

Quarterly Construction Cost Review

Singapore

2022 | Q2

Arcadis Singapore Pte Ltd



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Singapore Market Overview



On 11 August 2022, the Ministry of Trade and Industry (MTI) announced that Singapore's economy grew by 4.4% on a year-on-year basis in 2Q2022, but the GDP growth forecast for 2022 narrows from "3.0 to 5.0%" to "3.0 to 4.0%".

The construction sector expanded by 3.3% year on year, improving from the 2.4% growth in the previous quarter due to an expansion in construction output in both public and private sectors. On a quarter-on-quarter seasonally adjusted basis, the construction sector grew by 0.9%, lower than the 3.5% growth in 1Q2022.

With the progressive removal of border restrictions, Singapore has coped with COVID-19, and the labour shortage issue in the construction sector has improved gradually. However, the global economic environment has deteriorated further than expected because of many external factors. First, the Russia-Ukraine conflict continues to worsen global supply disruptions. This causes higher energy prices and exacerbates global inflationary pressures. Other geopolitical tensions in the region could also escalate which may cause further disruptions to supply chains.

Second, the tightening of monetary policy in the US and Europe may intensify financial stability risks that can affect these economies' growth. Third, COVID-19-related challenges and countermeasures, such as China's zero-COVID policy, persist as underlying factors in global supply chain disruptions.

Based on Arcadis Singapore's data, tender prices for 2Q2022 increased by approximately 4% compared to 1Q2022. Higher raw material and energy prices and supply disruptions caused by geopolitical tensions and China's zero-COVID policy continue to increase construction material prices and elevate global inflation.

Looking ahead, key construction material prices are expected to stabilise, easing from prices recorded over the past couple of months. It is also anticipated that labour costs are likely to remain stable as labour shortage has improved during the first half of 2022. Nevertheless, we forecast that construction costs will continue to increase in the next six months in the range of 3% to 8% predominantly due to continued surging global inflation, current high energy prices and supply chain challenges.

Market Movement

Economy

INDICATOR	Q2/20 - Q2/21	Q1/21 - Q1/22	Q2/21 - Q2/22
GDP Growth per annum	(+) 15.8%	(+) 3.8%	(+) 4.4%
Inflation Rate (CPI) per annum	Jun 20 - 21 (+) 2.4%	Mar 21 - 22 (+) 5.4%	Jun 21 - 22 (+) 6.7%

Source: Ministry of Trade and Industry

Supply & Demand

INDICATOR	Q2/21	Q1/22	Q2/22
BCA Construction Demand	S\$9.11 Bn	S\$8.43 Bn	S\$4.95 Bn
BCA Construction Output	Q2/21 S\$6.30 Bn	Q1/22 S\$7.08 Bn	Q2/22 S\$6.81 Bn

Source: Building and Construction Authority

Basic Costs

INDICATOR	Apr 22	May 22	Jun 22
BCA Concrete Price Index	151.6	152.7	153.2
BCA Steel Reinforcement Price Index	165.8	162.6	162.5

Source: Building and Construction Authority

Construction Cost Trend

INDICATOR	Q2/21	Q1/22	Q2/22
BCA Tender Price Index	116.1	126.5	130.3
Arcadis Singapore Tender Price Index	Q2/21 119.2	Q1/22 127.7	Q2/22 132.8

Source: Building and Construction Authority



Market Analysis

Singapore's Construction Demand

According to the Building and Construction Authority (BCA)'s preliminary data as of 19 August 2022, total construction demand (based on actual contracts awarded) dropped by 45.7% year on year and 41.3% quarter on quarter to \$4.9 billion in 2Q2022. This decline came in after robust year-on-year expansions in the previous four consecutive quarters contributed by large-scale developments.

Both private and public sector demands slowed down by 40.6% and 48.8%, respectively. The decline is attributed to the reduced demand for private residential development which fell by 32.1% year on year in 2Q2022. Public housing demand also dropped by 55.5% year on year. However, it is estimated that public housing demand will pick up again to above \$1 billion in the next quarter. Similarly, demand for civil engineering project contracted by 56.2% year on year, but it is anticipated to rise due to the upcoming awards for Cross Island MRT contracts. Industrial building development demand also contracted by 56.2% year on year with most of the demands coming from private sector such as the pharmaceutical plant in Tuas South.

On the other hand, institutional building construction demand expanded by 18.6% year on year and 89.5% quarter on quarter in 2Q2022. The Elective Care Centre & National Dental Centre at Second Hospital Avenue and the extension of the XCL World Academy at Yishun both contributed to this growth.

Key Construction Material Prices

Based on BCA's data, the 2Q2022 average market prices of cement, granite and ready-mixed concrete increased compared to 1Q2022 while steel rebar remained relatively stable during the same period.

