

# Quarterly Construction Cost Review

China and Hong Kong

2022 | Q4

Arcadis Hong Kong Limited



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# China and Hong Kong Market Overview



Looking ahead to 2023, Arcadis is cautiously optimistic about the level of construction activity in the public sector, whilst the performance of the private sector will depend on the pace of recovery of the property market.

It is anticipated that the upward trend of the material and labour costs will sustain in the coming year due to the war in Ukraine, global inflation and the shortage of local construction labour. With all these in mind, the construction cost is estimated to increase by 4% and 3% in 2023 and 2024 respectively.

As of Q3 of the Financial Year 2022/23, the Hong Kong Legislative Council had approved a total of HK\$80.4 billion Capital Works Reserve Fund for proposed public works. The approved fund had been reduced by 38% compared to the same period of preceding year. As the projects supported by approved funding in the Financial Year of 2021/22 will commence construction works progressively, it is anticipated the level of construction output in public sector will remain stable in 2023.

## Market movement

### Economy

 GDP Growth	Q4/20 - Q4/21 <b>(+) 4.7%</b>	Q3/21 - Q3/22 <b>(-) 4.5%</b>	Q4/21 - Q4/22 <b>(-) 4.2%</b>
 Inflation Rate (CPI)	Dec 20 - 21 <b>(+) 2.4%</b>	Sep 21 - 22 <b>(+) 4.4%</b>	Dec 21 - 22 <b>(+) 2.0%</b>

### Construction Output

 Activity Level (Gross output; new + A&A)	Q3/21 <b>HK\$58.689 Bn</b>	Q2/22 <b>HK\$61.474 Bn</b>	Q3/22 <b>HK\$59.306 Bn*</b>
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### Basic Costs

 Highways Material Index	Sep - Nov 21 <b>1132.9</b>	Jun - Aug 22 <b>1233.7</b>	Sep - Nov 22 <b>1183.1</b>
 Labour Wages Index	Sep - Nov 21 <b>155.1</b>	Jun - Aug 22 <b>155.1</b>	Sep - Nov 22 <b>154.5</b>

### Construction Cost Trend

 Tender Price Index (Arcadis)	Q4/21 <b>1780</b>	Q3/22 <b>1840</b>	Q4/22 <b>1860</b>
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\*Provisional

Source: Highways Materials Index from Civil Engineering and Development Department (CEDD), other data from Census and Statistics Department (CSD).



# Market Analysis

## China

In the first three quarters of 2022, China had recorded an overall GDP growth of (+)3.0% YOY with the quarterly growth at (+)4.8%, (+)0.4% and (+)3.9% in Q1, Q2 and Q3 respectively. The GDP growth rate had shrunk in Q2 2022 as the resurgence of Covid-19 cases in Shanghai and key manufacturing hubs in Eastern China had caused a prolonged lockdown. Industrial activities and their supply chains had been disrupted and construction works in many areas had been forced to suspend.

On 26th December 2022, the National Health Commission of China announced that China would downgrade the management of COVID-19 to a Class-B infectious disease from 8th January 2023 onwards. The anticipated ease of quarantine control had boost market sentiment.

As of November 2022, real estate investment and the sales of commercial buildings had declined by 9.8% and 26.6% YOY respectively. The area of land sale had also decreased by 53.8% YOY. According to the National Bureau of Statistics, the completed construction area and new commencement area had decreased by 6.5% and 38.9% respectively. Land sales area had been declining for four consecutive years, and the construction output is anticipated to reduce accordingly. While China had launched a series of policies, such as easing the restrictions on the purchase of properties, relaxing credit requirements and providing deed tax subsidies, to revive the real estate market in 2022, it will take quite some time for it to rebound to the pre-pandemic level.

The construction wage had remained stable in most cities in China. However, in areas affected by COVID-19 lockdown such as Shanghai, the construction wage had an increase of 10% in 2022. Basic construction product prices YoY had also reduced. With steel (-)21% and rebar (-)17% recorded the most significant drop, followed by concrete (-)6%, cement (-)10%, copper (-)5%, aluminium (-)2%. Tender prices recorded an average decrease of 2% of in 2022.

The growth of construction wages is estimated at (+)2% and above in the coming year. In addition, material prices are anticipated to rise from low level as the real estate market has gradually recovered. We anticipate that the cost of major construction materials will go up and the construction costs will increase by 3% in both 2023 and 2024.

## Hong Kong

### Decline in economic growth

The economy of Hong Kong has been experiencing a downturn in 2022 and is now on the road of recovery from the global COVID-19 crisis. After a year of continued growth, the Gross Domestic Product (GDP) had decreased for four consecutive quarters and hit the trough in Q3 2022, representing a drop of 4.5% year-on-year. The Consumer Price Index (CPI) had increased in 2022, peaking at (+)4.4% year-on-year in September and narrowed to (+)2.0% year-on-year in December.

### Floor area of commenced and completed works

The total gross floor area of the consented private construction works increased by 45.8% YoY in Q4 2022, while commenced private construction works dropped by 65.8%. Meanwhile, the completed private construction works rose by 136% YoY in Q4 2022. Based on the last twelve months period, both consented and commenced private construction works dropped by 45.1% and 66.5% respectively as well, whilst completed private construction works increased by 118.9%.

### Gross value of performed construction works

Gross value of performed new-built private works declined by 3% QoQ in Q3 2022 after the positive growth in the last quarter while gross value of performed A&A works rose by 18.2% QoQ. Gross value of performed public works significantly dropped by 22.6% QoQ in Q3 2022. The overall performed construction works in Q3 2022 recorded an increase of 1.1% as compared to the previous year.

### Cost of materials and labour

The Tender Price Index (TPI) increased by 4.49% YoY based on Q4 2022. Steel price continued to fall and dropped from the peak in March 2022 by 20%. Price of concrete blocks keeps rising by 9% YoY based on October 2022. Meanwhile, prices of diesel fuel, cement and tiles also significantly increased by 18%, 14% and 20% YoY based on October 2022 respectively. The construction labour wages index remained stable comparing with previous quarter and Q4 2021. Other than wage of bricklayer recorded an increased by 8.9%, wages of most of the trades increased by 0.5% to 4.2% YoY, while wages of painter and plumber decreased by 9.2 and 7.2% respectively YoY based on Q4 2022 data.

