RESEARCH

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IPF Research Awards 2021
Commercial office portfolio risks during COVID-19: A survey of stakeholders in India

GRANT AWARDED BY THE IPF RESEARCH PROGRAMME

Commercial office portfolio risks during COVID-19: A survey of stakeholders in India

INTRODUCTION

In 2021, the IPF Research Programme created a grants scheme to provide financial assistance to new or recent entrants to the property industry, including graduate students and junior practitioners, to encourage real estate investment research. While no specific themes were proposed, prospective applicants were encouraged to examine issues that would advance the real estate investment industry's understanding of and implications for asset pricing, risk-adjusted performance and investment strategy.

An evaluation of proposals received by the 30 September 2021 deadline resulted in four submissions being selected as recipients of awards, subject to delivery of final papers by 31 March 2022, with limited supervision of each study provided by a sub-committee of the IPF Research Steering Group during the intervening period.

Three applicants successfully met the requirements of the scheme, covering a diverse range of topics comprising an investigation of foreign real estate investment strategies, an examination of the risks to Indian commercial office portfolios during COVID-19 and the determinants of UK self-storage rents.

Each paper is available to download from the IPF website and we hope you find them interesting reading.

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List of Abbreviations

A few abbreviations and terminologies that have been extensively used in this report are listed below:

CAM	Common Area Maintenance
COP	Commercial Office Portfolio
CRE	Commercial Real Estate
EHS	Employee Health and Safety
ESG	Environmental, Social and Governance
GCC	Global Capability Centres
IT/ITES	Information Technology/ Information Technology enabled Services
MEP	Mechanical, Electrical and Plumbing
M sq.ft.	Million square feet
Sq.ft.	Square feet
USD	US dollar
WFH	Working from home

Executive Summary

COVID-19 pandemic has given rise to a public health crisis of an unprecedented scale that has impacted the global economy, supply chains and property types differently. Through interviews with key stakeholders, this research looks at the key risks and their mitigations adopted by the commercial office portfolio (COP) owners in India. The stakeholders have also highlighted a few structural changes in commercial offices that have been accelerated due to the COVID pandemic, which otherwise would have taken longer to manifest.

Key risks and challenges during COVID for COP owners.

- Working from home resulted in low occupancy in offices that created uncertainty about the requirement for office space. This led to discussions related to rent and maintenance rate concessions, reducing space and negotiation on contractual lease obligations. Key risks during this period were vacancy, rent collection, lease renewal and rent escalation.
- Companies postponed their expansion plans, resulting in a flattening of demand for office space and hence the risk of re-letting became accentuated.
- Limited visibility of future demand and shortage of labour and material, forced developers to postpone their existing and new project construction.
- Due to the prevailing pandemic, the concerns regarding employees' health, safety and wellness, like clean inside air, touchless access systems and Environmental, Social and Governance (ESG), became prevalent among tenants.
- Operation and maintenance of the properties became critical and challenging, as servers and critical operations of tenants had to continue.
- Managing cash flow due to debt obligations, increased operational expenses and capital expenditure in COVID-related upgrades became a challenge for property owners.

Risk mitigants and operational strategies were adopted by COP owners during the COVID pandemic to deal with the newly emerged risks and uncertainty.

- Proactively, COP owners made capital expenditures in adopting all COVID protocols and upgrades.
- They engaged and communicated with tenants at a higher frequency on all the aspects of modifications and upgrades due to COVID to provide comfort to the tenants. This higher level of engagement created a sense of partnership in dealing with uncertainty.
- COP owners showed flexibility in finding solutions concerning the various challenges and concerns faced by the tenants, including flexibility in rent and maintenance payments. While providing rent-free periods, rent escalation deferment, free upgrades to maintain the continuity of the tenancy, the focus was to protect the headline rentals.
- COP owners ensured seamless operations by having critical maintenance staff residing within the premises.
- A few of the developers divested a part of their portfolios to reduce debt obligations. Experts felt COVID uncertainty made these transactions attractive for long-term investors.

Risk appetite, response and strategies of Indian and international COP owners during the COVID period.

- Both Indian and international players understood the key risks and challenges similarly. However, due to the strength of their balance sheets and sources of capital, the international players saw this uncertainty as an opportunity to expand their commercial office rental portfolio.
- Many Indian developers exited their rental portfolios to retire debt and acquired development projects/lands, in many cases in partnership with large international investors.
- International players have a long-term perspective on income-generating office properties and have experience with global risks and shocks. In comparison, Indian players had limited exposure to such events, resulting in a short-term view.

The COVID pandemic speeded a few transformations and structural changes in the commercial office asset class that is expected to have a profound impact on this sector.

- Companies are in the process of moving their employees back to the office for which they are building flexibility of hybrid working.
- Demand for co-working, flex and managed office spaces have accelerated and COP companies are including the same in their portfolios.
- Increased focus on EHS and wellness with increased demand for incorporating ESG principles by tenants and investors.
- Moving forward, there is likely to be increased demand and focus for certifications like LEED, WELL, etc.
- Adoption of technology in various aspects of building to improve occupier experience, facility management and EHS. In general, the up-gradation of systems and processes has been accelerated.
- Consolidation of large COPs with increased investment from international institutional investors and fund managers.
- Greater coordination and engagement between COP owners, companies and employees.
- Tenants are looking for quality buildings that have amenities, are compliant with EHS, ESG and COVID protocols and provide flexibility at work as part of talent retention strategies.
- COP owners have integrated managed office and co-working in their portfolios.
- There may be a trend towards smaller offices in multiple locations across the city, in place of centralised offices, along with de-densification within the office.

This project has provided insights into how COP owners mitigated the risks arising due to the COVID pandemic. This pandemic has accelerated digitisation, incorporation of technology, and greater concern for employee health, safety and wellness. It highlighted the importance of institutional ownership and proactive actions during the crisis. One can see the structural changes in the commercial office asset class related to the emergence of flexible working, greater demand for ESG and EHS compliant workplaces. The relationship between the COP owners and tenants has evolved as that of strategic partnership during the pandemic for the employee well-being and to attract the employees back to the office.

INTRODUCTION

1.1 RESEARCH OVERVIEW

COVID-19 pandemic has not only impacted individuals but also impacted the global, national and sectoral economies. IMF (2022) has reported that the COVID-19 pandemic has given rise to disruption in normal economic activities and contraction of the Global economy by 3.1 per cent and the Indian economy by 7.3 per cent during 2020.

Unlike GFC, which was predominantly a financial crisis and required financial interventions, the crisis-induced in the global economy due to the COVID pandemic has more widespread implications that have impacted the socio-economic fabric, the conduct of businesses, work and livelihood. It has fundamentally impacted various aspects of human behaviour that may change the way commercial offices operate. It is likely to induce changes in business-as-usual settings in human behaviour due to social distancing formats, and business operations with wider adoption of remote and agile work formats.

This has created an environment of uncertainty amongst the developers, investors and commercial portfolio owners (COPs). However, these risks and uncertainty also offer opportunities for institutional investors with a higher risk appetite and long-term investment horizon. International investors like Blackstone, Brookfield and others have significant exposure to Indian commercial property. The commercial office property is an important asset class, increasingly owned and managed by professional investors including REITs. In India, REIT legislation was notified in 2014. Since 2019, there has been a listing of 3 REITs sponsored by Blackstone (#2) and Brookfield (#1).

This project investigates the key risks perceived by the key stakeholders of the COP due to uncertainty during the COVID-19 pandemic and the mitigation strategies adopted by the portfolio owners. For this project, India provides an interesting setting. IMF (2022) has projected India to grow by 9.0 per cent between 2021 and 2022, making it the fastest-growing major economy. India has recently undergone many policy and regulatory changes and has received substantial investments from many large global institutional investors and fund managers like Blackstone, Brookfield, APG, CPPIB, GIC, etc.

1.2 RESEARCH OBJECTIVES

This project investigates the risk perception of various stakeholders of the commercial office during COVID-19 and the mitigation strategies adopted by them during this period. Specifically, this study investigates the below research questions in the Indian context:

- What are the key risks perceived by the stakeholders, i.e. COP owners, institutional investors, fund managers, developers and international property consultants (IPCs) in the COPs, specifically during COVID, in India?
- How did these COP owners mitigate the risk and manage their exposure?
- Did Indian and international investors/property owners perceive risk similarly or have different risk appetites and investment/operational strategies?
- What is the key impact of uncertainty on commercial property ownership in India during the COVID-19 period?
- What are the structural changes that the COVID pandemic has induced in COPs?

By investigating these research questions, the study will have a significant contribution in the following areas. First, many geographies across the globe are still reeling under the impact of

COVID-19. Risk and uncertainty, arising due to a black swan[1] event like COVID-19, are still unknown and under-researched. This study would be one of the few risk assessment studies based on the perceived risk by key stakeholders. This will help develop a fuller understanding of these risks and mitigation strategies adopted during the period of extreme uncertainty for better decision-making.

Secondly, India due to its fast growth and proactive government policies, provides an interesting investment opportunity for international investors. But this market is under-researched and there are only a few studies (see (Gupta *et al.*, 2018, 2020; Gupta and Newell, 2021)) that have estimated risk for property investors and owners. This study will help in providing better insights into the key risks in property investment in India for international investors.

Thirdly, the study will provide insights into how investors and landlords (mostly developers) have perceived risk and adopted mitigation/operational strategies (maybe differently) during these times of uncertainty. Fourthly, due to information asymmetry, risk appetite and source/duration of the funds, domestic and foreign investors have different risk assessments in India (Gupta and Das, 2021) and hence may adopt different mitigation strategies. This study will put focus on these issues. Lastly, there are different risks in developed and emerging economies. However, there is a limited body of literature that has estimated and explored the risks of COPs in emerging economies, though they offer substantial investment opportunities.

1.3 APPROACH

Assessing the impact of a pandemic on real estate markets is challenging, more so for COPs, where the transaction volume has been low. These transactions have become even lesser with uncertainty due to lockdowns and social distancing restrictions during COVID (Balemi, Füss and Weigand, 2021). Standard deviation is a well-established measure of risk modelling in finance, but for a private asset like real estate with limited data sets is questioned by many and is considered a backward-looking method (eg: Kaiser and Clayton, 2008; Blundell, Frodsham and Diaz, 2011; Philips, Jennen and Hupkes, 2011). Blundell, Fairchild and Goodchild (2005) questioned the use of past data for risk analysis and called it driving looking at the rear-view mirror.

Looking at the limitation of data, this study will focus on the perceived view of the industry stakeholders to assess the risk during the COVID-19 on COPs in India. In this project, we conducted face-to-face interviews with key industry leaders from the listed real estate companies, REITs, institutional investors, fund managers and IPCs operating in India.

[1]https://www.forbes.com/sites/forbesbooksauthors/2020/03/19/covid-19-is-a-black-swan/?sh=69d006d87b4b

SIGNIFICANCE OF INDIA OFFICE MARKET

2.1 INDIA AND GLOBAL COMMERCIAL OFFICE MARKET

COVID pandemic has impacted the global economy, which contracted by 3.1 per cent in 2020, but with the opening of the economy and vaccination, it registered a growth of 5.9 per cent in 2021. During this period India emerged as one of the fast-growing major economies with an estimated and projected growth of 9 per cent between 2021 and 2022 (IMF, 2022). With its fast growth, India, which is the world's 6th largest economy has been projected by CEBR (2021) to become the 3rd largest economy by 2031. Table 1 shows that India has about 3.3 per cent share of global GDP and about 1.5 per cent share of the global commercial real estate. With the fast economic growth and adoption of REITs, the share of Indian commercial real estate is expected to grow.

Table 1: Indian economy and office market

	India (USD bn)			Global (USD bn) (79 countries)
	Total (USD bn)	#	(%)	
GDP (USD bn)	2,660.2	6	3.29%	80,963.5
Commercial Real Estate	492.0	13	1.52%	32,452.0
Total Listed Real Estate	46.8	16	1.11%	4,224.5
REITs Market Cap	8.1	17	0.33%	2,499.9
Stock Market Size	3,463.3	6	3.22%	1,07,436.0
Listed RE/Stock Market			1.4%	3.9%
Listed RE / Total CRE			9.5%	13.0%
Of which REITs (#)	3			970

Source: EPRA Research

2.2 INDIA REIT MARKET

In India, REIT legislation was adopted in 2014 and the first REIT was listed in 2019. Since then three REITs have been listed with a market cap of USD 8.1 bn, about 0.33 per cent of the global REIT market cap (refer to Table 1). JLL (2021c) estimated that the Indian REIT market could potentially have assets worth USD 36 bn spread across 284m sq. ft. listed in the next few years. This would provide significant investment opportunities to global investors. JLL further reported that in Q4 2020 Brookfield acquired USD 2 bn portfolios from RMZ, while Blackstone was in the advanced stage of acquisition of USD 1.25 bn assets from Prestige Estate, another Indian developer, indicating varied risk perception and appetite, and the holding capacity of institutional investors in comparison to domestic landlords/developers. Blackstone has been an early investor in Indian real estate and owns about 125m sq. ft. office portfolio in India[2].

