ECONOMIC SURVEY OF SINGAPORE 2018

MTI MINISTRY OF TRADE AND INDUSTRY SINGAPORE

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Ministry of Trade and Industry
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02

MAIN INDICATORS OF THE SINGAPORE ECONOMY

OVERALL ECONOMY

GDP at Current Market Prices
2017 $464.9 billion
2018 $487.1 billion

Real GDP (Year-on-Year-Growth)
2017 +3.9%
2018 +3.2%

GNI Per Capita
2017 $77,239
2018 $80,517

STRUCTURE OF THE ECONOMY IN 2018

Services Producing Industries
70.4% of Nominal VA

Manufacturing
21.4% of Nominal VA

Goods Producing Industries
26.1% of Nominal VA

Ownership of Dwellings
3.5% of Nominal VA

Breakdown of Services Producing Industries

Wholesale & Retail Trade
18.0% of Nominal VA

Business Services
14.9% of Nominal VA

Finance & Insurance
12.9% of Nominal VA

Transportation & Storage
6.9% of Nominal VA

Information & Communications
4.1% of Nominal VA

Accommodation & Food Services
2.1% of Nominal VA

Other Services Industries account for 11.5% of Nominal VA

LABOUR MARKET

Employment (as at year end)
2017 **3,669.4** thousand
2018 **3,715.8** thousand

Unemployment Rate
2017 **2.2%**
2018 **2.1%**

Value-Added per Actual Hour Worked (Year-on-Year Growth)
2017 **+4.9%**
2018 **+3.7%**

COST

Unit Labour Cost of Overall Economy (Year-on-Year Growth)
2017 **-0.2%**
2018 **+0.4%**

Unit Business Cost of Manufacturing (Year-on-Year Growth)
2017 **+0.3%**
2018 **-6.0%**

Unit Labour Cost of Manufacturing (Year-on-Year Growth)
2017 **-8.1%**
2018 **-3.5%**

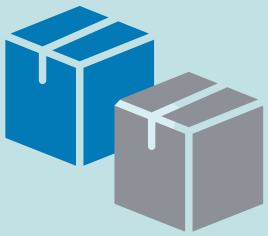
PRICES

Consumer Price Index - All Items (Year-on-Year Growth)
2017 **+0.6%**
2018 **+0.4%**

Domestic Supply Price Index (Year-on-Year Growth)
2017 **+7.0%**
2018 **+6.4%**

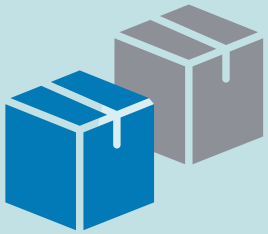
Singapore Manufactured Products Price Index (Year-on-Year Growth)
2017 **+3.8%**
2018 **+4.4%**

MERCHANDISE TRADE



Merchandise Exports

2017	2018
$515,001 million	$555,665 million
+10.3% Year-on-Year Growth	+7.9% Year-on-Year Growth



Merchandise Imports

2017	2018
$452,102 million	$500,194 million
+12.1% Year-on-Year Growth	+10.6% Year-on-Year Growth

Top 5 Trading Partners in 2018
(Share of Total Merchandise Trade)

12.8% China	11.2% Malaysia	10.9% EU	9.3% United States	6.7% Hong Kong

SERVICES TRADE

Services Exports

2017	2018
$238,349 million	$248,208 million
+9.9% Year-on-Year Growth	+4.1% Year-on-Year Growth

Services Imports

2017	2018
$250,595 million	$252,174 million
+13.4% Year-on-Year Growth	+0.6% Year-on-Year Growth

Top 5 Services Exports Categories in 2018
(Share of Total Services Exports)

28% Transport Services	15% Financial Services	11% Travel Services	7% Telecomms, Computer and Information	26% Other Business Services

TOP 5 TRADING PARTNERS AND SHARE OF TOTAL MERCHANDISE TRADE IN 2018

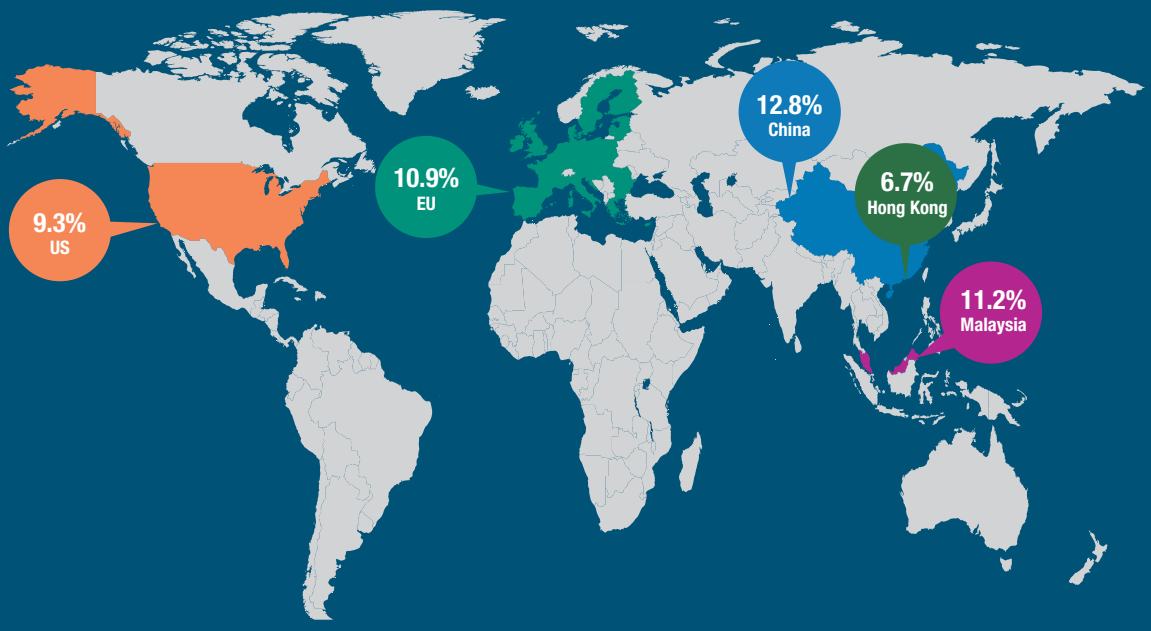


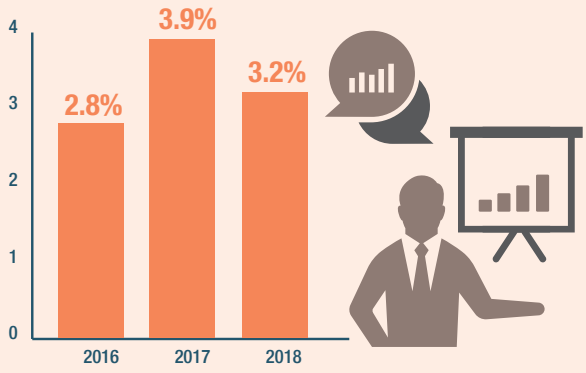
Image courtesy of Ministry of Communications and Information

CHAPTER 1

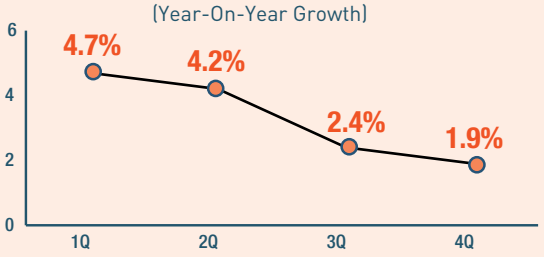
ECONOMIC PERFORMANCE

CHAPTER 1
ECONOMIC PERFORMANCE

Real GDP grew by **3.2%** in 2018



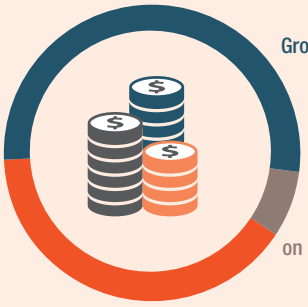
QUARTERLY GDP GROWTH IN 2018
(Year-On-Year Growth)



MAIN DRIVERS OF GDP GROWTH IN 2018

Manufacturing	Finance & Insurance	Business Services
1.3% point contribution	0.8% point contribution	0.4% point contribution

INCOME COMPONENTS OF GDP IN 2018

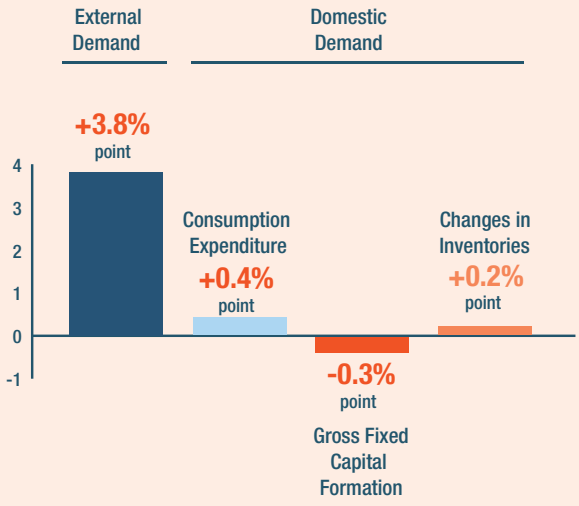


Gross Operating Surplus **53%**

Taxes Less Subsidies on Production **7%**

Compensation of Employees **40%**

SOURCES OF GROWTH IN 2018



OVERVIEW

In the fourth quarter of 2018, the economy grew by 1.9 per cent on a year-on-year basis, easing from the 2.4 per cent growth in the previous quarter. The sectors which contributed the most to growth in the quarter were the manufacturing and finance & insurance sectors.

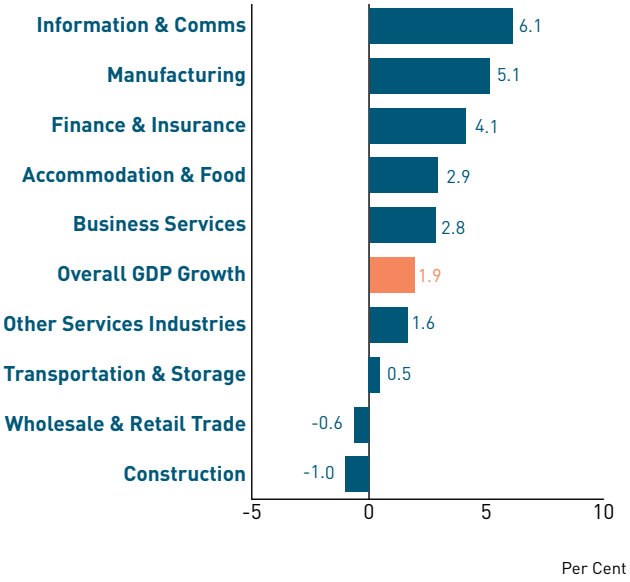
For the whole of 2018, the economy expanded by 3.2 per cent, a moderation from the 3.9 per cent growth in 2017. The main contributors to GDP growth for the year were the manufacturing, wholesale & retail trade and finance & insurance sectors.

OVERALL PERFORMANCE

Fourth Quarter 2018

The economy grew by 1.9 per cent year-on-year in the fourth quarter, easing from the 2.4 per cent growth in the previous quarter (Exhibit 1.1). On a quarter-on-quarter seasonally-adjusted annualised basis, the economy expanded by 1.4 per cent, unchanged from the preceding quarter.

Exhibit 1.1: GDP and Sectoral Growth Rates in 4Q 2018



The manufacturing sector grew by 5.1 per cent year-on-year, faster than the 3.5 per cent growth in the third quarter. Growth was driven mainly by the biomedical manufacturing, transport engineering and electronics clusters.

The services producing industries collectively expanded by 1.8 per cent year-on-year, moderating from the 2.7 per cent growth in the third quarter. Among the services sectors, the information & communications sector registered the strongest growth (6.1 per cent), followed by the finance & insurance (4.1 per cent) and the accommodation & food services (2.9 per cent) sectors.

Meanwhile, the construction sector contracted by 1.0 per cent year-on-year, a more gradual pace of decline as compared to the 2.3 per cent contraction in the third quarter. The output of the sector was weighed down by the weakness in public sector construction activities, with lower progress payments in public civil engineering works and public institutional & other building works.

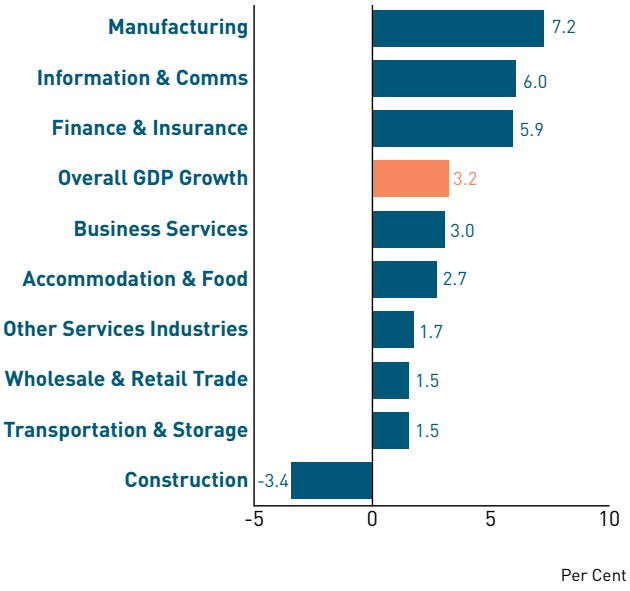
Full Year of 2018

For the whole of 2018, the economy expanded by 3.2 per cent, a moderation from the 3.9 per cent growth in 2017 (Exhibit 1.2).

The manufacturing sector expanded by 7.2 per cent, extending the 10 per cent growth in 2017. Growth was primarily supported by the electronics, transport engineering and biomedical manufacturing clusters. The other clusters – precision engineering, chemicals and general manufacturing – also posted expansions for the year.

The services producing industries collectively expanded by 3.0 per cent in 2018, easing from the 3.2 per cent growth in 2017. All services sectors saw positive growth.

Exhibit 1.2: GDP and Sectoral Growth Rates in 2018



Among the services sectors, the information & communications and finance & insurance sectors registered the fastest pace of growth in 2018. Growth of the information & communications sector came in at 6.0 per cent, higher than the 4.5 per cent in 2017. Similarly, the finance & insurance sector expanded by 5.9 per cent, slightly faster than the 5.6 per cent growth in 2017. The strong performance of the sector was driven by the "others" and insurance segments, which were in turn supported by the structural ramp-up of digital payments activities and resilient demand for insurance services, respectively.

Meanwhile, the construction sector contracted by 3.4 per cent in 2018, a more modest pace of decline than the 10 per cent contraction in 2017. Output in the sector was weighed down by the weakness in public sector construction activities.

Exhibit 1.3: Percentage-Point Contribution to Growth in Real GDP in 4Q 2018 (By Industries)

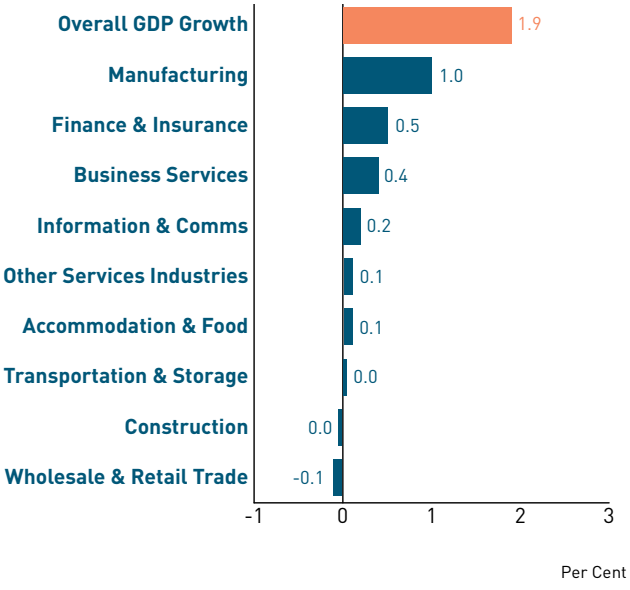
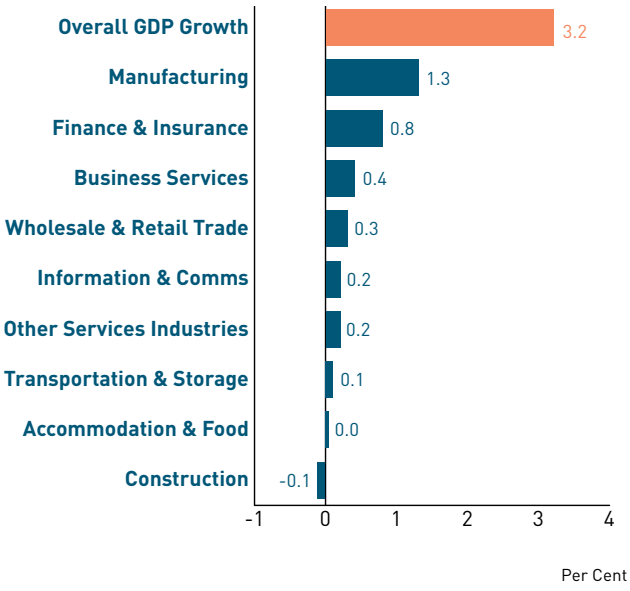


Exhibit 1.4: Percentage-Point Contribution to Growth in Real GDP in 2018 (By Industries)



Contribution to Growth

In the fourth quarter, the manufacturing and finance & insurance sectors collectively accounted for 79 per cent of GDP growth (Exhibit 1.3). All other sectors also contributed positively to growth in the quarter, with the exception of the construction and wholesale & retail trade sectors.

For the whole of 2018, all sectors contributed positively to GDP growth, except for the construction sector (Exhibit 1.4). The manufacturing sector was the largest contributor to GDP growth, at 1.3 percentage-points, followed by the finance & insurance (0.8 percentage-point), business services (0.4 percentage-point) and wholesale & retail trade (0.3 percentage-point) sectors.

SOURCES OF GROWTH

Total demand rose by 1.7 per cent year-on-year in the fourth quarter, slower than the 4.5 per cent growth in the preceding quarter (Exhibit 1.5).

For the whole of 2018, growth in total demand came in at 4.1 per cent, moderating from the 5.7 per cent growth in 2017. External demand was the key contributor to total demand growth (3.8 percentage-points), while the contribution from domestic demand was also positive (0.3 percentage-point).

Exhibit 1.5: Percentage-Point Contribution to Total Demand Growth

	2017	2017			2018
		II	III	IV	
Total Demand	5.7	5.7	4.5	1.7	**4.1**
External Demand	4.0	5.2	4.1	2.2	**3.8**
Total Domestic Demand	1.7	0.5	0.4	-0.4	**0.3**
Consumption Expenditure	0.6	0.4	0.4	0.2	**0.4**
Public	0.2	0.1	0.1	0.0	**0.1**
Private	0.4	0.3	0.3	0.1	**0.3**
Gross Fixed Capital Formation	0.5	-0.2	-0.7	-0.3	**-0.3**
Changes in Inventories	0.6	0.3	0.7	-0.3	**0.2**

External Demand

External demand rose by 3.0 per cent year-on-year in the fourth quarter, lower than the 5.6 per cent growth in the preceding quarter (Exhibit 1.6). The increase in external demand was primarily due to higher real merchandise exports.

For the full year, external demand grew by 5.2 per cent, slightly slower than the 5.4 per cent growth in 2017. The increase in external demand was largely driven by real merchandise exports, of which machinery & transport equipment, miscellaneous transactions and chemicals & chemical products were the key contributors. Real services exports also contributed positively to external demand growth, with transport services, financial services and other business services being the main contributors.

Domestic Demand

Total domestic demand declined by 1.6 per cent year-on-year in the fourth quarter, a reversal from the 1.5 per cent growth in the previous quarter. The contraction was due to a decline in gross fixed capital formation and a draw-down in inventories. By contrast, consumption expenditure expanded slightly to help support total domestic demand.

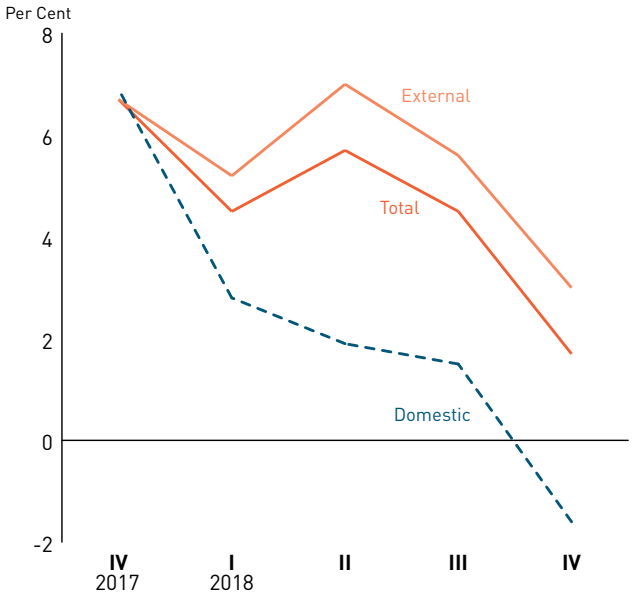
For 2018 as a whole, total domestic demand increased by 1.1 per cent, moderating from the 6.4 per cent expansion in 2017. The increase in domestic demand for the year was largely due to steady growth in consumption expenditure, as well as a build-up in inventories, which more than offset the decline in gross fixed capital formation.

Consumption Expenditure

Total consumption expenditure rose at a slower pace of 1.0 per cent year-on-year in the fourth quarter, compared to the 2.6 per cent expansion in the previous quarter.

For the full year, total consumption expenditure grew by 2.7 per cent, a moderation from the 3.4 per cent growth in 2017. Growth in both public and private consumption moderated. Public consumption expanded by 3.6 per cent, compared to 4.2 per cent in 2017, while private consumption grew by 2.4 per cent, compared to 3.2 per cent in the previous year. Expenditure on miscellaneous goods & services, housing & utilities and health were the main contributors to private consumption growth in 2018.

Exhibit 1.6: Changes in Total Demand at 2010 Market Prices



Gross Fixed Capital Formation

Gross fixed capital formation (GFCF) declined by 3.1 per cent year-on-year in the fourth quarter, extending the 7.0 per cent decline in the preceding quarter. Both private and public GFCF fell during the quarter, by 1.6 per cent and 9.8 per cent respectively.

For the full year, GFCF declined by 3.4 per cent, reversing the 5.3 per cent expansion in 2017 (Exhibit 1.7). Public GFCF contracted by 3.8 per cent, extending the 5.1 per cent decline in 2017. The fall in public GFCF was largely due to a decline in investment spending on public construction & works and transport equipment (Exhibit 1.8). Meanwhile, private GFCF decreased by 3.3 per cent, reversing the 8.0 per cent expansion in 2017. The decline in private GFCF was because of lower investment spending on private intellectual property products, private transport equipment and private construction & works, which more than offset the higher investment spending on private machinery & equipment.

Exhibit 1.7: Annual Changes in Gross Fixed Capital Formation at 2010 Market Prices, 2018

	Total	Public	Private
Total	-3.4	-3.8	-3.3
Construction & Works	-4.8	-7.1	-3.2
Transport Equipment	-2.5	-12.4	-2.2
Machinery & Equipment	6.1	53.0	4.4
Intellectual Property Products	-9.4	2.7	-10.1

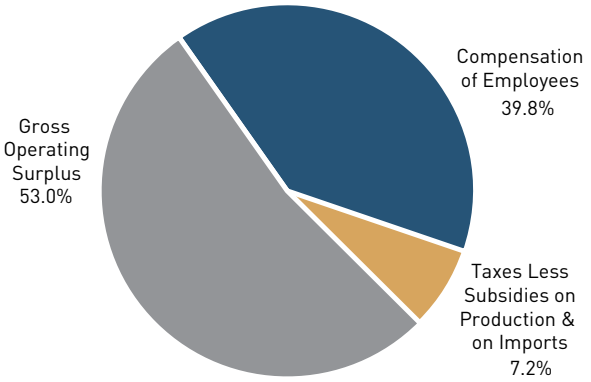
Exhibit 1.8: Percentage-Point Contribution to Growth of Gross Fixed Capital Formation at 2010 Market Prices, 2018

	Total	Public	Private
Total	-3.4	-0.7	-2.7
Construction & Works	-1.9	-1.1	-0.7
Transport Equipment	-0.3	0.0	-0.3
Machinery & Equipment	1.3	0.4	0.9
Intellectual Property Products	-2.6	0.0	-2.6

INCOME COMPONENTS OF NOMINAL GDP

Singapore's nominal GDP amounted to $487 billion in 2018, an increase of 4.8 per cent over 2017. Gross operating surplus accounted for 53 per cent of nominal GDP, while compensation of employees accounted for 40 per cent (Exhibit 1.9). Taxes on production and imports (less subsidies) made up the remaining 7.2 per cent of nominal GDP.

Exhibit 1.9: Income Components of GDP at Current Prices



NATIONAL SAVING

With factor income outflows exceeding inflows by $33 billion, Gross National Income (GNI) came in at $454 billion, smaller than the $487 billion in nominal GDP.

Gross National Savings (GNS) rose by 5.3 per cent to $218 billion in 2018. This comprised $132 billion in Gross Capital Formation and a net outflow of $86 billion that was lent or transferred abroad. The national savings rate was 48 per cent of GNI, unchanged from 2017.

GNI AND THE EXTERNAL ECONOMY

Factor income from abroad reached $141 billion in 2018, up from $127 billion in 2017. The contribution of overseas operations to the total economy was 22 per cent in 2018, similar to that recorded in 2017 (Exhibit 1.10).

Based on the Survey of Singapore's Investment Abroad, the stock of direct investment abroad increased from $810 billion in 2016 to $815 billion in 2017.

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

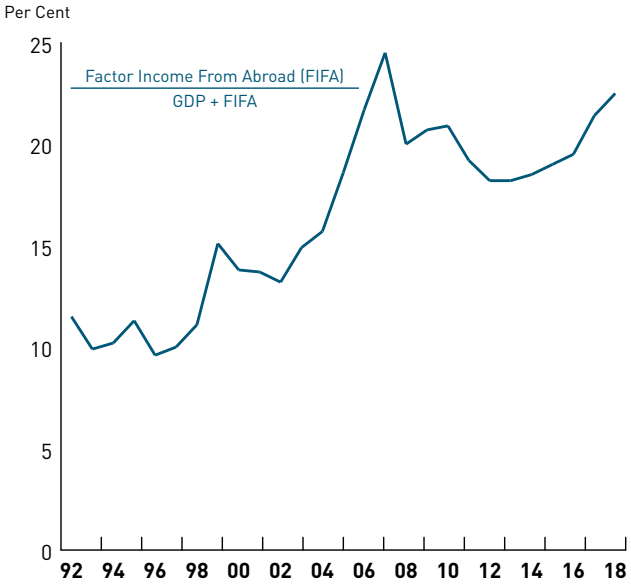


Image courtesy of Enterprise Singapore

CHAPTER 2

LABOUR MARKET AND PRODUCTIVITY

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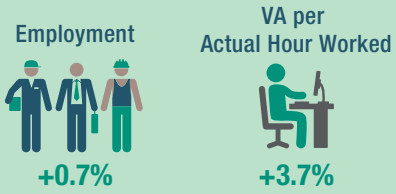
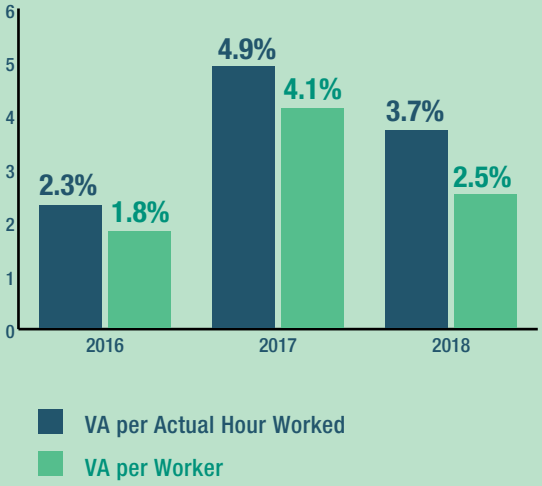
LABOUR MARKET AND PRODUCTIVITY

EMPLOYMENT AND PRODUCTIVITY GROWTH IN 2018



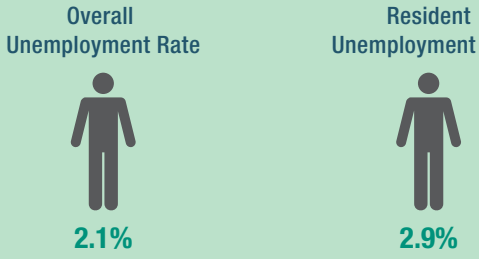
MAIN DRIVERS OF EMPLOYMENT GROWTH IN 2018

VA PER ACTUAL HOUR WORKED AND VA PER WORKER GROWTH

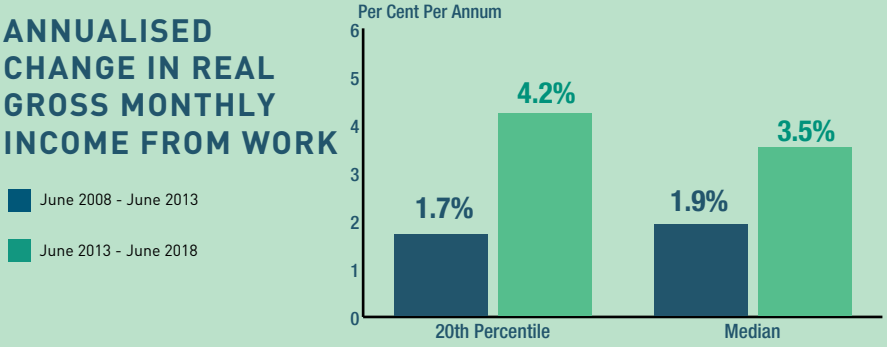


SECTORS WITH THE HIGHEST VA PER ACTUAL HOUR WORKED GROWTH IN 2018

UNEMPLOYMENT RATES IN 2018



ANNUALISED CHANGE IN REAL GROSS MONTHLY INCOME FROM WORK



Real median gross monthly income of full-time employed residents rose by **+3.5% per annum** from June 2013 to June 2018

OVERVIEW

Total employment increased by 46,300 in 2018, a reversal from the decline of 3,600 in 2017. Total employment growth was driven by the services sector, while the construction and manufacturing sectors continued to register employment declines, albeit at a more moderate pace as compared to 2017. Excluding Foreign Domestic Workers (FDWs), total employment increased by 39,300. Local employment growth in 2018 was higher than that in 2017.