# Approximate Building Costs Hong Kong

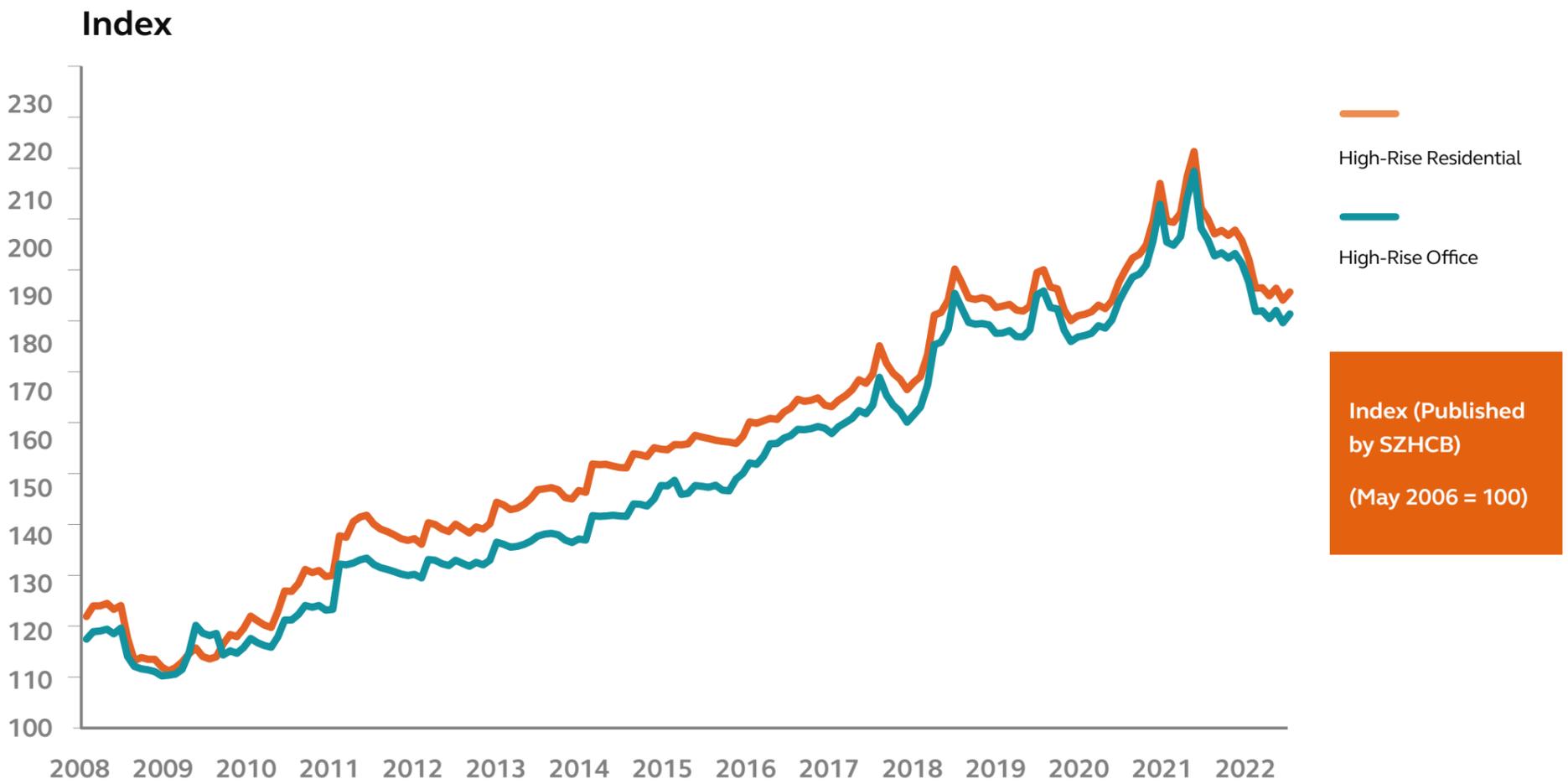
## Notes:

1. The cost for the respective categories given are averages based on fixed price competitive tenders. It must be understood that the actual cost of a building will depend upon the design and many other factors and may vary from the figures shown.
2. The cost per square metre are based on the Construction Floor Areas (CFA) measured to the outside face of the external walls/ external perimeter including lift shafts, stairwells, balconies, plant rooms, water tanks and the like.
3. All buildings are assumed to have no basements (except otherwise stated) and are built on flat ground, with normal soil and site conditions. The cost, excludes site formation works, external works, land cost, professional fees, finance and legal expenses.

Building Type	HK\$/m2 CFA	Outline Specification
<b>Domestic</b>		
Apartments, high rise, public authority standard	11,400 - 13,600	Based on Hong Kong Housing Authority Non-standard Cruciform Block design (Rental Housing)
Apartments, high rise, average standard	24,600 - 28,400	Apartment units with fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Apartments, high rise, high end	31,800 - 36,800	Apartment units with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Terraced houses, average standard	33,900 - 39,000	Houses with fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
Detached houses, high end	49,300 up	Houses with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
<b>Office / Commercial</b>		
Medium/high rise offices, average standard	24,500 - 27,800	RC structure, curtain wall/window wall, including public area fit-out, tenant area with screeded floor, painted wall and ceiling
High rise offices, prestige quality	29,200 - 33,500	RC structure, curtain wall, including public area fit-out, tenant area with raised floor, painted wall and false ceiling
Out-of-town shopping centre, average standard	24,100 - 28,300	Including public area fit-out and M&E, but excluding shop fit-out
Retail malls, high end	31,300 - 36,700	
<b>Industrial</b>		
Owner operated factories, low rise, light weight industry	18,500 - 23,200	RC structure, including small office with simple fit-out and M&E, but excluding a/c
<b>Hotel</b>		
Budget hotels - 3-star, mid market	31,000 - 33,000	1) Interior decoration
Business hotels - 4/5-star	32,000 - 37,100	2) Furniture (fixed and movable)
Luxury hotels - 5-star	37,300 - 42,300	3) Special light fittings (chandeliers, etc.) 4) Operating Supplies and Equipment (OS&E) excluded
<b>Others</b>		
Underground/basement car parks (<3 levels)	26,600 - 31,700	RC structure
Multi storey car parks, above ground (<4 levels)	15,900 - 18,800	RC structure, natural ventilation, no facade enclosure
Schools (primary and secondary)	20,600 - 22,200	Public authority standard including fit-out and a/c, but excluding loose furniture and educational equipment
Students' residences	23,500 - 26,400	Including fit-out, loose furniture and a/c
Sports clubs, multi purpose sports/ leisure centres (dry sports)	30,900 - 35,000	Dry sports (no swimming pool) and are for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant / cafe, bar, etc. Costs include a/c, Furniture, Fittings and Equipment (FF&E)
General hospitals - public sector	39,200 - 43,100	Excluding medical and operating equipment

The above costs are at 4<sup>th</sup> Quarter 2022 levels.

