

Quarterly Construction Cost Review

China and Hong Kong

2022 | Q1

Arcadis Hong Kong Limited



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China and Hong Kong Market Overview



The global COVID-19 pandemic has had a profound implication on construction industry since 2020. The unemployment rate of the construction industry climbed up to 10.4% on average in 2020, and gradually dropped to an average of 8.1% in 2021. The latest statistical data shows that the unemployment rate of the construction industry has no sign of edging down, 8.7% was recorded in February to April 2022.

However, the situation is expected to improve in the near future. With reference to the data of the commenced private works in 2021, the recorded total gross floor area is 5% higher than that in 2019, which shows that the industry is recovering steadily.

Also, the Construction Industry Council (CIC) has recently published the "Construction Expenditure Forecast" over the next ten years from 2021/22 to 2030/31 with reference to the up-to-date market situation in both public and private sectors. It is anticipated that the construction expenditure could reach a minimum of HK\$225 billion and maximum of HK\$345 billion (at September 2021 price level) per annum in the coming ten years, which is remarkably higher than a minimum of HK\$208 billion and a maximum of HK\$290 billion (at September 2021 price level) per annum recorded in the past ten years. The projected steady increase in expenditure shows a positive view towards the development of the industry in the long run.

Market Movement

Economy

INDICATOR

 GDP Growth per annum	Q1/20 - Q1/21 (+) 8.0%	Q4/20 - Q4/21 (+) 4.7%	Q1/21 - Q1/22 (-) 4.0%
 Inflation Rate (CPI) per annum	Mar 20 - 21 (+) 0.6%	Dec 20 - 21 (+) 2.4%	Mar 21 - 22 (+) 1.7%

Basic Costs

INDICATOR

 Highways Material Index	Dec 20 - Feb 21 951.1	Sep - Nov 21 1132.9	Dec 21 - Feb 22 1165.5
 Labour Wages Index	Dec 20 - Feb 21 153.4	Sep - Nov 21 155.1	Dec 21 - Feb 22 156.2

*Provisional

Supply & Demand

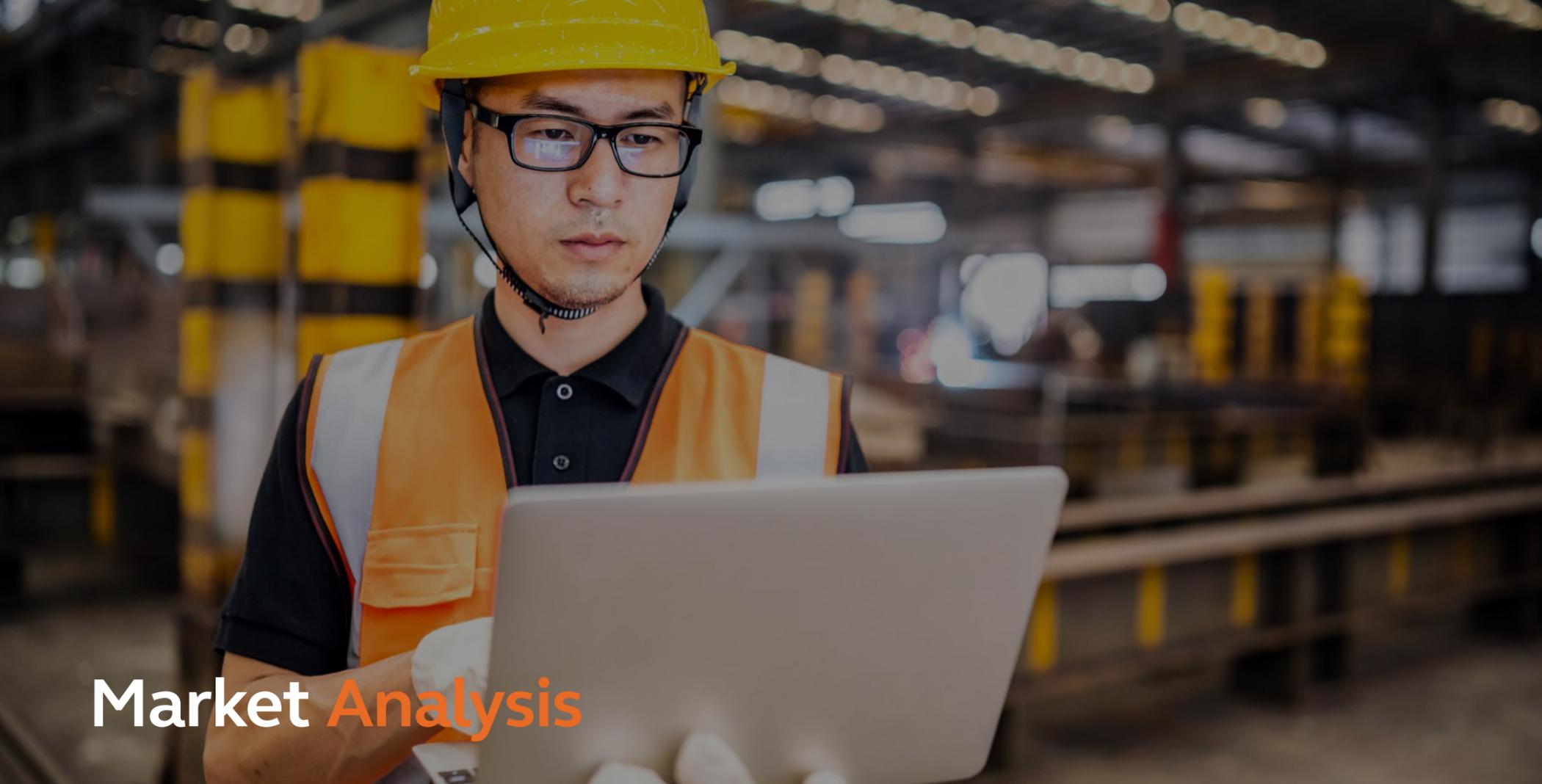
INDICATOR

 Activity Level (Gross output; new + A&A)	Q4/20 HK\$63.483 Bn	Q3/21 HK\$58.688 Bn	Q4/21 HK\$61.073 Bn*
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Construction Cost Trend

INDICATOR

 Tender Price Index (Arcadis)	Q1/21 1740	Q4/21 1780	Q1/22 1810
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Market Analysis

China

In the first quarter of 2022, China's economy grew by 4.8% Year-on-Year (YoY), amid pressures from a more complicated and grimmer international environment and a resurgence of COVID-19 cases, the National Bureau of Statistics said. It remains lower than it was before the outbreak of COVID-19 pandemic in the end of 2019.

The anti-epidemic policies have continuously impacted on the economic activities and brought financial pressure on property developers. The real estate investment in Mainland China in the first quarter of this year has increased by 0.7% YoY. It declined comparing with the 3.7% increase in last quarter. Besides, the sales of commercial buildings amounted decreased by 22.7% YoY and the area of land sales continued to decrease by 41.8% YoY.

China's "Dynamic Zero-COVID" policy is also affecting the construction market. On March 11th, Shanghai Municipal Commission of Housing and Urban-Rural Construction Administration issued a document requiring all construction projects in the city to implement "closed-off" management (people can only go in but not out of the site) or suspension. Besides, governments of many other cities raised higher requirements of site access and health supervision of workers in response to the dynamic clearance policy.

In Q1 2022, construction wages remained stable. Comparing with last quarter, the average basic construction product costs fluctuated in price with rebar (-)8%, steel (-)2%, aluminium (+)13%, copper (+)18%, concrete (-)8% and cement (-)20%. The tender price also remained stable, however the construction market price level is anticipated to go down next quarter due to strong competition.

Hong Kong

Decline in economic growth

The Hong Kong economy is experiencing a downward movement this quarter after the recovery last year. After the continuous growth in the previous year, Hong Kong Gross Domestic Product (GDP) recorded a negative growth rate of (-)4.0% YoY in Q1 2022, deviating from the growing trend in the previous four consecutive quarters since Q1 2021. The Consumer Price Index (CPI) recorded an inflation of (+)1.7% YoY in March 2022, which remains steady after a notable increase of (+)2.4% YoY in December 2021.