According to BCA, the higher raw material and labour costs pushed the average market price of ready-mixed concrete (Grade 40 Pump) to rise by 5.4% from \$112.70 per cubic metre in March 2022 to \$118.80 per cubic metre in June 2022. The average market price of bulk cement (with delivery) also increased by 7.5%, from \$110.00 per tonne in March 2022 to \$118.30 per tonne in June 2022. However, steel bars (16-32mm high tensile) prices remained relatively stable in 2Q2022 during the same period, with average price at \$1,245.5 per tonne in June 2022.

Based on data from the London Metal Exchange, copper price decreased by 12% from US\$10,236 per tonne in March 2022 to US\$9,031 per tonne in June 2022.

Similarly, aluminium price dropped by 28% from US\$3,537 per tonne in March 2022 to US\$2,562 in June 2022. On a year-on-year basis, copper price decreased by 14% while aluminium price increased by 5%.

According to BCA, the global supply chain disruption has caused the average market price of steel bars (16-32mm high tensile) to increase by 12.3% from \$1,105.50 per tonne in December 2021 to \$1,241.50 per tonne in March 2022. Market players expect steel bar price to remain elevated due to the high commodity and freight costs following the Russia-Ukraine conflict. Similarly, the average market price of bulk cement (with delivery) and ready-mixed concrete (Grade 40 Pump) increased by 13% and 8%, respectively.



Market Analysis

Industries Updates

Enhanced minimum requirements for building on land sold under GLS programme

On 30 June 2022, BCA announced changes to the Building Control (Buildability and Productivity) Regulations 2011 and the Building Control (Environmental Sustainability) Regulations 2008 which apply to building developments on land sold on or after 30 June 2022 under the Government Land Sales Programme (GLS Programme). The changes are as follows:

A. Adoption of IDD

The new digitalisation requirements include the adoption of a minimum of five (5) IDD essential use cases across the design, construction, fabrication and handover management stages of the building life cycle with at least one use case per stage, and the use of digital platform(s) based on the Common Data Environment (CDE) Data Standard in respect of the building works.

B. Higher minimum level of use of DfMA technologies and prefabrication

To shift more on-site construction work to off-site prefabrication in factories for ease of assembly at construction sites, the enhancements are:

- i. For residential non-landed (RNL), commercial and hotel developments, the adoption of Prefabricated Mechanical, Electrical and Plumbing (Prefab MEP) systems and System Formwork (SF) in addition to the current provisions;
- ii. For other development types, the adoption of minimum prefabrication level across the three respective disciplines of building works (i.e., structural, architectural and MEP) together with the adoption of SF; and
- iii. For industrial developments, the adoption of Prefab MEP and SF, and a higher minimum prefabrication level for structural and architectural works.

C. Higher Green Mark standard

The amended ES Regulations will require the Green Mark Certification Standard for building developments on land sold under the GLS Programme to be raised from the current Green Mark GoldPlus or Platinum rating to the Green Mark Platinum Super Low Energy rating under BCA Green Mark: 2021 Certification Standard, with the attainment of the Maintainability Badge as a prerequisite.

D. New requirement to attain Quality Mark (QM) for Good Workmanship

RNL sites or the residential component in mixed developments on sites sold under the GLS Programme is required to attain Quality Mark (QM) to ensure consistent high-quality standard on the internal finishes and water tightness of toilets/bathrooms within all dwelling units in the development as part of the requirements.

Source: BCA press release dated 30 June 2022

New Safety Measures to Improve Workplace Safety and Health

On 1 September 2022, Singapore's Ministry of Manpower (MOM) introduced the following new measures to strengthen workplace safety and health (WSH):

A. Six-month 'Heightened Safety' period from 1 September 2022 to 28 February 2023

- i. Debar companies from employing new foreign employees for up to three months and require chief executives to personally account to MOM and take responsibility for rectifications if serious WSH lapses such as unsafe workplace conditions or poor risk controls following serious or fatal workplace accidents

- ii. Mandatory Safety Time-Out (STO) by allocating time to review their safety procedures and complete the STO activities between 1 September 2022 and 15 September 2022. Companies will be debarred from employing new foreign employees for one month if found to be non-compliant with the STO

B. Expand scale of StartSAFE to support companies in improving WSH practices and processes

- i. Facilitate access to WSH consultants who can help identify WSH risks and implement good WSH practices

C. Disqualification Framework and Revised Demerit Points System for Construction sector (from 1 October 2022)

- i. New harmonised disqualification criteria across public sector construction tenders and temporarily disqualify contractors with poor WSH performance from participating in these tenders
- ii. Lowering threshold for issuing demerit points, resulting in companies with consistently poor WSH performance being debarred from hiring new foreign employees for up to two years

D. New Multi-Sectoral Workplace Safety Taskforce

- i. Set up new taskforce with representatives from key government agencies i.e., the Ministry of National Development, the Ministry of Sustainability and the Environment, the Ministry of Transport, and the Ministry of Trade and Industry.

