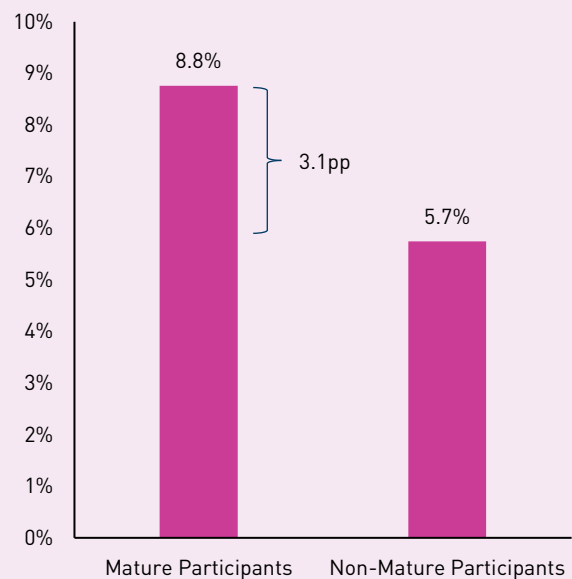


Exhibit 6: Average Impact of the PnT CCP on Wages in the Four Years Post-Placement by Participants' Age Group



Source: Authors' estimates

CONCLUSION

In summary, our study found that the PnT CCP improved participants' labour market outcomes. Reflecting the programme's effectiveness in reskilling workers for new job roles, PnT participants experienced higher wages and employment retention. In particular, the PnT CCP was found to have a stronger beneficial impact on non-PMET and mature workers. The positive outcomes of the PnT CCP underscore the significance of subsidised on-the-job training in Singapore's skills development landscape.

Against the backdrop of rapid technological change, these findings suggest that schemes that target structural mismatches (including WSG's PnT CCP) play a key role in addressing skills gaps and helping workers to take on growth job opportunities. Recognising the importance of CCPs, WSG increased the CCP salary support caps in April 2024 to keep pace with rising wages and maintain the programme's attractiveness to employers, which would in turn help more workers take up more productive job roles and create more career conversion opportunities.⁸ By aligning talent with industry needs through CCPs, workers can be empowered to pivot into future-ready roles, thereby enhancing their adaptability and resilience in a fast-evolving and dynamic Singapore economy.

⁸ From 1 April 2024, the PnT CCP supported: (i) up to 90% of monthly salary (capped at \$7,500 per month) for long-term unemployed or/and mature (40 years and above) Singapore residents, and (ii) up to 70% of monthly salary (capped at \$5,000 per month) for other Singapore residents. Previously, the monthly salary caps were \$6,000 and \$4,000 respectively.

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REFERENCES

Autor, D., Houseman, S., & Kerr, S. (2017). The Effect of Work First Job Placements on the Distribution of Earnings: An Instrumental Variable Quantile Regression Approach. *Journal of Labor Economics*, 35(1), 149-190.

Card, D., Kluve, J., & Weber, A. (2018). What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations. *Journal of the European Economic Association*, 16(3), 894-931.

OECD. (2018). *Competitiveness in South East Europe: A Policy Outlook 2018*. Paris: OECD Publishing.

Vooren, M., Haelermans, C., & Groot, W. (2019). The Effectiveness of Active Labor Market Policies: A Meta-Analysis. *Journal of Economic Surveys*, 33(1), 125-149.

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