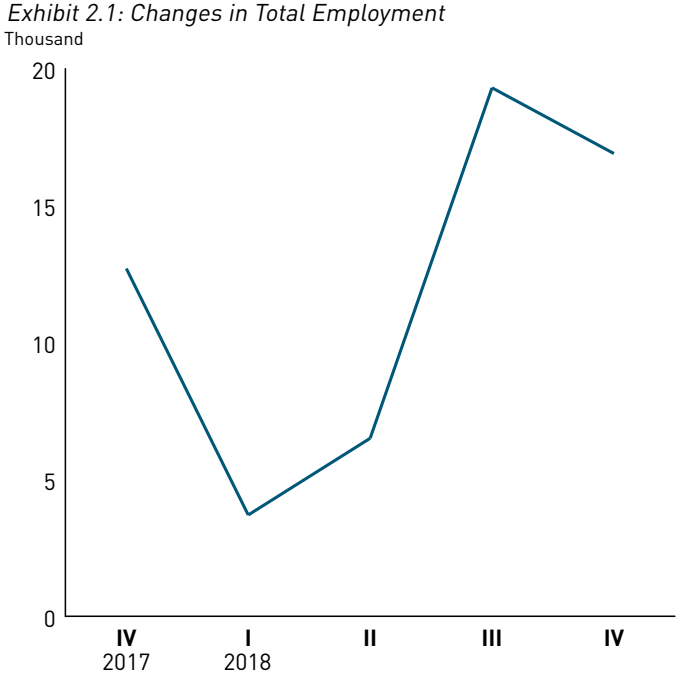
The number of workers retrenched and the annual average unemployment rates were lower in 2018 as compared to 2017.

Labour productivity, as measured by real value-added per actual hour worked, grew by 3.7 per cent in 2018, slower than the 4.9 per cent growth in 2017. Similarly, real value-added per worker rose by 2.5 per cent, lower than the 4.1 per cent growth in 2017. Meanwhile, the real gross monthly incomes of full-time employed residents at the median and 20th percentile rose faster during the period of 2013 to 2018, as compared to the earlier five-year period of 2008 to 2013.

EMPLOYMENT[1]

Total employment increased in the fourth quarter (16,900) on the back of seasonal hiring for the year-end festivities. While employment growth in the fourth quarter was lower than the preceding quarter (19,300), it was higher than the same period a year ago (12,700) (Exhibit 2.1). A similar trend was observed for total employment excluding FDWs.

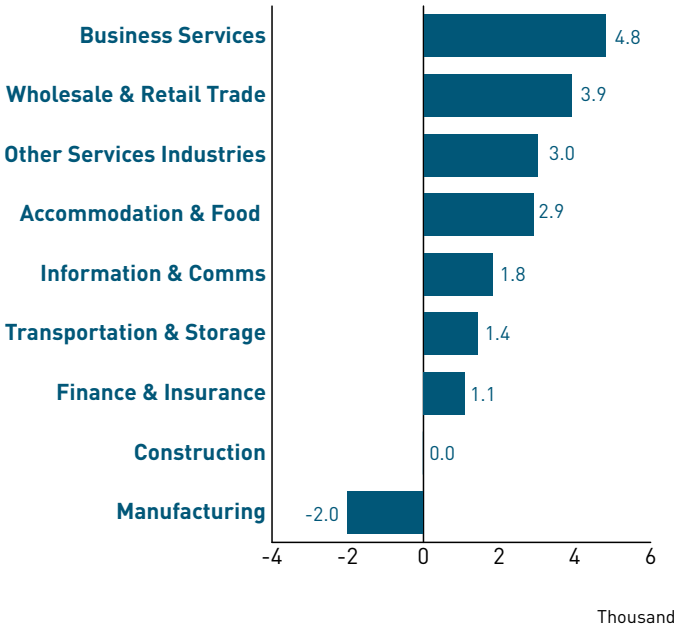
Exhibit 2.1: Changes in Total Employment



Total employment growth was driven by the services sector (18,700), with the business services and wholesale & retail trade sectors recording the largest employment gains (Exhibit 2.2).

By contrast, manufacturing employment declined (-2,000), after posting an increase in the preceding quarter (3,500). Employment in the construction sector remained unchanged on the back of the weakness in construction activities.

Exhibit 2.2: Changes in Employment by Industry in 4Q 2018



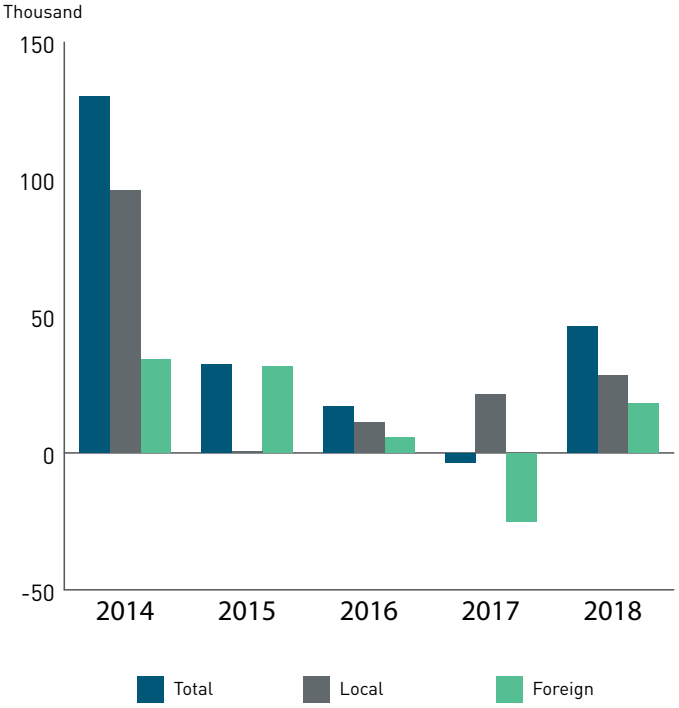
1 *Figures for the fourth quarter of 2018 are based on preliminary estimates.*

For the whole of 2018, total employment increased by 46,300, a reversal from the decline in 2017 (-3,600), and more than twice the growth in 2016 (16,800). Excluding FDWs, total employment increased by 39,300. Total employment growth was driven by employment gains in the services sector (55,400), even as the employment declines in the manufacturing (-2,400) and construction (-6,700) sectors moderated as compared to 2017.

Local employment rose by 28,400 in 2018, higher than the increase in 2017 (21,300) (Exhibit 2.3). There were local employment gains in most services sectors, including the community, social & personal services, transportation & storage, finance & insurance, information & communications, and professional services sectors.

As at December 2018, there were 3,715,800 employed persons in Singapore, with 2,329,800 locals and 1,386,000 foreigners. Excluding FDWs, there were 1,132,200 foreigners.

Exhibit 2.3: Changes in Employment by Residential Status

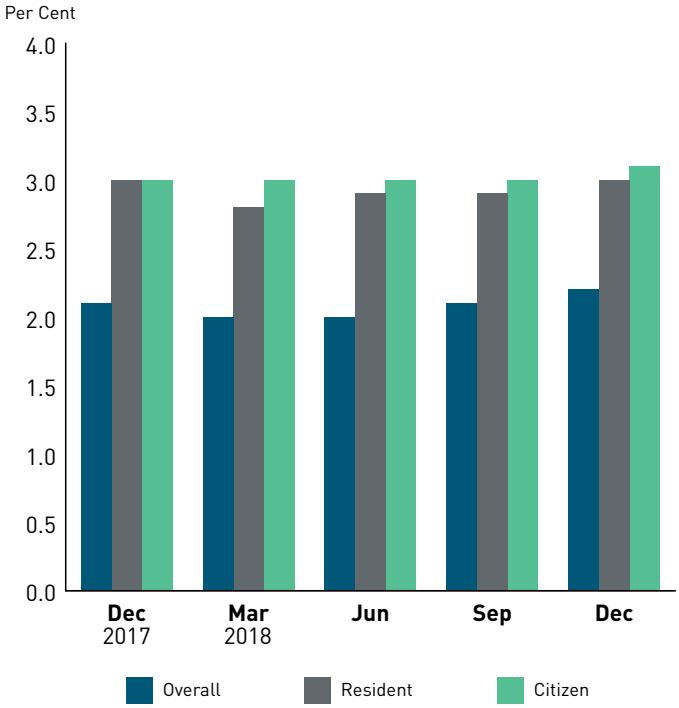


UNEMPLOYMENT

The seasonally-adjusted overall unemployment rate rose slightly from 2.1 per cent in September 2018 to 2.2 per cent in December 2018 (Exhibit 2.4). The resident and citizen unemployment rates also edged up over the same period (from 2.9 per cent to 3.0 per cent, and from 3.0 per cent to 3.1 per cent respectively).

In December 2018, there were 69,800 unemployed residents, of whom 60,600 were Singapore citizens. These were higher than the number of unemployed residents (66,000) and citizens (58,200) in September 2018.

Exhibit 2.4: Unemployment Rates (Seasonally-Adjusted)



Despite the slight uptick in overall unemployment rate observed in December 2018, the annual average overall unemployment rate for the full year dipped from 2.2 per cent in 2017 to 2.1 per cent in 2018. Similarly, the unemployment rate for residents and citizens declined from 3.1 per cent to 2.9 per cent, and from 3.3 per cent to 3.0 per cent respectively.

In 2018, 66,900 residents were unemployed on average, of whom 59,000 were Singapore citizens. The respective figures in 2017 were higher, at 70,900 and 62,800.

PRODUCTIVITY

Real Value-Added per Actual Hour Worked

Overall labour productivity, as measured by real value-added per actual hour worked, increased by 1.4 per cent in the fourth quarter, easing from the 1.6 per cent growth in the previous quarter (Exhibit 2.5). The productivity of the accommodation & food services, manufacturing, finance & insurance, construction and wholesale & retail trade sectors rose, while that for the information & communications, business services, transportation & storage and other services industries declined (Exhibit 2.6).

Exhibit 2.5: Changes in Value-Added per Actual Hour Worked for the Overall Economy

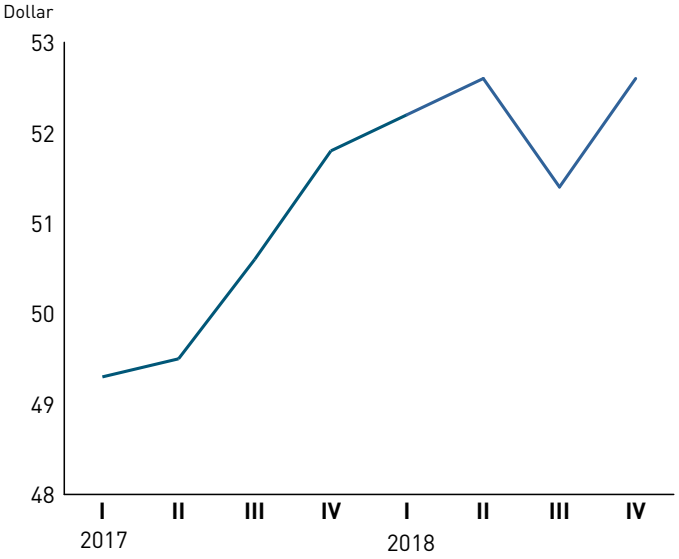
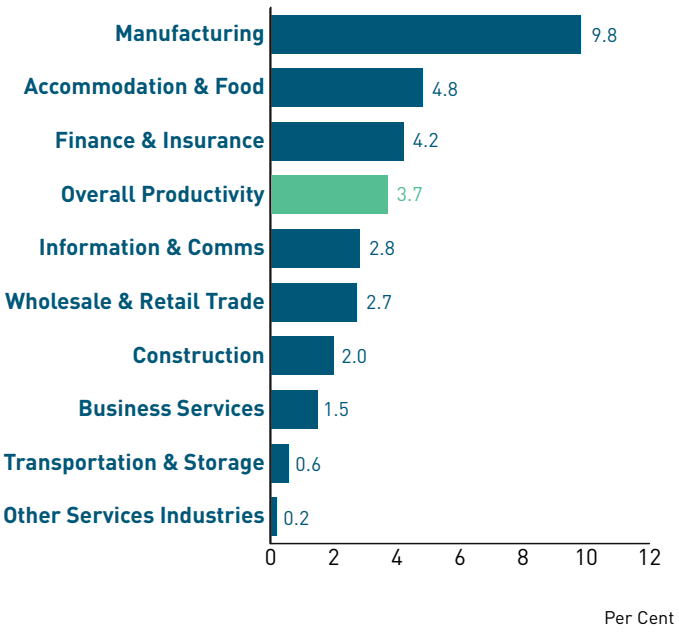


Exhibit 2.6: Changes in Value-Added per Actual Hour Worked by Industry in 2018



Productivity growth of outward-oriented sectors as a whole continued to outperform that of domestically-oriented sectors in the fourth quarter of 2018.[2] Specifically, the productivity of outward-oriented sectors rose by 1.6 per cent, while that of domestically-oriented sectors rose by 1.4 per cent.

For 2018 as a whole, real value-added per actual hour worked rose by 3.7 per cent, lower than the 4.9 per cent growth registered in 2017.[3]

Real Value-Added per Worker

Real value-added per worker grew by 0.6 per cent in the fourth quarter, slower than the 1.4 per cent increase in the preceding quarter.

For 2018 as a whole, real value-added per worker rose by 2.5 per cent, lower than the growth of 4.1 per cent in 2017.

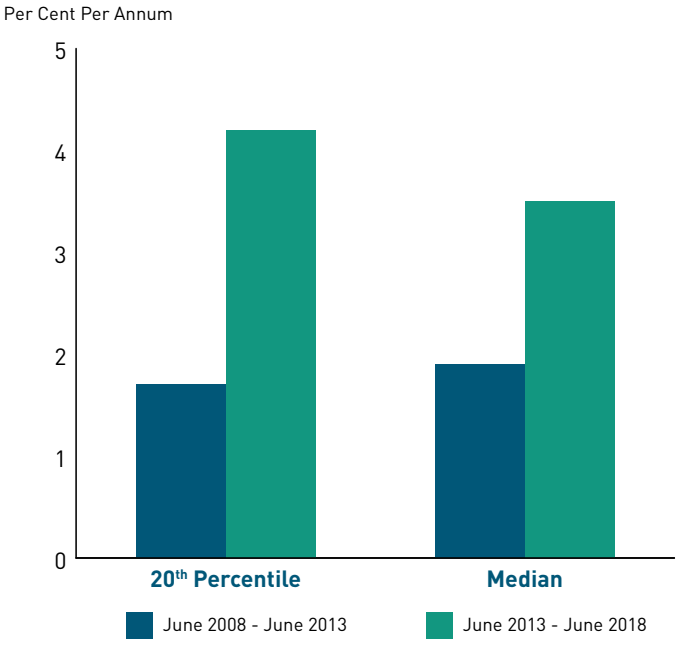
The stronger growth in real value-added per actual hour worked compared to real value-added per worker was due to a larger fall in actual hours worked per worker.

INCOME FROM WORK

Real median gross monthly income of full-time employed residents grew by 3.5 per cent per annum from 2013 to 2018, significantly higher than the 1.9 per cent per annum increase in the preceding five years (2008 to 2013) (Exhibit 2.7).

Over the same period, real income growth at the 20th percentile (4.2 per cent per annum) was higher than at the median (3.5 per cent per annum), thus narrowing the gap with the median worker. The 20th percentile income growth over this period was also significantly higher than in the preceding five years (1.7 per cent per annum).

Exhibit 2.7: Annualised Change in Real Gross Monthly Income from Work of Full-Time Employed Residents



2 *Based on MTI estimates. 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, other business services, and other services industries.*

3 *Based on MTI estimates.*

BOX ARTICLE 2.1

Trends in Productivity Growth as Measured by Real Value-Added (VA) Per Actual Hour Worked (AHW)

INTRODUCTION

Since 2015, MTI has compiled statistics on real VA per actual hour worked (AHW) on an annual basis. To facilitate more timely surveillance of labour input intensity and productivity, MTI has worked with DOS and MOM to compile AHW data on a quarterly basis.

VA per AHW

VA per Worker

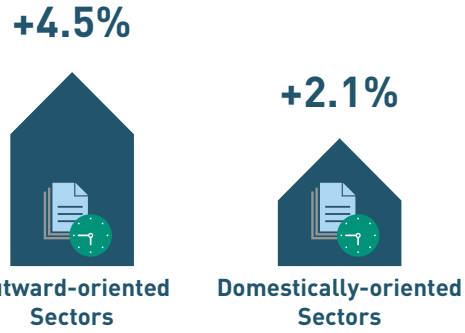
TRENDS IN REAL VALUE-ADDED PER ACTUAL HOUR WORKED

Productivity growth slowed in the second half of 2018 but full-year productivity growth remained healthy.

Real VA per AHW registered stronger growth in the first and second quarters of 2018, at 5.9 per cent and 6.3 per cent respectively. However, on the back of a moderation in economic growth, productivity growth slowed to 1.6 per cent and 1.4 per cent in the third and fourth quarters of 2018 respectively.

Overall productivity growth in 2018 was primarily driven by outward-oriented sectors

Collectively, outward-oriented sectors were the main contributor to overall productivity growth in 2018, posting real VA per AHW growth of 4.5 per cent in the year. By contrast, productivity growth in the domestically-oriented sectors increased at a more moderate pace.



Outward-oriented Sectors

Domestically-oriented Sectors

POLICY TAKEAWAY

In 2018, productivity growth remained healthy, even though there was unevenness across sectors. Over the longer term, it is important that we continue to press on with industry transformation efforts to ensure that productivity growth continues to drive Singapore's economic growth.

TRENDS IN PRODUCTIVITY GROWTH AS MEASURED BY REAL VALUE-ADDED (VA) PER ACTUAL HOUR WORKED (AHW)

Introduction

Internationally, labour productivity can be measured using real value-added (VA) per worker or real VA per hour worked. In Singapore, the more commonly used measure of productivity has been real VA per worker, as both VA and employment data are readily available on a quarterly and annual basis.

Since 2015, MTI has compiled statistics on real VA per actual hour worked (AHW) on an annual basis. This measure is recognised internationally, including by the International Labour Organisation, to be a better measure of labour productivity as AHW captures the intensity of labour input more accurately. Specifically, the measure accounts for changes in employment patterns, such as a rise in part-time work and cyclical changes in the number of hours worked by full-time employees. With these trends having been observed in Singapore in recent years, the measurement of labour input using AHW has become more pertinent in our context (Goh & Lin, 2015).

Previously, AHW statistics were estimated by MTI using data on usual hours worked (UHW) and paid hours worked (PHW) collected by the Ministry of Manpower (MOM), with further adjustments to account for public holidays, annual and sick leave.[1] As UHW data is only available annually, real VA per AHW was thus published on an annual basis.

In order to monitor the intensity of labour input and productivity trends at a higher frequency, MOM, in consultation with MTI and the Department of Statistics (DOS), has started to compile AHW statistics directly through Labour Force Surveys. The quarterly AHW data is available from the first quarter of 2017 onwards, meaning that year-on-year changes in real VA per AHW every quarter can be computed from the first quarter of 2018 onwards.

This article introduces the quarterly real VA per AHW series, and also briefly describes our real VA per AHW performance in 2018. Going forward, real VA per AHW data will be published alongside real VA per worker data on both a quarterly and annual basis.

New quarterly VA per AHW series shows that productivity growth slowed in the second half of 2018...

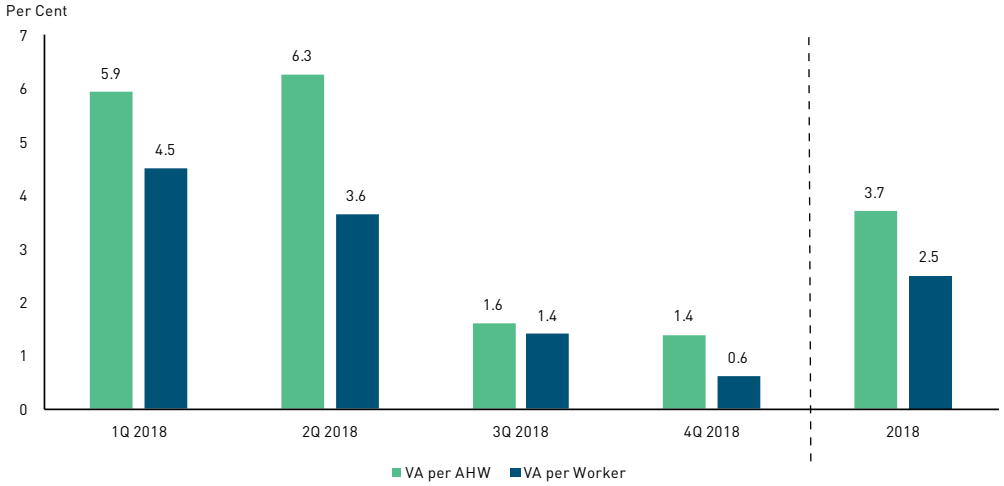
Exhibit 1 shows the changes in real VA per AHW on a year-on-year basis in the four quarters of 2018, along with the changes in real VA per worker over the same period.[2]

It can be seen that similar to real VA per worker, real VA per AHW registered stronger growth in the first two quarters of 2018, at 5.9 per cent and 6.3 per cent respectively, before slowing to 1.6 per cent and 1.4 per cent in the third and fourth quarters of 2018 respectively, on the back of a moderation in economic growth.

1 UHW is defined as the number of hours a person usually works in a typical week, regardless of whether he or she is paid for it, while PHW is defined as the hours for which employees receive payment from their employer, regardless of whether the hours are actually worked. Neither of the measures comprehensively reflects the number of hours worked by the average worker in the economy due to various gaps in coverage. To estimate AHW previously, UHW was used to measure the hours worked by local employees and self-employed, while PHW was used to proxy the hours worked by foreign employees. The data was also adjusted to account for public holidays, annual and sick leave. For more details on the computation of AHW, see Goh & Lin (2015).

2 Real VA per AHW growth is higher than real VA per worker growth during this period because of a fall in AHW per worker. See Annex A for a comparison of real VA per AHW growth and real VA per worker growth over the past five years (i.e., for the period of 2013-2018).

Exhibit 1: Real VA per AHW Growth and Real VA per Worker Growth, 2018



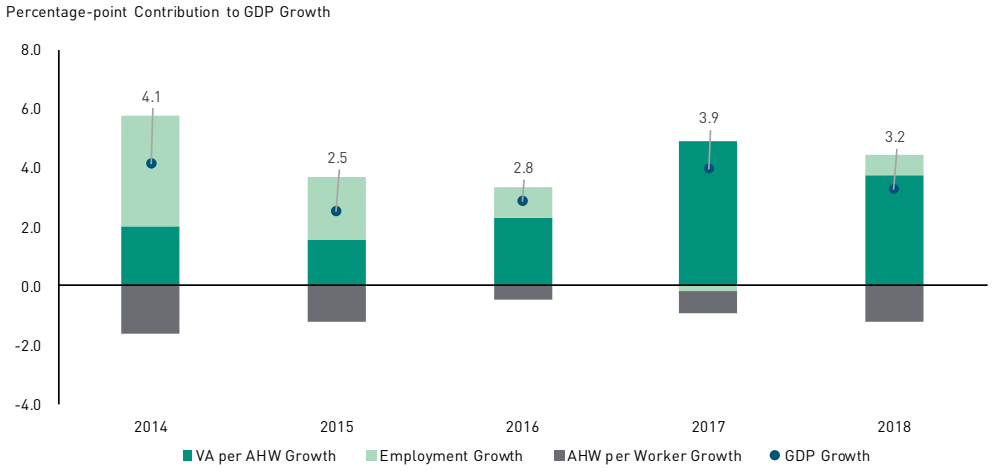
Source: Singapore Department of Statistics and MTI Staff Estimates

...but full-year productivity growth remained healthy and was the main driver of GDP growth in 2018

For 2018 as a whole, real VA per AHW grew at a healthy pace of 3.7 per cent. While this was lower than the 4.9 per cent recorded in 2017, it was higher than the average growth achieved in the preceding five years (1.4 per cent per annum (p.a.) between 2011 and 2016).

In line with this, productivity (real VA per AHW) growth was the main driver of GDP growth in 2018, extending recent trends (see Teo & Ong, 2018).[3] Specifically, we decompose the 2018 GDP growth of 3.2 per cent and find that GDP growth was largely supported by the strong increase in productivity (3.7 per cent) and to a lesser extent, the slight pickup in employment (0.7 per cent) (Exhibit 2). On the other hand, AHW per worker continued to decline in 2018 (-1.2 per cent).

Exhibit 2: Decomposition of GDP Growth, 2014-2018



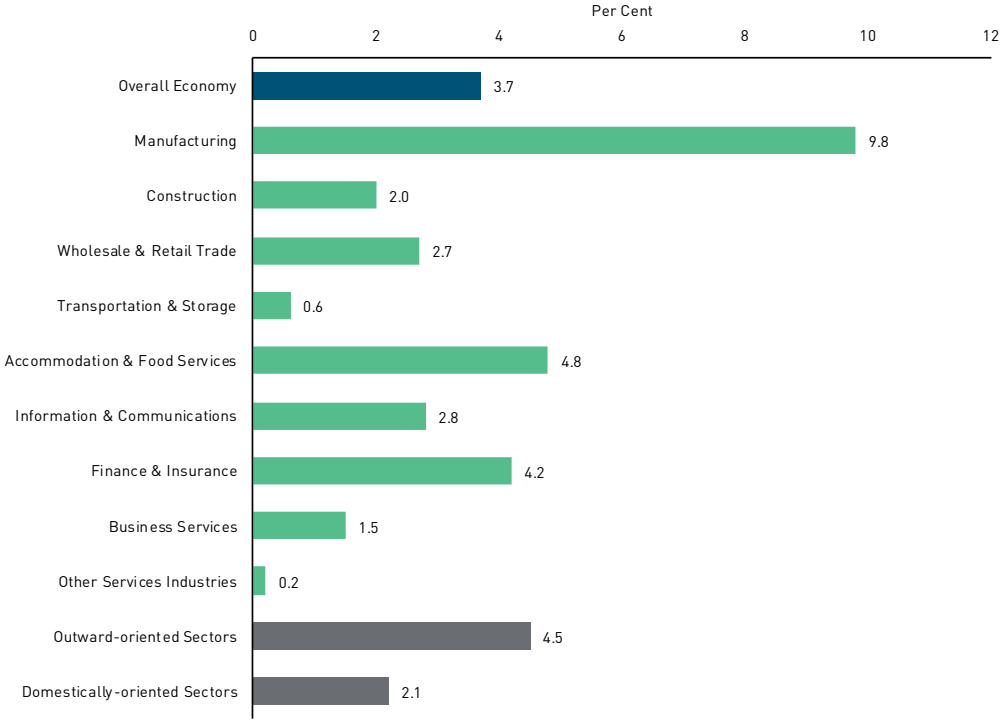
Source: MTI Staff Estimates

3 *GDP growth is approximately the summation of employment growth, labour intensity (AHW per worker) growth and labour productivity (VA per AHW) growth.*

Productivity growth in 2018 was uneven across sectors

In 2018, productivity (real VA per AHW) growth was the strongest in Manufacturing (9.8 per cent), outstripping growth in overall Services (2.2 per cent) and Construction (2.0 per cent). Amongst the Services sectors, the Accommodation & Food Services[4] (4.8 per cent) and Finance & Insurance (4.2 per cent) sectors had the fastest growth. Collectively, outward-oriented sectors were the main contributor to overall productivity growth in 2018, posting real VA per AHW growth of 4.5 per cent during the year (Exhibit 3).[5] By contrast, the productivity of domestically-oriented sectors increased at a more moderate pace of 2.1 per cent, weighed down by Other Services Industries and Retail Trade[6].

Exhibit 3: Broad Sectoral Real VA per AHW Growth, 2018



Source: MTI Staff Estimates

A similar trend was observed over the longer period of 2013 to 2018, where productivity growth of the outward-oriented sectors came in at 3.8 per cent p.a., higher than the 1.7 per cent p.a. registered in the domestically-oriented sectors.

4 *For the Accommodation & Food Services sector, Accommodation (an outward-oriented sector) recorded productivity growth of 6.3 per cent while Food Services (a domestically-oriented sector) registered productivity growth of 2.7 per cent in 2018. Taken over a longer time period, VA per AHW for Accommodation and Food Services grew by 4.4 per cent p.a. and 1.4 per cent p.a. respectively between 2013 and 2018.*

5 *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 Services, Other Business Services and Other Services Industries.*

6 *For the Wholesale & Retail Trade sector, productivity in Wholesale Trade (an outward-oriented sector) and Retail Trade (a domestically-oriented sector) grew by 2.7 per cent and 1.1 per cent respectively in 2018.*

Conclusion

The release of the new quarterly real VA per AHW series facilitates the timely monitoring of the intensity of labour input and productivity trends, and supplements the existing quarterly real VA per worker series.

In 2018, productivity growth remained healthy, even though there was unevenness across sectors. Overall productivity growth was primarily driven by the outward-oriented sectors. The healthy productivity growth has in turn supported GDP growth. Over the longer term, it is important that we continue to press on with industry transformation efforts to ensure that productivity growth continues to drive Singapore's economic growth.

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Economics Division
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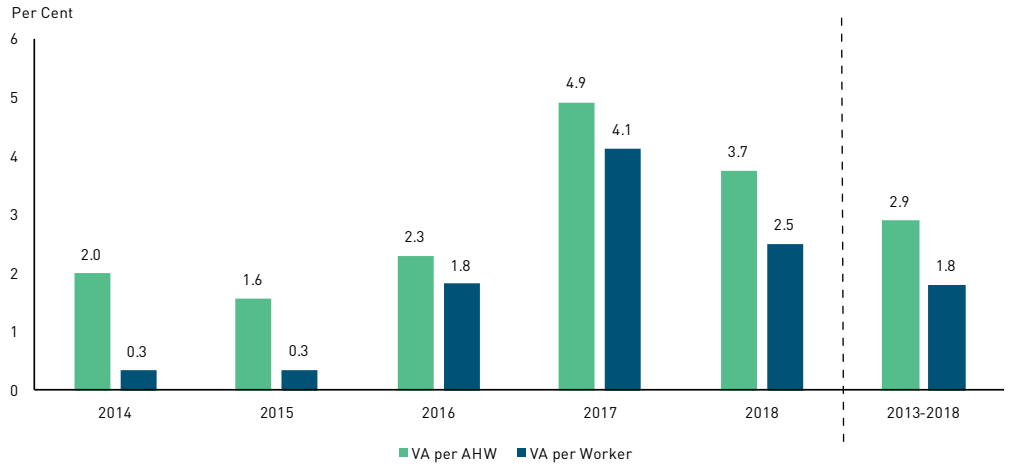
Goh, K., & Lin, T. (2015). Trends in Actual Hours Worked and Implications for Labour Productivity. *Economic Survey of Singapore Second Quarter 2016*, 16-23.

Teo, M., & Ong, M. J. (2018). A Shift-Share Decomposition Analysis of Labour Productivity Growth in Singapore. *Economic Survey of Singapore 2017*, 18-27.

Annex A: Comparison of Real VA per AHW and Real VA per Worker

Between 2013 and 2018, the growth of real VA per AHW (2.9 per cent p.a.) outstripped that of real VA per worker (1.8 per cent p.a.), due to a sustained decline in AHW per worker since 2013 (Exhibit A-1). During this period, AHW per worker fell by 1.1 per cent p.a..

