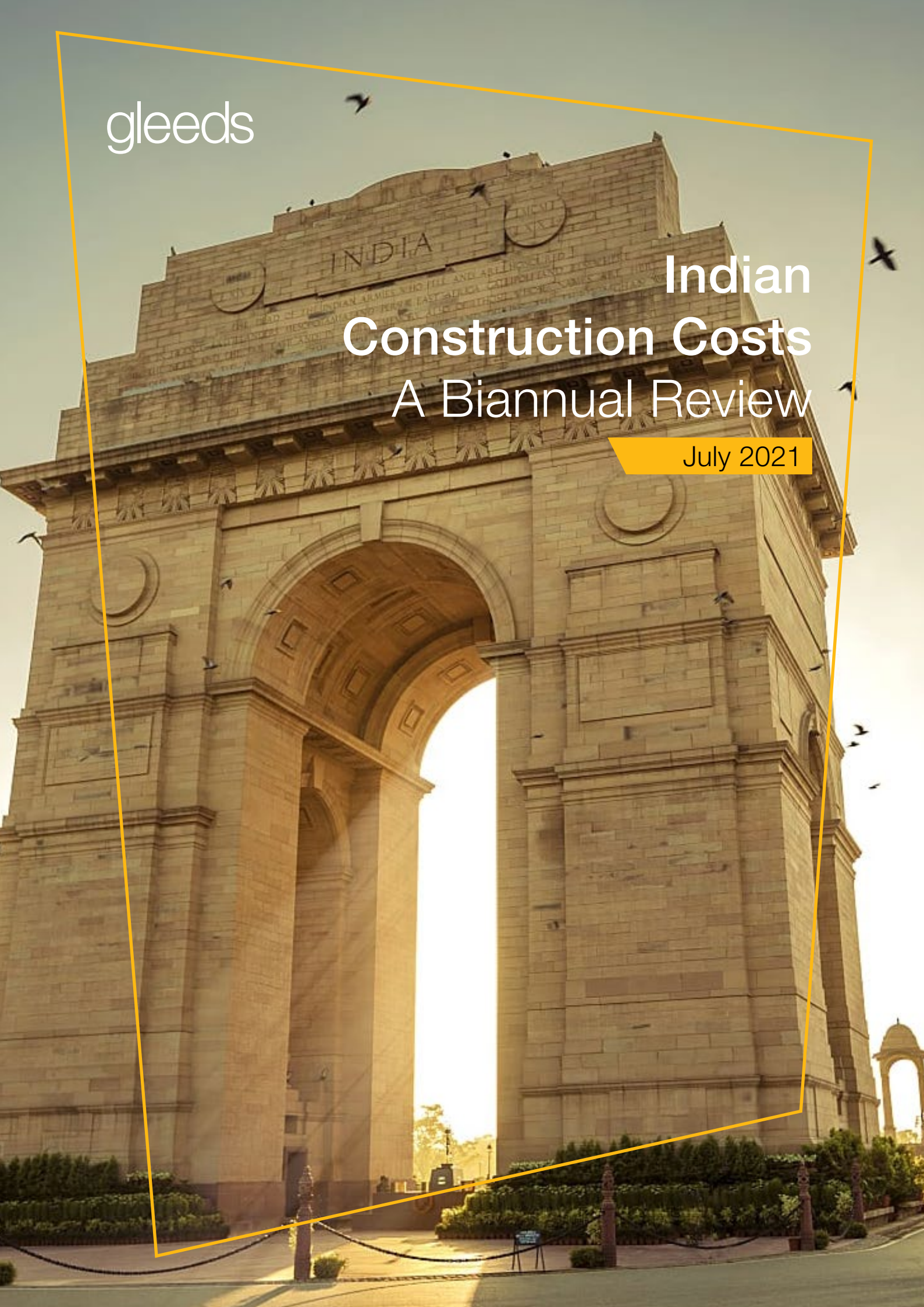


gleeds

Indian Construction Costs A Biannual Review

July 2021



Note from the Managing Director

The world is learning to coexist with the COVID-19 virus which broke out in 2020. Country specific vaccination drives continue in an attempt to tackle and eradicate the virus. India has successfully vaccinated 30% of its 1.3 billion population with the first dose, in the first half of 2021.

India had stepped into 2021 with much optimism, but the unprecedented second wave in March 2021, saw the Indian healthcare system struggling to cope with rising infections, oxygen shortage and insufficient testing kits inducing another lockdown.

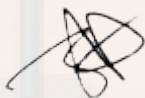
Recognising the construction industry's contribution towards the country's economic recovery the Government allowed the industry to carry on with COVID-19 safety measures in place, but material shortage, rising prices and unavailability of labour pressurised recovery.

India like most parts of the globe is still dealing with this uncertainty on price fluctuations. Knowledge and awareness of market dynamics and price trends are vital information that influences design, budget and execution of several projects.

Gleeds India has regularly monitored price trends (material and labour) and construction sector costs and presents it as part of the H12021 Biannual publication. The city cost indices that Gleeds India initiated in 2019, portrays the dynamics of materials and labour across the six major cities in the past six months.

As part of industry outreach, Gleeds India reached out to the construction supply chain including clients, consultants, contractors to understand deep and real time situation on ground through a survey which indicates the rise in material prices by 10% to 15% of major commodities such as steel, cement, metals, the difficulty in sourcing skilled labour, views on upcoming sectors and challenges such as end user requirements in a post COVID-19 scenario.

We trust and sincerely hope that through our publications, you would receive valuable insights to make informed decisions for their projects. Should you wish any specific advice or have any comments, feel free to reach out to our market leading Insights & Analytics team.



Ben Huskisson, MRICS.
Managing Director

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2021 – A new cycle of real estate growth

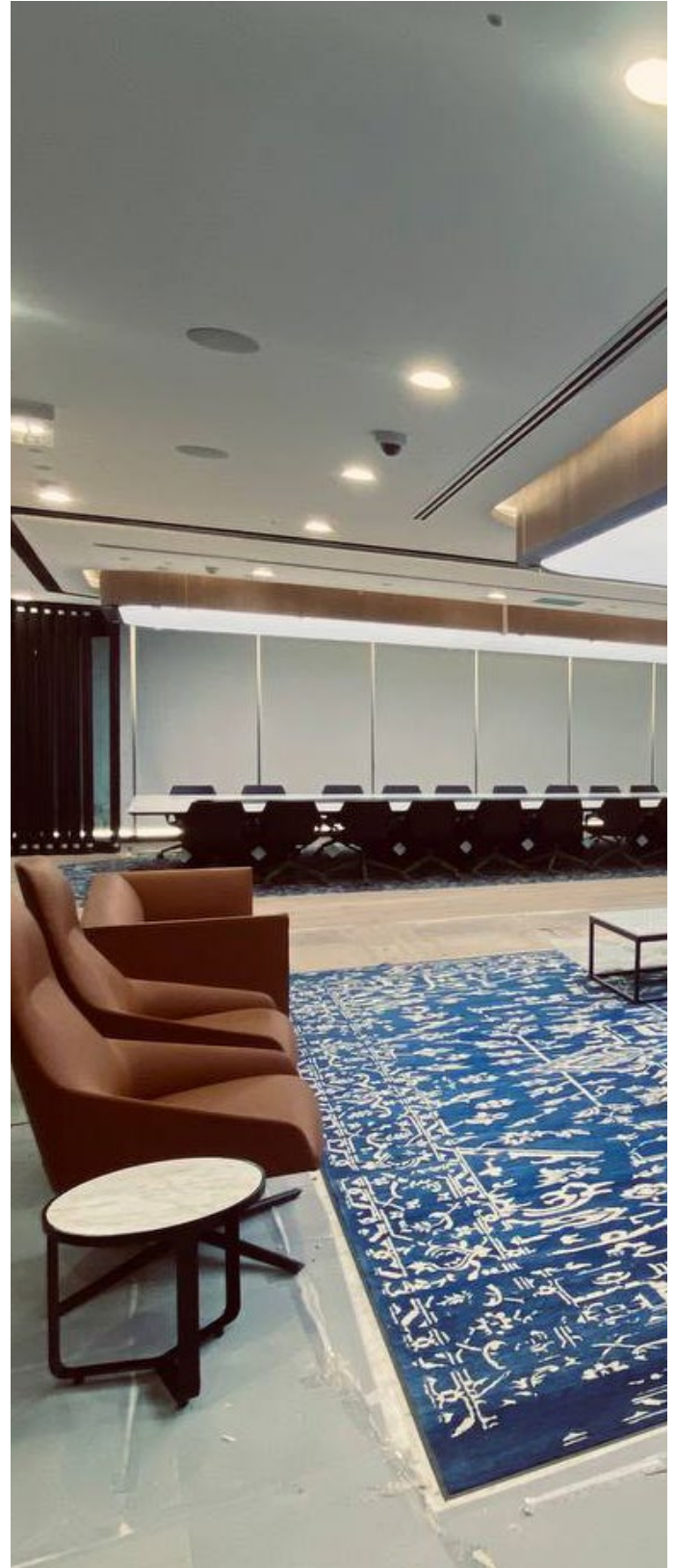
If 2020 was the year that changed everything, 2021 is the year where change becomes the new normal comprising of imagination, innovation, and digital transformation. India's construction sector is growing in competitiveness and transforming to new methods of construction is supported by Developers. The heavy reliance on labour and budget challenges are important factors that surfaced, a result of the pandemic. This is being cautiously revisited and strategies to avoid such an over-dependency in the future are being looked into.

At the start of 2021, many major economic indices indicated improvement in the post-COVID-19 economy, including reduced unemployment, higher expenditure, and growing consumer optimism until the second wave hit the Indian economy hard. Unlike the first wave there was no nationwide lockdown, only localized lockdown, restrictions with the exemption of construction activities. The impact on the sector this time around was due to shortage of both material and labour and surge in prices such as metals, crude oil and fuel.

The infrastructure sector has been well promoted by the Government. Other sectors also are showing resilience to the impending circumstances.

Most companies operating in India are warming up to the digitization understanding fully well that on time delivery within cost is of high priority in the construction industry. Digitization would definitely have aided in mitigating delays due to design or execution, with BIM, 3D modelling, drone technology, IoT, smart technology and data generation pushing construction ahead in time and savings cost overruns.

The real estate sector has also changed its course following on from the pandemic. The hospitality, commercial and residential sector which was booming pre-COVID-19 times, has now slowed down considerably, while healthcare, data center and infrastructure are taking precedence. Commercial and residential sectors are focusing on sustainability options and healthy buildings, to win the confidence of employees and buyers.





Economic overview

H1 2021 Economic overview

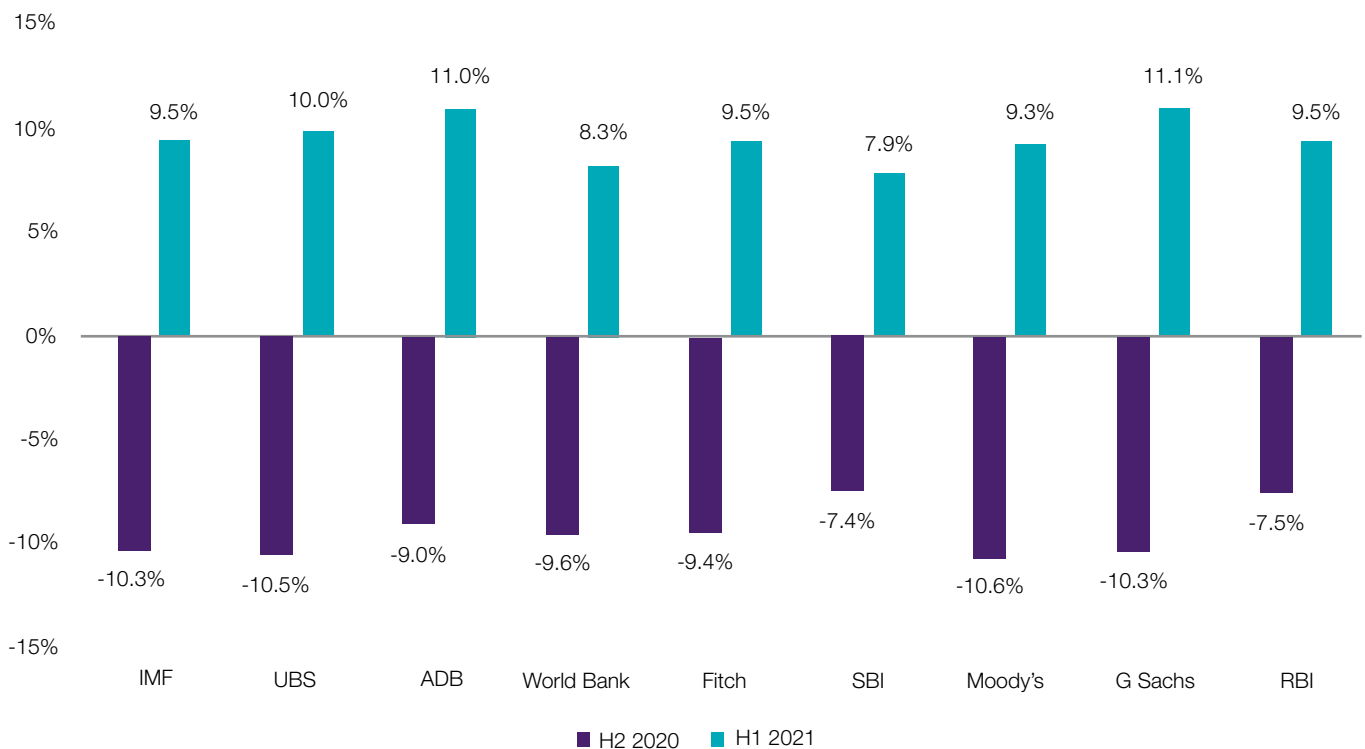
Gross Domestic Product (GDP)

India experienced far less economic impact during the second wave of the COVID-19 pandemic than it did during the first wave because of the national lockdown. RBI and IMF provided their latest assessments on India's growth prospects for FY22. The RBI has pegged India's real GDP growth at 9.5% whereas the IMF has revised its earlier forecast downwards, pegging India's growth at 9.5% from 12.5% in FY22. Much would depend on the pace at which India's population at large, gets vaccinated.