Table 2 shows the profile of the three listed REITs: Embassy REIT, Brookfield India REIT and Mindspace REIT; two of these REITs were sponsored by Blackstone and one by Brookfield. All the three REITs during the COVID period have reported rent collection of about 99 per cent, with the present vacancy of 13 to 17 per cent. Technology and financial services companies constitute about 60 per cent of the office portfolio for all three REITs. All the three

[2] Refer to https://www.blackstone.com/our-businesses/real-estate/

REITs have more than 80 per cent portfolio concentration in two cities, which they may consider diversifying as the depth of the market increases.

Table 2: Indian REITs: A comparative analysis

(Dec. 2021)	Embassy REIT	Brookfield India REIT*	Mindspace REIT
Portfolio Area (m Sq. Ft.)	42.6	18.6	31.3
Completed Area (m Sq. Ft.)	33.6	13.9	24.2
Development Area (m Sq. Ft.)	9		
Committed Occupancy (%)	87.0%	83.0%	84.6%
Rent Collection of Contract Rental (%)	99.1%	99.0%	99.1%
Average Rent (Rs/Sq.Ft./month)	74.0	65.3	59.0
Geographical spread	Bengaluru (74%), Mumbai (10%), Pune (9%), Noida (7%)	NCR (67%), Mumbai (17%), Kolkatta (17%)	Mumbai Region (41%), Pune (16%), Hyderabad (40.4%), Chennai (2.6%)
Tenant Mix	Technology (40%), Financial Services (19%)	Technology (52%), BFSI (10%)	Technology (42.7%), Financial Services (16.9%)
Weighted Average Lease Expiry (Years)	7.3	7.3	6.9
Rent from top ten tenants	39.4%	72%**	37%
Mark to Market Potential	25.0%	29.0%	7.3%
Price per Unit*** (USD)	5.0	4.0	4.6
52W High*** (USD)	5.2	4.2	4.8
52W Low*** (USD)	4.0	2.8	3.6

Notes: *for Brookfield India REIT, N2 Noida is included that was acquired in Jan.'2022, **As of Sep. 2022, ***Dated Mar. 2022, for calculation 1 USD = 76 INR

Source: Authors' compilation from various REIT websites.

2.3 INDIA OFFICE MARKET

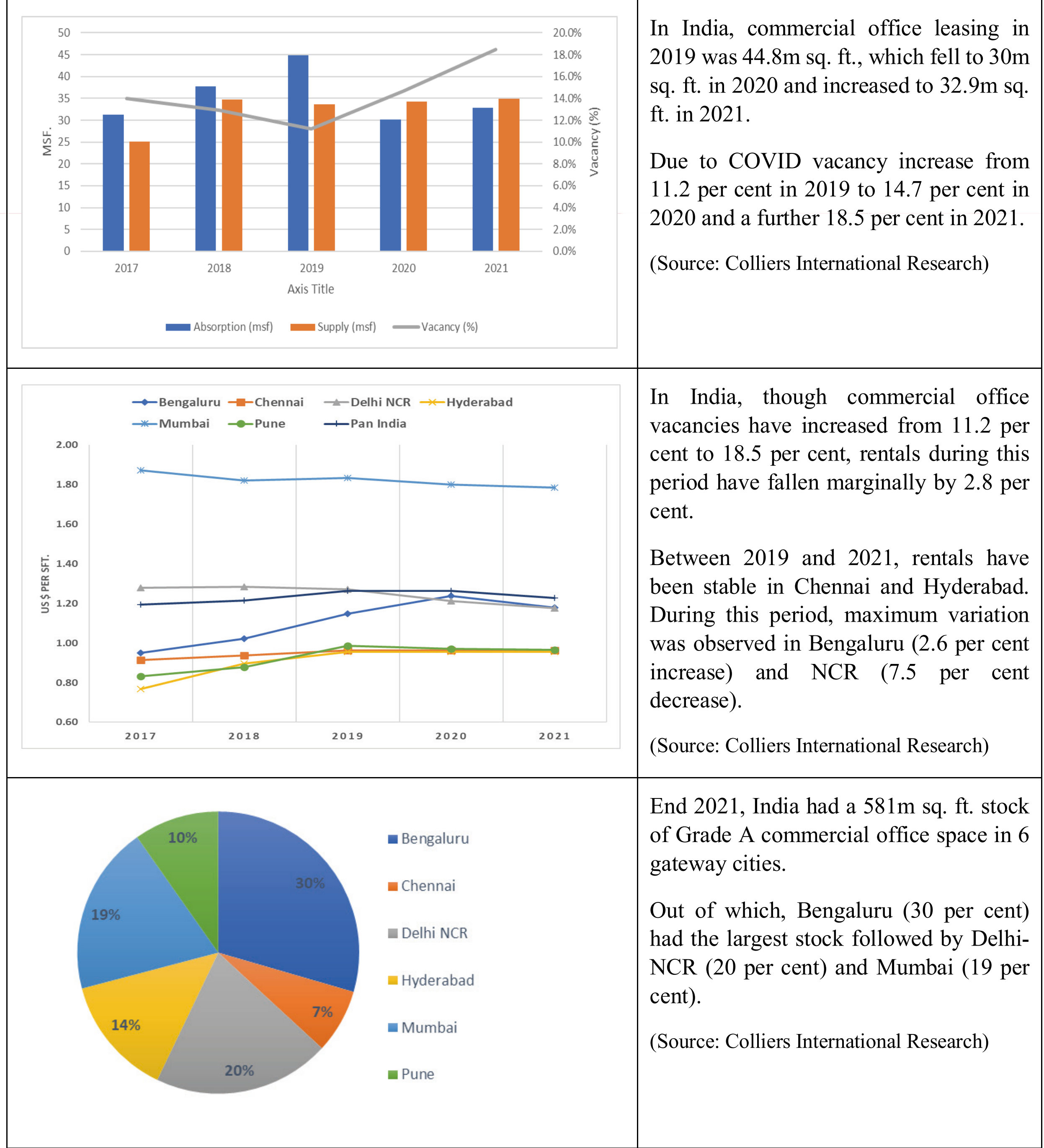
The Indian office sector is supported by the world's 3rd largest start-up ecosystem, it has a 5 million-plus technology workforce with 0.45m new hirings in 2021 and the Indian technology sector achieved 2 times revenue growth in FY 2022 from pre-pandemic FY 2019, with revenue touching 227bn USD (NASSCOM, 2022).

JLL (2022a) reported a few trends in the office market in India during 2021 and are discussed below:

- IT/ITES (39%) and co-working/flex (15%) were the major space occupier.
- Bengaluru, NCR and Hyderabad accounted for maximum net absorption (64%) and projects completion (72%).
- India's flex space market leased 2.5 times more seats during 2021, in comparison to 2022. This flex market is expected to grow by 20 per cent YOY by 2025.

Figure 1 shows a brief snapshot of the Indian office market (Dec 21). Appendix 2 provides further details about absorption, supply and vacancy across NCR, Mumbai, Pune, Bangaluru, Chennai and Hyderabad.

Figure 1: India Grade A commercial office snapshot



In India, commercial office leasing in 2019 was 44.8m sq. ft., which fell to 30m sq. ft. in 2020 and increased to 32.9m sq. ft. in 2021.

Due to COVID vacancy increase from 11.2 per cent in 2019 to 14.7 per cent in 2020 and a further 18.5 per cent in 2021.

(Source: Colliers International Research)

In India, though commercial office vacancies have increased from 11.2 per cent to 18.5 per cent, rentals during this period have fallen marginally by 2.8 per cent.

Between 2019 and 2021, rentals have been stable in Chennai and Hyderabad. During this period, maximum variation was observed in Bengaluru (2.6 per cent increase) and NCR (7.5 per cent decrease).

(Source: Colliers International Research)

End 2021, India had a 581m sq. ft. stock of Grade A commercial office space in 6 gateway cities.

Out of which, Bengaluru (30 per cent) had the largest stock followed by Delhi-NCR (20 per cent) and Mumbai (19 per cent).

(Source: Colliers International Research)

Source: Colliers International Research

RISKS IN COMMERCIAL PROPERTY PORTFOLIO

Risk and return are an integral part of any investment, investors are rewarded with a return for risk exposure on their capital. Investment risk has been expressed as the probability of not achieving the target return and cash flow, loss of capital and volatility in returns (Hargitay and Yu, 1993). In periods of stability and high return, the risk is not a fascinating topic. But during challenging and uncertain times risk management becomes more compelling for investors than chasing returns (Kaiser and Clayton, 2008). In past many researchers have evaluated risks in the commercial property portfolio and classified them into broader categories, a few are discussed in the next section.

3.1 BROADER RISK CLASSIFICATION

Markowitz in his seminal work on Modern Portfolio Theory, segregated risk as systematic and unsystematic. Systematic is the market risk that impacts all investors and businesses across the sector and cannot be diversified. Whereas, unsystematic is that part of the risk that can be impacted by the investor and diversified by investing across multiple properties, asset classes and geographies. To this classification, Keeris (2008) added management as the third dimension, as real estate investments unlike financial investments require active management to create superior performance. Kaiser and Clayton (2008) decomposed the real estate portfolio risk for institutional investors in beta, alpha and gamma to provide a better understanding of the risk. Beta referred to the market risk related to factors like business and property cycles. Alpha risks arise due to the portfolio bets due to manager decisions related to the selection of asset class, geography and properties. Gamma risks arise from factors that are under the direct influence and control of the manager.

Gupta *et al.*(2018) and Gupta and Newell (2021) summarised 39 and 15 risk attributes respectively into five factors and categorized them at (a) Macro-level as Market risk, (b) Meso-level as Enterprise risk and (c) at Micro-level as Property risk. At the macro-level, the Market risk is the systematic portion of the risk that is common for all businesses across national and sectoral (real estate) economies. Market Risks included two factors: Regulatory Risk, arising due to policy changes, and FDI Risk, specific to foreign investors. Unsystematic risks are divided into two parts at the meso- (Enterprise Risks) and micro-level (Property Risks). Enterprise Risks arise due to business decisions that may be irreversible, these are divided into two factors. Firstly, Business Risk arises due to decisions made in the day-to-day running of the business like leverage, valuation, title, etc. Secondly, Entry Risk arises due to decisions at entry levels like partner, location and geography selection. Property risks are that portion of unsystematic risk that can be managed through active management like project execution and quality of development.

Looking at generic fund management risks, Green Climate Fund (2015) classified risks in terms of (a) financial and (b) non-financial risks. Financial risks are classified as investment, performance, funding, market and liquidity risks; and non-financial risks such as reputation, strategic, operational, legal and compliance risks. Country risk is not considered a separate risk, but it manifests itself within legal and monetary risks.

Philips, Jennen and Hupkes (2011) created a risk analysis framework for European real estate markets. This framework looked into determinants of risks in various European real estate markets by breaking the risks into different factors. They consider three main dimensions of the risks country risk, sector/city risk and currency risk. Country risk looked into ease of building permits, political structure, legal system and dependence on foreign capital.

Sector/city risk looks at market structure in terms of lease length, rent volatility and obsolescence of location and property stock.

In a study presented at IPF conferences in 2003, Blundell, Fairchild and Goodchild, (2005) showed linkages between the portfolio relative return and risk factors. They developed a risk web 1.0. In a subsequent study published by IPF, Blundell, Frodsham and Diaz, (2011) developed risk web 2.0, depicting portfolio risk in terms of factors that generate it.

Chen and Hobbs (2003) developed a global risk index, classifying risks broadly into three categories, as (a) country economic risks (economic performance and structural factors), (b) structural real estate risks (real estate market size/liquidity, transparency, volatility, income security and supply risks), and (c) real estate performance/cyclical risks (rent volatilities, vacancies, etc.). While looking at property risk premium for discounted cash flow, RICS (2011) bifurcated risks into market risk and specific risk. Market risks arise due to liquidity, rent and yield volatility, structural change in the market and legislative/policy changes. Whereas, specific risks arise due to tenant default, re-letting or void risk, costs of ownership and management, and related to specific lease conditions.