Exhibit A-1: Real VA per AHW Growth and Real VA per Worker Growth, 2013-2018

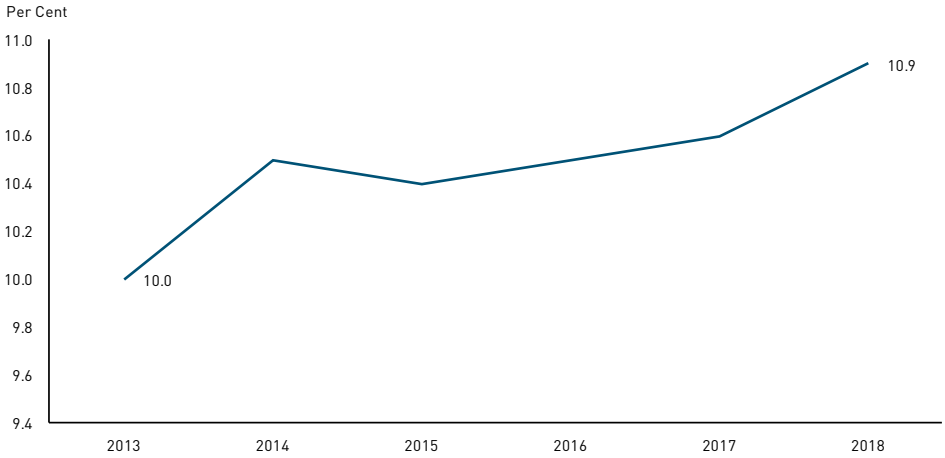


Source: Singapore Department of Statistics and MTI Staff Estimates

The decline in AHW per worker over this period can broadly be attributed to two factors:

- First, the share of part-time employed residents in Singapore's workforce has increased. Between 2013 and 2018, the share of part-time employed residents rose by 0.9 percentage-point (pp), from 10.0 per cent to 10.9 per cent (Exhibit A-2).

Exhibit A-2: Incidence of Part-time Employment among Employed Residents, 2013-2018



Source: Ministry of Manpower

- Second, workers have experienced a fall in the number of hours worked per week on average. Between 2013 and 2018, UHW for resident full-time workers fell from 48.0 hours to 45.8 hours, while that for resident part-time workers declined from 21.5 hours to 20.9 hours. Similarly, PHW, which covers both resident and foreign workers, fell from 46.2 hours in 2013 to 44.9 hours in 2018[7].

7 *Based on PHW in the first nine months of 2018.*

CHAPTER 3

COSTS, INVESTMENTS AND PRICES

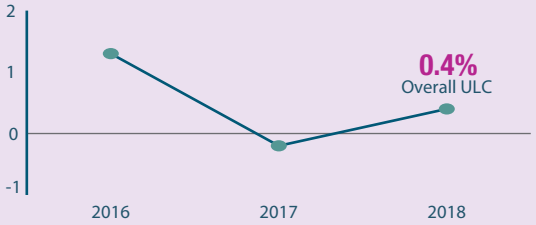
CHAPTER 3

COSTS, INVESTMENTS AND PRICES

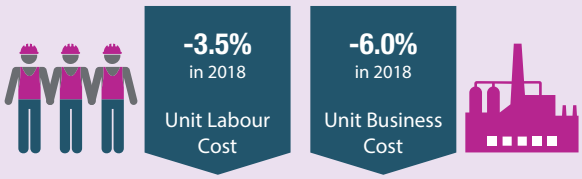
INVESTMENT COMMITMENTS IN 2018

Fixed Asset Investment Commitments	Total Business Expenditure Commitments
$10.9 billion	$6.2 billion

OVERALL UNIT LABOUR COST

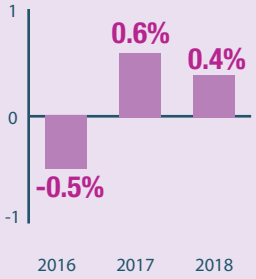


WITHIN THE MANUFACTURING SECTOR

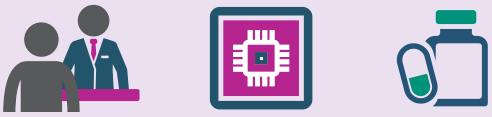


The Consumer Price Index (CPI) increased by 0.4% in 2018

CPI-ALL ITEMS INFLATION



CLUSTERS THAT ATTRACTED THE HIGHEST FIXED ASSET INVESTMENT COMMITMENTS



Services Clusters | Electronics | Biomedical Manufacturing

CLUSTERS THAT ATTRACTED THE HIGHEST TOTAL BUSINESS EXPENDITURE COMMITMENTS

Research & Development | Infocommunications & Media | Headquarters & Professional Services

THE INCREASE IN CPI WAS MAINLY DRIVEN BY INCREASES IN PRICES OF...

Food	Education
+0.3% point contribution	+0.2% point contribution

BUT THIS WAS PARTIALLY OFFSET BY DECLINES IN PRICES OF...

Housing & Utilities	Transport
-0.3% point contribution	-0.1% point contribution

OVERVIEW

Overall Unit Labour Cost (ULC) rose by 1.3 per cent on a year-on-year basis in the fourth quarter of 2018, similar to the increase in the preceding quarter. For the whole of 2018, the ULC rose by 0.4 per cent, a reversal from the 0.2 per cent decline in 2017.

Total investment commitments in the manufacturing and services sectors remained healthy in 2018. The services clusters attracted the largest amount of commitments in both fixed asset investments (FAI) and total business expenditure (TBE). Among the services clusters, the infocommunications & media and research & development clusters were the biggest contributors to commitments in FAI and TBE respectively.

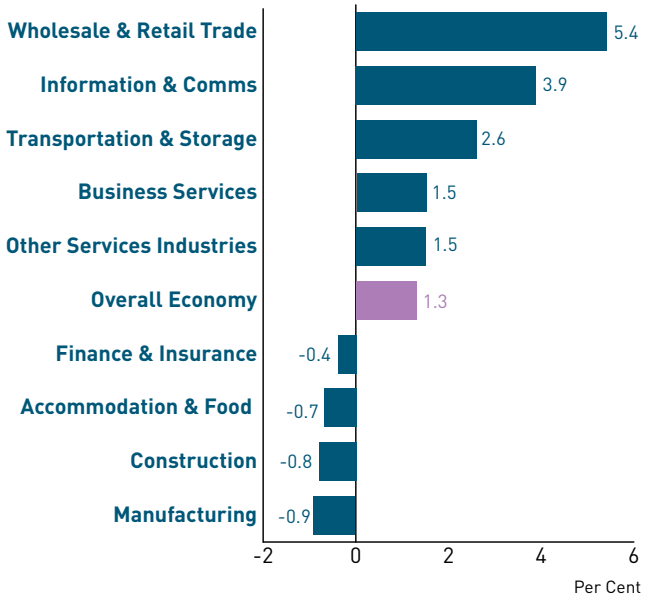
The Consumer Price Index-All Items (CPI-All Items) rose by 0.5 per cent in the fourth quarter on a year-on-year basis, easing from the 0.7 per cent increase in the previous quarter. For 2018 as a whole, CPI-All Items inflation came in at 0.4 per cent, slightly lower than the 0.6 per cent recorded in 2017.

Producer prices, as measured by the domestic supply price index (DSPI), Singapore manufactured products price index (SMPPI) and import prices, rose in the fourth quarter. For 2018 as a whole, the DSPI, SMPPI, import and export price indices increased by 6.4 per cent, 4.4 per cent, 4.9 per cent and 3.2 per cent respectively.

COSTS

Overall ULC for the economy rose by 1.3 per cent year-on-year in the fourth quarter, similar to the preceding quarter, as an increase in total labour cost per worker exceeded labour productivity gains.

Exhibit 3.1: Changes in Unit Labour Cost in 4Q 2018



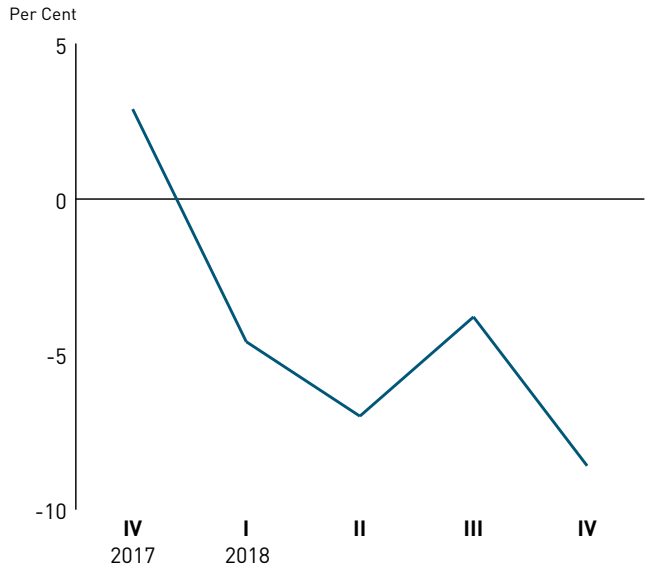
By broad sectors, the ULC for the manufacturing sector declined by 0.9 per cent, the twelfth consecutive quarter of decline. The continued fall in the manufacturing ULC was due to sustained productivity gains in the sector. Construction ULC also fell by 0.8 per cent, extending the 0.7 per cent decline in the preceding quarter.

On the other hand, the ULC for services producing industries rose by 2.3 per cent, slightly higher than the 2.0 per cent increase in the previous quarter. Most services sectors saw increases in their ULCs, with the exception of the accommodation & food services and finance & insurance sectors, where labour productivity gains outweighed the rise in total labour cost per worker.

For the whole of 2018, overall ULC rose by 0.4 per cent as total labour cost per worker increased by more than labour productivity.

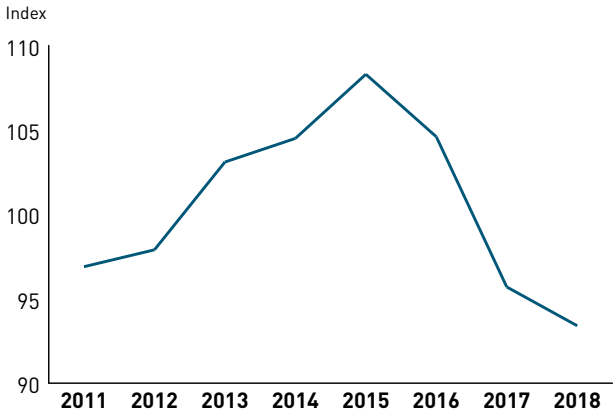
Manufacturing unit business cost (UBC) fell by 8.6 per cent year-on-year in the fourth quarter, extending the 3.8 per cent decline in the previous quarter (Exhibit 3.2). All components of the UBC (i.e., manufacturing ULC, unit services cost and unit non-labour production taxes) decreased during the quarter. For the whole of 2018, the manufacturing UBC fell by 6.0 per cent, a reversal from the 0.3 per cent increase in 2017, on the back of declines in all three components of the UBC.

Exhibit 3.2: Changes in Unit Business Cost for Manufacturing



Singapore's relative unit labour cost (RULC) for manufacturing – a measure of Singapore's competitiveness against 16 economies[1] – declined in 2018 as compared to 2017 (Exhibit 3.3). This came on the back of a fall in Singapore's manufacturing ULC relative to that of the other economies, which outweighed the effect of the appreciation of the Singapore dollar against the trade-weighted currencies of these economies.

Exhibit 3.3: Singapore's Relative Unit Labour Cost in Manufacturing Against Selected 16 Economies[1]

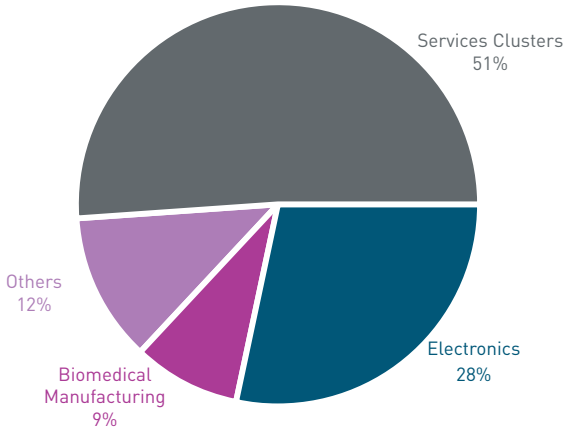


INVESTMENT COMMITMENTS

The Singapore economy received healthy levels of investment commitments in 2018. For the full year, FAI and TBE commitments came in at $10.9 billion and $6.2 billion respectively.

In terms of FAI, the largest contribution came from the services clusters, which garnered $5.6 billion in commitments. Among the services clusters, the infocommunications & media cluster contributed the most to total FAI commitments, with $2.0 billion. Within manufacturing, the electronics cluster attracted the largest amount of commitments, at $3.1 billion, followed by the biomedical manufacturing cluster at $949 million (Exhibit 3.4). Investors from the United States were the largest source of FAI commitments with $5.5 billion (50 per cent). They were followed by investors from Europe who contributed about $2.4 billion of FAI commitments (22 per cent).

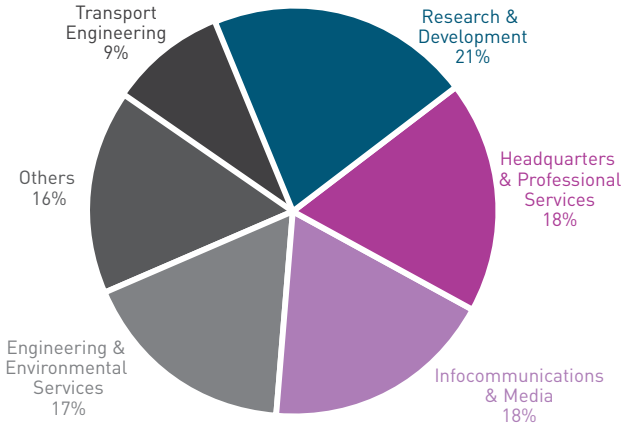
Exhibit 3.4: Fixed Asset Investments by Industry Clusters in 2018



Similar to FAI, the services clusters attracted the highest amount of TBE commitments, at $4.9 billion. This was driven by the research & development cluster, which garnered $1.3 billion in TBE commitments, followed by the infocommunications & media cluster, with $1.1 billion. Among the manufacturing clusters, the transport engineering cluster contributed the highest amount of TBE commitments, at $562 million (Exhibit 3.5). Investors from Singapore accounted for the most of total TBE commitments, at $1.8 billion (30 per cent), followed by investors from Europe, at $1.3 million (21 per cent).

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.*

Exhibit 3.5: Total Business Expenditure by Industry Clusters in 2018

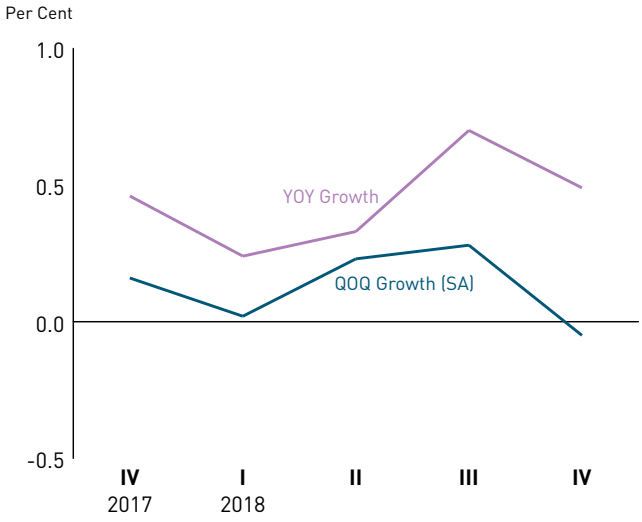


When fully operational, these FAI and TBE commitments are estimated to generate $13.6 billion of value-added per annum and create approximately 17,417 jobs.

CONSUMER PRICE INDEX

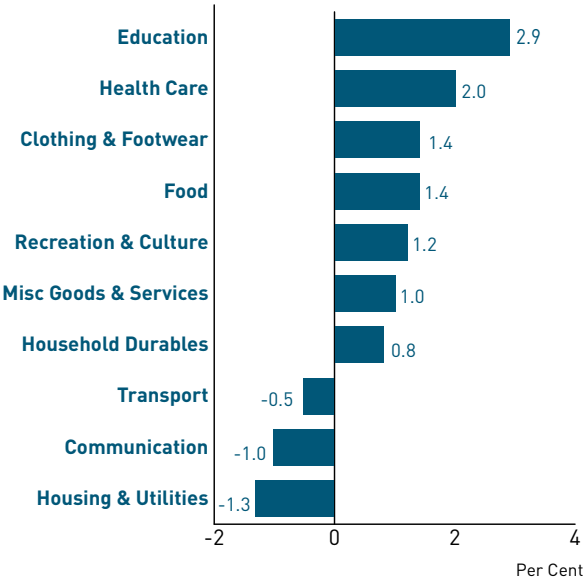
Singapore's CPI-All Items increased by 0.5 per cent on a year-on-year basis in the fourth quarter, easing from the 0.7 per cent rise in the third quarter (Exhibit 3.6). On a quarter-on-quarter seasonally-adjusted basis, the CPI-All items remained unchanged, moderating from the 0.3 per cent increase in the previous quarter.

Exhibit 3.6: Changes in Overall CPI



For 2018 as a whole, CPI-All Items inflation came in at 0.4 per cent, slightly lower than the 0.6 per cent recorded in 2017. Among the CPI categories, the largest positive contributor to CPI inflation was food, with prices rising by 1.4 per cent (Exhibit 3.7) on the back of price increases for food servicing services like hawker food and restaurant meals, as well as non-cooked food items such as fish & seafood, breads & cereals, fruits, and milk, cheese & eggs.

Exhibit 3.7: Changes in CPI by Category in 2018



Education costs increased by 2.9 per cent as a result of higher fees at kindergartens & childcare centres, universities and commercial institutions. Healthcare costs went up by 2.0 per cent due to more expensive hospital and outpatient services. Recreation and culture costs climbed by 1.2 per cent on the back of a rise in the cost of holiday travel. Prices of miscellaneous goods and services increased by 1.0 per cent as the result of an increase in cigarette prices. Clothing and footwear costs rose by 1.4 per cent due to more expensive footwear and ready-made garments. Prices of household durables and services increased by 0.8 per cent because of an increase in the salaries of foreign maids.

The price gains in these CPI categories were partially offset by declines in other categories. The costs of housing and utilities fell by 1.3 per cent as a decline in accommodation costs more than offset higher electricity tariffs, water price and housing maintenance charges. Transport costs decreased by 0.5 per cent as a fall in the prices of cars and bus & train fares outweighed higher petrol prices. Communication costs fell by 1.0 per cent due to a drop in the prices of telecommunication services and equipment.

PRODUCER PRICE INFLATION

Producer prices - as measured by the DSPI and SMPPI - as well as the import price index rose in the fourth quarter (Exhibits 3.8 and 3.9). This was largely due to a rise in the prices of diesel fuel, kerosene and chemical compounds. Likewise, the export price index increased on account of a pickup in the prices of bunker fuel, high speed diesel fuel and diesel fuel.

For the whole of 2018, the DSPI and SMPPI rose by 6.4 per cent and 4.4 per cent respectively, mainly on account of an increase in the prices of diesel fuel and kerosene. Similarly, the rise in the prices of diesel fuel and high speed diesel fuel contributed to the bulk of the increase in import prices (4.9 per cent) and export prices (3.2 per cent).

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

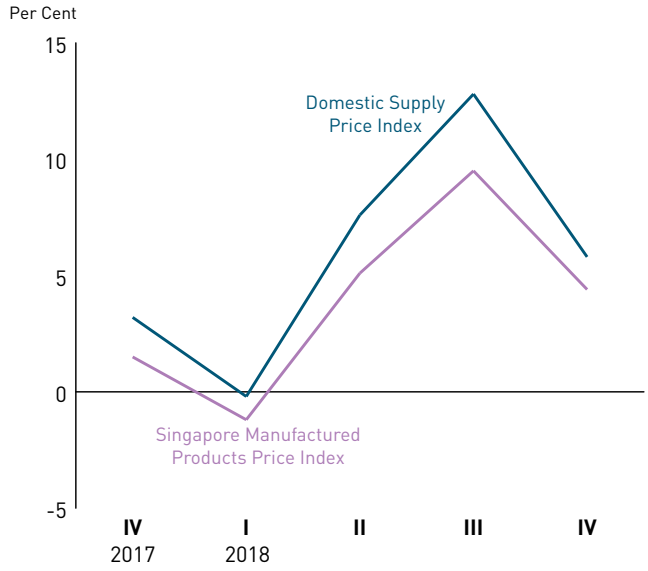
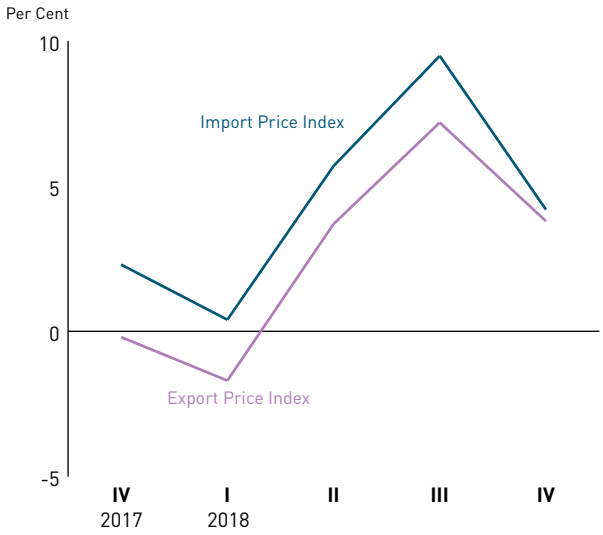


Exhibit 3.9: Changes in Import and Export Price Indices



BOX ARTICLE 3.1

Business Cost Conditions in Singapore's Manufacturing and Services Sectors

OVERVIEW

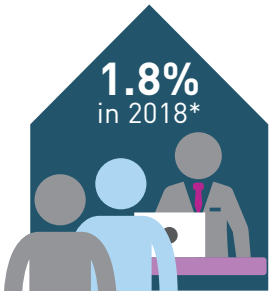
In 2018, the unit business cost (UBC) for the manufacturing sector fell, while the UBC for the overall services sector saw an uptick.

Definition of UBC

Total Business Cost

Gross Real Value-Added

UBC for Manufacturing



UBC for Services

*Refers to first 3 quarters of 2018

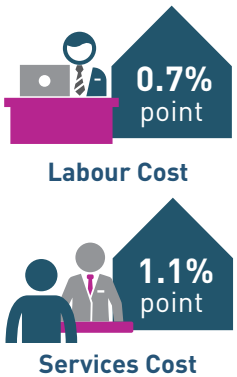
KEY DRIVERS

The fall in the manufacturing UBC in 2018 was on account of declines in both the unit labour cost and the unit services cost.

Contribution to Manufacturing UBC in 2018

Meanwhile, unit labour cost and other services cost contributed positively to the increase in the services UBC.

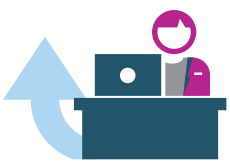
Contribution to Services UBC in 2018



OUTLOOK

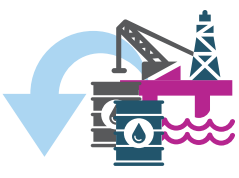
Looking ahead, the unit labour cost for the overall economy and rentals in certain segments are expected to face upward pressures, while utilities cost is likely to moderate.

UNIT LABOUR COST



Wage growth expected to remain firm

UTILITIES COST



Lower global oil prices

RENTAL COST

Office rentals likely to increase

BUSINESS COST CONDITIONS IN SINGAPORE'S MANUFACTURING AND SERVICES SECTORS

This article presents the business cost structure of the manufacturing and services sectors, recent trends in business costs, as well as the outlook for the key components of business costs.

(I) Business Cost Structure of Manufacturing and Services Sectors[1]

Labour cost, royalty payments and "others" are the main components of business costs in the manufacturing sector; similarly, labour cost constitutes a major cost component in the services sector

For firms in the manufacturing sector, labour cost, royalty payments[2] and "others"[3] constitute the main components of business costs. Collectively, they account for around 75 per cent of the business costs of small- and medium-sized enterprises (SMEs) and 67 per cent of the business costs of non-SMEs in the sector.

Similarly, labour cost is a major cost component for firms in the services sectors, with its share of business costs ranging from around 13 per cent for firms in the transportation & storage sector, to around 40 per cent or more for firms in labour-intensive sectors such as accommodation, food services and retail.

For firms in both manufacturing and services sectors, non-labour production taxes[4] (e.g., property, road and other indirect taxes) account for a small share of business costs, at less than 1 per cent for SMEs and non-SMEs in most sectors. Please see further details in Annex A.

(II) Unit Business Cost in the Manufacturing and Services Sectors

Between 2013 and 2018, unit business cost in the manufacturing sector declined, while unit business cost in the overall services sector rose marginally

As business costs tend to increase when firms produce a higher level of output to meet demand, a more pertinent concept is unit business cost, which measures the business costs incurred to produce one unit of output.

Over the five-year period from 2013 to 2018, the unit business cost index for the manufacturing sector (UBCI) fell by 1.8 per cent per annum on a compound annual growth rate (CAGR) basis, driven in part by the sharp decline of 6.0 per cent seen in 2018 (Exhibit 1). On the other hand, the unit business cost index for the overall services sector (UBC-Services Index) increased marginally, by 0.3 per cent per annum over the same period.[5] Within the period, the UBC-Services Index dipped in 2015 and 2016, before picking up in 2017 and 2018. For the first three quarters of 2018[6], the UBC-Services Index rose by 1.8 per cent compared to the same period a year ago (Exhibit 2).

1 *Only operating expenses (except material costs and depreciation) are included in business costs. This follows the definition adopted by the Department of Statistics (DOS) in its computation of the Unit Business Cost for Manufacturing. See DOS' Information Paper, "Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)".*

2 *Royalty payment refers to payments to another party (the licensor or franchisor who owns a particular asset) for the right to ongoing use of that asset.*

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

4 *"Government Rates and Fees" has been renamed as "Non-Labour Production 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 excluded. For details, refer to information paper on "Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)" http://www.singstat.gov.sg/docs/default-source/default-documentlibrary/publications/publications_and_papers/labour_employment_wages_and_productivity/ip-e39.pdf.*

5 *The UBC-Services Index is estimated by MAS to assess cost conditions in the services sector. It is a composite index of proxy cost indicators for each component of business cost, combined using the weights derived from the 2013 Input-Output tables.*

6 *Latest available UBC-Services Index is up to 3Q18.*

Exhibit 1: Manufacturing Sector's UBCI and Services Sector's UBC-Services Index

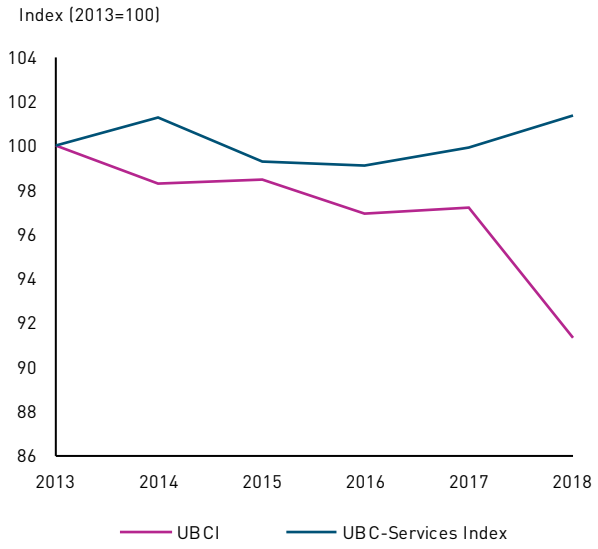
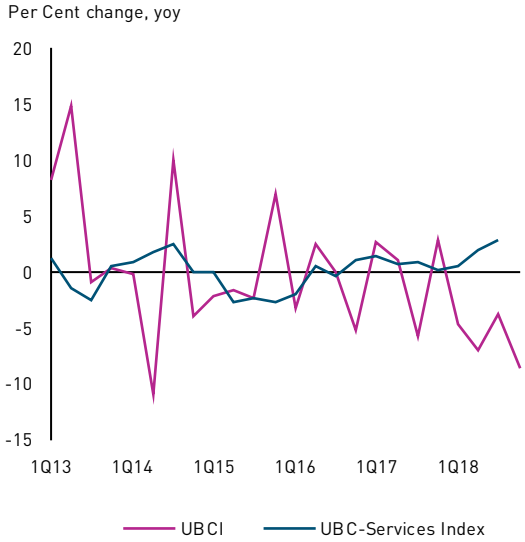


Exhibit 2: Year-on-Year (YoY) % Change of the UBCI and UBC-Services Index



Source: Department of Statistics, Monetary Authority of Singapore
Note: The UBC-Services Index for 2018 refers to the average of the first three quarters.

Labour cost, royalty payments and "others" were the key contributors to unit business cost changes in the manufacturing sector over the last five years

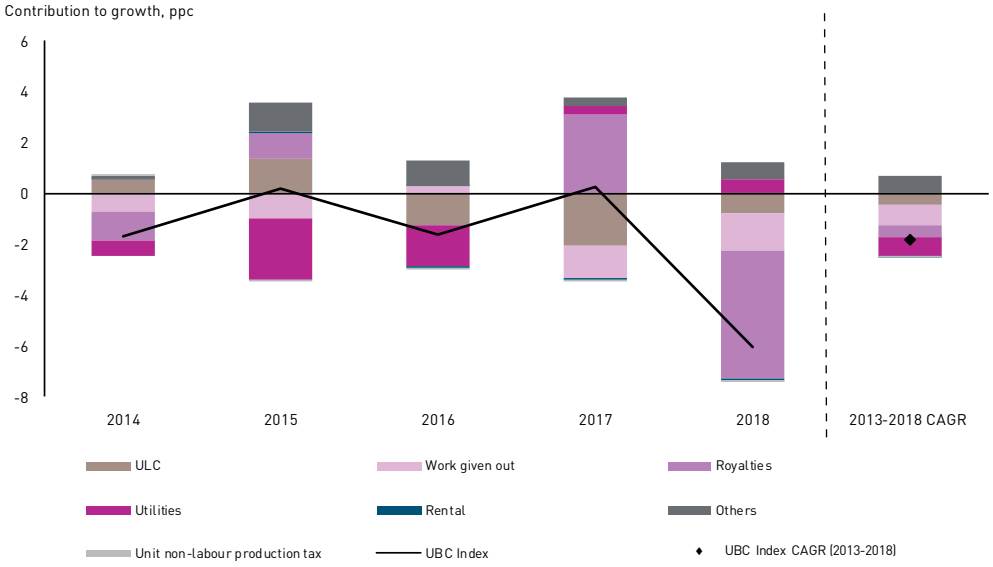
As labour cost, royalty payments and "others" account for a large share of business costs in the manufacturing sector, they were some of the key contributors to manufacturing UBCI changes in the past five years (Exhibit 3). In particular, the manufacturing unit labour cost (ULC) has contributed to the fall in UBCI since 2016, as it has been on a decline on the back of strong productivity gains in the sector. Royalty payments, which tend to be volatile, contributed significantly to the increase in UBCI in 2017, but a sharp fall in 2018 led to a large contribution to the decline in the UBCI for the year.[7] On the other hand, the "others" segment, which includes payments for professional fees and advertising, contributed positively to the UBCI across all five years.

