gleeds

Indian Construction Costs

A Biannual Review

January 2021

Note from the Managing Director

The year 2020 will go down in history as one that has significantly altered the way humans have lived, worked and travelled. Throughout the pandemic, the world has shown resilience and, with much determination, hard work and adjustment have slowly recommenced retracting the effect of lockdowns and the declining global economy. Though world economists had predicted a recession much deeper than the likes of World War II, there has been positivity and optimism while entering into the year 2021 on the back of a vaccine rollout. With the recovered stock market and reduction in unemployment, it appears that steps taken by the local and central governments through fiscal stimulus across the world are positively contributing to the gradual rise of all sectors and bringing the economy back on track.

Particularly for the Indian economy, as a consequence of a sudden but needed lockdown, we have witnessed the supply chain disruption and distressing migration of workforce leading to delays in commitments and drops in orders fulfilment. However, with the explosion of digital technology and its innovative adaption, organisations have succeeded in overcoming the initial shock and seems to have fully adapted to the best of its ability the ‘new normal’ work style.

While the Indian economy is still trying to rebalance itself following the pandemic as well subdued activities since 2018, a more than average monsoon, festive seasons, pent up demands were green shoots for the Indian economy. This buoyant rebound has brought about the highest tax collection and increased hiring rate across the industry which will eventually lead to improvement across the nation aiming to achieve as close to pre-COVID-19 times normalcy as possible.

Following the first Biannual publication on construction costs in July 2020, Gleeds India is excited to bring forward the second biannual publication where we revisit the cost trends, examine the Indian economy, review the status of the construction industry and provide insights on the construction sectors, allowing our readers a summary of the past year.

Gleeds India Insights & Analytics team have been constantly monitoring the cost changes, the global geopolitical issues and market dynamics for key material and labour. Whilst the first half of the year 2020, showed immense uncertainty for the labour, the second half has signalled a surge in material prices. The full impact of these constant fluctuations on construction costs along with post-pandemic design approaches are yet to be fully understood by the sector and can only be comprehended in times to come.

I sincerely hope that this publication will be insightful and adds value to your outlook of the industry allowing its stakeholders to make informed and timely decisions.

Ben Huskisson, MRICS.
Managing Director

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Economic outlook

Marriott Hotels & Resorts

2020 Bygone

In 2020, the world stepped into a turmoil of uncertainty with no view on how the pandemic would shape up, but in the year 2021, with recovery efforts and the rolling out of the vaccination globally, there is a renewed optimism that will contribute to a sense of stability in world economic affairs.

As seen globally the total number of officially reported cases for COVID-19 has touched to 90.6 million resulting in an unfortunate 1.9 million deaths. With new variants being reported in the UK and South Africa towards the end of last year, there have been instances of further stringent lockdown which will affect regional economies. In India, the reported cases of 10.5 million resulted in an unfortunate 150 thousand lives lost.

India's economy had grown at 4.2% in 2019-20 but entered a recessionary phase with two successive quarters of sharp contraction triggered by the COVID-19 national lockdowns beginning March 2020. As per World Bank, Indian informal sector, which accounts for four-fifths of employment, has been subject to severe income losses during the COVID-19 pandemic.

Following a 23.9% collapse in the economy between April to June 2020 period, the GDP fell by 7.5% in the second quarter leading to a real GDP contraction of 15.7% in the first half of 2020-21. The second half of the year is expected to record near-zero growth or a mere 0.1% contraction.

Based on an uptick in various indicators in the last few months, several agencies have upgraded their estimates of India's economy, with the Reserve Bank of India recently projecting a 7.5% contraction in the year compared to its earlier estimate of a 9.5% decline.

The services sector accounts for 54.77% of total India's GVA of 183.43 lakh crore Indian rupees. With GVA of Rs. 50.40 lakh crore, the Industry sector contributes 27.48%. The agricultural industry is currently seen as a ray of hope for the Indian economy with a healthy growth of 2.9% year-on-year as reported by the Department of Economic Affairs. Apart from this, Electricity, Gas, Water Supply & Other Utility services (2.7%) also has seen growth during this period.

Indian unemployment rates have dipped since the sudden rise in April 2020. Most trades have resumed work by Unlock 6 (November 1- November 30 2020) such as airlines with restricted flights, hospitality with new safety norms, retail with additional safety measures, cinemas with restricted seating capacity and partial reopening of schools, gradually restoring the economy.

Due to the growth and festive season in September and December 2020, India has witnessed a V-shape recovery. The country is now trying to get back on its feet and continue towards normality with the ongoing challenge of infection and other associated consequences.

While the rest of the world is also recovering, China is the only country that has surpassed the others to move into the positive since the mid of last year. The forecasts now predict that in a decade China is likely to emerge as the world's largest economy.

Narsi Monji Institute of Management Studies

H2 2020 Economic overview

Gross Domestic Product (GDP)

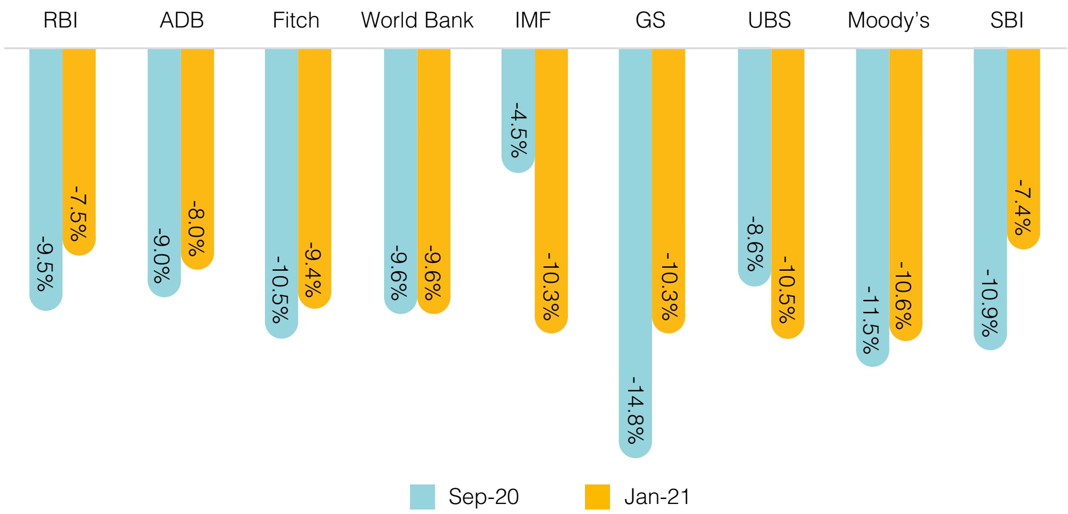
While the GDP predictions for the year 2020 indicated a lacklustre Indian economy, more stability, vaccine roll-outs and the expectation of another stimulus in the Indian Union Budget, the GDP is likely to grow with optimism that it will cross the zero mark towards positivity in Q32021.

Recently, Reserve Bank India has revised its GDP to -7.5% from its previous -9.5% for the year ending in March 2021.

Many organizations such as Asian Development Bank, Fitch, Goldman Sachs, Moody's and State Bank of India have now updated GDP since their September 2020 forecasts, now predicting more positive GDP growth for 2021. While the International Monetary Fund and the United Bank of Switzerland have increased their negative projection, the World Bank has retained the negative contraction at 9.6%.

Fitch has indicated an expectation of a 11% expansion in GDP for the FY22 and note that India had lost its momentum prior to the pandemic, with a ten year low of 4.2% in 2019, a reduction of 1.9% from the previous year. The World Bank expect a 5.4% increase in the FY22, from its current 9.6% contraction in the present fiscal. There are many risk factors involved which would affect the growth such as capital flows, commodity prices, inflation and the global recession. The present growth predictions however are quite impressive for India, with the global growth prediction of 5.2% by IMF for FY22.

Graph 1: GDP forecasts for year 2020 - 2021



Source: Media reports

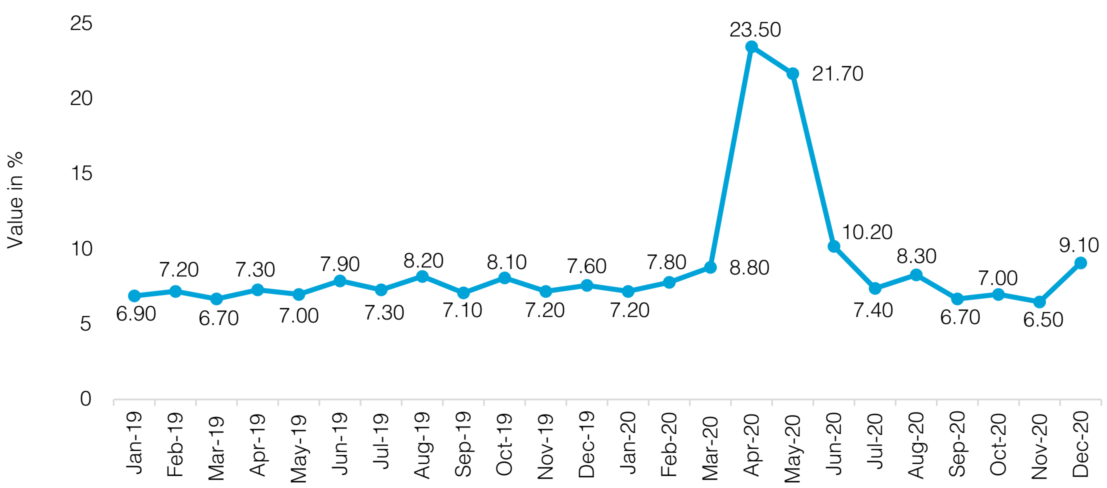
Employment

Unemployment hit an alarming rate of 23.52% in April 2020 at lockdown, which reached a reasonable 9.15% in December 2020.

September, October and November 2020 witnessed a dip in the rate of unemployment nationwide, more in line with the preceding year while in December the rate increased, the highest recorded after the commencement of recovery in June 2020. This is possibly due to the surge in labour numbers looking for work, which the industries including the construction sector could not absorb. Labour spill-over is usually absorbed by the farming sector, but December absorption is this sector is lower compared to the other months.

The COVID-19 situation has reshaped the job market. There have been job losses across sectors previously booming, and a rise now in jobs for warehousing, delivery services, grocery stores and other smaller jobs. Jobs are being reallocated and a higher and multi-skill set is being sought after. The overall job market is also expected to react to 'work from home' culture and subsequent renegotiation of employment contracts.

Graph 2: Unemployment rate in India

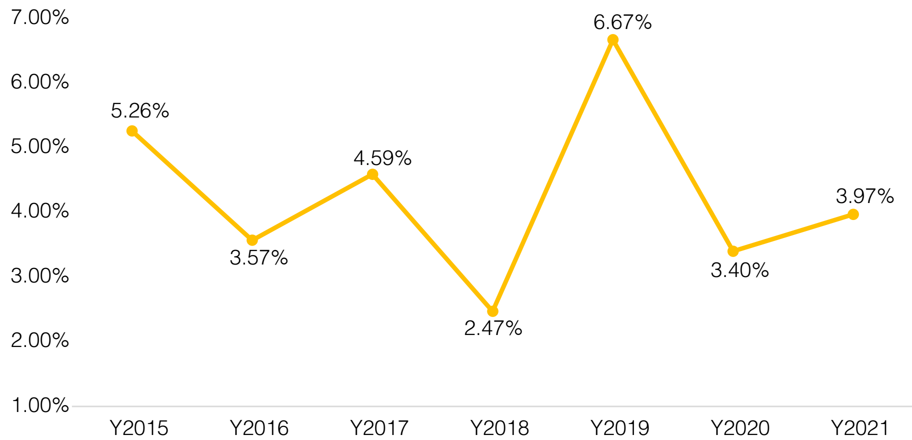


Source: CMIE

Inflation

The annual inflation rate in India for 2020 was at 3.4% per Global Economy (IMF) which is more closer to its 2018 value of 2.47% as against a 6.67% in the year 2019. Inflation for the year 2021 is projected to be 3.97% and 3.94% in 2024.