Fitch, SBI, Moody's and Goldman Sachs projected 9.5%, 7.9%, 9.3% and 11.1% growth for India's GDP, down from its previous projections of 12.8%, 11%, 13.7% and 13% before the second wave of COVID-19 hit the country.

While the pandemic still continues to be a big risk, businesses and consumers seem more adaptive to now than a year ago. Trade, manufacturing, tourism amongst others contribute to the economic recovery, and is dependant largely on the vaccination roll out and strategic rejuvenation of economic activities.

Graph 1: Comparison of GDP of H2 2020 against H1 2021



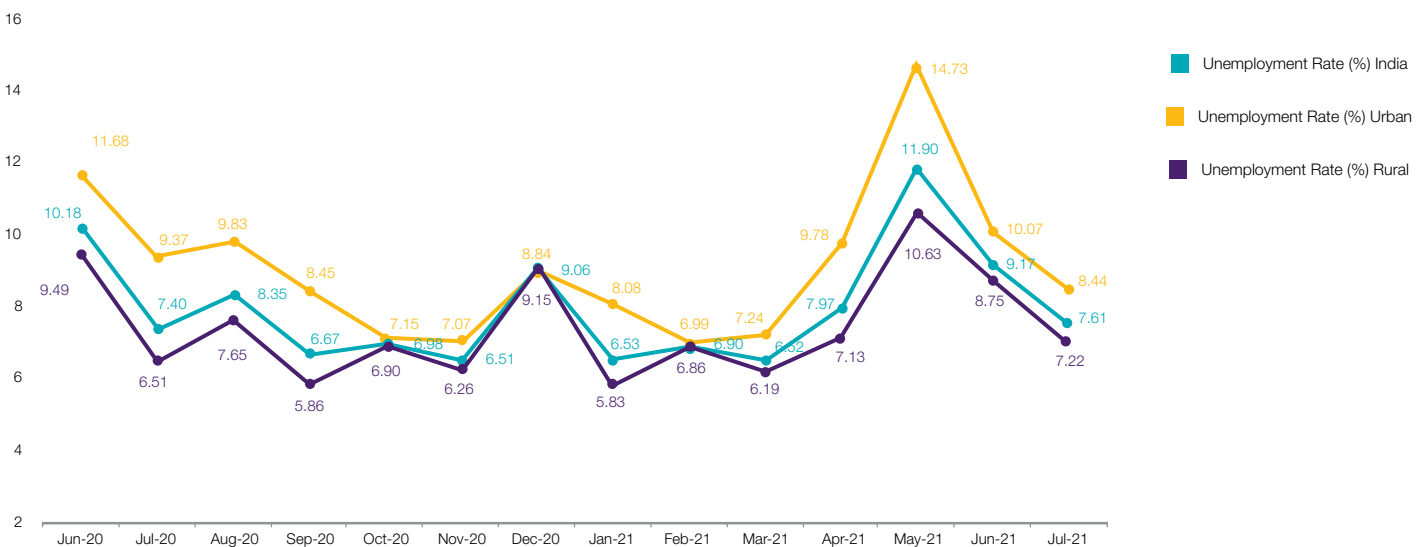
Source: Media reports

Employment

On the employment front indicators are not very encouraging. In February 2021, India's unemployment rate was 6.9%, down from 7.8% in February 2020, indicating that the rate in the country had returned to pre-COVID levels. The second wave of COVID-19 has pushed India's unemployment rate further. As per the Centre for Monitoring

Indian Economy (CMIE), unemployment rates rose in May due to disruption in business activity amidst state-level restrictions and partial lockdowns, a 3 million regular job loss. The labour participation rate and the employment rate in the country continue to be much lower than the pre-COVID-19 levels.

Graph 2: Unemployment rate in India

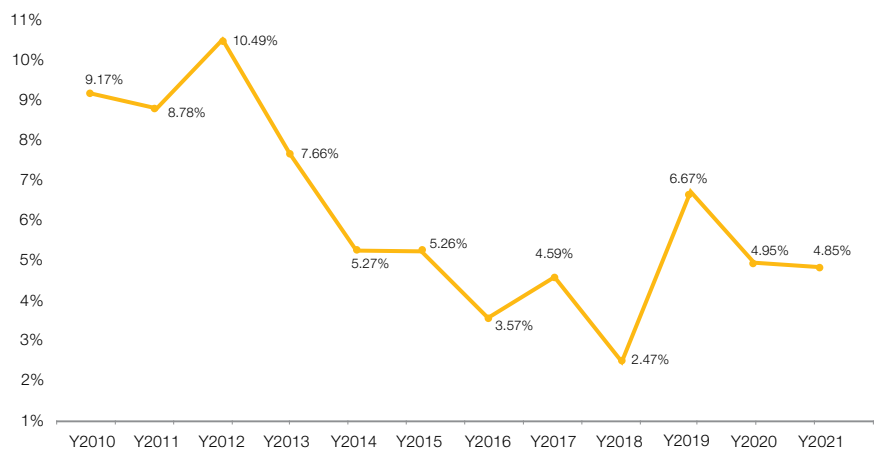


Source: CMIE as on 16th July 2021.

Inflation

India's inflation rate has been on the rise over the last decade. However, it has been decreasing slightly since 2010. The annual inflation rate in India for 2021 is at 4.85% as per Global Economy (IMF) which is closer to its 2020 value of 4.95% as against a 6.67% in the year 2019. Inflation for the year 2021 is projected to be 4.85% and 4.03% in 2024.

Graph 3: Inflation



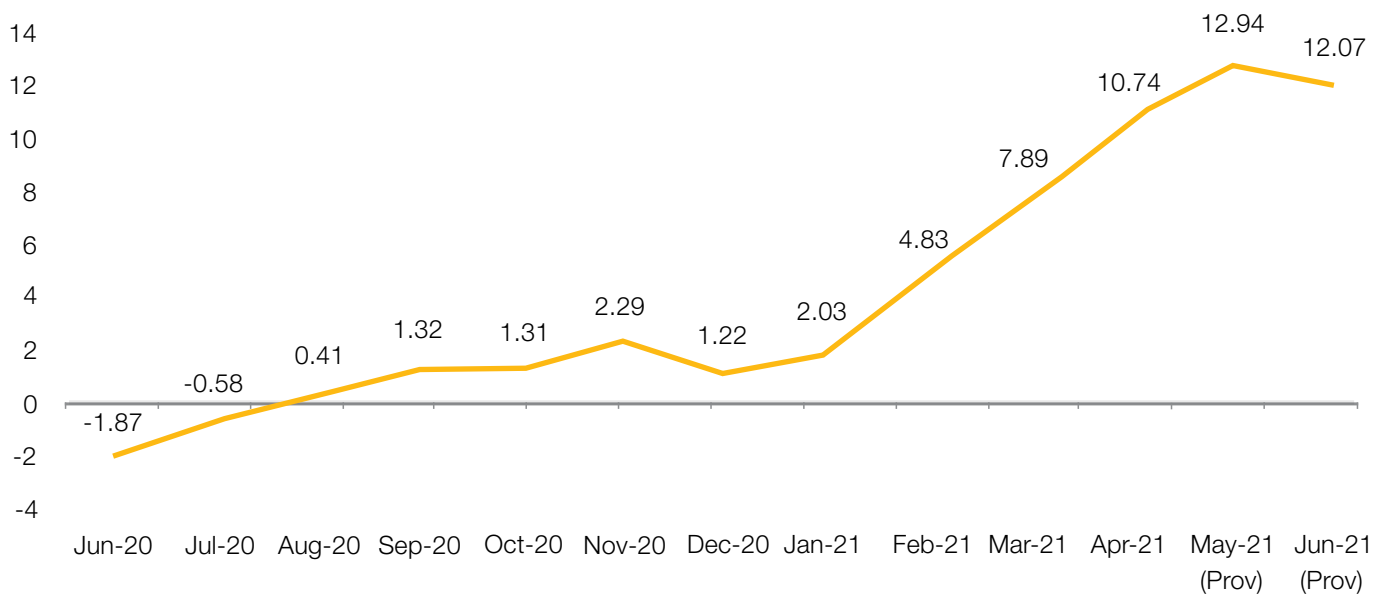
Source: Inflation.eu

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: Higher fuel and commodity prices, as well as a low base effect, pushed wholesale price index-based inflation to a new high of 12.94 percent in May. For the past five months, wholesale inflation has been rising, the main driver being fuel and power, which increased by 37.6 percent, followed by manufacturing at 10.8 percent and primary articles at 9.6 percent. The continued rise in global crude oil prices, a weaker rupee, and an upward revision in domestic fuel prices continue to be risk factors for WPI inflation in the coming months.

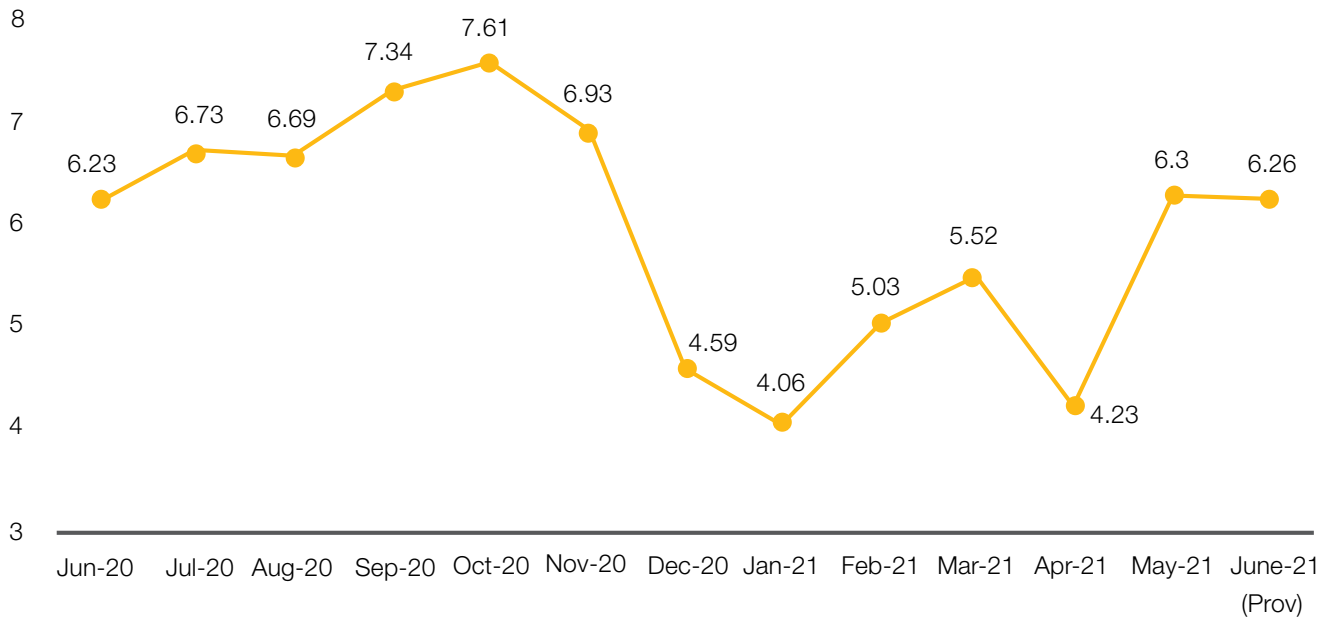
Graph 4: WPI Indices



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

CPI: India's CPI inflation slightly moderated to 6.26 percent in the month of June which is slightly better than previous month. Retail inflation soared at 6.3 percent in May 2021, due to a jump in food and fuel prices. With this the retail inflation has breached the target of 4 +/- 2 percent set by the Reserve Bank of India's (RBI), with an expected 5.1 percent in the current fiscal year 2021-2022, per the RBI.

Graph 5: CPI



Source: India Budget Economic survey Report, The Government of India, Ministry of Finance



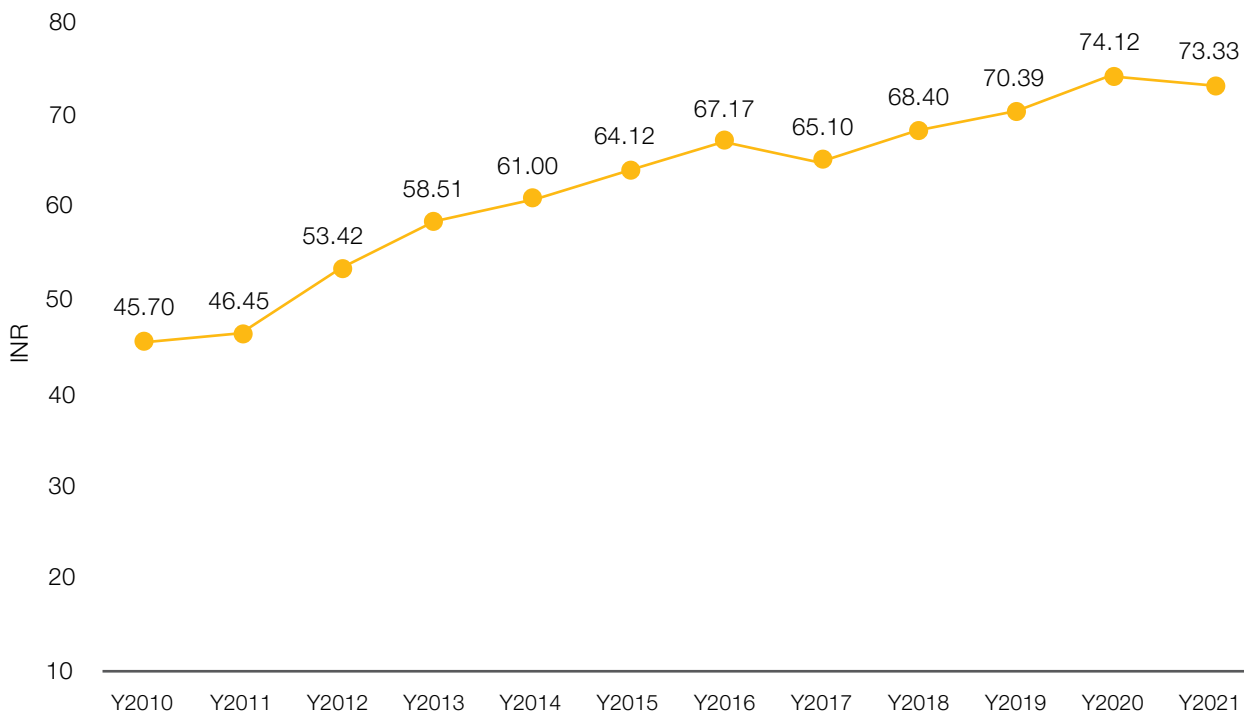
USD to INR

The Rupee averaged to ₹73.127 with April 2021 the highest at ₹75.44 per USD and lowest of ₹72.29 per USD in March 2021. The month of June averaged to a ₹73.62 per USD.

