Impact of Covid-19 on Office Market Segment of India

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Abstract: The office segment of India was witnessing a growth trajectory for the past 3 years which was disrupted by Covid-19 pandemic. The crisis has pushed for new business models which rely on technology to achieve business continuity. In the current situation, the construction and economic activities have faced challenges. With these unconventional changes in structure, operation and lifestyle, the corporate world will have to revisit their priorities for their employees and assets. The research paper intends to gauge the gravity of the pandemic impact on Office market in India.

Keywords— Commercial demand analysis post Covid-19, Commercial Real Estate, Commercial Real Estate investments, Office market demand, Impact of Covid-19 on commercial Real Estate

I. INTRODUCTION

he pandemic of Covid-19 has turned into a global crisis with a substantial portion of the world population living under a lockdown. The Coronavirus outbreak has originated in China and has a huge impact on the global economy because of the disruption in industrial, business and trade cycles [1]. The uncertainty pertaining to the economy is high and it is difficult to forecast a recovery. Countries on their individual levels are taking steps to cushion the impact of this pandemic on people and their economy. The pandemic has an influence on the various trends of real-estate sectors. While some trends have witnessed acceleration, others may reverse [2]. The office segment was witnessing a growth trajectory for the past 3 years which was disrupted by Covid-19 pandemic. The crisis has pushed for new business models which rely on technology to achieve business continuity. In the current situation, the construction and economic activities have come to a halt. With these unconventional changes in structure, operation and lifestyle, the corporate world will have to revisit their priorities for their employees and assets [1].

II. LITERATURE REVIEW

The most fatal pandemics of the world are studied for their social, political and economical impacts. These pandemics also affected the various verticals of Real estate.

A. Great Plague of London

The first wave of plague in 1347-1349 wiped off third of the population. The population remained under pre-plague level till 1600s. The outbreak kept recurring in every few decades. In his study, Gregory Clark [3] shows that the relationship between population and real wages wasn't affected

significantly. However, if the land prices of highest productive land were 5 times more than the normal land use before the plague, it dropped to 2.5 times of normal land use after plague. So the drop in price was of 50%. The return on capital fell to 5% in 1400 from 10% in 1300 [3].

B. Cholera in London

In 1854, the water of Broad St. Pump in St. James was affected by cholera bacteria and the entire catchment area was affected as people weren't aware of the mode of transmission. 57 high density blocks were victims of this outbreak. According to Attila Ambrus, Erica Field, and Robert Gonzalez [4], the rents of the properties within this boundary experienced a loss of 10-13%. The drop in rentals was because of the fear in the people due to many deaths in Cholera.

C. Spanish Flu in Australia

In 1918, at the end of the First World War, the soldiers carried the Spanish flu from Europe to Australia. The current pandemic of Covid-19 has been said to be very similar to that of Spanish flu. According to John Lindeman [5], the death overseas was estimated over 50 million. The government responded quickly with quarantining foreign arrivals and implementing lockdown on public places. The flu led to a growth in healthcare infrastructure and redesigning of residential spaces with wider corridors.

III. OFFICE REAL ESTATE SEGMENT OF INDIA

Despite the economic gloom, the Indian office market kept setting higher benchmarks. The sector refused to slow down even when the GDP growth was at a 6-year low in 2019. India's office market has attracted strong investor confidence as sovereign wealth funds and global institutional investors were showing a rising interest [6]. The office market of the country is driven by tech companies and growing co-working spaces. The market set a new high in 2019 by completing nearly 52 msf of office spaces (Grade A) and securing absorption of 46 msf [6].

Despite a significant leap in the new completions, the vacancy levels for office spaces reduced to 13%. The positive numbers are results of adamant leasing activities in Hyderabad and Delhi NCR. Cities like Bengaluru, Hyderabad, Chennai and Pune also had single digit vacancies. The increased demand of Grade A office spaces has led to Y-o-Y growth in rentals between 4% to 8%. Big cities like Delhi and Mumbai recorded vacancy of 27.4% and 13.8% respectively because of the peripheral submarkets outside these cities. However, the prime submarkets within the city like BKC in Mumbai and Cyber city in NCR have vacancy levels at <5%. Even with higher vacancy levels, these cities recorded stable rentals [6].

IV. IMPACT OF COVID-19 ON OFFICE MARKET SEGMENT OF INDIA

The first world is still dealing with the impact of Covid-19, hence it is tough to gauge the magnitude of ongoing slowdown on Office Real Estate market of India. While the office market of India has been on a growth trajectory for the past couple of years, the outbreak of Covid-19 pandemic will have a few dents in this trajectory. The office market had a bright outlook for the year 2020 with positive predictions for net absorptions and launches. These numbers will be revised because of the nationwide lockdown that is going on due to the pandemic.