Despite its relatively small share in business costs, utilities cost was also a key contributor to manufacturing UBCI changes over the five-year period due to the sharp changes in oil prices. For instance, in 2015, utilities cost had a negative contribution of -2.4 percentage-points (pp) to the 0.2 per cent increase in UBCI due to the steep decline in global oil prices, as well as greater competition in the wholesale and retail electricity markets with new generation capacity. By contrast, in 2018, utilities cost contributed a positive 0.5pp to the UBCI, in part due to higher global oil prices which led to a rise in electricity tariffs, although this was more than offset by declines in other cost components with the UBCI falling by 6.0 per cent.[8]

Overall, for the five-year period from 2013 to 2018, the 1.8 per cent per annum decline in the manufacturing UBCI was primarily due to lower manufacturing ULC as well as unit services cost components such as royalty payments and utilities, which collectively contributed 1.6pp to the decline. On the other hand, the "others" segment (0.7pp) contributed positively to the UBCI over the same period. The rest of the cost components like rentals and non-labour production taxes had a relatively small impact on business costs due to their low share of business costs.

7 There could be many reasons for changes in royalty payments. For instance, royalty payments vary with company-specific licence agreements which could differ from year to year. Also, royalties are usually computed as a percentage of sales, which could be volatile each year.
8 The UK Brent spot prices fell by 2.8 per cent in 2013, 9.1 per cent in 2014, 47 per cent in 2015, and 16 per cent in 2016. By contrast, it rose by 23 per cent in 2017 and 31 per cent in 2018.

Exhibit 3: Contribution to Manufacturing UBCI Changes by Key Cost Components



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

For the overall services sector, the average increase in the UBC-Services Index between 2013 and 2018 (i.e., 0.3 per cent per annum) was mainly due to a rise in the ULC in the sector, while other services costs – which include rentals and utilities – contributed negatively to the increase. Specifically, the contribution of ULC to the overall increase in UBC-Services Index was 0.7pp, which more than offset the negative contribution of other services costs (-0.5pp).[9] For the first three quarters of 2018, both the ULC (0.7pp) and other services costs (1.1pp) contributed positively to the increase in the UBC-Services Index (i.e., 1.8 per cent year-on-year).

(III) Recent Trends and Outlook for Key Cost Components

Remuneration growth outpaced labour productivity growth and led to an increase in the overall ULC over the last five years

From 2013 to 2018, the overall ULC for the economy rose by 1.5 per cent per annum. This came on the back of a 3.2 per cent per annum increase in total labour cost (TLC) per worker and a more moderate 1.8 per cent per annum increase in labour productivity (Exhibit 4).[10]

In turn, the increase in TLC per worker was primarily due to higher remuneration per worker. Over the last five years, remuneration per worker rose by 3.2 per cent per annum, contributing 3.2pp to the rise in TLC per worker. By contrast, the rise in foreign worker levy (FWL) only accounted for 0.1pp of the increase in TLC per worker, and its effect was completely offset by the wage subsidies per worker provided by the Government.[11]

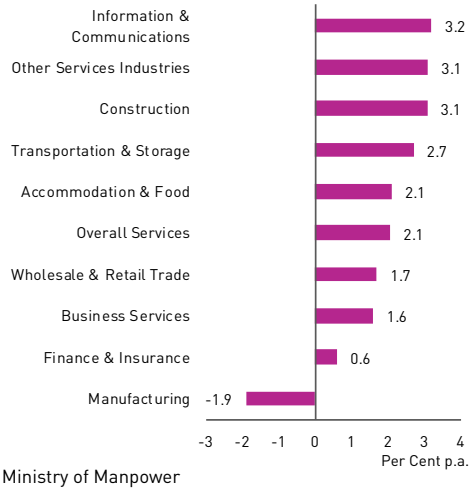
9 Detailed cost component breakdowns for the UBC-Services Index are not available.
10 An increase in TLC per worker raises the ULC, while an increase in labour productivity reduces the ULC. The TLC comprises remuneration and other labour-related costs, including the skills development levy, foreign worker levy, wage subsidies, and recruitment and net training cost.
11 Examples of wage subsidies provided to companies include the Special Employment Credit and the Wage Credit Scheme. These subsidies are generally applicable only for the Singaporean workers hired by these companies.

At the sectoral level, most sectors registered ULC increases in recent years (Exhibit 5). The ULC for the overall services sector rose by 2.1 per cent on a CAGR basis from 2013 to 2018, in part due to remuneration growth outpacing labour productivity growth. Among the services sectors, the increase in ULC tends to be larger for sectors with relatively weaker productivity growth, such as other services (3.1 per cent per annum) and accommodation & food services (2.1 per cent per annum). Consistent with the earlier analysis on the manufacturing UBCI, the manufacturing ULC declined by 1.9 per cent on a CAGR basis from 2013 to 2018 on account of strong productivity gains in the sector since 2016.

Exhibit 4: Decomposition of ULC Growth for Overall Economy, 2013-2018 CAGR

	2013-2018 CAGR (% p.a.)
ULC	**1.5**
TLC per worker	**3.2**
Remuneration per worker	3.2pp
FWL per worker	0.1pp
Wage subsidies per worker	-0.1pp
Other labour costs	0.0pp
Gross real labour productivity*	**1.8**

Exhibit 5: ULC Growth by Sectors, 2013-2018 CAGR



Source: MTI Staff estimates using data from Department of Statistics and Ministry of Manpower
Note: Labour productivity is measured as gross value-added per worker in this decomposition as remuneration is on a per worker basis.

For 2019, the overall ULC for the economy is likely to continue to experience upward pressures. This is because wage growth is expected to remain firm on the back of stable labour market conditions, while productivity growth could ease in tandem with the expected slowdown in economic growth.

Over the longer term, it is important to press ahead with efforts to ensure that productivity growth is sustained, so as to maintain wage growth without eroding our cost competitiveness.

Industrial rentals are expected to stabilise this year, while the outlook for the rental of commercial space is mixed

From 2013 to 2018, industrial rentals fell by 2.8 per cent per annum, mainly due to a sustained decline in rentals since the third quarter of 2014 (Exhibit 6). For 2018 as a whole, industrial rentals registered a marginal drop of 0.3 per cent, moderating from the 2.8 per cent decline in 2017. The relatively stable rentals in 2018 came on the back of a higher occupancy rate of industrial space (Exhibit 7), which was partly due to a lower supply of new industrial space injected into the market during the year (1.3 million gross square metres) as compared to 2017 (2.1 million gross square metres).

For 2019, the supply of industrial space coming on-stream is projected to pick up slightly from 2018's level, but still be lower when compared to the historical annual average increase prior to 2018. Specifically, an additional 1.5 million gross square metres of industrial space is expected to be completed within the year as compared to the annual average increase of 2.3 million gross square metres completed between 2013 and 2017 (Annex B, Exhibit B1). Against this backdrop, industrial rentals are likely to stabilise in tandem with occupancy rates in the year ahead.

Exhibit 6: Industrial Rental Index

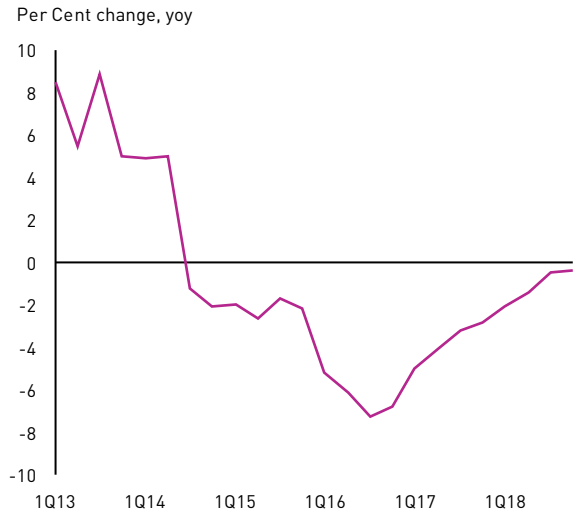
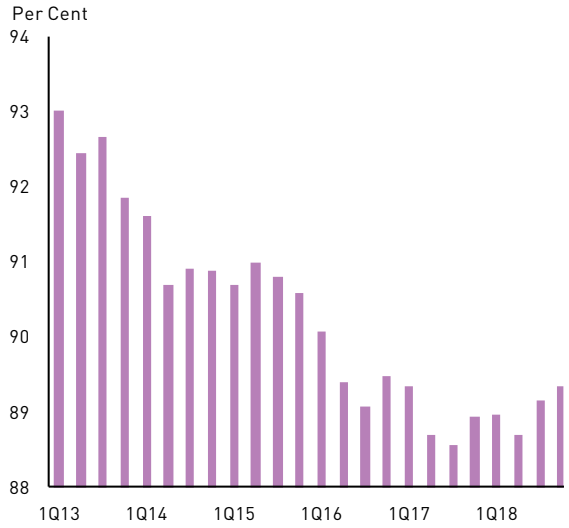


Exhibit 7: Industrial Occupancy Rate



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

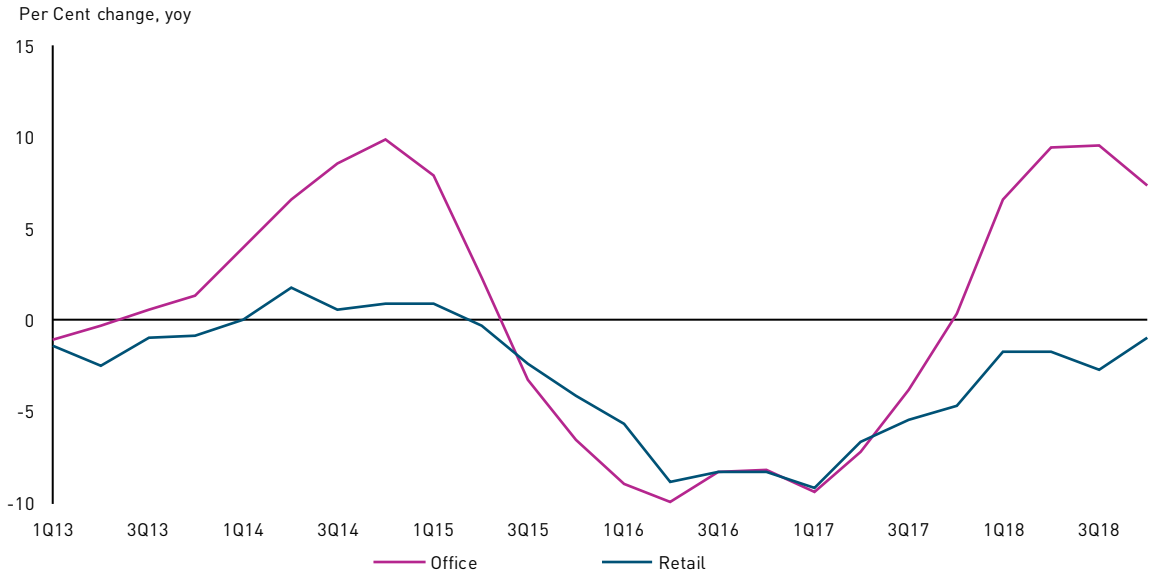
As for commercial space, the rentals of office space increased slightly by 0.3 per cent per annum between 2013 and 2018 (Exhibit 8). Within the period, office rentals saw significant declines between 2015 and 2017, before registering an increase in 2018. For 2018, office rentals rose by 7.4 per cent on the back of strong leasing demand.

For 2019, office rentals are expected to continue to rise, albeit at a more modest pace as compared to 2018 given the weaker economic outlook and increased uncertainties in the global economy. On balance, the demand for office space is likely to be supported by the expansions of IT and Fintech firms as well as co-working space operators. Meanwhile, the supply of office space is expected to taper in 2019, with 0.11 million gross square metres of office space expected to come on-stream within the year, lower than the annual average increase of 0.25 million gross square metres completed between 2013 and 2018 (Annex B, Exhibit B2).

For the retail space market, retail rentals fell by 3.5 per cent per annum between 2013 and 2018 on the back of a sustained decline in retail rentals since the second quarter of 2015. For 2018 as a whole, retail rentals decreased at a more modest pace of 1.0 per cent, in part due to improvements in leasing demand.

For 2019, the rental outlook for the retail space market remains cautious as the retail sector continues to face competition from e-commerce, while the weaker economic environment may weigh on consumer sentiments and spending. The healthy supply of retail space coming on-stream in 2019 is also expected to exert some downward pressure on retail rentals. In particular, 0.18 million gross square metres of retail space are expected to come on-stream within the year, compared to the annual average increase of 0.23 million gross square metres completed between 2013 and 2018.

Exhibit 8: Office and Retail Rental Indices



Source: Urban Redevelopment Authority

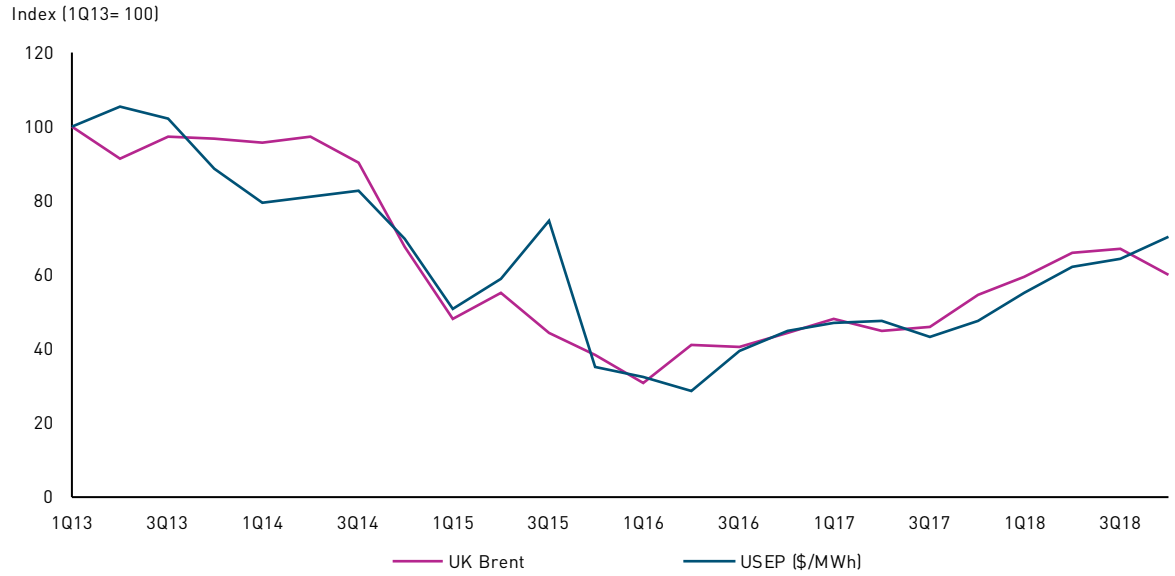
Costs of utilities, fuel and transportation are likely to moderate in 2019 on the back of lower global oil prices

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

Between 2013 and 2018, the average wholesale electricity price fell by 8.7 per cent per annum, in tandem with a general decline in global oil prices and increased competition in the wholesale and retail electricity markets (Exhibit 9).[14] However, global oil prices have been volatile in recent months, climbing to a high of US$85 per barrel (/bbl) in October 2018 before falling to US$52/bbl by the end of 2018. For 2018 as a whole, oil prices averaged US$71/bbl. While oil prices are likely to remain volatile in the near term, the US Energy Information Administration's current forecast is for oil prices to average US$61/bbl in 2019,[15] which is lower than the 2018 average. The drop in oil prices is likely to translate to lower utilities, fuel and transportation costs in 2019. Meanwhile, the carbon tax – which came into effect in January 2019 – is expected to only have a limited impact on these costs.

12 Electricity cost accounts for 85 per cent of utilities cost in the manufacturing sector.
13 About 95 per cent of our electricity is generated from natural gas, the price of which is indexed to oil prices. This is the common market practice in Asia. As fuel cost is a key cost component accounting for around half of the electricity tariff, the tariff moves in tandem with oil prices.
14 The Uniform Singapore Energy Price (USEP) is the average wholesale energy price in the National Electricity Market of Singapore (NEMS).
15 EIA Short-Term Energy Outlook Report, 12 February 2019

Exhibit 9: Global Oil Prices and Uniform Singapore Energy Prices



Source: International Monetary Fund, CEIC, Energy Market Company

Conclusion

Over the five-year period of 2013 to 2018, the unit business cost for the manufacturing sector fell, mainly on account of declines in the manufacturing ULC, royalty payments and utilities cost, which collectively more than offset the increase in the cost of "others" (e.g., advertising and professional fees). For 2018, the unit business cost for the manufacturing sector declined, primarily due to decreases in the manufacturing ULC and royalty payments even as the cost of "others" increased. Meanwhile, the unit business cost for the overall services sector rose marginally between 2013 and 2018, as the decline in other services costs was more than offset by the increase in ULC in the sector. For 2018, the unit business cost for the overall services sector rose, mainly on the back of increases in the ULC and other services costs.

Looking ahead, the overall ULC for the economy is likely to continue to face upward pressures. This is because wage growth is expected to remain firm on the back of stable labour market conditions, while productivity growth could ease in line with the expected slowdown in economic growth. At the same time, rental costs in certain segments are expected to increase in 2019. Meanwhile, lower global oil prices are likely to translate to a moderation in the costs of utilities, fuel and transportation.

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ANNEX A: BUSINESS COST STRUCTURE OF MANUFACTURING AND SERVICES SECTORS

Manufacturing Sector

In the manufacturing sector, labour cost, royalty payments and "others" constitute the largest components of business costs. These three components account for around 75 per cent of the business costs of small- and medium-sized enterprises (SMEs) and 67 per cent of the business costs of non-SMEs in the sector.

The other services cost components, including utilities, fuel, rental of building/premises and charges paid to other firms for inland transportation and ocean/air/other freight, make up a smaller share of business costs, at 13 per cent for non-SMEs and 6.6 per cent for SMEs. Notably, non-labour production taxes, which include property, road and other indirect taxes, account for around 0.4 per cent of the business costs of SMEs and non-SMEs in the sector.

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

Services Sector

Similarly, labour cost constitutes a major cost component for firms in the services sectors, with its share of business costs ranging from around 13 per cent for firms in the transportation & storage sector, to around 40 per cent or more for firms in labour-intensive sectors such as accommodation, food services and retail. Across all services sectors, except for the accommodation and transportation & storage sectors, the labour cost share of business costs is larger for SMEs than for non-SMEs.

On the other hand, utilities cost is a relatively small cost component for firms in the services sectors, accounting for less than 2 per cent of the business costs of firms in most sectors. Key exceptions are the firms in the accommodation and food services sectors, where utilities cost constitutes up to 5 per cent of their business costs. Similarly, rental cost accounts for a small share of the business costs of firms in most services sectors. Key exceptions include the retail, accommodation and food services sectors, where the rental cost share of business costs for SMEs is 29 per cent, 16 per cent and 30 per cent respectively.

Like in the manufacturing sector, non-labour production taxes account for less than 1 per cent of the business costs of firms in most services sectors. Even for the accommodation and business services sectors, where the share of non-labour production taxes is the highest, it is at around 3 per cent or less.

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, 2017

	Total		Electronics		Chemicals		Biomedical Manufacturing		Precision Engineering		Transport Engineering		General	
	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs	Non-SMEs	SMEs
Labour Cost	**20.6**	**21.8**	**16.3**	**2.2**	**17.0**	**27.9**	**23.6**	**12.7**	**15.9**	**43.0**	**42.0**	**38.8**	**43.9**	**49.4**
Services Cost	**79.0**	**77.9**	**83.5**	**97.7**	**82.1**	**71.0**	**76.1**	**87.1**	**83.9**	**56.5**	**57.1**	**60.8**	**55.2**	**49.7**
Work given out	19.7	17.7	32.5	18.2	6.3	4.1	4.1	14.6	5.2	16.3	33.8	40.7	6.1	12.3
Royalties payments	24.3	34.8	19.4	60.9	5.8	4.1	47.0	48.4	57.2	20.6	3.5	0.9	4.9	1.4
Utilities	3.6	1.7	2.9	0.1	10.1	8.8	1.3	0.9	0.9	2.0	1.7	0.9	6.0	2.8
Fuel	5.5	0.8	1.0	0.0	29.2	6.4	0.5	0.3	0.1	0.2	0.3	0.6	2.8	0.9
Rental of building/ premises	0.8	1.7	0.5	0.2	0.8	2.0	0.7	0.9	0.5	2.8	1.5	2.4	4.1	5.2
Charges paid to other firms for inland trans-portation and ocean/ air/ other freight	2.6	2.4	1.4	0.3	5.6	13.7	1.5	1.7	2.7	2.1	1.6	1.0	6.6	4.1
Others	22.5	18.7	25.8	18.0	24.3	32.0	20.9	20.3	17.4	12.5	14.8	14.2	24.7	23.1
Non-Labour Production Taxes	**0.4**	**0.4**	**0.2**	**0.0**	**0.9**	**1.1**	**0.3**	**0.2**	**0.2**	**0.6**	**0.9**	**0.5**	**0.9**	**0.9**

Note: SMEs refer to enterprises with operating receipts of not more than $100 million or employment of not more than 200 workers. Non-SMEs refer to enterprises with operating receipts of more than $100 million and employment of more than 200 workers.
Source: Economic Development Board

Exhibit A2: Business Cost Structure of the Services Sectors by Firm Size, 2017

	Wholesale Trade		Retail Trade		Accommodation		Food Services		Transportation & Storage		Information & Communications		Finance & Insurance		Business 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	**20.2**	**21.7**	**37.8**	**41.7**	**50.1**	**40.6**	**41.3**	**49.2**	**17.6**	**10.1**	**12.8**	**32.6**	**12.9**	**14.9**	**22.7**	**31.0**
Services Cost	**79.5**	**77.9**	**61.6**	**57.4**	**46.9**	**56.6**	**58.3**	**50.5**	**81.7**	**89.6**	**86.9**	**66.9**	**87.0**	**84.8**	**76.2**	**66.9**
Utilities	0.2	0.2	2.4	1.4	4.5	5.5	4.2	4.2	0.6	0.2	0.3	1.3	0.1	0.1	0.3	1.0
Freight & Transport	11	31.4	0.9	2.2	0.0	0.0	2.4	0.5	40.5	60.4	0.0	0.3	0.0	0.1	0.0	1.8
Financial Services	1.9	1.9	2.3	2.5	1.8	2.3	0.5	1.3	0.7	0.5	0.7	0.2	5.7	5.7	0.1	0.6
Communications	0.6	0.5	0.5	0.9	0.4	0.7	0.2	0.4	0.8	0.2	1.6	7.7	0.3	0.3	0.2	0.4
Renting of Premises	4.2	5	35.5	28.9	11.9	16.3	26.1	30.5	0.7	2.2	1.0	4.3	0.9	1.3	1.2	3.4
Professional Services	4.1	4.3	1.5	1.8	1.9	1.6	0.4	1.2	1.2	0.6	16.8	7.5	3.6	3.1	15.8	4.1
Other Services	57.5	34.6	18.5	19.7	26.4	30.2	24.4	12.4	37.3	25.4	66.7	45.5	76.4	74.3	58.5	55.7
Advertising & Entertainment	6.4	5.7	5.3	5.2	4.2	3.5	3.1	2.1	0.6	1.2	1.9	7.3	1.6	0.6	1.3	3.9
Admin & Management Fees	9.4	6.4	2.6	2.7	4.6	7.6	2.2	2.9	2.5	3.5	17.5	6.9	4.2	9.0	2.8	8.5
Contract labour & work given out	11.3	3.2	1.4	2.3	1.1	5.2	3.0	1.4	1.8	1.9	2.0	10.6	1.0	0.5	27.1	19.2
Commission	8.1	6.3	0.6	3.6	1.8	3.6	0.0	0.3	3.5	1.9	6.3	2.5	2.6	6.6	0.8	3.5
Royalties	15.5	5.4	1.3	0.7	2.6	0.3	10.0	1.2	0.1	0.0	32.3	6.9	1.0	0.2	2.6	1.2
Maintenance & repairs	1.1	0.9	4.4	2.4	3.1	4.7	3.7	2.4	6.2	1.9	0.9	1.6	0.5	0.3	1.2	2.7
Fuel	-	0.2	0.1	0.1	-	-	0.2	-	16.0	10.2	0.1	-	-	-	-	0.3
Others	5.6	6.4	2.9	2.7	9.0	5.4	2.2	1.9	6.5	4.9	5.8	9.7	65.7	57.3	22.7	16.4
Non-Labour Production Taxes	**0.3**	**0.4**	**0.6**	**1.0**	**3.0**	**2.8**	**0.4**	**0.3**	**0.7**	**0.3**	**0.2**	**0.5**	**0.1**	**0.3**	**1.2**	**2.1**

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.*
3. *Data exclude depreciation cost.*

Source: Department Of Statistics and Monetary Authority of Singapore

ANNEX B: SUPPLY OF INDUSTRIAL AND COMMERCIAL SPACE

Exhibit B1: Supply of Industrial Space

	Total	2019	2020	2021	2022	2023	>2023
Factory Space ('000 sqm gross)							
Total	**4,181**	**1,306**	**912**	**480**	**1,341**	**-**	**144**
Under Construction	2,703	1,044	746	196	576	-	144
Planned	1,478	262	167	285	765	-	-
Warehouse Space ('000 sqm gross)							
Total	**627**	**196**	**265**	**13**	**154**	**-**	**-**
Under Construction	592	178	259	1	154	-	-
Planned	35	18	6	12	-	-	-
Total Industrial Space	**4,809**	**1,501**	**1,177**	**493**	**1,494**	**-**	**144**

Source: JTC Corporation

Exhibit B2: Supply of Commercial Space

	Total	2019	2020	2021	2022	2023	>2023
Office Space ('000 sqm gross)							
Total	**732**	**112**	**159**	**133**	**223**	**41**	**64**
Under Construction	632	112	159	84	213	-	64
Planned	100	-	-	49	10	41	-
Retail Space ('000 sqm gross)							
Total	**387**	**179**	**57**	**61**	**39**	**31**	**20**
Under Construction	312	179	56	37	20	-	20
Planned	75	-	1	24	19	31	-
Total Commercial Space	**1,119**	**291**	**216**	**194**	**262**	**72**	**84**

Source: Urban Redevelopment Authority

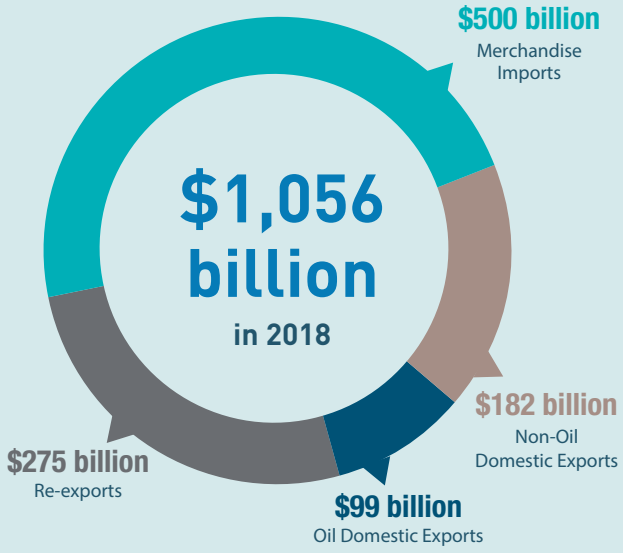
Image courtesy of PSA Corporation Limited

CHAPTER 4

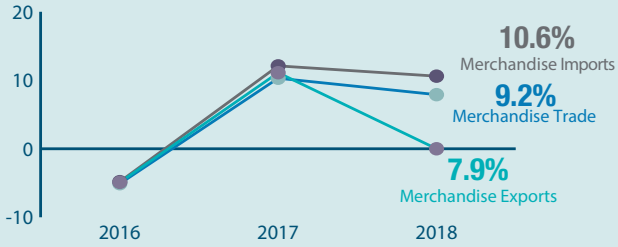
INTERNATIONAL TRADE

CHAPTER 4
INTERNATIONAL TRADE

TOTAL MERCHANDISE TRADE AMOUNTED TO...



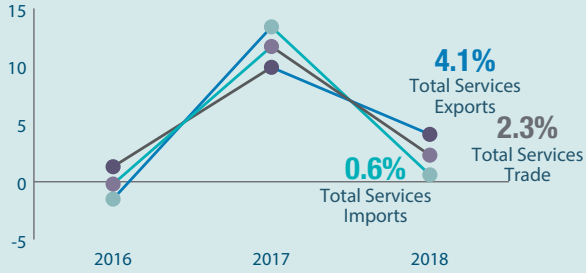
GROWTH IN MERCHANDISE TRADE



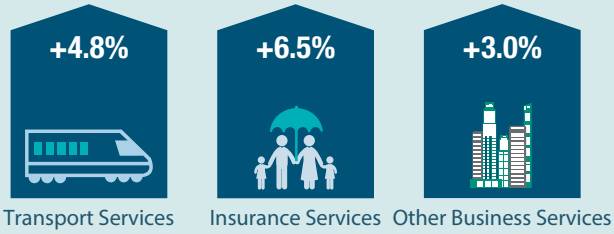
COMPONENTS OF MERCHANDISE EXPORTS

(Year-On-Year Growth)

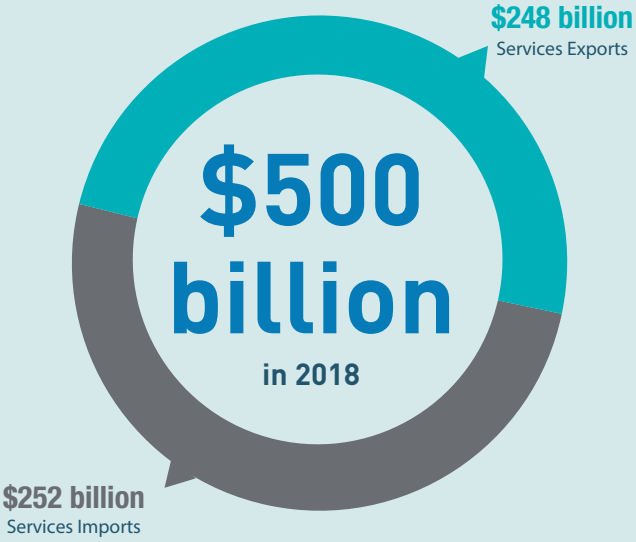
GROWTH IN SERVICES TRADE



MAIN DRIVERS OF SERVICES EXPORT GROWTH WERE...