According to experts, the rupee is likely to average around 73.50-74 in the fiscal year 2021-22 because, despite a vaccine, coronavirus hysteria persists and may continue to plague the foreign exchange market. 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 the rise in construction input costs.

The weakening of the rupee can increase costs for local Developers on import items such as high-end equipment, furniture, imported light fixtures, finishes and others, adding on to the price fluctuations.

Graph 6: USD to INR trendline

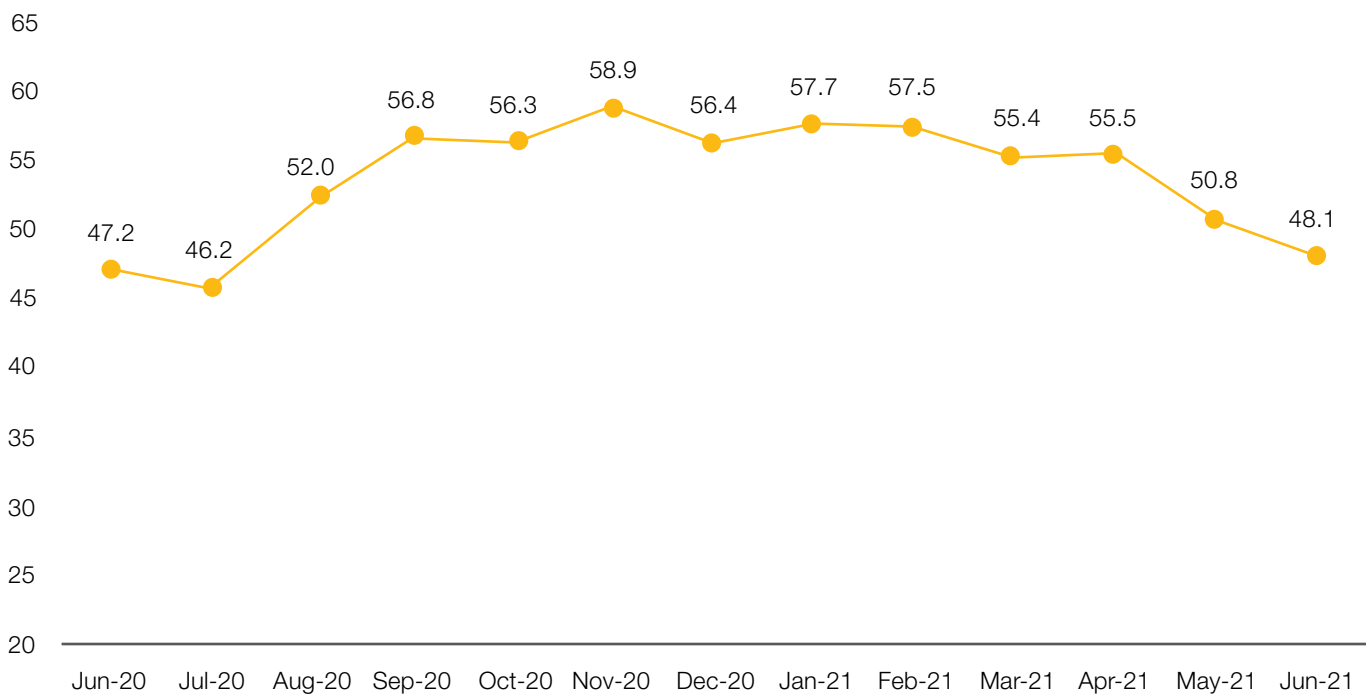


Source: XE Currency

Purchasing Manager Index - Manufacturing (PMI):

The manufacturing PMI is a composite weighted average index derived from a survey of private manufacturing companies that includes new orders, output, employment, supplier delivery times, and stock of purchases. India's manufacturing sector activities contracted for the first time in 11 months in June with the rise in coronavirus cases and strict containment measures adversely impacted demand as well as resulted in job losses. The manufacturing PMI declined to 48.1 in June from 50.8 in May.

Graph 7: PMI trendline



Source: The Global Economy





Key price trends

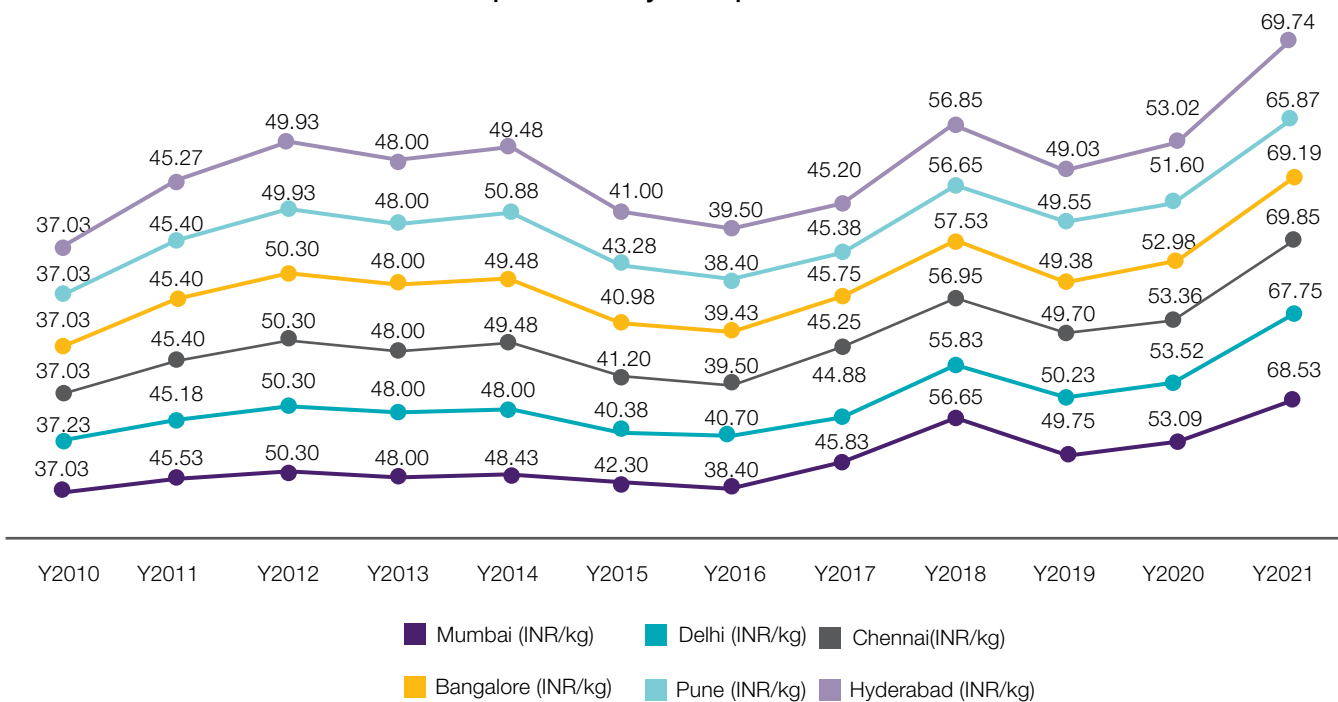
Key price trends

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 are demonstrated below:

Steel

In the midst of a global super-cycle for the primary infrastructure alloy, secondary mills producing the commodity are complaining about potentially slowing domestic demand and surging input prices. China's recent decision to withdraw 13 percent export rebates on 146 steel products, combined with rising international steel prices, has likely benefited Indian steelmakers to export more in the first half of 2021. Overall, in fiscal 2021, exports increased by 29 percent. Iron ore production in India fell 17.04 percent to 204 million tonnes in FY21, from 246 million tonnes in FY20, according to data from steel research and analysis firm Steel Mint. Due to the scarcity, steel prices have skyrocketed to an all-time high. Most of the major steel makers have reported increase in production going forward to meet demand and supply.

Graph 8: Primary steel price trends



Source: Sail. Note: All year prices are averaged and in INR, and Sail's last updated rates are in June 2021.

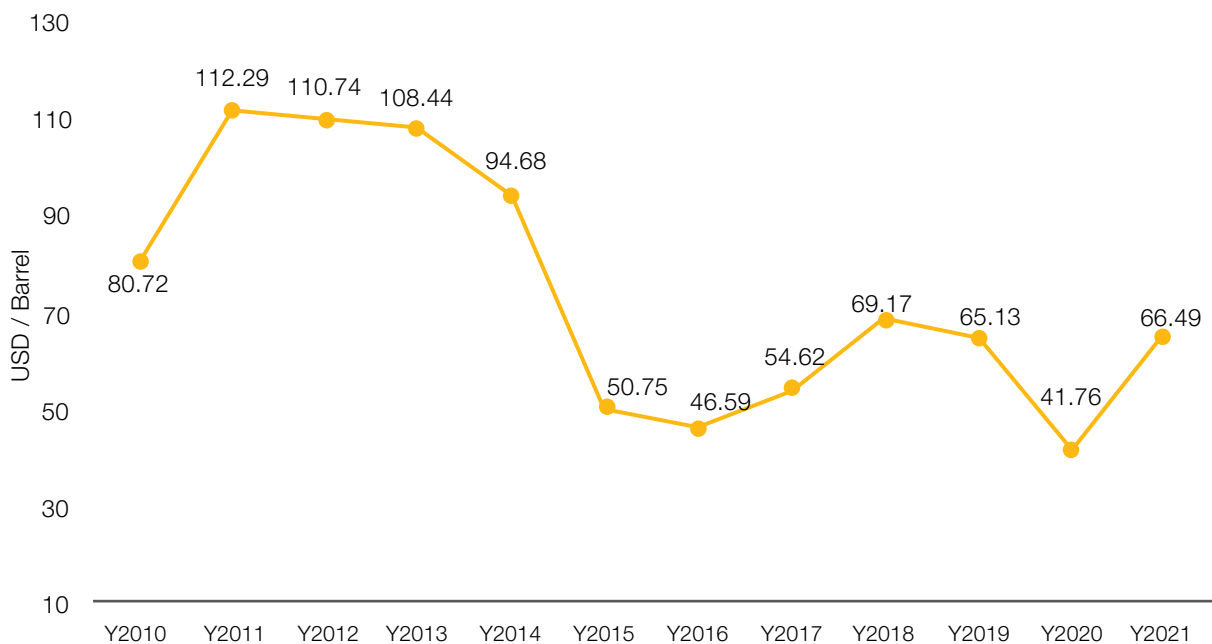
All costs are including taxes

Crude oil

Crude oil prices have been rising steadily since the beginning of 2021 and has been on the boil over the last few weeks with Brent reaching a high of \$75 per Barrel. Indian consumers have been facing the heat with the retail selling price of the fuel hitting 100. The fast pace of vaccination has helped revive economic activity in OECD countries, leading to expectation of good demand for petroleum products. The IEA has predicted that global oil demand would return to pre-pandemic levels by the end of 2022, rising 5.4 million barrels per day in 2021 and another 3.1 million barrels per day in 2022.

While the demand is expected to revive, there are concerns over supply due to the ongoing stalemate between the UAE and the OPEC countries. While the supply situation is not unsalvageable, demand projections may need downward revision if the third wave or new variants of the virus cause further disruptions in global recovery. Also, the recovery is limited to advanced economies with most developing and under-developed nations yet to progress materially in vaccination.

Graph 9: Crude oil prices yearly

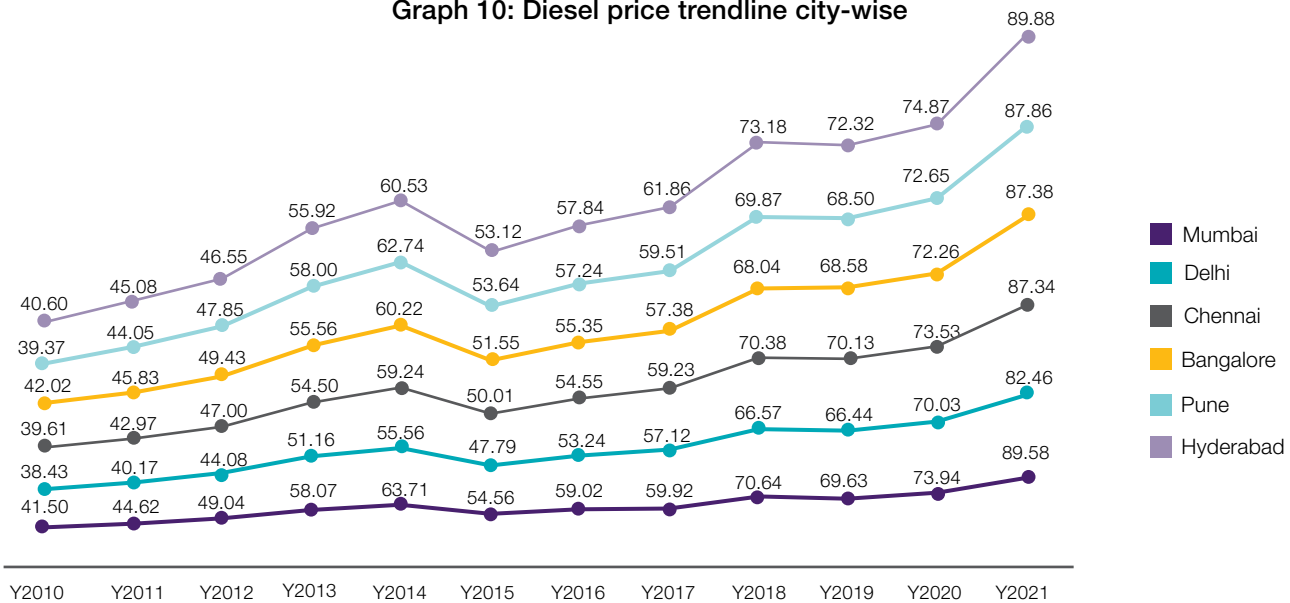


Source: Country Economy. Note: All year prices are averaged and in USD. For 2021 the average price is considered up to July 2021.