V. DEMAND ANALYSIS

As per the estimation by Anarock [1], the estimated net absorption for year 2020 was 42.3 msf. With the pandemic, the country lost the first two quarters in various lockdowns and activity restrictions. In order to estimate the revised demand for office spaces in India, the population for 2021 is forecasted on basis of the Indian population of past 4 decades [7].

PRIMARY POPULATION FORECAST

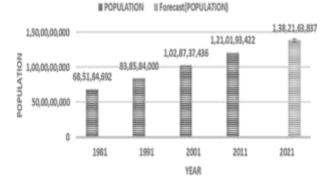


Fig. 1 Population forecast of India for year 2021 [7]

The population of India for 2021 was estimated at 1.38 billion. As per the percentage of population that lives in urban areas for past 4 decades [7], the primary forecast states that around **33%** of the population of India will be living in urban areas by 2021. The working age group population is forecasted to 1.06 Billion in 2021.

Considering various lifestyle changes like Work from home and policy changes in the country for work-spaces in the wake of Covid-19, the India Inc. population is recalculated.

Table I: Estimated Population in India Which Will Occupy Office-Spaces
Post Covid-19

ASSUMPTIONS		BASIS
Population of India in 2021	1.38 Billion	From Fig. 1
Working age-group population	1.06 Billion	Primary forecast on the basis of Census data of 2001 & 2011
Population living in Urban India	33%	Primary forecast on the basis of Census data of 1981, 1991, 2001 & 2011
Job loss	10%	[8]
Population that may shift to WFH post Covid-19	25-30%	[9]
Estimated office going population in India post Covid- 19	221 to 237Million	Calculated from above data

As per Jennings formula [10] to estimate the demand of office space:

$$Dt+1=(S/P)\times(Pt+1) \tag{1}$$

Where,

Dt+1 = Demand for total office space in a future time period;

S = Stock of office space in given period;

P = Population in a given period;

S/P = Average of the ratio for several recent years; and

(Pt + 1) = Forecasted population in time period t+1

Since the census is conducted every 10 years, the S/P ratio is taken as per the data from 2011.

$$P = 26,46,04,294$$
 [7]

S = 35.5 msf [11]

Therefore, S/P = 0.14

From the above information and formula, the estimated demand for office spaces in India post Covid-19 may be from 31 msf to 33 msf.

VI. SUPPLY ANALYSIS

As per the estimation by Anarock, the estimated new completions for year 2020 was 47 msf. Considering the current situation of a pandemic, the supply in office spaces is predicted to reduce by 15% to 30% for the reasons mentioned in section 3.1 of the report. 15% reduction is at the best case where the pandemic settles after a quarter and adequate stimulus is provided. 30% reduction is the worst case scenario where the pandemic extends for a longer period of time and negligible/no stimulus is offered for the sector [1].

Some of the key announcements for the relief of Real Estate sector in the Stimulus package introduced by the government are:

1) An extension of 6 months is given to the contractors

for government projects like roads, railways, and other departments.

 The completion and project registration of existing projects has been extended by 6 months under RERA.

A. Primary Analysis

The announcements made in the stimulus package may come as a relief to the developers, but they do not have any direct impact on boosting the supply of Real estate spaces. The lockdown is in its second quarter and construction activity are still on halt.

It is likely that the labours that have migrated back to their hometowns may not show up as soon as the lockdown is lifted while some might choose to not come back at all. Considering all these factors, an assumption is made of 80% probability of the worst case and 20% of best case. With the probability calculations, the estimated supply for office spaces in year 2020 may be 35 msf. The analysis done by CIRIL also claims the supply estimation of 2020 for office spaces to be in the range of 35msf [12].

VII. STRUCTURAL CHANGES

The trends and cultures which were redefining the future of office spaces have been accelerated as the corporates are prompted to move towards it due to Covid-19 pandemic. Various aspects of work-spaces will be transformed to achieve the comfort of employees and continue to function in the wake of Corona outbreak:

A. Office Footprint

In this period of forced remote working, technology has played a major role in enabling collaboration and interaction for various businesses. In the long term, this concept is likely to complement (not replace) the requirement of physical workplaces. This concept will result in a rationalized physical footprint of offices. The composition of these spaces will also change, with higher quality and well-equipped to cater to employee needs. The offices will shift to a more fluid workspaces which will have one headquarter space that is supported by smaller locations. The organizations will be empowered with the concept of work not being bounded by physical walls of an office [13].

