

BOX ARTICLE 3.1

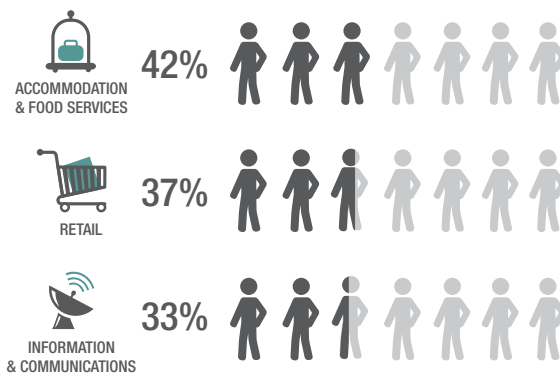
Business Costs of Singapore's Manufacturing and Services Sectors

Labour, work given out and royalties payments make up the bulk of business costs in the manufacturing sector...

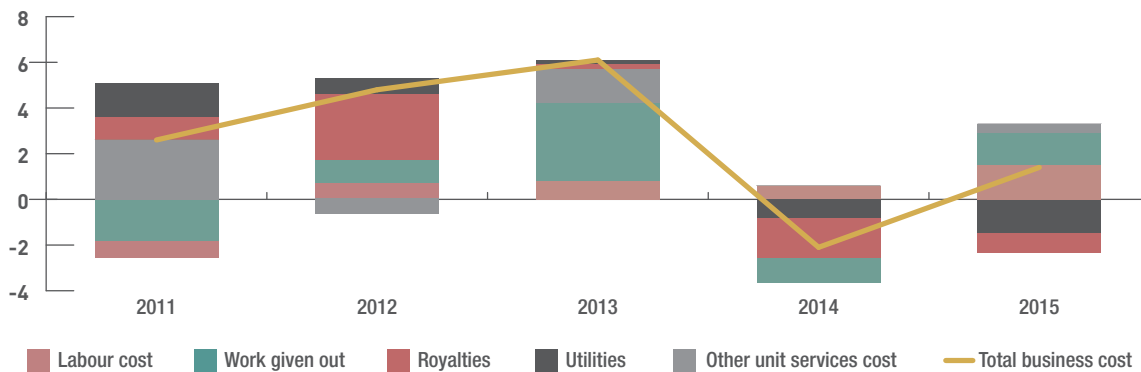


■ Labour cost ■ Work given out ■ Royalties payments ■ Others

...while labour cost is also a key cost component for the services industries, particularly among the SMEs



Labour, work given out, royalties payments and utilities were key drivers of recent business cost changes



In the near term, labour cost is expected to rise while rental and utilities costs are expected to ease