TOTAL SERVICES TRADE AMOUNTED TO...



OVERVIEW

Singapore's total merchandise trade rose by 9.2 per cent year-on-year in the fourth quarter of 2018, slower than the 15 per cent growth in the preceding quarter. Meanwhile, total services trade increased by 1.4 per cent year-on-year, moderating from the 2.4 per cent growth in the third quarter.

For the whole of 2018, Singapore's total merchandise trade increased by 9.2 per cent to $1.1 trillion, up from $967 billion in 2017. Oil trade expanded by 17 per cent, while non-oil trade grew by 7.3 per cent. Merchandise exports and imports rose by 7.9 per cent and 11 per cent respectively.

Overall services trade increased by 2.3 per cent to $500 billion in 2018, from $489 billion in 2017. Services exports grew by 4.1 per cent, while services imports expanded by 0.6 per cent in 2018.

MERCHANDISE TRADE

Merchandise Exports

Total merchandise exports rose by 7.2 per cent year-on-year in the fourth quarter, extending the 13 per cent growth in the preceding quarter (Exhibit 4.1). The increase in total merchandise exports during the quarter came on the back of a 3.4 per cent expansion in domestic exports, although this was slower than the 14 per cent increase in the third quarter. Re-exports grew by 11 per cent, the same pace of growth as in the preceding quarter.

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

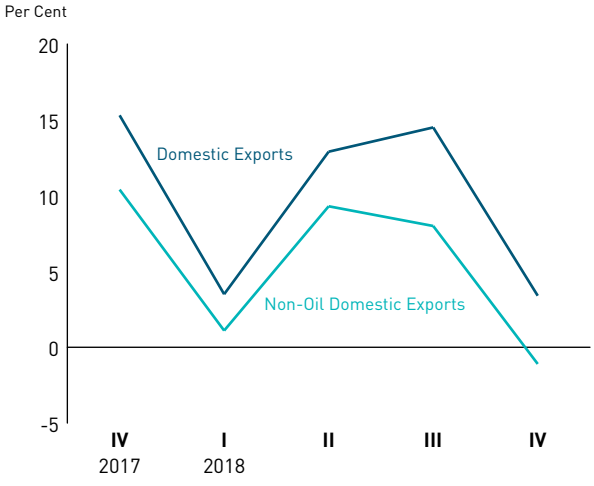
	2017	2018			2018
		II	III	IV	
Total Merchandise Trade	11.1	10.2	14.7	9.2	**9.2**
Merchandise Exports	10.3	9.3	12.7	7.2	**7.9**
Domestic Exports	15.8	12.9	14.5	3.4	**8.4**
Oil	33.4	20.4	28.9	12.1	**17.1**
Non-Oil	8.8	9.3	8.0	-1.1	**4.2**
Re-Exports	5.2	5.7	11.1	11.2	**7.4**
Merchandise Imports	12.1	11.1	17.0	11.5	**10.6**
Oil	41.6	26.3	30.9	16.9	**18.9**
Non-oil	5.8	6.9	13.4	9.9	**8.3**

For the whole of 2018, total merchandise exports rose by 7.9 per cent, moderating from the 10 per cent increase in 2017.

Non-Oil Domestic Exports

Non-oil domestic exports (NODX) declined by 1.1 per cent year-on-year in the fourth quarter, reversing the 8.0 per cent growth in the preceding quarter (Exhibit 4.2). The decline in NODX was due to a fall in both electronics and non-electronics NODX during the quarter.

Exhibit 4.2: Changes in Domestic Exports



Electronics NODX fell by 3.6 per cent in the fourth quarter, following the 3.0 per cent decline in the previous quarter. The fall in electronics NODX was primarily due to lower domestic exports of personal computers (PCs), diodes & transistors and disk media products. Non-electronics NODX decreased slightly by 0.2 per cent in the fourth quarter, after posting robust growth of 13 per cent in the previous quarter. The decline in non-electronics NODX was due to a fall in the domestic exports of non-monetary gold, specialised machinery and aircraft parts.

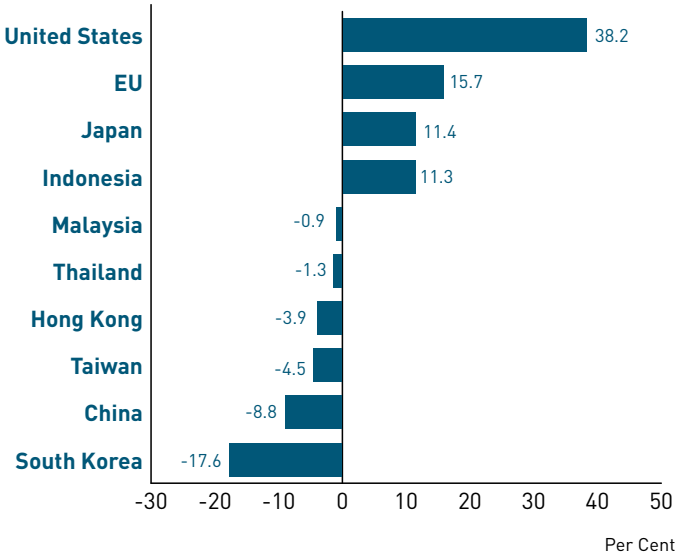
For the full year, NODX grew by 4.2 per cent, following the 8.8 per cent increase in 2017. Growth was driven by an increase in non-electronics NODX (8.2 per cent) which outweighed the decline in electronics NODX (-5.5 per cent).

The top 10 NODX markets accounted for 81 per cent of Singapore's total NODX in 2018. Singapore's NODX to the top 10 markets as a whole rose in 2018. Among the top 10 markets, the increases in NODX to the US, the EU, Indonesia and Japan outweighed the declines in NODX to China, South Korea, Hong Kong, Taiwan, Malaysia and Thailand (Exhibit 4.3).

NODX to the US rose mainly due to the higher exports of food preparations, non-electric engines & motors and pharmaceuticals. NODX to the EU increased as a result of a rise in the exports of civil engineering equipment parts, pharmaceuticals and non-electric engines & motors. Non-monetary gold, electrical machinery and capacitors contributed the most to the increase in NODX to Indonesia, while NODX to Japan grew due to a rise in the exports of pharmaceuticals, specialised machinery and measuring instruments.

Meanwhile, NODX to China declined because of a drop in the shipment of non-monetary gold, ICs and disk media products. The decline in NODX to South Korea was mainly due to the lower exports of specialised machinery, ICs and measuring instruments, whereas NODX to Hong Kong decreased on account of a fall in the exports of electrical machinery, parts of PCs and non-monetary gold.

Exhibit 4.3: Growth Rates of Non-Oil Domestic Exports to Top Ten Markets in 2018



Oil Domestic Exports

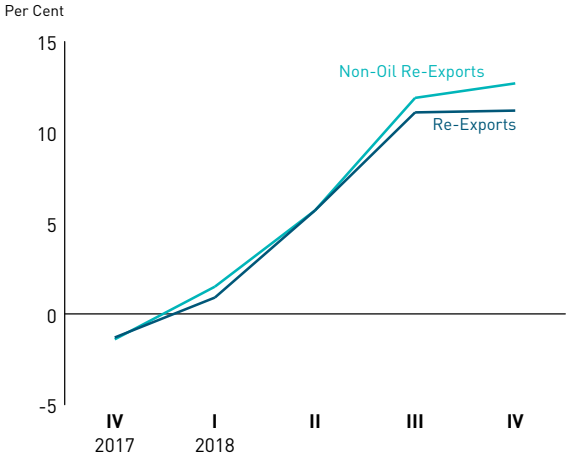
Oil domestic exports expanded by 12 per cent year-on-year in the fourth quarter, following the 29 per cent increase in the preceding quarter. The expansion in oil domestic exports was led by exports to Australia, Indonesia and Hong Kong, reflecting higher oil prices in the fourth quarter as compared to a year ago. In volume terms, oil domestic exports declined by 2.8 per cent in the fourth quarter, a moderation compared to the 5.8 per cent decrease in the third quarter.

For the full year, oil domestic exports rose by 17 per cent, following the 33 per cent growth in 2017, on account of higher oil prices. The expansion in oil domestic exports was driven mainly by exports to Malaysia, Indonesia and Australia. In volume terms, oil domestic exports decreased by 4.5 per cent in 2018, reversing the 6.5 per cent growth in 2017.

Non-Oil Re-Exports

Non-oil re-exports (NORX) grew by 13 per cent year-on-year in the fourth quarter, extending the 12 per cent growth in the preceding quarter (Exhibit 4.4). The growth in NORX was due to an increase in both electronics and non-electronics NORX. Electronics NORX grew by 12 per cent, a turnaround from the 1.2 per cent decline in the third quarter, due to an increase in the re-exports of ICs, telecommunications equipment and diodes & transistors. Meanwhile, non-electronics NORX grew by 13 per cent, slowing from the 27 per cent growth in the preceding quarter. The increase in electronics NORX during the quarter was mainly due to the higher re-exports of non-electric engines & motors, aircraft parts and piston engines.

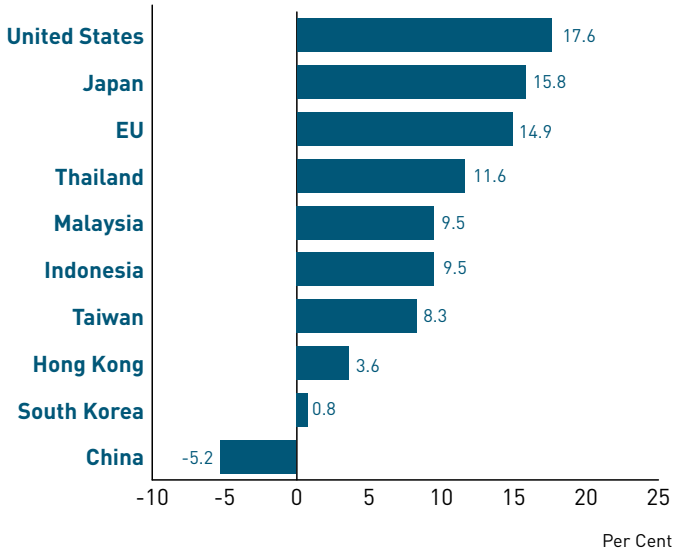
Exhibit 4.4: Changes in Re-Exports



For the whole of 2018, NORX grew by 8.1 per cent, extending the 5.5 per cent expansion in 2017. Growth was due to an increase in both electronics (1.9 per cent) and non-electronics (14 per cent) NORX.

NORX to the top 10 NORX markets grew in 2018, with the exception of NORX to China (Exhibit 4.5). NORX to the US expanded on the back of higher re-exports of non-electric engines & motors, ICs and piston engines. Meanwhile, higher shipments of non-electric engines & motors, aircraft parts and ICs led to an increase in NORX to the EU. Re-exports to Malaysia rose due to higher shipments of ICs, telecommunications equipment and non-monetary gold. On the other hand, NORX to China declined on account of a decrease in the shipments of ICs, diodes & transistors and copper.

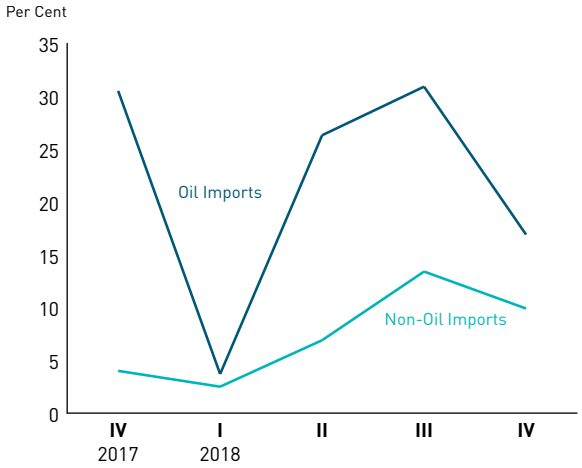
Exhibit 4.5: Growth Rates of Non-Oil Re-Exports to Top Ten Markets in 2018



Merchandise Imports

Non-oil imports rose by 9.9 per cent year-on-year in the fourth quarter, following the 13 per cent growth in the preceding quarter (Exhibit 4.6). The increase in non-oil imports came on the back of an expansion in both electronics (5.8 per cent) and non-electronics (12 per cent) imports. Higher imports of ICs, telecommunications equipment and PCs contributed to the increase in electronics imports. Meanwhile, non-electronics imports grew because of a rise in the imports of non-electric engines & motors, aircraft parts and piston engines.

Exhibit 4.6: Changes in Merchandise Imports



Oil imports rose by 17 per cent year-on-year in the fourth quarter, after the 31 per cent expansion in the preceding quarter. In volume terms, oil imports declined by 1.5 per cent, moderating from the 8.5 per cent decrease in the preceding quarter.

For the full year, non-oil imports grew by 8.3 per cent, extending the 5.8 per cent increase in 2017. Oil imports rose by 19 per cent, slower than the 42 per cent expansion in 2017.

SERVICES TRADE

Services Exports

Services exports expanded by 2.8 per cent year-on-year in the fourth quarter, moderating from the 4.4 per cent increase in the third quarter. Growth was primarily driven by the exports of other business services, transport services and financial services, which rose by 5.5 per cent, 2.4 per cent and 3.8 per cent respectively. By contrast, receipts for the use of intellectual property declined by 12 per cent.

For the full year, services exports rose by 4.1 per cent, slowing from the 9.9 per cent increase in 2017. Apart from the exports of construction services and government goods and services, which declined by 3.4 per cent and 0.5 per cent respectively, the rest of the services categories saw a rise in exports in 2018.

Services Imports

Services imports edged up by 0.1 per cent year-on-year in the fourth quarter, easing from the 0.4 per cent increase recorded in the third quarter. Growth was mainly supported by the imports of financial services and insurance services, which rose by 32 per cent and 11 per cent respectively. By contrast, the imports of other business services decreased by 3.9 per cent.

For the whole of 2018, services imports increased by 0.6 per cent, slowing from the 13 per cent increase in 2017. While the imports of other business services and payments for the use of intellectual property declined by 2.0 per cent and 0.6 per cent respectively, the imports of the remaining services categories expanded in 2018.

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

	2017	2017			2018
		II	III	IV	
Total Services Trade	11.7	1.8	2.4	1.4	**2.3**
Services Exports	9.9	3.3	4.4	2.8	**4.1**
Services Imports	13.4	0.3	0.4	0.1	**0.6**

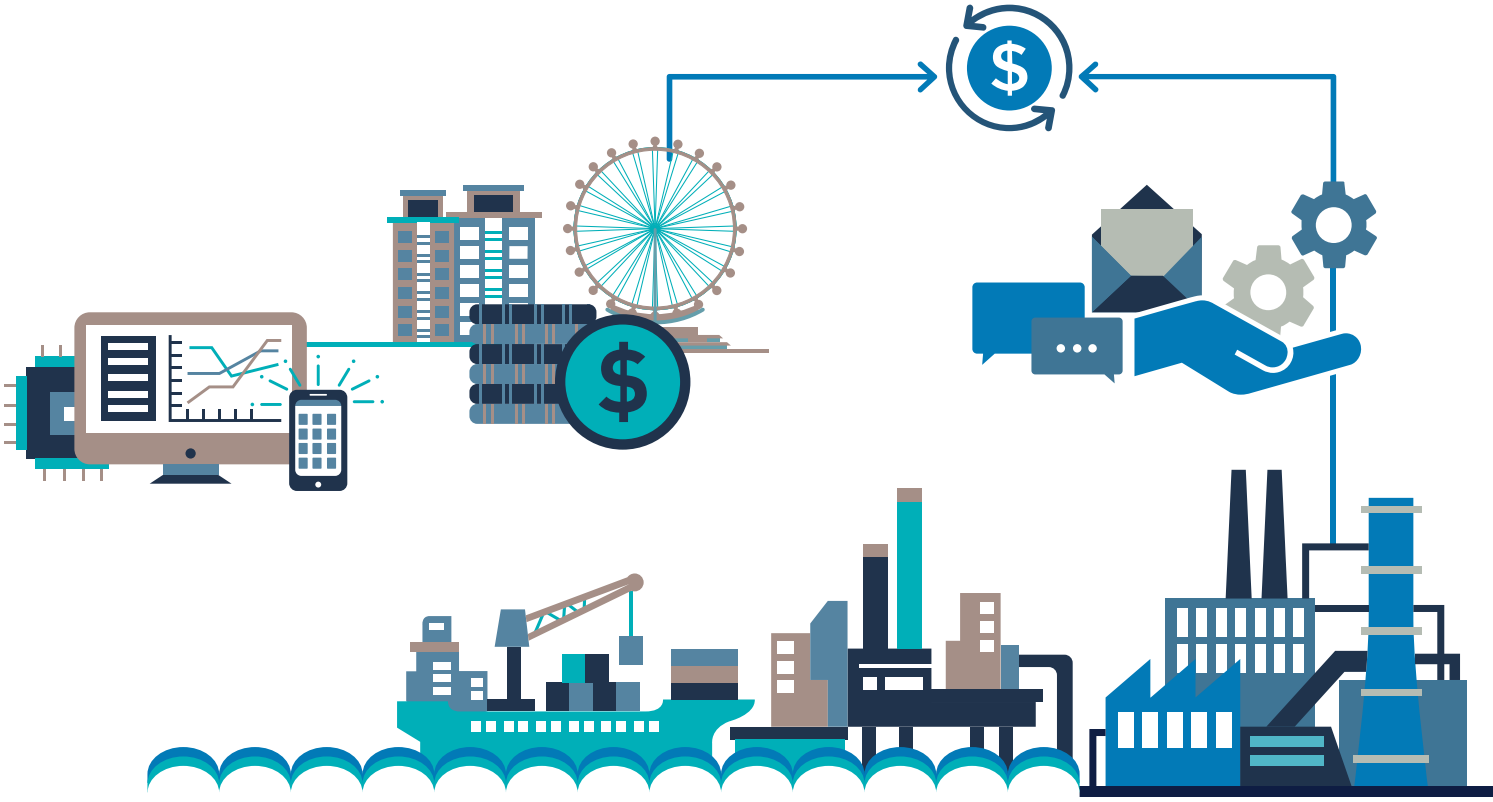


Image courtesy of Singapore Tourism Board

CHAPTER 5

BALANCE OF PAYMENTS

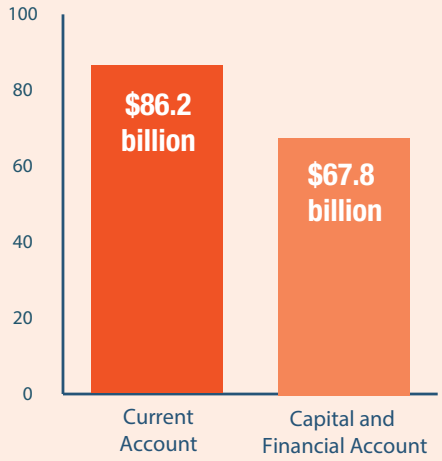
CHAPTER 5

BALANCE OF PAYMENTS

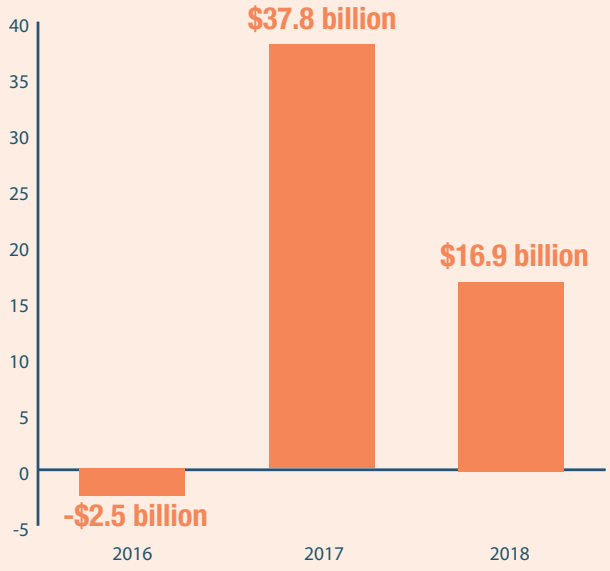
Singapore's balance of payments surplus came in at

$16.9 billion

at the end of 2018



BALANCE OF PAYMENTS TREND



COMPONENTS OF CURRENT ACCOUNT

Goods balance

$131.6 billion

Services balance

-$4.0 billion

Primary income balance

-$33.1 billion

Secondary income balance

-$8.4 billion

COMPONENTS OF CAPITAL & FINANCIAL ACCOUNT

Direct investment

-$60.6 billion

Portfolio investment

$32.2 billion

Financial derivatives

$22.5 billion

Other investment

$73.6 billion

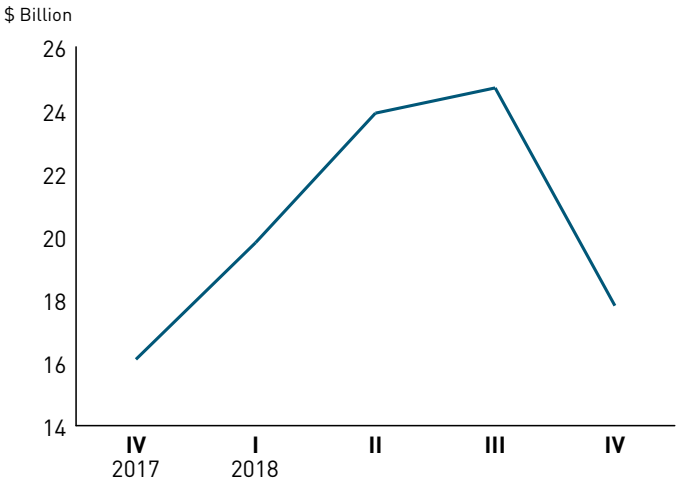
OVERVIEW

Singapore's overall balance of payments recorded a deficit of $3.9 billion in the fourth quarter of 2018, reversing the surplus of $6.2 billion in the third quarter. For the year as a whole, the overall balance of payments registered a smaller surplus of $17 billion compared to the surplus of $38 billion in 2017. This was due to a larger net outflow from the capital and financial account, which outweighed the increase in the current account surplus. Singapore's official foreign reserves rose to $392 billion at the end of 2018, equivalent to nine months of merchandise imports.

CURRENT ACCOUNT

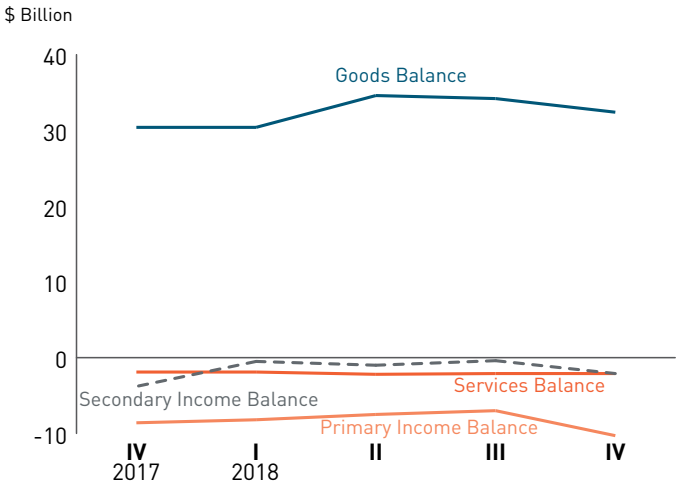
The current account surplus narrowed to $18 billion in the fourth quarter, from $25 billion in the third quarter (Exhibit 5.1). For the full year, the surplus rose to $86 billion (18 per cent of GDP), from $74 billion in 2017. This increase was driven by a smaller deficit in the services balance as well as a larger surplus in the goods balance.

Exhibit 5.1: Current Account Balance



In terms of the sub-components of the current account, the goods balance saw its surplus decline by $1.8 billion from the preceding quarter to $32 billion in the fourth quarter, driven by a fall in exports (Exhibit 5.2). However, for the full year, exports grew faster than imports, and the goods balance recorded a larger surplus of $132 billion compared to $126 billion in the previous year.

Exhibit 5.2: Components of Current Account Balance



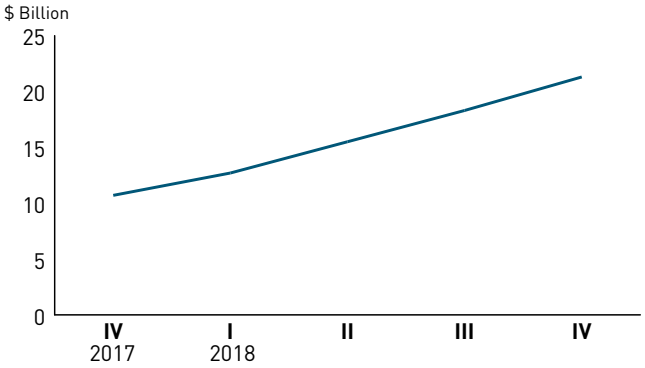
Meanwhile, the deficit in the services balance widened to $2.1 billion in the fourth quarter, from $0.4 billion in the preceding quarter. For the year as a whole, the deficit shrank to $4.0 billion, from $12 billion in 2017. This was due to lower net payments for other business services, transport services and charges for the use of intellectual property, as well as higher net receipts for financial services and maintenance and repair services.

For the primary income balance, the deficit widened by $3.3 billion from the previous quarter to $10 billion in the fourth quarter. Similarly, for the full year, the primary income deficit widened to $33 billion, from $31 billion in the preceding year, as income payments to foreign investors grew by more than income receipts from abroad.

CAPITAL AND FINANCIAL ACCOUNT

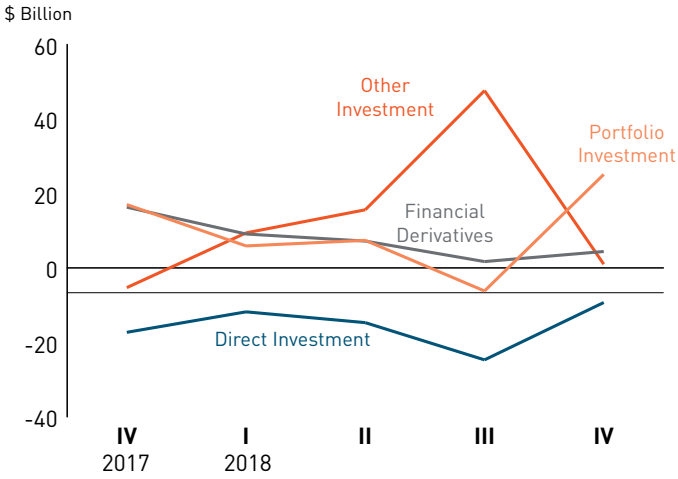
Net outflows from the capital and financial account[1] rose to $21 billion in the fourth quarter, compared to $18 billion in the previous quarter (Exhibit 5.3). For the year as a whole, net outflows increased to $68 billion (14 per cent of GDP), from $37 billion in 2017. Although net outflows of portfolio investment fell, there was an increase in the net outflows of "other investment". At the same time, there were larger net outflows of financial derivatives, as well as smaller net inflows of direct investment.

Exhibit 5.3: Capital and Financial Account Balance



In terms of the sub-components of the capital and financial account, net inflows of direct investment fell by $15 billion in the fourth quarter to $9.3 billion (Exhibit 5.4). For the full year, net inflows of direct investment amounted to $61 billion, lower than the $71 billion recorded in 2017. This occurred as foreign direct investment into Singapore declined by more than residents' direct investment abroad.

Exhibit 5.4: Components of Financial Account (Net)



Portfolio investment turned to net outflows of $25 billion in the fourth quarter, reversing the net inflows of $6.2 billion in the third quarter. For 2018 as a whole, net outflows of portfolio investment fell to $32 billion, from $46 billion in the previous year. This was largely due to resident deposit-taking corporations reversing their net purchases of overseas securities to net sales of overseas securities for the year.

Net outflows from the "other investment" account fell to $1.0 billion in the fourth quarter, from $48 billion in the preceding quarter. However, for the full year, net outflows rose by $24 billion to reach $74 billion mainly on account of deposit-taking corporations reversing from net inflows to net outflows.

Net outflows from the financial derivatives account rose by $2.7 billion to $4.4 billion in the fourth quarter. For the full year, net outflows of financial derivatives doubled from 2017 to reach $23 billion in 2018.

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".*

Image courtesy of Infineon Singapore

CHAPTER 6
SECTORAL PERFORMANCE

CHAPTER 6
SECTORAL PERFORMANCE

OVERALL ECONOMY

STRUCTURE OF ECONOMY	Nominal Value Added Share (%)	Real Growth (%)
TOTAL	100.0	3.2
Goods Producing Industries	26.1	5.0
Manufacturing	21.4	7.2
Construction	3.5	-3.4
Utilities	1.2	-0.3
Other Goods Industries	0.0	0.1
Services Producing Industries	70.4	3.0
Wholesale & Retail Trade	18.0	1.5
Transportation & Storage	6.9	1.5
Accommodation & Food Services	2.1	2.7
Information & Communications	4.1	6.0
Finance & Insurance	12.9	5.9
Business Services	14.9	3.0
Other Services Industries	11.5	1.7
Ownership of Dwellings	3.5	4.1

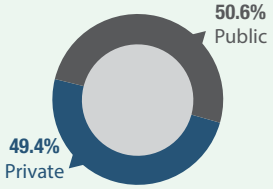
MANUFACTURING

CLUSTERS IN THE MANUFACTURING SECTOR

	Nominal VA Share (%)	Real Growth (%)
Electronics	40.6	8.1
Chemicals	13.2	4.8
Biomedical Manufacturing	17.5	8.1
Precision Engineering	12.6	4.1
Transport Engineering	8.5	14.4
General Manufacturing Industries	7.7	0.3

CONSTRUCTION

CERTIFIED PAYMENTS IN 2018



CONTRACTS AWARDED IN 2018

Civil Engineering Work	Residential	Institutional & Others	Industrial	Commercial
$9.5 billion	$9.0 billion	$5.8 billion	$4.8 billion	$1.5 billion

WHOLESALE & RETAIL TRADE

WHOLESALE TRADE

Nominal VA Share	Real Growth
90.6%	**1.7%**
Domestic Wholesale Trade Index growth	Foreign Wholesale Trade Index growth
1.1%	0.7%

RETAIL TRADE

Nominal VA Share	Real Growth
9.4%	**-0.5%**
Retail Sales Index growth (Non-motor Vehicles)	Retail Sales Index growth (Motor Vehicles)
0.5%	-8.7%

INFORMATION & COMMUNICATIONS

	Nominal VA Share (%)	Real Growth (%)
Telecommunications	27.5	4.6
IT & Information Services	56.7	8.2
Others	15.8	1.9

TRANSPORTATION & STORAGE

TRANSPORTATION & STORAGE	Nominal Value Added Share (%)	Real Growth (%)
Land Transport*	18.5	0.3
Water Transport*	41.3	1.0
Air Transport*	21.0	5.1
Storage & Other Support Services	16.4	-1.1
Post & Courier	2.8	0.2

*Including supporting services

5.4% Air passengers handled growth

0.4% Total sea cargo handled growth

-0.5% Motor-vehicle population growth

FINANCE & INSURANCE

FINANCE & INSURANCE	Nominal Value Added Share (%)	Real Growth (%)
Banking	45.2	3.1
Security Dealing	1.7	4.2
Fund Management	11.3	-1.9
Insurance	15.8	9.4
Others	25.9	12.5

GROWTH OF BANK LOANS & ADVANCES TO NON-BANK CUSTOMERS IN 2018

Total Loans	Loans to Businesses	Consumer Loans
3.0%	4.1%	1.5%

CHAPTER 6
SECTORAL PERFORMANCE

BUSINESS SERVICES

BUSINESS SERVICES	Nominal Value Added Share(%)	Real Growth (%)
Real Estate	22.9	-0.9
Rental & Leasing	25.7	9.8
Legal	3.4	4.5
Accounting	2.6	2.3
Head Offices & Business Representative Offices	11.1	-1.1
Business & Management Consultancy	3.8	3.7
Architectural & Engineering	10.3	2.1
Other Professional, Scientific & Technical Services	6.8	1.9
Other Administrative & Support Services	13.3	2.1

ACCOMMODATION & FOOD SERVICES

ACCOMMODATION

Nominal VA Share: **42.6%**

Real Growth: **5.9%**

PERFORMANCE OF HOTELS

Room revenue growth: 7.4%

Gross lettings growth: 6.5%

FOOD SERVICES

Nominal VA Share: **57.4%**

Real Growth: **0.4%**

PERFORMANCE OF F&B (SALES GROWTH)

Fast Food: 6.8%

Others: -1.2%

Catering: -0.8%

Restaurants: -1.3%

OTHER SERVICES INDUSTRIES

OTHER SERVICES INDUSTRIES	Nominal Value Added Share (%)	Real Growth (%)
Public Administration & Defence	24.2	0.7
Education, Health & Social Work	52.1	2.1
Arts, Entertainment & Recreation	11.9	1.4
Others	11.8	1.8

6.1 MANUFACTURING

OVERVIEW

The manufacturing sector expanded by 5.1 per cent year-on-year in the fourth quarter, driven largely by output expansions in the biomedical manufacturing, transport engineering and electronics clusters.