Floor area of commenced works

The total gross floor area of the commenced private construction works in Q1 2022 dropped by 91% and 96% when comparing to Q3 2021 and Q4 2021 respectively, which might lower the construction volume and hence increase the unemployment rate in the short run. However, when looking into the total floor area of the commenced private works in the last twelve months, an increase of 13.3% YoY was observed.

Gross value of performed construction works

Gross value of performed new-built private, public and A&A works increased by 4.6%, 8.1% and 0.6% QoQ respectively in Q4 2021, while the overall performed new-built private, public and A&A works show a decrease of 3.8% as compared to last year.

Cost of materials and labour

The Tender Price Index (TPI) increased by 4.02% YoY based on Q1 2022. The price of steel continued to rise in this quarter and increased significantly by 28% YoY based on February 2022. Meanwhile, the price of concrete blocks, diesel fuel and cement also notably rose by 31%, 15% and 18% YoY respectively. Prices of sand and floor tiles increased by around 10% in the same period. The construction labour wages increased marginally by 0.7% QoQ and 1.8% YoY. Amongst the various trades of labourer, wages of carpenter rose significantly by 6% YoY.

Approximate Building Costs Hong Kong

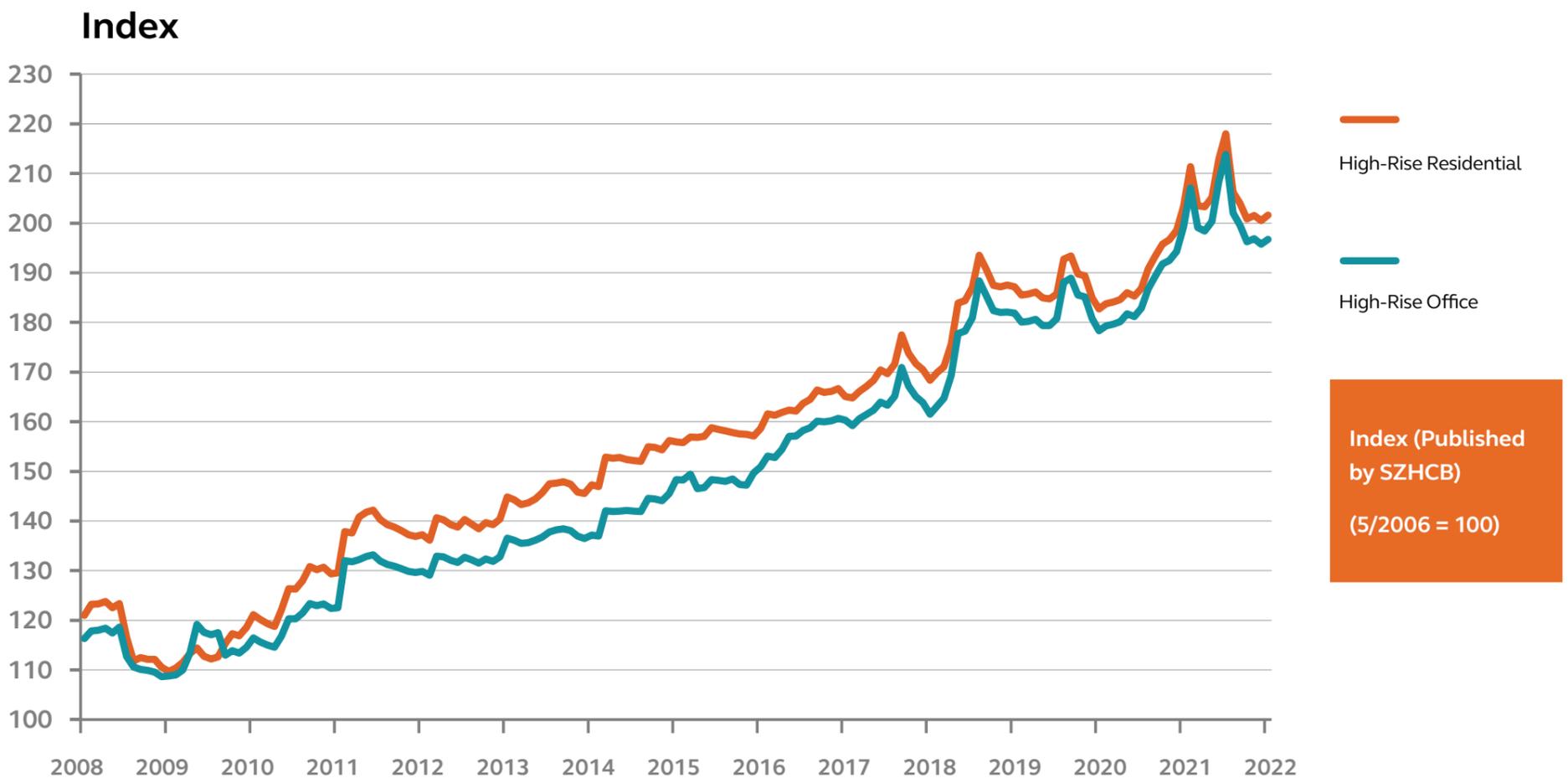
Notes:

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\$/m ² CFA	Outline Specification
Domestic		
Apartments, high rise, public authority standard	11,000 - 13,200	Apartment units with fit-out, based on Hong Kong Housing Authority Non-standard Cruciform Block design (Rental Housing)
Apartments, high rise, average standard	24,000 - 27,700	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	31,000 - 36,000	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	33,000 - 38,100	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	48,000 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
Office / Commercial		
Medium/high rise offices, average standard	23,800 - 27,100	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	28,500 - 32,700	RC structure, curtain wall, including public area fit-out, tenant area with raised floor/carpet, painted wall and false ceiling
Out-of-town shopping centre, average standard	23,500 - 27,500	Including public area fit-out and M&E, but excluding shop fit-out
Retail malls, high end	30,500 - 36,200	
Industrial		
Owner operated factories, low rise, light weight industry	18,200 - 22,900	RC structure, including small office with simple fit-out and M&E, but excluding a/c and heating
Hotel		
Budget hotels - 3-star, mid market	30,200 - 32,100	1) Interior decoration
Business hotels - 4/5-star	31,200 - 36,300	2) Furniture (fixed and movable)
Luxury hotels - 5-star	36,400 - 41,500	3) Special light fittings (chandeliers, etc.) 4) Operating Supplies and Equipment (OS&E) excluded
Others		
Underground/basement car parks (<3 levels)	25,900 - 30,800	RC structure
Multi storey car parks, above ground (<4 levels)	15,400 - 18,300	RC structure, natural ventilation, no facade enclosure
Schools (primary and secondary)	20,100 - 21,700	Public authority standard, including fit-out, no a/c, complete with basic external works but excluding educational equipment
Students' residences	23,000 - 25,900	Including fit-out, loose furniture and a/c
Sports clubs, multi purpose sports/ leisure centres (dry sports)	30,100 - 34,200	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	38,300 - 42,200	Excluding medical and operating equipment

*The above cost are at 1st Quarter 2022 levels.