B. Space Planning

Office spaces will be planned in such a way that it limits diseases transmission and maintains high level of hygiene. On a short-term basis (pre-vaccine), the offices will shift to phased occupation and work-shifts. The open plans will be reinforced with social distancing. Overall, the offices will try to de-densify the office spaces. The offices may have to strike a balance between open and enclosed spaces. The organizations may even have to expand their physical footprint despite remote working, to achieve acceptable social distancing [13].

C. Healthy Environment

The occupiers will have a higher emphasis on specifications of the building for a healthier feature in workplace to achieve long-term productivity. As per a survey conducted by MindMap on 560 employees of India Inc. in the last week of April 2020 across small, medium and large business in Mumbai, Delhi NCR and Bengaluru, 93% Indians are anxious about the idea of returning to office [14]. Hence organizations will take great measures to provide a healthy working environment. The offices will shift to personal technology, devices, and accessories to limit germs spread [13]. The demand for credentials for healthy buildings will increase to ensure the ventilation as well as the indoor air quality of the spaces. The LEED certification of commercial properties will come in focus. The workplace will add features that support well-being of the employees [13].

D. Policy Planning

With the prediction of 25-30% employees of almost all the sectors will move to WFH, the organizations will include this profitable culture of WFH as a regular feature [9]. It will lead to work-life integration. The organizations may introduce the policies on alternate working days or shift-based working to avoid over-crowding of office spaces. With the help of technology, the office force can be reduced to 30% at a time. The organizations will enforce hygiene within the office [9].

E. Business Continuity

Previously, the organizations preferred having employees on physical locations to mitigate potential risks to the business. The businesses will reassess their strategies for business continuity after Covid-19. The organizations may now form alternate teams and have backup locations for such future outbreaks. They will move away from large centralized offices for main operations and opt for more number of smaller operations at separate locations. The companies will voluntarily invest in building personal resilience in their employees. This will include training for remote working and tactics to cope with uncertainty and high stress [13].

VIII. OCCUPANCY RATE

The occupancy rate of the office spaces in India were looking upwards with an impressively low vacancy rates for past few years. Even with an increasing leap in supply, the segment manages to maintain a low vacancy rate.

After the nation was hit by a global pandemic and went under lockdown, the report of Q1 2020 showed a vacancy rate lowered to 12.8% [15]. It can be concluded from the analysis that the occupancy rate of the office segment will not witness a major impact of Covid-19 due to following reasons:

1. The structural change of space planning will consider the social distancing factor post Covid-19. This will lead to an increase in per capita space by 40% (Economic Times, 2020). The companies will neutralize this rise in demand of office space by policy changes like WFH and rooster schedules.

2. The construction has come to a near standstill which has a direct impact on supply. This has resulted in a supply crunch and lower vacancy rates.

Overall, there is a possibility of witnessing a small increase in the occupancy rate of the office segment in India.

VAC	ANCY RAT	ΤE	OCCUPANCY RATE	BASIS
Vacancy rate spaces in		13%	87%	[6]
Vacancy rate spaces in Q		12.80%	87.20%	[15]
Estimated	Most likely	10%	90%	Calculated from
vacancy rate for office	Best case	6%	94%	primary forecast of
spaces in 2020 Case		12%	88%	Section 5 & 6

Table II: Estimated Occupancy Rate Of Office-Spaces In India Post Covid-19

A. Worst Case Scenario

In this scenario, it is observed that the segment still maintains its trajectory of low vacancy rate because of the reasons mentioned above. it is assumed that after considering the layoffs, 25% of the employees will be permanently shifted WFH.

Demand = 31 msf (From Section 5)

Supply = 35 msf (From section 6)

Occupancy rate = (Demand/Supply) x 100 = 88%

B. Best case scenario

In this scenario, it is assumed that after considering the layoffs, 30% of the employees will be permanently shifted WFH.

Demand = 33 msf (From Section 5)

Supply = 35 msf (From Section 6)

Occupancy rate = (Demand/Supply) x 100 = 94%

C. Most likely case scenario

For the most likely scenario, a probability is assumed of 70% chances of the worst case scenario and 30% chances of the best case scenario.