# Building & Building Services Price Index Mainland China

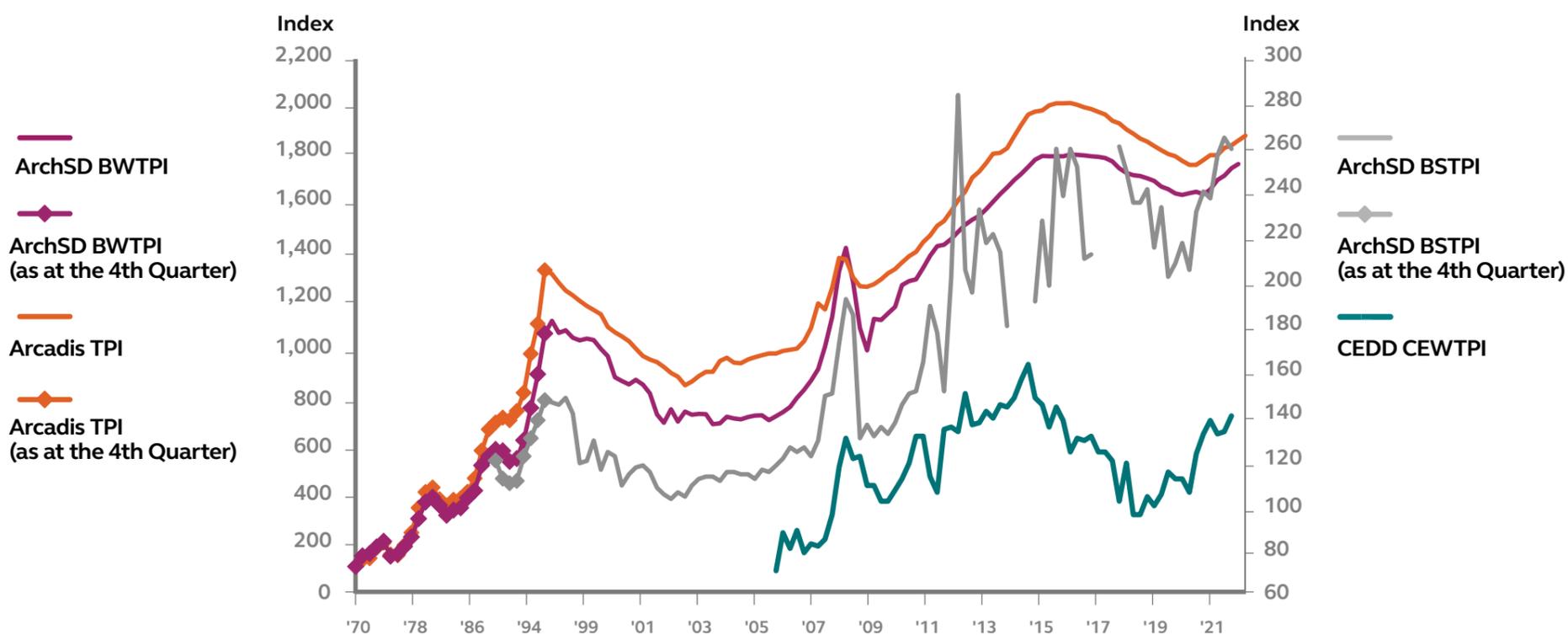


Building & Building Services Price Index								
Index	(Base Index: May 2006 = 100)							
	High-Rise Residential				High-Rise Office			
Month / Year	2019	2020	2021	2022	2019	2020	2021	2022
January	187.5	189.8	195.8	200.8	182.4	185.5	191.8	196.3
February	187.2	189.4	196.6	201.5	182.0	185.2	192.4	196.9
March	187.5	185.0	198.5	200.5	182.1	180.8	194.3	195.8
April	187.2	182.7	203.4	201.6	181.9	178.3	199.3	196.7
May	185.5	183.8	211.4	199.4	180.1	179.3	207.0	194.7
June	185.7	184.1	203.5	195.5	180.2	179.7	199.1	190.7
July	186.1	184.6	203.3	189.6	180.6	180.1	198.4	184.6
August	184.9	186.0	205.2	189.6	179.4	181.7	200.3	184.8
September	184.8	185.3	212.9	187.9	179.3	181.2	208.4	183.2
October	185.7	186.8	218.0	189.5	180.8	182.8	213.8	184.9
November	192.8	190.8	206.2	187.0	188.1	186.8	202.0	182.3
December	193.4	193.4	204.0	188.7	189.0	189.4	199.6	184.1

Source : Housing and Construction Bureau of Shenzhen

# Tender Price Index

## Hong Kong



Quarter/Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>ArchSD BWTP (Base = 100, at Q1 1970)</b>										
Q1	1516	1621	1732	1775	1779	1755	1695	1641	1631	1696
Q2	1532	1648	1761	1776	1776	1727	1686	1623	1620	1726
Q3	1559	1679	1777	1783	1773	1708	1675	1618	1640	1744
Q4	1590	1703	1775	1781	1768	1698	1652	1625	1679	
<b>ArchSD BSTPI (Base = 100, at Q4 1989)</b>										
Q1	193	211	(N/A)	257	208	(N/A)	233	200	229	262
Q2	230	178	189	236	210	258	239	206	238	257
Q3	215	(N/A)	225	257	(N/A)	247	213	215	235	269
Q4	219	(N/A)	196	249	287	233	231	203	254	
<b>Arcadis TPI (Base = 100, at Q1 1970)</b>										
Q1	1688	1789	1946	1992	1975	1920	1848	1785	1740	1810
Q2	1713	1808	1958	1992	1968	1910	1835	1775	1760	1820
Q3	1747	1857	1963	1993	1957	1885	1818	1757	1780	1840
Q4	1786	1903	1984	1986	1946	1868	1800	1740	1780	1860
<b>CEDD CEWTPI (Base = 100, at Q1 2010)</b>										
Q1	134	143	161	142	127	118	94	113	121	131
Q2	135	142	146	136	129	100	102	110	130	143
Q3	140	146	143	122	122	117	98	110	136	135*
Q4	137	154	133	128	122	94	103	104	130	

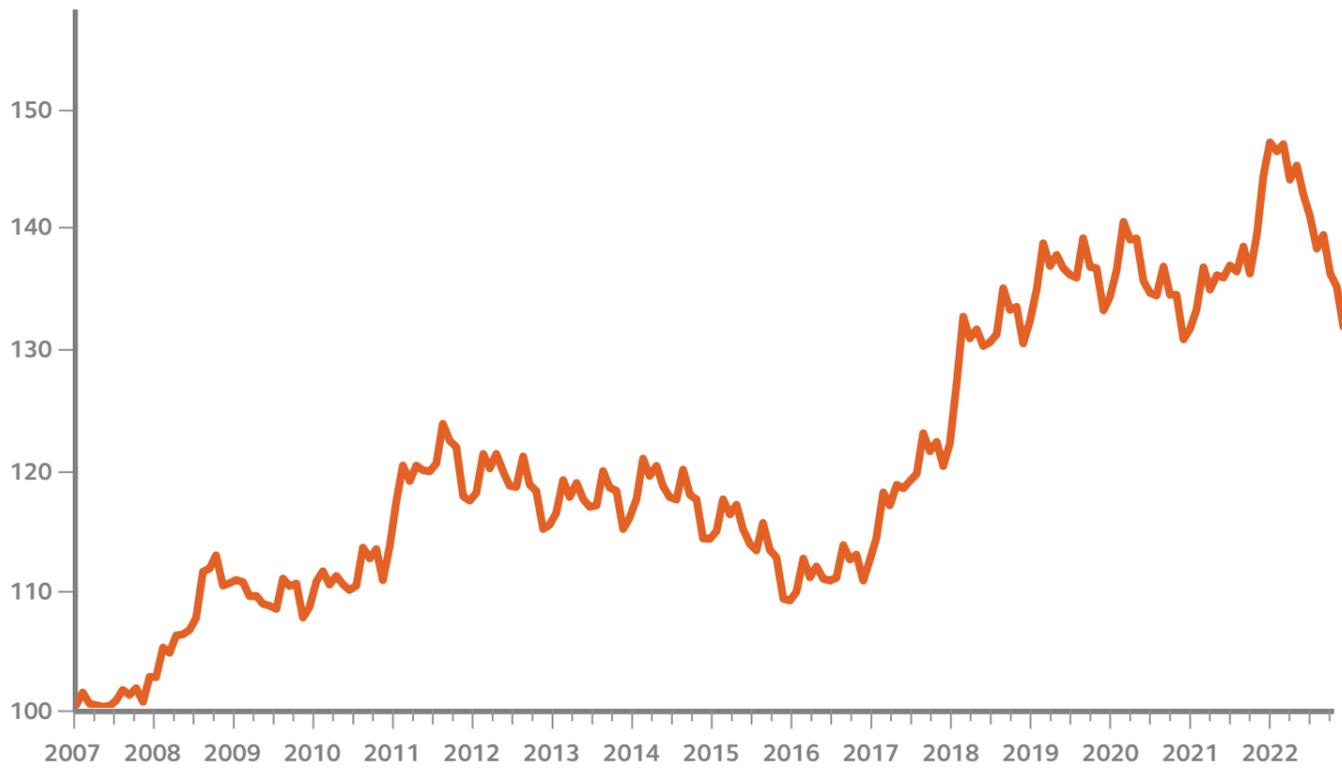
Source : Competitive tenders received by Arcadis, Building Works Tender Price Index (BWTP) and Building Services Tender Price Index (BSTPI) of Architectural Services Department (ArchSD) of HKSAR, and Civil Engineering Works Tender Price Index (CEWTPI) of Civil Engineering and Development Department (CEDD) of HKSAR

### Notes:

- [\*] denotes forecast figures
- Both BWTP (ArchSD) and Arcadis TPI measure the trend of general builder's works only. Special works and Mechanical and Electrical Services would have to be considered separately.
- All indices were published quarterly. For reference purpose, only indices from 1st quarter of 2013 and onwards are given in detail, whereas indices between year 1970 to 1997 are shown with their 4th Quarter figures.