LABOUR COST



Wage increases continue to lead productivity gains

RENTAL COST



Strong supply coming on-stream coupled with weaker demand

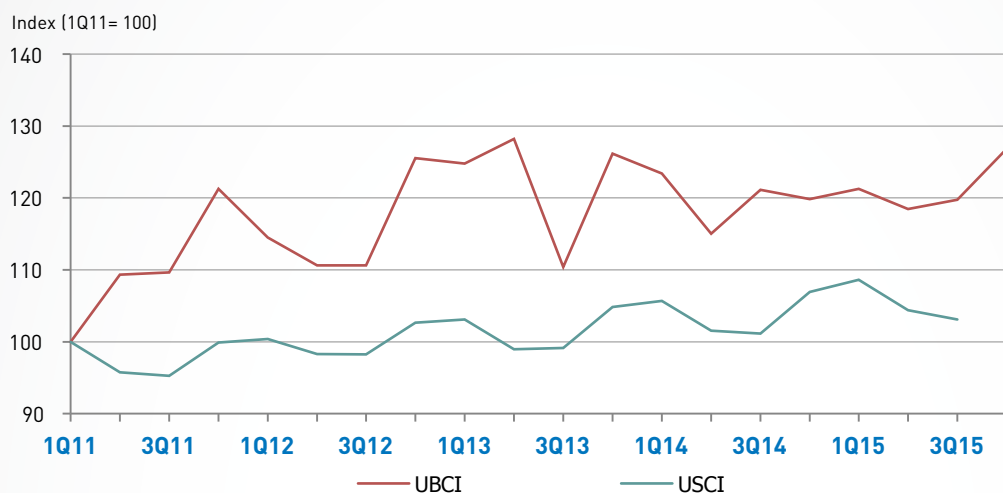
UTILITIES COST



Further decline in global oil prices

Between 2011 and 2015, the unit business cost index for the manufacturing sector (UBCI) rose by 2.5 per cent on a compounded annual growth rate (CAGR) basis, while the unit business cost index for the services sector (USCI) rose by 1.9 per cent CAGR.¹ In 2015, the UBCI rose by 1.4 per cent, slower than the average increase over the period of 2011–2015. On the other hand, the USCI rose by 2.5 per cent year-on-year in the first three quarters of 2015, higher than the average seen in the last four years (Exhibit 1).²

Exhibit 1: Manufacturing Sector UBCI and Services Sector USCI



Note: Due to rebasing to Base Year 2010=100, the UBCI series starts in 2010.
Source: Department of Statistics, Monetary Authority of Singapore

Labour cost, work given out and royalties payments make up the bulk of business costs in the manufacturing sector

In the manufacturing sector, labour cost accounts for the largest share of total business costs, followed by work given out and royalties payments. Collectively, these three components account for 64 per cent of the business costs of large enterprises and 71 per cent of the business costs of small- and medium-sized enterprises (SMEs) in the sector.³ The other services cost components, including utilities, fuel, rental of building/premises and charges paid to other firms for inland transportation, make up a far smaller 16 per cent and 11 per cent of the business costs of large enterprises and SMEs respectively. Details of the cost structure of the large enterprises and SMEs in the manufacturing sector, as well as in the various manufacturing clusters, are in Annex A, Exhibit A1.

Labour cost constitutes a major cost component for the services industries

Similarly, labour cost constitutes a major cost component for the services industries, although the share of labour cost in total business costs ranges from less than 15 per cent for the transportation & storage industry to more than 30 per cent for more labour-intensive industries such as retail trade and accommodation & food services. Across all services industries, except for the transportation & storage industry, the labour cost share of total business costs is larger for SMEs than for large enterprises.

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)". The manufacturing UBCI based on the revised methodology is available from 1Q10 onwards with the historical series (prior to 2010) re-scaled to ensure a continuous time series.

² Latest available USCI for the services sector compiled by MAS is up to 3Q15.

³ Based on SPRING's definition, SMEs refer to firms with annual sales turnover of not more than S\$100 million or employment size of not more than 200 workers.

On the other hand, utilities cost is a relatively small cost component for services industries, accounting for less than 1 per cent of total business costs for most industries. A key exception is the accommodation & food services industry, where utilities cost constitutes around 5-6 per cent of total business costs.

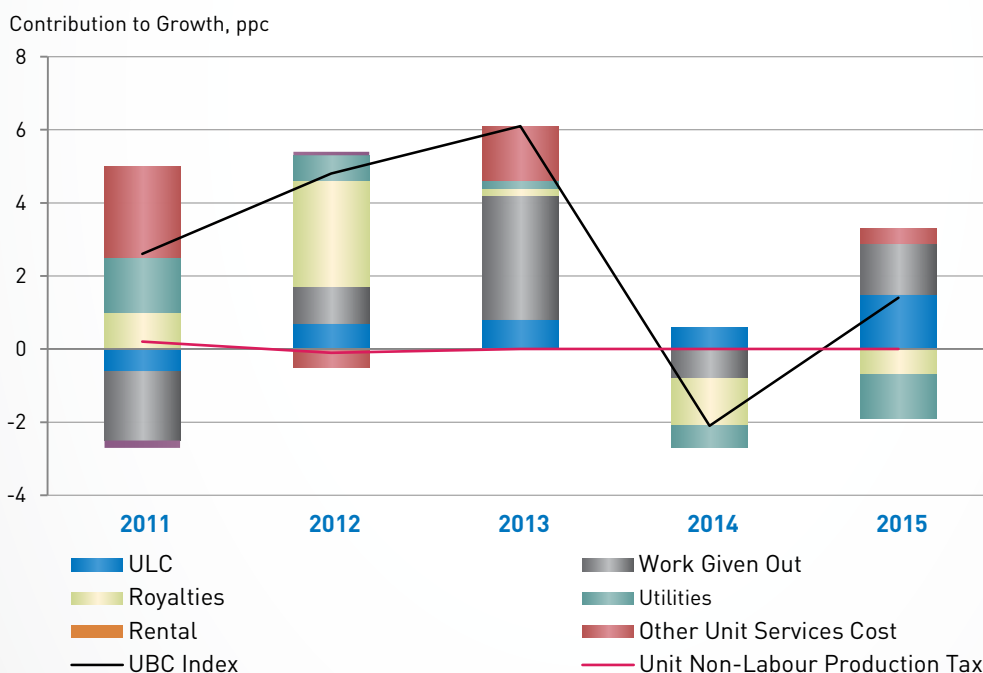
Rental is a key cost component for some services industries such as the retail trade and accommodation & food services industries. In particular, the share of rentals for SMEs in the retail trade and accommodation & food services industries is 31 per cent and 23 per cent respectively. Details of the cost structure of both large enterprises and SMEs in the various services industries are in Annex A, Exhibit A2.