- ii. Examine and strengthen sectoral safety practices and outcomes

- iii. Advised by external experts panel comprising industry experts and WSH consultants

Source: MOM press release dated 1 September 2022

Approximate Building Costs Singapore

Building Type	S\$/m ² CFA
Residential	
Terraced Houses	3,150 - 3,500
Semi-Detached Houses	3,450 - 3,950
Detached Houses	4,000 - 5,350
Average Standard Condominium	2,450 - 2,650
Above Average Standard Condominium	2,800 - 3,650
Luxury Condominium	3,750 - 5,550
Office	
Average Standard Offices	3,150 - 3,500
Prestige Offices	3,550 - 3,850
Commercial	
Shopping Centres, Average Quality	3,400 - 3,750
Shopping Centres, High Quality	3,750 - 4,100
Car parks	
Multi-Storey Car Parks	1,250 - 1,800
Basement Car Parks	1,800 - 2,350
Industrial	
Flatted Light Industrial Buildings	1,700 - 1,850
Flatted Heavy Industrial Buildings	1,900 - 2,550
Single Storey Industrial Buildings	1,600 - 1,750
Flatted Warehouses	1,600 - 1,750
Single Storey Warehouses	1,500 - 1,750
Hotel (including furniture and fittings)	
3-Star Hotels	4,000 - 4,400
4-Star Hotels	4,350 - 5,050
5-Star Hotels	5,150 - 5,700
Health	
Private Hospitals	5,100 - 5,350
Polyclinics, Non Air-conditioned	2,200 - 2,400
Nursing Homes, Non Air-conditioned	2,200 - 2,500
Medical Centres	3,900 - 4,100

The above costs are at 2nd Quarter 2022 levels.

Notes:

The construction costs above serve only as a guide for preliminary cost appraisals and budgeting. It must be understood that the actual cost of a building will depend upon the design, site conditions 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, plant rooms, water tanks and the like.

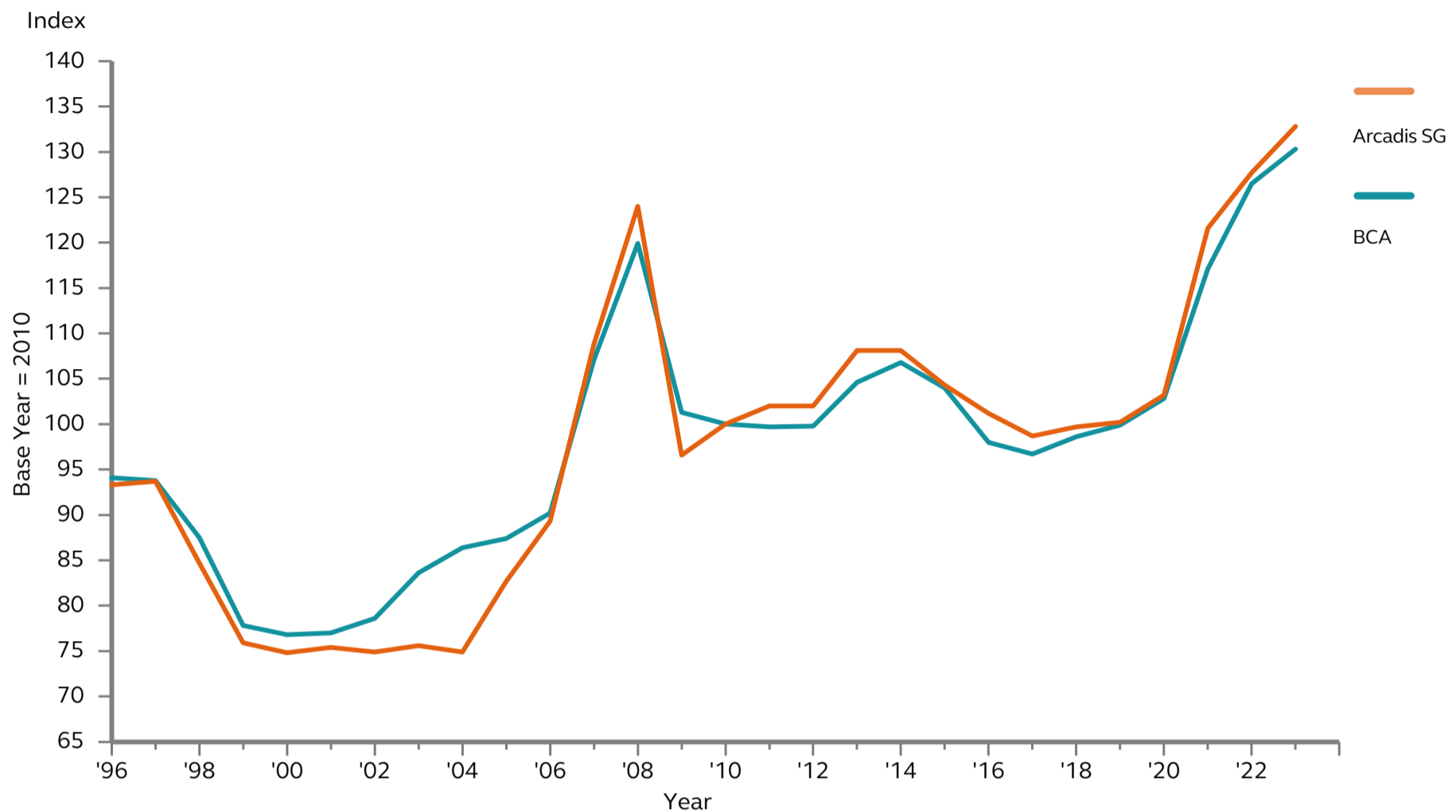
All buildings are assumed to have no basements (unless otherwise stated) and are built on flat ground with normal soil conditions. The costs exclude the following:

- Professional fees
- Authorities' plan processing charges
- Land cost
- Financing charges
- Site inspectorate
- Administrative expenses
- Legal cost & disbursements
- Demolition of existing building(s)
- Furniture and fittings (unless otherwise stated)
- Operating equipment
- External works
- Prefabricated Prefinished Volumetric Construction (PPVC) / Prefabricated Bathroom Units (PBUs) / Structural steel structure / Prefabricated Mechanical, Electrical and Plumbing (MEP) systems
- Cross Laminated Timber (CLT) / Glued Laminated Timber (Glulam)
- BCA Green Mark Gold and above
- Cost escalation
- Goods and Services Tax

Tender Price Index

Singapore

Arcadis Singapore TPI is a measure of the comparative tender price movements based on the projects handled by Arcadis Singapore Pte Ltd. The TPI reflects the tender price level of contracts let out over the years. Other than material and labour costs, it takes into account the elements of competition, risk and profits.



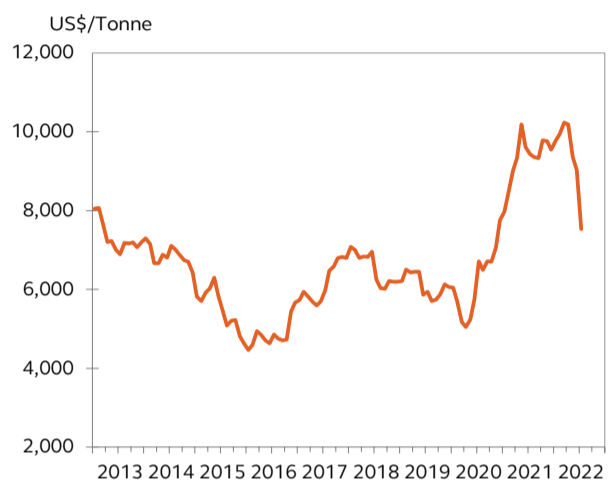
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BCA*	100.0	99.7	99.8	104.6	106.8	104.0	98.0	96.7	98.6	99.9
Arcadis SG^	100.0	102	102.0	108.1	108.1	104.3	101.2	98.7	99.7	100.2

Year	2020	2021	1Q22	2Q22
BCA*	102.8	117.1	126.5	130.3
Arcadis SG^	103.2	121.6	127.7	132.8

Source: * Building and Construction Authority (BCA TPI based on average for the whole year)
 ^ From 2009 onwards, Arcadis Singapore TPI based on 4th Quarter Index