3.2 RISK ATTRIBUTES CONSIDERED FOR THIS STUDY

Commercial property risks arise due to various factors specific to market, property and lease terms (Hutchison, Adair and Leheny, 2005; Gupta and Tiwari, 2016) as shown in Table 3 and discussed in Appendix 3: Risk Glossary.

Table 3: Key risk attributes in commercial office portfolios

Market-specific	Property/Portfolio-specific	Lease/Tenant-specific
Macro-economic factors - Interest rate movement - Currency volatility Macro-market factors - Political - Legislation & Regulatory - Taxation - Rent volatility - Yield movement - Vacancy level - Force majeure	- Re-letting/ void - Liquidity (Resale/ Exit) - Portfolio partner/ co-investor - Valuation - Feasibility - Leverage - Geography selection - Title - ESG - Obsolescence - Operation & maintenance	- Lock-in duration - Lease duration - Tenant default - Excess rent (gap between contract and market rent) - Rent escalation - Capital expenditure obligations (fit-outs, etc.)

Source: Developed from Gupta and Tiwari (2016)

IMPACT OF COVID ON COMMERCIAL PROPERTY PORTFOLIOS

The COVID-19 pandemic brought human activities in the physical realm to a standstill resulting in a disruption in economic activities and global supply chains. This led to a global recession and affected commercial real estate (CRE) adversely. Assessing the impact of this exogenous shock on global CRE is challenging due to low frequency and short time-series data (Balemi, Füss and Weigand, 2021). However, in a few academic studies, researchers developed econometric models[3] to assess the impact of pandemics mostly in the US and a few in China and Asia-Pacific, whereas most of the industry reports concentrated mainly on expert opinion and were based on the survey of various stakeholders.

4.1 ACADEMIC VIEW

4.1.1 Property performance

D'Lima, Lopez and Pradhan (2021) investigated the impact of government shutdowns on US housing prices. They found the price impact depended on the densities of population and properties, along with the size of the units. The average price of the properties fell in high-density downtown areas by 1.4 per cent and increased in low-density suburbs by about 1.5 per cent. In Europe, Hoesli and Malle (2021) reported retail and hospitality were most impacted followed by office and then residential and industrial to a lesser extent. Allan *et al*. (2021) reported a 15 per cent rent decrease in commercial property in Asia-Pacific in the first six months of 2020. This decline in the rental was more significant in the regions with the severe impact of COVID. During the initial period of the pandemic, Milcheva (2021) reported Asian real estate companies reported negative sensitivity whereas the US remained positive. With longer exposure to the pandemic, the performance of the US shares worsens, which was not the case with the Asian companies. There was a significant divergence in sectoral performance in the US, with the most affected sectors being retail and hotel; whereas it was the office in Asia. In China, Chu, Lu and Tsang (2021) reported real estate companies with higher leverage delivered poor results, whereas large companies with geographical diversification could decrease the adverse impact of the pandemic. Tanrıvermiş (2020) reported COVID had adversely impacted the office market in Turkey, which even pre-COVID was struggling due to oversupply and predicted transformation of offices to lesser productive uses. There was also an increase in demand for land in rural areas for production and housing.

Ling, Wang and Zhou (2020) found in the initial period of the pandemic, REITs that focused on data centres, warehouses and self-storage delivered abnormal returns; whereas those that focused on hospitality and retail performed poorly. Ling *et al*. (2021) evaluated the REITs' response during the COVID-19 pandemic and found that their interest in home markets decreased if they were severely affected by the pandemic. Investors' response was significant in the home markets and markets in which they have a larger portfolio. In comparison to passive and long-term investors, non-passive and short-term investors overreacted to local shocks.

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[3] US (for eg: Ling, Wang and Zhou, 2020, 2021; D'Lima, Lopez and Pradhan, 2021; Davis, Ghent and Gregory, 2021; Delventhal, Kwon and Parkhomenko, 2021; Gupta *et al.*, 2021; Milcheva, 2021; Ramani and Bloom, 2021; Rosenthal, Strange and Urrego, 2021), and a few in China (for eg: Chu, Lu and Tsang, 2021; Tian, Peng and Zhang, 2021) and Asia-Pacific (for eg: Allan *et al.*, 2021)

4.1.2 Impact of new normal

As a response to the COVID-19 pandemic, the new normal resulted in social distancing, work from home (WFH) and lockdowns.

Social distancing restrictions were effective in fighting the pandemic but created challenges for the global economy and high vacancy rates in CRE (Balemi, Füss and Weigand, 2021), especially in activities requiring face-to-face physical interaction with the customer like retail, and hospitality activities (Koren and Pető, 2020). This led to the growth in WFH and remote working. In a white paper[4], Dingel & Neiman (2020) found 37 per cent of jobs in the USA can be performed from home, these are comparatively high-paying jobs, in comparison to 46 per cent of jobs that cannot be performed from home. Applying this classification to 85 countries, they reported lower-income countries to have lower job percentages that can be done from the home. Countries with 1/3rd of the GDP of the US are likely to have only 50 per cent of jobs that can be done from home in comparison to the US. This may be because of more dependence on primary and secondary sectors in lower-income economies in comparison to the US.

The WFH phenomenon that became part of our lives due to the COVID pandemic has become possible due to the development of technologies over the last few decades. In the 1990s, PCs became affordable with supporting software like Microsoft Word and Excel; this was followed by the development of emails and the World Wide Web that made remote communication easy. In the last decade, high-speed internet, video conferencing and cloud computing became affordable. Cities and city centres have been impacted by the lockdowns, travel and social distancing restrictions leading to WFH. Delventhal, Kwon and Parkhomenko (2021) modelled scenarios of a permanent increase in WFH for the Los Angeles metropolitan area to understand the changes in the cities. They found that the employment opportunities will move to the city centres and residential areas to the periphery. This will result in an average housing price decrease in core areas and an increase in peripheries. Due to less travel, there would be lesser congestion and travel time will decrease. Similarly, Gupta *et al.*(2021) found residential rents and prices have decreased in city centres and increased in periphery locations, this has flattened the bid-rent curve. Many researchers (e.g. Koren and Pető, 2020; Ling, Wang and Zhou, 2020; Davis, Ghent and Gregory, 2021; Rosenthal, Strange and Urrego, 2021) predict that US cities are likely to lose their agglomeration premium due to a decrease in employment density and become less attractive to many businesses post-pandemic due to evolving hybrid working patterns.

4.1.3 Moving beyond pandemic

Using data from Zillow and zip-code data of the US cities, (Ramani and Bloom, 2021) analysed the effect of COVID on the migration pattern and real estate. They coined the term "Domino Effect" indicating the movement of residential and commercial real estate demand from the city centre to a low-density suburban ring. They were not able to find evidence of large-scale movement of activities from large cities to smaller cities and towns. They expect, post-pandemic, hybrid work will continue typically three days of work from offices. This will restrict employees from moving out of their work cities to cheaper towns. In agreement Davis, Ghent and Gregory (2021) discuss WFH and work from the office are not a perfect substitute, indicating some work from the office will happen once the pandemic ends. So organisations and employees should not shift to remote locations. Employees are expected to move to distant locations to their offices to save rent increasing the travel time. Their model suggests that WFH

[4] Funded by Becker Friedman Institute and Booth School of Business, University of Chicago.

will result in increased productivity and will give rise to income inequality as WFH is mostly for highly skilled workers.

COVID and the resulting economic crisis may result in structural changes in international real estate markets and international investment patterns. Carson *et al.*(2021) recommended the need for new models and analytical tools for analysing post-pandemic socioeconomic and behavioural data. Changes in demand patterns, locational and work preferences of real estate may cause major disruptions in the market. Adoption of technology and new habits due to remote working may impact location preferences. This may lead to the development of newer urban economic locational theories and the need to look beyond the bid rent curve.

4.2 INDUSTRY AND OTHER VIEWS

CRE is widely used as collateral for borrowing from financial institutes. The overall repaying capacity of CRE impacts the global financial markets, economy and vice versa. Liu, Shim and Sushko (2020) discussed the impact of CRE loan defaults on the financial systems of Japan and Australia in the early 1990s and a few South-East Asian countries during the Asian Financial Crisis of 1997-98. IMF (2021) discusses the role of CRE as the source or amplifier of local and global economic crises, for example, the Swedish financial crisis of the early 1990s, the US saving and loan crisis during 1980-90, the Irish banking crisis during 2008-11 and the Global Financial Crisis (GFC) during 2007-09 period.

4.2.1 Impact of COVID on Commercial Property

COVID shock led to a decline in CRE transaction volume across the globe, investments have fallen by 29 per cent in the first 6 months of 2020 to USD 321 billion.[5] Similarly in Asia-Pacific, the volume of CRE acquisition in the first half of 2020 was about 2/3rd of the corresponding period in the previous two years (Liu, Shim and Sushko, 2020). The WFH and disruption in the economic activities led to lower revenue and weaker debt services capacity resulting in higher delinquencies in CMBS. Overall delinquencies for commercial properties are in line with those during GFC. However, delinquencies for hotels and retail properties reached an all-time high during Q2 2020 (IMF, 2021).

Unlike GFC, where all CRE sectors' transaction volumes were impacted, COVID recession due to changes in social engagement norms and work patterns have differently impacted various CRE sectors. It has been reported (refer to, Parker, 2020; IMF, 2021) as a result, industrial has performed well, residential is stable, whereas office, retail and hospitality have performed poorly. The long-term change in human behaviour may impact the future performance of these CRE property types (Parker, 2020). In its Global Financial Stability Report, discussing the impact of COVID on CRE, IMF (2021) points to the bottoming of the transaction volume and value of CRE globally during Q2 2020. The fall in CRE value was observed to be sharper in urban areas in comparison to their suburbs. In contrast, during the last decade, the urban CRE markets gained 1.4 per cent more than the suburban markets. To analyse structural shifts in demand due to COVID, IMF conducted a scenario analysis. The

[5] https://www.jll.co.in/en/trends-and-insights/investor/global-commercial-real-estate-market-feel-impact-of-covid-19

results suggest a permanent increase of 5 per cent in vacancy will lead to a decrease of 15 per cent in the valuation of CRE in developed economies over the next 5 years.

Though there were concerns regarding office leasing and investment activities, Brookfield (2020) reported that rent collection for high-quality offices during the pandemic was stable. In the US, JLL (2022a) shows that the premium between new and old offices is widening, with offices completed after 2015 commanding a premium of 61 per cent and have a lower vacancy. Deloitte Insights (2020) discussed the initial response of the CRE industry to the COVID impact including liquidity management, focus on operations and tenant support including rent adjustments, use of technology to enhance tenant experience, support to employees for remote working and their well-being.

4.2.2 COVID induced changes in commercial office

With the third wave subsiding in India, there is positivity and caution about the changes that COVID has induced and the future of the office segment, which is one of the prominent CRE property types in India. In an article in Forbes India, Gupta (2022)[6] shared his estimate of 10 times increase in the value of Indian CRE to offer a multi-trillion-dollar opportunity for investors in the next few decades. The drivers of this growth would be increased urbanization, growth in the service sector, maturing capital market, strong real GDP growth and reasonable inflation.

There is a wide body of views on emerging changes in the office due to the COVID pandemic, many are based on surveys and expert opinion, a few of which are discussed below:

- Due to significant changes in human interaction and work, the COVID pandemic is likely to bring about structural changes in CRE. For example, fast-forwarding the trend of e-commerce that was already impacting bricks and mortar retail. Impact on office demand in the long run, due to liberal work from home policies, and hotels, due to increase in online meetings and decrease in large business gatherings (IMF, 2021).
- As the companies are preparing for re-entry to the physical office there are concerns about cyber security, changes in employee preferences, the adaption of campus engagement strategies for employees and preparing for future disasters (Deloitte Insights, 2020).
- A Savills India blog discusses a change in space density[7] in offices in India. In the short term, the offices will operate at 30 to 50 per cent density due to social distancing norms, but in the long run, occupiers may be forced to increase space per occupant to 100 sq. ft. from the present 70-80 sq. ft. This will result in the de-clustering of large office floors. There will be a wider acceptance of remote working, but it would not be a substitute for a good quality modern workplace, which has proved to be important to retain and attract talent. Concerns related to employee well-being and hygiene will lead to redesigning of office spaces, with a renewed focus on building ratings (Nandwani, 2020).
- A few emerging trends in the office are WFH will supplement the work from the office and not substitute it, space requirement per person is likely to increase, prime properties and locations will attract tenants and a decrease in construction will offset a decrease in demand.