Graph 3: Inflation



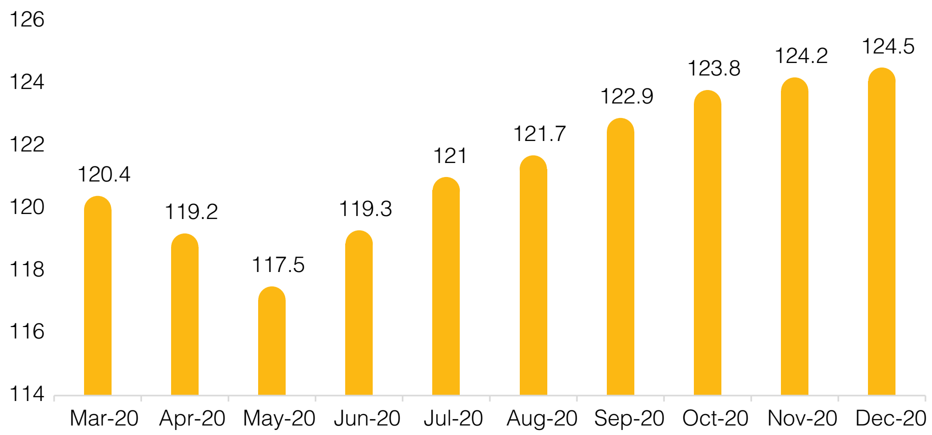
Source: Globaleconomy.com (IMF). Note 2021 is a projected value

WPI and CPI

Both wholesale price index (WPI) and the consumer price index (CPI) are the change in the price of various goods or services in the economy, where the wholesale price index measures the percentage change in the price in wholesale index, while consumer price index measures the percentage change in the price in retail market and hence it is more useful for consumers rather than businessman.

WPI: The base value of 100 is considered for the year 2011-2012. While the primary articles such as non-food articles increases in December, mineral oils, coals and manufactured products have increased. The dips in WPI and subsequent turn around is also resultant of increase in commodity price increases across the board.

Graph 4: WPI Indices

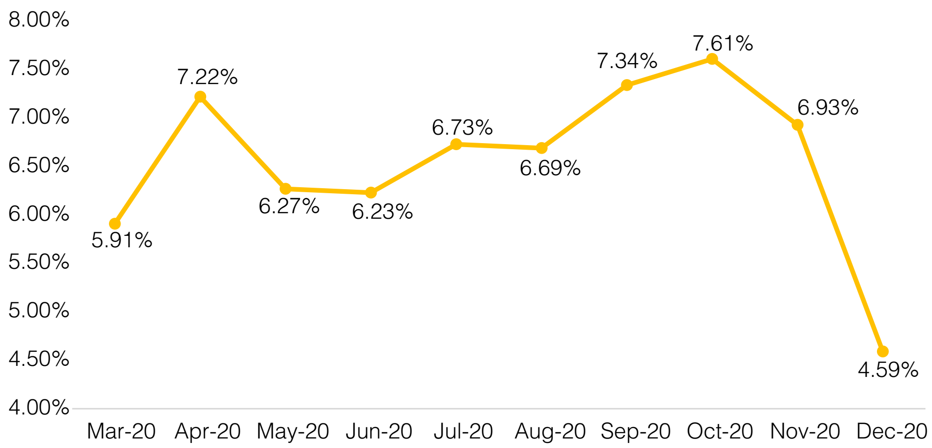


Source: India Budget Economic survey Report, The Government of India.

CPI: The December CPI (retail inflation) eased to about 4.59% from a 6.93% in November mainly due to the easing of food prices. This brought the CPI within the RBI's mandated retail inflation range of 2% to 6%, which is welcome after the inflation for the past 7 months has been above the upper limit.

The twin peaks of inflation spikes of CPI indicate increases on the costs during the middle of the lock down and reduced supply and resultant increase of the prices, the increase in November points towards increased consumptions during festival season in India.

Graph 5: CPI



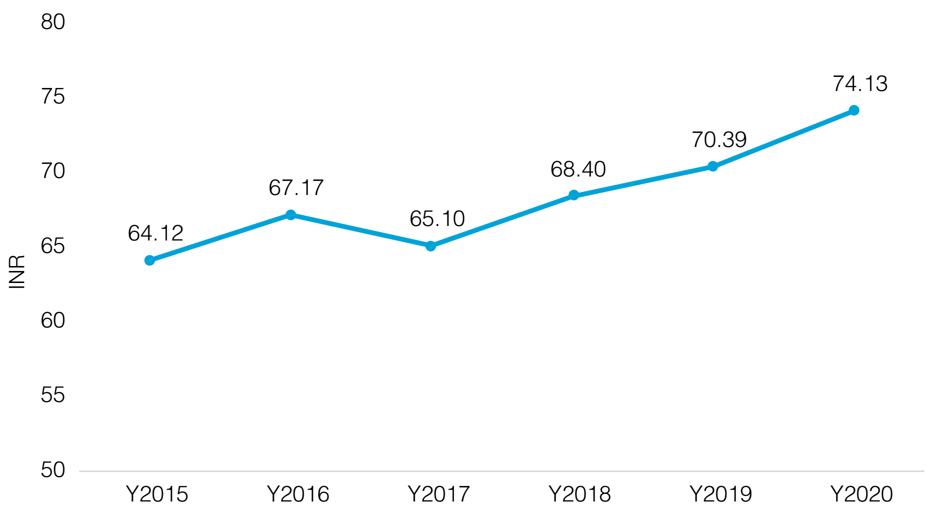
Source: Ministry of Statistics and Programme Implementation. December is a provisional value.

USD to INR

The Rupee averaged to ₹74.13 with April 2020 the highest at ₹76.97 per USD and lowest of ₹70. 72 per USD in January 2020. The month of December averaged to a ₹73.66 per USD.

The USD has been on the rise steadily. This affects prices of Indian imports such as mineral fuels, electrical machinery and equipment, organic chemicals, plastics and plastic articles, iron steel and fertilizers. The construction sector majorly depends on oil for its fuel for manufacture of raw materials utilized in construction, plastics, iron and steel and the weakening of the rupee, translates to rise in construction input costs.

Graph 6: USD to INR trendline

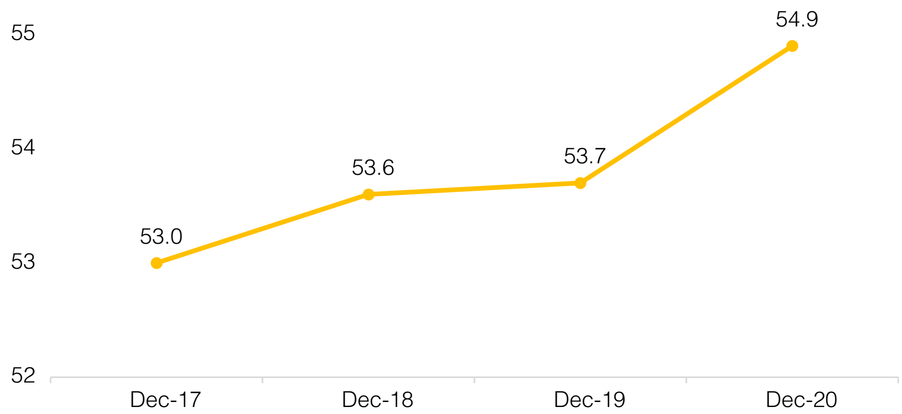


Source: XE currency charts.

PMI

IHS Markit India Manufacturing Purchasing Managers Index (PMI) rises to 56.4 in December 2020 slightly higher than the previous month of 56.3 and above the 50.0 threshold. This indicated that there is a slight improvement in business and the factories have increased their production. Reports also indicate that the rise in input buying in turn helped firms to lift their pre-production inventories. Stocks of purchases grew sharply and at the quickest pace since March 2011. Though some firms believe that there will be a lasting impact on the COVID-19 in the coming year, there is still optimism that output will increase.

Graph 7: PMI trendline



Source: The global economy (Markit Economics)

Key price trends

Raymond Realty, Mumbai

Key price trends

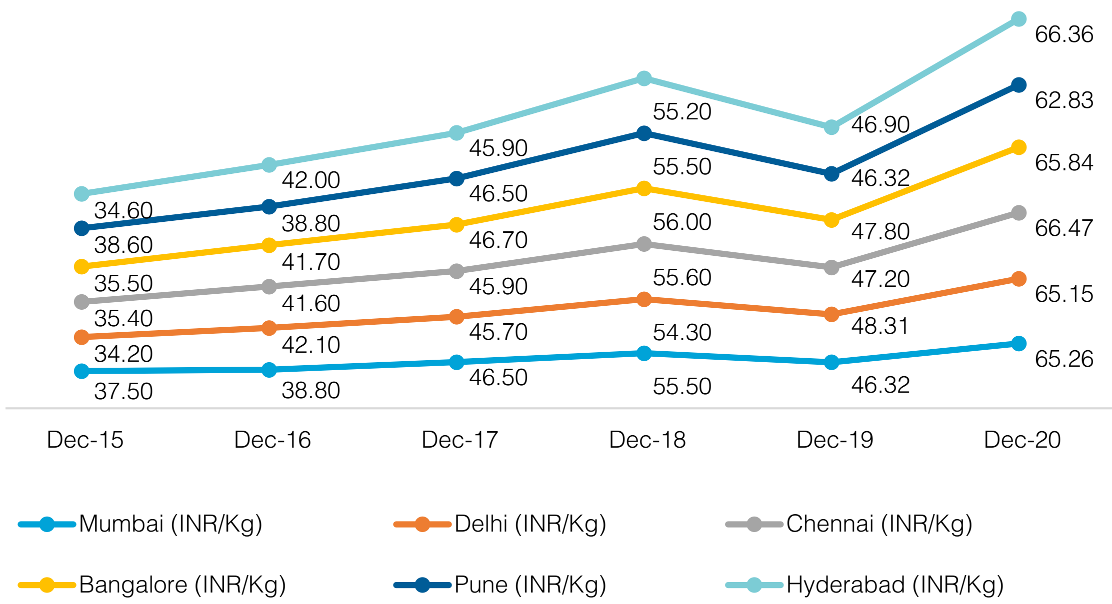
The price trends for the most used material in the industry are set to change as a consequence of the Covid-19 pandemic. Commonly used material price trends for are demonstrated below:

Steel

Primary Steel prices in the past month risen exponentially to nearly 2000-2500 per metric ton.

The steel association of India have requested the Government to temporarily ban iron ore exports for at least six months to ease the domestic supply and wait for the situation to stabilise. China is the largest steel producer in the world and import iron ire from countries like Australia and Brazil to meet their production demand. They have been stockpiling ever since the economy has started picking up. With shutting down on mines in Brazil due to landslides and tropical cyclones in Australia, China have turned to India for its iron ore supply. 95% of India's exports of iron ore went to China in 3Q2020, possibly pressurising domestic demand, resulting in price increase 3 times more than before. This sudden spike in rates adversely affect contractors and Developers alike as Steel reflects to roughly 12-15% of the construction costs.