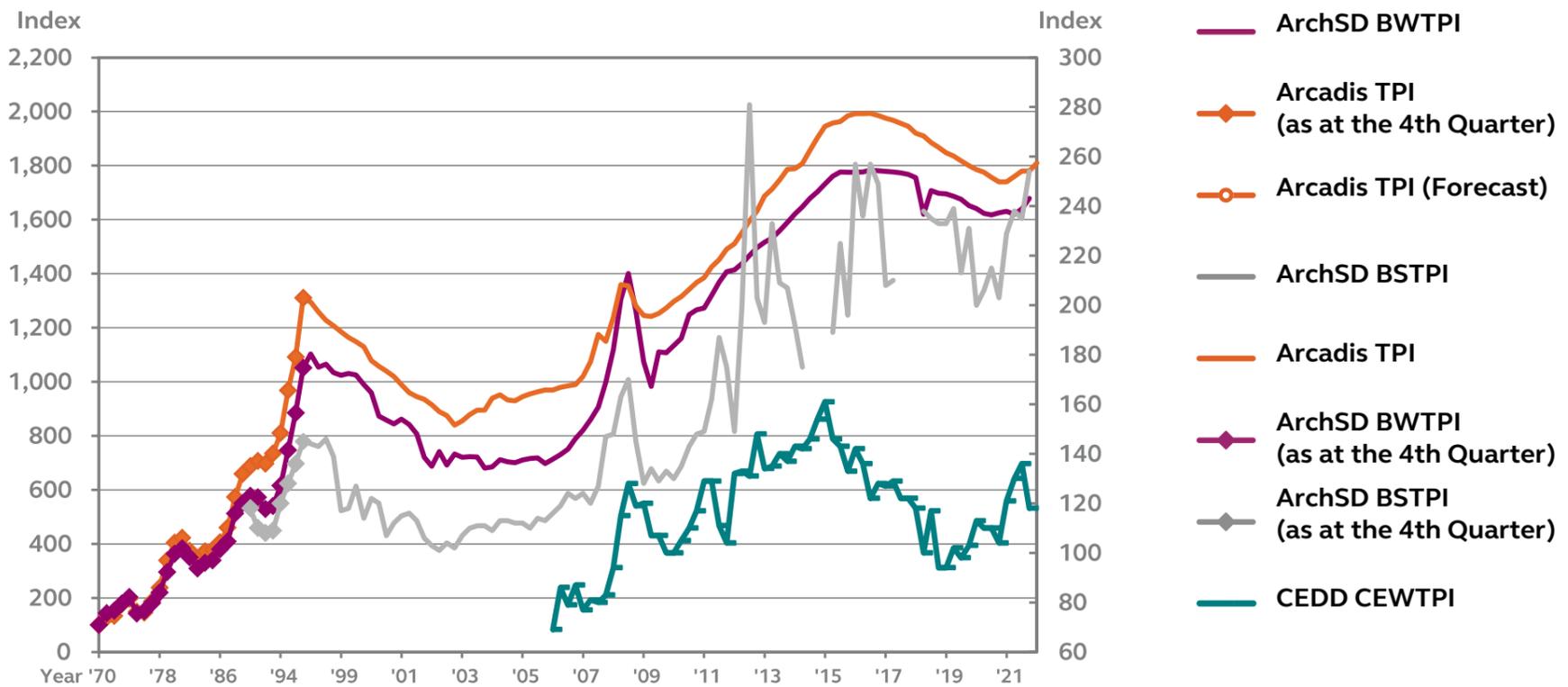
Building & Building Services Price Index – Mainland China



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		180.1	179.3	207.0	
June	185.7	184.1	203.5		180.2	179.7	199.1	
July	186.1	184.6	203.3		180.6	180.1	198.4	
August	184.9	186.0	205.2		179.4	181.7	200.3	
September	184.8	185.3	212.9		179.3	181.2	208.4	
October	185.7	186.8	218.0		180.8	182.8	213.8	
November	192.8	190.8	206.2		188.1	186.8	202.0	
December	193.4	193.4	204.0		189.0	189.4	199.6	

Source : Housing and Construction Bureau of Shenzhen

Tender Price Index - Hong Kong



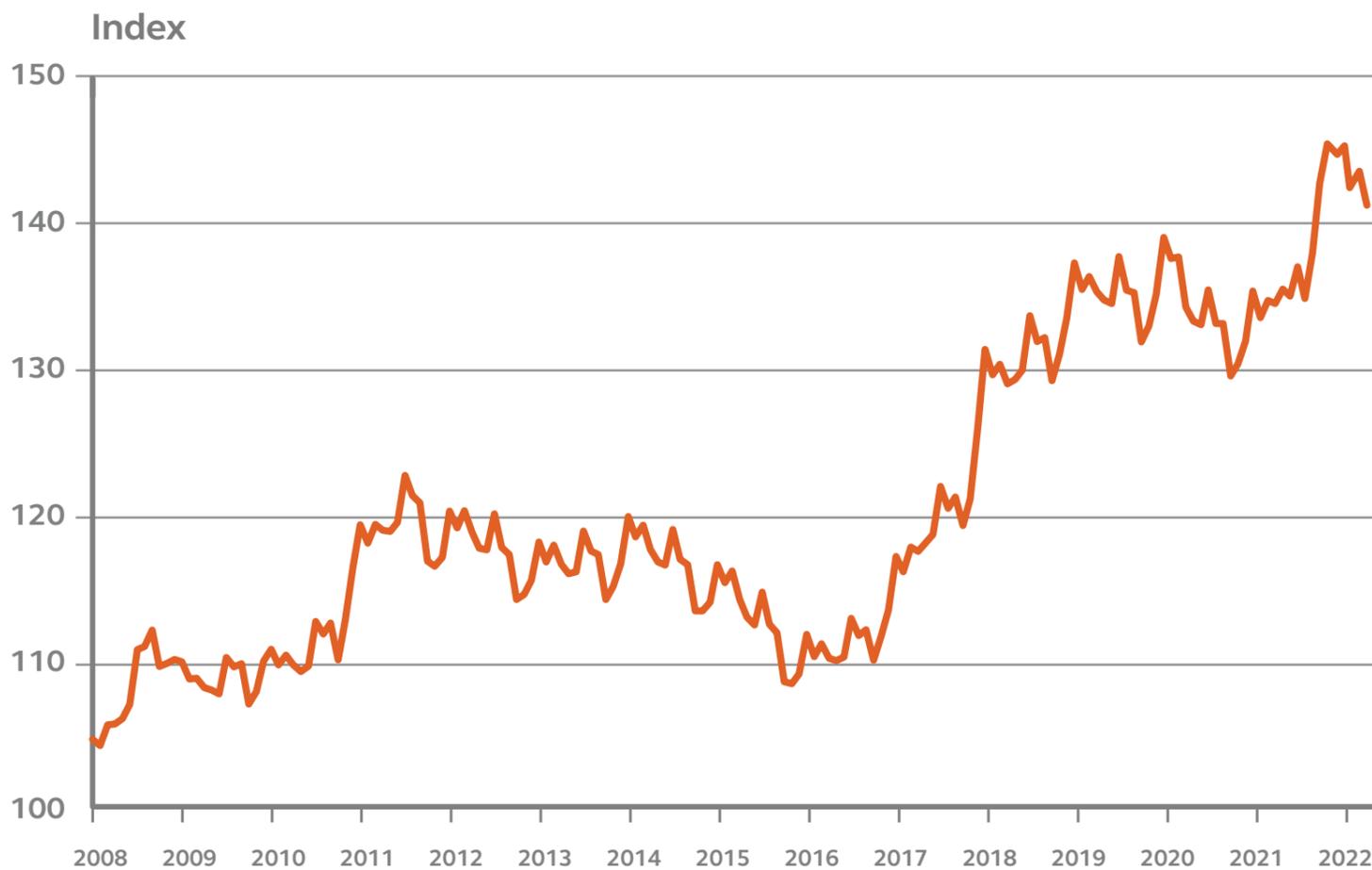
Quarter/Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
ArchSD BWTPI (Base = 100, at Year 1970)										
Q1	1516	1621	1732	1775	1779	1755	1695	1641	1631	
Q2	1532	1648	1761	1776	1776	1727	1686	1623	1620	
Q3	1559	1679	1777	1783	1773	1708	1675	1618	1640	
Q4	1590	1703	1775	1781	1768	1698	1652	1625	1679	
ArchSD BSTPI (Base = 100, at Year 1989)										
Q1	193	192	(N/A)	257	208	(N/A)	233	200	229	
Q2	233	175	189	236	210	258	239	206	238	
Q3	209	(N/A)	225	257	(N/A)	247	213	215	235	
Q4	207	(N/A)	196	249	287	233	231	203	254	
Arcadis TPI (Base = 100, at Year 1970)										
Q1	1688	1789	1946	1992	1975	1920	1848	1785	1740	1810
Q2	1713	1808	1958	1992	1968	1910	1835	1775	1760	
Q3	1747	1857	1963	1993	1957	1885	1818	1757	1780	
Q4	1786	1903	1984	1986	1946	1868	1800	1740	1780	
CEWTPI (Base = 100, at Year 2010)										
Q1	134	143	161	142	127	118	94	113	121	
Q2	135	142	146	136	129	100	102	110	130	
Q3	140	146	143	122	122	117	98	110	136	
Q4	137	154	133	128	122	94	103	104	118*	

Source : Competitive tenders received by Arcadis, Building Works Tender Price Index (BWTPI) 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 BWTPI (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 1998 and onwards are given in detail, whereas indices between year 1970 to 1997 are shown with their 4th Quarter figures.