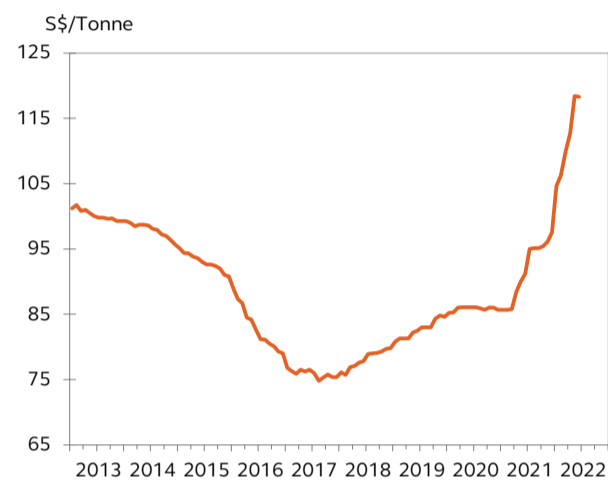
Basic Construction Materials

Copper



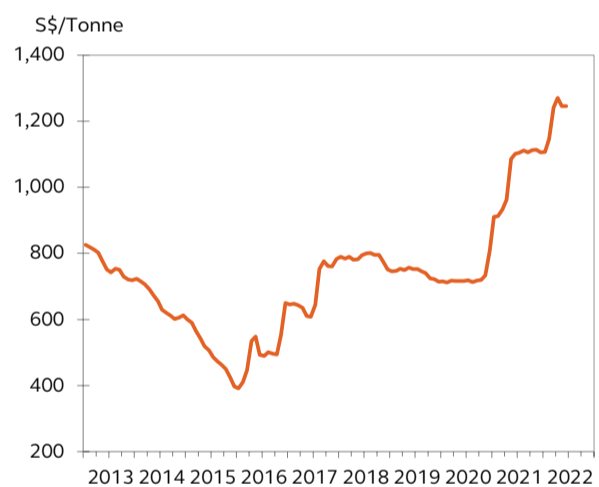
Source : London Metal Exchange

Ordinary Portland Cement



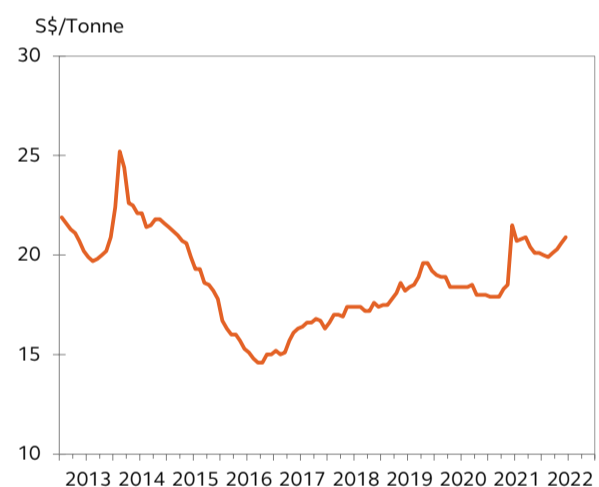
Source: Building and Construction Authority^

Steel Reinforcement (16-32mm high tensile)



Source: Building and Construction Authority^

Granite (20mm aggregate)



Source: Building and Construction Authority^

Concreting Sand



Source: Building and Construction Authority^

Ready Mixed Concrete (Grade 40)