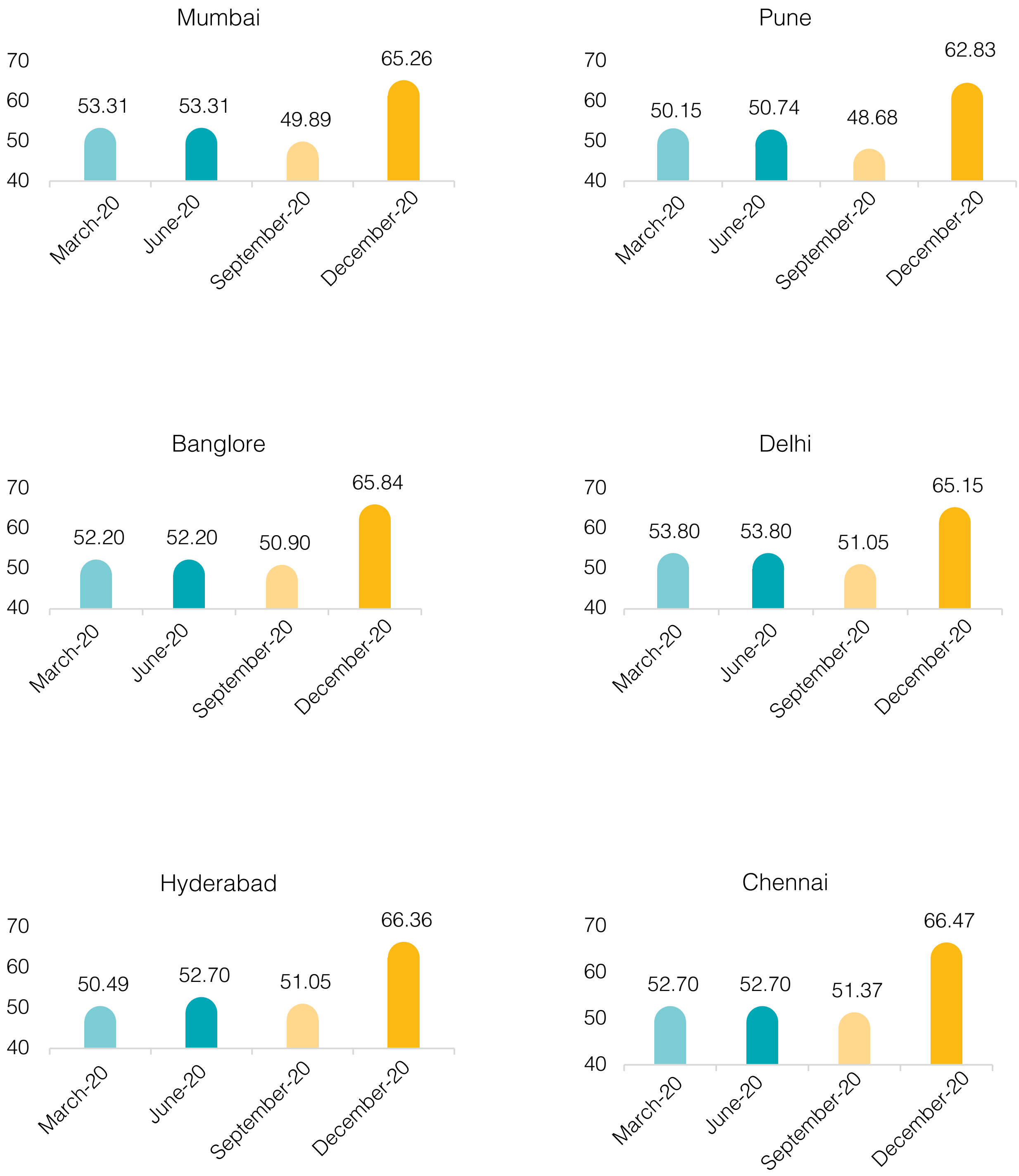
Graph 8: Primary steel price trends



Sources: Sail. Note: All year prices are averaged and in INR, and Sail's last updated rates are in December 2020.
All prices include GST

The price increase from the last month of 3Q2020 to 4Q2020 is circa 30% which is huge for the primary steel component in construction.

Graph 9: Steel prices at the end of each quarter city-wise



Source: SAIL. To note the values from April 2020 to September 2020 has been removed from the website. Values noted above are as published in the given month at the time.

Prices include GST

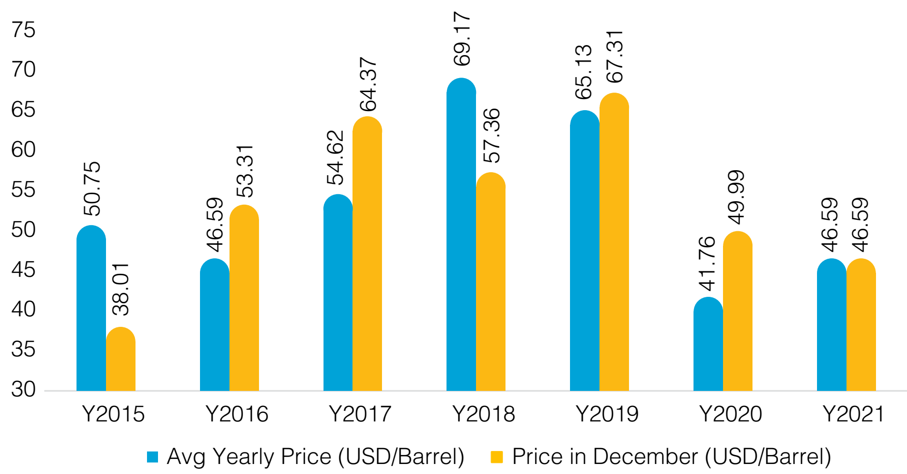
Crude oil

Crude oil has escalated in the recent past hitting an all-time high of nearly $50 per barrel on the last day of December 2020, which is inflating costs of raw materials used in the manufacturing of materials like cement, paints, glass, plastics, PVC pipes and rubber towards the tail end of the year. In the month of April 2020, the crude was priced at $18 per barrel, a drastic reduction in prices to sell off the existing production, in a no demand scenario. This forced global oil producers to moderate production in the months following to avoid further losses, which disproportioned supply and demand leading to low supply and an escalated demand worldwide upon economy restart, resulting in the price spikes.

While the global prices had softened in 2020 due to lack of demand and reduced production, In India, there has been an increase in direct government taxation which resulted in a minimum of 15 Rs per Liter on Diesel. This increased taxation was towards Governmental efforts to increase the revenue in the light of the slow down and reduced tax collection.

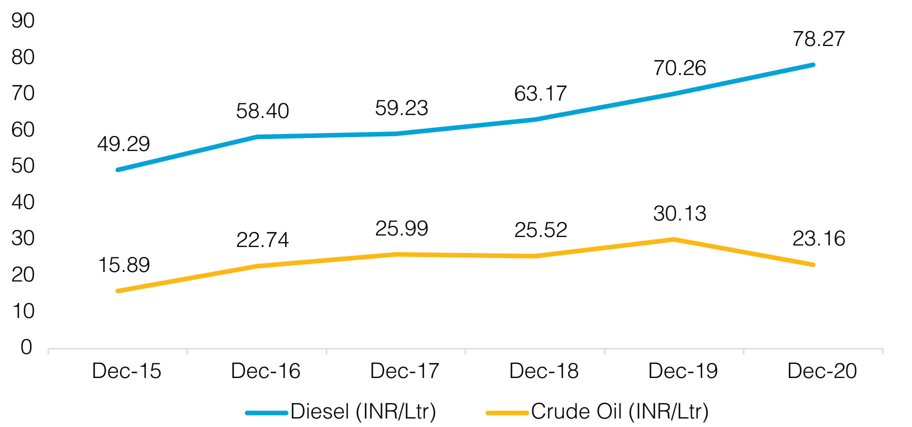
Whilst comparing the prices for Diesel in Bangalore against the crude oil prices for the month of December of Year 2015 to 2020, prices of Diesel have increased in tandem with prices of Oil. However, with the supply demand disruption in December 2020, the prices of diesel have increased more than the natural trend from the price of Crude.

Graph 10: Crude oil prices yearly vs December



Source: Country Economy. Y2021 provisional as projected by Knoema. December 2021 assumed same as average price.

Graph 11: Trendline crude oil prices and diesel prices in Bangalore

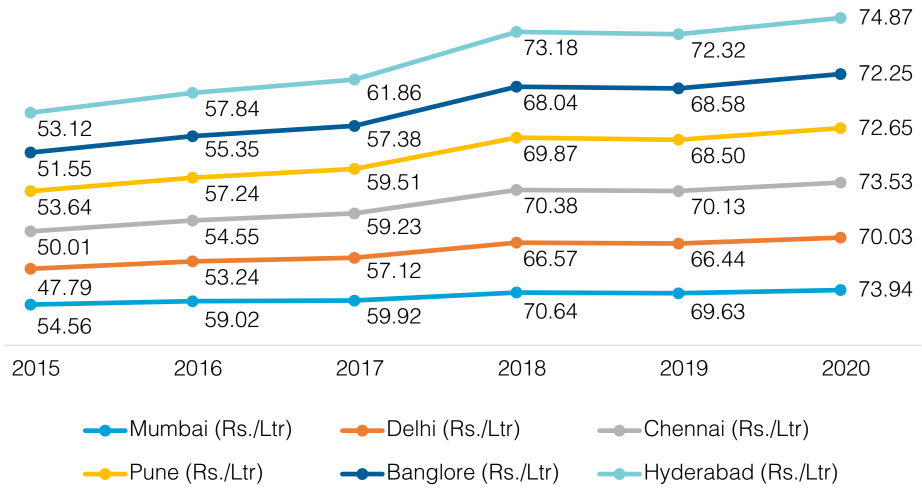


Source: Country economy data. Prices are as on the month of December for the corresponding year.

Diesel

The resultant cost increase in the past month of Crude oil has increased the domestic retail pricing of Diseal and Petrol. As International crude price is expected to rise in coming months due to stabilization of demand, unless the Government of India and state governments reduces the tax levies, these prices will be expected to increase for short to medium term.

Graph 12: Diesel price trendline city-wise

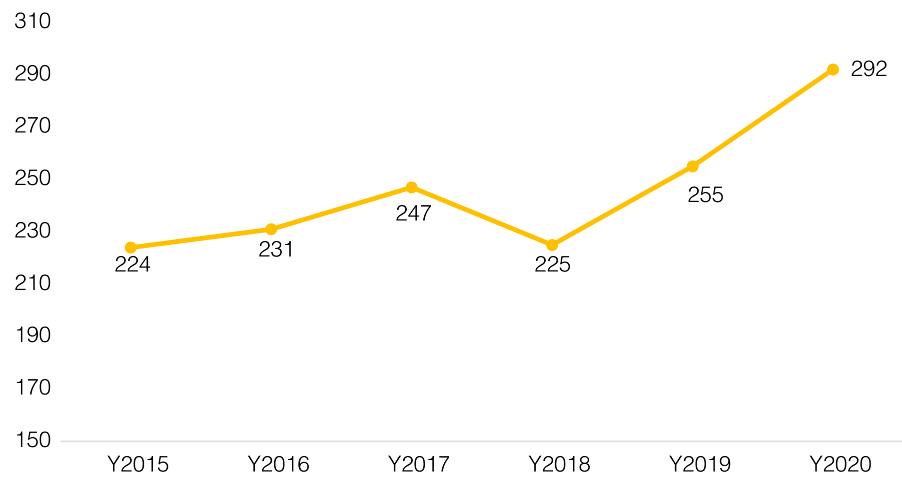


Source: My petrol price. Average price in INR per year

Cement

In 2019, even with the rise in demand and highest production level, the prices were seen increasing. The prices in 2020 fluctuated based on the circumstances, with rates going high after lockdown due to supply and availability issues and in recent months again has been increased leading to Government of India threatening to put a price regulator for the sector indicating cartelization.

Graph 13: Cement trendline in Mumbai



Source: Gleeds Internal Data (Mumbai). Prices are in Rs/Bag and exclude GST.

Virtuous Retail, Chennai

Aluminium and copper

The price of Aluminium has been on the rise in December climbing to a high of $2,017/ton during the month, following the closure of many plants in China. Some industries like the automobile have increased their product prices following this increase in prices. All which will result in increased input costs for manufactures in the coming months. The 25% price increase from the 1Q2020 to the 4Q2020 is steep, creating turbulence in construction costs of aluminium associated works.

Copper has risen to a high of $7,755/ton in the month of December from an otherwise lower range of $5,178/ton in 1Q2020. This follows on from the strike in Chile, the world's largest copper miner. The prices however have not subsided following a truce between the miners and the organisation, which maybe possible after a full-fledged production.