Materials – Mainland China



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

Construction Material Price Index								
Index	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
Month / Year	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		135.7	134.2	136.5	
June	103.6	98.9	101.5		135.5	134.0	136.0	
July	103.1	98.3	101.2		138.8	136.4	138.0	
August	102.7	98.3	101.3		136.4	134.0	135.8	
September	102.4	98.4	103.7		136.2	134.0	139.0	
October	102.1	98.2	110.4		132.7	130.3	143.9	
November	101.5	98.0	111.8		133.9	131.2	146.7	
December	101.2	97.6	109.9		136.1	132.8	146.0	

Source : National Bureau of Statistics (NBS) of China

Notes:

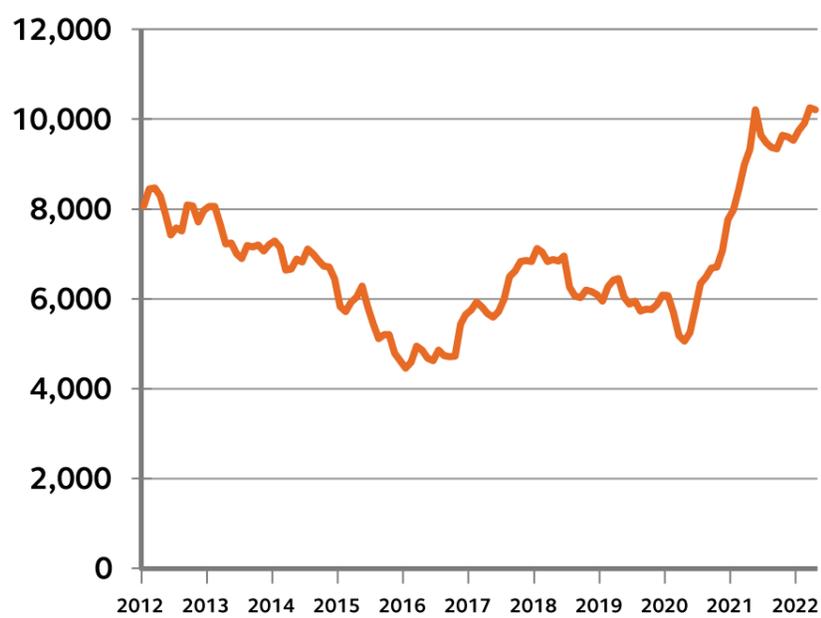
1. Data are published on a monthly basis, measuring the year-on-year change in price level of each month, but the quarter-on-quarter change is not published, ie. the changes between consecutive quarters are not given.
2. To give an illustration of the price trend over time, Arcadis applies a hypothetical 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

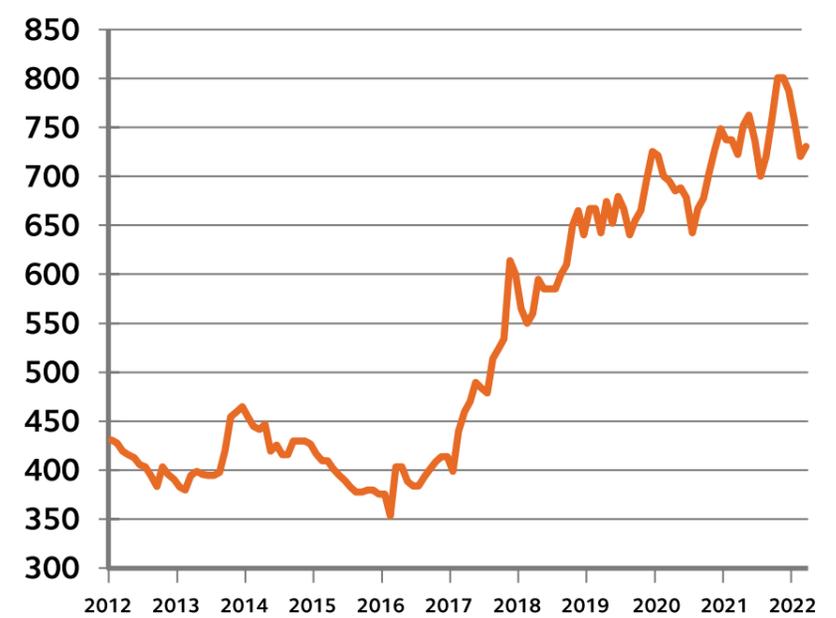
US\$/Tonne



Source : London Metal Exchange

Ready Mix Concrete, 40 MPa

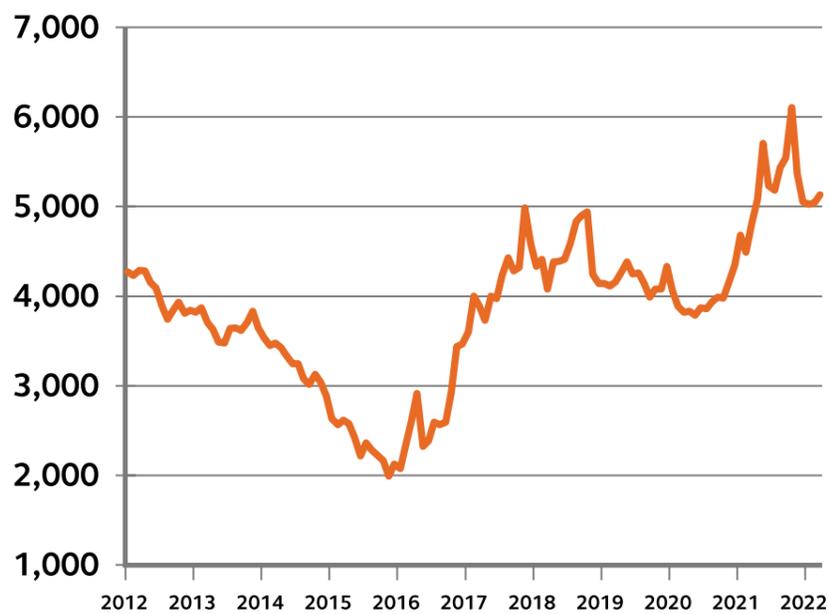
RMB/m³



Shanghai Municipal Management Commission of Housing and Urban - Rural Development

Steel Reinforcement, Grade III

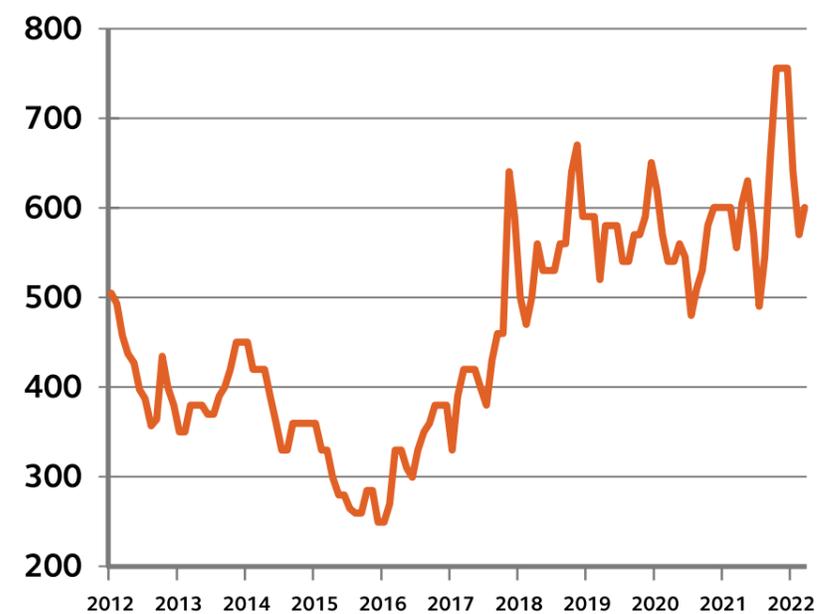
RMB/Tonne



Shanghai Municipal Management Commission of Housing and Urban - Rural Development