For both manufacturing and services sectors, non-labour production taxes constitute a small component of total business costs, at around 1 per cent or less.⁴

Labour cost, work given out, royalties payments and utilities were key drivers of recent business cost changes in the manufacturing sector

As labour cost, work given out and royalties payments constitute a large part of total business costs in the manufacturing sector, they were the key drivers of UBCI changes in the past five years (Exhibit 2). In particular, the contribution of manufacturing unit labour cost (ULC) to UBCI growth was positive, averaging 0.9 percentage points (pp), between 2012 and 2015.^{5,6} The increase in manufacturing ULC (4.0 per cent CAGR) over the period came on the back of an increase in total labour cost (TLC) per worker (4.0 per cent CAGR), even as productivity growth remained flat (0.0 per cent CAGR) (Exhibit 3).

Exhibit 2: Contribution to Annual UBCI Changes by Key Cost Components



Note: "Other unit services cost" consists of sub-components such as professional fees, advertising, commission and agency fees, sundry expenses etc
Source: Singapore Department of Statistics

⁴ "Government Rates and Fees" has been renamed as "Non-Labour Production Taxes". Labour-related taxes on production (e.g., foreign workers' 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)" at http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/labour_employment_wages_and_productivity/ip-e39.pdf.

⁵ The change in ULC can be decomposed as the difference of the change in total labour cost per worker and the change in labour productivity. Hence, an increase in labour cost will raise ULC, while an improvement in labour productivity will lead to a fall in ULC.

⁶ The contribution of manufacturing ULC was negative in 2011 due to strong productivity growth as the economy recovered from the global financial crisis.

Utilities cost also contributed significantly to UBCI changes in some years despite its relatively small share in total business costs. In 2011, for example, utilities cost contributed 1.5pp to the 2.6 per cent increase in UBCI. On the other hand, its contribution to UBCI was negative (-1.2pp) in 2015 on the back of a drop in electricity tariffs due to sharply lower global oil prices, as well as greater competition in the wholesale and retail electricity markets with the increase in new generation capacity.⁷

Similar to the manufacturing sector, labour cost contributed positively while utilities cost contributed negatively to total business costs in the services sector in the first three quarters of 2015.

We next describe in greater detail the recent trends in labour, rental and utilities costs for both the manufacturing and services sectors, as well as the outlook for these cost components.

Higher wage growth and weak productivity growth led to an increase in the overall ULC in the economy in recent years...

From 2011 to 2015, the ULC for the economy increased by a CAGR of 2.6 per cent.⁸ The rise in ULC came on the back of a 2.6 per cent per annum increase in TLC per worker, even as labour productivity growth remained flat, at around -0.1 per cent per annum, over the same period (Exhibit 4).

In turn, the increase in TLC per worker was primarily due to wage increases amidst a tight labour market. Over this period, the unemployment rate averaged at 2.0 per cent, which was lower than the 10-year historical average of 2.2 per cent. On the other hand, the average number of job vacancies per year from 2011 to 2014 (55,000) was higher than the 9-year historical average of 44,700 vacancies.^{9, 10}

In 2016, wages are expected to continue to rise, although the pace of increase may moderate given the challenging economic outlook in the near term. However, as productivity growth may not see a significant uplift given the sluggish economic environment, the increase in wages may still translate to an increase in the ULC in the year ahead. Over the longer term, it is important for us to continue with efforts to raise productivity. It is only with productivity growth that we can sustain wage growth without eroding our competitiveness.¹¹