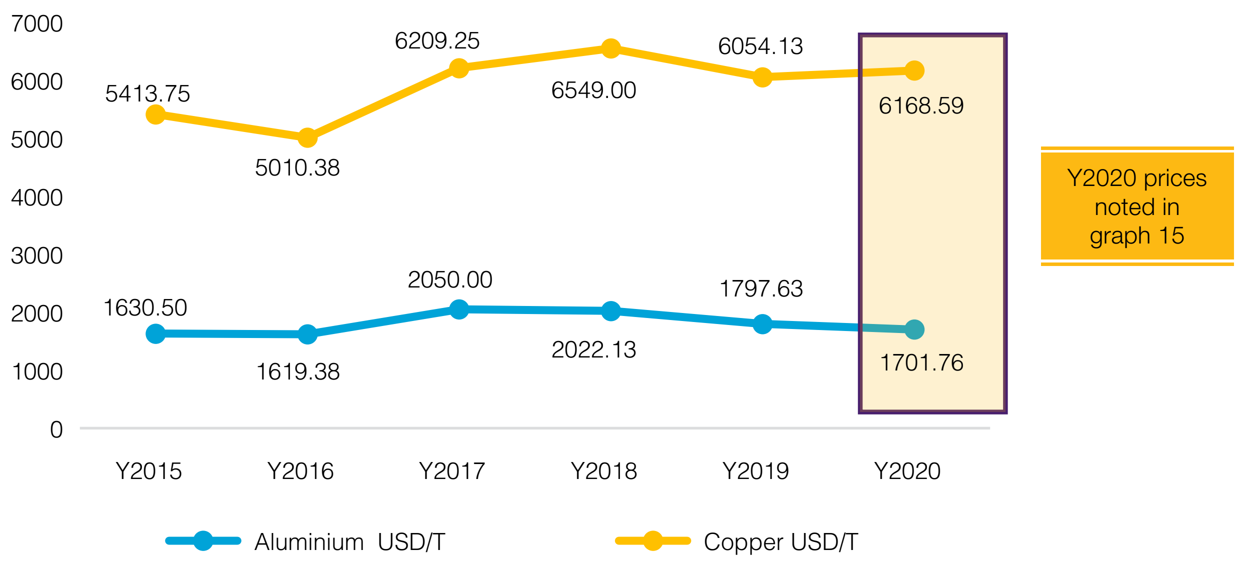
A 15% increase in the price of copper and aluminium at the end of the last quarter from the 3Q2020, is a large increase for a single quarter.

Construction components are affected by these price fluctuations both directly and indirectly

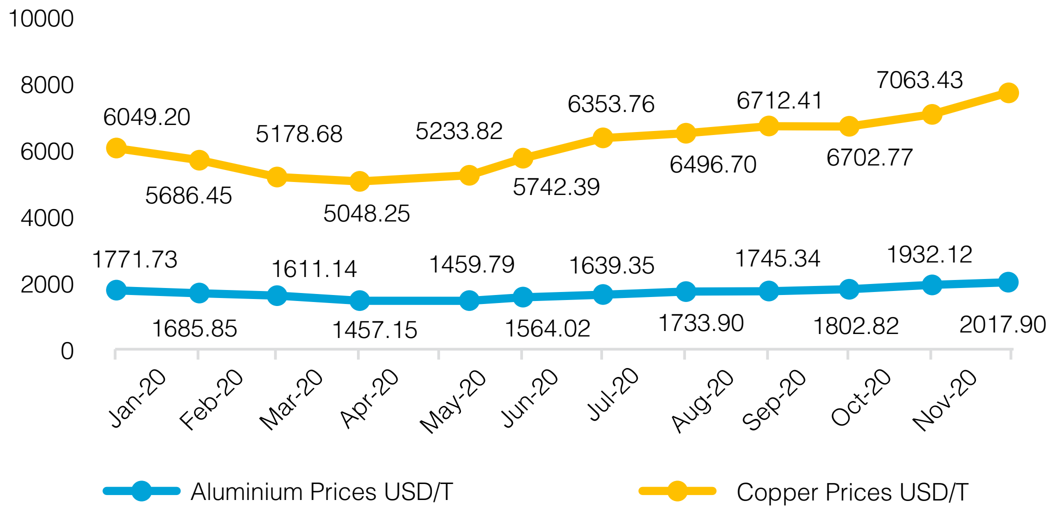
Table 1: Overview of aluminium and copper construction cost dependants

Metal	Construction component affected
Aluminium	• Façade elements such as Aluminium composite panels • Window and door frames • Cables • Roofing • Ducting • Parts of main equipment
Copper	• Electrical wires • Plumbing pipes • Fasteners

Graph 14: Aluminium and copper trendline (yearly)



Graph 15: Aluminium and copper trendline Y2020

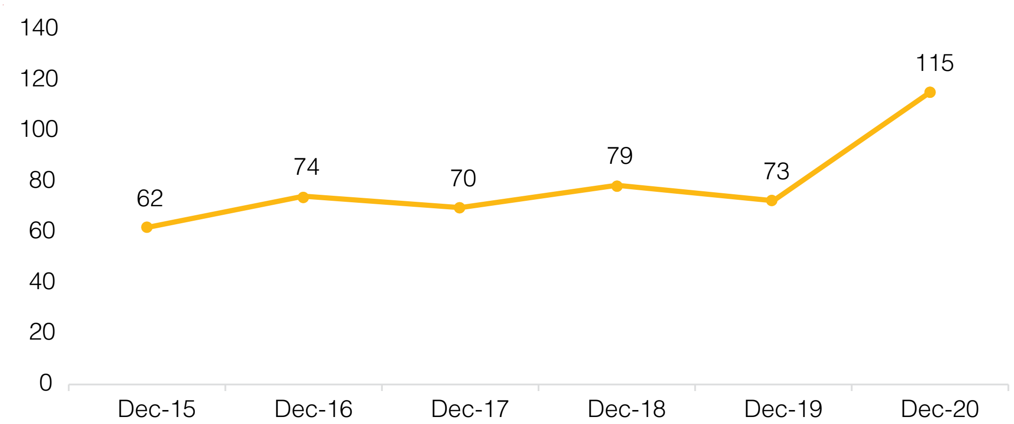


Source: London metal exchange
Prices noted are in USD and are averaged for the year.
Note: Price does not account for the impact of the Covid-19.

PVC

India's PVC imports have been low since June 2020 and the purchasing volumes have considerably reduced. This in turn has made manufacturers reduce their production rate pushing the cost high, leaving end users stumped with high prices. Prices have nearly doubled since the last year. Plastic manufacturers and processors have urged the Government to ease raw material imports and stop imposing barriers such as anti-dumping duty and mandatory BIS standards as demand for several polymers exceed domestic production. They are also seeking a ban on exports till the domestic demand is eased. The plastics industry also suspect that the petrochemical industry is boosting prices at regular intervals before releasing supplied for domestic usage.

Graph 16: PVC trendline for Mumbai



Source: Plastemart. Prices in INR/Kg.

Material prices

Palladium, Ahmedabad

Material prices

Table 2: Material prices city-wise

Description	UoM	Mumbai	Delhi	Bengaluru	Hyderabad	Chennai	Pune
Cement							
Grade 53	INR/MT	7035	6965	6800	6700	6800	6300
Steel							
Reinforcement	INR/MT	51,000	53,000	51,300	51,600	51,300	51,000
Structural Steel	INR/MT	59100	59,000	59,000	59,500	59,500	58,000
Clear Glass							
6mm	INR /Sqft	65 to 70	65 to 70	80 to 90	60 to 70	65 to 75	65 to 70
8mm	INR /Sqft	80 to 90	80 to 90	90 to 125	80 to 90	85 to 95	80 to 90
Stone							
Granite	INR/ Sqft	150 to 250	120 to 250	90 to 250	90 to 250	115 to 250	115 to 250
Marble	INR/ Sqft	220 to 500	200 to 500	180 to 500	175 to 500	150 to 500	180 to 500
Makrana	INR/ Sqft	250 to 1000	250 to 1000	250 to 1000	250 to 1000	250 to 1000	250 to 1000
Kota	INR/ Sqft	40 to 50	30 to 40	40 to 50	40 to 50	40 to 50	30 to 40
Cuddappa	INR/ Sqft	20 to 25	20 to 25	15 to 25	15 to 25	20 to 25	15 to 25
Wood							
Salwood	INR/ cuft	1,750	1,650	1,400	1,600	1,400	1,400
Plywood 12mm thick	INR/ sqft	65 to 80	65 to 80	65 to 70	65 to 70	60 to 65	60 to 70
Paints							
Emulsion	INR /20 ltr	3,200 to 3,500	3,000 to 3,300	3,100 to 3,500	3,200 to 3,400	3,300 to 3,500	3,200 to 3,400
Metals							
Aluminium	INR/Kg	190	190	190	190	190	190
Stainless Steel	INR/Kg	220	220	200	220	210	200
Plumbing							
GI Pipes - 50mm to 100mm C class heavy	INR/mtr	300 to 800	320 to 729	355 to 807	355 to 807	355 to 807	300 to 800
upvc - 32 - 100mm	INR/mtr	50 to 500	63 to 450	64 to 446	64 to 446	64 to 446	50 to 500
CPVC - 50 to 100mm SDR 11	INR/mtr	600 to 3000	672 to 3180	660 to 3119	660 to 3119	660 to 3119	600 to 3000
CI - 100 to 150 mm single socket	INR/mtr	600 to 1200	714 to 1742	778 to 1900	778 to 1900	778 to 1900	600 to 1300

Source: As per Gleeds' database in the month of December 2020 unless noted otherwise. All prices exclude GST.

All prices are supply prices and a guidance only. Transportation, and any other abnormals are not included.

Labour rate trends

Labour rate trends

The migrant labour exodus caused an alarm across many industries including the construction industry. It remained handicapped till the return of labour slowly in search of work. Sites now seem to be running at near full labour capacity as per our internal data, however, the vacuum before the return had spiked up the costs, with contractors doing all they could to get labour to return. The Government of Maharashtra, rationalised labour costs to control the sudden spike while other states have been paying the labour proportional to demand.

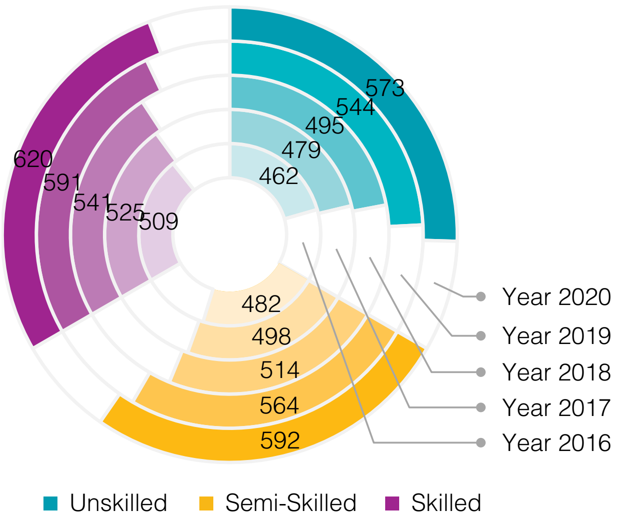
The productivity of labour has reduced from the pre-COVID times, considering the social distancing norm, the long periods of quarantine in case of infections and the reduced number of workforces allowed on site in a given period of time within a set space. These adaptations have forced the industry to relook at its programme timelines and schedules.

The irreversible change in the entire ordeal was the enhancement of labour facilities, logistics, health insurance and PPE. This has impacted preliminary and HSE costs but considering a competitive market this is seen to be absorbed to some extent by contractor in their overhead and profit to stay competitive in a subdued market.

Note: All rates as on December of each corresponding year.