Portland Cement, 42.5 MPa

RMB/Tonne



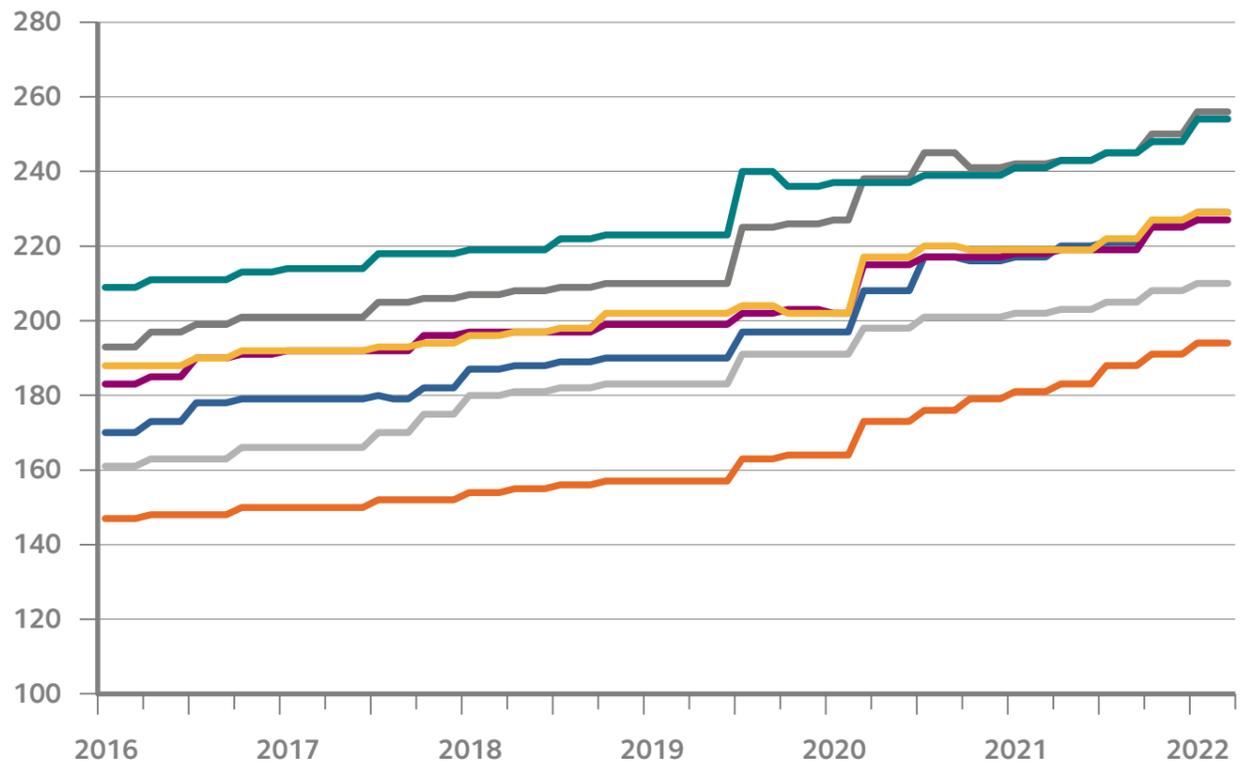
Shanghai Municipal Management Commission of Housing and Urban - Rural Development

Labour

Mainland China

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

RMB Average Daily Wages of Construction Workers

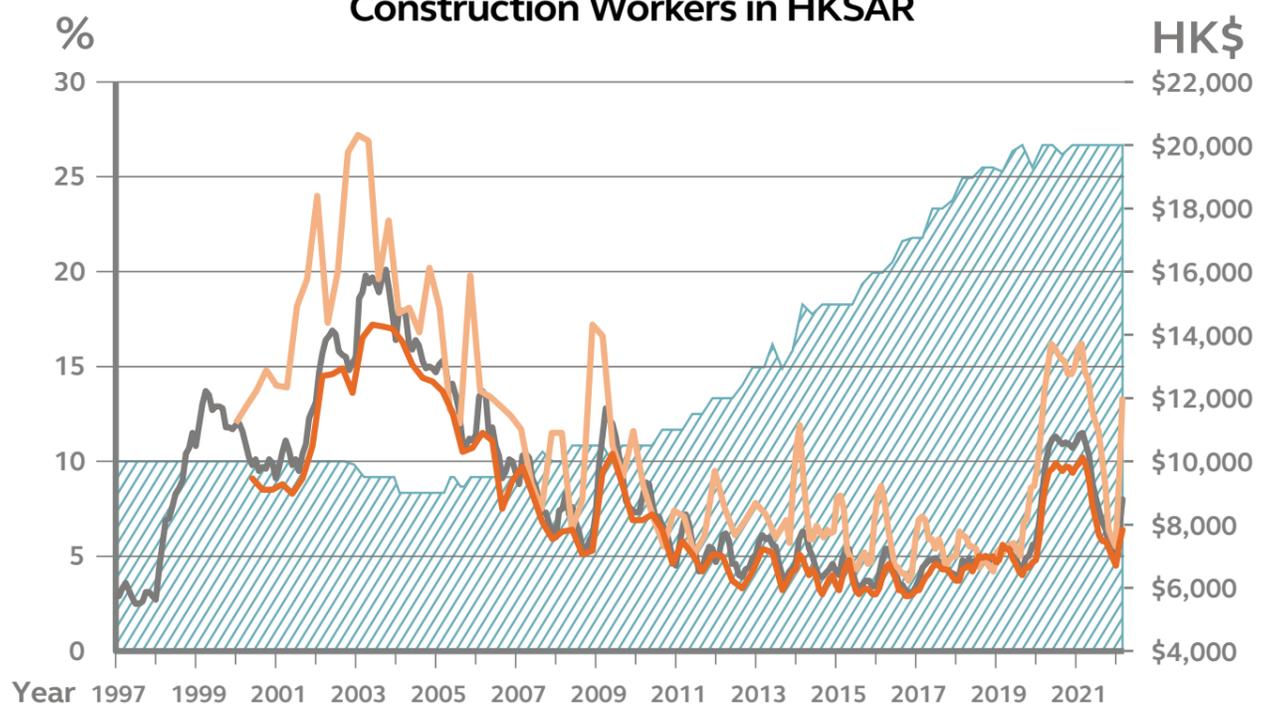


Source : Shanghai Municipal Management Commission of Housing and Urban-Rural Development