Exhibit 3: TLC per worker and real labour productivity growth for manufacturing sector

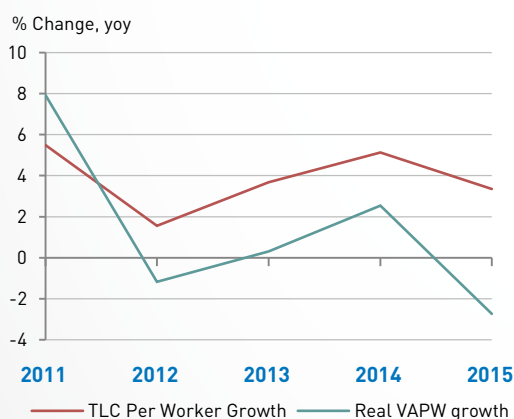
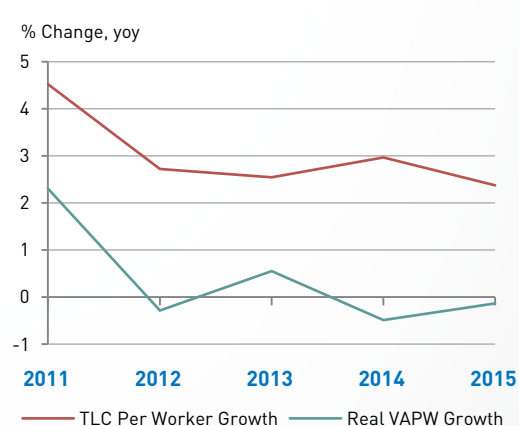


Exhibit 4: TLC per worker and real labour productivity growth for overall economy



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

⁷ The UK Brent spot prices fell by 2.7% in 2013, 8.9% in 2014 and 46% in 2015.

⁸ For more details on recent trends in Singapore's ULC, please refer to the Box Article on "A Decomposition Analysis of Singapore's Unit Labour Cost" in the Economic Survey of Singapore Third Quarter 2015.

⁹ Job vacancy data for 2015 is currently not available.

¹⁰ Based on a comparable job vacancy data series starting from 2006.

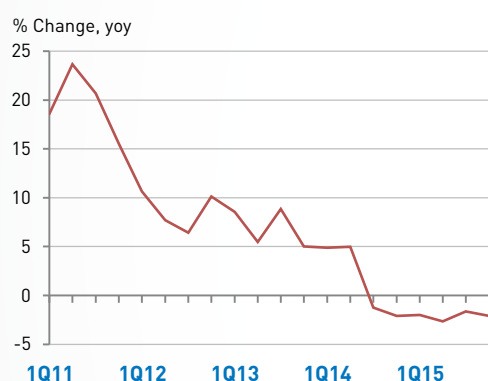
¹¹ For more details on recent trends in wage and productivity growth in Singapore, please refer to the Feature Article on "Productivity and Wage Growth in Singapore" in the 2015 Economic Survey of Singapore.

Pressure on industrial and commercial rentals is likely to ease further due to the strong supply coming on-stream as well as weaker demand

Rentals of industrial space have declined since the third quarter of 2014 (Exhibit 5). In the fourth quarter of 2015, industrial rentals fell by 2.1 per cent year-on-year, a faster pace of decline than the 1.6 per cent fall in the previous quarter. The drop in industrial rentals came on the back of a decline in occupancy rate, which in turn reflected a softening of demand for industrial space (Exhibit 6). For 2015 as a whole, industrial rentals decreased by 2.1 per cent, a reversal from the 1.6 per cent increase in 2014.

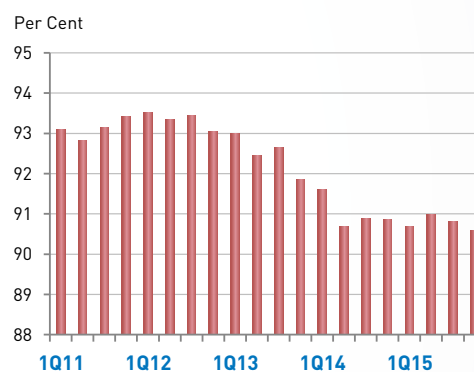
For 2016, a strong supply of industrial space is expected to come on-stream. In total, an additional 2.9 million gross square metres of industrial space is expected to be completed within the year, significantly higher than the average annual increase in industrial space of 1.6 million gross square metres in the past five years (Annex B, Exhibit B1). With the manufacturing sector likely to continue to face headwinds in the near term, the demand for industrial space may also remain tepid. Against this backdrop, downward pressures on industrial rentals are likely to continue in the year ahead.