Diesel

Rising crude oil prices have contributed to a record-high of petrol and diesel prices across the country. However, current fuel prices in India are significantly higher than prices in FY12-13 when the average price of India's crude basket was between 105 per barrel to 110 per barrel. This shows that another key driver for the fuel prices to go so high is an increase in the central and state taxes over the past few years.

Graph 10: Diesel price trendline city-wise

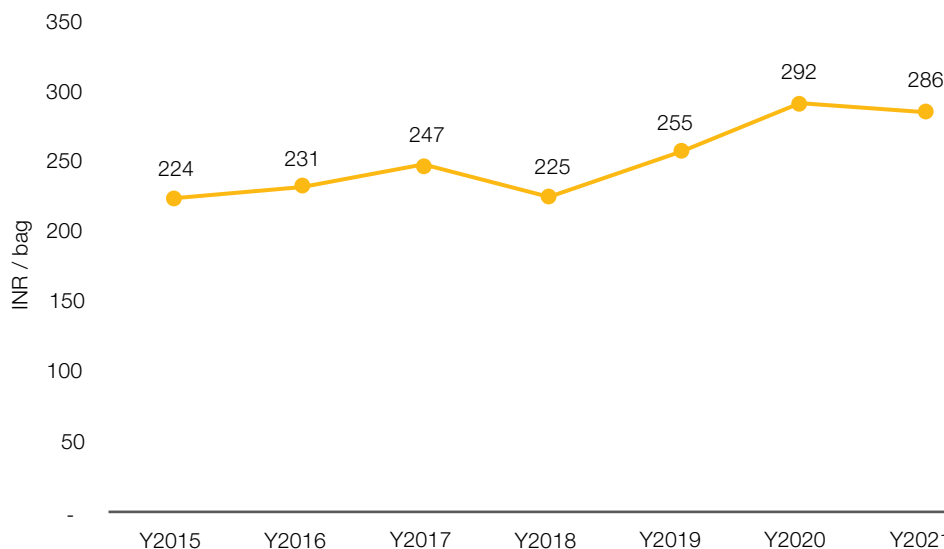


Source: My Petrol Price. Average price in INR per ltr and the year 2021 average price up to June considered.

Cement

India is the second largest cement producer in the world, after China. The outlook for the cement sector in Q1 2021 was robust, with growth estimated with more than 10% YoY over that in 2020. The second wave of COVID-19 has had a negative impact on domestic cement production; which fell 35% month on month in April 2021. Demand was strong in June and is expected to drive volumes in the July–September quarter and is likely to only increase because of the anticipated consumption on ground by the infrastructure development, government, and private housing sector. The cement pricing for 2021 has averaged to Rs 286 / bag.

Graph 11: Cement trendline in Mumbai

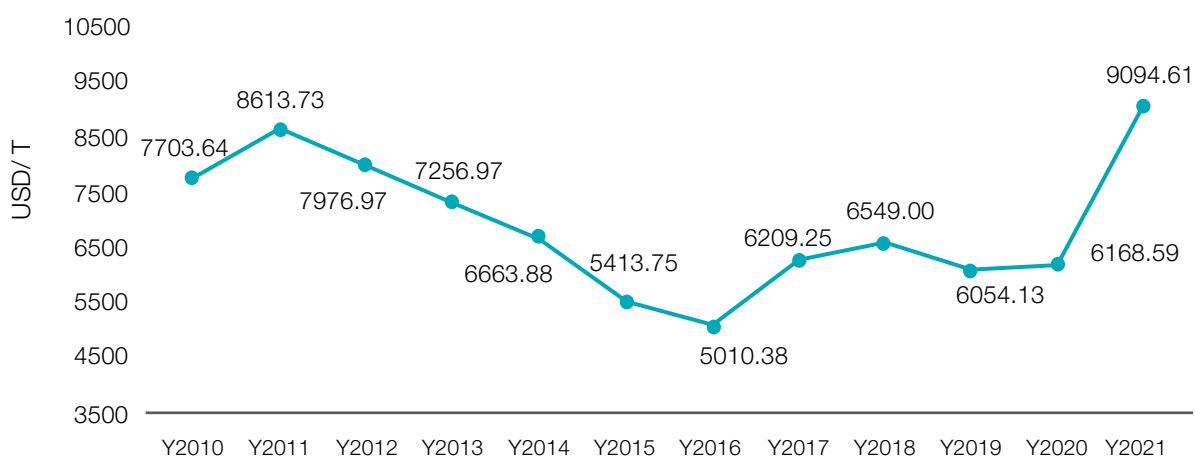


Source: Gleeds Internal Database (Mumbai). Prices are in INR and exclude GST. 2021 prices are averaged up to June 2021.

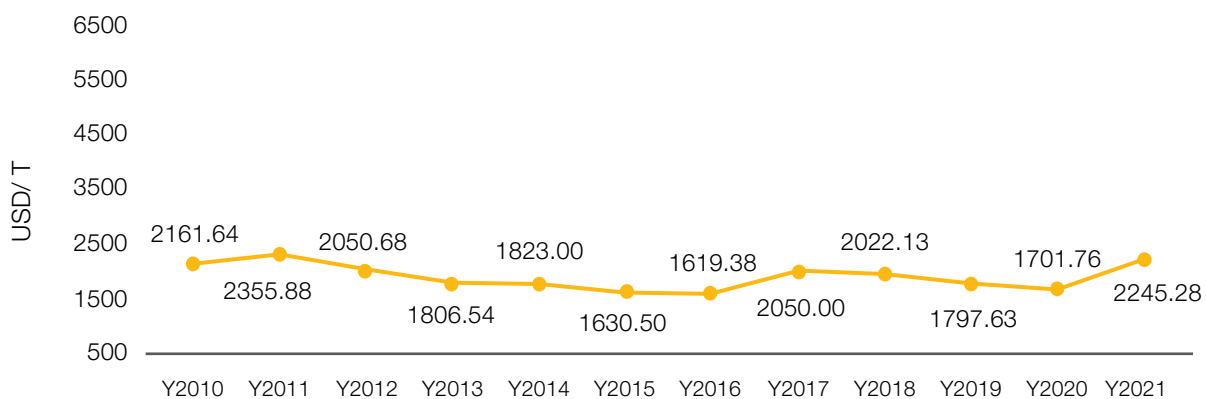
Aluminium and copper

Copper is impacted by strong demand and falling inventories on the LME and in Shanghai. The China and Australia fallout which is impacting tension inside the commodities market is impacting aluminium costs. Another key driver for the increase in the metal prices is because of demand resurgent and supply squeeze which is putting significant pressure on copper and aluminium pricing. Copper has been declared as the “new oil”. World aluminium demand growth is set to shift up a gear driven by energy transition related sectors such as transportation and renewable energy from China, the US and Europe widening the supply gap.

Graph 12a: Copper trendline (yearly)



Graph 12b: Aluminium trendline (yearly)

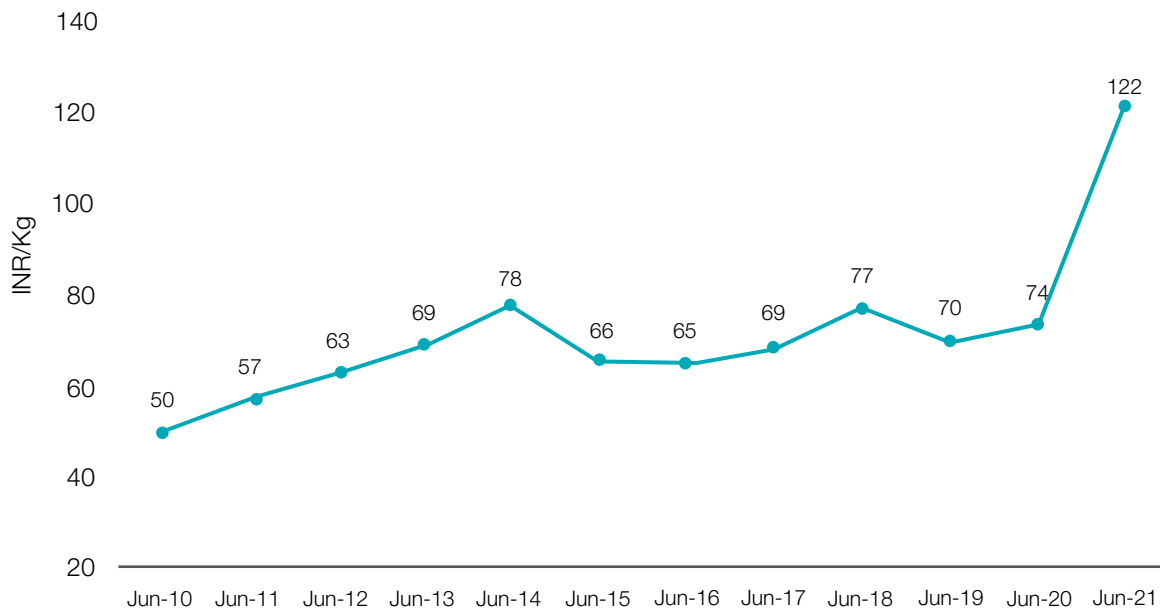


Source: London metal exchange. All the year prices are averaged and 2021 is considered up to June 2021.

PVC

Despite drop in demand due to lockdown, PVC prices are on the upswing. The plastic manufacturing industry a major consumer of polymers, are threatened for the survival by the increase in prices. Surge in prices of polymer products would internally lead to import of plastics intermediaries and finished goods from China and other countries. . The PVC demand in the construction sector in the near term is going to increase in the country due to infrastructure development programme.

Graph 13: PVC trendline for Mumbai



Source: Reliance





Material prices

Material prices

Table 1: Material prices city-wise

Description	UoM	Mumbai	Delhi	Bengaluru	Hyderabad	Chennai	Pune
Cement							
Grade 53	INR/Bag	290	289	295	290	293	273
Steel							
Reinforcement	INR/MT	52,400	52,500	52,500	53,250	53,000	52,092
Structural Steel	INR/MT	56,400	59,500	61,000	58,000	59,000	56,400
Clear Glass							
6mm	INR/Sqft	75 - 80	75 - 80	90 - 100	70 - 80	75 - 80	75 - 80
8mm	INR/Sqft	95 - 105	95 - 105	95 - 105	95 - 105	95 - 105	95 - 105
Stone							
Granite	INR/Sqft	150-250	150-250	150-250	150-250	150-250	150-250
Marble	INR/Sqft	220-500	200-500	180-500	175-500	150-500	180-500
Makrana	INR/Sqft	250-1000	250-1000	250-1000	250-1000	250-1000	250-1000
Kota	INR/Sqft	40-50	30-40	40-50	40-50	40 to 50	30-40
Cuddappa	INR/Sqft	20-25	20-25	15-25	15-25	20-25	15-25
Wood							
Salwood	INR/cuft	1,750	1,650	1,400	1,400	1,400	1,400
Plywood 12mm thick	INR/sqft	65 - 80	65 - 80	65 - 70	65 - 70	60 - 65	60 - 70
Paints							
Emulsion	INR/20 ltr	3,200 - 3,500	3,000 - 3,300	3,100 - 3,500	3,200 - 3,400	3,300 - 3,500	3,200 - 3,400
Metals							
Aluminium	INR/Kg	190	190	190	190	190	190
Stainless Steel	INR/Kg	220	220	200	210	210	200
Plumbing							
GI Pipes - 50mm to 100mm C class heavy	INR/mtr	455 - 1033	410 - 930	479 - 1087	479 - 1087	479 - 1087	455 - 1033
upvc - 32 - 100mm	INR/mtr	74 - 484	88 - 579	81 - 533	81 - 533	81 - 533	74 - 484
CPVC - 50 to 100mm SDR 11	INR/mtr	506 - 2458	605 - 2940	556 - 2704	556 - 2704	556 - 2704	506 - 2458
CI - 100 to 150 mm single socket	INR/mtr	763 - 1030	839 - 2048	916 - 2234	916 - 2234	916 - 2234	763 - 1303

Source: As per Gleeds' database in the month of June 2021 unless noted otherwise. All prices exclude GST. All prices are supply prices and a guidance only. Transportation, and any other abnormal are not included.

Material price - market survey

In July 2021, a comprehensive survey was conducted by Gleeds India to assess the market outlook of construction for H1 2021. Having reached the second half of 2021, Gleeds believe that perceptions have changed from the previous quarters with the change in ground conditions. The industry has now accepted the new way of working and have gained a better clarity on

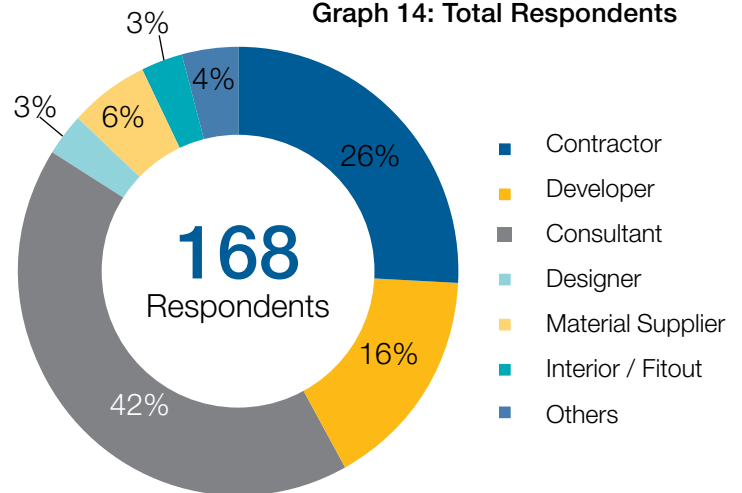
the issues such as costs, labour productivity, health, and hygiene requirements. The survey collected opinions from the construction fraternity about various aspects such as market status, potential cost increases, loss of productivity, and labour availability at site.