For the whole of 2018, the manufacturing sector grew by 7.2 per cent, extending the 10 per cent expansion in the previous year. Growth was supported by output increases in all clusters, with the electronics, transport engineering and biomedical manufacturing clusters contributing the most to growth.

OVERALL MANUFACTURING PERFORMANCE

In the fourth quarter, manufacturing output increased by 5.1 per cent year-on-year, underpinned by output expansions across all clusters, with the exception of the precision engineering and general manufacturing clusters (Exhibit 6.1).

For the whole of 2018, the manufacturing sector expanded by 7.2 per cent, extending the robust growth of 10 per cent in 2017. The healthy performance of the sector was driven mainly by the electronics, transport engineering and biomedical manufacturing clusters, which collectively accounted for around 86 per cent of the sector's overall expansion in 2018 (Exhibit 6.2).

Exhibit 6.1: Manufacturing Growth Rates

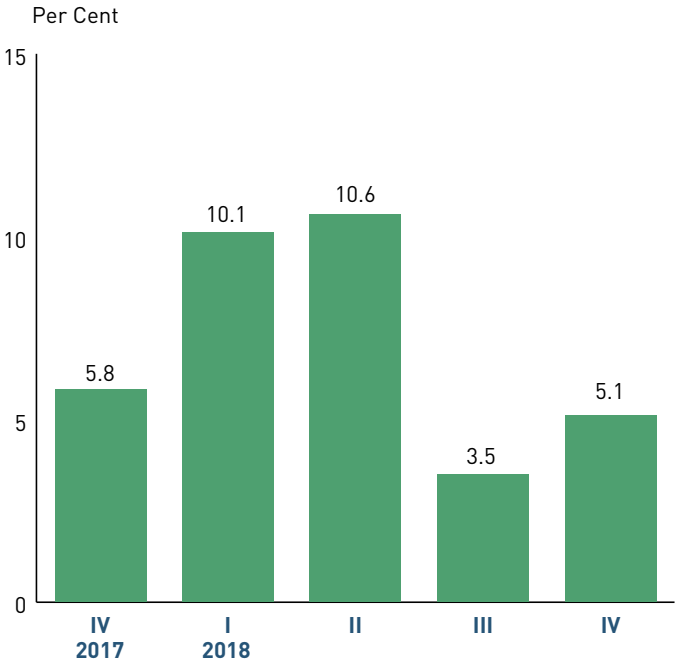
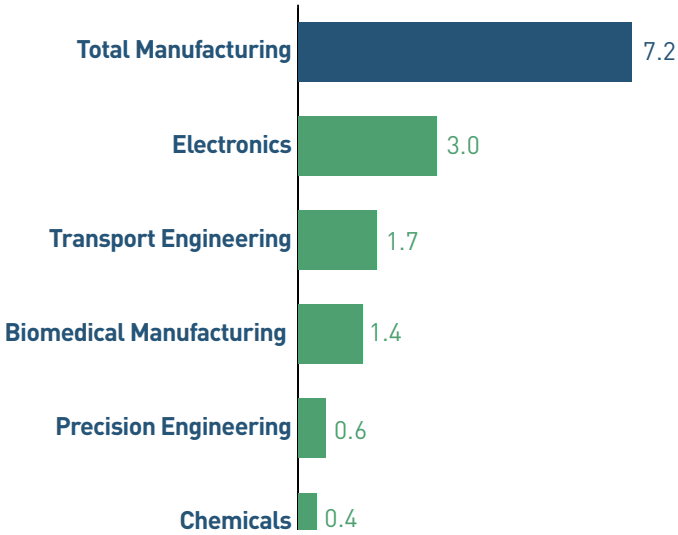


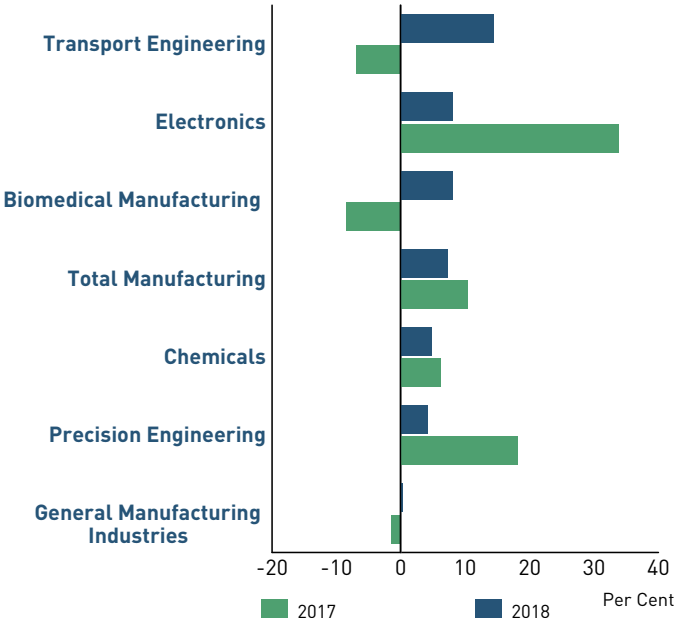
Exhibit 6.2: Percentage-Point Contribution to Manufacturing Sector's Growth in 2018



Performance Of Clusters

The electronics cluster grew by 1.1 per cent year-on-year in the fourth quarter, supported by the semiconductors (3.5 per cent), infocomms & consumer electronics (9.4 per cent) and other electronic modules & components (4.9 per cent) segments. By contrast, the computer peripherals and data storage segments registered output declines. For the full year, the electronics cluster expanded by 8.1 per cent on the back of healthy output growth in the semiconductors segment, which can in turn be attributed to buoyant global semiconductor demand (Exhibit 6.3).

Exhibit 6.3: Manufacturing Clusters' Growth



Output of the transport engineering cluster rose by 22 per cent year-on-year in the fourth quarter, with all segments recording expansions. In particular, the marine & offshore engineering (M&OE) segment grew by 36 per cent, supported by a higher level of work done in offshore projects, as well as a low base in the same period a year ago. At the same time, the aerospace segment expanded by 13 per cent on account of more repair and maintenance jobs from commercial airlines. For the whole of 2018, the transport engineering cluster grew by 14 per cent, supported by robust output expansions in both the M&OE and aerospace segments.

Output of the biomedical manufacturing cluster increased by 19 per cent year-on-year in the fourth quarter, supported by growth in both the pharmaceuticals and medical technology segments. In particular, the pharmaceuticals segment expanded by 24 per cent due to a higher level of production of active pharmaceutical ingredients (APIs) and biological products, while the medical technology segment grew by 7.5 per cent as a result of higher export demand for medical instruments. For the full year, the output of the biomedical manufacturing cluster rose by 8.1 per cent, supported by strong output expansions in both segments.

The precision engineering cluster contracted by 5.2 per cent year-on-year in the fourth quarter, due to output declines in both the precision modules & components (PMC) and machinery & systems (M&S) segments. The former shrank by 8.1 per cent due to a fall in the output of optical instruments, metal precision components, as well as dies, moulds, tools, jigs & fixtures. The latter recorded a 3.1 per cent decline in output on account of a lower production of industrial process control and semiconductor manufacturing equipment. For the whole of 2018, the precision engineering cluster expanded by 4.1 per cent, with both segments contributing positively to growth.

The chemicals cluster posted slight growth of 0.3 per cent year-on-year in the fourth quarter. Growth was supported by the other chemicals and specialties segments, which grew by 10 per cent and 5.1 per cent respectively. Specifically, the other chemicals segment expanded on the back of a higher level of production of fragrances, while the specialties segment produced more mineral oil additives and industrial gases. On the other hand, the petrochemicals and petroleum segments contracted by 12 per cent and 4.9 per cent respectively, due to plant maintenance shutdowns. For 2018 as a whole, the chemicals cluster grew by 4.8 per cent, with output expansions in all segments except for the petroleum segment.

Output of the general manufacturing cluster fell by 1.1 per cent year-on-year in the fourth quarter. The performance of the cluster was weighed down by the printing and food, beverages & tobacco (FBT) segments, which recorded a 7.9 per cent and 1.5 per cent decline in output respectively. On the other hand, the miscellaneous industries segment grew by 1.5 per cent. For the whole of 2018, the general manufacturing cluster expanded slightly by 0.3 per cent, as output expansions in the FBT segment outweighed output declines in the printing and miscellaneous industries segments.

6.2 CONSTRUCTION

OVERVIEW

The construction sector contracted by 1.0 per cent year-on-year in the fourth quarter, extending the 2.3 per cent decline recorded in the previous quarter.

For the whole of 2018, the sector shrank by 3.4 per cent, moderating from the 10 per cent contraction in the preceding year.

CONSTRUCTION DEMAND

Construction demand (or contracts awarded) increased by 19 per cent year-on-year to $9.3 billion in the fourth quarter, due to an uptick in public sector construction demand (Exhibit 6.4).

Exhibit 6.4: Contracts Awarded

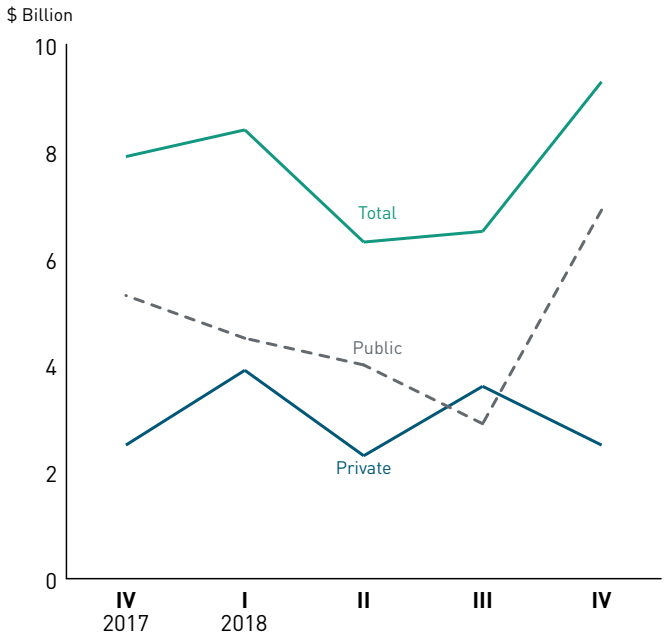


Exhibit 6.5: Contracts Awarded, 2018 ($ Billion)

	Total	Public	Private
Total	30.5	18.3	12.2
Residential	9.0	3.8	5.2
Commercial	1.5	0.1	1.4
Industrial	4.8	0.8	4.0
Institutional & Others	5.8	4.4	1.4
Civil Engineering Works	9.5	9.2	0.2

For the full year, total construction demand increased by 23 per cent to $31 billion (Exhibit 6.5) on the back of expansions in both private and public sector construction demand.

Public Sector

In the fourth quarter, public sector construction demand expanded by 28 per cent to $6.9 billion. This was primarily due to stronger demand for public residential building works and public civil engineering works.

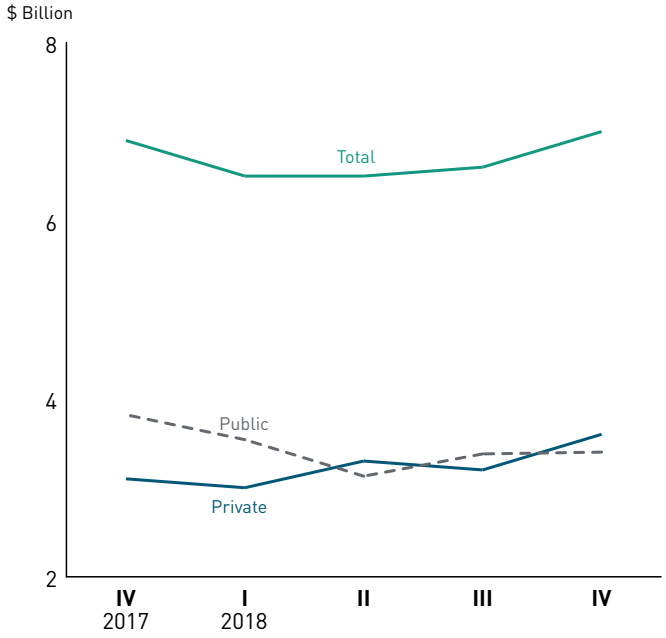
For the full year, public sector construction demand rose by 16 per cent to $18 billion. The increase was mainly due to a rise in the demand for institutional and other building works (74 per cent) as well as civil engineering works (11 per cent). Some of the major projects awarded included Woodlands Health Campus, Punggol Town Hub and North-South Corridor construction.

Private Sector

Private sector construction demand declined in the fourth quarter (-2.2 per cent) to $2.5 billion, solely attributable to a contraction in civil engineering construction demand (89 per cent in). By contrast, construction demand for all building types saw an uptick.

For the full year, private sector construction demand grew by 37 per cent from 9.0 billion in 2017 to $12 billion. This was primarily driven by an expansion in the demand for residential building works (72 per cent) and industrial building works (61 per cent). Some of the projects included the redevelopment of various en-bloc sales sites and the construction of high-specification industrial buildings.

Exhibit 6.6: Certified Payments



CONSTRUCTION ACTIVITIES

Construction output (or certified payments) increased by 0.8 per cent year-on-year to $7.0 billion in the fourth quarter, supported by a pickup in private sector construction activities (Exhibit 6.6). However, public sector construction activities remained sluggish.

For the full year, construction output fell by 4.7 per cent to $27 billion in 2018, moderating from the 21 per cent contraction in the preceding year. Output was weighed down by the weakness in public sector construction activities.

Public Sector

Public sector construction output fell by 11 per cent to $3.4 billion in the fourth quarter. The contraction was attributable to lower on-site construction activities for all development types, except for industrial building works, which rose by 15 per cent.

For the full year, public sector construction output declined by 9.0 per cent to $13 billion, largely dragged down by lower construction activities for institutional developments (-23 per cent) and civil engineering projects (-4.3 per cent). On the other hand, construction activities for industrial developments grew by 2.6 per cent, supported by major on-going projects such as JTC's Logistics Hub and PUB's Changi Water Reclamation Plant (Phase 2).

Private Sector

In the fourth quarter, private sector construction output rose by 15 per cent, underpinned by a robust expansion in industrial developments (62 per cent).

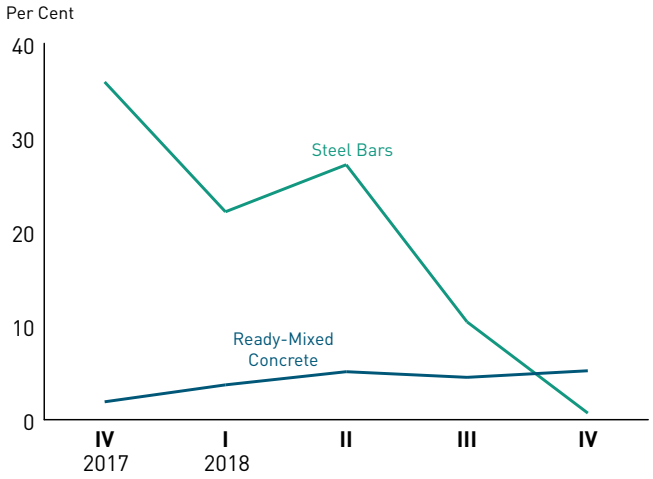
For the whole of 2018, private sector construction output grew marginally by 0.2 per cent to reach $13 billion. Growth was primarily supported by an increase in industrial building construction activities (21 per cent). Some of the major on-going projects include a semi-conductor fabrication plant and data centres.

CONSTRUCTION MATERIALS

In tandem with the moderation in on-site construction activities, total consumption of ready-mixed concrete fell by 9.7 per cent to $12 million m^3 in 2018. Similarly, total consumption of steel rebars[1] declined by 3.3 per cent to 1.4 million tonnes in 2018.

Due to higher raw material prices, the average market price of Grade 40 pump ready-mixed concrete[2] increased by 5.2 per cent year-on-year to $87 per m^3 in the fourth quarter (Exhibit 6.7). The average market price of steel rebar[3] hovered at around $790 to $800 per tonne at the start of 2018 before softening to $774 per tonne in the fourth quarter due to ample global steel supply.

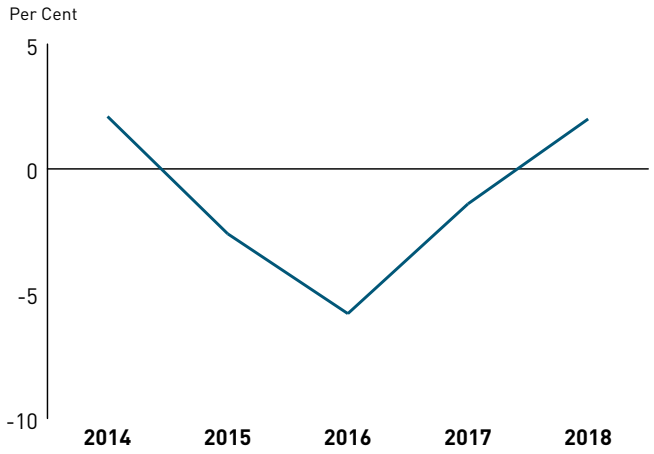
Exhibit 6.7: Changes in Market Prices of Construction Materials



CONSTRUCTION COSTS

Based on BCA's Building Works Tender Price Index (TPI), tender prices in the construction sector registered an estimated growth of 2.0 per cent in 2018 (Exhibit 6.8). This marked the first uptick after three consecutive years of decline. The increase came on the back of a rebound in total construction demand and higher import prices for raw materials such as concrete and steel rebar.

Exhibit 6.8: Changes in Tender Price Index



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, fixed price and market retail price.*
3 *The market prices refer to 16mm to 32mm High Tensile rebar and are based on fixed price supply contracts with a contract period 12 months or below.*

CONSTRUCTION OUTLOOK IN 2019

According to BCA, total construction demand is projected to be between $27 billion and $32 billion in 2019 (Exhibit 6.9). Demand from the public sector is expected to stay firm at between $17 billion and $20 billion in 2019, accounting for around 60 per cent of total construction demand. The support to public sector construction demand is likely to come from an anticipated increase in the demand for industrial building construction works and a steady stream of major infrastructure works. Furthermore, private sector construction demand is projected to remain steady at between $11 billion and $13 billion in 2019, supported by the redevelopment of past en-bloc sales sites concluded prior to the second half of 2018 and a pipeline of major industrial developments.

Total construction output in 2019 is projected to improve to between $28 billion and $30 billion, on the back of the rebound in total construction demand in 2018.

Exhibit 6.9: Projected Construction Demand in 2019

	$ Billion
Public Sector	16.5-19.5
Building Construction Sub-total	9.0-10.5
Residential	2.5-2.9
Commercial	0.1-0.1
Industrial	3.4-4.0
Institutional & Others	3.0-3.5
Civil Engineering Works Sub-total	7.5-9.0
Private Sector	10.5-12.5
Building Construction Sub-total	9.8-11.6
Residential	4.3-4.7
Commercial	1.3-1.8
Industrial	2.6-3.3
Institutional & Others	1.6-1.8
Civil Engineering Works Sub-total	0.7-0.9
TOTAL CONSTRUCTION DEMAND	**27.0-32.0**

6.3 WHOLESALE & RETAIL TRADE

OVERVIEW

The wholesale & retail trade sector contracted by 0.6 per cent year-on-year in the fourth quarter, a reversal from the 1.8 per cent growth in the previous quarter.

For the whole of 2018, the sector expanded by 1.5 per cent, easing from the 1.9 per cent growth in 2017. The moderation in growth can be attributed to the wholesale segment.

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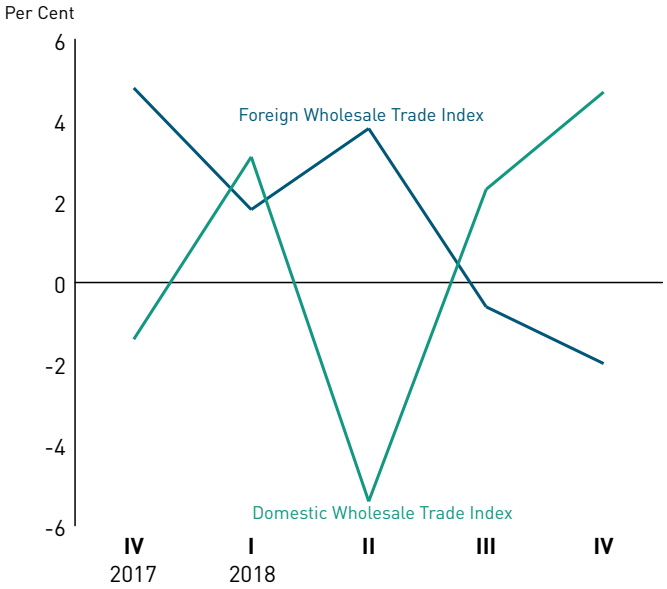
WHOLESALE TRADE

In the fourth quarter, the wholesale trade segment was weighed down by a decline in foreign wholesale sales volume, which was partially offset by an increase in domestic wholesale sales volume.

The domestic wholesale sales volume grew by 4.7 per cent year-on-year in the fourth quarter, higher than the 2.3 per cent growth in the preceding quarter (Exhibit 6.10). The expansion was led by an increase in the sales volume of petroleum & petroleum-related products (20 per cent) and food, beverages & tobacco (13 per cent), which outweighed the decline in the sales volume of electronic components (-26 per cent). For the whole of 2018, the domestic wholesale trade index increased by 1.1 per cent, comparable to the 1.0 per cent growth in 2017.

On the other hand, foreign wholesale sales volume fell by 2.0 per cent year-on-year in the fourth quarter, extending the 0.6 per cent decline in the preceding quarter. The decline was largely due to contractions in the sales of metals, timber & construction materials (-7.8 per cent) and others[1] (-12 per cent). Nevertheless, these declines were partly offset by the 5.2 per cent increase in the sales volume of petroleum & petroleum-related products. For the full year, the foreign wholesale trade index rose by 0.7 per cent, moderating from the increase of 3.6 per cent in the previous year.

Exhibit 6.10: Changes in Wholesale Trade Index at Constant Prices

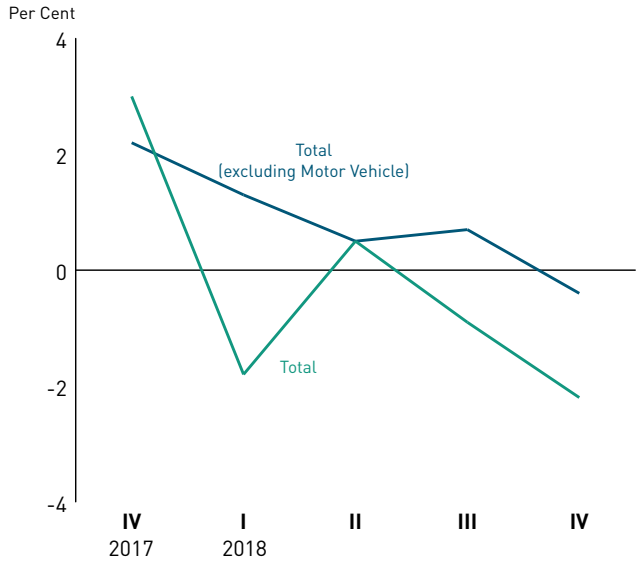


1 *The "other wholesale trade" segment consists of a diverse range of products that includes agricultural raw materials and live animals, tropical produce, personal effects and medicinal and pharmaceutical products, among others.*

RETAIL SALES

Retail sales volume shrank by 2.2 per cent year-on-year in the fourth quarter, worsening from the 0.9 per cent decline recorded in the third quarter (Exhibit 6.11). Retail sales was weighed down by both motor vehicle and non-motor vehicle sales. Motor vehicle sales fell by 11 per cent on the back of an on-year decline in COE supply, while non-motor vehicle sales dipped by 0.4 per cent, driven by a fall in the sales volume of both non-discretionary and discretionary goods. In particular, the sales volume of non-discretionary goods such as sales at supermarkets & hypermarkets and mini-marts & convenience stores shrank by 3.2 per cent and 3.1 per cent respectively. On the other hand, the sales volume of discretionary goods such as wearing apparel & footwear, optical goods & books and computer & telecommunications equipment fell by 1.5 per cent, 2.9 per cent, and 1.3 per cent respectively.

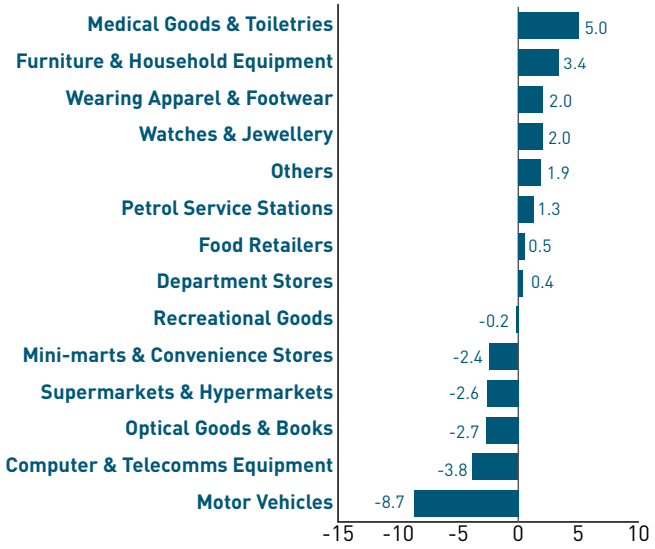
Exhibit 6.11: Changes in Retail Sales Index at Constant Prices



For the full year, retail sales volume declined by 1.1 per cent, reversing the 1.3 per cent growth recorded in 2017. Growth was weighed down by motor vehicle sales, which fell by 8.7 per cent. Excluding motor vehicles, retail sales volume grew by 0.5 per cent.

The increase in non-motor vehicle sales was underpinned by higher sales of discretionary goods. For instance, the sales volume of furniture & household equipment (3.4 per cent), wearing apparel & footwear (2.0 per cent) and watches & jewellery (2.0 per cent) improved in 2018 (Exhibit 6.12).

Exhibit 6.12: Changes in Retail Sales Index at Constant Prices for Major Segments in 2018



6.4 ACCOMMODATION & FOOD SERVICES

OVERVIEW

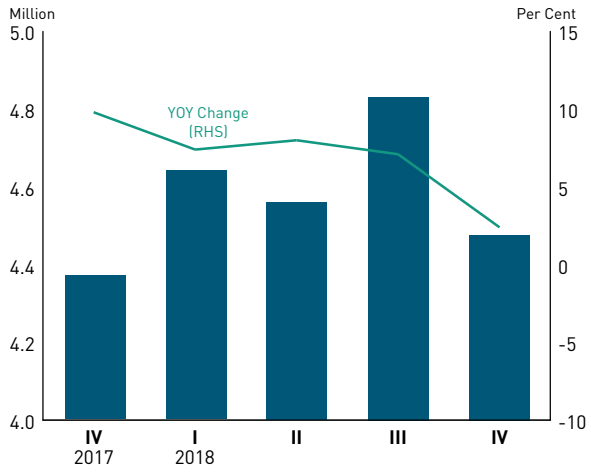
The accommodation & food services sector expanded by 2.9 per cent year-on-year in the fourth quarter, moderating from the 4.0 per cent growth in the previous quarter.

For the whole of 2018, the sector grew by 2.7 per cent, easing from the 3.0 per cent growth in 2017.

VISITOR ARRIVALS

Singapore received a total of 4.5 million visitors in the fourth quarter, 2.4 per cent higher compared to the same period a year ago (Exhibit 6.13). This came on the back of an increase in visitor arrivals from key markets such as India (9.8 per cent), Malaysia (8.2 per cent) and Japan (3.9 per cent).

Exhibit 6.13: Visitor Arrivals

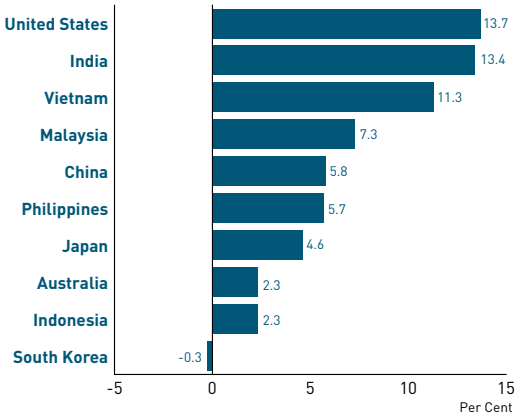


For the full year, visitor arrivals rose by 6.2 per cent, the same pace of increase as in 2017. In total, visitor arrivals reached 18.5 million in 2018.

In terms of source markets, Singapore's top five visitor-generating markets in 2018 were China (3.4 million visitors), Indonesia (3.0 million), India (1.4 million), Malaysia (1.3 million) and Australia (1.1 million). Together, they accounted for 55 per cent of total visitor arrivals in 2018.