Exhibit 5: Industrial Rental Index



Note: The industrial rental index covers multiple-user factory space, single-user factory space, business parks and warehouses.
Source: Urban Redevelopment Authority, JTC Corporation

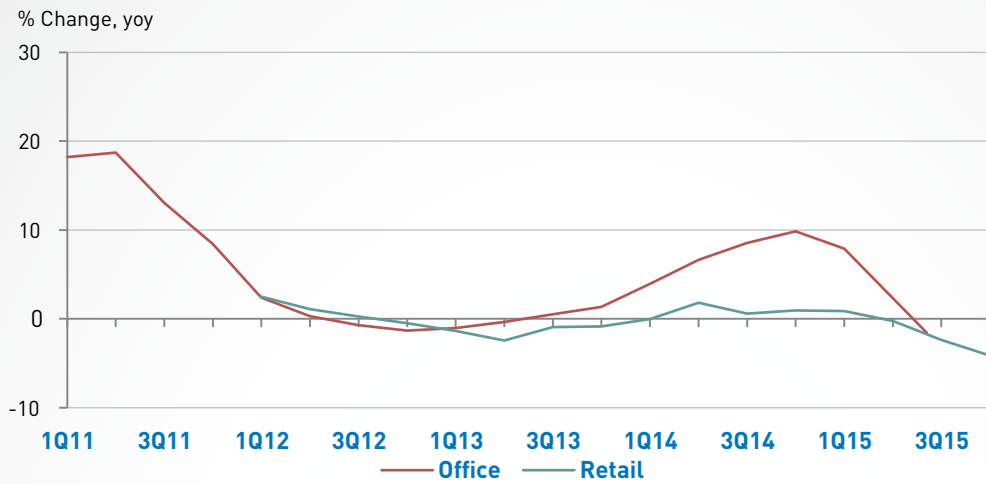
Exhibit 6: Industrial Occupancy Rate



Note: The industrial occupancy rate covers multiple-user factory space, single-user factory space, business parks and warehouses.
Source: Urban Redevelopment Authority, JTC Corporation

As for commercial space, year-on-year rental changes for both retail and office space turned negative in the third quarter of 2015 and continued to remain negative in the fourth quarter (Exhibit 7). In 2016, the slowing economy could continue to weigh on the demand for commercial space. Moreover, the 0.7 million gross square metres of commercial space coming on-stream within the year is significantly higher than the average annual increase of 0.2 million gross square metres of commercial space between 2012 and 2015. Taken together, these factors are likely to dampen upward pressure on commercial rentals in 2016 (Annex B, Exhibit B2).

Exhibit 7: Office and Retail Rental Indices



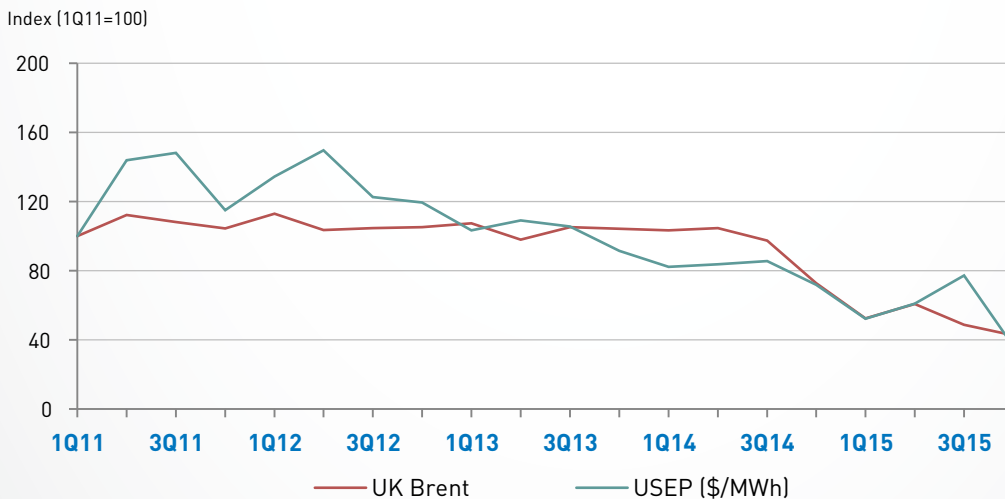
Note: Retail Rental Index is only available from 1Q11
 Source: Urban Redevelopment Authority