# Materials Mainland China

## Index



Index (Projected  
by Arcadis)  
(12/2006 = 100)

## Construction Material Price Index

Month / Year	Published (by NBS of China) (Base : Corresponding month in preceding year = 100)				Projected (by Arcadis) (Base : 12/2006 = 100) (see explanatory notes below)			
	2019	2020	2021	2022	2019	2020	2021	2022
January	104.6	101.3	97.3	107.5	138.3	140.1	136.3	146.6
February	104.6	101.6	97.0	106.8	136.4	138.6	134.5	143.6
March	104.7	101.0	97.8	106.7	137.3	138.7	135.7	144.8
April	105.0	99.2	100.2	105.1	136.3	135.2	135.5	142.4
May	104.3	98.9	101.7	103.0	135.7	134.2	136.5	140.6
June	103.6	98.9	101.5	101.4	135.5	134.0	136.0	137.9
July	103.1	98.3	101.2	100.7	138.8	136.4	138.0	139.0
August	102.7	98.3	101.3	100.0	136.4	134.0	135.8	135.8
September	102.4	98.4	103.7	96.9	136.2	134.0	139.0	134.7
October	102.1	98.2	110.4	91.3	132.7	130.3	143.9	131.4
November	101.5	98.0	111.8	90.0	133.9	131.2	146.7	132.0
December	101.2	97.6	109.9	91.0	136.1	132.8	146.0	132.8

Source : National Bureau of Statistics (NBS) of China

### Notes:

1. Data are published on a monthly basis, measuring the year-on-year change in price level of each month, but the quarter-on-quarter change is not published, ie. the changes between consecutive quarters are not given.
2. To give an illustration of the price trend over time, Arcadis applies a hypothetical calculation to derive the data table and chart as above. For comparison purpose, December 2006 is referred to as base and the base index as 100.