Among the top 10 visitor-generating markets, the United States (14 per cent), India (13 per cent) and Vietnam (11 per cent) posted the highest growth rates in visitor arrivals in 2018 (Exhibit 6.14).

Exhibit 6.14: Growth Rates of Top Ten Visitor Generating Markets in 2018

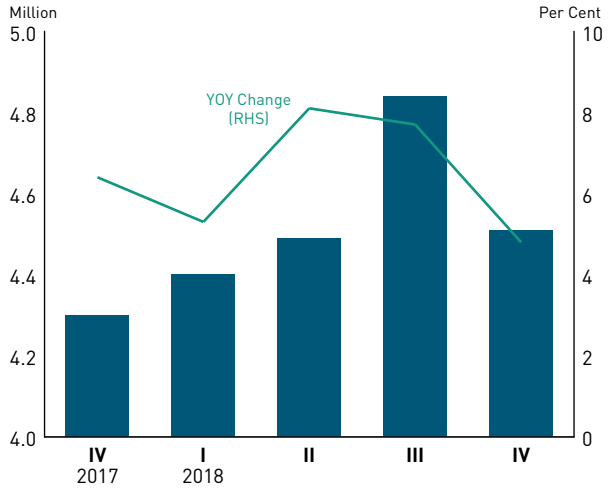


ACCOMMODATION

In tandem with the growth in visitor arrivals, gross lettings of gazetted hotel rooms rose by 4.8 per cent year-on-year in the fourth quarter, although this was a moderation from the 7.7 per cent growth seen in the previous quarter (Exhibit 6.15). Similarly, room revenue grew by 6.4 per cent year-on-year, moderating from the 7.3 per cent growth in the preceding quarter. The rise in room revenue came on the back of an improvement in the average occupancy rate of gazetted hotels as well as the average daily room rate. Specifically, the average occupancy rate rose by 1.0 percentage-point to reach 84 per cent, while the average daily room rate increased by 1.6 per cent to $222 in the fourth quarter.

For the full year, the performance of the accommodation segment was robust. The overall room revenue of gazetted hotels rose by 7.4 per cent to reach $4.0 billion in 2018 on the back of a 6.5 per cent increase in gross lettings.

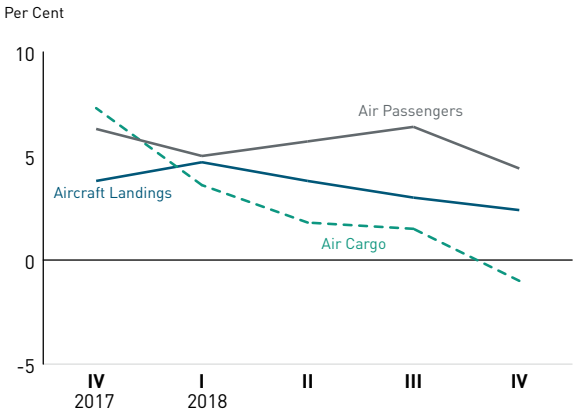
Exhibit 6.15: Gross Lettings



FOOD & BEVERAGE SERVICES

Overall food & beverage sales volume expanded by 1.6 per cent year-on-year in the fourth quarter, picking up from the 0.2 per cent growth in the preceding quarter (Exhibit 6.16). The improved performance in the fourth quarter came on the back of higher sales volume across all segments. Specifically, other eating places (1.7 per cent), fast food outlets (4.6 per cent), food caterers (2.7 per cent) and restaurants (0.2 per cent) all registered higher sales.

Exhibit 6.16: Changes in Food and Beverage Services Index at Constant Prices



For the whole of 2018, the food & beverage services index fell marginally by 0.2 per cent. This represented an easing from the 1.7 per cent decline recorded in 2017. The contraction in 2018 was due to a decline in the sales volume of restaurants (-1.3 per cent), other eating places (-1.2 per cent) and food caterers (-0.8 per cent), which was almost offset by the higher sales volume of fast food outlets (6.8 per cent).

6.5 TRANSPORTATION & STORAGE

OVERVIEW

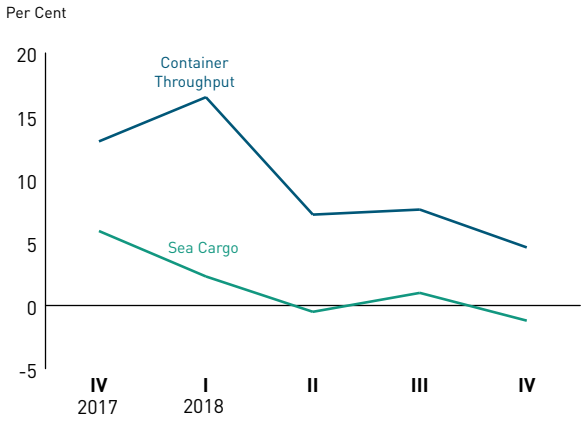
The transportation & storage sector grew by 0.5 per cent year-on-year in the fourth quarter, moderating from the 1.9 per cent growth in the previous quarter.

For the whole of 2018, the sector expanded by 1.5 per cent, slower than the 5.2 per cent growth in 2017. Growth in the sector was primarily supported by the water transport and air transport segments.

WATER TRANSPORT

Container throughput rose by 4.6 per cent year-on-year in the fourth quarter, extending the 7.6 per cent expansion in the previous quarter, in line with sustained growth in global container trade (Exhibit 6.17). For the full year, the number of TEUs (Twenty-Foot Equivalent Units) handled by Singapore's ports came in 8.7 per cent higher compared to 2017, at 37 million. This was similar to the 8.9 per cent growth recorded in 2017.

Exhibit 6.17: Changes in Container Throughput and Sea Cargo Handled



Overall sea cargo volumes declined by 1.2 per cent in the fourth quarter, reversing the 1.0 per cent expansion in the preceding quarter. The fall in sea cargo volumes was largely due to oil-in-bulk cargo shipments, which contracted by 5.1 per cent in the fourth quarter, extending the 4.1 per cent decline in the third quarter.

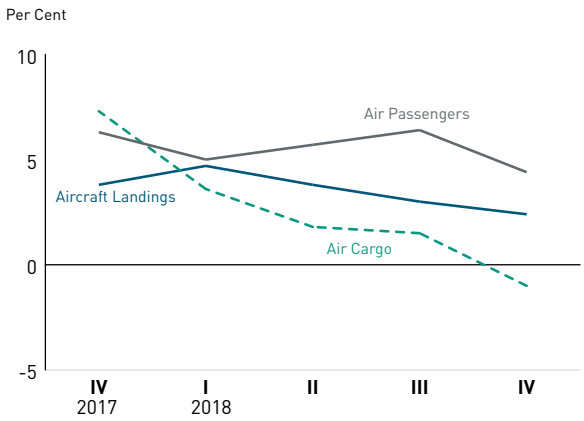
For the whole of 2018, total sea cargo volumes expanded by 0.4 per cent, slowing from the 5.8 per cent growth in the previous year.

AIR TRANSPORT

Air passenger traffic handled by Changi Airport rose by 4.4 per cent year-on-year in the fourth quarter, moderating from the 6.4 per cent increase in the previous quarter (Exhibit 6.18).

For the full year, total air passenger traffic passing through Changi Airport reached 65 million, an increase of 5.4 per cent, easing from the 5.9 per cent growth in 2017. Growth during the year was supported by a sustained increase in air passenger traffic to and from Changi Airport's key markets, including China, Malaysia and Europe.

Exhibit 6.18: Changes in Air Transport



On the other hand, air cargo volumes contracted by 1.0 per cent year-on-year in the fourth quarter, weakening from the 1.5 per cent growth in the previous quarter. Growth was likely weighed down by the contraction in our non-oil domestic exports. For 2018 as a whole, air cargo shipments expanded by 1.4 per cent, a slowdown compared to the 7.9 per cent increase in 2017.

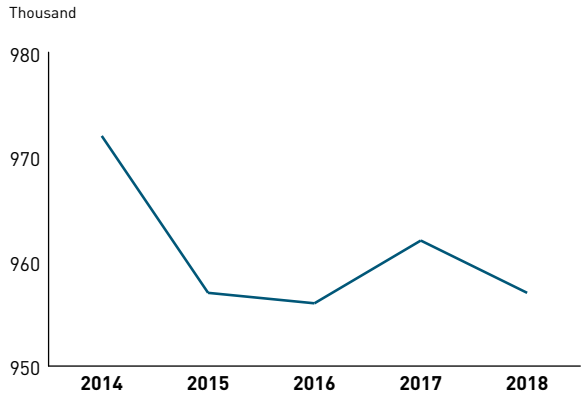
Meanwhile, following the 3.0 per cent growth in the third quarter, aircraft landings rose by 2.4 per cent on-year to reach 49,038 in the fourth quarter. This brought the total number of aircraft landings in 2018 to 193,000, which was 3.4 per cent higher as compared to 2017.

LAND TRANSPORT

As of December 2018, the total number of vehicles registered with the Land Transport Authority (LTA) was 957,006, 0.5 per cent lower than the number of vehicles registered in December 2017 (Exhibit 6.19). This marked a return to the declines seen in the three years preceding 2017.

The vehicles registered as at December 2018 comprised 551,575 private and company cars, 66,480 rental cars, 20,581 taxis, 19,379 buses, 137,480 motorcycles and scooters, and 161,511 goods vehicles and other vehicle types.

Exhibit 6.19: Motor Vehicles Registered



6.6 INFORMATION & COMMUNICATIONS

OVERVIEW

The information & communications sector expanded by 6.1 per cent year-on-year in the fourth quarter, faster than the 5.4 per cent growth in the previous quarter. Growth was supported by the IT & information services and telecommunications segments.

For the whole of 2018, the sector posted growth of 6.0 per cent, picking up from the 4.5 per cent increase in 2017.

IT & INFORMATION SERVICES

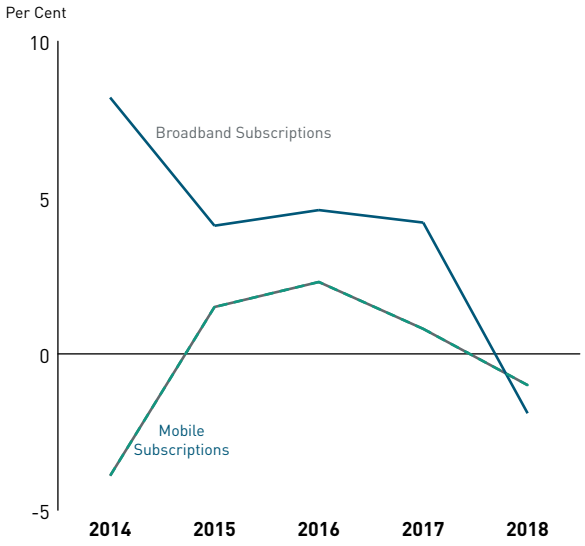
In 2018, the growth of the information & communications sector was led by the robust performance of the IT & information services segment. Specifically, the segment expanded by 8.2 per cent on the back of buoyant demand for computer programming activities such as software development as well as IT consultancy services.

TELECOMMUNICATIONS

As at November 2018[1], the number of mobile subscriptions registered a slight contraction of 1.0 per cent from the same period in 2017. The decline was contributed by a 25 per cent fall in 3G subscriptions, with the total number of subscribers easing to 1.8 million. On the other hand, the uptake of 4G subscriptions remained healthy. Notably, there were 6.5 million 4G subscribers as at November 2018, representing an increase of 8.3 per cent compared to the same period a year ago.

In 2018, there was a decline in the number of broadband subscribers. In particular, as at the end of November 2018, total broadband subscriptions had fallen by 1.9 per cent from the same period a year ago, weighed down by a 2.3 per cent decline in wireless broadband subscriptions. The latter was partly due to the decommissioning of inactive Wireless@SG accounts in early 2018. This decrease was partially offset by the 8.5 per cent increase in optical fibre subscriptions.

Exhibit 6.20: Information & Communications Growth



1 *Full year data are not available at the time of publication.*

6.7 FINANCE & INSURANCE

OVERVIEW

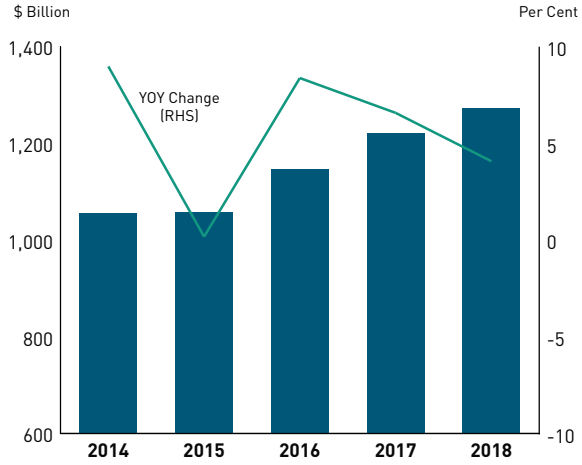
The finance & insurance sector grew by 4.1 per cent year-on-year in the fourth quarter, extending the 3.9 per cent expansion registered in the previous quarter.

For the whole of 2018, the sector expanded by 5.9 per cent, slightly faster than the 5.6 per cent growth in the preceding year.

COMMERCIAL BANKS

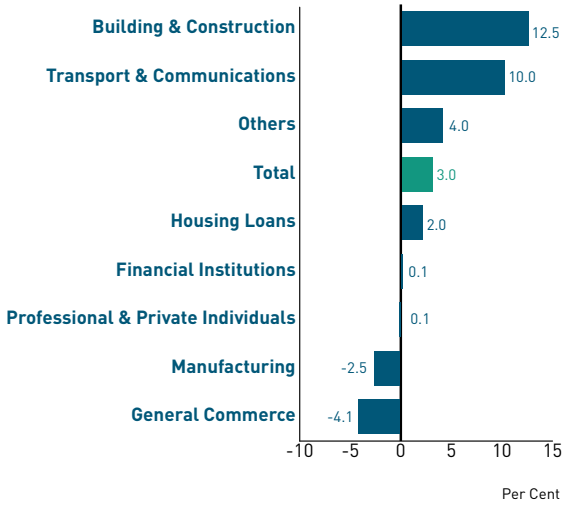
In 2018, total assets/liabilities of commercial banks increased by 4.1 per cent to $1.3 trillion (Exhibit 6.21). Both domestic non-bank and interbank lending registered improvements, with credit extended to non-bank customers rising by $20 billion (3.0 per cent).

Exhibit 6.21: Total Assets and Liabilities of Commercial Banks



Business lending rose by 4.1 per cent in 2018, moderating from the 6.2 per cent growth in the preceding year. Loans to the manufacturing and general commerce sectors declined, but this was more than offset by the strong growth in loans to the building & construction and transport, storage & communication sectors (Exhibit 6.22). Meanwhile, consumer lending grew by 1.5 per cent, supported by an increase in housing, credit cards and car loans.

Exhibit 6.22: Growth of Bank Loans and Advances to Non-Bank Customers by Industry in 2018



On the liabilities front, total deposits of non-bank customers increased by 3.5 per cent in 2018, accelerating from the 1.6 per cent rise in the previous year. As at end-2018, total non-bank deposits stood at $628 billion, higher than the $606 billion the year before, driven by strong demand for fixed deposits.

FINANCE COMPANIES

Total assets/liabilities of finance companies increased by 5.8 per cent in 2018, up from the 0.3 per cent expansion in 2017 (Exhibit 6.23).

Notably, the non-bank lending segment grew by 3.2 per cent, a pickup from the 2.4 per cent growth recorded the year before, primarily driven by higher credit extended to segments such as building & construction and hire-purchase financing of motor vehicles (Exhibit 6.24).

On the liabilities front, deposits of non-bank customers rose by 6.4 per cent in 2018, an improvement from the mild contraction in 2017.

Exhibit 6.23: Total Assets and Liabilities of Finance Companies

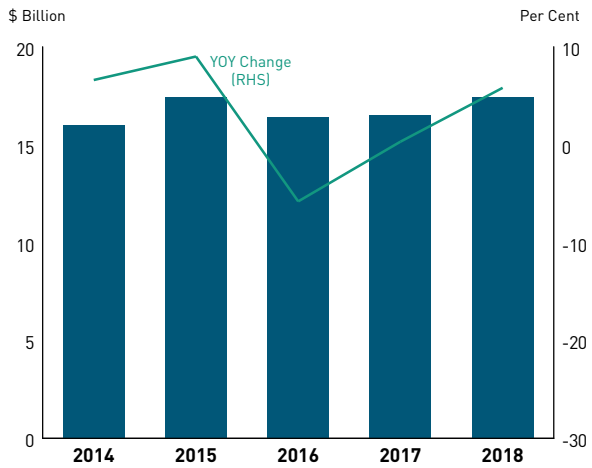
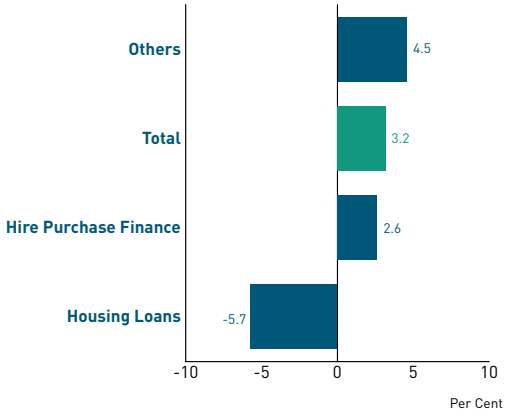


Exhibit 6.24: Growth of Loans and Advances of Finance Companies in 2018

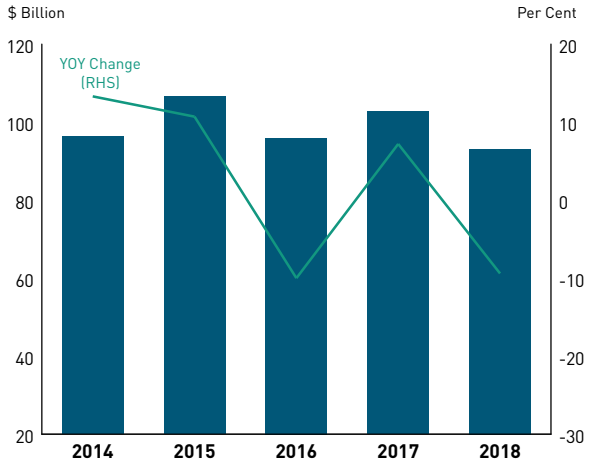


MERCHANT BANKS

Total asset/liabilities of merchant banks contracted by 9.4 per cent to $93 billion as at end-2018, from the $103 billion recorded in the previous year (Exhibit 6.25). The weakness stemmed from the offshore segment, which registered declines in both interbank and non-bank lending.

By contrast, the domestic operations of merchant banks expanded by 8.1 per cent, reversing the 5.6 per cent decline posted in 2017. The expansion was supported by increased holdings of securities and equities.

Exhibit 6.25: Total Assets and Liabilities of Merchant Banks



ASIAN DOLLAR MARKET

Total assets/liabilities of the Asian Dollar Market rose by 4.0 per cent in 2018, a step down from the 9.2 per cent increase registered in the previous year (Exhibit 6.26). Growth in non-bank loan volumes slowed to 5.0 per cent, following the 20 per cent increase in the previous year, owing to a fall in credit extended to East Asia and the Americas. Meanwhile, interbank loans grew by 1.6 per cent, decelerating from the 5.0 per cent increase in 2017.

On the liabilities front, non-bank deposits rose marginally by 0.8 per cent, as the fall in foreign currency deposits by non-residents was more than offset by the increase in resident deposits. Concomitantly, interbank deposits grew by 2.3 per cent, slowing from the 7.6 per cent growth in the previous year.

Exhibit 6.26: Total Assets and Liabilities of the Asian Dollar Market

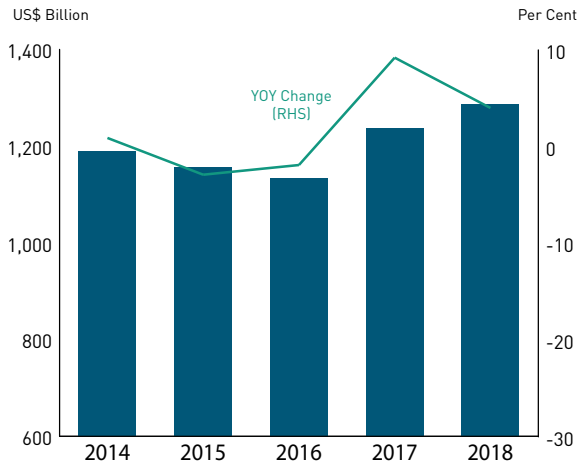
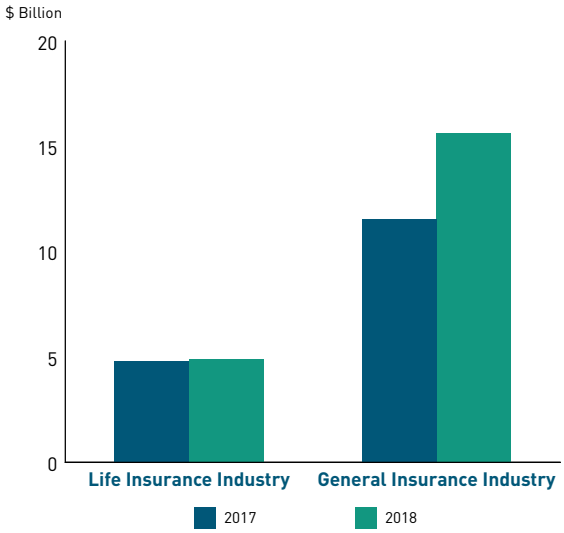


Exhibit 6.27: Premiums in the Insurance Industry



INSURANCE INDUSTRY

Total weighted new business premiums[1] in the direct life insurance industry rose by 2.9 per cent to $4.9 billion in 2018. Single premium business decreased by 1.4 per cent to $15 billion, while regular premium business grew by 4.9 per cent to $3.4 billion in 2018. Overall, the net income of the direct life insurance industry decreased to $588 million from $2.4 billion in 2017, largely due to lower investment income.

In the general insurance industry, gross premiums[2] increased by 36 per cent to $16 billion in 2018, with offshore and domestic businesses accounting for $12 billion and $4.1 billion respectively. Despite the increase in gross premiums, the general insurance industry recorded an operating loss of $676 million in 2018, representing a 150 per cent fall from 2017. This was due to the poor underwriting performance, which could in turn be attributed to significant reinsurance claims arising from natural catastrophes in Japan.

CENTRAL PROVIDENT FUND

Total CPF balances increased by 8.8 per cent to $391 billion in 2018.

Members' contributions for the year amounted to $38 billion while total withdrawals reached $21 billion. This resulted in a net contribution of $17 billion, similar to the level recorded in 2017.

Total net withdrawals under the Public Housing Scheme and Private Property Scheme grew by 4.7 per cent to reach $219 billion as at 31 December 2018.

As at 31 December 2018, about 175,000 CPF members have been included in the CPF Lifelong Income for the Elderly (CPF LIFE) Scheme which provides lifelong payouts in retirement. The CPF LIFE fund stood at $11 billion.

1 *This includes premiums from both individual and group life insurance businesses.*

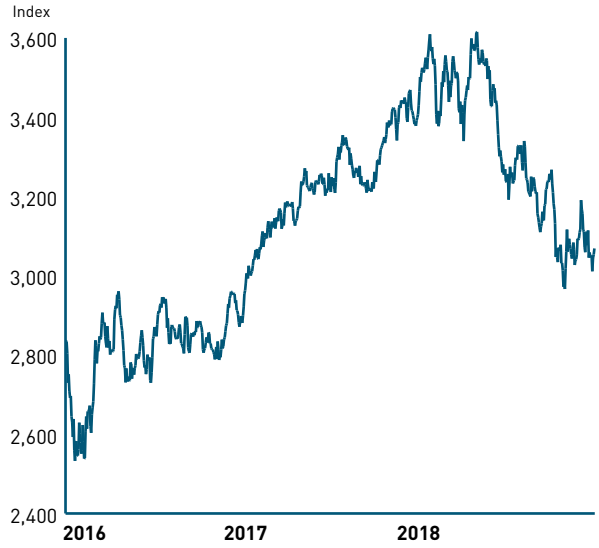
2 *Gross premium figures for the general insurance industry include gross premiums for the direct general insurance industry as well as the general reinsurance industry.*

STOCK MARKET

The benchmark Straits Times Index (STI) declined by 9.8 per cent in 2018, driven by slower growth from the maturing global economic cycle and reinforced by heightened uncertainties over geopolitical events such as the US-China trade tensions and Brexit.

Moreover, movements in the STI in 2018 were characterised by increased volatility throughout the year. For example, the Index closed above 3,600 points - the highest reached in a decade - twice in the first half of 2018, before beginning its descent in the second half to 3,069 points at the end of 2018.

Exhibit 6.28: Straits Times Index



SECURITIES MARKET

In 2018, the total turnover value of the securities market increased by 2.0 per cent to $299 billion while the total turnover volume decreased by 20 per cent to 437 billion shares, as compared to 2017. This translated to a 1.5 per cent increase in the average daily traded value to $1.2 billion, and a 20 per cent decline in the average daily traded volume to 1.7 billion shares.

At the end of 2018, the total number of listed companies in Singapore was 741, with a combined market capitalisation of $937 billion, a 11 per cent decrease from 2017. In 2018, there were 527 companies listed on SGX's Mainboard while the other 214 companies were listed on SGX's Catalist.

DERIVATIVES MARKET

In 2018, SGX's derivatives market activity increased by 22 per cent to 217 million contracts. Compared to 2017, total futures trading volume rose by 22 per cent to 203 million, while options on futures trading volume grew by 22 per cent to 14 million contracts. The most actively-traded contracts were the FTSE China A50 Index Futures, the Nikkei 225 Stock Index and the SGX CNX Nifty Index futures, which formed 61 per cent of the total volume traded on SGX's derivatives trading platform.

FOREIGN EXCHANGE MARKET

In 2018, the Euro and British Pound fell by 4.5 per cent and 5.6 per cent against the US Dollar respectively, while the Japanese Yen was up 2.7 per cent. The appreciation of the US Dollar against the Euro and British Pound was a reflection of the outperformance in US' growth in 2018, boosted by tax cuts and fiscal stimulus, even as the Fed gradually hiked interest rates throughout the year. By contrast, the Euro depreciated amidst slower growth in the Euro-area and concerns about Italy as the European Central Bank (ECB) kept its monetary policy unchanged. The British Pound was also weighed down by ongoing Brexit-related uncertainty. The Japanese Yen strengthened towards year-end on safe-haven flows as concerns about global growth caused risk aversion to rise.

6.8 BUSINESS SERVICES

OVERVIEW

The business services sector expanded by 2.8 per cent year-on-year in the fourth quarter, extending the 3.3 per cent growth posted in the previous quarter.

For the whole of 2018, the sector grew by 3.0 per cent, picking up from the 1.8 per cent growth in the previous year.

REAL ESTATE

In 2018, the growth of the business services sector was weighed down by the real estate segment. Notably, the real estate segment contracted by 0.9 per cent in 2018, although this represented an easing from the 5.7 per cent decline seen in 2017.

The private residential property market weakened on the back of the property market cooling measures implemented in July 2018, with the prices of private residential units recording their first decline in the fourth quarter after five consecutive quarters of increase. On a quarter-on-quarter basis, prices dipped marginally by 0.1 per cent in the fourth quarter, reversing the 0.5 per cent increase seen in the previous quarter. For the whole of 2018, prices rose by 7.9 per cent, faster than the 1.1 per cent increase recorded in 2017.

In tandem with the fall in prices, private residential property sales volumes also posted sluggish growth. Total private residential property sales fell by 38 per cent year-on-year in the fourth quarter, steeper than the 14 per cent contraction registered in the previous quarter. For the full year, total sales declined by 11 per cent to 22,139 units, compared to the 25,010 units sold in 2017 (Exhibit 6.29).

In the commercial space segment, the retail space market remained lacklustre in 2018. Private retail space rentals contracted by 1.0 per cent in 2018, following the 4.7 per cent fall in the previous year (Exhibit 6.30). The weak performance was due to lower rentals in the Central Area (-1.7 per cent), although rentals in the Fringe Area increased (1.3 per cent). Bucking the trend, the prices of private retail space grew by 0.6 per cent in 2018, a turnaround from the 8.8 per cent decline recorded in the previous year.

Exhibit 6.29: Total Sales of Private Residential Units and Private Residential Property Price Index

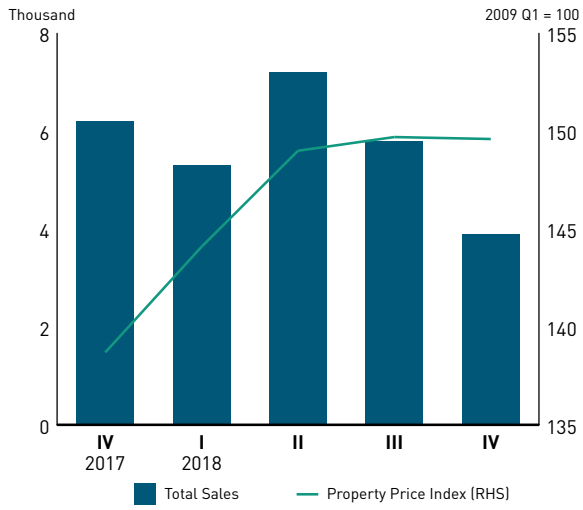
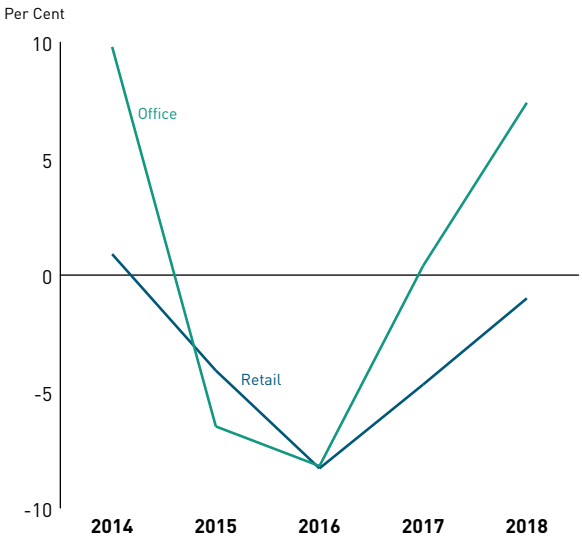


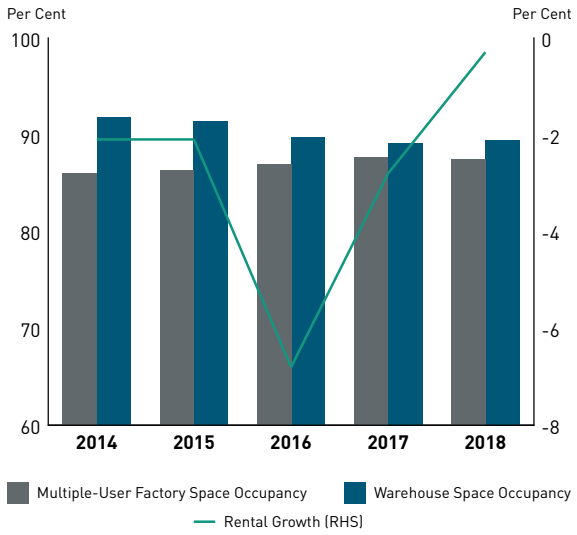
Exhibit 6.30: Changes in Rentals of Private Sector Office and Retail Spaces



For the office space market, office space prices rose by 5.7 per cent in 2018, a reversal from the 2.4 per cent contraction in 2017. Likewise, private office space rentals grew by 7.4 per cent in 2018, picking up from the 0.4 per cent increase in the previous year (Exhibit 8.30). The pickup in office rentals was due to higher rentals in the Central Area (7.9 per cent) and Fringe Area (3.8 per cent).