Further decline in global oil prices could help to dampen utilities cost

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 transportation costs. Following a period of sustained increases, global oil prices started to decline in 2013 (Exhibit 8). In 2015, the UK Brent averaged US\$54 per barrel, 45 per cent lower than the average price of US\$99 per barrel in 2014. Lower oil prices, along with increased competition in the wholesale and retail electricity markets, contributed to a 30 per cent fall in the average wholesale electricity price in 2015.¹⁴ This in turn helped to lower utilities cost for businesses.

For 2016, the US Energy Information Administration (EIA) is forecasting oil prices to average US\$38 per barrel, 30 per cent lower than in 2015. The sustained fall in oil prices is expected to dampen utilities and other fuel-related costs faced by businesses in 2016.¹⁵

Exhibit 8: Global Oil Prices and Uniform Singapore Energy Prices



Source: International Monetary Fund, Energy Market Company

¹² Electricity cost accounts for 75% of the weight of utilities cost in the UBCI.

¹³ About 90% 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, our electricity tariffs move 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, 9 February 2016

Conclusion

In 2015, unit business costs in both the manufacturing and services sectors rose on the back of an increase in ULC, as wage growth continued to outstrip productivity gains. Looking ahead, wage growth may moderate given the challenging near-term outlook for the Singapore economy, although the ULC may still see an increase especially if productivity growth remains tepid. In addition, the strong supply of industrial and commercial space coming on-stream would help to ease rental costs further in 2016. Similarly, lower oil prices are expected to lower utilities and other fuel-related costs for businesses in the year ahead.

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REFERENCES

Singapore Department of Statistics (2014), "Methodological Review on the Unit Business Cost Index for Manufacturing Industry (Base Year 2010=100)" November. http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/labour_employment_wages_and_productivity/ip-e39.pdf.

Foo, X.Y. (2015), "Box Article: A Decomposition Analysis of Singapore's Unit Labour Cost", Economic Survey of Singapore Third Quarter 2015, pp. 18-23.

Foo, X.Y. (2016), "Feature Article: Productivity and Wage Growth in Singapore", Economic Survey of Singapore 2015, pp. 88-100.

U.S. Energy Information Administration (2016), "Short-Term Energy Outlook (STEO)" February. https://www.eia.gov/forecasts/steo/pdf/steo_full.pdf.

ANNEX A: BUSINESS COST STRUCTURE OF LARGE ENTERPRISES AND SMEs IN THE MANUFACTURING AND SERVICES SECTORS

Exhibit A1: Business Cost Structure of the Manufacturing Sector by Firm Size, 2014

	Total		Electronics		Chemicals		Biomedical Services Manufacturing		Precision Engineering		TransportEngineering		General	
	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs
Labour Cost	19.9	31.0	15.3	7.2	13.7	26.1	14.4	10.4	23.5	50.8	35.6	41.8	38.1	47.8
Services Cost	79.8	68.4	84.5	92.7	85.7	72.8	85.4	89.3	76.3	48.5	63.8	57.7	61.5	51.4
Work given out	20.5	22.7	28.1	42.0	5.7	1.8	1.5	15.4	7.4	17.0	41.9	38.4	11.5	12.1
Royalties payments	23.6	16.8	32.4	33.8	3.2	4.3	55.1	57.2	38.8	6.0	1.6	0.6	2.7	0.8
Utilities	5.0	3.6	4.5	0.6	11.7	14.2	1.5	1.0	2.3	3.5	2.0	1.1	6.0	3.7
Fuel	7.6	1.9	0.7	0.2	37.1	11.5	0.7	0.1	0.2	0.4	0.4	0.5	2.1	1.3
Rental of building/ premises	0.7	2.4	0.3	0.6	0.8	2.0	0.4	0.8	0.5	3.3	1.2	2.3	2.7	5.0
Charges paid to other firms for inland transportation	2.6	3.4	2.0	1.7	4.5	9.3	0.9	2.9	2.8	2.4	1.4	1.2	7.8	4.5
Others	19.8	17.7	16.7	13.7	22.6	29.7	25.3	11.8	24.4	15.9	15.4	13.5	28.6	23.8
Non-Labour Production Taxes	0.4	0.5	0.2	0.1	0.7	1.1	0.2	0.3	0.2	0.6	0.6	0.5	0.5	0.9