General information

Survey respondents

A total of 178 respondents participated in the survey representing all cross sections of the industry pan India. The participant group included Contractors, Consultants, Developers, Designers, Material suppliers, Interior / Fitout, and others

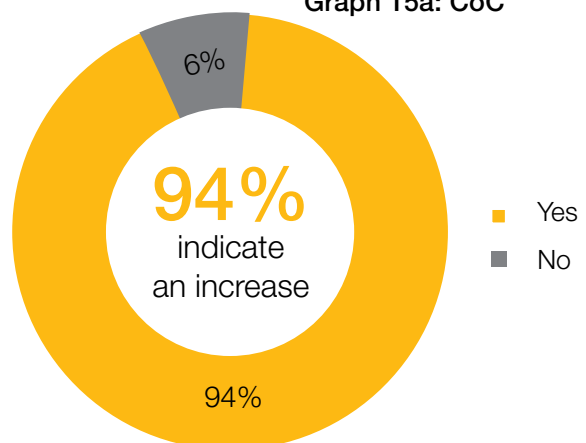
Graph 14: Total Respondents



Cost of construction

Cost of construction has been on a constant rise, and when asked what the opinion on the cost of construction material increase in the past 6 months (Jan 2021 – June 2021) is, nearly 94% of the respondents have said that the cost has increased.

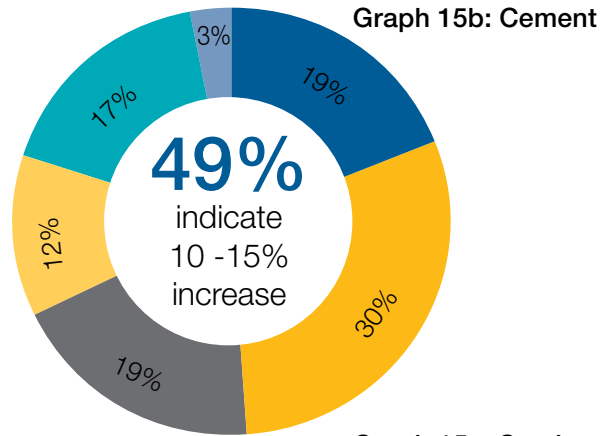
Graph 15a: CoC



The respondents were asked what the impact on the major components of construction was: -

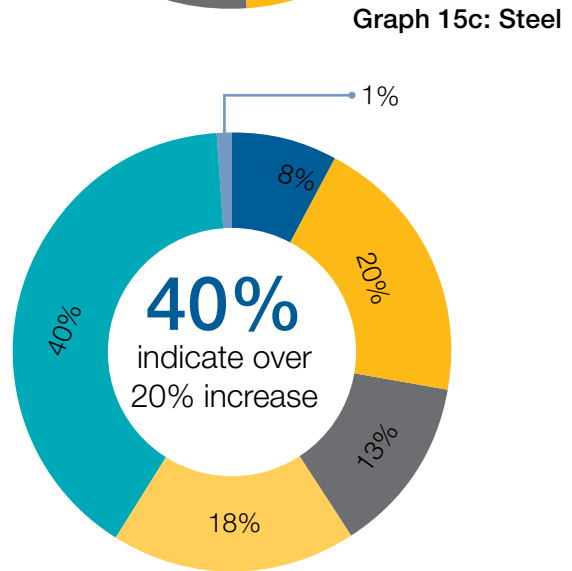
• **Cement**

Cement price has been increased as indicated by 97% of the respondents, with majority voting for increase between 10% to 15%. There has been a surge in demand with reduced production and pre-monsoon requirements.



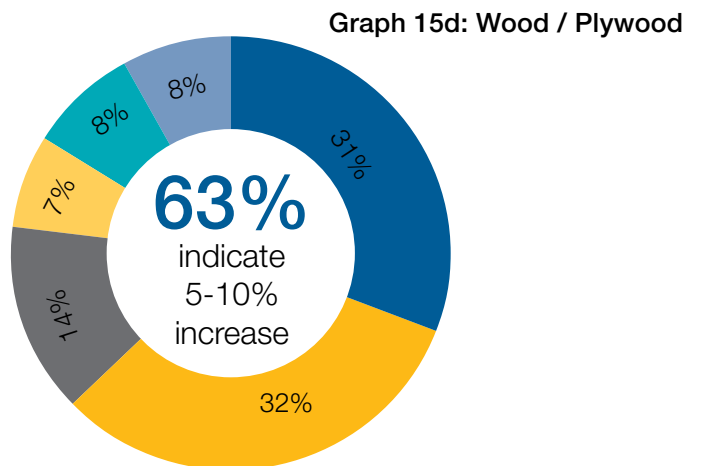
• **Steel**

As per the survey steel price has increased in the past 6 months as indicated by 99% of the respondents, with majority agreeing an increase of above 20% in the past 6 months. Geopolitical issues has had a big impact on steel production, import and exports.



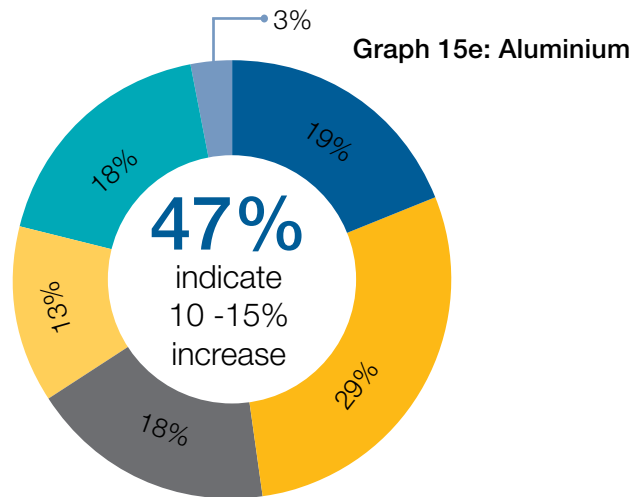
• **Wood / Plywood**

Wood price has been increased as indicated by 92% of the respondents, with majority voting for increase by 5% to 10% in the past 6 months. The impact on wood is not as severe as metals, however, there has been a substantial increase impacting interior costs more widely.



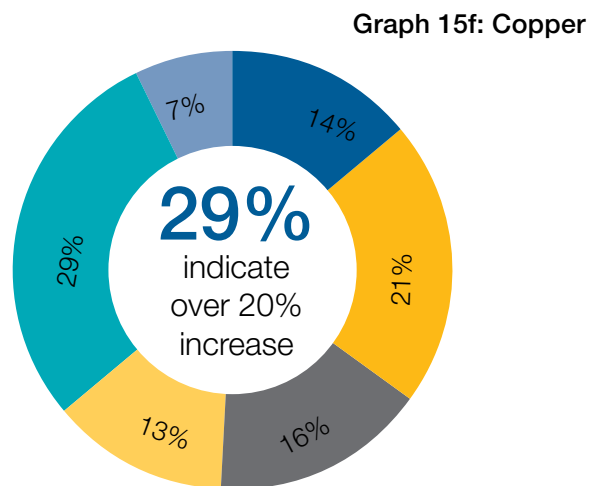
• **Aluminium**

Aluminium price has been increased as indicated by 97% of the respondents, with majority voting for increase by 10% to 15% in the past 6 months. Aluminium prices have been climbing steadily globally, impacting Indian market on ground.



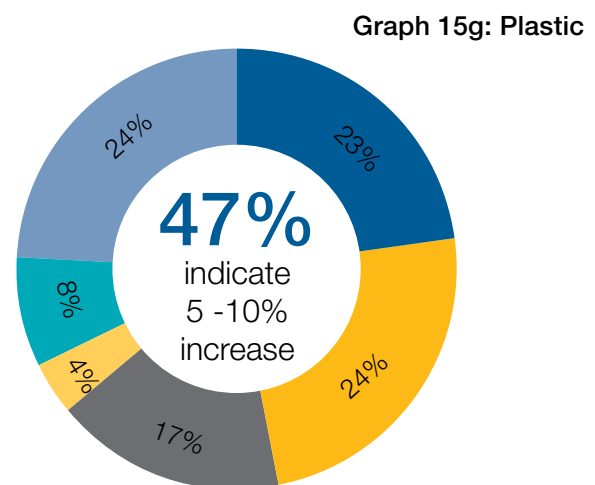
• **Copper**

Copper price has been increased as indicated by 93% of the respondents, with majority voting for increase above 20% in the past 6 months. Copper prices like aluminium also are on the rise, showing no real drop in the first half of the year.



• **Plastic**

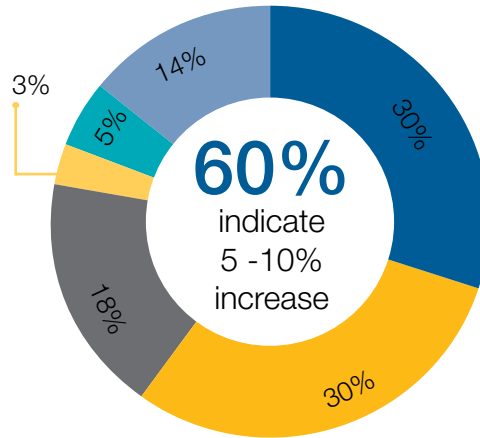
Plastic price has been increased as indicated by 76% of the respondents, with majority voting for increase by 5% to 10% in the past 6 months. This component forms a good part of services (MEP) costs, pushing services over the standard benchmark costs.



• **Paint**

Paint price has been increased as indicated by 86% of the respondents, with majority voting for increase by 5% to 10% in the past 6 months. Paints have constantly increased in the past by about 1.5% annually, however, this too has moved over the 5% mark.

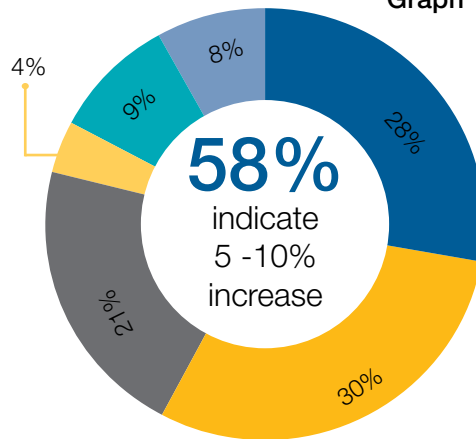
Graph 15h: Paint



• **Aggregates**

Aggregate's price has been increased as indicated by 92% of the respondents, with majority voting for increase by 5% to 10% in the past 6 months. This commonly used commodity has also moved upwards following on increase in prices of construction materials.