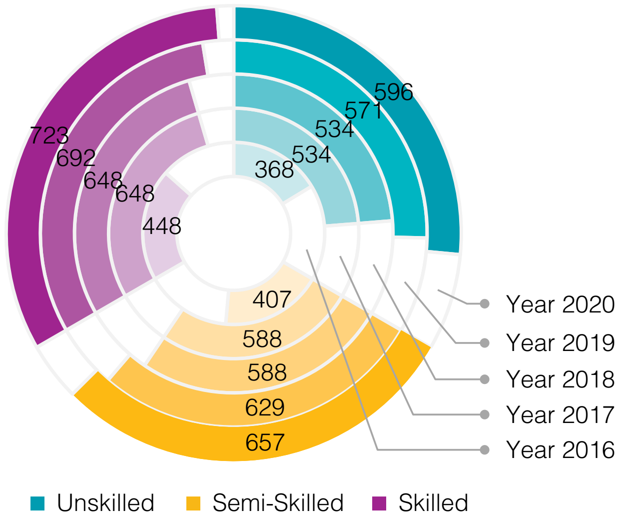
Graph 17: Labour rate trends

1. Mumbai:



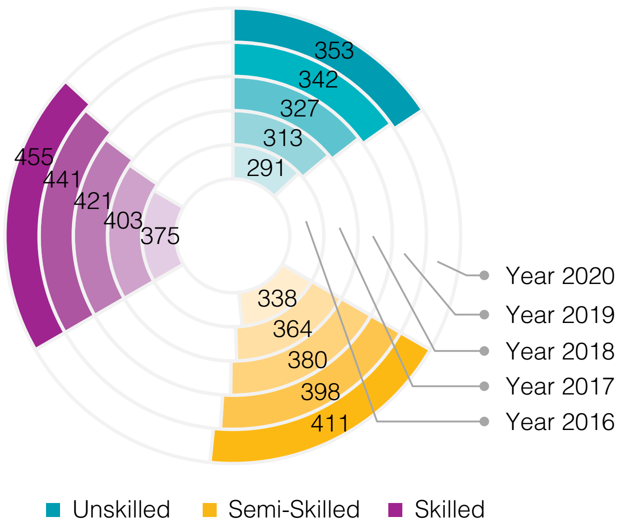
Source: Minimum Wage-India

2. New Delhi:



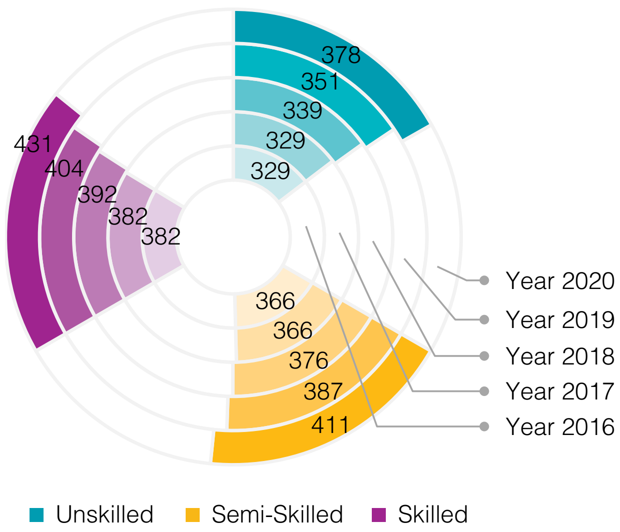
Source: Minimum Wage-India

3. Chennai



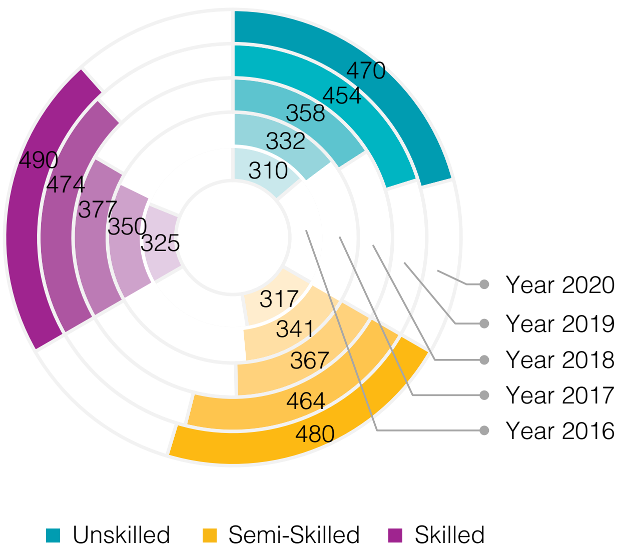
Source: Chennai.nic.in

4. Hyderabad:



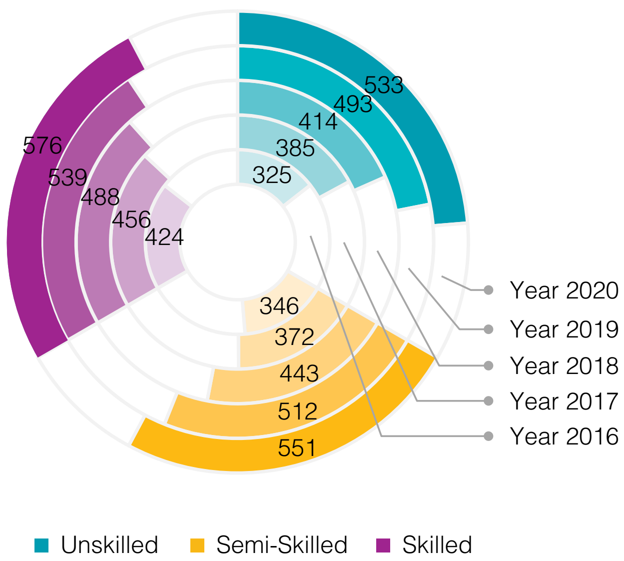
Source: Department of Labour, Government of Telangana

5. Bengaluru:



Source: Minimum Wage-India

6. Pune:



Source: Maharashtra Jeevan Pradhikaran

Note: Some values are corrected in this issue.

Construction sector outlook

Commercial Base Build Purvankara Limited, Mumbai

Construction sector outlook

Various sectors have been affected by the pandemic differently and some have a more positive outlook than others. For construction, the pandemic had initially sabotaged the growth of the otherwise booming construction and real estate sector. The industry however, quickly got back on its feet in the second half 2020. Despite the challenges of the supply chain, shortage of migrant labour and the liquidity crunch, new opportunity in upcoming sectors have renewed the investors. Various sectors have been affected differently and some have a more positive outlook than others. Though achieving pre-COVID stats might be a long-term goal, the slow recovery is encouraging.

Commercial sector

The COVID-19 has certainly brought on a different perspective to commercial workspaces as we know it. The spaces were ideally a place to collaborate but in the changing times, more importance is being given to location, experience, convenience, functionality and well-being.

Bangalore and Hyderabad are on the path to recovery accounting for nearly 47% of the total leasing activity year to date. Global investors are interested in Bangalore and with the improving metro, infrastructure may be a comeback for flexible workspaces. Hyderabad in the 3rd quarter of 2020, is reported to have accounted for around 3.7 million square feet of gross absorption year-to-date.

It is understood that this sector will continue to attract investors mostly technology giants who have entered the market already contributing to the economic development of the country. However, in the light of the pandemic and the nearly 10-month remote working, change in the employers and employees outlook towards commercial spaces is seen to reset now focussing primarily on the well- being of employees and flexibility offered to them. It is also noted that work from home will not be a permanent solution as collaboration is a need for employees and a core human trait. Reduced seating with more per seat area allocation, a greater number of collaboration spaces, larger than before and more open plan open area designs are likely to be the new trend for the future workspace design. There is expectation of large individual campus development with critical staff accommodation facilities being actively considered

Residential sector

Sales in the residential sector have understandably not reached the pre-COVID levels in the top seven cities. Mumbai, however, is experiencing better sales because of the stamp duty cut in Maharashtra. A PropEquity report stated that the sales in the top 7 cities in India had risen by 20% in October 2020 as compared to September 2020 but is still lesser than the sales in October 2019. Hyderabad, Kolkata and NCR have recovered and exceeded launches in the 3rd quarter in comparison to the Q12020 and Mumbai and Bengaluru have recovered nearly 75% and 68%, respectively, as per a report by Anarock. . There are a large number of stalled projects, accounting to about 4000 billion INR in the top 7 cities, many of the above have not been able to hit the completion date in 2020, though works have commenced as early as 2013

Buyers are now interested in more spacious homes and not necessarily in the tier 1 cities, a shift from before.

The waive off on GST for ready-to-move-in properties and GST slashes on affordable and regular units motivate buyers. After the RBI announced several rate cuts, bringing the repo rate down to 4%, and its positive effect on buyer sentiment would only manifest in the medium to long term. This step could be considerable support for existing buyers, who might struggle to pay EMIs in the short-term or medium-term, because of the lockdown or in the event of job loss.

There is also the tax towards the land that the Government should consider. 33% towards land mainly in the cities where the cost of the land is quite high can be quite discouraging for a buyer. Policy changes towards the significantly high land taxes would put the buyers at ease.

Other initiatives of the Government such as the affordable housing for all by 2022 might be the ‘light at the end of the tunnel’ for some developers as this market is seen to be the future of the residential sector at present. With the luxury market already stressed, mid-luxury developers now seek to venture into this region. Delhi and Mumbai are the two regions that are leading in the affordable housing sector followed by Pune and Chennai. Another segment that can reshape the future of the residential sector is Senior citizen living spaces, the importance of which has been noticed during the pandemic, where the country was in lockdown and the lack of domestic help and the inability to use technology to fend for the day-to-day needs, was not a hassle in such living spaces.

Hospitality sector

The hospitality sectors have been the most affected in the last three quarters of 2020 an effect of the COVID-19 lingers on into the next few quarters as well. The sector, however, refusing to give up, has opened up some of its hospitality sections such as hotels and resorts with new safety measures and has managed to gain consumer confidence, promoting stay in hotels and resorts. Hope for the sector has risen with people travelling domestically to escape the long confinement in their homes possibly willing to spend on their first flight or a nice holiday. This surge was portrayed immediately after the lockdown lift, holiday season and end of the year. The growth trajectory might rise once the vaccine and the vaccination across the country take place. This is very much necessary for the sector as global travel restrictions might keep international travellers at bay for some time. Apart from this, stand-alone and private villas in the driveable distance from major metros have seen a considerable uptick in the demand which may trigger extended villa developments in near future.

The sector has requested the Government to support its revival which even with the present demand might take a while to stabilise. The need for liquidity and policy support is very much required as noted by the Federation of Hotel & Restaurant Associations of India (FHRAI) and National Restaurant Association of India (NRAI).

The sector now seems to need a serious restructuring for its future survival with situations such as the pandemic in view, whether it be merging of assets or renovating to make it more competitive for the local/international crowds. The Government has assigned the RBI to look into the financial support that the Government can offer this sector.

Retail sector

The Retailer's Association of India are optimistic that 85% of their pre-pandemic sales will be reached in the coming six months across fashion, electronics and groceries. Though the festive season and the wedding season did bring in some hope the lack of travel and lack of international travellers escaping the winter has brought about stress in the sector.

Unfortunately, the retail is still in a negative growth and might continue for a while until there is extended rollout of the vaccine and safety is no more a apprehension. In November, consumer durables and electronics category continued to recover with sales at 12% year-on-year.

Food and grocery category indicate sales growth at 5% year-on-year and apparel and clothing segment is still under pressure with about -12% year-on-year behind pre-pandemic sales. The retail sector's digital market has surged over the last year and continues on. While, brick and mortar are yet to revive, the truth of which will be known following the complete solution to the pandemic situation, e-commerce is thriving on this very situation and has now has a good foothold for its future growth.

Like the hospitality industry the retail industry has also reached out to the Government to aide the sector which employs over 46 million and is one of the largest contributors to the Indian GDP sizing to about $854 billion as per the RAI.