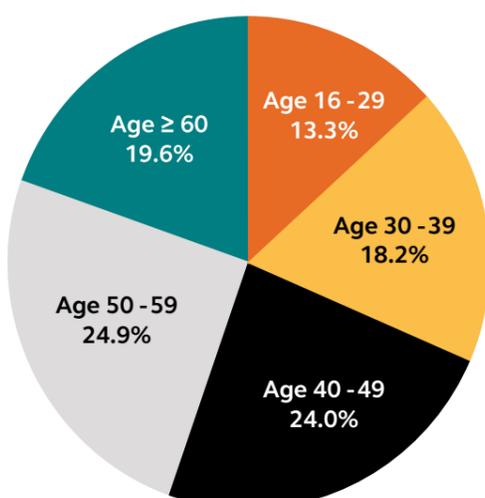
Hong Kong SAR

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

Construction Workers in HKSAR



Source : Census & Statistics Department, Hong Kong SAR

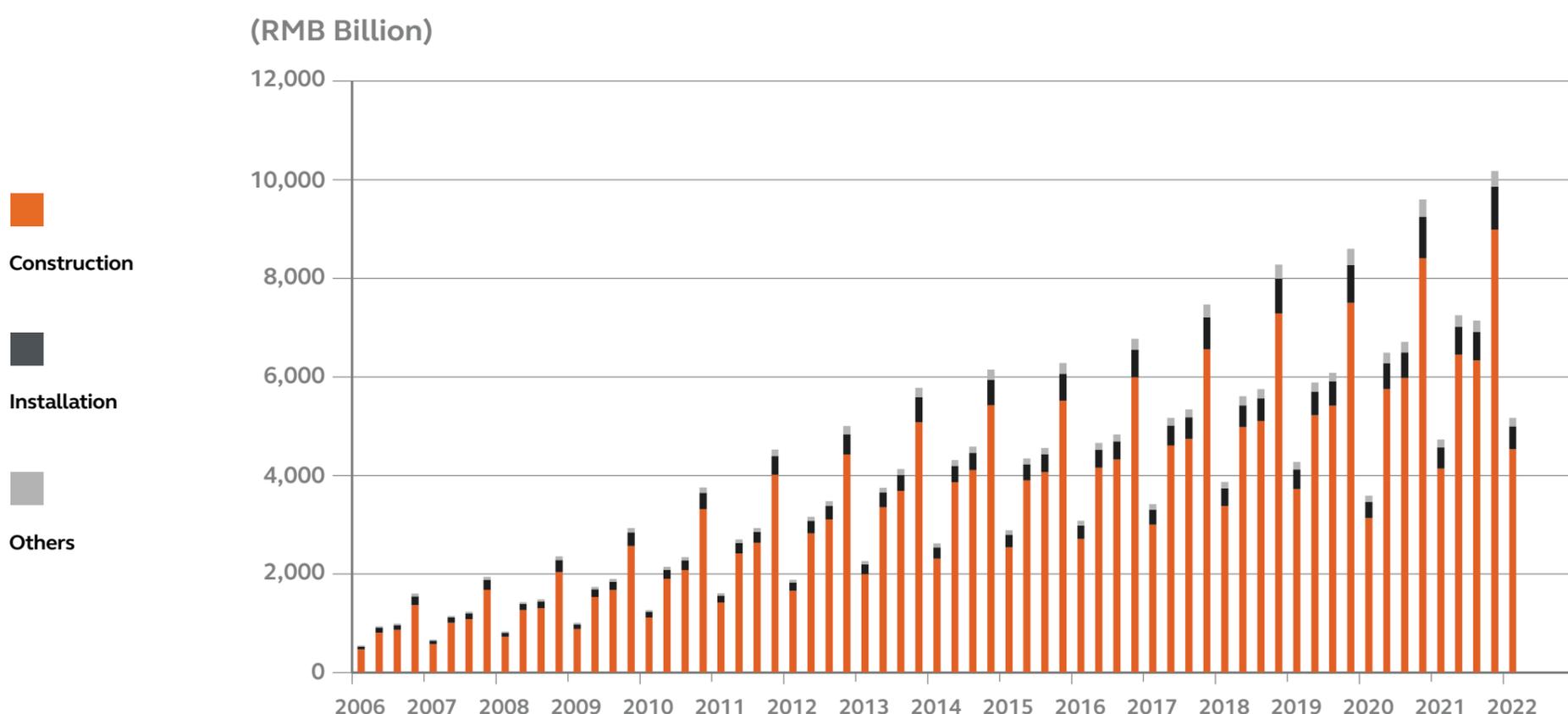


Age Distribution of Workers

Age Group	No. of Workers Employed by Construction Industry	
Age 16 - 29	77,390	13.3%
Age 30 - 39	105,948	18.2%
Age 40 - 49	140,126	24.0%
Age 50 - 59	145,119	24.9%
Age ≥ 60	114,573	19.6%
Total (as at Mar 2022) :	583,156	100.0%

Source : Construction Industry Council

Gross Value of Construction Work Performed – Mainland China



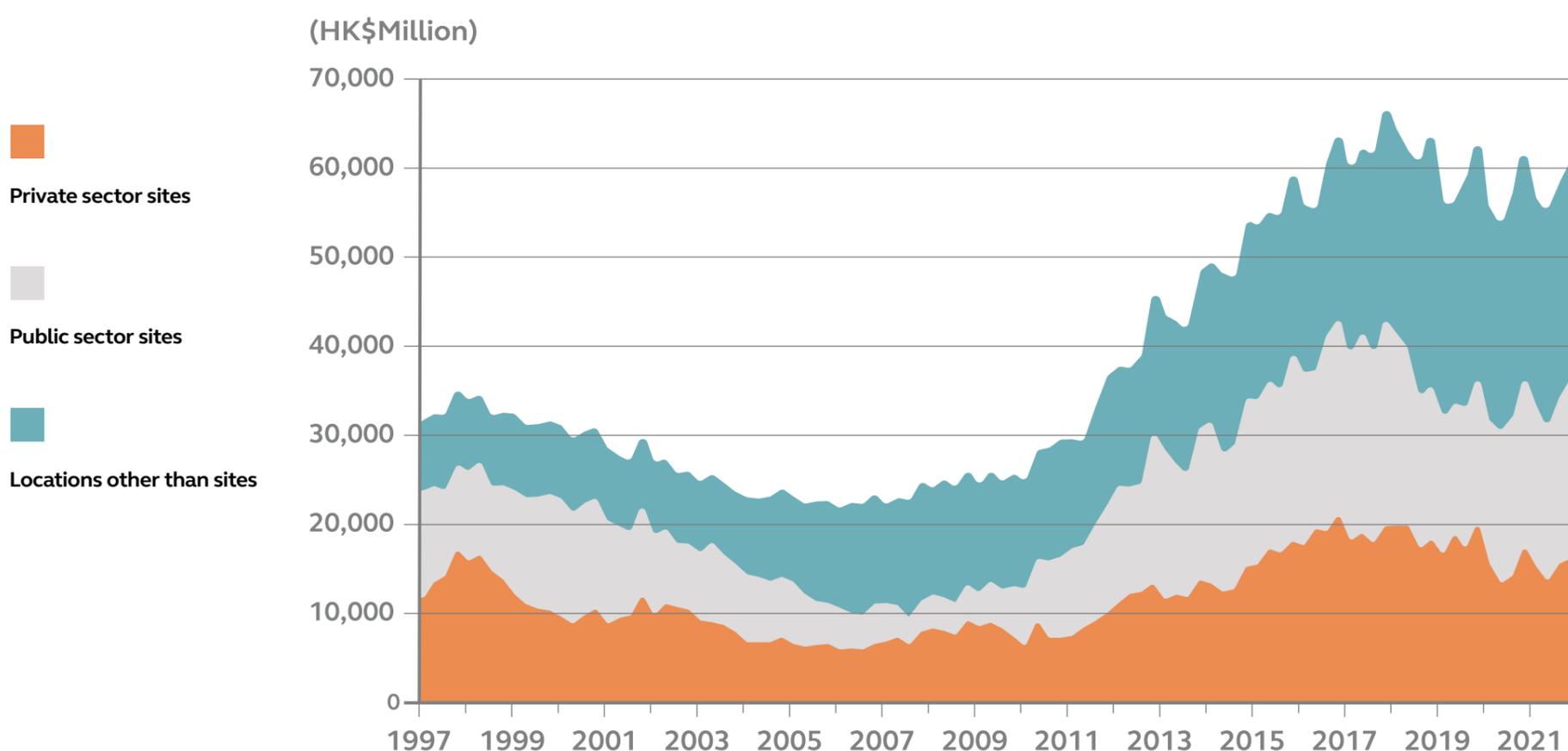
Quarter	Value Performed (RMB Billion)									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
A. Construction										
1 st Quarter	1,994	2,311	2,544	2,712	3,003	3,382	3,727	3,138	4,141	4,533
2 nd Quarter	3,355	3,866	3,899	4,158	4,609	4,985	5,223	5,753	6,453	
3 rd Quarter	3,687	4,113	4,068	4,322	4,742	5,106	5,414	5,977	6,336	
4 th Quarter	5,078	5,425	5,517	5,994	6,562	7,286	7,502	8,405	8,991	
Year Total:	14,115	15,714	16,028	17,186	18,916	20,759	21,867	23,272	25,921	4,533
B. Installation										
1 st Quarter	200	230	255	277	303	358	393	326	428	463
2 nd Quarter	300	333	331	366	405	438	476	523	569	
3 rd Quarter	322	346	363	374	437	459	498	519	579	
4 th Quarter	514	517	548	561	646	708	768	840	871	
Year Total:	1,336	1,426	1,498	1,578	1,791	1,963	2,135	2,208	2,448	463
C. Others										
1 st Quarter	69	83	91	96	113	129	155	127	164	175
2 nd Quarter	100	118	117	138	154	187	186	217	229	
3 rd Quarter	123	126	126	137	160	189	173	213	228	
4 th Quarter	189	205	216	222	262	282	328	357	318	
Year Total:	481	531	550	593	689	787	843	915	940	175
Annual gross value performed (A + B + C)										
Total:	15,931	17,671	18,076	19,357	21,396	23,509	24,845	26,395	29,308	5,171