# Basic Construction Materials

## Copper, CIF European port

US\$/Tonne



Source : London Metal Exchange

## Ready Mix Concrete, 40 MPa

RMB/m3



Shanghai Municipal Management Commission of Housing and Urban-Rural Development

## Steel Reinforcement, Grade III

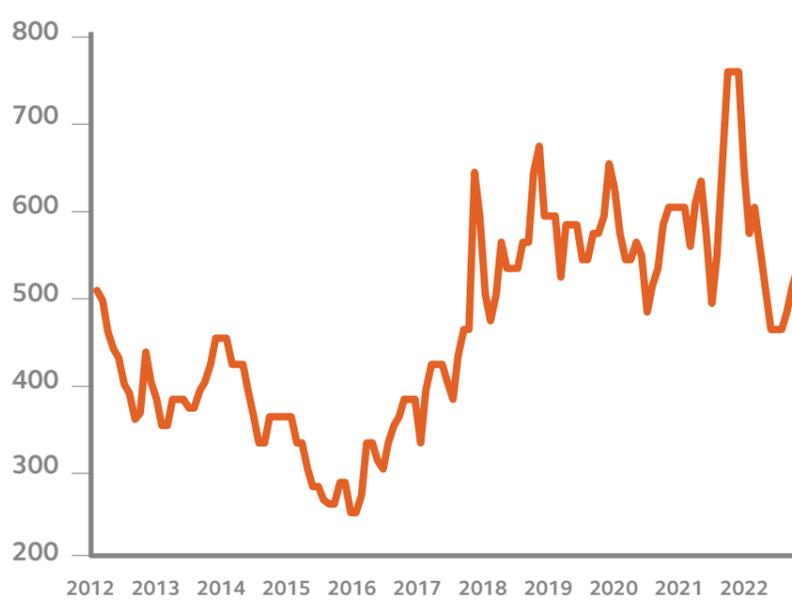
RMB/Tonne



Shanghai Municipal Management Commission of Housing and Urban-Rural Development

## Portland Cement, 42.5 MPa

RMB/Tonne

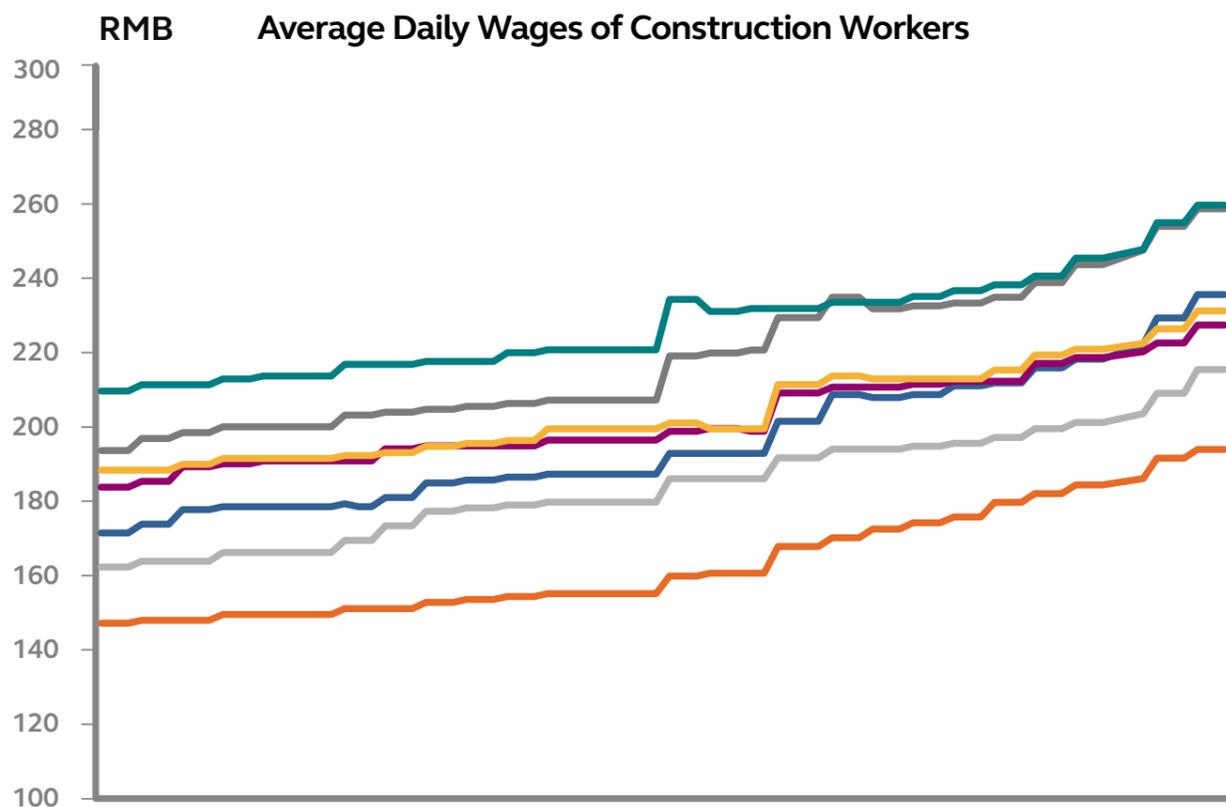


Shanghai Municipal Management Commission of Housing and Urban-Rural Development

# Labour

## Mainland China

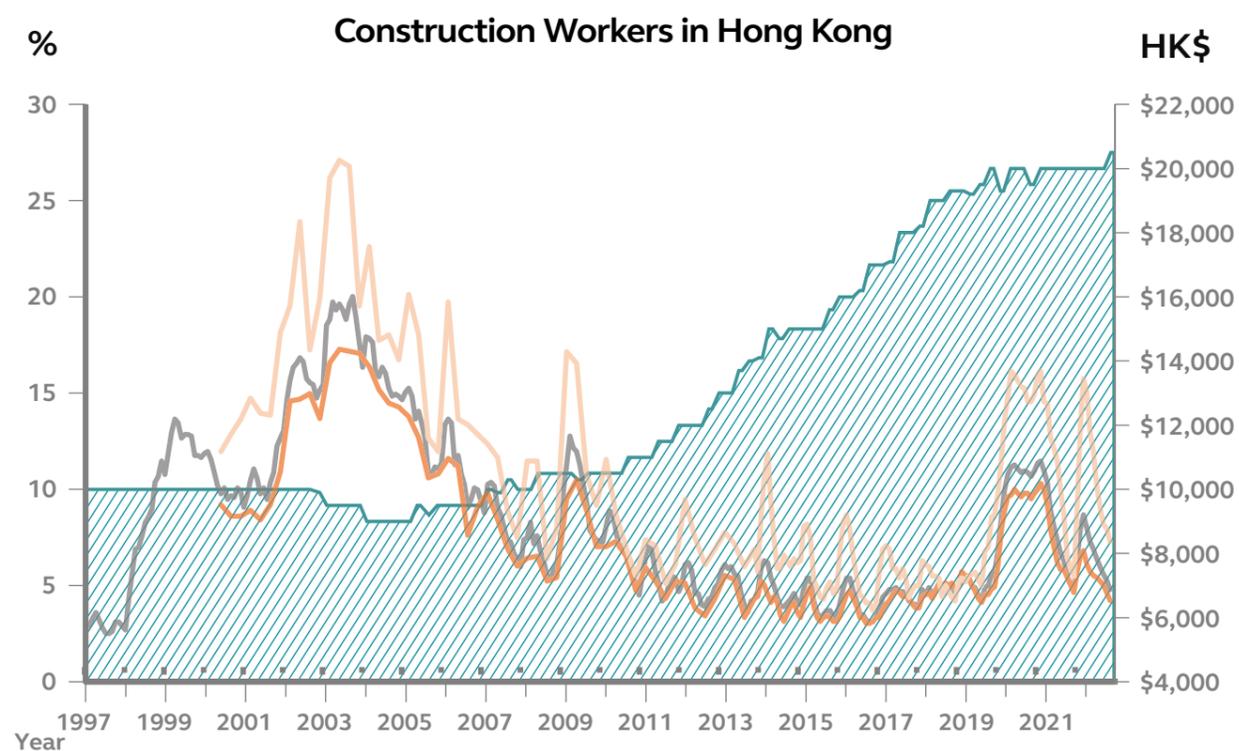
- General workers
- Concretor
- Bar bender and fixer
- Carpenter
- Joiner
- Metal worker
- Painter



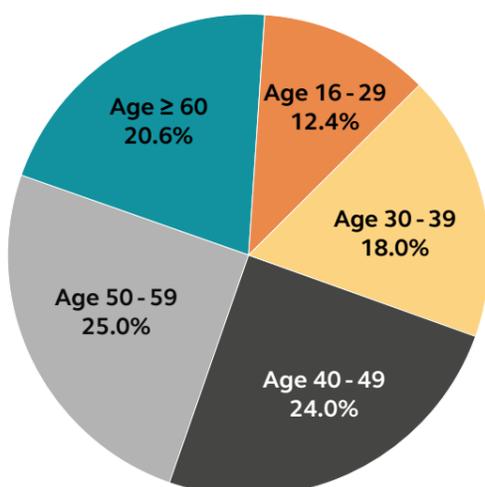
Source : Shanghai Municipal Management Commission of Housing and Urban-Rural Development

## Hong Kong

- ▨ Median Monthly Earning (HK\$)
- Unemployment Rate (%) - All Construction Trades
- Unemployment Rate (%) - Foundation & Superstructure
- Unemployment Rate (%) - Decoration & Maintenance



Source : Census & Statistics Department, Hong Kong SAR

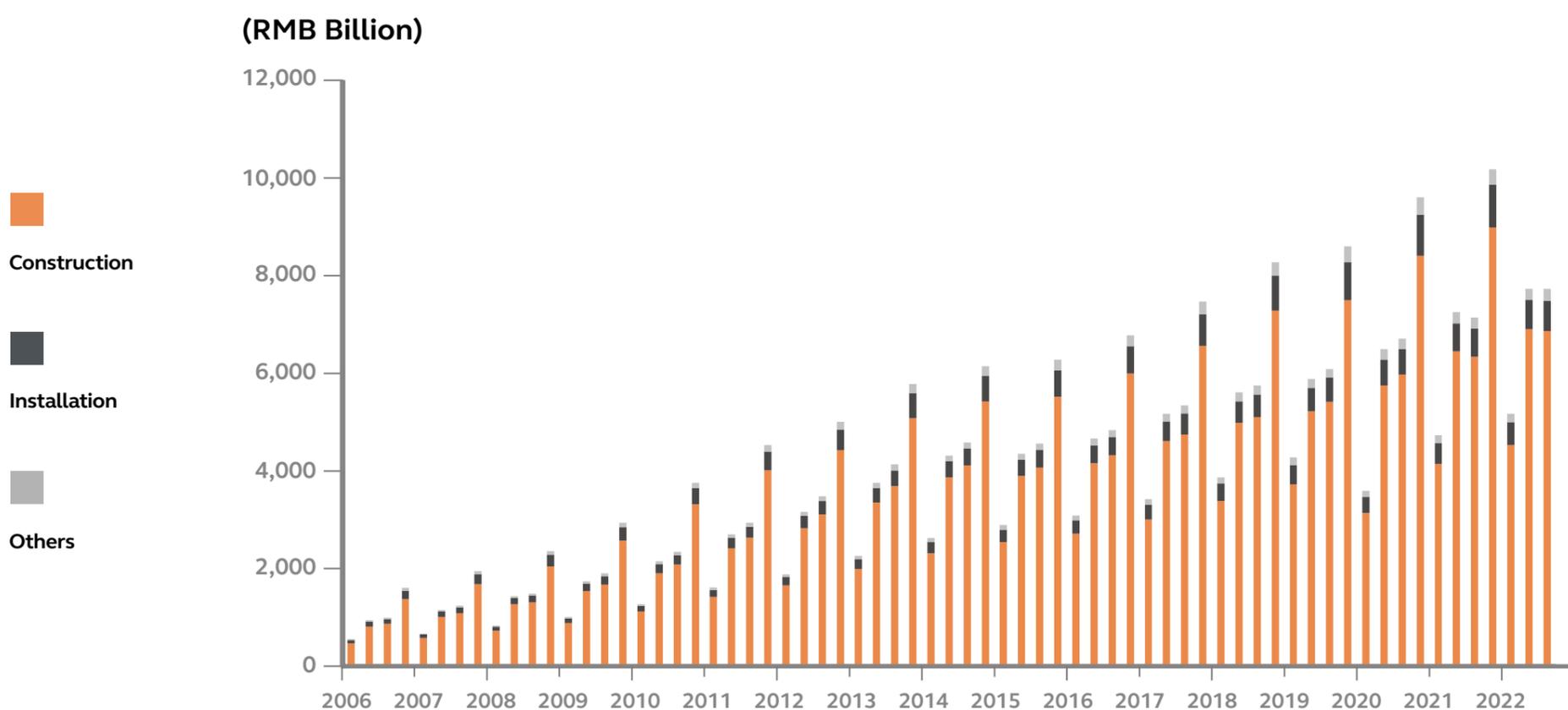


### Age Distribution of Workers

Age Group	No. of Workers Employed by Construction Industry	
Age 16 - 29	75,570	12.4%
Age 30 - 39	109,972	18.0%
Age 40 - 49	146,038	24.0%
Age 50 - 59	152,092	25.0%
Age ≥ 60	125,655	20.6%
<b>Total (as at Dec 2022) :</b>	<b>609,327</b>	<b>100.0%</b>