Healthcare sector

The health care system is set to grow considerably and is projected by the IBEF to increase three-fold to INR 8.6 trillion by 2022. There is a significant scope for enhancing healthcare services considering that healthcare spending as a percentage of Gross Domestic Product (GDP) is rising. The Government's expenditure on healthcare sector has grown to 1.6% of the GDP in FY20BE from 1.3% in FY16. Health insurance is gaining a large momentum in India. Gross direct premium income underwritten by health insurance grew 17.16% y-o-y to Rs. 51,637.84 crore (US$ 7.39 billion) in FY20. In November 2020, National Telemedicine services completed 8 lakh teleconsultations since its launch, enabling patient-to-doctor consultations from the confines of their home, as well as doctor-to-doctor consultations. The number of medical colleges have increased to more than 560 from just 412 in FY16 which is substantial. India is also now vastly into research and development and medical tourism has become a big part of this sector, which would attract foreign investors. Compared to the global front however, India's health sector spends 1.6% of its GDP while other countries on an average spend 8.8%. IMF in a report had noted that a boost in the health sector investment could boost the economy as this sector creates both high and low skill jobs.

The sector is looking very promising with the hospital industry in India forecasted to increase to Rs. 8.6 trillion (US$ 132.84 billion) by FY22 from Rs. 4 trillion (US$ 61.79 billion) in FY17 at a CAGR of 16–17%. The Government of India is planning to increase public health spending to 2.5% of the country's GDP by 2025.

Pharmaceutical sector

The Union Cabinet has given approval on amending of existing Foreign Direct Investment (FDI) policy in the pharmaceutical sector in order to allow FDI up to 100% under the automatic route for manufacturing of medical devices subject to certain conditions.

In November 2020, the Indian Institute of Technology (IIT) Bombay has stepped up research and development (R&D) amid COVID-19 and researchers are developing several products in an attempt to curtail infection. This rise in investment in research and development is likely to translate to investments in research development blocks and facilities as well as manufacturing units for its production.

There have also been Government initiatives to enhance the sector's performance. India and the Netherlands look to collaborate to provide digital health facilities and securities to all citizens. In September 2020, the government announced production linked incentive (PLI) scheme for the pharmaceutical industry worth Rs. 15,000 crore (US$ 2.04 billion).

India plans to set up a nearly Rs. 1 lakh crore (US$ 1.3 billion) fund to provide boost to companies to manufacture pharmaceutical ingredients domestically by 2023 as reported by the IBEF. Rural healthcare programmes, lifesaving drugs and vaccines heralds good growth of the healthcare sector.

India is also set out to produce the COVID-19 vaccines, and is the second to only USA in production. Though, with the estimations the market are is dynamic, India maybe all set to export vaccines all across the world. Of all the vaccine candidates in the market, the Oxford-AstraZeneca is India's largest produce through Serum Institute of India. With all of this, there is an expectation of growth and investment in India in coming months by major global organizations.

Data centres

The COVID-19 has certainly enhanced the IT side of the country. Many companies were forced into remote working and those who had invested in technology in past enjoyed very less disruption and were able to conduct their business more effectively. With the well-being of employees the prime focus of any competitive company, flexibility of work from home and office are being explored, all of them will translating to the rise in need of cloud based data processing and storage, leading to exponential growth and interest in data centres and data security options.

Following on a rise in data consumption as much as 38% rise year-on-year for FY21 as well as data localization norms, this is one of the most watched and talked about sector, There are a projection of at least 28 hyperscale datacentres over the next three years, which will span over 16+ million sq. ft. with at least 1,400+ MW of IT power capacity as per a report from Anarock. The colocation growth has increased to about 8% in the first half of the year 2020, the capacity totalling to 375MW in the first half of 2020. The growth expectancy for 2025 is projected to be 1078MW which is likely to translate into 9.3 million sqft of space as reported By JLL. This is likely to raise interest in investors considering built to suit development for global cloud providers.

Digital India drive will see a new light this year with all companies revising their IT spending which will grow in tandem with the growing IT requirement of the country. The cities that are likely to grow the fastest in datacentres are Mumbai as it stays the preferred choice of cloud players followed by Chennai primarily due to its low-cost development costs. The restructuring of the digital infrastructure and favourable policy push through dedicated data centre parks is key to the growth of this sector. IT hub spots such as Pune, NCR and Hyderabad is also expected to see increased demand.

Manufacturing sector

This sector has been well supported by the Government even before the onset of the COVID-19. The Make in India programme brought this sector to the spotlight. This initiative is known to have attracted hi technology manufacturing global giants for setting up manufacturing. The business condition for the sector continues to look positive and the Government aim to create jobs in the sector. Strong growth was recorded in the production of basic metals (10.8%), intermediate goods (8.8%), food products (2.7%) and tobacco products (2.9%). India's Index of eight core industries stood at 131.9 in FY20. IN the beginning of the last quarter in 2020, India's manufacturing sector recorded improvement for the 3rd consecutive month with businesses growing production to the greatest extent in 13 years in the middle of robust sales growth. According to the United Nations Conference on Trade and Development (UNCTAD), India ranked among the top 10 recipients of Foreign Direct Investment (FDI) in South Asia in 2019, attracting US$ 49 billion—a 16% increase from the previous year.

The growth of micro, small and medium enterprises (MSMEs) might pick up as the National Small Industries Corporation (NSIC) signed a Memorandum of Understanding (MoU) with Dun & Bradstreet Information Services India to create an ecosystem to encourage, finance and promote growth. India is likely to benefit from the shift of the supply chains from China to other economies, a chance for India to rebound from the effect on the pandemic. The absorb this new requirement, India should have policies and strategies to.

Manufacturing units such as Samsung, Apple, Foxconn, Tesla to name some big names who are setting up their production units in various places in India, propelling this sector to new heights. The Government are also looking to encourage employment through the skill training for 3 lakh migrant workers provided by the Ministry of Skill Development and Entrepreneurship, from 116 districts across Uttar Pradesh, Bihar, Rajasthan, Odisha, Madhya Pradesh and Jharkhand which would be centrally controlled by the component of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 2016-20.

Infrastructure

The potential for infrastructure is quite high and the Government has been keen on investing in such projects more so after the onset of the COVID-19, with the National Highway Authorities of India awarding a record high of 744km length highway projects for the April to August 2020 period valued to be about INR 473 billion.

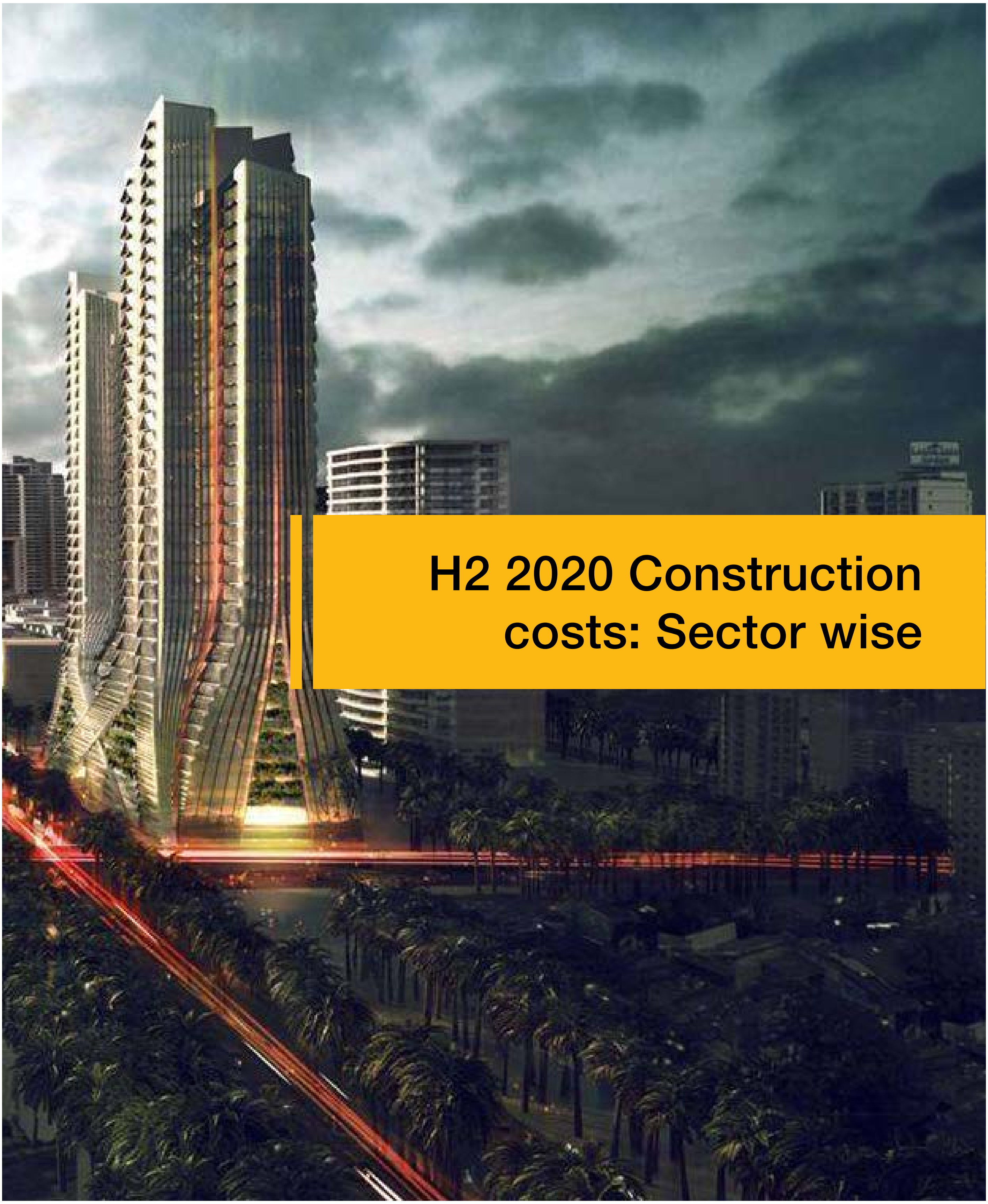
Projects such as greenfield Delhi-Amritsar-Katra expressway with an estimated value of INR 8.40 billion and six-lane, access-controlled highway under Bharatmala Pariyojana an estimated INR 7.07 billion have been invited to bid in the recent months.

68 development works mostly related to smart city and worth circa INR 13.31 billion is set to commence in Rajasthan. Mangaluru Smart City will be one of the first smart cities in Karnataka to go live. The Integrated Command and Control Centers (ICCC) of Mangaluru Smart City, a major component of the Smart City Project is already being used as a war room for the administrators to combat COVID-19 pandemic.

The Rail Land Development Authority (RLDA) a statutory body under the Ministry of Railway, has taken up redevelopment works of several railway stations across the Indian Railways network. They are set out to develop five railway stations in the state of Bihar. They will be equipped with state-of-the-art amenities such as restaurants, food plaza, parking zones with links to station platforms, cafeteria, internet, shopping areas along with medical emergency booth, amongst others.

The CFO of a large construction company sees a potential of $80-100 billion per year investment in infrastructure and expect a upward trend till 2023 which if materialised can be a big boost in the construction sector.