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[6] Ankur Gupta is managing partner, head of real estate-India & Middle East, Brookfield Asset Management.

[7] Globally in the last three decades space density has reduced by 65 per cent to 150 sq. ft. per person by 2020, which is expected to increase by 33 per cent to 200 sq. ft. per person by 2025 (Brookfield, 2020).

But remote working will also lead to difficulties in collaboration and mentorship, and ad-hoc interactions become challenging (Brookfield, 2020).

- H.Robb (2021), in an article in Forbes, discusses that old format office spaces will become obsolete as the tenants will have a focus on employee health and safety (EHS) and will prefer properties and property owners that focus on EHS. Pre-COVID, companies enquired about gym, common areas and meeting rooms that have now changed to inquiries about indoor air quality, touchless spaces and distance between the cabins.
- JLL (2021a) discussed five major trends that have emerged during 2021. First, hybrid working has emerged as the future of work, with firms experimenting with flexible home and office working. Second, sustainability has emerged as an important preference for tenants, with green premiums reported up to 12 per cent for certified buildings in the UK. Third, real estate companies are integrating technology and data for decision-making. Fourth, city centres are back to life, with rentals for premium offices still strong in comparison to non-premium office spaces. Lastly, strong growth is reported in alternate sectors like life sciences, living sector (rental multifamily housing, student housing, etc.) and data centres.
- In a white paper on commercial real estate financing strategies due to COVID, TCS (2020) discussed that banks should include CRE properties in their portfolio that are resilient to remote working and social distancing like industrial, life sciences, data centres and cellular towers. For financing, sectors that are directly impacted, like retail and offices, banks should adopt stringent cash flow and conservative rent growth along with other assumptions. They should also recalibrate valuation models, re-evaluate underwriting and monitoring procedures using cognitive technologies to develop early warning systems for global and local pandemics and natural calamities. Banks must work towards adopting automated valuation models to protect from external shocks like pandemics and resulting social distancing challenges.

Based on a survey of 6000+ technology industry employees and 150+ organisations in India, NASSCOM and Indeed (2021) reported both employees and companies are interested to return to work in a hybrid model. Companies wanted employees to return to work due to concerns about data and cybersecurity, embedding organisational culture and maintaining critical functions. Their main concern while returning to work was EHS. About 70 per cent of companies were looking for hybrid work models. IT and GCC organisations seem to be early adopters of hybrid working.

- Based on one-to-one discussion with 125 IT services organisations in India, Microsoft and NASSCOM (2022) reported workplaces are being transformed into melting pots of creativity and innovation, stamping organisational culture and promoting social interaction; adopting hybrid working with a rise in satellite offices in Tier 2 cities. Other findings are:
    - 70 per cent of technology companies have adopted hybrid working, a total of 93 per cent are expected to adopt hybrid working and 85 per cent of employees are already working in hybrid or remote mode.
    - 74 per cent of employees want flexible remote working to continue.
    - 25 per cent of employees reported mental well-being issues during the last 2 years of remote working.
- In its annual report, analysing the growth of the IT services industry in India, NASSCOM (2022) suggests 6 emerging global mega-trends impacting the businesses, employees and people: (1) Global talent pool transformation, with 57 per cent of employees preferring

remote working, (2) Repositioning of global supply chains – a USD 3-5 trillion opportunity moving out of China, (3) Emerging global tech regulation, (4) ESG-compliant business models, 5) Emergence of USD 4.5 trillion circular economy opportunity and (6) Pace and adoption of technology, with USD 12 trillion opportunities by 2030.

- Based on a survey of more than 3,000 employees across 10 countries, JLL, (2021b) recommended the future workplace to be regenerative, providing flexibility, health and safety, social interactions, the comfort of the home and energising and motivating workers.

The emergence of technology in offices

- CBRE (2020) emphasizes the emerging role of technology in CRE through the use of cloud-based remote working, live streaming and video-conferencing tools, virtual reality for site visits and inspections, use of AI for security and people flow management, automation for management of warehouses and drones for deliveries.
- Brookfield's technology team predicts extensive use of technologies in the office in virtual marketing/leasing, data analytics of space utilisation, extensive use of robotics and IoT and air quality improvement (Brookfield, 2020).
- In the US, JLL (2022b) discusses that, pre-pandemic, to retain talent, corporates were looking for offices with favourable locations, open space and amenities like gymnasiums and coffee bars. Now, they are looking for technology-enabled offices using AI and software to monitor energy consumption, movement and meeting areas with the use of video conferences to support hybrid working.

Growth of co-working and flexible office space

- In India, flex offices spaces have grown 5 times in the last 5 years, having 38 million sq. ft. across 7 cities with a 3.5 per cent share of total office stock, which is expected to grow to 4-4.5 per cent in the next 2 years (JLL and Awfis, 2021)
- Before the pandemic, landlords had a part of their premises leased to flex and co-working space operators. During the pandemic, many of these closed due to poor occupancy. Post pandemic, many companies and landlords have expanded within their portfolio the percentage of co-working and flexible space options (JLL, 2022c).

STAKEHOLDER INTERVIEW RESULTS

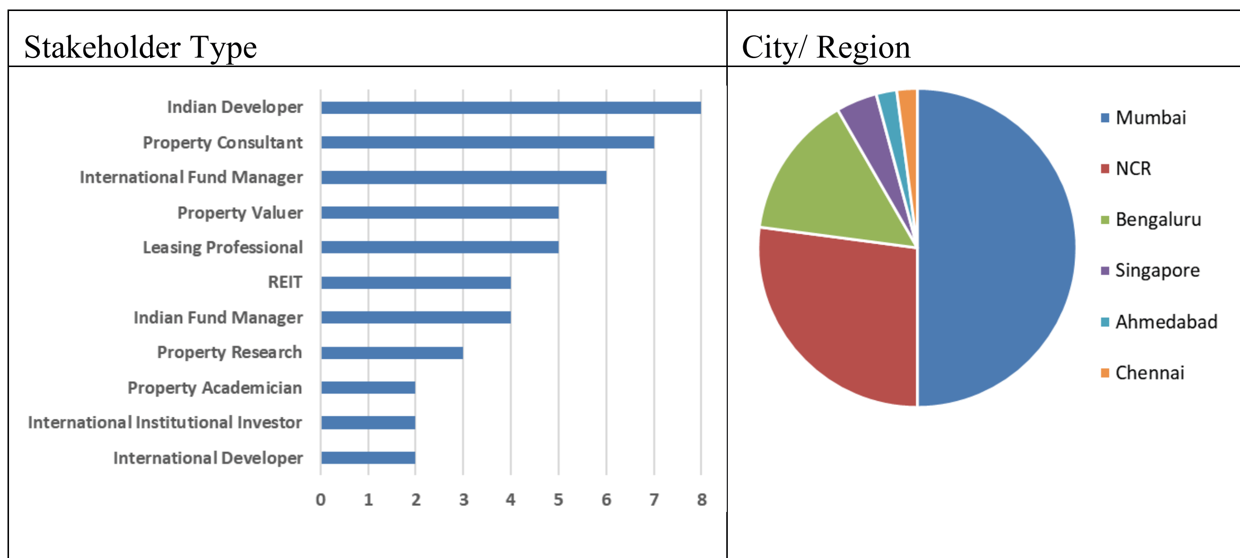
Apart from the turmoil in the global economy, the COVID pandemic has brought about changes in human interaction, physiology and the way we perceive the world around us. This created shock ripples and created uncertainty in CRE. The fluctuation within the commercial real estate market has been greatly influenced by the new societal practices brought about by the COVID pandemic.

5.1 STAKEHOLDER INTERVIEW PROFILE

A key component of this research was to engage with key stakeholders in the commercial office in India. These stakeholders, as shown in Figure 2, include a wide range of commercial office professionals including developers, REIT managers, fund managers, institutional investors, valuers, leasing professionals and academics. Amongst these developers, REIT managers and fund managers owned commercial office portfolios in India, whereas valuers, property researchers and leasing professionals were mostly from leading IPCs and were business heads of their verticals.

Responses were collected from 48 industry stakeholders through interviews between December 2021 and January 2022, to understand the key risks and mitigation strategies adopted by COP owners in India, along with the structural changes in the commercial office sector in the post-COVID period. For interview questions, please refer to Appendix 4.

Figure 2: Stakeholder interview profile



Source: Primary Survey

5.2 RISK PERCEPTION AND RANKING

Risk perception changed significantly in the pre-, during and post-pandemic periods. In this section, we look at the transformation of the risk for office real estate in India across the three stages, i.e. pre-, during and post- COVID period. The Relative Importance Index (RII) was used to provide a relative ranking of the various risk attributes based on the feedback provided by various experts on a Likert scale (for details refer to Gupta *et al.*, 2018).

5.2.1 Pre-COVID period

Before COVID, the top five risks considered were title, valuation, geography selection, leverage and currency volatility (refer to Table 4). In India, in absence of a conclusive title system, title risk has always been a significant risk and was considered the most important risk. With the approval of REITs in India in 2014, international investors like Blackstone, Brookfield, QIA, CPPIB, CapitaLand, etc. started buying completed office properties for REIT listing. In 2019, India recorded the highest office leasing transactions. During this time, the Indian economy started showing signs of fatigue and was slowing down. Excess capital has pushed the valuations of these assets, which seems to be the reason for valuation being perceived as the second most important risk during this period. The third risk was geography selection risk, as in India few markets like Bengaluru have been doing better than other markets, investors considered market selection as an important risk. With the fast growth of the office market, many developers have expanded and were over-leveraged but, with the economy slowing, leverage was considered the fourth important risk, whereas other macro-economic factors, like currency volatility and interest rate movement, were considered the fifth and sixth most important risk attributes. *The top risk attributes during this period arise due to investment stage and financing decisions, and macro-economic factors.*

Table 4: Risk perception during the pre-COVID period

Rank	Risk	RII	STDEV	Rank	Risk	RII	STDEV
1	Title Risk	0.62	1.13	6	Interest Rate	0.48	0.92
2	Valuation	0.53	1.00	7	Obsolescence	0.47	0.79
3	Geography selection	0.51	0.90	8	Feasibility	0.46	0.84
4	Leverage	0.50	0.92	9	Taxation	0.46	0.82
5	Currency Volatility	0.48	0.90	10	Yield Movement	0.45	0.87

Source: Primary Survey

5.2.2 During-COVID period

With the COVID pandemic hitting the globe, uncertainty resulted in a change in the risk perception. CRE was under pressure due to disruptions caused by lockdowns, social distances and changes in human habits and working.

The top risks for COP owners during the COVID period were perceived as risks of re-letting/void, force majeure, lock-in duration, rent escalation and excess rent (refer to Table 5). Due to uncertainty in the market, the demand for office space decreased and, under such conditions, re-letting has become a major concern and the top risk. It was found that many tenants, due to WFH and limited occupancy and stress on revenues, approached landlords for a rental freeze or concessions considering COVID as a force majeure event. Some tenants in India approached courts for relief on account of force majeure; however, the courts did not consider COVID as a force majeure event. During this period, the tenants whose lock-in duration expired and leases were due for rent escalation, considered leaving the property. This was considered a major risk as it would lead to high vacancy and re-letting was not easy. A similar situation can arise, in the case of excess rentals due to rental volatility resulting in a drop in market rentals. In such a case, tenants may re-negotiate or move to cheaper locations/properties. Other risks in the top ten risks are rent volatility, vacancy level, obsolescence, tenant default and capital expenditure. *With increased uncertainty, the most*

important risks during the COVID period were those that led to the tenant vacating the property, decreasing the space and re-negotiating the financial terms.