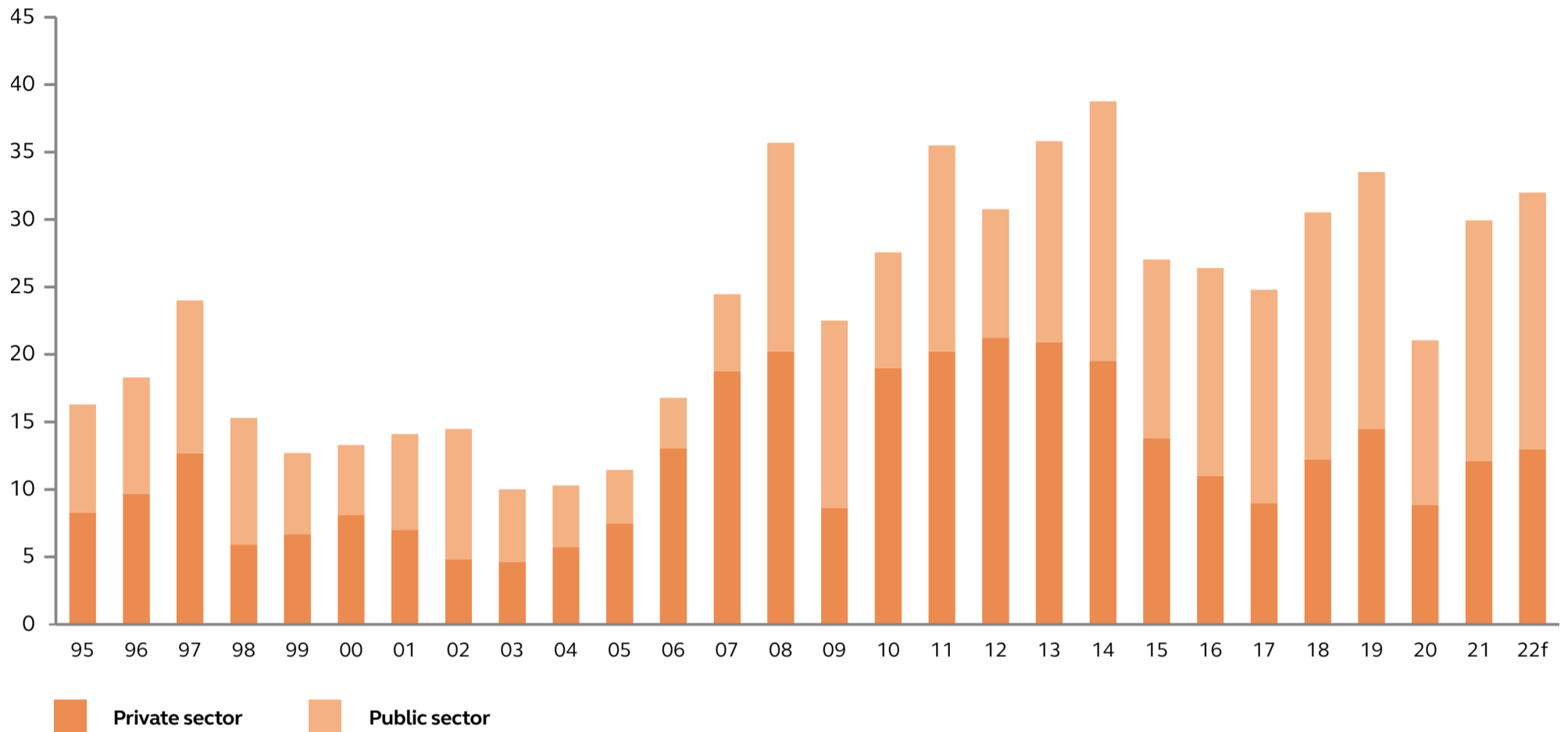


Source: Building and Construction Authority^

Notes:

- Prices of rebar other than 16-32mm dimensions may subject to surcharge.
With effect from Jan 2015, the market prices of rebar (without cut & bend) are based on fixed price supply contracts with contract period 1 year or less.
- Prices of granite and concreting sand exclude local delivery charges to concrete batching plants.
- The market prices of ready mixed concrete are based on contracts with non-fixed price, fixed price and market retail price for Grade 40 pump
^ In view of the lack of business transactions for materials due to a stoppage/slowdown of most construction activities on the back of the Covid-19 fallout, the BCA construction material market prices in May, Jun and Jul 2020 (except for rebar prices in Jun and Jul 2020) are assumed unchanged from those of Apr 2020

Construction Demand Singapore



BCA Construction Demand (Excludes Reclamation Works) (\$\$ Billion)												
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Private Sector	8.3	9.7	12.7	5.9	6.7	8.1	7.0	4.8	4.6	5.7	7.5	13.1
Public Sector	8.0	8.6	11.3	9.4	6.0	5.2	7.1	9.6	5.4	4.6	4.0	3.7
Total Value	16.3	18.3	24.0	15.3	12.7	13.3	14.1	14.5	10.0	10.3	11.5	16.8

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Private Sector	18.8	20.2	8.6	19.0	20.2	21.2	20.9	19.5	13.8	11.0	9.0	12.2
Public Sector	5.7	15.5	13.9	8.6	15.3	9.5	14.9	19.2	13.3	15.4	15.8	18.3
Total Value	24.5	35.7	22.5	27.6	35.5	30.8	35.8	38.8	27.0	26.4	24.8	30.5

	2019	2020	2021	2022f	1Q22	2Q22
Private Sector	14.5	8.9	12.1	11.0 - 13.0	2.3	2.0
Public Sector	19.0	12.2	17.8	16.0 - 19.0	6.1	2.9
Total Value	33.5	21.0	29.9	27.0 - 32.0	8.4	4.9

Source: Building and Construction Authority as at 1 August 2022

Notes:

1. Construction demand refers to the total value of construction contracts awarded. It is a leading market indicator for the construction industry.
2. f - denotes forecast