H2 2020 Construction costs: Sector wise



Ornate Grove Towers, Mumbai

H2 2020 Construction costs: Sector wise

Table 3: Sector wise costing

Building Type	Assumptions for Costs	Bengaluru ₹ / Sqft	Pune ₹ / Sqft	Delhi ₹ / Sqft
Residential* **				
Affordable	BUA: 3,00,000 sqft	1,950 to 2,400	1,900 to 2,300	2,290 to 2,800
Premium	BUA: 6,00,000 sqft	2,460 to 3,400	2,460 to 3,400	3,200 to 3,700
Commercial Building				
Commercial	BUA: 10,00,000 sqft	2,350 to 2,900	2,700 to 3,100	2,950 to 3,500
Office Fit-out *Note: Costs based on carpet area for office fit-outs only.*				
Basic	CA: 50,000sqft	2,200 to 2,500	2,000 to 2,400	2,200 to 2,500
Standard	CA: 50,000sqft	2,600 to 3,500	2,500 to 3,400	2,600 to 3,500
Premium	CA: 50,000sqft	4,000 to 7,000	4,000 to 6,800	4,000 to 7,200
Retail				
Malls with retail stores		2,415 to 2,885	2,375 to 2,850	2,400 to 3,050
Store fit-out costs on carpet area				
Quick Service Restaurants	CA: 2,500 sqft	2,750 to 3,300	2,700 to 3,300	2,900 to 3,400
Apparel stores	CA:25,000 sqft	2,000 to 2,375	2,000 to 2,275	2,150 to 2,525
Discount sports store	CA:25,000 sqft	1,250 to 1,850	1,200 to 1,800	1,500 to 1,970
Jewellery	CA: 8,000 sqft	5,000 to 6,700	4,800 to 6,400	5,500 to 7,200
Hospitality				
3 star Hotel	100 key	3,800 to 4,800	3,400 to 4,650	4,600 to 5,670
4 star Hotel	150 key	4,650 to 5,670	4,250 to 5,250	5,950 to 7,000
5 star Hotel	150 key	6,800 to 8,750	6,300 to 8,035	7,500 to 9,275
Healthcare				
Hospitals	500 bed capacity	4,500 to 5,350	4,550 to 5,450	5,500 to 6,800
Education				
School*	500 Pupil, high school	2,600 to 3,400	2,300 to 2,950	4,250 to 4,950
University**	Campus	5,100 to 5,975	4,700 to 5,670	5,500 to 6,550
Industrial				
Pharmaceutical		3,300 to 4,330	2,970 to 3,900	3,500 to 4,450
Others				
Multi-level Car park		850 to 1,250	800 to 1,100	1,050 to 1,350
Data Centres				
Shell only	Multi-tenant	4,200 to 6,400	4.200 to 6.200	4,400 to 6,550
Shell only	Hyperscale	5,250 to 7,350	5,100 to 7,200	5,400 to 7,575
Fit-out (₹/MW)	Multi-tenant	18,00,00,000 to 22,66,00,000	18,00,00,000 to 22,66,00,000	18,00,00,000 to 22,66,00,0000
Fit-out (₹ /MW)	Hyperscale	16,00,00,000 to 20,60,00,000	16,00,00,000 to 20,60,00,000	16,00,00,000 to 20,60,00,000

** Classroom with basic indoor and outdoor facilities*
***Learning rooms with required amenities*
**** For residential floor height range, please refer to the assumptions*
Source: Gleeds India Data-base

Table 4: Sector wise costing Contd.

Building Type	Assumptions for Costs	Mumbai ₹ / Sqft	Chennai ₹ / Sqft	Hyderabad ₹ / Sqft
Residential* **				
Affordable	BUA: 3,00,000 sqft	2,375 to 2,885	1,865 to 2,270	1,865 to 2,175
Premium	BUA: 6,00,000 sqft	3,200 to 3,865	2,545 to 3,150	2,400 to 3,100
Commercial Building				
Commercial	BUA: 10,00,000 sqft	3,050 to 3,600	2,300 to 2,850	2,375 to 2,900
Office	*Note: Costs based on carpet area for office fit-outs only.*			
Basic	CA: 50,000sqft	2,200 to 2,600	2,000 to 2,400	2,200 to 2,500
Standard	CA: 50,000sqft	2,800 to 3,600	2,500 to 3,400	2,600 to 3,500
Premium	CA: 50,000sqft	4,000 to 7,200	4,000 to 6,500	4,000 to 7,000
Retail				
Malls with retail stores		2,545 to 3,090	2,375 to 2,900	2,375 to 2,780
Store fit-out costs on carpet area				
Quick Service Restaurants	BUA: 2,500 sqft	3,000 to 3,500	2,700 to 3,200	2,750 to 3,300
Apparel stores	BUA: 25,000 sqft	2,200 to 2,575	1,900 to 2,325	2,000 to 2,375
Discount sports store	BUA: 25,000 sqft	1,500 to 2,060	1,200 to 1,750	1,250 to 1,850
Jewellery	BUA: 8,000 sqft	5,500 to 7,200	5,000 to 6,200	5,000 to 6,700
Hospitality				
3-star Hotel	100 key	4,650 to 6,000	3,700 to 4,650	3,400 to 4,800
4-star Hotel	150 key	5,950 to 7,420	4,500 to 5,565	4,350 to 5,665
5-star Hotel	150 key	7,500 to 9,785	6,400 to 7,725	6,800 to 8,350
Healthcare				
Hospitals	500 bed capacity	5,500 to 7,000	4,200 to 5,150	4,400 to 5,350
Education				
School*	500 Pupil, high school	4,650 to 5,150	2,500 to 3,350	2,550 to 3,750
University**	Campus	5,950 to 6,700	4,650 to 5,670	4,650 to 5,725
Industrial				
Pharmaceutical manufacturing units		4,000 to 5,665	3,100 to 4,100	3,250 to 4,225
Others				
Multi-level Car park		1,200 to 1,400	800 to 1,125	850 to 1,250
Data Centres				
Shell only	Multi-tenant	4,500 to 6,700	4,200 to 6,200	4,250 to 6,300
Shell only	Hyperscale	5,500 to 7,725	5,100 to 7,200	5,200 to 7,300
Fit-out (₹/MW)	Multi-tenant	18,00,00,000 to 22,66,00,000	18,00,00,000 to 22,66,00,000	18,00,00,000 to 22,66,00,0000
Fit-out (₹/MW)	Hyperscale	16,00,00,000 to 20,60,00,000	16,00,00,000 to 20,60,00,000	16,00,00,000 to 20,60,00,000

** Classroom with basic indoor and outdoor facilities*
***Learning rooms with required amenities*
**** For residential floor height range, please refer to the assumptions*
Source: Gleeds India Data-base

Assumptions made and notes for reading the costs

Data provided in this report is an average range of costs. There are many cost parameters that contribute to costs and some judgement is to be applied while using the costs indicated. The following are the parameters that are to be considered:

- Site conditions
- Location
- Building shape and size
- Contract type
- Procurement route considered
- Design
- Requirements of the end user
- Quality and safety systems required
- Market conditions
- Assumptions made on site abnormal
- Time scale for completion
- Any site restrictions

Residential towers heights range are as follows:

Mumbai:	130 to 140m
Delhi:	125 to 130m
Bangalore:	60 to 70m
Hyderabad:	80 to 90m
Chennai:	60 to 70m
Pune:	80 to 90m

Please note the following pertaining to the costs data provided:

- All costs noted are construction costs only
- All costs are in Indian National Rupees unless noted otherwise
- All costs are per square foot unless noted otherwise
- All cost data is indicative of costs incurred at the time of the making of the report
- The impact of Covid-19 is not accounted. All costs are pre-Covid-19 unless noted otherwise.

All costs are deemed to include:

- All construction costs including shell and core, architectural works, interiors and finishes, MEP and external development works unless noted otherwise
- Contractor's preliminaries
- Contractor's overheads and profits
- Contingency
- Inflation (tender and construction inflation).

All costs are deemed to exclude:

- Site abnormals and any specific site conditions
- Client's cost for land acquisition
- Client's overheads
- Client's profit margin
- Pre-opening costs
- Consultants, designers, and other project management fees
- Land Value
- Project Insurance
- Force Majeure
- Any administration costs incurred by the Client
- FF&E costs excluded in University, schools, hotels
  Any preclearing, logistic costs incurred by Client before site hand over to contractor
- GST
- For data centres only
  - Special infrastructure works such as mass excavation
  - Cost of the HT Sub-stations and transformers
  - Cost of the Server racks, LLE equipment.

Area definitions followed in this document.

	As per IS 3861-2002	RERA
Built up area (BUA)	Plinth area shall mean the built-up covered measured at the floor level of the basement or of any storey	The built-up area includes the carpet area, plus the extra areas certified by the authorities, such as the area of the outer and inner walls, dry balcony area, etc.

All costs noted below is on the built-up area unless noted otherwise. This indicates the cost incurred on all the unusable areas, still contribute to costs.

Cost indices

Dheeraj Realty Oneness, Mumbai

Cost indices

Gleeds carried out an extensive exercise to map the costs across the various Indian cities.

The following methodology was adopted to derive the indices.

• A basket of items comprising of most commonly used materials in construction, labour and consumables was established. These goods have been identified and known to demonstrate the inflation and dynamic nature of the goods typically used in the construction sector. Approximate individual quantities within the items were taken to represent standard type of commercial building

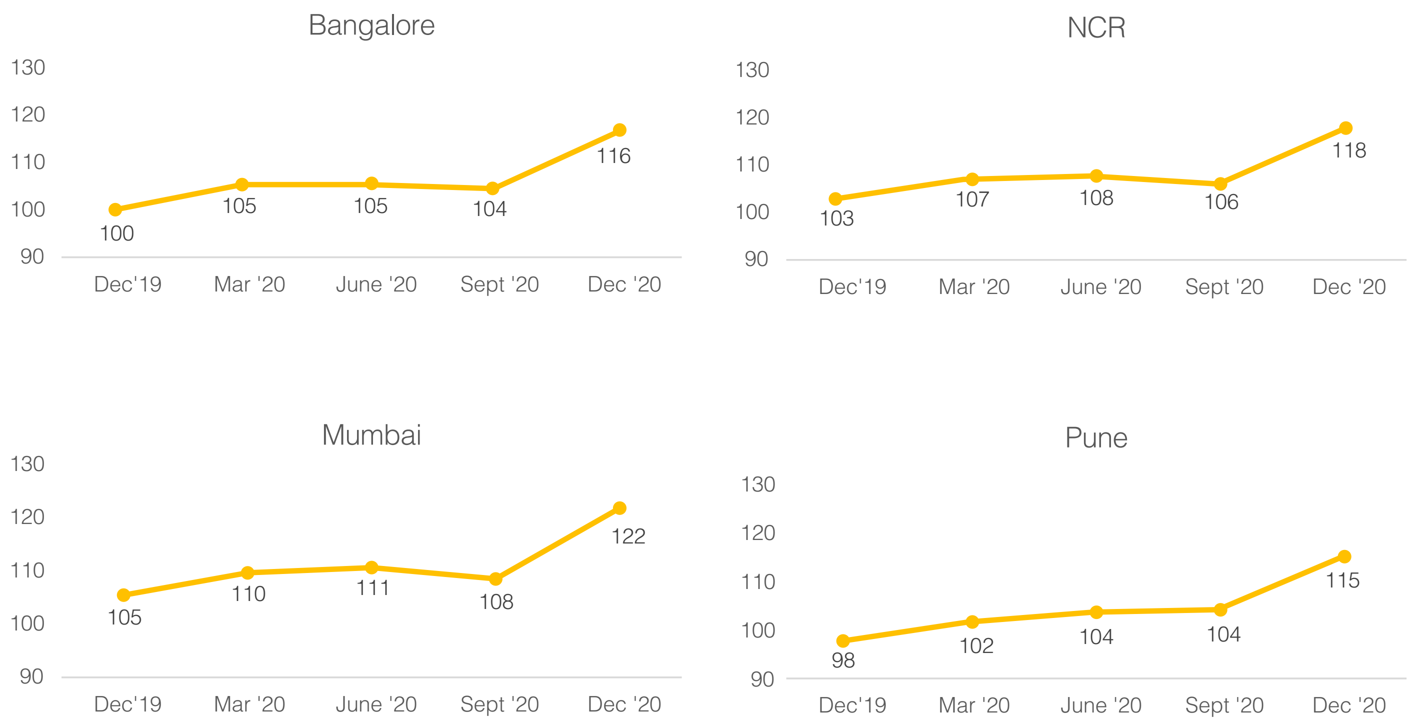
Appropriate weightage was given to each of the items and based on weighted average method, a base Index was calculated

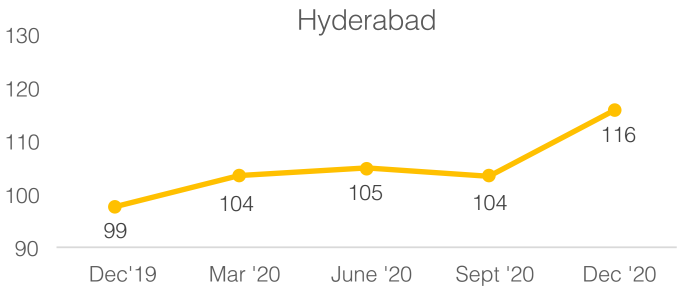
• December has been considered as this is the best representation of costs before the uncertainty of the pandemic. The base city taken for calculation of Index is Bangalore

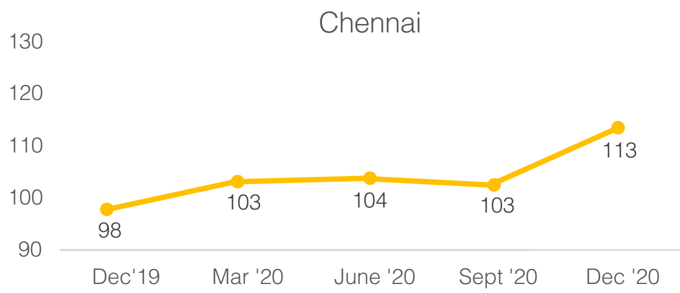
• Cost movement for the different cities across similar timelines has been mapped and the indices were thus derived.