Source : Construction Industry Council

# Gross Value of Construction Work Performed – Mainland China



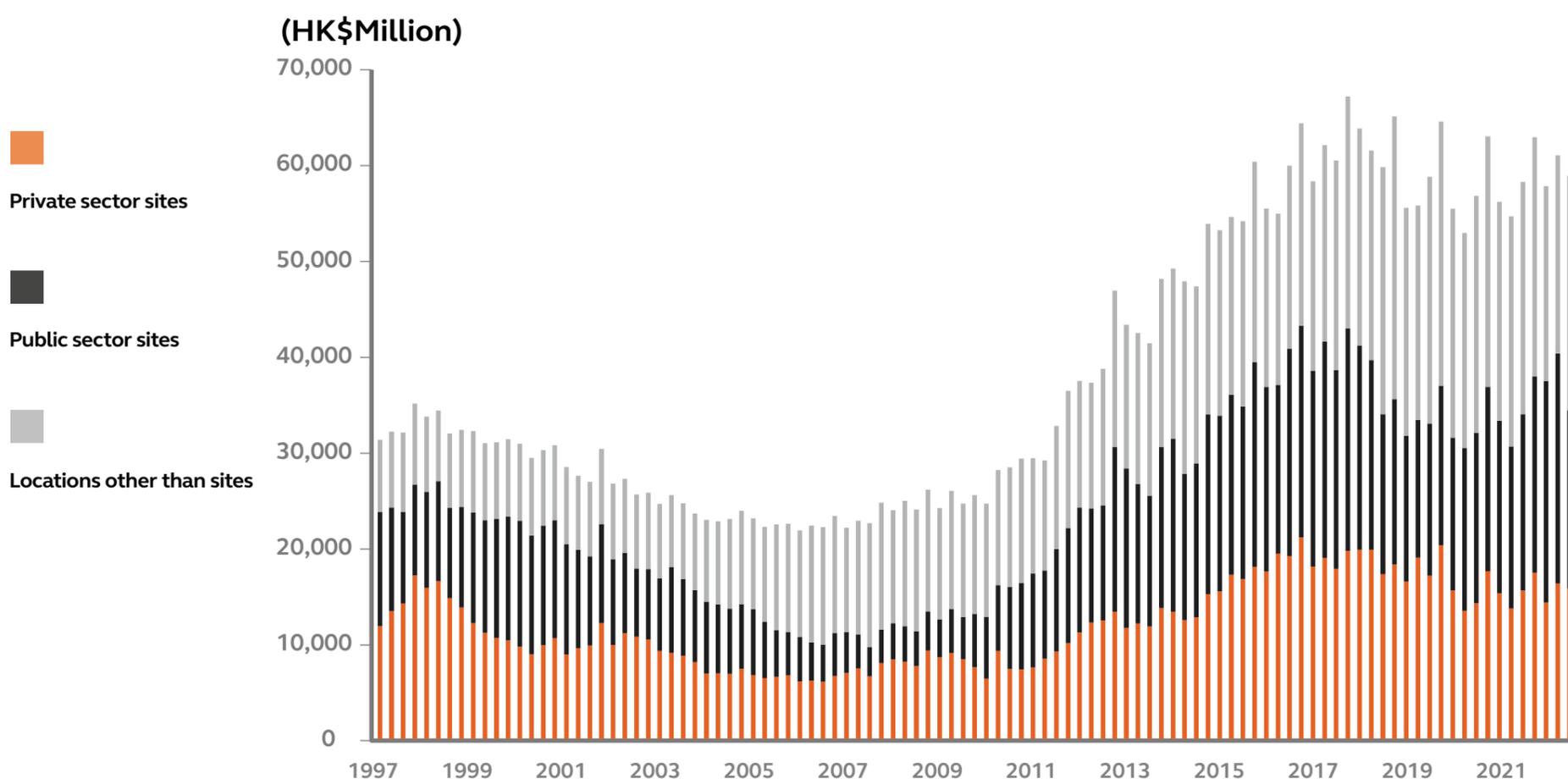
Value Performed (RMB Billion)										
Quarter	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>A. Construction</b>										
1 <sup>st</sup> Quarter	1,994	2,311	2,544	2,712	3,003	3,382	3,727	3,138	4,141	4,533
2 <sup>nd</sup> Quarter	3,355	3,866	3,899	4,158	4,609	4,985	5,223	5,753	6,453	6,902
3 <sup>rd</sup> Quarter	3,687	4,113	4,068	4,322	4,742	5,106	5,414	5,977	6,336	6,863
4 <sup>th</sup> Quarter	5,078	5,425	5,517	5,994	6,562	7,286	7,502	8,405	8,991	9,328
<b>Year Total:</b>	<b>14,115</b>	<b>15,714</b>	<b>16,028</b>	<b>17,186</b>	<b>18,916</b>	<b>20,759</b>	<b>21,867</b>	<b>23,272</b>	<b>25,921</b>	<b>27,625</b>
<b>B. Installation</b>										
1 <sup>st</sup> Quarter	200	230	255	277	303	358	393	326	428	463
2 <sup>nd</sup> Quarter	300	333	331	366	405	438	476	523	569	602
3 <sup>rd</sup> Quarter	322	346	363	374	437	459	498	519	579	623
4 <sup>th</sup> Quarter	514	517	548	561	646	708	768	840	871	906
<b>Year Total:</b>	<b>1,336</b>	<b>1,426</b>	<b>1,498</b>	<b>1,578</b>	<b>1,791</b>	<b>1,963</b>	<b>2,135</b>	<b>2,208</b>	<b>2,448</b>	<b>2,594</b>
<b>C. Others</b>										
1 <sup>st</sup> Quarter	69	83	91	96	113	129	155	127	164	175
2 <sup>nd</sup> Quarter	100	118	117	138	154	187	186	217	229	223
3 <sup>rd</sup> Quarter	123	126	126	137	160	189	173	213	228	240
4 <sup>th</sup> Quarter	189	205	216	222	262	282	328	357	318	340
<b>Year Total:</b>	<b>481</b>	<b>531</b>	<b>550</b>	<b>593</b>	<b>689</b>	<b>787</b>	<b>843</b>	<b>915</b>	<b>940</b>	<b>978</b>
<b>Annual gross value performed (A + B + C)</b>										
<b>Total:</b>	<b>15,932</b>	<b>17,671</b>	<b>18,076</b>	<b>19,357</b>	<b>21,396</b>	<b>23,509</b>	<b>24,845</b>	<b>26,395</b>	<b>29,309</b>	<b>31,198</b>

Source : National Bureau of Statistics of China

## Notes:

1. Value of "Construction" refers to the value of projects included in the project budgets.
2. Value of "Installation" refers to the value of the installation of equipment, excluding the value of the equipment to be installed.
3. Value of "Others" refer to the output value excluding construction projects and installation projects. It includes: output value of repairing buildings and structures; output value of non-standard equipment manufacturing; overhead expenses received by contracted enterprises from the sub-contracted enterprises and the completed output value of construction activities undefined.

# Gross Value of Construction Work Performed – Hong Kong



Value Performed (HK\$ Million)										
Quarter	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
A. Private sector sites										
1 <sup>st</sup> Quarter	11,675	13,395	15,528	17,652	18,150	19,918	16,583	15,647	15,339	14,351
2 <sup>nd</sup> Quarter	12,176	12,507	17,284	19,530	19,070	19,925	19,112	13,489	13,758	16,360
3 <sup>rd</sup> Quarter	11,848	12,792	16,849	19,252	17,912	17,340	17,199	14,303	15,620	15,867*
4 <sup>th</sup> Quarter	13,781	15,259	18,119	21,231	19,813	18,369	20,393	17,685	17,521	
<b>Year Total:</b>	<b>49,480</b>	<b>53,953</b>	<b>67,780</b>	<b>77,665</b>	<b>74,945</b>	<b>75,552</b>	<b>73,287</b>	<b>61,124</b>	<b>62,238</b>	<b>46,578*</b>
B. Public sector sites										
1 <sup>st</sup> Quarter	16,829	18,258	18,531	19,414	20,639	21,533	15,338	16,083	18,167	23,356
2 <sup>nd</sup> Quarter	14,690	15,397	18,964	17,780	22,827	20,002	14,512	17,155	17,054	24,247
3 <sup>rd</sup> Quarter	13,792	16,253	18,163	21,878	20,934	16,888	16,022	17,940	18,604	18,777*
4 <sup>th</sup> Quarter	16,976	18,915	21,585	22,295	23,455	17,433	16,825	19,400	20,687	
<b>Year Total:</b>	<b>62,287</b>	<b>68,823</b>	<b>77,243</b>	<b>81,367</b>	<b>87,855</b>	<b>75,856</b>	<b>62,697</b>	<b>70,578</b>	<b>74,512</b>	<b>66,380*</b>
C. Location other than sites										
1 <sup>st</sup> Quarter	15,140	17,909	19,549	18,809	19,963	22,871	24,032	24,126	23,075	20,526
2 <sup>nd</sup> Quarter	15,914	20,327	18,744	18,041	20,657	22,073	22,592	22,674	24,249	20,867
3 <sup>rd</sup> Quarter	16,038	18,636	19,520	19,274	22,093	26,027	25,992	24,971	24,465	24,662*
4 <sup>th</sup> Quarter	17,716	20,088	21,111	21,333	24,406	29,797	27,839	26,398	25,183	
<b>Year Total:</b>	<b>64,808</b>	<b>76,960</b>	<b>78,924</b>	<b>77,457</b>	<b>87,119</b>	<b>100,768</b>	<b>100,455</b>	<b>98,169</b>	<b>96,972</b>	<b>66,055*</b>
Annual gross value performed (A + B + C)										
<b>Total:</b>	<b>176,575</b>	<b>199,736</b>	<b>223,947</b>	<b>236,489</b>	<b>249,919</b>	<b>252,176</b>	<b>236,439</b>	<b>229,871</b>	<b>233,722</b>	<b>179,013*</b>