Approximate Building Costs For Major Cities In Asia

Building Type	Shanghai	Beijing	Guangzhou/ Shenzhen	Chongqing/ Chengdu
	Q2/2022	Q2/2022	Q2/2022	Q2/2022
	RMB/ m ² CFA			
Domestic				
Apartments, high rise, average standard				
- Shell and core	3,139 - 3,579	2,856 - 3,294	2,725 - 3,130	2,747 - 3,181
- Full fit	5,132 - 5,658	4,517 - 4,961	4,324 - 4,961	4,201 - 4,960
Apartments, high rise, high end				
- Shell and core	3,774 - 4,088	3,403 - 4,936	2,844 - 3,857	3,396 - 4,400
- Full fit	11,589 - 12,634	10,948 - 12,463	7,025 - 8,009	6,782 - 8,470
Terraced houses, average standard				
- Shell and core	3,514 - 3,813	3,297 - 3,850	2,864 - 3,252	3,433 - 4,106
- Full fit	7,090 - 7,724	6,469 - 7,007	6,551 - 7,831	5,809 - 6,820
Detached houses, high end				
- Shell and core	5,168 - 5,712	4,965 - 5,526	3,986 - 4,526	4,499 - 5,135
- Full fit	12,469 - 13,229	12,431 - 12,970	12,568 - 14,725	7,391 - 8,395
Office / Commercial				
Medium/high rise offices, average standard	6,584 - 8,699	6,444 - 8,680	6,141 - 7,014	6,697 - 7,695
High rise offices, prestige quality	8,459 - 11,569	10,473 - 14,256	8,990 - 11,297	8,444 - 11,224
Out-of-town shopping centre, average standard	N/A	4,815 - 6,437	5,852 - 6,653	5,413 - 6,851
Retail malls, high end	8,940 - 12,051	8,712 - 11,994	8,658 - 12,545	8,040 - 11,098
Industrial				
Industrial units, shell only (Conventional single storey framed units)	2,028 - 2,484	1,990 - 2,426	2,280 - 2,801	3,324 - 4,133
Owner operated factories, low rise, light weight industry	3,136 - 3,928	3,846 - 4,409	N/A	N/A
Hotels				
Budget hotels - 3-star, mid market	7,204 - 8,781	7,128 - 8,781	7,879 - 8,934	7,267 - 8,884
Business hotels - 4/5-star	11,608 - 15,713	12,146 - 16,036	12,734 - 18,742	13,026 - 16,113
Luxury hotels - 5-star	15,694 - 18,761	15,460 - 19,901	17,313 - 19,673	16,033 - 19,064
Others				
Underground/basement car parks (<3 levels)	5,380 - 7,502	5,506 - 6,051	4,059 - 6,640	3,178 - 4,402
Multi storey car parks, above ground (<4 levels)	2,756 - 3,852	3,314 - 3,345	2,891 - 3,276	2,533 - 3,096
Schools (primary and secondary)	4,112 - 5,190*	3,833 - 4,948*	3,202 - 3,630*	3,359 - 3,700*
Students' residences	3,010 - 4,106	2,712 - 3,833	2,023 - 2,300	2,351 - 3,363
Sports clubs, multi purpose sports/ leisure centres (dry sports)	6,938 - 8,522	6,564 - 6,621	5,581 - 6,323	5,300 - 5,809
General hospitals - public sector	10,600 - 13,667	8,630 - 10,809	8,451 - 10,892	8,469 - 10,486

The above costs are at 2nd Quarter 2022 levels.

Approximate Building Costs For Major Cities In Asia

Building Type	Hong Kong	Macau	Singapore	Kuala Lumpur
	Q2/2022	Q2/2022	Q2/2022	Q2/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	HK\$ 7.85	MOP 8.010	S\$ 1.37	RM 4.41
Domestic				
Apartments, high rise, average standard				
- Shell and core	N/A	1,904 - 2,820	N/A	N/A
- Full fit	3,070 - 3,554	2,450 - 2,998	1,790 - 1,935	325 - 650 \$
Apartments, high rise, high end				
- Shell and core	N/A	2,820 - 4,230	N/A	N/A
- Full fit	3,975 - 4,611	3,424 - 5,229	2,735 - 4,050	740 - 1,550
Terraced houses, average standard				
- Shell and core	N/A	3,340 - 4,147	N/A	N/A
- Full fit	4,229 - 4,879	4,176 - 4,983	2,300 - 2,555	235 - 380 \$\$
Detached houses, high end				
- Shell and core	N/A	4,037 - 5,817	N/A	N/A
- Full fit	6,153 up	5,094 - 6,626	2,920 - 3,905	785 - 1,080
Office / Commercial				
Medium/high rise offices, average standard	3,045 - 3,465	2,820 - 3,641	2,300 - 2,555	620 - 825
High rise offices, prestige quality	3,656 - 4,191	3,641 - 3,985	2,590 - 2,810	970 - 1,405
Out-of-town shopping centre, average standard	3,006 - 3,529	2,656 - 3,985	2,480 - 2,735	460 - 690
Retail malls, high end	3,911 - 4,637	4,176 - 5,038	2,735 - 2,995	720 - 1,105
Industrial				
Industrial units, shell only (Conventional single storey framed units)	N/A	N/A	1,095 - 1,275	335 - 475
Owner operated factories, low rise, light weight industry	2,331 - 2,930	N/A	N/A	445 - 570
Hotels				
Budget hotels - 3-star, mid market	3,873 - 4,115	3,710 - 4,203	2,920 - 3,210	1,045 - 1,550
Business hotels - 4/5-star	4,000 - 4,650	5,038 - 6,023	3,760 - 4,160	1,370 - 2,410
Luxury hotels - 5-star	4,662 - 5,312	6,023 - 7,119	3,760 - 4,160	2,010 - 2,700
Others				
Underground/basement car parks (<3 levels)	3,312 - 3,949	2,204 - 3,230	1,315 - 1,715	320 - 575
Multi storey car parks, above ground (<4 levels)	1,975 - 2,344	1,218 - 1,602	910 - 1,315	215 - 375
Schools (primary and secondary)	2,573 - 2,777	2,437 - 2,820	N/A	260 - 335 \$\$\$
Students' residences	2,943 - 3,312	1,930 - 2,245	2,155 - 2,265	310 - 395 \$\$\$
Sports clubs, multi purpose sports/ leisure centres (dry sports)	3,860 - 4,382	N/A	2,630 - 2,810	625 - 795
General hospitals - public sector	4,904 - 5,401	N/A	3,725 - 3,905	875 - 1,275