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



Quarter	Value Performed (HK\$ Million)									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
A. Private sector sites										
1 st Quarter	11,209	11,675	13,395	15,528	17,652	18,150	19,918	16,583	15,647	15,339
2 nd Quarter	12,260	12,176	12,507	17,284	19,530	19,070	19,925	19,112	13,489	13,758
3 rd Quarter	12,481	11,848	12,792	16,849	19,252	17,912	17,340	17,199	14,303	15,620
4 th Quarter	13,411	13,781	15,259	18,119	21,231	19,813	18,369	20,393	17,685	16,343*
Year Total:	49,361	49,480	53,953	67,780	77,665	74,945	75,552	73,287	61,124	61,060*
B. Public sector sites										
1 st Quarter	13,168	16,829	18,258	18,531	19,414	20,639	21,533	15,338	16,083	18,167
2 nd Quarter	12,023	14,690	15,397	18,964	17,780	22,827	20,002	14,512	17,155	17,054
3 rd Quarter	12,137	13,792	16,253	18,163	21,878	20,934	16,888	16,022	17,940	18,604
4 th Quarter	17,332	16,976	18,915	21,585	22,295	23,455	17,433	16,825	19,400	20,108*
Year Total:	54,660	62,287	68,823	77,243	81,367	87,855	75,856	62,697	70,578	73,933*
C. Location other than sites										
1 st Quarter	13,347	15,140	17,909	19,549	18,809	19,963	22,871	24,032	24,126	23,075
2 nd Quarter	13,245	15,914	20,327	18,744	18,041	20,657	22,073	22,592	22,674	24,249
3 rd Quarter	14,358	16,038	18,636	19,520	19,274	22,093	26,027	25,992	24,971	24,465
4 th Quarter	16,479	17,716	20,088	21,111	21,333	24,406	29,797	27,839	26,398	24,622*
Year Total:	57,429	64,808	76,960	78,924	77,457	87,119	100,768	100,455	98,169	96,411*
Annual gross value performed (A + B + C)										
Total:	161,450	176,575	199,736	223,947	236,489	249,919	252,176	236,439	229,871	231,404*

*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
	Q1/2022	Q1/2022	Q1/2022	Q1/2022
	RMB/ m ² CFA			
Domestic				
Apartments, high rise, average standard				
- Shell and core	3,171 - 3,615	2,885 - 3,327	2,753 - 3,162	2,747 - 3,181
- Full fit	5,184 - 5,715	4,563 - 5,011	4,368 - 5,011	4,200 - 4,959
Apartments, high rise, high end				
- Shell and core	3,812 - 4,129	3,437 - 4,986	2,873 - 3,896	3,395 - 4,399
- Full fit	11,706 - 12,762	11,059 - 12,589	7,096 - 8,090	6,781 - 8,468
Terraced houses, average standard				
- Shell and core	3,550 - 3,851	3,330 - 3,889	2,893 - 3,285	3,436 - 4,109
- Full fit	7,162 - 7,802	6,534 - 7,078	6,617 - 7,910	5,814 - 6,827
Detached houses, high end				
- Shell and core	5,220 - 5,769	5,015 - 5,581	4,026 - 4,572	4,503 - 5,140
- Full fit	12,595 - 13,363	12,557 - 13,101	12,695 - 14,874	7,398 - 8,403
Office / Commercial				
Medium/high rise offices, average standard	6,650 - 8,787	6,509 - 8,768	6,203 - 7,085	6,710 - 7,710
High rise offices, prestige quality	8,544 - 11,686	10,579 - 14,400	9,081 - 11,411	8,461 - 11,246
Out-of-town shopping centre, average standard	N/A	4,864 - 6,502	5,911 - 6,720	5,423 - 6,864
Retail malls, high end	9,030 - 12,173	8,800 - 12,115	8,745 - 12,672	8,056 - 11,120
Industrial				
Industrial units, shell only (Conventional single storey framed units)	2,048 - 2,509	2,010 - 2,451	2,303 - 2,829	3,328 - 4,138
Owner operated factories, low rise, light weight industry	3,168 - 3,968	3,885 - 4,454	N/A	N/A
Hotels				
Budget hotels - 3-star, mid market	7,277 - 8,870	7,200 - 8,870	7,959 - 9,024	7,281 - 8,901
Business hotels - 4/5-star	11,725 - 15,872	12,269 - 16,198	12,863 - 18,931	13,050 - 16,143
Luxury hotels - 5-star	15,853 - 18,950	15,616 - 20,102	17,488 - 19,872	16,063 - 19,100
Others				
Underground/basement car parks (<3 levels)	5,434 - 7,578	5,562 - 6,112	4,100 - 6,707	3,155 - 4,371
Multi storey car parks, above ground (<4 levels)	2,784 - 3,891	3,347 - 3,379	2,920 - 3,309	2,515 - 3,074
Schools (primary and secondary)	4,154 - 5,242*	3,872 - 4,998*	3,234 - 3,667*	3,335 - 3,673*
Students' residences	3,040 - 4,147	2,739 - 3,872	2,043 - 2,323	2,334 - 3,339
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	7,008 - 8,608	6,630 - 6,688	5,637 - 6,387	5,262 - 5,768
General hospitals - public sector	10,707 - 13,805	8,717 - 10,918	8,536 - 11,002	8,409 - 10,412

The above costs are at 1st Quarter 2022 levels.