Table 5: Risk perception during the COVID period

Rank	Risk	RII	STDEV	Rank	Risk	RII	STDEV
1	Re-letting/ void	0.79	0.84	6	Rent volatility	0.74	0.88
2	Force majeure	0.76	1.08	7	Vacancy level	0.74	0.95
3	Lock-in duration	0.75	1.00	8	Obsolescence	0.73	1.02
4	Rent escalation	0.75	1.10	9	Tenant Default	0.73	1.02
5	Excess rent	0.74	1.01	10	Capital expenditure	0.73	0.87

Source: Primary Survey

5.2.3 Post-COVID period

The new normal in the post-COVID world, or to live with COVID. The top risks post-COVID considered are the risks of obsolescence, ESG, lock-in duration, Operation and maintenance (O&M) and title risk (refer to Table 6). Post-COVID, companies are increasingly looking at providing flexible working options, looking for flexible office space, adopting technology in the physical operation of the buildings and at work. During COVID, portfolio owners have extensively invested in technology and upgrading their systems. In older buildings these changes and upgrades are expensive and difficult, increasing the risk of obsolescence. The difference between rental premium is observed to increase between new and old buildings. Previously, ESG was a discussion in the boardrooms, but COVID has leap-frogged the significance of ESG. With increased focus on the employees and getting them back to the office and retaining them, companies have become conscious of the Social part of ESG. Both investors and companies are demanding greater adherence to the ESG norms. Non-compliance to the requirements of ESG has emerged as the second most important risk. Lock-in is perceived as the third most important risk; it provides property owners security of continuation of lease. Property owners have provided other rebates, in the form of rent abetments and free facilities for lease extensions, with longer lock-ins. With additional capital expenditure in the up-grading and maintenance of the property, owners perceive lock-in as critical for new leases. O&M is considered the fourth important risk. In the post COVID period, O&M would require capital expenditure for upgrades using technology in physical systems in the form of touchless fixtures and for space management through smart data analytics. Title risk is still considered significant as the fifth most important risk. Other risk attributes are capital expenditure, vacancy level, rent escalation, rent volatility and excess rental. *The key post-COVID risk is not being future-ready. Being future-ready would require continuous up-gradation, capital expenditure, adoption of ESG and other technology in operations of the property.*

Table 6: Risk perception during the post- COVID period

Rank	Risk	RII	STDEV	Rank	Risk	RII	STDEV
1	Obsolescence	0.74	1.03	6	Capital expenditure	0.62	0.93
2	ESG	0.73	1.02	7	Vacancy level	0.62	1.01
3	Lock-in duration	0.70	0.77	8	Rent escalation	0.61	0.86
4	O&M	0.69	1.13	9	Rent volatility	0.61	0.91

5	Title Risk	0.63	1.12	10	Excess rent	0.60	0.86

Source: Primary Survey

5.2.4 Risk transformation across periods

The risk perception transforms with changes in the external and internal environment. The COVID pandemic is a major global shock that is likely to induce everlasting changes in the office sector. Table 7 shows how risk perception transformed during the pre-, during and post-COVID periods. In the pre-COVID period, the investment stage (title, valuation and geography selection), financial (leverage) and macro-economic risks were considered the prominent risks. The shock of COVID brought a high degree of uncertainty that changed the risk perception. In the short term, survival and continuity of commercial offices became critical, whereas in the long term preserving the headline rentals and ensuring cash flow was important. During the COVID period factors that led to disruption in existing or expected rentals (force majeure and rent escalation) and tenants vacating or reducing the space (reletting, lock-in expiry and excess rental) were considered the important risks. With the re-opening of offices, post-COVID, businesses started adopting hybrid working, flexible working spaces, touchless equipment, technology for the management of building operations. The key risk in the post-COVID period is not being future-ready for these changes, and being future-ready would require reducing obsolescence, adopting ESG, ensuring lock-ins for additional capital expenditure recovery, active O&M, with the adoption of technology in operations involving the use of smart data analytics, and clean property title. Overall across the three periods, major risks perceived were obsolescence, title, lock-in duration, O&M and ESG.

Table 7: Risk perception during pre-, during- and post- COVID period

	Pre-COVID			During COVID			Post-COVID			Overall		
Rank	Risk	RII	STDEV	Risk	RII	STDEV	Risk	RII	STDEV	Risk	RII	STDEV
1	Title Risk	0.62	1.13	Re-letting/ void	0.79	0.84	Obsolescence	0.74	1.03	Obsolescence	0.65	1.13
2	Valuation	0.53	1.00	Force majeure	0.76	1.08	ESG	0.73	1.02	Title Risk	0.64	1.12
3	Geography selection	0.51	0.90	Lock-in duration	0.75	1.00	Lock-in duration	0.70	0.77	Lock-in duration	0.63	1.10
4	Leverage	0.50	0.92	Rent escalation	0.75	1.10	O&M	0.69	1.13	O&M	0.62	1.17
5	Currency Volatility	0.48	0.90	Excess rent	0.74	1.01	Title Risk	0.63	1.12	ESG	0.61	1.14
6	Interest Rate	0.48	0.92	Rent volatility	0.74	0.88	Capital expenditure	0.62	0.93	Excess rent	0.59	1.07
7	Obsolescence	0.47	0.79	Vacancy level	0.74	0.95	Vacancy level	0.62	1.01	Rent escalation	0.59	1.17
8	Feasibility	0.46	0.84	Obsolescence	0.73	1.02	Rent escalation	0.61	0.86	Rent volatility	0.59	1.09
9	Taxation	0.46	0.82	Tenant Default	0.73	1.02	Rent volatility	0.61	0.91	Capital expenditure	0.59	1.06
10	Yield Movement	0.45	0.87	Capital expenditure	0.73	0.87	Excess rent	0.60	0.86	Leverage	0.58	1.06

Source: Primary Survey

5.3 DURING COVID: KEY RISKS AND MITIGATION STRATEGIES

In discussions with the industry stakeholders regarding key risks during the COVID period, the first and major risk pointed out by most of them is *Vacancy Risk*. Due to this pandemic, WFH work culture emerged, which was a mitigant for most companies to continue their operations remotely. Most of the large companies (especially IT), who are the biggest occupiers of commercial property portfolios, have shifted to WFH during the pandemic, and generally for the last 24 months have asked their employees to work remotely. As a result, the COP faced stagnation in demand. During this period, the priority was to run operations as smoothly as possible and remotely. The discussion revolved around the fact that *surrender of space* by large tenants might happen, since WFH would drive the decision; however, largely this event, which is an extension to vacancy risk, did not materialise and some industry stakeholders mentioned the fact that some smaller tenants did surrender the space and it was taken up immediately by the larger tenants in the building, who found it an opportunity for efficiency and logistics to expand in the same building, along with attractive commercial terms at the time.

During the period a second risk, which is the *Tenant Default Risk,* emerged in discussions with industry stakeholders. Most large COP owners, however, did not face this default risk from the occupants. But *rent collections* did slow and were deferred. Smaller occupants did delay rent payment or defaulted, as their cash flows dried up, as they were dependent on the smooth running of the campus, but the number of such occupiers was not large and could be absorbed by the owners easily.

Moreover, the initial two risks generated multiple other related risks, around leasing/ tenancy issues as informed by the industry stakeholders. Those risks are *reletting, rent increase, lock-in period, lease renewal, acquiring new opportunities, strong negotiations, supply chain disruptions, revenue leakages, a variety of operational risks, etc.*

But during the lockdown period, the fixed cost was mostly born by many COP owners to support the tenants wherever asked for. According to the industry leaders, that creates the third risk, which is *Operation & Maintenance Risk*. Though the employee occupancy was low, owners had to maintain their property regularly. They had to pay the taxes, service loans, etc. Moreover, they made capital expenditures to arrange extra upgrades to maintain COVID protocols and compliances. Hence, owners faced low earnings but high expenses. One of the COP managers mentioned that during the COVID period, they provided residential facilities for maintenance staff within the property.

An Indian developer and COP owner mentioned that *"we are looking to maintain the relevance of the buildings by decreasing the obsolescence of mechanical, electrical and plumbing (MEP) equipment and structure through continuous upgrades, and addressing the ESG risk, i.e. to provide for employee health and safety, security, virus-free air quality, safe working environment, to name a few related to the building and linked to its maintenance."*

Mitigation strategies adopted during the COVID period

According to industry stakeholders, different portfolio owners mitigated the above risks with different strategies. But the most common mitigation process followed by them to minimise the vacancy rate or the number of the defaulters, was through rent re-negotiations. One of the COP managers said, *"Don't touch our rental, you take an additional one or more months rent-free and no operational cost for you."* So that gives the tenant some amount of leeway and effective rents went down. Sometimes owners only asked tenants to pay maintenance charges and gave them rent-free for a certain period. Owners also have kept the headline rents the same but addressed the concerns by restricting the rental payments. In some rent increase discussions, instead of rent increases that were due, the rent was frozen for a certain period. The long-term property impact, in the words of a prominent IPC representative, who said *"I think it was more in terms of new tenants getting a couple of months extension on rent-free periods or longer fit-out period, or you know lesser common area maintenance, to begin with."*

Most industry stakeholders mentioned the COVID period was a time when *hyper-communication between internal-external stakeholders* was happening, tenants were informed about the COVID upgrades and compliances being followed within the premises to provide comfort. Constant communication and proactive actions played a big role in reducing the concerns and anxieties of the tenants and made them feel like partner stakeholders. In some cases, portfolio owners have done some additional work to hold the tenant. They upgraded by installing different kinds of modern equipment (*touchless automation*) to increase safety and health compliances. *Many owners worked on HVAC systems upgrades and, particularly, air quality by changing to better filters.*

Some of the Indian developers sold parts of their commercial real estate portfolio, primarily to help them reduce debt and stay afloat in uncertain times. Many of such players reinvested the

part sale proceeds to develop new partnerships with institutional investors for developing new properties.

It has been a very cooperative kind of effort to manage this crisis. Engaging with the tenants, managing their expectations to avoid an increase in vacancy. Negotiations are leaning towards the tenant. While occupancy dropped initially, it did stabilise. Essential services and servers were kept operational, due to which tenants had an obligation to pay rent. COP owners managed the expectations of their tenants and developed better relationships and partnerships. Flexibility has been provided to the tenants and they are being helped to return to the office gradually. There were effective engagements by the large property owners with their tenants, explaining to them activities, like cleaning norms and social distancing norms, during the pandemic. Developers during the pandemic period provided rent-free periods as they wanted to retain the property. Shortfalls in rent collection were not significant, unlike in the retail sector.

COP owners came up with clauses, such as allowing extended periods with no rent escalations, to retain the occupiers and kept the premises completely operational, kept facilities up and running, and invested in the building's MEP services so that when the employees come back, they have had a better experience. *Building experiences become important as a strategy for employee retention.*

The owners provided flexibility and cooperated with the tenants in their demands and requirements. WFH was new, each tenant behaved differently to the prevailing uncertainty, and owners provided total flexibility to provide comfort and to help in adjusting to the new reality. Protecting their headline rentals, they restructured the leases, providing short-term discounts in escalations and, in a few cases, rent deferments or reduced maintenance charges. There is also a function of long-term relationships, as space reductions have been lesser than expected and owners' representatives consistently remain connected with their occupiers.

Owners worked hard to improve their assets, with a primary focus on EHS and wellness upgrades. Firstly, by making their facilities more employee-friendly for physical operations and, secondly, by gradually increasing the flexibility for their tenants, providing them comfort, in case the workforce remains at home, resulting in business uncertainty or financial losses.

Owners ensured that their properties are extremely good, in terms of the ESG or the wellness aspect, which is the first thing that tenants are looking for on their way back to normalcy.

5.4 IMPACT OF COVID ON COMMERCIAL PROPERTY PORTFOLIO

According to the opinion of most of the industry stakeholders, COVID 19 affected some portfolio owners adversely and simultaneously created opportunities for others. If we consider the adverse impact, it mostly happened for medium-sized and single property owners, due to debt, non-prime locations and/or obsolescence issues related to their buildings. As discussed before, due to COVID, commercial property faced a drop in demand and delayed rent collection. So, maintaining the property during this period became a major problem for the medium-sized players, as they did not have a steady cash flow. So, they faced a very low cash inflow, while the outflow was almost the same and, in some cases, more, as touchless and other up-gradations were incurred to meet both tenant and market expectations to attract employees back to offices. Moreover, due to this pandemic, people become more conscious about health and safety upgrades. Hence, portfolio owners had to spend extra capital to modify their properties to make them COVID-compliant. These expectations created pressure on those owners.