The above costs are at 2nd Quarter 2022 levels.

Approximate Building Costs For Major Cities In Asia

Building Type	Bangkok	Bangalore	Manila	Ho Chi Minh
	Q2/2022	Q2/2022	Q2/2022	Q2/2022
	USD/ m2 CFA (See also exchange rates per U.S. dollar below)			
	BAHT 35.50	INR 77.55	PHP 55.02	VND 23,450
Domestic				
Apartments, high rise, average standard				
- Shell and core	507 - 670	622 - 712	N/A	N/A
- Full fit	682 - 831	723 - 881	966 - 1,306	664 - 823
Apartments, high rise, high end				
- Shell and core	592 - 749	1,037 - 1,260	N/A	N/A
- Full fit	915 - 1,121	1,149 - 1,476	1,317 - 2,320	844 - 968
Terraced houses, average standard				
- Shell and core	282 - 366	424 - 500	N/A	N/A
- Full fit	428 - 530	509 - 572	875 - 1,071	448 - 526
Detached houses, high end				
- Shell and core	493 - 704	551 - 651	N/A	N/A
- Full fit	746 - 901	649 - 734	1,699 - 2,882	511 - 623
Office / Commercial				
Medium/high rise offices, average standard	755 - 901	546 - 602 #	893 - 1,166	776 - 898
High rise offices, prestige quality	944 - 1,211	677 - 729 #	1,293 - 1,653	895 - 1,219
Out-of-town shopping centre, average standard	645 - 834	548 - 598	760 - 947	N/A
Retail malls, high end	865 - 915	737 - 844	1,037 - 1,453	725 - 949
Industrial				
Industrial units, shell only (Conventional single storey framed units)	501 - 634	469 - 578	507 - 653	319 - 402
Owner operated factories, low rise, light weight industry	N/A	497 - 623	680 - 855	361 - 476
Hotels				
Budget hotels - 3-star, mid market	1,177 - 1,310	1,071 - 1,162	1,134 - 1,402	1,439 - 1,761
Business hotels - 4/5-star	1,507 - 1,732	1,486 - 1,919	1,294 - 2,145	N/A
Luxury hotels - 5-star	1,761 - 2,042	2,088 - 2,450	1,791 - 3,399	1,817 - 2,180
Others				
Underground/basement car parks (<3 levels)	577 - 761	362 - 419	565 - 756	659 - 786
Multi storey car parks, above ground (<4 levels)	189 - 310	301 - 351	454 - 689	424 - 465
Schools (primary and secondary)	N/A	374 - 441	666 - 919	557 - 608
Students' residences	N/A	390 - 484	704 - 906	557 - 715
Sports clubs, multi purpose sports/ leisure centres (dry sports)	N/A	724 - 807	1,122 - 1,634	823 - 880
General hospitals - public sector	N/A	816 - 949	1,351 - 1,579	N/A

The above costs are at 2nd 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 , 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 , including finishes and fittings 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/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 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 and tenant fit-out
Owner operated factories, low rise, light weight industry	RC structure, including small office with simple fit-out and M&E, but excluding a/c
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 a/c, 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.
- Beijing, Shanghai, Guangzhou/Shenzhen, Chongqing/Chengdu:** *Public authority standard, no a/c. **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 \$\$\$ Standard government provisions \$\$\$\$ University standard. **Bangalore:** #Tenant area with screeded floor, painted wall and ceiling, excluding raised floor.
- The data for Bangkok is provided by Mentabuild Limited, an Arcadis Alliance Partner.
- 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.



About Arcadis

Arcadis is the leading global design & consultancy organization for natural and built assets. We maximize impact for our clients and the communities they serve by providing effective solutions through sustainable outcomes, focus and scale, and digitalization. We are 29,000 people, active in over 70 countries that generate €3.4 billion in revenues. We support UN-Habitat with knowledge and expertise to improve quality of life in cities around the world.

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