Approximate Building Costs For Major Cities In Asia

Building Type	Hong Kong	Macau	Singapore	Kuala Lumpur
	Q1/2022	Q1/2022	Q1/2022	Q1/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	HK\$ 7.81	MOP 8.010	S\$ 1.35	RM 4.20
Domestic				
Apartments, high rise, average standard				
- Shell and core	N/A	1,874 - 2,778	N/A	N/A
- Full fit	3,073 - 3,547	2,414 - 2,952	1,740 - 1,890	335 - 675 \$
Apartments, high rise, high end				
- Shell and core	N/A	2,778 - 4,166	N/A	N/A
- Full fit	3,969 - 4,609	3,371 - 5,151	2,665 - 3,965	770 - 1,605
Terraced houses, average standard				
- Shell and core	N/A	3,291 - 4,085	N/A	N/A
- Full fit	4,225 - 4,878	4,113 - 4,908	2,260 - 2,480	240 - 395 \$\$
Detached houses, high end				
- Shell and core	N/A	3,978 - 5,730	N/A	N/A
- Full fit	6,146 up	5,016 - 6,527	2,850 - 3,815	815 - 1,120
Office / Commercial				
Medium/high rise offices, average standard	3,047 - 3,470&	2,778 - 3,587	2,260 - 2,480@	645 - 855 \$\$\$
High rise offices, prestige quality	3,649 - 4,187	3,587 - 3,925	2,520 - 2,740@	1,005 - 1,455 \$\$\$\$
Out-of-town shopping centre, average standard	3,009 - 3,521	2,616 - 3,925	2,520 - 2,595	475 - 715
Retail malls, high end	3,905 - 4,635	4,113 - 4,963	2,665 - 2,925	745 - 1,145
Industrial				
Industrial units, shell only (Conventional single storey framed units)	N/A	N/A	1,075 - 1,260	350 - 495 \$\$\$\$\$
Owner operated factories, low rise, light weight industry	2,330 - 2,932	N/A	N/A	460 - 590
Hotels				
Budget hotels - 3-star, mid market	3,867 - 4,110	3,655 - 4,140	2,815 - 3,110	1,085 - 1,605
Business hotels - 4/5-star	3,995 - 4,648	4,963 - 5,932	3,630 - 4,035	1,420 - 2,495
Luxury hotels - 5-star	4,661 - 5,314	5,932 - 7,012	3,630 - 4,035	2,080 - 2,795
Others				
Underground/basement car parks (<3 levels)	3,316 - 3,944	2,170 - 3,182	1,260 - 1,665	335 - 600
Multi storey car parks, above ground (<4 levels)	1,972 - 2,343	1,200 - 1,578	890 - 1,260@@	225 - 390
Schools (primary and secondary)	2,574 - 2,778*	2,401 - 2,778	N/A	270 - 350 \$\$\$\$\$\$
Students' residences	2,945 - 3,316	1,901 - 2,212	2,110 - 2,220	325 - 410 \$\$\$\$\$\$\$
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	3,854 - 4,379	N/A	2,555 - 2,740	645 - 825
General hospitals - public sector	4,904 - 5,403	N/A	3,630 - 3,815	905 - 1,325

The above costs are at 1st Quarter 2022 levels.

Approximate Building Costs For Major Cities In Asia

Building Type	Bangkok	Bangalore	Manila	Ho Chi Minh
	Q1/2022	Q1/2022	Q1/2022	Q1/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	BAHT 34.52	INR 75.22	PHP 51.96	VND 23,450
Domestic				
Apartments, high rise, average standard				
- Shell and core	513 - 652	604 - 678	N/A	N/A
- Full fit	701 - 831	709 - 847	1,023 - 1,383	667 - 827
Apartments, high rise, high end				
- Shell and core	597 - 771	998 - 1,212	N/A	N/A
- Full fit	936 - 1,150	1,126 - 1,406	1,394 - 2,457	849 - 973
Terraced houses, average standard				
- Shell and core	290 - 377	412 - 476	N/A	N/A
- Full fit	440 - 542	494 - 545	926 - 1,134	450 - 528
Detached houses, high end				
- Shell and core	507 - 724	535 - 620	N/A	N/A
- Full fit	762 - 921	636 - 713	1,799 - 3,052	513 - 626
Office / Commercial				
Medium/high rise offices, average standard	776 - 921	535 - 584	946 - 1,234	780 - 903
High rise offices, prestige quality	971 - 1,243	664 - 694	1,369 - 1,750	900 - 1,226
Out-of-town shopping centre, average standard	663 - 858	532 - 581	805 - 1,003	N/A
Retail malls, high end	889 - 936	716 - 812	1,098 - 1,539	729 - 954
Industrial				
Industrial units, shell only (Conventional single storey framed units)	516 - 646	451 - 540	537 - 691	320 - 404
Owner operated factories, low rise, light weight industry	N/A	478 - 582	721 - 906	362 - 478
Hotels				
Budget hotels - 3-star, mid market	1,211 - 1,341	1,030 - 1,096	1,200 - 1,485	1,447 - 1,772
Business hotels - 4/5-star	1,550 - 1,779	1,457 - 1,845	1,370 - 2,272	N/A
Luxury hotels - 5-star	1,808 - 2,100	2,027 - 2,333	1,896 - 3,599	1,828 - 2,193
Others				
Underground/basement car parks (<3 levels)	582 - 776	351 - 399	598 - 800	662 - 790
Multi storey car parks, above ground (<4 levels)	194 - 316	289 - 331	480 - 729	426 - 467
Schools (primary and secondary)	N/A	363 - 424	705 - 974	560 - 611
Students' residences	N/A	379 - 461	746 - 959	560 - 719
Sports clubs, multi purpose sports/leisure centres (dry sports) with a/c and including FF&E	N/A	706 - 776	1,188 - 1,730	827 - 885
General hospitals - public sector	N/A	804 - 923	1,431 - 1,672	N/A

The above costs are at 1st Quarter 2022 levels.

Approximate Building Costs For Major Cities In Asia

Building Type	Outline Specification
Domestic	
Apartments, high rise, average standard	Shell and core , including finishes to public area, but excluding finishes to apartment units Full fit , to apartment units, with air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Apartments, high rise, high end	Shell and core , including finishes to public area, but excluding finishes to apartment units Full fit , good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings and loose furniture
Terraced houses, average standard	Shell and core , joined houses in row(s), excluding garden, parking, finishes and fittings to house interior Full fit , to house interior, with air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
Detached houses, high end	Shell and core , good quality facade excluding garden, parking, finishes and fittings to house interior Full fit , good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
Office / Commercial	
Medium/high rise offices, average standard	RC structure, curtain wall, including public area fit-out, tenant area with raised floor/carpet, painted wall and false ceiling
High rise offices, prestige quality	
Out-of-town shopping centre, average standard	Including public area fit-out and M&E, but excluding shop fit-out
Retail malls, high end	
Industrial	
Industrial units, shell only (Conventional single storey framed units)	RC structure with steel roof and M&E to main distribution, but excluding a/c, heating and lighting
Owner operated factories, low rise, light weight industry	RC structure, including small office with simple fit-out and M&E, but excluding a/c and heating
Hotels	
Budget hotels - 3-star, mid market	<ol style="list-style-type: none"> Interior decoration Furniture (fixed and movable) Special light fittings (chandeliers, etc.) Operating Supplies and Equipment (OS&E) excluded
Business hotels - 4/5-star	
Luxury hotels - 5-star	
Others	
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)	Including fit-out and a/c, but excluding educational equipment
Students' residences	Including fit-out, loose furniture and a/c
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 Furniture, Fittings and Equipment (FF&E)
General hospitals - public sector	Excluding 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, floors 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, corridors and lavatories) and M&E main plant and upfeed, with tenant or occupant areas unfurnished.
- "Full fit" buildings should complete with all elements that allow the buildings to be ready for operation, including public and tenants' (or occupants') 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.
- Hong Kong, Beijing, Shanghai, Guangzhou/Shenzhen, Chongqing/Chengdu:** *Public authority standard, no a/c and complete with basic external works.
Hong Kong: & Excluding raised floor/carpet and false ceiling but including screeded floor and painted ceiling. **Singapore:** @ Excluding carpet @@ Open on all sides with parapet. **Kuala Lumpur:** \$ 6-12 units per floor, 46m² - 83m² per unit; excluding air-conditioning, kitchen cabinets and home appliances \$\$ Excluding air-conditioning, kitchen cabinets and home appliances \$\$\$ Excluding tenant fit-out and raised floor \$\$\$\$ Exclude tenant fit-out \$\$\$\$\$ RC structure with steel roof and M&E but excluding a/c and heating \$\$\$\$\$\$ Standard government provisions \$\$\$\$\$\$\$ University standard.
- The data for Bangalore / India is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.
- Singapore:** Rates are nett of GST. **Kuala Lumpur:** Rates are exclusive of GST and contingencies. **Bangkok:** Rates are nett of VAT. **Bangalore:** Rates are nett of GST. **Manila:** Rates include 12% VAT. **Ho Chi Minh:** Rates are nett of VAT.



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About Arcadis

At Arcadis, our purpose is improving quality of life. We do this by creating livable places where people and communities can thrive. We enhance mobility, so that we can sustainably move in and between our cities. We work to protect citizens, cities, the environment, and natural resources for future generations. Arcadis is the world's leading company delivering sustainable design, engineering, and consultancy services. We are more than 29,000 architects, data analysts, designers, engineers, project planners, water management and sustainability experts driven by our passion for improving quality of life.

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