But if we consider institutional investors, who have a strong balance sheet, COVID acted as an opportunity for them. As the small and the medium-sized players intended to sell their property, institutional portfolio owners had opportunities to acquire strategic portfolios and projects on attractive terms. An international developer remarked that *"during the COVID period we have doubled our India portfolio and expect more consolidation in the commercial office."* In that way, COVID helped them to expand in the market and consolidation of the office market is evident and accelerated during Covid. Some large developers also sold parts of their portfolios, like Prestige Group to Blackstone and RMZ Corp to Blackstone. These sales also provided these developers with the ability to retire their debts and acquire newer properties for development in partnership with institutional investors, to create new and contemporary property portfolios. A major international investor mentioned that *"COVID has provided an opportunity to acquire assets that were not available in the market for acquisition or at a better valuation."*

Furthermore, one more point was observed by industry stakeholders; a shift in demand for Grade A properties. Before COVID, companies were not so much concerned about health, safety and ESG norms. But COVID has brought a change in mindset; previously companies used to enquire about amenities such as gymnasia, now they talk about health and safety protocols, like touchless access, clean air filters, etc. This has resulted in a widening in the premium between Grade A and Grade B properties. This shift in demand also created a wider demand for premium properties. A REIT manager remarked that *"there is a realisation that it is better to pay higher for quality assets than investing across the project life for a decent exit."*

From the landlord's point of view, another REIT executive stated "*before COVID also there was ongoing consolidation like the large developers in India held some of the biggest property portfolios. What happened during COVID is that it became clear that commercial real estate is a game for big boys with deep pockets. In India, there will be less than 10 large developers/institutional players that will own most of the commercial office."*

Another IPC senior executive had a similar experience stated, *"you saw a flight to quality, you swap a Grade-A (-) asset to a Grade-A asset in your portfolio as it is seen as being resilient, and tenants also started realizing over time the importance of quality properties."* The top players will increase their market share of the total market, which is what had already been happening, but would be accelerated now.

Another notable trend that was witnessed was that most of the investment in office portfolios was done by a few institutional investors and fund managers that have been in India for a long time. A senior IPC investment consultant/broker mentioned that *"due to COVID only those international investors that had decision making in India were able to take investment decisions as international travel was for most of the time restrictive."* Another large international fund manager that had limited investments in India mentioned *they have maintained the status quo with their portfolio but were evaluating transactions.*

5.5 RISK APPETITE AND STRATEGIES OF INDIAN & INTERNATIONAL PORTFOLIO OWNERS

Most of the respondents agreed that the risk perceived by Indian office portfolio owners was very similar to that of their international counterparts, *however, in certain cases their responses varied due to their situation, in terms of balance sheet strength, duration of the capital and risk appetite*. This is because the risk was spanning out globally and people were aware of it. With large-scale portfolios, the Indian and international developers had become like co-investors, who viewed the risk very similarly at the operational level. Looking at the long-term positive

outlook for the Indian economy and its commercial office market, both Indian and international players saw this risk as an opportunity to upscale their operations and so they started accommodating each other and the tenants. An IPC country lead of capital markets mentioned that *"International investors previewed this as a long-term investment opportunity. Although Indian investors also saw this as an opportunity, they lacked the long-term patience capital or the vision, experience and ability to withstand the outcome."*

Some stakeholders mentioned that the risk perception of Indian developers, especially the property owners, was very high, as they generally take a position that is not long term compared to the ten years plus positions taken by international investors. *The confidence in income-generating assets was higher for the international players compared to their Indian counterparts, who look for high risk and return opportunistic property development returns.* More visibility and long-term commitment can be seen from international investors during the global pandemic. This was due to access to long-term capital and experience of past global shocks and pandemics. One of the international developers stated that *"we were ready with all COVID protocols based on our past international experience of SARS epidemic within days."*

The strategy for Indian and international investors was different also, because the public markets return expectations of international REIT/REIT hopeful investors due to lower risk in stabilised Grade A listed properties. Moreover, for Indian and international investors there was a difference in the source of capital. This resulted in a different cost of capital, duration of funds and return expectations; resulting in different operational and tactical ways of managing and retaining the COP. An IPC senior executive mentioned that *"In a nutshell, the main strategy of the Indian developers' was to get more stability to the portfolio that will bring institutional capital to come into the portfolio and finally reach out to the public REIT markets."* This was evident as many Indian developers exited their properties to decrease debt and reinvested capital in opportunistic CRE in partnership with international investors. Some stakeholders mentioned that the risk was dependent on how people were capitalised. The ability to take opportunities was being dictated by how much capital was available for investments, as well as what their current balance sheet looked like. If the Indian property owner has a strong balance sheet, which generally means that they have some international institutional relationship, the risk was lower than those without international institutional partnerships.

When it comes to operational strategies, most of the developers announced safety around their workplaces, ensured that their employees were safe, and looked after the expectations of their employees, ensuring productivity during this whole lockdown scenario, apart from helping tenants with all their requirements and ensuring adherence to all COVID compliances and other EHS norms within their buildings.

5.6 POST-COVID: STRUCTURAL CHANGES IN COMMERCIAL PROPERTY

While the post-COVID-19 habits of people would have a distinct effect on each asset type, the commercial real estate sector is majorly recognised for being hit with a flattening of demand due to the WFH policy. One of the REIT executives mentioned, *"the biggest risk during COVID was WFH that may lead to changes in commercial property holdings in the future."* There has been significant discussion about the future of office space and what employees will demand post-pandemic. A significantly high focus on EHS in the post-COVID world would become an important factor that may lead to major structural changes in office real estate.

"Regardless of the impact on short-term productivity, implementing WFH would pose a threat to company culture, innovation and collaborative teamwork" mentioned an Indian developer,

based on the concerns raised by the tenants in their discussion. Instead, there is likely to be a more flexible approach by the players in the market that will provide more flexibility revolving around employee work lifestyles. This is how the concept of flex-working space emerged that could have a long-term impact on the future of the work. Co-working started with start-ups or smaller players, but slowly was introduced into big enterprise companies. As one fund manager put it, regarding co-working and managed office spaces, *"gradual movement, which was happening in the fringes, got pushed forward and was expedited by the pandemic."*

Another structural change pointed out by a few respondents as likely to impact future offices is *densification i.e., increased desk space as the average employee per space will go up with an increase in collaboration spaces*. Greater capital expenditure will be required to enhance EHS standards of the property. The industry stakeholders will focus on up-gradation in terms of capital costs to upgrade the property because offering a comfortable home-like work environment to employees would also be part of the strategy to attract and retain young talent. An IPC leasing expert stated, *"It will move tenants away from legacy space into new generation office space specifically focused on flexibility, EHS and ESG."*

With the emergence of hybrid working, tenants are looking for flexibility and, due to uncertainty, are shying away from long-term capital commitment. One of the experts predicted tenants may move away from a warm shell to a partially or fully fitted out space. Tenants will look for green certification, serviceability, and sustainability of a building since their focus will be more on EHS. A senior property portfolio executive stated that *"The ESG requirements will forward the wider acceptance of green leases, green loans and green assets that will bring a flight to quality, concentration, and consolidation in commercial property portfolios."*

According to some experts, Grade B buildings will suffer more because they will face difficulties in terms of upgrading the spaces due to obsolescence. Few industry experts predict *a move from consolidation to fragmentation of multiple offices in a single city*. The facility managers may decide to have a physical office space and the IT infrastructure, which is their servers that are at different locations. Companies will restructure to have smaller, decentralised offices with co-working spaces that have locations in multiple neighbourhoods across the city.

Tenants will want a part of their office portfolio in a flexible space that will have a lower time commitment and could be expanded on-demand basis. There will be flexibility in terms of utilities or in terms of tenure that provides higher confidence within flex office operators. The incorporation of new technological alterations or advancements into the building is going to be a permanent feature. Technology will have a greater role in enhancing the end-user experience, along with design changes, upgrades for customer experience, adoption of hybrid working, home-like comfort and features that will help in attracting employees to build loyalty with their companies. Within organisations implementing ERP systems, the whole delivery side would be technology-enabled. One of the Indian fund managers summed it as *"...demand and acceptance for flexible office space has gone up, so companies and property owners are looking at some portion of their office space being flexible."*

A few experts predicted that occupancies will become fragmented, so there will be a future where the occupancies will be scattered across cities or more probably within a city. Capital budgeting for any landlord or property investor will also have to change and expectations of returns could change significantly. An IPC consultant mentioned, *"by breaking down a large occupancy into multiple smaller occupancies it will bring down the cost from a tenant's standpoint and therefore from a property owner or an investor standpoint, this is a very important change that they must build into their, strategic plans going forward."* The asset

owners will become careful about leveraging their portfolios, wanting to keep leverage under control to avoid spiralling debt during periods of irregular cash flow due to uncertainty in the market. These changes will bring about a long-term impact on individual properties, and they may have an impact on entire neighbourhoods, ultimately changing the nucleus of entire cities.

For many tenants, during both the COVID period and moving forward in the new normal, the nature of their partnership with property owners has changed to a strategic one. The relationship has evolved as that of a partnership than merely of transactional nature. This was never the case pre- COVID. Demand might have slowed but it is returning for reasons discussed earlier. With remote working around the world, cloud computing and outsourcing of work, India is already at the forefront of gains from such actions of large corporates already having a presence in India. Those corporates with a presence here pre-COVID are more likely to expand. The ones that planned to start the process of outsourcing from India in recent times had to delay their plans during COVID times. The pressures for such corporates are growing to outsource soon and, in the process, India's commercial property portfolio owners will be the gainer.

████ IMPACT OF COVID AND CONCLUSIONS

6.1 RISK TRANSFORMATION IN PRE-, DURING AND POST-COVID PERIODS

Due to the COVID pandemic, the global economy and commercial real estate underwent a time of uncertainty. During this period, survival of businesses became challenging, which percolated through to the entire office segment and impacted the COPs. During the COVID period, risk perception underwent a sea-change transformation from the pre-COVID period and, with a new norm now setting in, new risks are perceived for survival and sustainability. The transformation of risks as perceived by key stakeholders in India during these three periods are discussed below:

- The top risks before COVID were title risk, high valuation risk, city/geography/micro-market selection risk, and currency and interest rate volatility risks. These risks arise due to investment-stage and financing decisions, and macro-economic factors.
- During the COVID period, due to high uncertainty, key risks were re-letting/void risk, force majeure risk, expiry of lock-in duration, rent escalation, excess rentals, rent volatility and the risk of increase in vacancy. These risks led to disruption in cash flow and survival issues for the COP owners due to tenants vacating properties, decreasing their space and re-negotiating financial terms.
- In the post-COVID period, as the COP owners prepare for the new norm, the key risks are those of obsolescence, ESG adoption, short lock-in duration, operation and maintenance-related risks, title risk and capital expenditure risk. If commercial portfolio owners do not adapt to the emerging requirements of the office sector and are not future-ready, this would lead to loss of business and suitability of their properties. Being future-ready will require capital expenditure for up-gradation, extensive use of technology and adoption of ESG and EHS measures.

6.2 CHALLENGES AND RISKS DURING COVID

COVID pandemic was a black swan event that, due to changes in social distancing norms and lockdowns, forced employees to operate from their homes. It led to an environment of uncertainty, defaults by tenants in fulfilling their contractual obligations and problems faced by COP managers to maintain normal operations of their properties. Key risks and uncertainty faced by the COP managers during this period were highlighted by experts as:

"business continuity"

"maintaining the valuation of the portfolio in terms of cash flow"

"as part of the negotiation, some had a rental discount, a rent-free period, or fit-out support"

- One of the major challenges was WFH, which lead to low occupancies resulting in a challenge in rent and common area maintenance collection.
- Risk of existing tenants vacating, downsizing and defaulting on their contractual commitments.
- Tenants due for rent renewal, rent escalation and those whose lock-ins expired, started negotiations for space reduction and vacating the property.
- Due to uncertainty, companies postponed expansion plans and new property leasing, which led to the expiry of hard options; increasing the risk of reletting/void.
- Due to uncertainty and shortage of labour, many developers delayed construction activities.

- Operation of premises, due to low occupancy, shortage of workers and COVID compliances, became challenging.
- Many tenants asked for a rent freeze, citing COVID as a force majeure event.
- Companies became concerned about EHS standards within premises.
- Managing continuity of the business, due to disruptions in cash flow, upgrades for COVID compliances, loan obligations and overall uncertainty in the business environment.