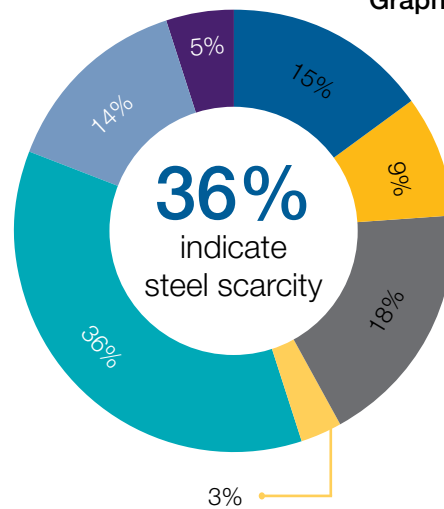
Graph 15i: Aggregates

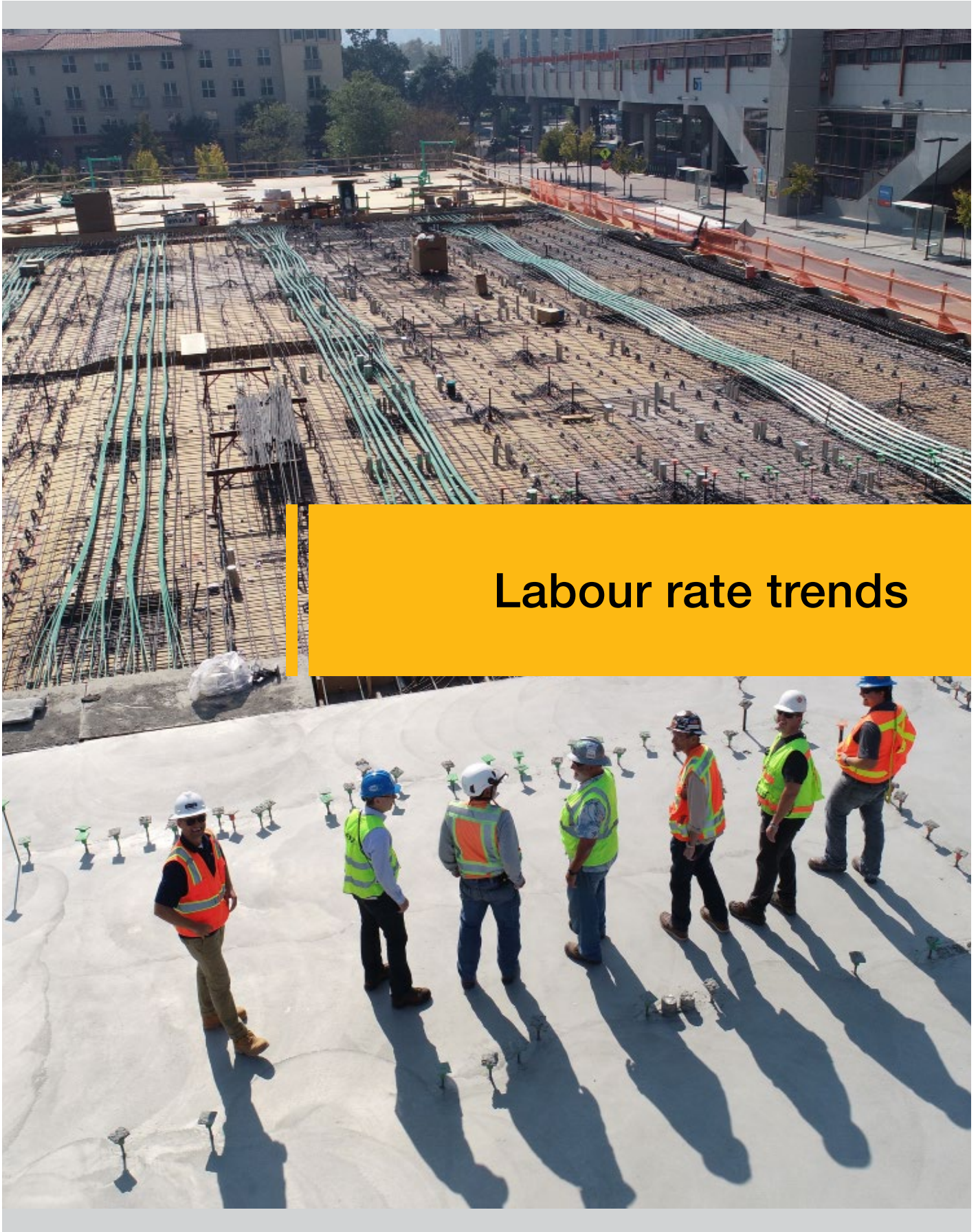


Scarcity of materials

When respondents were asked if they found any scarcity of materials in the last 6 months, 36% of them indicated Iron and Steel, 18% have indicated scarcity of copper, 15% Cement and 14% Aluminium. Even with inflated prices, steel being a key component of construction is still being procured, pressuring the supply chain.

Graph 15j: Scarcity of materials





Labour rate trends

Labour rate trends in various cities

The impact of the second wave of pandemic is projected to be limited on construction companies due to localised nature of lockdown, lower reverse migration of labour and better liquidity position of companies. Majority of the project sites were operating with 70-80% labour strength since there was no mass migration of labourers as seen last year.

All major developers in India have given primary attention to setting up labour accommodation and infrastructure support, to take care of the workers, by providing food, shelter, and healthcare.

Note: The government has increased the minimum wage of industrial workers employed in the central sphere in construction activities by revising the variable dearness allowance (VDA). The VDA is revised based on average consumer price index for industrial workers. The change

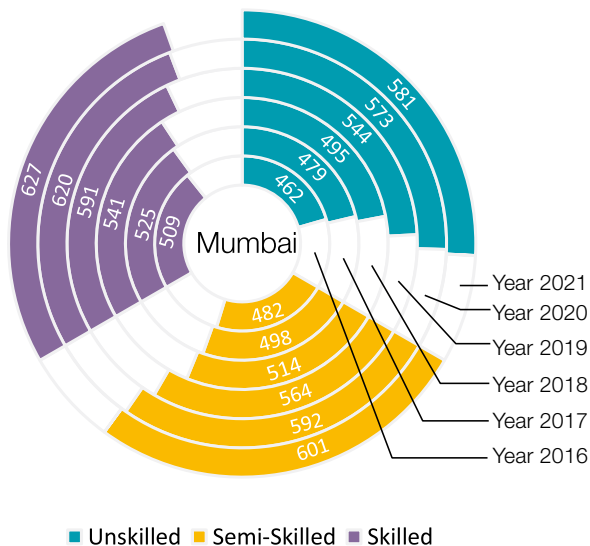
in minimum wage is based on skill level and the city of work. Actual costs likely on the ground at present are reported as follows; in case of unskilled workers engaged in construction or building operations, the area wise daily wages rang from Rs 505 to Rs 714, while they range from Rs 505 to Rs 714 in case of semi-skilled or unskilled supervisors, Rs 609 to Rs 784 in case of the skilled and clerical category workers and Rs 714 to Rs 853 in case of the highly skilled workers. This deviation from the minimum wages is due to the unavailability of labour at project sites in various locations. Sourcing labour to meet project requirements and timelines has proven to be a big challenge pressuring contractors to procure labour at higher wages than the standard market.

As per Paycheck, the minimum wages are noted as below

Graph 16: Labour rate trends

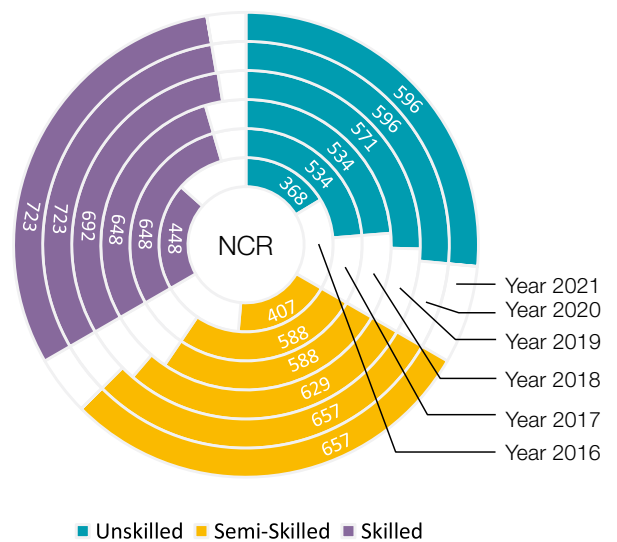
All rates in INR per manday

A: Mumbai:



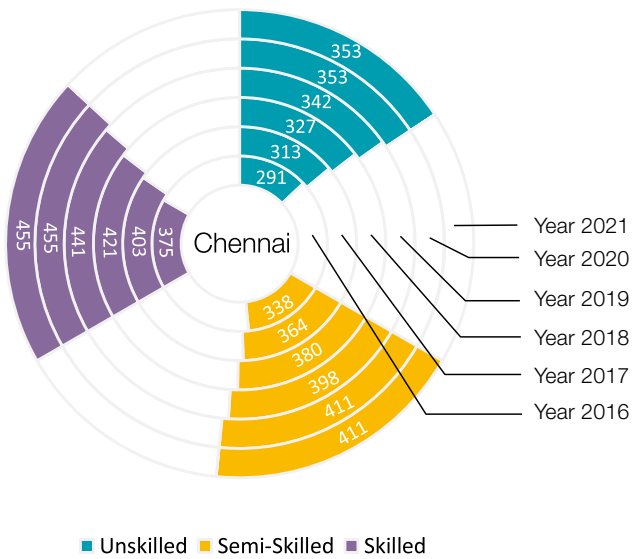
Source: Minimum Wage-India

B: NCR:



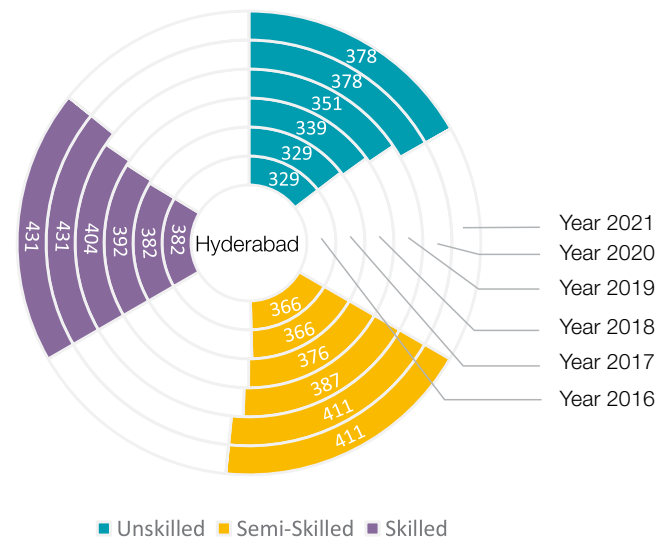
Source: Minimum Wage-India

C: Chennai



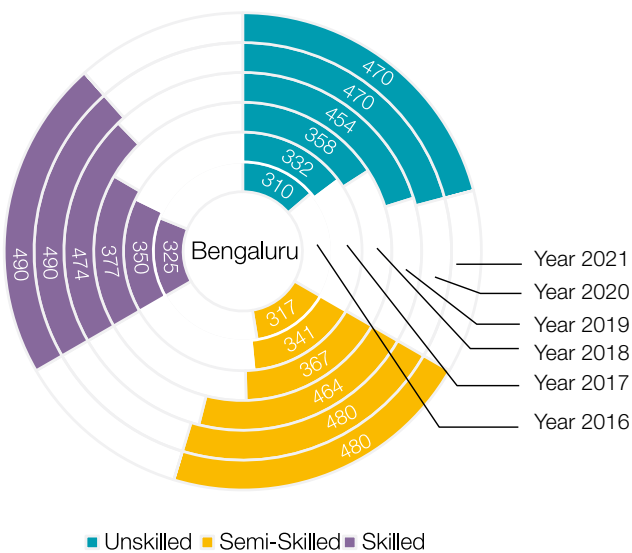
Source: Chennai.nic.in

D: Hyderabad:



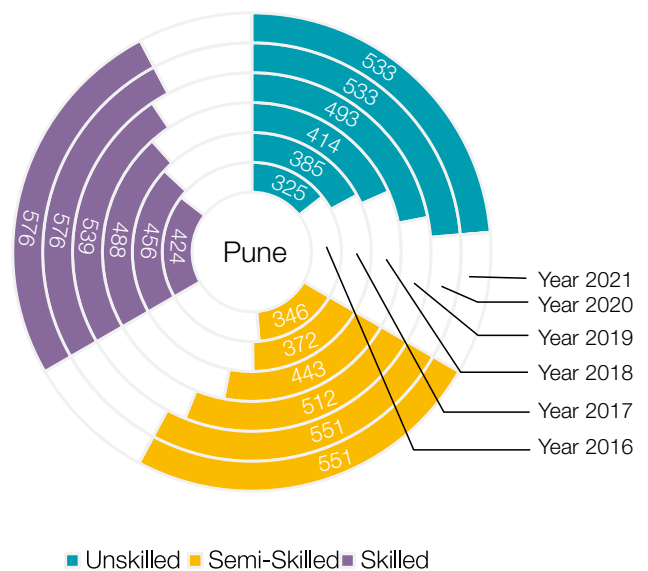
Source: Department of Labour, Government of Telangana

E: Bengaluru:



Source: Minimum Wage-India

F: Pune:



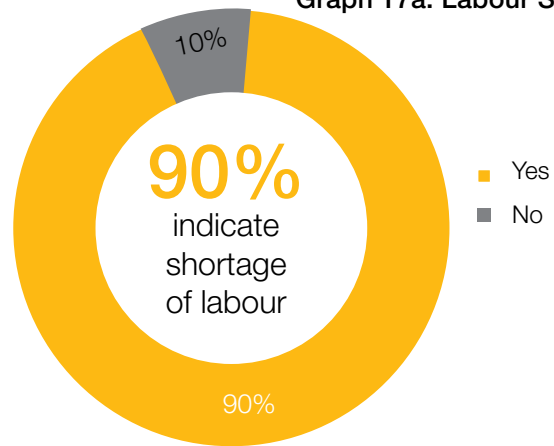
Source: Maharashtra Jeevan Pradhikaran

Migrant labour - market survey

Labour Shortage

The survey reported that about 90% of the respondents have agreed there was shortage of labour in the past 6 months i.e., from Jan 2021 to June 2021.

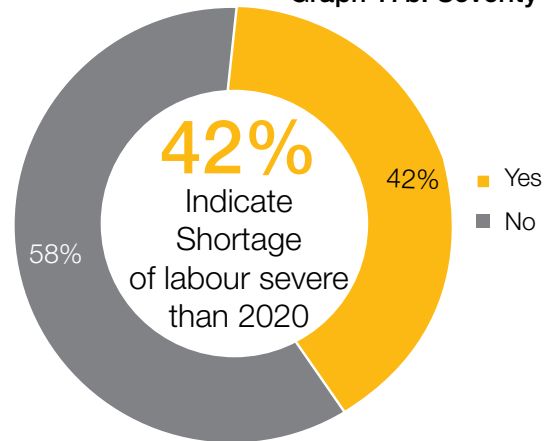
Graph 17a: Labour Shortage



Severity of Shortage

When respondents were asked if the shortage of labour was more severe compared to 2020, 58% of them have indicated it was not and 42% respondents have agreed saying it was severe than 2020. The second wave was a severe hit to urban areas in the country and lockdown in the tier 1 cities had affected availability of labour.

Graph 17b: Severity of Shortage

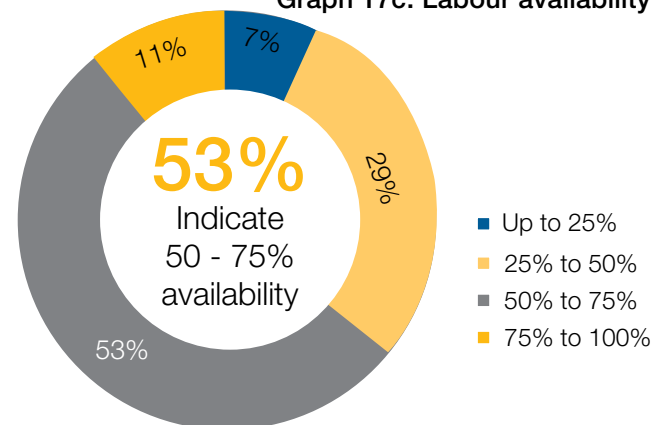


While labour shortage has been persistent since 2020, there is a noticed improvement in the market. The industry is still dependent on labour for its efficient progress, but contractors now have been more cautious to retain its labour and improved HSE measures reducing infection rates is a driving factor for labour retention.