\*Provisional

Source : Census and Statistics Department, Hong Kong SAR

# Approximate Building Costs For Major Cities In Asia

Building Type	Shanghai	Beijing	Guangzhou/ Shenzhen	Chongqing/ Chengdu
	Q4/2022	Q4/2022	Q4/2022	Q4/2022
	RMB/ m <sup>2</sup> CFA			
<b>Domestic</b>				
<b>Apartments, high rise, average standard</b>				
- Shell and core	3,108 - 3,543	2,827 - 3,261	2,698 - 3,099	2,614 - 3,026
- Full fit	5,081 - 5,601	4,472 - 4,911	4,281 - 4,911	3,996 - 4,718
<b>Apartments, high rise, high end</b>				
- Shell and core	3,737 - 4,047	3,369 - 4,887	2,816 - 3,818	3,230 - 4,186
- Full fit	11,473 - 12,508	10,839 - 12,338	6,955 - 7,929	6,453 - 8,058
<b>Terraced houses, average standard</b>				
- Shell and core	3,479 - 3,775	3,264 - 3,812	2,835 - 3,219	3,286 - 3,929
- Full fit	7,019 - 7,647	6,404 - 6,937	6,485 - 7,753	5,560 - 6,528
<b>Detached houses, high end</b>				
- Shell and core	5,116 - 5,655	4,915 - 5,470	3,946 - 4,481	4,307 - 4,915
- Full fit	12,344 - 13,097	12,307 - 12,840	12,442 - 14,578	7,074 - 8,036
<b>Office / Commercial</b>				
Medium/high rise offices, average standard	6,518 - 8,612	6,379 - 8,594	6,080 - 6,944	6,384 - 7,336
High rise offices, prestige quality	8,374 - 11,453	10,368 - 14,113	8,900 - 11,184	8,050 - 10,699
Out-of-town shopping centre, average standard	N/A	N/A	5,793 - 6,586	5,166 - 6,539
Retail malls, high end	8,850 - 11,931	8,625 - 11,874	8,571 - 12,420	7,674 - 10,593
<b>Industrial</b>				
Industrial units, shell only (Conventional single storey framed units)	2,007 - 2,459	1,970 - 2,402	2,257 - 2,773	3,151 - 3,918
Owner operated factories, low rise, light weight industry	3,105 - 3,889	3,808 - 4,365	N/A	N/A
<b>Hotels</b>				
Budget hotels - 3-star, mid market	7,132 - 8,693	7,057 - 8,693	7,800 - 8,845	6,967 - 8,516
Business hotels - 4/5-star	11,492 - 15,556	12,025 - 15,876	12,607 - 18,555	12,503 - 15,466
Luxury hotels - 5-star	15,538 - 18,573	15,305 - 19,702	16,967 - 19,280	15,396 - 18,306
<b>Others</b>				
Underground/basement car parks (<3 levels)	5,326 - 7,427	5,451 - 5,990	4,018 - 6,574	3,013 - 4,173
Multi storey car parks, above ground (<4 levels)	2,729 - 3,814	3,280 - 3,312	2,862 - 3,243	2,402 - 2,936
Schools (primary and secondary)	4,071 - 5,138	3,795 - 4,899	3,234 - 4,200	3,814 - 3,508
Students' residences	2,980 - 4,064	2,684 - 3,795	2,980 - 3,800	2,229 - 3,188
Sports clubs, multi purpose sports/ leisure centres (dry sports)	6,869 - 8,437	6,498 - 6,555	5,525 - 6,260	5,024 - 5,507
General hospitals - public sector	10,494 - 13,530	8,544 - 10,701	8,366 - 10,783	8,029 - 9,942

The above costs are at 4<sup>th</sup> Quarter 2022 levels.

# Approximate Building Costs For Major Cities In Asia

Building Type	Hong Kong	Macau	Singapore	Kuala Lumpur
	Q4/2022	Q4/2022	Q4/2022	Q4/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	HK\$ 7.84	MOP 8.010	S\$ 1.38	RM 4.41
<b>Domestic</b>				
<b>Apartments, high rise, average standard</b>				
- Shell and core	N/A	1,940 - 2,874	N/A	N/A
- Full fit	3,140 - 3,620	2,497 - 3,054	1,775 - 1,920	315 - 625 <sup>5</sup>
<b>Apartments, high rise, high end</b>				
- Shell and core	N/A	2,874 - 4,309	N/A	N/A
- Full fit	4,060 - 4,690	3,487 - 5,328	2,715 - 4,020	725 - 1,500
<b>Terraced houses, average standard</b>				
- Shell and core	N/A	3,404 - 4,227	N/A	N/A
- Full fit	4,320 - 4,970	4,254 - 5,077	2,285 - 2,535	230 - 370 <sup>5,6</sup>
<b>Detached houses, high end</b>				
- Shell and core	N/A	4,114 - 5,927	N/A	N/A
- Full fit	6,290 up	5,189 - 6,751	2,900 - 3,875	770 - 1,045
<b>Office / Commercial</b>				
Medium/high rise offices, average standard	3,130 - 3,550	2,874 - 3,711	2,285 - 2,535	605 - 800
High rise offices, prestige quality	3,720 - 4,270	3,711 - 4,059	2,570 - 2,790	950 - 1,360
Out-of-town shopping centre, average standard	3,070 - 3,610	2,706 - 4,059	2,465 - 2,715	445 - 665
Retail malls, high end	3,990 - 4,680	4,254 - 5,134	2,715 - 2,970	700 - 1,070
<b>Industrial</b>				
Industrial units, shell only (Conventional single storey framed units)	N/A	N/A	1,085 - 1,270	330 - 460
Owner operated factories, low rise, light weight industry	2,360 - 2,960	N/A	N/A	435 - 550
<b>Hotels</b>				
Budget hotels - 3-star, mid market	3,950 - 4,210	3,781 - 4,283	2,900 - 3,190	1,020 - 1,500
Business hotels - 4/5-star	4,080 - 4,730	5,134 - 6,137	3,730 - 4,130	1,330 - 2,330
Luxury hotels - 5-star	4,760 - 5,400	6,137 - 7,254	3,730 - 4,130	1,955 - 2,620
<b>Others</b>				
Underground/basement car parks (<3 levels)	3,390 - 4,040	2,245 - 3,292	1,305 - 1,705	315 - 560
Multi storey car parks, above ground (<4 levels)	2,030 - 2,400	1,241 - 1,633	835 - 1,195	210 - 365
Schools (primary and secondary)	2,630 - 2,830	2,483 - 2,874	N/A	255 - 325
Students' residences	3,000 - 3,370	1,967 - 2,287	2,140 - 2,245	305 - 385
Sports clubs, multi purpose sports/leisure centres (dry sports)	3,940 - 4,460	N/A	2,610 - 2,790	610 - 775
General hospitals - public sector	5,000 - 5,500	N/A	3,695 - 3,875	845 - 1,235

The above costs are at 4<sup>th</sup> Quarter 2022 levels.