6.3 RISK ADAPTABILITY AND MITIGATION

To deal with uncertainty during the COVID period, COP managers adopted various mitigation strategies, a few of which were highlighted by the experts:

"I think it's just a proactive management & engagement strategy"

"there's a lot of focus on wellness, non-touch automation and access systems"

"We kept our properties operating and therefore tenants had the obligation to pay"

- COP managers increased their engagement and communication with their tenants and updated them on all COVID protocols being followed within the premise.
- COP owners were forthcoming regarding the demands of these tenants. They were supportive of rental terms in renewal, restructured leases, offered a few months rent-free period and deferred payment plans, provided free infrastructure add-ons and retrofitting. But they protected their headline rentals and tried to secure lock-ins wherever possible for additional perks.
- Ensured operations of the premises, provided incentives to staff, including providing residential facilities on the campus.
- COP owners made capital expenditure on improving touchless access systems, following COVID protocols, adding air filters to prevent the spread of the virus, etc. They proactively communicated with their tenants regarding these improvements, to provide them with comfort.
- A few Indian developers sold their properties and parts of their portfolios to reduce debt and exit older properties.
- A leading Indian developer and COP owner pointed to the importance of certification, *"Certifications are something which gave assurance and a sense of comfort.... we've got LEED, British Safety Council certification for our health and safety, we've got WELL certification from International WELL Building Institute, US."*

6.4 POST-COVID WORLD

As companies and employees prepare to come back to the workplace, the post-COVID world differs from the one they left. The priorities, preferences, concerns and considerations of employees, tenants and COP managers have changed. The fight for talent has a new dimension now and getting employees back to the office needs an innovative approach and enticements. The business model for commercial offices has transformed from B2B to B2C, with most COP managers not only being concerned about the tenants but also need to engage and entice employees/workers. Though the property sector has been a laggard in digitization and adoption of technology, COVID has fast-tracked the adoption of technology and other trends in offices, like working from anywhere and flexible working. COP managers and leaders discussions of these emerging trends mentioned:

"...the focus on ESG has gone up, it has become a keyword, it is no more a buzzword"

"flight to quality, only quality buildings and quality developers will survive"

- Increasingly companies are looking for flexibility. Developers and COP owners are including co-working/flexible workspaces and companies within their portfolio.
- There is an increased focus on EHS and ESG. One of the COP executives mentioned, *"ESG will become more critical from tenant side, owner side and investor side so we will have green leases, green loans, green assets so there will be more sustainability in COPs".*
- Building certifications have gained importance. As one senior Indian Developer and COP executive mentioned, *"certifications give assurance and a sense of comfort.... we've got LEED, British Safety Council certification for our health and safety, we've got WELL certification from International WELL Building Institute (IWBI) US."*
- COVID has fast-tracked the adoption of technology in the form of touchless access control and software applications in facility management to monitor space usage, quality of air, temperature monitoring, etc.
- Grade A office is fast-emerging as an institutional business with decreasing relevance of strata sale, single assets and high net-worth individual ownership.
- The engagement level between COP managers and employees has increased. As one COP senior executives pointed out, *"we are trying to mitigate the downside of WFH by doing events for entertainment, health, well-being and to make people come back to the office for the things they are missing at their home."*
- There is strong demand for tech talent and companies look for retention strategies. Good properties, offering a safe, flexible, innovative and collaborative work environment with modern amenities, are preferred by companies and employees.
- There is a flight towards quality developments and COPs that have deep pockets for capital expenditure to improve the experience of the work environment and for upgrades.
- Hybrid working is fast-emerging as the accepted model of working. This is giving rise to flex and managed offices, which is likely to become a major part of the mainstream office business model.
- A few experts expect there may be fragmentation of large offices to smaller offices at multiple locations within a city and, possibly to a smaller extent, to smaller cities, and de-densification within offices with area per employee increasing.

6.5 CONCLUSION

Based on extensive interactions with key stakeholders in commercial offices in India, the research team provides the following conclusions and recommendations for COP owners, developers and other major participants:

- The key pillars of the COPs in the future will be sustainability/ESG, technology, better buildings/campuses, flexibility, and partnerships.
- For the growth and sustenance of COPs, collaboration will be key. Stronger partnerships will emerge between: developers and investors to create larger COPs; employees and companies; companies and COP managers; and between companies, employees and COP managers.
- What had started with the adoption of REITs in India, COVID has fast-forwarded the trend of consolidation of COPs and their institutionalisation. This is expected to bring better operational and governance efficiencies, and increase transparency.

- There may still be room for smaller COP owners with medium-sized projects in both gateway cities and Tier 2 & Tier 3 cities, servicing smaller companies in gateway cities and both large and medium companies in smaller cities.
- With the fast growth of the Indian economy and growth in the movement of Global Capability Centres (GCC) and other technology-based services to India, the office sector is poised for growth.
- The commercial office segment in India is expected to witness structural shifts due to growth in remote working, the emergence of flexible working, flight to quality properties and COPs, extensive use of technology and adoption of ESG.
- Another emerging trend seems to be the fragmentation of large offices into smaller ones across cities, de-densification within offices and integration of flexible and managed offices within COPs.
- Though there were a lot of discussions around tenant default, related to vacancy and rent payment, this risk was managed through proactive communication and flexibility shown by the COPs. Major REITs in India have reported 99 per cent rent collection.
- It was found that international tenants fulfilled their contractual obligations without extensive negotiations; they were more focused on EHS and ESG matters. But many local tenants were more focused on negotiations related to lease and payment obligations.
- There is a lot of discussion around sustainability and ESG; however, there was no major discussion around the adoption of circular economy principles in COPs. With the growth of developer-led COPs, integrating the concepts of the circular economy seems quite relevant.

Appendix 1: Industry Acknowledgement

The research team would like to acknowledge:

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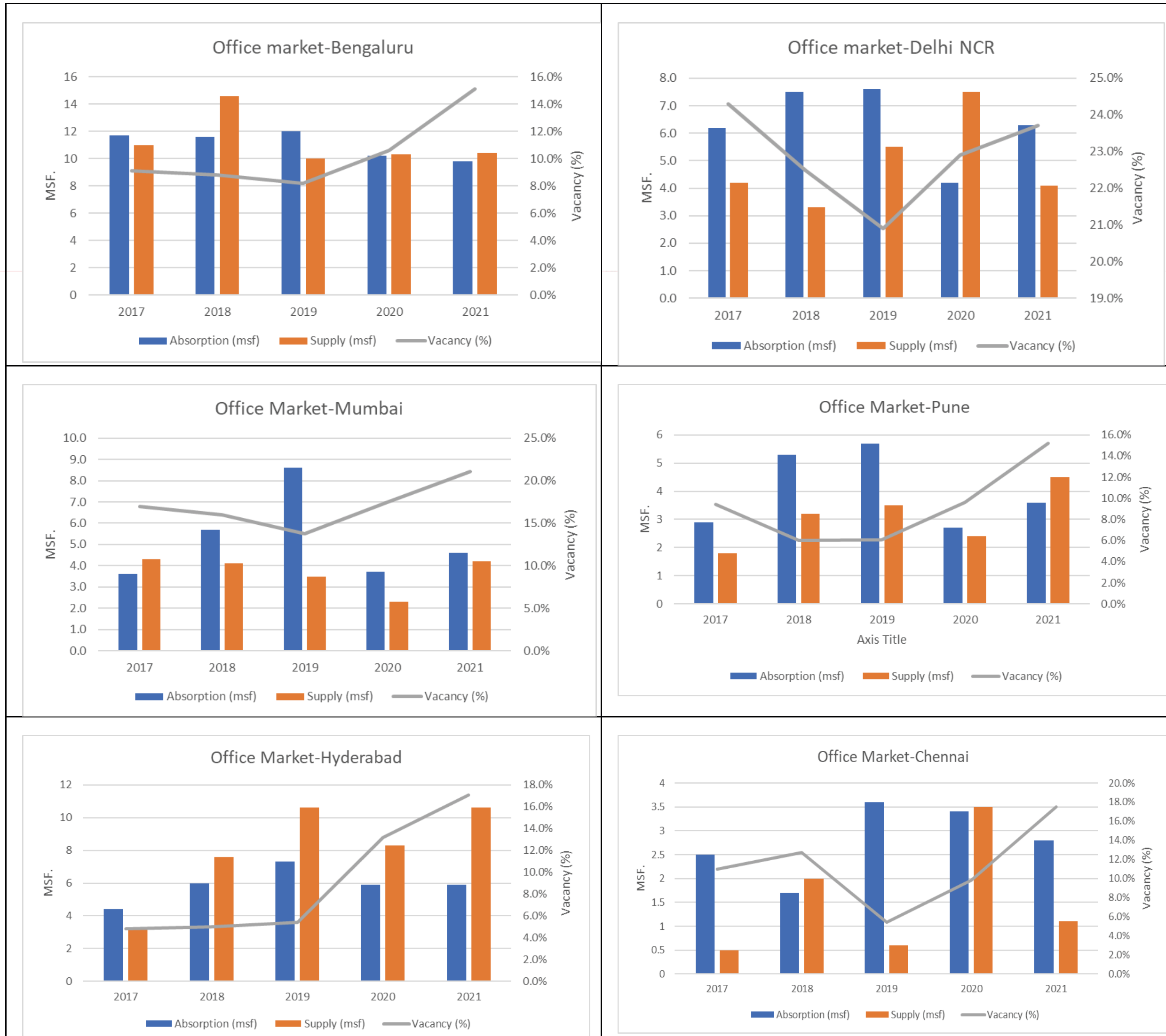
CapitalLand	Nucleus Office Parks (Blackstone Portfolio Company)
Colliers International	Prestige Office Ventures
Cushman and Wakefield	RICS School of Built Environment
Embassy REIT	RMZ Corp
Hines	Savills
Hiranandani Group	TATA Realty and Infrastructure Ltd
JLL	

Many other participants participated in this study, but they have requested to keep their participation anonymous. We humbly acknowledge their contribution to this research.

Appendix 2: India Office Market

Figure 3: Office demand, supply and vacancy for six gateway cities



Source: Colliers International Research

Appendix 3: Risk Glossary

Interest rate movement

An increase in interest rate is a risk, it affects the cost of a mortgage, lease rental discounting and project finance, impacting the property/portfolio cash flow. It impacts the lenders' ability to repay and prepay the loans (Green Climate Fund, 2015). Delfim and Hoesli (2016) found long-term interest rates negatively impact real estate fund's returns.

Currency volatility

Fluctuations in the exchange rate may lead to substantial value erosion of capital for international investors. Currency risk can be mitigated to a certain extent by currency hedging, but that would come with additional cost and could not be completely mitigated. Previous studies by IPF and INREV have highlighted the importance of currency risk and hedging in international real estate investments (Newell and Lee, 2017; Mansley, Lizieri and Wang, 2018).

Political risk

Political risk may arise due to unforeseen political uncertainty, instability, decisions or events that would give rise to change and uncertainty in the business environment that may lead to disruptions. These risks impact investment and cross-border capital flow in real estate (Lee, 2001; Philips, Jennen and Hupkes, 2011). The Scottish referendum resulted in uncertainty and negative sentiment that led to a reduction in investment, higher yields and lower development activities. These risks are viewed differently by domestic and international investors as they have different investment mandates (Jones, 2019).

Legislation and regulatory risk

The changes in regulations, legislation and laws impact the business as usual scenario of a sector or industry. This risk may increase the cost of conducting business due to additional costs due to compliance, taxes, etc. resulting in reduced attractiveness of an investment.

Taxation risk

Property returns can be impacted by alteration in existing taxes or imposition of new taxes, exposing an investment to taxation risks (Baum and Crosby, 2014). Greater uncertainty in taxes impacts foreign investors more than domestic investors (Lee, 2001). These taxes could be due to property tax, stamp duty and registration charges or changes in tax benefits to businesses like the sunset clause[8] to direct tax holiday given to both developers and tenants in the Special Economic Zone act, 2005, in India. In another example, a service tax on commercial rentals[9] was imposed in 2007 by the government of India creating confusion and additional cash outflow for the tenants/occupiers.

[8]For details refer to https://go.cushmanwakefield.com/l/524671/2021-08-09/3sxfby3

[9] In addition to a base rate of 10% additional cess of 3% on the service tax rate to be paid by the occupier, refer to https://www.cbic.gov.in/resources//htdocs-servicetax/st-profiles/renting-imovablepropty.pdf

Rent volatility

Core investors invest in rented property portfolios for consistent income and low risk. Rental volatility risk is the probability of a decrease in rentals. Times of uncertainty, like the COVID-19 pandemic, and economic shocks, like the Global Financial Crisis, may result in short-term corrections and stagnation in rental growth, impacting the actual portfolio returns.

Yield movement

The yield of a commercial property or capitalization rate is inversely proportional to the value of the property. Theoretically, it is impacted by risk-free rate, risk premium and growth in cash flow. In times of uncertainty, yields may expand decreasing the property and portfolio value. Hutchison, Adair and Leheny (2005) and RICS (2011) considered yield movement as a key risk for commercial real estate investors.

Vacancy level

The vacancy rate shows the percentage of unoccupied stock in a property, portfolio or market. The low vacancy rate in property markets indicates a healthy demand-supply equilibrium. Particularly during periods of oversupply, uncertainty and distress, property markets experience higher vacancy. Property portfolio owners are particularly concerned about increasing vacancy in portfolios during periods of uncertainty. In short term, it impacts the debt servicing capacity and in long term impacts the valuation of the portfolio. According to (Geltner *et al.*, 2007), an increase in vacancy above its natural levels results in a decrease in rents and construction activities.