Availability of Labour

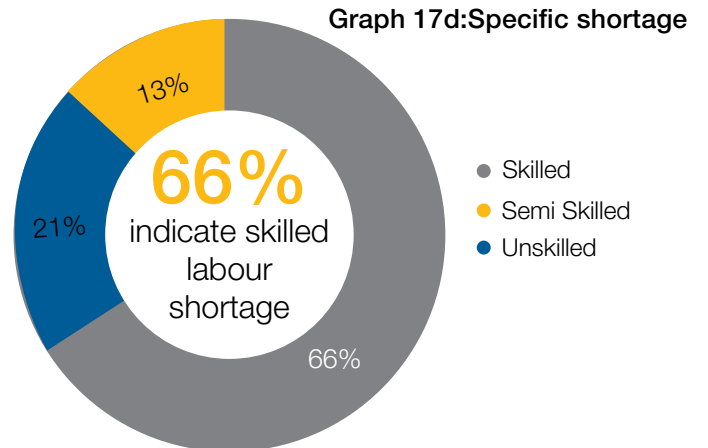
When respondents were asked what the availability of labour at present is for a given project, 53% have indicated 50%- 75% of the availability, and 29% have indicated 25%- 50% of the availability.

Graph 17c: Labour availability



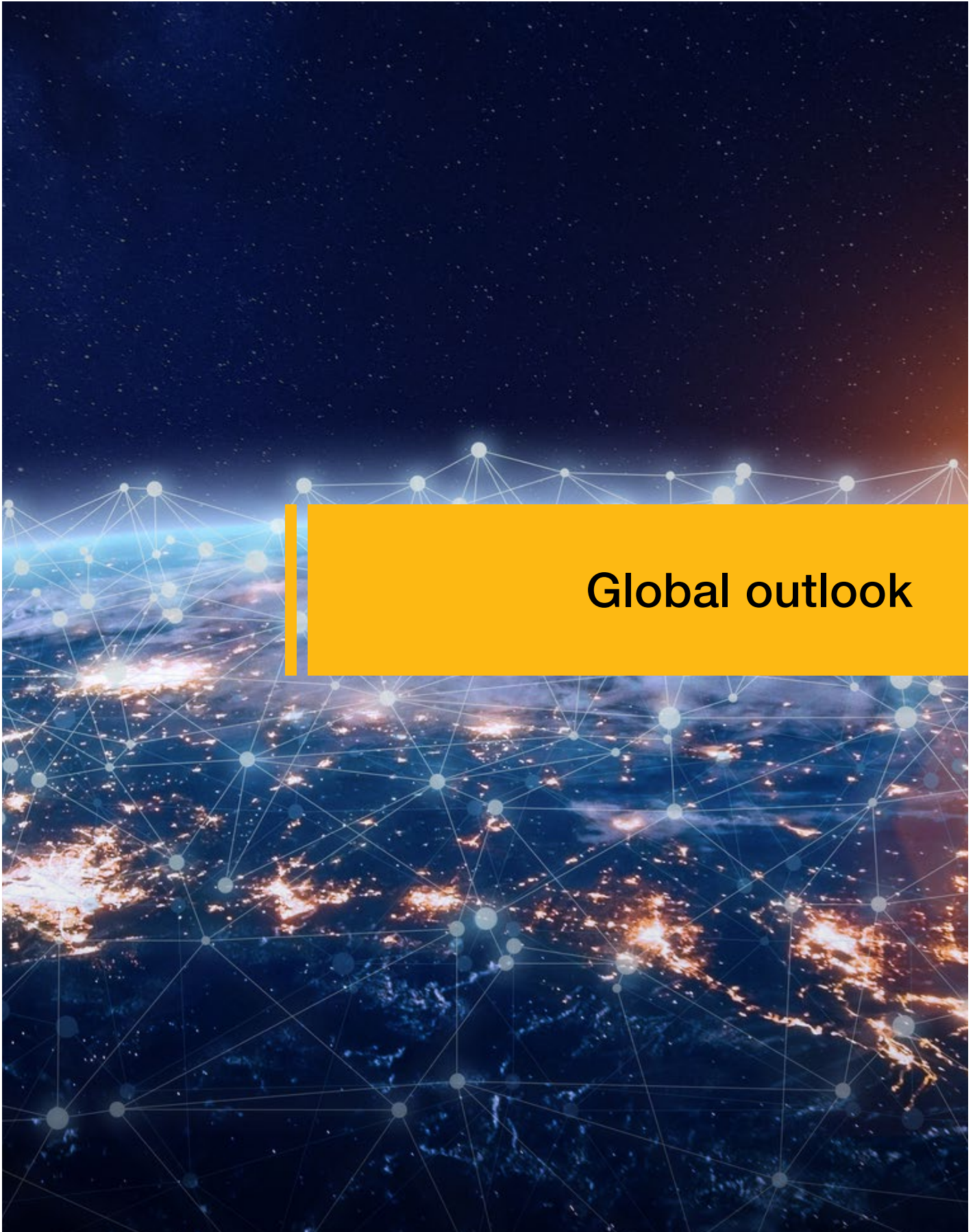
Labour shortage specifics

The survey reported that about 66% have indicated sourcing skilled labour at present is becoming a challenge.



With the majority indicating that labour availability is not scarce, specific labour for project requirements sourcing may be challenging. Skilled labour is in high demand and are more concentrated down south, which influences the cost of procuring as well as project timelines in various regions.





Global outlook H1 2021

The global vaccination has been progressing differently among different countries. While UAE, UK have reached to about 70% population being fully vaccinated, India and other Asian countries are still 22% and African countries are now by far the slowest. While vaccination is the only hope to evade the COVID-19 pandemic, the consequence of the decisions made during this period has definitely affected one and all.

Commodity prices globally are seen to have recovered in 2021. Some notable commodity increases are metals that have increased by at 50%. Energy prices (crude oil, natural gas and coal prices) have increased significantly, as a result of higher-than-expected agreed production cuts among OPEC and its partners.

Metal prices have increased supported by anticipation that the energy transition away from fossil fuels will result in sizeable increases in demand for metals. Copper prices have also been boosted by supply disruptions in Peru and Chile, while iron ore prices have been supported by supply disruptions in Australia.

USA: Slow recovery in GDP. Faces shortage in labour, lumber and packaging materials. This surge in lumber has been affecting the housing market, driving the residential costs up. A severe dip in labour market, with several job openings but a shortage in labour. This has been seen to the severest since 1973.

Australia: Timber shortage a result of the bushfires has pressurised imports and exports. With this is the added costs due to constraints on global freight and shipping containers due to COVID-19.

China: The national Bureau of statistics noted that the soaring crude-oil, iron-ore and metals prices boosted factory-gate prices last month and drove China's imports to the fastest increase in over a decade. Nevertheless, not all manufactures have been lucky, as the price hikes on the product has not been able to bridge the gap of surging raw material prices and the shortage of labour, forcing many to shut business.

Africa: African Continental Free Trade Area (AfCFTA) aims at accelerating intra-African trade and boosting Africa's trading position in the global market. Integrating further into the global supply chains will eliminate 90% of tariffs, focus on outstanding non-tariff barriers, and create a single market with free movement of goods and services.

Europe: The Central Europe's economies are recovering more quickly than expected. The labour squeeze caused by years of emigration to Western Europe and an economic boom across the region is already pushing up wages and inflation. Demand for timber has skyrocketed in UK and elsewhere, and this international demand is reducing stock levels.





Construction sector outlook

Sector outlook

- **Datacentres:** Expected growth at CAGR 12% from 2021 to 2026. Increased investments, procurement of renewable energy and use of hyperscale are pushing.
- **Healthcare:** Expected CAGR at 16.28%. The Govt aims to increase healthcare spending to 3% of the GDP by 2022.
- **Infrastructure:** The Infrastructure in India is estimated to grow at a CAGR of approximately 7% during the 2021-2026 period
- **Commercial:** The Commercial Real Estate Market is growing at a CAGR of 13.85% over the next 5 years.
- **Warehouse:** 15% Increase in foreign direct investment in FY21, as compared to last year. Govt still aims to be a self-sufficient manufacturing sector
- **Residential:** The building construction industry in India is expected to record a CAGR of 11.2% to reach INR 35,220.8 billion by 2024
- **Education:** The online education market in India was valued at INR 39 billion in 2018 and is expected to reach INR 360.3 billion by 2024, expanding at a CAGR of ~43.85% during the 2019-2024 period.
- **Hospitality:** the hospitality sector in India is expected to grow at 16.1 per cent CAGR to reach Rs 2,796.9 thousand crore in 2022. The hospitality sector encompasses a wide variety of activities within the services sector and is a major job provider both direct and indirectly.



Low risk

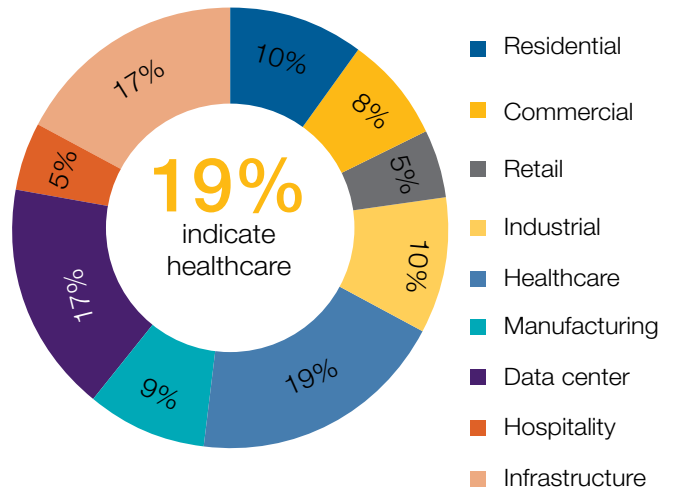
Medium risk

High risk

Sector outlook - market survey

When the respondents were asked which sector has been performing well, majority of around 19% have indicated healthcare, 17% have indicated data center, and another 17% have indicated infrastructure.

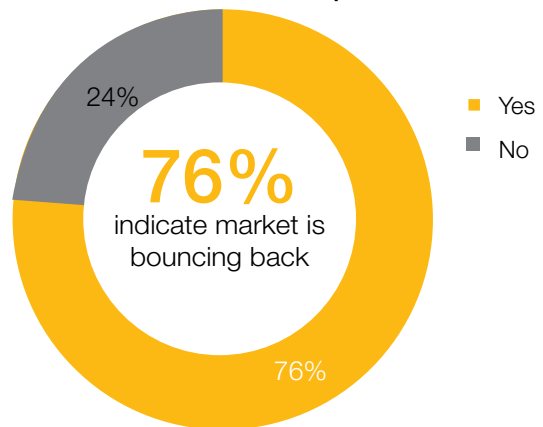
Graph 18a: Sectors



Tender and new wins

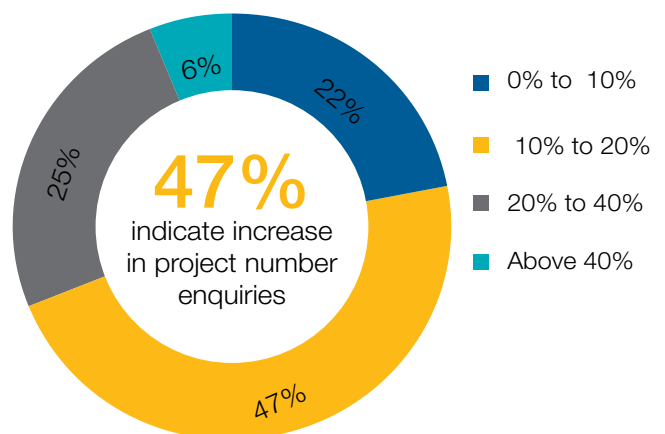
When the respondents were asked what their thoughts were on the current market situation was, 76% have indicated a positive response saying the market is bouncing back. The industry has shown resilience and continues with COVID-19 measures in place, showing progress.

Graph 18b: Market view



For the respondents who agreed the market is bouncing back, their opinion on percentage increase in the number of project enquiries was sought, 47% have indicated 10% - 20%, and 25% of them have indicated of about 20% to 40%, showing a substantial increase reflecting a market rebound.

Graph 18c: Enquiries





Cost indices

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.