The graph below indicates the construction costs indices for the six major cities for four months starting December 2019, with Bengaluru as the base.

Graph 18: Cost indices city-wise





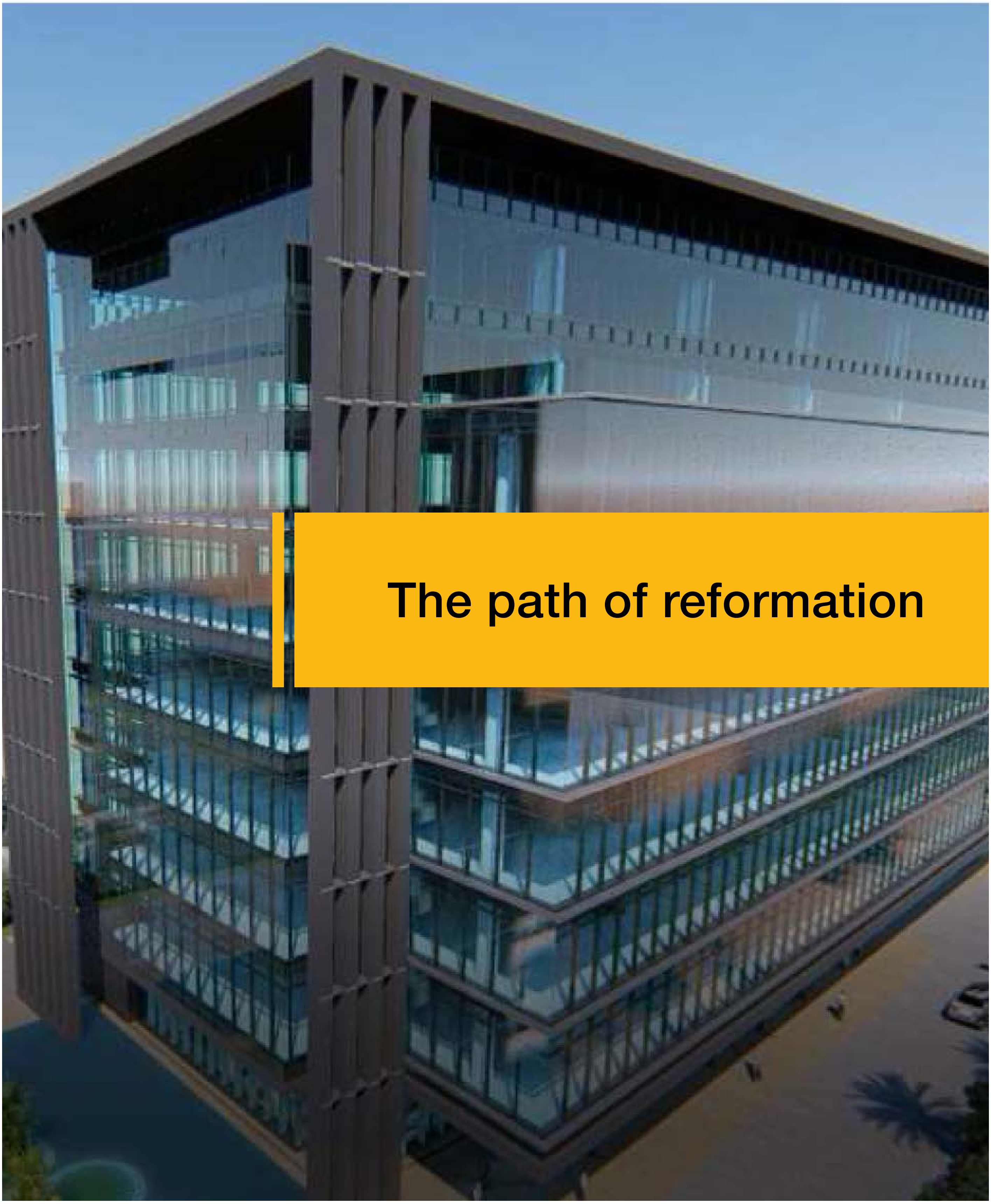


Source: Gleeds' Internal Database.

Note: Indices on the last month of each quarter considered.

The indices have leapfrogged in the last month of the year 2020 in a 11% to 12% range from the indices in September 2020. This is due to the unnatural material rate fluctuation in the December 2020. With Steel and metal rates shooting up and the consequent effect of oil on plastic and fuel costs have shot rates up. This instability is a cause for concern for the current projects which have to deal with this unprecedented cost increasing cutting into any contingencies kept for the project and demanding for more budgets for project completion.

Brookefield, Brigade, Bangalore



MFAR Keystone tech park, Bangalore

The path of reformation

The industry has been known to adapt to change and emerge stronger than before when forced into difficult circumstances. The COVID-19 situation has been one such incident where the circumstances have indeed forced the industry to rethink and reframe its way of working.

Digitisation is key and though the industry has commenced its journey, the pandemic accelerated its course. Some adaptions which are set to reform the industry are:

Modern method of construction- Prefabricated construction

The MoHUA initiated Global Housing Technology Challenge India (GHTC-India) in January 2019 which aimed to identify and mainstream globally best available proven construction technologies that are sustainable, green and disaster resilient through a challenge process which will bring a paradigm shift in construction practices for affordable housing. New technologies were explored and with Construction Technology India (CTI), the six broad categories finalised were and six light house projects (about 1000 units each) were approved to showcase these technologies.

- Precast Concrete Construction System - 3D Precast volumetric
- Precast Concrete Construction System - Precast components assembled at site
- Light Gauge Steel Structural System & Pre-engineered Steel Structural System
- Prefabricated Sandwich Panel System
- Monolithic Concrete Construction
- Stay in Place Formwork System.

Cities in which about 1000+ units are being worked on using the above methods are Indore, Chennai, Ranchi, Lucknow, Agartala and Rajkot. With the success of these initiatives, this might become the new standard in housing construction.

With the COVID-19 outbreak, precast concrete is seen to be becoming more popular among contractors and developers, considering the speed, the better-quality product and the savings in time.

Digital twins, Building information management and other construction software

Niti Aayog, the Government think tank, has promoted the use of BIM and are of the opinion that the there is a significant cost savings of upto 20% with the implementation of BIM. Infrastructure projects from roads to ports to from the data that was given by Mospi indicated that the 1,682 projects have gone up by INR 4 trillion over their life cycle. These delays are to be quickly curtailed and the Government is seen to back up this new technology to speed up infra works. Digital software inclusion, digital planning and design tools along with other construction software would be key in driving down the costs and time. In addition, consideration for the implementation of BIM of national highways, greenfield airport and metro projects, station redevelopment and railway capacity augmentation programmes. This is also being implemented in the housing for all drive.

The increase of 10% carpet area within the same budget has been made possible with the use of construction technology software, Tekla software for a housing project in Bhubaneshwar. Such technologies are being explored to rationalise the construction overspend and goof return in investments.

There is a drive towards the incorporation of smart cities, a digital India initiative. Countries such as Hong Kong, Singapore and Seoul all have been able to work on the COVID impact because of their existing investment in technology and have manged beautifully the tackling of an unknown problem. Digital twins for their cities was the key to their success. This is a big prospect for India, which is a large country with large rail and road infrastructure and growing number of cities. Incorporation of digital twinning in the transport industry and smart cities, will make the system easy monitor, reduce risks and strategize changes before actually going on ground.

The road ahead

Dan Hotel, Bangalore

The road ahead

The construction industry is wrestling with the consequences of the pandemic. While the first half of the year 2020 was in lockdown followed by the preparation for recommencement of works with changed procedures, the second half was all about the adaption to change and inflation induced by decisions of the past. Material rates, labour rates, supply chain, project timelines, procurement strategies, contractual obligations, health and safety procedures, site logistics and employee well-being all have had to be revisited, restructured and or reorganised.

The impact of the COVID-19 on design and way of construction will be long lasting; however, the industry's complete recovery is progressing well. Faster and advanced technologies are now being explored and incorporated into construction standard methods of working. The importance of time translating to costs and a good and quick return of investment has been the prime focus always, which now has only strengthened in the circumstances. The current dependency on labour and the supply chain, the impact of global changes on material prices, the local production and distribution capacity have all been brought to light forcing a reassessment in its strategy. The use of digital twin, modern method of construction, prefabrication and data analytics have gained traction and are being adopted as the new standard of construction.

While, the otherwise booming sectors like residential, commercial and hospitality are conservative, sectors such as healthcare, pharmaceutical and technology sectors are bravely moving forward, looking to enhance its services and expand its size to optimise its reach to the people. Warehouses and Data Center parks sectors growth footprint is widening due to the increasing use and demand for e-commerce and the trending work from home option. Senior living and Villa developments for a comfortable living will pick up.

Sustainability is another aspect that has seemingly risen this year. India is one of the countries that has always concentrated on sustainability, but with the lockdown, achieving advanced sustainable solutions is the key driver. Apart from only constructing sustainable buildings, with minimum consumption of valuable resources like electricity and water, there is more concern towards healthy buildings and healthy living, tilting the scales more towards the human aspect from the previous building infrastructure focussed concerns. This shift is attracting International brands who are keen on these aspects and is resulting in setting a higher bar to reach for the industry. All of this will lead to only more positives in times to come.

The Government's encouragement for a better developed and digitised India is another key driver in the growth of the new construction ecosystem and is believed to bring about 'new heights'. The increased budget towards infrastructure and schemes such as housing for all using advanced construction methods is likely to boost India's existing construction portfolio.

The industry is anticipated to emerge stronger and more resilient in this coming year, as the worst has been left behind with a bright future ahead, with new beginnings, new possibilities and new optimism.


Interglobe Hotels

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Abbreviations

MRICS: Member of the Royal Institution of Chartered Surveyors.

USD: United States Dollar

INR: Indian National Rupee

GST: Goods and Services Tax

MEP: Mechanical, Electrical and Plumbing

BUA: Built-up area

CA: Carpet area

Sqft: Square foot

Cuft: Cubic feet

Sqmm: Square millimetre

Ltr: Litre

Mtr: Linear metre

MT: Metric tonne

Al: Aluminium

Cu: Copper

MW: Mega Watt

PVC: Polyvinyl Chloride

GI: Galvanised iron

uPVC: Unplasticised Polyvinyl Chloride

cPVC: Chlorinated Polyvinyl Chloride

CI: Cast iron

NCR: National Capital Region

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