Force majeure

There has been a debate and court cases across the globe related to COVID-19 being a force majeure event, and, thus, tenants demanding rent relief. Ministry of Finance, Government of India has defined force majeure as "…extraordinary events or circumstances beyond human control such as an event described as an act of God (like a natural calamity) or events such as a war, strike, riots, crimes…" In India, lease deeds are governed by the Transfer of Property Act (TPA), 1882. According to TPA, until the property is destroyed or becomes unfit for occupation, the tenant cannot avoid paying rent on grounds that they have not used or have not been able to use a premise.

However, in case there is a specific force majeure clause in the lease deed related to a pandemic. Depending on the terms of the clause, the tenant may evoke it to get rent relief. Going forward, force majeure in lease deeds is a well thought and negotiated clause for future pandemic situations.[10]

Re-letting/ void

Risk of re-letting or void risk means a situation wherein a property if vacated would be difficult to re-let and would be void for a long duration. In times of distress, uncertainty and oversupply, the risk of re-letting a property becomes prominent. In such situations, like arising from the COVID pandemic, the landlords provide additional incentives and restructure the leases to

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[10]This section has benefited from Covid-19 Force Majeure, 'Doctrine Of Frustration' In Property Lease - Coronavirus (COVID-19) - India (mondaq.com)

retain the tenants. RICS (2011) considered void risk as a specific risk that needs to be adjusted while looking at a property risk premium. Similarly, in an IPF report, Frodsham (2007) reported most of the respondents factored void risk while forecasting asset level discounted cash flow.

Liquidity (Resale/Exit)

Liquidity risk is the uncertainty of the speed at which a property can be sold in the market at its market value or close to it (Baum and Crosby, 2014). This may result in an investment exit at a discount to create liquidity even after a reasonable effort at marketing. This risk has been referred to in the literature as exit, re-sale and liquidity risk. As the economy matures and the real estate markets develop, transparency and liquidity increase resulting in better market performance and price certainty Chen and Hobbs (2003). In India, Gupta and Tiwari (2016) reported investment exit risk as the top risk for commercial property investors. However, with the introduction of REITs, in India in 2019, and the development of the commercial office market, this risk may have gone down as mentioned by Chen and Hobbs (2003).

Portfolio partner/co-investor

These days real estate portfolio investments are structured as joint ventures and are commonly called portfolio transactions, structured between Indian developers and international institutional investors. These provide access to capital and international experience to local developers on one hand and access to local expertise to the institutional investors. However, it exposes either party to the risk of performance, corporate governance, liquidity, etc. of the counterparty. Kaiser and Clayton (2008) considered joint ventures as an element of risk that needs active management. In emerging and developing economies this risk assumes significance due to limited transparency and corporate governance in real estate. In India for non-listed funds, Gupta *et al.*(2018) found this to be the most important risk among the 39 identified risks.

Valuation

Valuation in real estate is always challenging, especially for commercial properties, which are valued based on income approach based on various assumptions of cap rate and discount rates. Institutional investors consider the lack of reliable data for valuation as one of the top risks in investing in commercial property (Dhar and Goetzmann, 2006). Excess liquidity, high demand and limited core assets may result in buyers paying aggressive valuations to buy these properties, thereby exposing themselves to future market corrections and valuation risk.

Feasibility

Feasibility risk arises due to the probability of selecting a property, or portfolio, that may perform poorly and may wipe our portfolio returns. This may happen due to the manager’s misjudgement and oversight in the assessment of a property, location or market while investing. Institutional investors perceive the risk of making a poor investment as a major

concern while looking at real estate investments (Dhar and Goetzmann, 2006). A manager can create alpha[11] in the portfolio while selecting individual properties (Kaiser and Clayton, 2008).

Leverage

Leverage results from the use of borrowed capital for investment at the property or portfolio level. Leverage in times of uncertainty becomes a major concern for the investors, exposing portfolios to downward risk. Many investors who have taken high leverage in a falling price environment have found themselves completely wiped out (Kaiser and Clayton, 2008). European non-listed fund's returns were found to be impacted by the use of leverage (Delfim and Hoesli, 2016). Leverage is a major concern for developer-portfolio owners, who are normally exposed to higher leverage in comparison to institutional investors, due to higher exposure to value-added and opportunistic development risks.

Geography selection

Various cities and micro-markets within the cities present different opportunities and risks. Some cities have a wider economic base, ease of doing business and advantage agglomeration effect than others. Investment managers can create alpha in the portfolio by carefully selecting investment geography (Kaiser and Clayton, 2008), and can also provide the advantage of diversification in their portfolio. Baum and Crosby (2014) discussed based on the average IPD returns, a significant difference in returns across various geographies in the UK from 1980 to 2003.

Title risk

In case, the title of a property is found unsatisfactory it may impact its value, development potential and give rise to legal risk (Baum and Crosby, 2014). In many emerging economies like India, in absence of conclusive titles, this is a major concern. Gupta *et al.*(2018) reported title risk amongst the top three risks during the investment stage for non-listed real estate funds in India.

ESG

Environmental, social, and governance (ESG) is sustainable investing that measures the firm's contribution to various stakeholders. Non-compliance to ESG norms may expose a firm to higher risks, high cost of capital and regulatory actions. Interviewing key stakeholders globally in an IPF study, Newell, G., Moss, A. and Nanda (2020) found ESG has emerged as an effective risk management tool for a range of environmental, social and governance factors. There is wider acceptance of these norms in developed markets for the wider good of the community at large. Giese *et al.* (2019) showed firms with positive ESG profiles have lower cost of capital, lesser exposure to tail risk, higher profitability and valuation.

Obsolescence

Obsolescence risk is the risk of old buildings losing their appeal, usefulness, utility or desirability to tenants due to outdated design leading to a decrease in function unity, physical

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[11]Excess return produced by the fund manager beating the benchmark or broader market performance by taking risks and decisions particularly related to section, allocation and timing of the investment decisions.

deterioration, outdated technological features or shift in locational preferences. Kaiser and Clayton (2008) considered obsolescence risk as a key risk for the core investors. Old buildings need higher investments for operation and maintenance to compete with newer buildings to attract tenants and struggle to produce desired investment performance. Hutchison, Adair and Leheny (2005), and Gupta and Tiwari (2016) used functional obsolescence as a factor for developing a model to communicate risk in commercial real estate to investors. Similarly, Philips, Jennen and Hupkes (2011) used locational and property obsolescence factors for developing a risk analysis framework for European real estate.

Operation & maintenance

Operation and maintenance (O&M) risk arises when a property is not well maintained. This makes the property less desirable to tenants leading to a decrease in occupancy and rentals that results in a decrease in net operating income (NOI) and lower valuation. In times of the COVID pandemic, O&M of assets has become a challenge for property owners due to increased compliance and concerns about safety and hygiene. However, property owners who were able to provide hygienic and good quality operations of their assets saw higher rent collections and trust of the tenants.

Lock-in duration

Lock-in duration is the lease covenant term that binds a tenant not to vacate a premise and a landlord not to get the premise vacated, during the stipulated lock-in period. During periods of uncertainty, it provides security of income to the landlord. Lock-in duration risk arises when the duration is short or near the expiry. During times of uncertainty like the COVID pandemic, at the end of the lock-in period tenant may vacate the premise, reduce space or renegotiate new lease terms. In India, Gupta and Tiwari (2016) found lock-in duration to be the third most important risk for commercial investors.

Lease duration

At the end of the lease duration, the tenant may leave the building. In times of uncertainty like the COVID pandemic, tenants may vacate the premise, reduce space or renegotiate lease terms resulting in financial loss or vacancy in the property. In past studies lease duration has been reported among the key risks (for eg: Hutchison, Adair and Leheny, 2005; Gupta and Tiwari, 2016; Richardson *et al.*, 2021).

Tenant default

Tenant default risk is part of covenant risk that arises in case a tenant is not able to fulfil its legal obligations as part of the lease deed, including timely payment of rentals. This is a critical risk for the investor as it puts the cash flow at risk. RICS (2011) recommended tenant default risk to be considered as one of the factors in calculating property risk premium, which in turn impacts the cap rate and valuation of the property. In India, Gupta and Tiwari (2016) found tenant risk as to the second most important risk factor for commercial property investors.

Excess rent (gap between contract and market rent)

The difference between contract and market rent results in excess rent. Excess rent is always exposed to higher risk as the tenant can renegotiate it or in case of tenant default, it would be difficult to find a tenant with matching rentals. Excess rent may be due to better management,

the lease may be negotiated when rentals were higher, it may be custom-built property or may have additional fixtures and furniture. As excess rent has a higher risk, it may be calculated separately using a higher cap rate, incorporating higher risk (Appraisal Institute, 2020).

Rent escalation

After the due period, most of the leases have a clause for rent escalation. In India, most leases have an escalation clause of 15 per cent after every three years; this is however subject to negotiation between the tenant and landlord. At the time of rent escalation, there is a risk that the tenant will negotiate the proposed escalation, especially after the expiry of the lock-in period. This would depend on the difference between market rent and new contract rent i.e. excess rent. In the scenario of excess rent or a situation of uncertainty, like the COVID pandemic, especially in the post-lock-in expiry scenario, the landlord may not be able to achieve rental escalation. Thus rent escalation risk may result in the landlord not being able to achieve target returns over the life of the tenancy.

Capital expenditure obligations (fit-outs, etc.)

Capital expenditure obligations specific to a particular lease like fit-outs and furniture increase the contract rent over and above market rent. This excess rent is amortized over the life of the fit-outs and furniture, normally between 5 to 7 years. Also, such leases have a higher lock-in to protect the capital expenditure. The excess rent has higher risk exposure for the landlord, especially in times of market uncertainty.

Appendix 4: Stakeholder Interview Questions

Stakeholder interviews are an important component of this research project. Responses were collected from 48 respondents; 42 respondents were interviewed face-to-face or through video call and 6 respondents after discussing the questionnaire preferred to respond online. On average, each interview took about 45 to 60 minutes. These interviews were recorded for accurate analysis of the discussion.

The questionnaire was a combination of structured and open-ended questions. In the initial part respondents were asked to provide a rating of the selected risk attributes on a Likert Scale of 1 to 5 to access risk in pre-, during- and post- COVID periods. In the second part, six open-ended questions were discussed.

The following questions were used for the interview with the stakeholders:

Q1. Provide your risk assessment in commercial office portfolios in India for the pre-, during- and post- COVID periods on a scale of 1 to 5, the risk perception increases from being very low - 1, low - 2, medium - 3, high – 4 and very high - 5.

Market-specific risk attributes	Pre-COVID	During-COVID	Post-COV
Interest rate movement	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Currency volatility	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Political	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Legislation & Regulatory	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Taxation	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Rent volatility	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Yield movement	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Vacancy level	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Force majeure	1/2/3/4/5	1/2/3/4/5	1/2/3/4/

Property/Portfolio specific	Pre-COVID	During-COVID	Post-COV
Re-letting/ void	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Liquidity (Resale/ Exit)	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Portfolio partner/ co-investor	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Valuation	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Feasibility	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Leverage	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Geography selection	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Vacancy level Title	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
ESG	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Obsolescence	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Operation & maintenance	1/2/3/4/5	1/2/3/4/5	1/2/3/4/

Lease/Tenant specific	Pre-COVID	During-COVID	Post-COV
Lock-in duration	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Lease duration	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Tenant default	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Excess rent	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Rent escalation	1/2/3/4/5	1/2/3/4/5	1/2/3/4/
Capital expenditure obligations (fit-outs, etc.)	1/2/3/4/5	1/2/3/4/5	1/2/3/4/

Q2) During the COVID period, what were the top five risks and how did commercial office property/portfolio owners mitigate these risks?

Q3) How has COVID impacted your (clients) property portfolio i.e. have you (they) acquired new properties or divested the portfolio?

Q4) What is the impact of uncertainty, in the market during the COVID period, on commercial property ownership in India?

Q5) In your opinion during COVID, did Indian and International commercial office portfolio owners perceive risk similarly or differently, and what were their investment/operational strategies?

Q6 How have commercial office property/ portfolio owners managed the expectations of the tenants during the COVID-19 period due to the lockdown and WFH scenario, and what was its economic impact?

Q7) What are the key structural changes you perceive in the commercial office market in India, post-COVID that would have an impact on developers, tenants, investors and owners?

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