In the industrial space market, overall prices recorded flat growth in 2018, following the 5.7 per cent decline in 2017. Meanwhile, overall rentals fell slightly by 0.3 per cent, moderating from the 2.8 per cent decline seen in 2017. In particular, the rentals of private warehouse space contracted at a more modest pace of 0.9 per cent in 2018 compared to the 5.7 per cent decrease registered in 2017 (Exhibit 6.31).

Exhibit 6.31: Occupancy Rate and Rental Growth of Industrial Space



PROFESSIONAL SERVICES

Growth of the professional services segment remained healthy in 2018, supported by activities in the architectural & engineering, technical testing & analysis (2.1 per cent) and the business & management consultancy (3.7 per cent) sub-segments. However, the segment was weighed down by the weakness in the head offices & business representative offices sub-segment (-1.1 per cent).

Image courtesy of Singapore Tourism Board

CHAPTER 7

ECONOMIC OUTLOOK

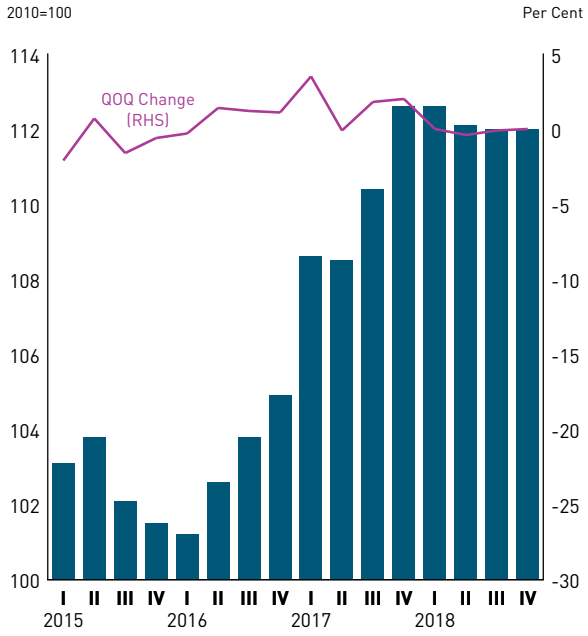
CHAPTER 7
ECONOMIC OUTLOOK

LEADING INDICATORS

The composite leading index (CLI) points to stable growth in the Singapore economy in the near term. Specifically, the CLI was flat on a quarter-on-quarter basis in the fourth quarter of 2018, following a marginal 0.1 per cent decline in the third quarter (Exhibit 7.1).

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

Exhibit 7.1: Composite Leading Index Levels and Growth Rate



OUTLOOK FOR 2019

Since November 2018, the external demand outlook for Singapore has weakened slightly. In particular, the IMF has revised downwards its 2019 global growth forecast by 0.2 percentage-point to 3.5 per cent, with downgrades to the forecasts for some of Singapore's key final demand markets such as the Eurozone and ASEAN-5 economies. As compared to 2018, growth in most of the key advanced and regional economies is expected to moderate in 2019.

Exhibit 7.2: GDP and World Trade Forecasts

	2018 (Estimate)	2019 (Forecast)
World Trade	4.0	4.0
World GDP	3.7	3.5
United States	2.9	2.5
Eurozone	1.9	1.5
Japan	0.8	1.0
China	6.6	6.2
Hong Kong SAR	3.4	2.4
South Korea	2.6	2.4
Taiwan	2.7	2.1
Indonesia	5.2	5.1
Malaysia	4.7	4.5
Thailand	4.2	3.7
Singapore	3.2	1.5-3.5^

Source: Various Official Sources, IMF and Consensus Forecasts
^ MTI's forecast range

In the US, GDP growth is projected to ease in 2019 as the economy enters the later stages of the macroeconomic cycle and the impact of the fiscal stimulus implemented last year starts to fade. Nonetheless, private consumption is expected to continue to support growth on the back of strong labour market conditions and healthy wage growth. Growth in the Eurozone economy is projected to moderate in 2019, following the easing in growth momentum since early 2018. However, healthy labour market conditions and low borrowing costs should help to support domestic demand in the Eurozone economy. In Asia, China's economy is expected to ease further in 2019 on the back of a slowdown in investment and exports growth, even as private consumption is likely to remain stable, supported in part by government measures to boost household spending. Meanwhile, the key ASEAN economies are projected to expand at a slower pace in 2019, weighed down by a moderation in merchandise exports. Nevertheless, domestic demand is likely to remain resilient on account of firm consumer sentiments.

At the same time, uncertainties and downside risks in the global economy have increased since three months ago. First, there remains the risk of a further escalation of the trade conflicts between the US and its key trading partners, which could trigger a sharp fall in global business and consumer confidence. Should this happen, global investment and consumption spending would decline, with an adverse impact on global economic growth. Second, a sharper-than-expected slowdown of the Chinese economy could adversely affect the region's growth due to falling import demand from China, especially given regional economies' close interlinkages with China through their participation in manufacturing and trade-related services value chains. Third, there is a risk that the UK will leave the EU without a withdrawal agreement. A "no-deal" Brexit could lead to substantial trade frictions between the UK and its trading partners, and weigh on consumer and business sentiments in the UK and EU, with potential negative effects on global growth. The heightened uncertainties and risks in the global economy have led to a rise in volatility in global financial markets. Should the downside risks materialise, financial market volatility could spike and adversely affect investor sentiments, thereby exacerbating the negative effects on global growth.

Against this external backdrop, the pace of growth in the Singapore economy is expected to slow in 2019 as compared to 2018. First, the manufacturing sector is likely to see a significant moderation in growth following two years of robust expansions. In particular, the electronics and precision engineering clusters are expected to face external headwinds due to weakening global demand for semiconductors and semiconductor equipment with the fading of the global electronics cycle. Second, growth in outward-oriented services sectors such as wholesale trade, transportation & storage and finance & insurance is expected to ease in tandem with the moderation in growth in key advanced and regional economies.

Nonetheless, the information & communications sector and the education, health & social services segment are expected to remain resilient, supported by firms' robust demand for IT and digital solutions and the ramp-up of operations in healthcare facilities respectively. Meanwhile, the construction sector is likely to see a turnaround after three consecutive years of contraction, as the pickup in contracts awarded since the second half of 2017 should translate into construction activities in the quarters ahead.

Taking into account the global and domestic economic environment, MTI has maintained the 2019 GDP growth forecast at **"1.5 to 3.5 per cent", with growth expected to come in slightly below the mid-point of the forecast range.**

Image courtesy of Singapore Tourism Board

FEATURE ARTICLE

FEATURE ARTICLE

RETURNS TO SINGAPORE WORKFORCE SKILLS QUALIFICATIONS (WSQ) TRAINING:

Does Training Raise Wages and Employability?

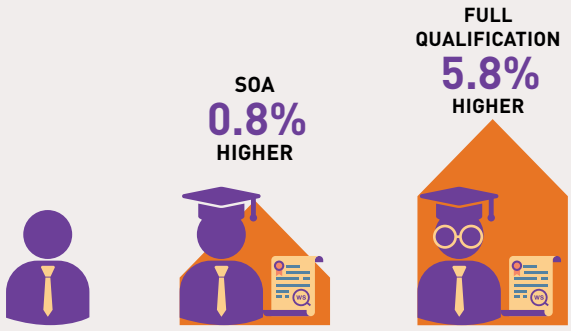
INTRODUCTION

The Singapore Workforce Skills Qualification (WSQ) is a national credential system that trains, develops, assesses and certifies skills and competencies for the Singapore workforce. WSQ offers bite-sized training modules, at the end of which a Statement of Attainment (SOA) is awarded. Trainees can also accumulate relevant SOAs to achieve a WSQ full qualification.

FINDINGS

FINDING 1

There were positive wage returns to attaining WSQ SOAs and full qualifications. Specifically, we find that SOA trainees enjoyed real wages that were 0.8 per cent higher on average in the year after training compared to their control group, while WSQ full qualification trainees experienced a real wage premium of 5.8 per cent on average in the year after training.



FINDING 2

SOA and full qualification trainees who were non-employed in the year of training were also more likely to be employed in the following year.

On average, individuals who were non-employed and received an SOA were 3.5pp more likely than their control group to be employed in the year after training. Similarly, non-employed full qualification trainees were 2.6pp more likely than their control group to be employed in the year after training.

POLICY TAKEAWAY

WSQ training has been effective in increasing trainees' real wages and their probability of employment in the year after training. Going forward, as part of the wider national CET effort, SSG will continue to support individuals, through WSQ and other skills-related training programmes, to improve their skills and employability. Singaporeans are, in turn, encouraged to participate in training in order to build up their capabilities so that they can enhance their employability and benefit from higher wages over the longer term.

EXECUTIVE SUMMARY

- The Singapore Workforce Skills Qualification (WSQ) is a national credential system that trains, develops, assesses and certifies skills and competencies for the Singapore workforce. WSQ offers bite-sized training modules, at the end of which a Statement of Attainment (SOA) is awarded. Trainees can also accumulate relevant SOAs to achieve a WSQ full qualification. Given the importance of WSQ training in developing the skills and competencies of the Singapore workforce, this study investigates the benefits to individuals who participated in WSQ training by examining their wage and employability outcomes in the year after training.

- Our findings suggest that there are positive wage returns to attaining WSQ SOAs and full qualifications, with higher returns found for the attainment of full qualifications. Specifically, we find that SOA trainees enjoyed real wages that were 0.8 per cent higher on average in the year after training compared to their control group, while WSQ full qualification trainees experienced a real wage premium of 5.8 per cent on average in the year after training.

- SOA and full qualification trainees who were non-employed[1] in the year of training were also more likely to be employed in the following year. On average, individuals who were non-employed and received an SOA between 2011 and 2014 were 3.5 percentage-points (pp) more likely than their control group to be employed in the year after training. Similarly, non-employed full qualification trainees were 2.6pp more likely than their control group to be employed in the year after training.

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, SkillsFuture Singapore, or the Government of Singapore.[2]

INTRODUCTION

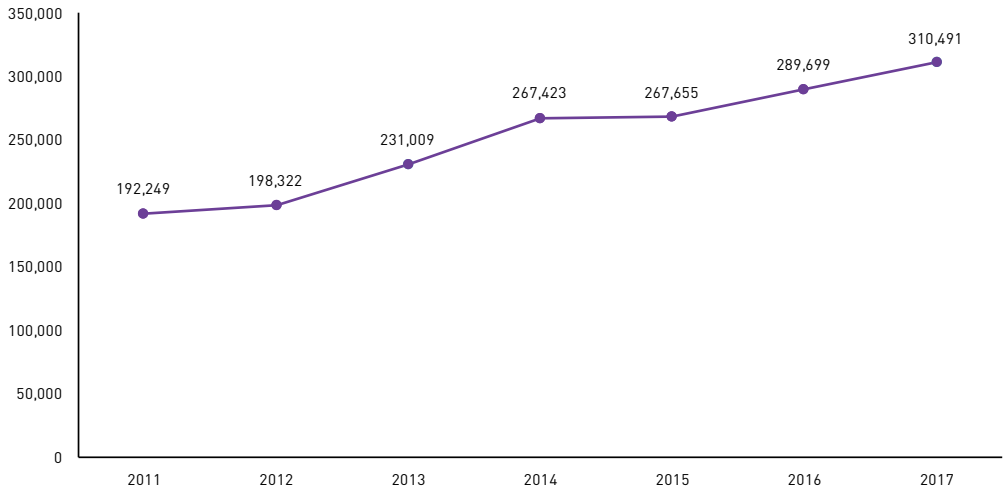
The Singapore Workforce Skills Qualification (WSQ) is a national credential system that trains, develops, assesses and certifies skills and competencies for the Singapore workforce. Supporting the national SkillsFuture movement, WSQ promotes the recognition of skills mastery and competencies to facilitate individuals' progression and mobility within and between jobs. To provide flexibility and cater to adult learners' schedules, WSQ offers bite-sized training modules, at the end of which a Statement of Attainment (SOA) is awarded. Trainees can also accumulate relevant SOAs to achieve a WSQ full qualification.

In recent years, the Singapore Government has rolled out numerous training-related measures targeted at both Professionals, Managers, Executives and Technicians (PMETs) as well as low-wage workers (LWWs). For instance, the Workfare Training Support Scheme was introduced in 2010 to incentivise LWWs to participate in WSQ training. In part due to these measures, the number of local trainees who attained at least one WSQ SOA increased by 62 per cent (from 192,249 to 310,491) between 2011 and 2017 (Exhibit 1).

Over the years, WSQ training has become a key feature of Singapore's continuing education and training (CET) system. Given its importance in developing the skills and competencies of the Singapore workforce, this study investigates the benefits that accrue to individuals who participated in WSQ training programmes. Specifically, the study empirically examines the impact of WSQ training on the wages and employability of WSQ trainees.

1 *Non-employed refers to individuals who are not working. They include the unemployed and those who are out of the labour force.*
2 *We would like to thank Yong Yik Wei, Dr Kuan Ming Leong and Lee Zen Wea for their useful suggestions and comments, as well as the Department of Statistics' Strategic Resource and Population Division for its invaluable statistical support. We are also grateful to the Strategic Planning Division at SkillsFuture Singapore for its inputs to this study. All errors belong to the authors.*

Exhibit 1: Number of Local Trainees with at least one WSQ SOA, 2011-2017



Source: SkillsFuture Singapore (SSG)

The rest of the article is organised as follows. We first conduct a brief review of the literature related to the impact of training on individuals' labour market outcomes. We then describe the data and methodology employed for our study, before reporting our findings. The final section concludes.

LITERATURE REVIEW

Theoretically, training has an ambiguous effect on wages in the short run. On the one hand, the human capital accumulated through training may raise workers' productivity and in turn, their wages as employers reward more productive employees. On the other hand, the productivity and wage gains from training may take time to materialise. In the short run, wages may be depressed due to the following factors. First, trainees who gain new skills and switch firms and industries may be willing to accept a pay cut in return for possible higher lifetime wages. Second, as a sizable part of a worker's skill is specific to his/her workplace, a switch to another job, firm and/or industry could reduce part of his/her human capital, thus affecting his/her wages in the short run (Kambourov et al., 2018). Third, trainees could temporarily withdraw from the labour market while in the training programme, thereby depressing short-run labour market outcomes (Card et al., 2015). In the longer run, however, human capital accumulation from the training could dominate, and the labour outcomes of the trainees could become more favourable.

Empirically, the literature suggests that training generally results in positive wage returns. For instance, Brunello et al. (2012) found that in Italy, an additional week of formal continuing vocational training increased monthly net earnings by 1.4 per cent. Similarly, Kambourov et al. (2018) found positive real wage returns to employer-sponsored and government-sponsored training of approximately 5 per cent and 8 per cent respectively for trainees who did not change jobs. Among trainees who switched jobs, the real wage returns to government-sponsored and employer-sponsored training were both found to be at around 10 per cent. Drawing on evidence accumulated from over two hundred active labour market policy evaluations, Card et al. (2015) concluded that training programmes that facilitated the re-entry of unemployed individuals into the labour market were relatively ineffective in the short term (i.e., less than a year after the end of the programme). However, in the medium term (i.e., two to three years after programme completion), training programmes were associated with positive impacts.

In Singapore's context, positive wage returns from training have also been found. For example, Lee (2013) found that LWWs who participated in structured training between 2007 and 2009 experienced an average real wage increase of 3.1 per cent relative to a control group. A previous longitudinal study commissioned by the then-Workforce Development Agency (WDA) which examined the wage impact of WSQ training in 2009 and 2010 found that trainees who attained SOAs and full qualifications enjoyed positive real wage returns of 1.3 per cent to 5.3 per cent.[3]

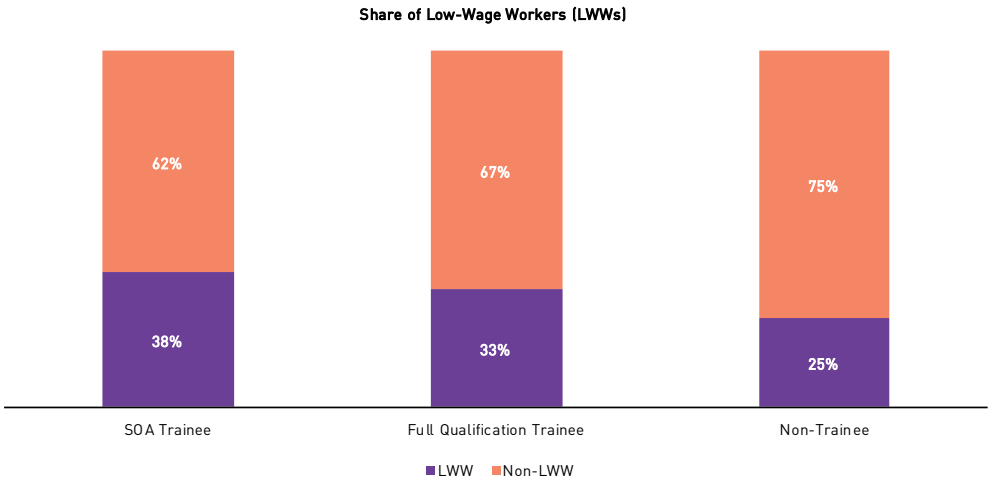
3 *See then-Workforce Development Agency's media release, "New Study Reveals Positive Impact of WSQ Training on Wages", dated 6 June 2013. Accessed on 13 Jan 2019 at http://www.ssg-wsg.gov.sg/new-and-announcements/2013/5_Jun_2013.html*

DATA AND EMPIRICAL METHODOLOGY

To estimate the returns to WSQ training, this study employs data from SkillsFuture Singapore (SSG) on all trainees who received an SOA or a full qualification from 2011 to 2016. The training data from SSG is merged with administrative data of a longitudinal nature which includes information on individuals' wages, demographic characteristics, educational attainment and workplace characteristics. Apart from WSQ trainees, the merged dataset also includes information on non-trainees.

An examination of the data shows that the observable characteristics of WSQ trainees differ systematically from that of non-trainees. Between 2011 and 2014, a larger share of WSQ trainees were LWWs[4] compared to non-trainees[5]. In particular, 38 per cent of trainees who attained an SOA ('SOA trainees') and 33 per cent of trainees who attained a full qualification ('full qualification trainees') were LWWs compared to 25 per cent among non-trainees (Exhibit 2).

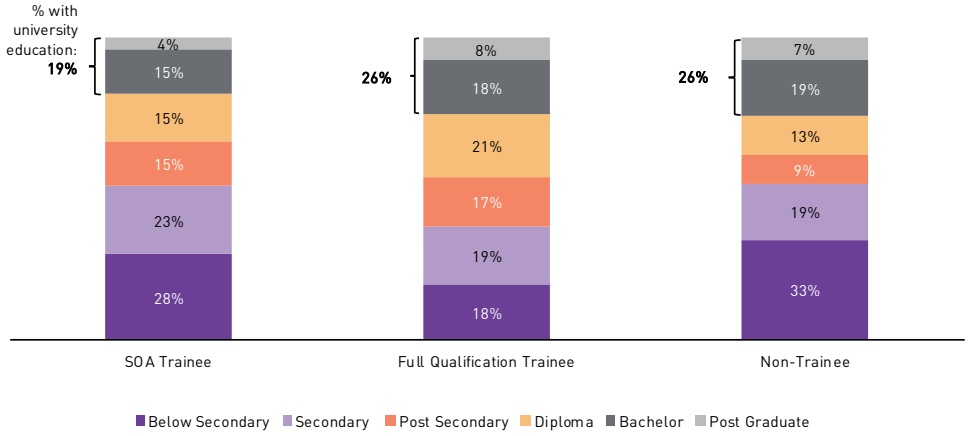
Exhibit 2: Trainees and Non-Trainees by Low-Wage Worker Status in Year before Training for 2011-2014 Cohorts



Source: Authors' calculation, based on data from SSG and other administrative sources

In terms of education profile, the data shows that SOA trainees tended to have lower educational attainment compared to full qualification trainees and non-trainees. Specifically, 19 per cent of SOA trainees had a university education as compared to 26 per cent for full qualification trainees and non-trainees (Exhibit 3).

Exhibit 3: Trainees and Non-Trainees by Highest Qualification Attained in Year before Training for 2011-2014 Cohorts



Source: Authors' calculation, based on data from SSG and other administrative sources

4 *In this study, LWWs refer to individuals who earn nominal monthly income from employment that is at most $2,000, possess property with annual value of at most $13,000, and own at most one property.*
5 *Non-trainees consist of individuals who did not take WSQ or academic CET courses from 2011-2016.*

Besides differences in observable characteristics, WSQ trainees are also likely to differ from non-trainees in terms of unobservable characteristics such as their intrinsic motivation. For example, workers who are more motivated – a factor not observed in the data – may systematically choose to participate in training to improve their skills. At the same time, this higher level of motivation may translate to higher remuneration at work. A simple comparison of the wage outcomes of trainees and non-trainees would then suffer from selection bias, and overstate the impact of WSQ training on wages.

To overcome this selection bias and estimate the causal returns to WSQ training, we select our control group from trainees who received WSQ training two years later. In other words, the control for an individual who underwent WSQ training in year t would be an individual who had not yet been trained but would receive training in year $t+2$. The labour market outcomes of these two individuals are then compared in year $t+1$. Unlike non-trainees, future trainees are arguably more similar to the trainees in year t, including in terms of their unobservable characteristics such as intrinsic motivation. By exploiting differences in the timing of training, we would be better able to control for these unobservable characteristics.

In order to remove confounding effects on labour market outcomes stemming from the workers' *observable* characteristics (e.g., demographic, work, firm and training characteristics), we next match the trainees to their control group based on these observable characteristics using coarsened exact matching (CEM). Any remaining imbalance in the matched data is addressed by including control variables in the regression analysis.

We choose to compare the outcomes of the trainees and their matched control group in year $t+1$ instead of year t as doing so would better allow us to capture any human capital accumulation effects, given that labour market outcomes may be depressed in the short run (Card et al., 2015). To ensure that we do not conflate the effect of multiple training programmes, we exclude trainees who received SOAs or full qualifications in multiple years, as well as individuals who attended academic CET courses (i.e., non-WSQ CET courses at polytechnics or autonomous universities) over the period of the study.[6]

The final matched sample for our analysis comprises WSQ trainees who received training in 2011 to 2014 and their matched controls who received training two years later (i.e., 2013 to 2016). The following regression was then performed on the matched sample to estimate the impact of WSQ training on trainees' labour market outcomes:

$$Y_i = \beta_0 + \beta_1 WSQ_i + \beta_2 Demographic_i + \beta_3 Work_i + \beta_4 Firm_i + \beta_5 Training_i + \alpha_t + \varepsilon_i \qquad (1)$$

Where:

- Y_i denotes the log wage of individual i in time $t+1$ or the employment status of individual i in time $t+1$ for individuals who were non-employed in time t;
- WSQ_i is a dummy variable that takes on a value of 1 in the year that the individual receives a WSQ SOA or full qualification, and 0 otherwise;
- $Demographic_i$ denotes the individual's demographic characteristics, including gender, age, race, marital status, number of children and residential status in time $t-1$;
- $Work_i$ denotes the individual's work characteristics, including the individual's number of months worked in time $t-1$ and income in time $t-2$;
- $Firm_i$ denotes the characteristics of the firm the individual is employed in, including the industry of the firm, the small and medium-sized enterprise (SME) status of the firm, the ownership of the firm, and whether the firm's productivity is above the industry's median productivity in time $t-1$;
- $Training_i$ denotes the characteristics related to the WSQ training undertaken by both the treatment and control groups, such as the type of WSQ framework, the level of the full qualification attained (e.g., certificate, higher certificate, etc.), and whether the training was company-sponsored;
- α_t is a vector of year dummies that captures effects common to all individuals in the specific year;
- ε_i is the error that captures the unobservable factors that determine Y_i.

6 *Other treatments that were done on the data include the removal of individuals who had wage growth below the 2.5th percentile and above the 97.5th percentile from the sample. The sample was also further restricted to individuals who resided in Singapore two years before training and one year after training.*

When analysing the wage outcome of WSQ training, the coefficient of interest (β_1) measures the average change in wages for trainees in the year after attaining an SOA or a full qualification. We report the average change in real wages by deflating the wages to account for inflation. When analysing the employability outcome, β_1 measures the average change in the probability of moving from non-employment to employment in the year after training. The next section reports our findings.

RESULTS

Our findings suggest that participation in WSQ training had a significant and positive impact on real wages and the probability of entering employment in the year after training (Exhibit 4).

Specifically, we find positive wage returns to the attainment of a WSQ SOA and also WSQ full qualification, with higher wage returns estimated for the attainment of a full qualification. On average, WSQ trainees who received an SOA between 2011 and 2014 enjoyed real wages that were 0.8 per cent higher in the year after training as compared to their control group, while WSQ trainees who received a full qualification during the same period experienced a real wage premium of 5.8 per cent.

Our study also found that individuals who were non-employed and received an SOA between 2011 and 2014 were 3.5 percentage-points (pp) more likely than their control group to be employed in the year after training. Similarly, non-employed full qualification trainees were 2.6pp more likely than their control group to be employed in the year after training. Based on these results, 6,100 SOA trainees and 400 full qualification trainees over the period of 2011 to 2014 were estimated to have moved from non-employment to employment as a result of the WSQ training.[7]

Exhibit 4: Regression Results

Dependent Variable	SOA	Full Qualification
Real wage in the year after training	0.8%***	5.8%***
Probability of moving from non-employment to employment	3.5pp***	2.6pp***

*** Statistically significant at the 1% level

CONCLUSION

In summary, our study finds that WSQ training has been effective in increasing trainees' real wages and their probability of employment in the year after training. The positive findings on wages are comparable to the findings of the longitudinal study by the then-WDA in 2013 for earlier WSQ cohorts. These studies provide strong evidence that individuals have benefitted from WSQ training aimed at upgrading their skills and enhancing their employability.

Going forward, as part of the wider national CET effort, SSG will continue to support individuals, through WSQ and other skills-related training programmes, to improve their skills and employability. Singaporeans are, in turn, encouraged to participate in training in order to build up their capabilities so that they can enhance their employability and benefit from higher wages over the longer term.

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7 *Authors' calculation. To obtain the number of trainees who moved from non-employment to employment as a result of WSQ training, the regression coefficients were applied to the full training sample (i.e., including individuals who took multiple training courses during the study period).*

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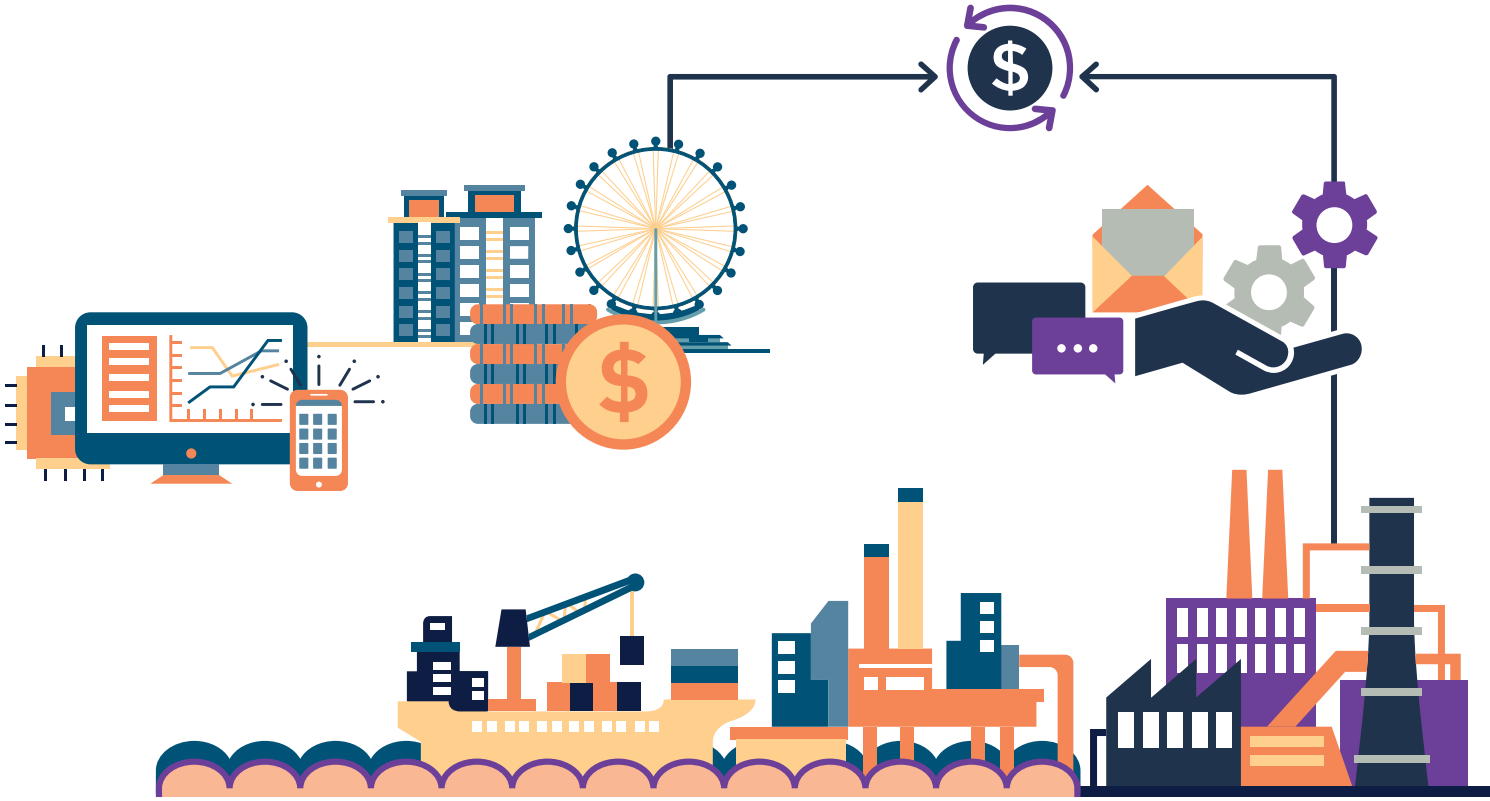

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