Probability of Worst case = 70%(Assumption)

Probability of Best case = 30%(Assumption)

Occupancy rate = $(0.7 \times 88) + (0.3 \times 94) = 90\%$

VIII. RENTALS

The major cash inflow of Grade A office spaces are the rents that they collect from leasing the office spaces. Due to the pandemic of Covid-19, most of the business activities have come to a near standstill. The organizations are brainstorming over possible costs reduction to mitigate the damage. Reduction in office space footprint for the organizations is challenging post Covid-19 because of the social distancing norms. The next viable option for them to reduce their Real Estate expenses is to renegotiate the rentals with the owners. As per Viral Desai (National Director- Occupier services, Knight Frank India), a significant drop in the rentals is unlikely because of the possible delay in construction activities (Financial Express, 2020). The co-working sector mostly tends to start-ups and small MSMEs. The co-working spaces are forced to give discounts to retain their clients. The range of discount in office space rents is estimated to be around 15%-20% [12]. The best case scenario would be that the rents are not revised. However, the renegotiation of office rents will be a temporary phase till the supply market picks up.

IX. DISCOUNT RATE

Office Real estate is incoming generating property with regular cashflows. The valuation for them is conducted using Discounted Cashflow (DCF) method as it captures the time value of money in accounting its value. The DCF method uses discount rate to determine the present value of future cashflows.

A. Weighted average cost of capital (WACC) method

WACC is an applicable discount rate for valuation of most businesses. Capital Asset Pricing Model (CAPM) is used to calculate WACC. The CAPM model relies on various market inputs like β of guideline company, market risk premium and risk-free rate to calculate cost of capital (Ke). When the market is stable, these inputs to the valuation prove reasonable for long-term view. However, considering the instability in the market caused by the on-going pandemic, things have changed [16]. Due to the lowered interest rates, the risk-free rate used in calculating the WACC may be very low- resulting in incorrect picture of valuation. The market risk premium is measured over a long period of around 2-5 years, so the current uncertainty of the market will have very little impact on the β value. The discount rate will be abnormally low if the valuation solely relied on current market inputs and it will lead to inflated valuation [16]. Thus, WACC cannot be used as the discount rate for current situation.

B. Scenario based method

To calculate the discount rate to be used for the valuation of commercial assets during the times of Covid-19, the market of Mumbai was selected. A commercial property in Powai by L&T is considered to run the scenario-based analysis. The commercial property in subject was bought by Blackstone for around INR 700 Crore in July 2019 [17]. This information is used as the basis to verify the DCF model for a Pre-Covid-19 scenario.

ASSUMPTIONS (PRE COVID-19 SCENARIO)		
PARTICULARS		BASIS
Period considered for cashflows	2020-2029	10 years projections
Discount rate	12%	[Primary survey]
Tax rate	25%	
Caprate for terminal value	8%	[18]
Occupancy rate	88% to 90%	[15]
Average rent per sq Ft./ month	₹ 145	Property rental portals
Yearly increase in Average rent	2%	[19]
O&M cost per sq. ft / month	₹ 18.00	[20]
Yearly increase in sanitization and O&M cost	4.00%	[21]
Property tax per sq Ft./ month	₹ 30	Average rate of the city
Yearly increase in property tax	2%	In sync with the rents
PRESENT VALUE OF THE PROPERTY	₹659.4 Crore	

Table III: Assumptions for Valuation of a Commercial Property in Powai in Pre Covid-19

The DCF model calculated the valuation of the property in subject at INR 659.4 Crore. After the verification of the model, the valuation of the commercial property in subject is calculated as per various scenario analysis for post covid-19: Best, Most likely and worst.

Table IV: Assumptions for Valuation of a Commercial Property in Powai in		
Post Covid-19		

ASSUMPTIONS (POST C	OVID 10: BEST CA	SE SCENADIO)
×		,
Effect of Covid-1	9 is assumed for 2 yes	ars [22]
PARTICULAI	RS	BASIS
Period considered for cashflows	2020-2029	10 years projections
Discount rate	12%	[Primary Survey]
Tax rate	25%	
Caprate for terminal value	9%	[18]
Occupancy rate	94% to 88%	Section 8
Average rent per sq Ft./ month (for 2 years)	No reduction	Section 9
Yearly increase in Average rent	2%	[19]
Sanitiation cost per sq. ft / month	₹ 0.50	Average charges by sanitization companies
O&M cost per sq. ft / month	₹ 18.00	[20]
Yearly increase in sanitization and O&M cost	4.00%	[21]
Property tax per sq Ft./ month	₹ 30	Average rate of the city
Yearly increase in property tax	2%	In sync with the rents
PRESENT VALUE OF THE PROPERTY	₹618.2 Crore	