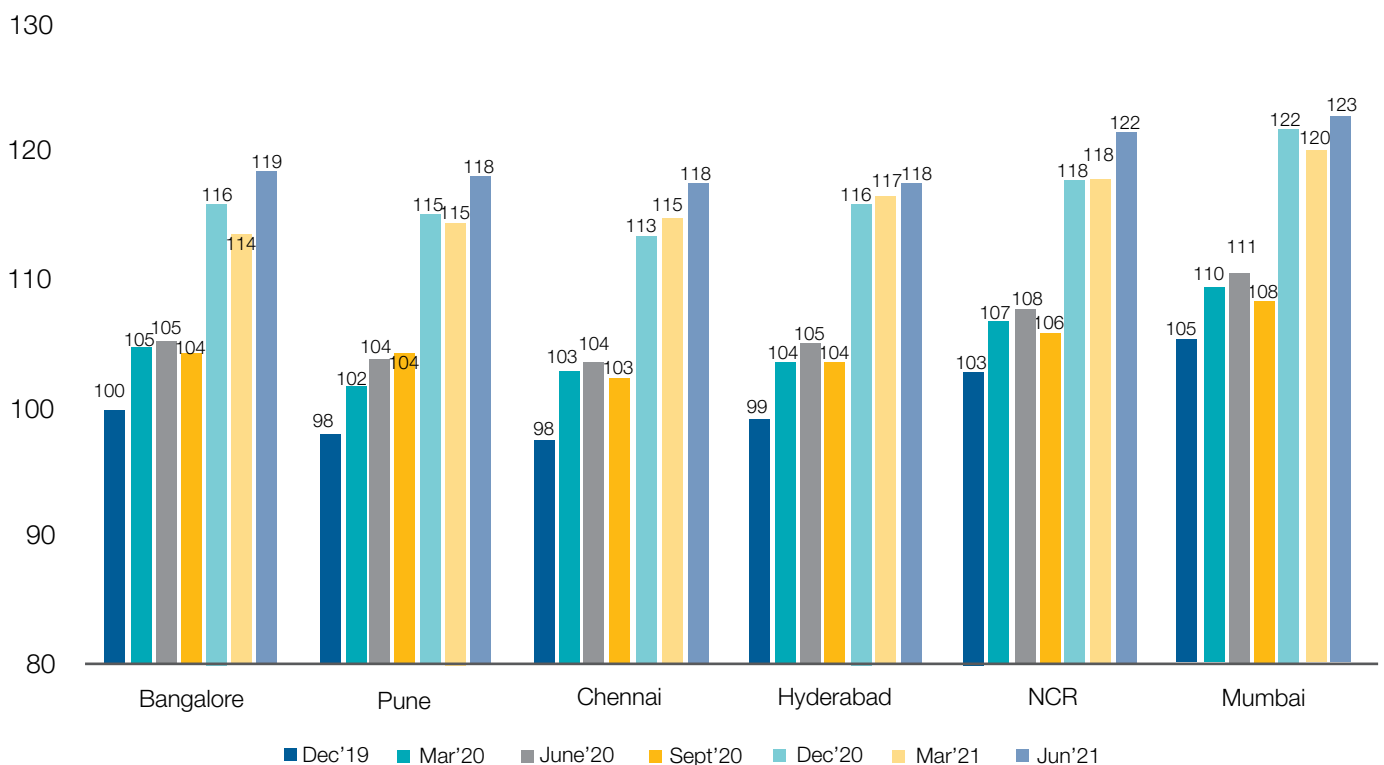
- A basket of items comprising of most commonly used materials in construction, labour and consumables was established. These goods have been identified and known to demonstrate the inflation and dynamic nature of the goods typically used in the construction sector. Approximate individual quantities 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.

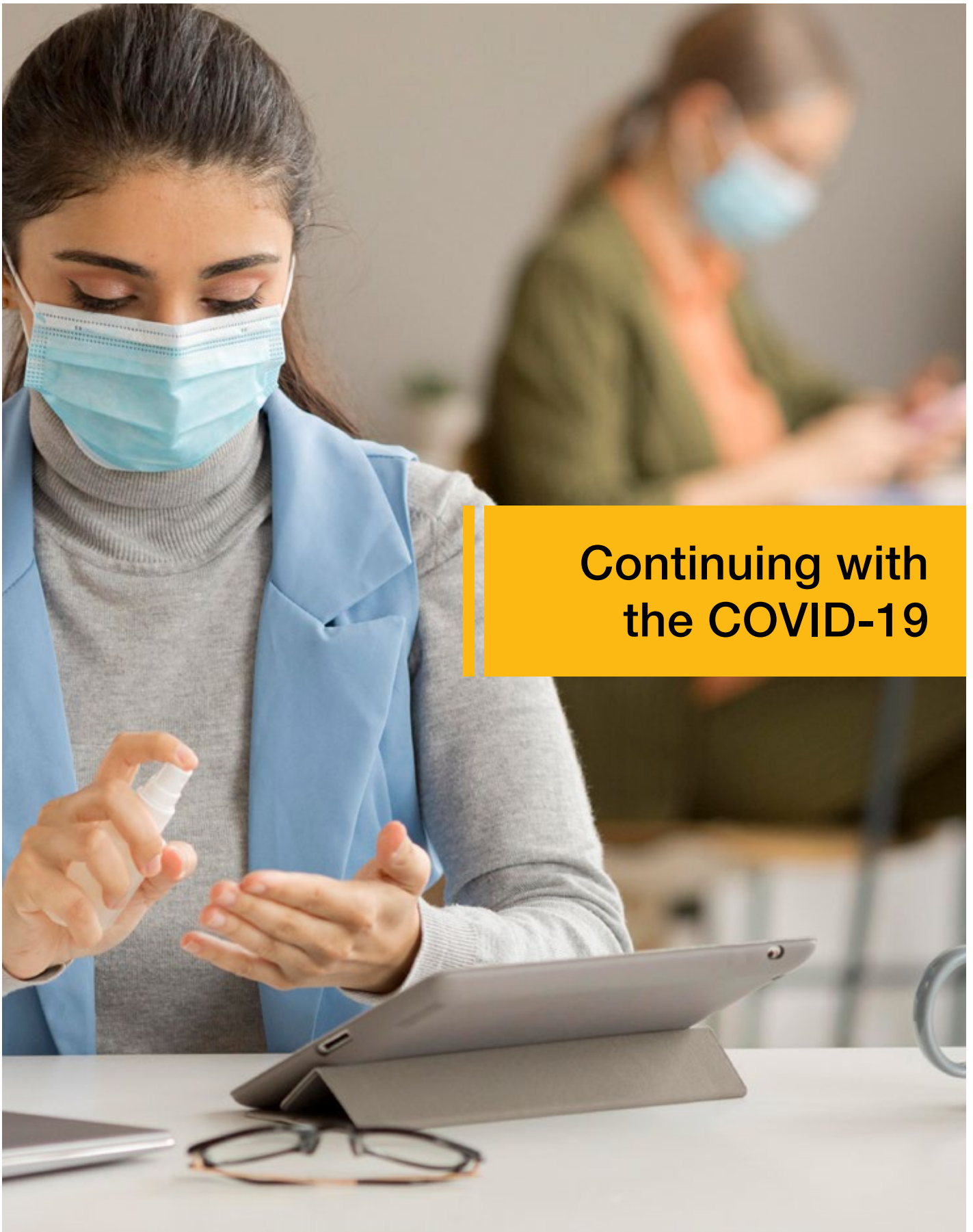
The graph below indicates the construction costs indices for the six major cities for the past quarters since December 2019, with Bengaluru as the base.

Graph 19: Cost indices city-wise



Source: Gleeds' Internal Database.

Note: Indices on the last month of each quarter considered

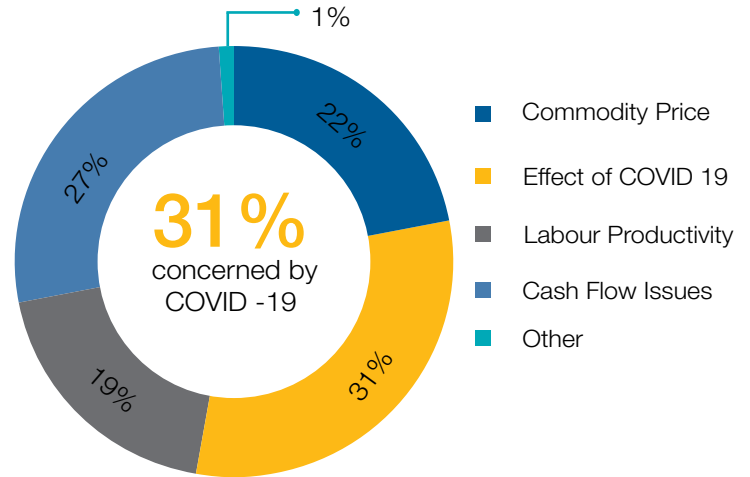


Continuing with the COVID-19

Concerns, challenges and contracts – market survey

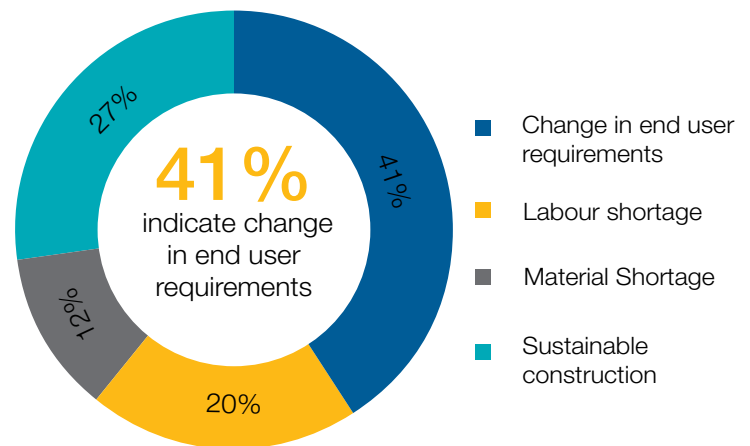
When the respondents were asked what the major concern they have in delivering the projects currently, the majority have indicated the effect of COVID-19, about 31% followed by cash flow issues about 27%.

Graph 20a: Concerns



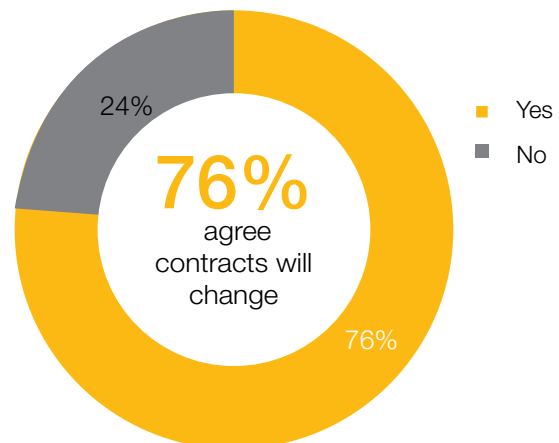
When the respondents were asked about the future challenges for the Indian construction industry once they go past the COVID-19, majority of 41% have indicated change in end user requirements being a major challenge, around 27% have indicated sustainable construction and 20% on the labour shortage.

Graph 20b: Challenges



When the respondents were asked in a post COVID -19 world, if the way Indian contracts are written would fundamentally change, around 76% have indicated that it will change and 24% have indicated it will not change.

Graph 20c: Contracts



Conclusion

The year 2021 comes with its own set of challenges, with material supply and price topping the list. The industry, however, has indeed shown much resilience. New strategic plans and changed methods of working are incorporated to address these issues. While the production of cement and steel is conservative, the demand is rising with the impending monsoons. Prices are likely to be stable in the future. Crude oil and fuel costs are still dependants on global production decisions, which may change if the demand graph continuously increases.

Developers still face cash crunches and abnormal price rise short term, which iron out in six months (expectant). These uncertainties have encouraged Developers to explore digitisation, an area in which the industry was far behind. Modular construction, BIM, 4D, 5D, IoT, drone technology, digital twins, smart hats, dashboard and other applications are easing site collaboration and speeding design coordination and smooth and faster execution. The transition from conventional systems to digitisation has accelerated following the pandemic. With this is the continued importance of sustainability and well being of the occupier. Healthy buildings and embodied carbon are more prominent, and clients are being more sensitive towards environmental safety and sustenance.

The construction industry predominantly with a site or office-based work culture has now evolved into a 'work from home' and or 'flexible time' culture. With the adaption of technology for collaboration and upgraded IT requirements, the same has worked better than anticipated. This looks to promote more work efficiency and is now also influencing the end-user requirements.

Sectors like hospitality, retail and education have held back, with their growth opportunities uncertain. Commercial and residential sector have redesigned/retrofitted to create a pandemic safe environment for its occupiers, is slowly picking up. Manufacturing and datacentre have risen considerably, with a surge in demand for e-commerce and companies upgrading their IT requirements. Infrastructure and residential (affordable), both are promoted well by the Government for the economic growth of the country.

The construction sector is recognised as a major contribution to the country's economy after agriculture and is progressing slowly and steadily. The impact of the second wave on the industry has reduced considerably in comparison to the first proving its resilience. The rest of the year may be more positive, with reopening of offices and businesses, anticipated stabilisation of material and labour prices and revised production schedules to meet the required demand.



References:

Indian real estate [[libef](#)]

Centre for monitoring Indian economy [[cmie.com](#)]

Worldwide Inflation data [[inflation.eu](#)]

Ministry of statistics and programme implementation [[mospi.nic.in](#)]

Purchasing manager index [[Theglobaleconomy.com](#)]

London Metal Exchange [[lme.com](#)]

Country economy [[countryeconomy.com](#)]

Commercial real market data [[Commercial Real Estate Market in India | Growth, Trends, and Forecast \(2020 - 2025\) \(mordorintelligence.com\)](#)]

Infrastructure [[The Infrastructure in India is estimated to grow at a CAGR of approximately 7% during the 2021-2026 period - Bing](#)]

Indian construction [[India Construction Industry Size & Forecast, 2015-2024 by \(globenewswire.com\)](#)]

Education sector [[Online Education Market in India Worth INR 360 Billion by 2024, Exhibiting a CAGR of ~43% - ResearchAndMarkets.com | Business Wire](#)]

Hospitality [[the hospitality sector in India is expected to grow at 16.1 per cent CAGR to reach Rs 2,796.9 thousand crore in 2022. The hospitality sector encompasses a wide variety of activities within the services sector and is a major job provider both direct and indirectly. - Bing](#)]

Australia outlook [[https://www.rba.gov.au/publications/smp/2021/may/economic-outlook.html](#)] [[https://procurementandsupply.com/2021/05/why-is-australia-facing-a-building-materials-shortage/](#)]

China [[https://www.wsj.com/articles/chinese-factories-delay-new-orders-as-costs-rise-risking-global-supply-shortages-11622543400](#)]

[[https://www.wsj.com/articles/chinas-surgling-manufacturing-prices-put-pressure-on-beijing-to-do-something-about-them-11623222635](#)]

Africa [[https://www.weforum.org/agenda/2021/02/af-cfta-africa-free-trade-global-game-changer/](#)]

Europe [[https://www.reuters.com/world/europe/remember-me-with-fast-recovery-labour-shortage-haunts-eastern-europe-2021-06-08/](#)]

UK [[https://www.constructionnews.co.uk/supply-chain/construction-materials-shortage-5-key-items-in-short-supply-17-05-2021/](#)]

Various media reports : The Guardian, Weforum, Business Standard news, India times, The Financial express, The Hindu, The Economic times, Money Control, Indian Economy, Current affairs, Livemint, Bloomberg

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

Gol: The Government of India

MW: Mega Watt

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