# Approximate Building Costs For Major Cities In Asia

Building Type	Bangkok	Bangalore	Manila	Ho Chi Minh
	Q4/2022	Q4/2022	Q4/2022	Q4/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	BAHT 34.55	INR 81.5	PHP 56.12	VND 23,730
<b>Domestic</b>				
<b>Apartments, high rise, average standard</b>				
- Shell and core	521 - 709	608 - 695	N/A	N/A
- Full fit	701 - 857	705 - 859	956 - 1,282	653 - 809
<b>Apartments, high rise, high end</b>				
- Shell and core	608 - 811	994 - 1,207	N/A	N/A
- Full fit	955 - 1,152	1,125 - 1,433	1,293 - 2,321	830 - 941
<b>Terraced houses, average standard</b>				
- Shell and core	289 - 376	415 - 492	N/A	N/A
- Full fit	440 - 544	496 - 560	858 - 1,050	441 - 512
<b>Detached houses, high end</b>				
- Shell and core	507 - 753	530 - 619	N/A	N/A
- Full fit	767 - 941	628 - 712	1,666 - 2,836	503 - 606
<b>Office / Commercial</b>				
Medium/high rise offices, average standard	776 - 941	532 - 587#	875 - 1,143	763 - 873
High rise offices, prestige quality	970 - 1,259	607 - 767#	1,268 - 1,635	880 - 1,186
Out-of-town shopping centre, average standard	663 - 857	521 - 571	745 - 928	N/A
Retail malls, high end	889 - 941	706 - 809	1,017 - 1,425	713 - 923
<b>Industrial</b>				
Industrial units, shell only (Conventional single storey framed units)	515 - 666	453 - 557	497 - 640	314 - 391
Owner operated factories, low rise, light weight industry	N/A	478 - 596	667 - 839	355 - 463
<b>Hotels</b>				
Budget hotels - 3-star, mid market	1,210 - 1,361	1,026 - 1,111	1,111 - 1,375	1,415 - 1,713
Business hotels - 4/5-star	1,549 - 1,789	1,448 - 1,863	1,268 - 2,103	N/A
Luxury hotels - 5-star	1,809 - 2,113	1,998 - 2,346	1,756 - 3,332	1,787 - 2,120
<b>Others</b>				
Underground/basement car parks (<3 levels)	593 - 796	346 - 399	579 - 753	648 - 764
Multi storey car parks, above ground (<4 levels)	194 - 333	288 - 338	458 - 687	417 - 452
Schools (primary and secondary)	N/A	360 - 422	653 - 901	548 - 591
Students' residences	N/A	376 - 461	700 - 888	548 - 695
Sports clubs, multi purpose sports/ leisure centres (dry sports)	N/A	693 - 777	1,100 - 1,602	809 - 856
General hospitals - public sector	N/A	779 - 904	1,325 - 1,548	N/A

The above costs are at 4<sup>th</sup> Quarter 2022 levels.

# Approximate Building Costs For Major Cities In Asia

Building Type	Outline Specification
<b>Domestic</b>	
Apartments, high rise, average standard	<b>Shell and core</b> , including finishes and fittings to public area, but <b>excluding</b> finishes and fittings to apartment units <b>Full fit</b> , with air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings and loose furniture
Apartments, high rise, high end	<b>Shell and core</b> , including finishes and fittings to public area, but <b>excluding</b> finishes and fittings to apartment units <b>Full fit</b> , good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings and loose furniture
Terraced houses, average standard	<b>Shell and core</b> , joined houses in row(s), <b>excluding</b> garden, parking, finishes and fittings to house interior <b>Full fit</b> , including finishes and fittings to house interior, with air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings, loose furniture, garden and parking
Detached houses, high end	<b>Shell and core</b> , good quality facade, <b>excluding</b> garden, parking, finishes and fittings to house interior <b>Full fit</b> , good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings, loose furniture, garden and parking
<b>Office / Commercial</b>	
Medium/high rise offices, average standard	RC structure, curtain wall/window wall, including public area fit-out, tenant area with screeded floor, painted wall and ceiling
High rise offices, prestige quality	RC structure, curtain wall, including public area fit-out, tenant area with raised floor, painted wall and false ceiling
Out-of-town shopping centre, average standard	Including public area fit-out and M&E, but <b>excluding</b> shop fit-out
Retail malls, high end	
<b>Industrial</b>	
Industrial units, shell only (Conventional single storey framed units)	RC structure with steel roof and M&E to main distribution, but <b>excluding</b> a/c and tenant fit-out
Owner operated factories, low rise, light weight industry	RC structure, including ancillary office with simple fit-out and M&E, but <b>excluding</b> a/c
<b>Hotels</b>	
Budget hotels - 3-star, mid market	<ol style="list-style-type: none"> <li>Interior decoration</li> <li>Furniture (fixed and movable)</li> <li>Special light fittings (chandeliers, etc.)</li> <li>Operating Supplies and Equipment (OS&amp;E) <b>excluded</b></li> </ol>
Business hotels - 4/5-star	
Luxury hotels - 5-star	
<b>Others</b>	
Underground/basement car parks (<3 levels)	RC structure
Multi storey car parks, above ground (<4 levels)	RC structure, natural ventilation, no facade enclosure
Schools (primary and secondary)	Government standard and provisions; <b>excluding</b> educational equipment
Students' residences	University standard
Sports clubs, multi purpose sports/leisure centres (dry sports)	Dry sports (no swimming pool) and are for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant / café, bar, etc. Costs include a/c, Furniture, Fittings and Equipment (FF&E)
General hospitals - public sector	<b>Excluding</b> medical and operating equipment

## Notes :

- The costs for the respective categories given above are averages based on fixed price competitive tenders. It must be understood that the actual cost of a building will depend upon the design and many other factors and may vary from the figures shown.
- The costs per square metre are based on Construction Floor Areas (CFA) measured to the outside face of the external walls / external perimeter including lift shafts, stairwells, balconies, plant rooms, water tanks and the like.
- All buildings are assumed to have no basements (except otherwise stated) and are built on flat ground, with normal soil and site conditions. The cost excludes site formation works, external works, land cost, professional fees, finance and legal expenses.
- The standard for each category of building varies from region to region and do not necessarily follow that of each other.
- "Shell and core" generally covers ONLY base building elements. "Shell" refers to overall structure and foundations, exterior walls and roof, completing with common areas, staircases, lift shafts, service ducts and fire services systems to local statutory requirements. "Core" refers to fully-fitted public areas (like lobbies and corridors) and M&E main plant and upfeed, with occupant areas unfurnished.
- "Full fit" buildings should complete with all elements that allow the buildings to be ready for operation, including public and occupant areas (i.e. with ALL finishes, fittings and M&E distributions).
- Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.
- Kuala Lumpur:** \$ 6-12 units per floor, 46m<sup>2</sup> - 83m<sup>2</sup> per unit; excluding air-conditioning, kitchen cabinets and home appliances \$\$ Excluding air-conditioning, kitchen cabinets and home appliances. **Bangalore:** #Tenant area with screeded floor, painted wall and ceiling, excluding raised floor.
- The data for Bangkok is provided by Mentabuild Limited.
- The data for Bangalore is provided by Arkind LS Private Limited.
- The data for Singapore is provided by Asia Infrastructure Solutions Singapore Pte. Ltd.
- The data for Kuala Lumpur is provided by JUBM Group.
- The data for Ho Chi Minh is provided by DLS Consultant Company Limited.
- Singapore, Kuala Lumpur and Bangalore:** Rates are nett of GST. **Bangkok and Ho Chi Minh:** Rates are nett of VAT. **Manila:** Rates include 12% VAT.



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