ASSUMPTIONS (POST CO	VID-19: MOST LIKI	ELY SCENARIO)	
Effect of Covid-19 is assum			
PARTICULAI	BASIS		
Period considered for cashflows	2020-2029	10 years projections	
Discount rate	12%	[Primary Survey]	
Tax rate	25%		
Caprate for terminal value	9%	[18]	
Occupancy rate	90% to 88%	Section 8	
Average rent per sq Ft./ month (for 2 years)	-15%	Section 9	
Yearly increase in Average rent	2%	[19]	
Sanitiation cost per sq. ft / month	₹ 0.50	Average charges by sanitization companies	
O&M cost per sq. ft / month	₹ 18.00	[20]	
Yearly increase in sanitization and O&M cost	4.00%	[21]	
Property tax per sq Ft./ month	₹ 30	Average rate of the city	
Yearly increase in property tax	2%	In sync with the rents	
PRESENT VALUE OF THE PROPERTY	₹596.7 Crore		
ASSUMPTIONS (POST COVID-19: WORST CASE SCENARIO)			
Effect of Covid-19 is assum	ned for 2 years (Fortur	ne Survey, 2020)	
PARTICULARS BASIS			
Period considered for cashflows	2020-2029	10 years projections	
Discount rate	12%	[Primary Survey]	
Tax rate	25%		
Caprate for terminal value	9%	[18]	
Occupancy rate	88%	Section 8	
Average rent per sq Ft./ month (for 2 years)	-30%	Section 9	
Yearly increase in Average rent	2%	[19]	
Sanitiation cost per sq. ft / month	₹ 0.50	Average charges by sanitization companies	
O&M cost per sq. ft / month	₹ 18.00	[20]	
Yearly increase in sanitization and O&M cost	4.00%	[21]	
Property tax per sq Ft./ month	₹ 30	Average rate of the city	
Yearly increase in property tax	2%	In sync with the rents	
PRESENT VALUE OF THE	₹589.33 Crore		

The three scenario analysis are run on the valuation of the subject property to arrive at different present values of the property. The most likely value of the property is calculated to be ₹596.72 Crore.

SCENARIO	PRESENT VALUE	DECREASE IN VALUE
PRE COVID VALUE	₹ 6,59,39,55,599.09	-
POST COVID: BEST CASE	₹ 6,18,21,22,411.67	6.25%
POST COVID: MOST LIEKLY CASE	₹ 5,96,72,29,046.44	9.50%
POST COVID: WORST CASE	5893350733	10.62%

Table V: Comparison for Valuation of a Commercial Property in Powai in All Scenarios

The most likely present value of the subject property is used to run a reverse calculation on the ideal or pre covid-19 scenario. In this process, the discount rate is revised to bring the present value of the ideal (pre Covid-19) scenario closer to the most likely (post Covid-19) present value of the subject property.

By running these calculations, it is estimated that the discount rate to be used for Commercial properties in the valuation during Covid-19 has to be revised from 12% to the range of 14%.

The revised discount rate factors the following things:

- 1. Change in caprate
- 2. Change in occupancy rate
- 3. Change in monthly rentals
- 4. Additional sanitization costs

X. SWOT ANALYSIS

With the on-going pandemic, it has had varying intensity of impacts on numerous sectors of the world, including Real Estate. Office segment of Indian Real Estate sector may also be impacted by the same. Studying and gauging the impact on this segment plays vital to conduct valuation of commercial assets.

A. Strengths

- 1. With the drop in demand matched by drop in supply, the occupancy rates and rentals are unlikely to suffer due to the pandemic.
- 2. The pandemic has pushed the organizations to explore various structural changes in office spaces to achieve business continuity.
- 3. The physical office spaces will still remain in demand even after the WFH culture because of the social, peer learning and interactive culture of it.

B. Weakness

- 1. The traditional office spaces will become obsolete if they don't make required changes.
- 2. Sanitization will be top priority for employees and employers, thus adding to the maintenance costs.

C. Opportunities

1. Co-working spaces may suffer the hit in the short term but it has a brighter future in the long term basis

for start-up companies who would want to optimize their real estate costs.

2. Certified sustainable commercial properties may hold greater importance post pandemic because of the newfound awareness for health safety of the employees.

D. Threats

- 1. The drastic decline in supply because of a slowdown in construction may drive away the upcoming global demands which may be coming to India in the wake of shifting global dynamics.
- 2. The small market of offices in India (apart from Grade A offices) is under threat because of their limitation to keep up with high capex structural changes that the pandemic demands.

XI.CONCLUSION

- Overall, the value of commercial segment of India is unlikely to drop significantly because of the estimated steady cashflows.
- Investments in commercial sector may not incur heavy losses in the wake of the pandemic.
- There may be a short-term negative impact on business models like co-working which are heavily dependent on start-ups and small businesses.
- In the long term, the flexibility provided by these coworking spaces (with necessary alterations) will prove beneficial in the post-pandemic era.
- Sustainable practices for commercial assets are likely to gain importance in a new light.

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