Source: Economic Development Board

Exhibit A2: Business Cost Structure of the Services Sector by Firm Size, 2014

	Wholesale Trade		Retail Trade		Accommodation & Food Services		Transportation & Storage		Finance & Insurance		Information & Communications		Business Services	
	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs	Large Enterprises	SMEs
Labour Cost	20.8	23.0	33.9	37.0	37.2	41.9	14.4	9.8	14.8	16.1	19.9	32.9	19.8	26.2
Services Cost	77.1	74.4	58.4	58.0	54.9	50.0	76.2	85.2	83.6	83.0	74.1	61.4	75.2	66.0
Utilities	0.5	0.4	3.9	1.8	6.2	5.6	0.9	0.2	0.2	0.1	0.9	1.4	0.4	1.2
Freight & Transport	18.6	31.3	1.1	1.8	1.1	0.4	33.6	50.2	-	0.2	-	0.9	-	3.4
Financial Services	0.8	2.0	2.1	2.3	1.3	1.3	0.6	0.7	3.2	4.8	0.1	0.3	0.4	0.7
Communications	0.6	0.6	0.5	0.8	0.4	0.5	0.4	0.4	0.3	0.4	3.9	12.1	0.3	0.5
Renting of Premises	4.2	5.0	30.9	31.3	20.8	23.2	0.8	2.0	1.1	1.3	1.4	4.5	1.0	3.3
Professional Services	4.2	4.0	1.4	1.6	0.6	1.3	0.8	0.6	2.6	3.2	4.9	8.3	7.7	3.8
Other Services	48.2	30.9	18.4	18.4	24.5	17.7	39.1	31.1	76.2	73.0	62.9	34.1	65.3	53.1
Contract labour & work given out	6.0	1.8	1.3	2.2	2.6	3.0	1.5	2.3	0.5	0.3	5.0	7.5	28.4	22.2
Commission & agency fees	10.2	5.0	0.9	3.3	1.2	1.0	3.8	3.2	3.5	7.3	11.7	1.7	0.5	2.0
Non-Labour Production Taxes	0.2	0.3	0.6	0.5	1.1	1.0	0.7	0.4	0.1	0.2	0.5	0.3	1.2	2.0

Notes:

1. SMEs refer to enterprises with operating receipts of not more than \$100 million or employment of not more than 200 workers. Large enterprises refer to enterprises with operating receipts of more than \$100 million or employment of more than 200 workers.
2. The cost components do not sum to 100% as depreciation cost is excluded.
3. "-" refers to nil or negligible.

Source: Department Of Statistics and Monetary Authority of Singapore

ANNEX B: SUPPLY OF INDUSTRIAL AND COMMERCIAL SPACE

Exhibit B1: Supply of Industrial Space

	Total	2016	2017	2018	2019	2020	>2020
Factory Space ('000 sqm gross)							
Total	4,248	2,247	789	623	550	39	-
Under Construction	3,052	2,025	594	314	80	39	-
Planned	1,196	222	195	309	470	-	-
Warehouse Space ('000 sqm gross)							
Total	1,589	643	834	64	48	-	-
Under Construction	1,339	602	625	64	48	-	-
Planned	250	41	209	-	-	-	-
Total Industrial Space	5,837	2,890	1,623	687	598	39	-

Source: JTC Corporation

Exhibit B2: Supply of Commercial Space

	Total	2016	2017	2018	2019	2020	>2020
Office Space ('000 sqm gross)							
Total	993	462	157	202	62	84	26
Under Construction	715	462	156	96	1	-	-
Planned	278	-	1	106	61	84	26
Retail Space ('000 sqm gross)							
Total	808	222	207	229	56	88	6
Under Construction	610	222	202	168	16	2	-
Planned	198	-	5	61	40	86	6
Total Commercial Space	1,801	684	364	431	118	172	32

Source: Urban Redevelopment Authority

