



Research

The evolution of the global office sector in a post-COVID world

In brief

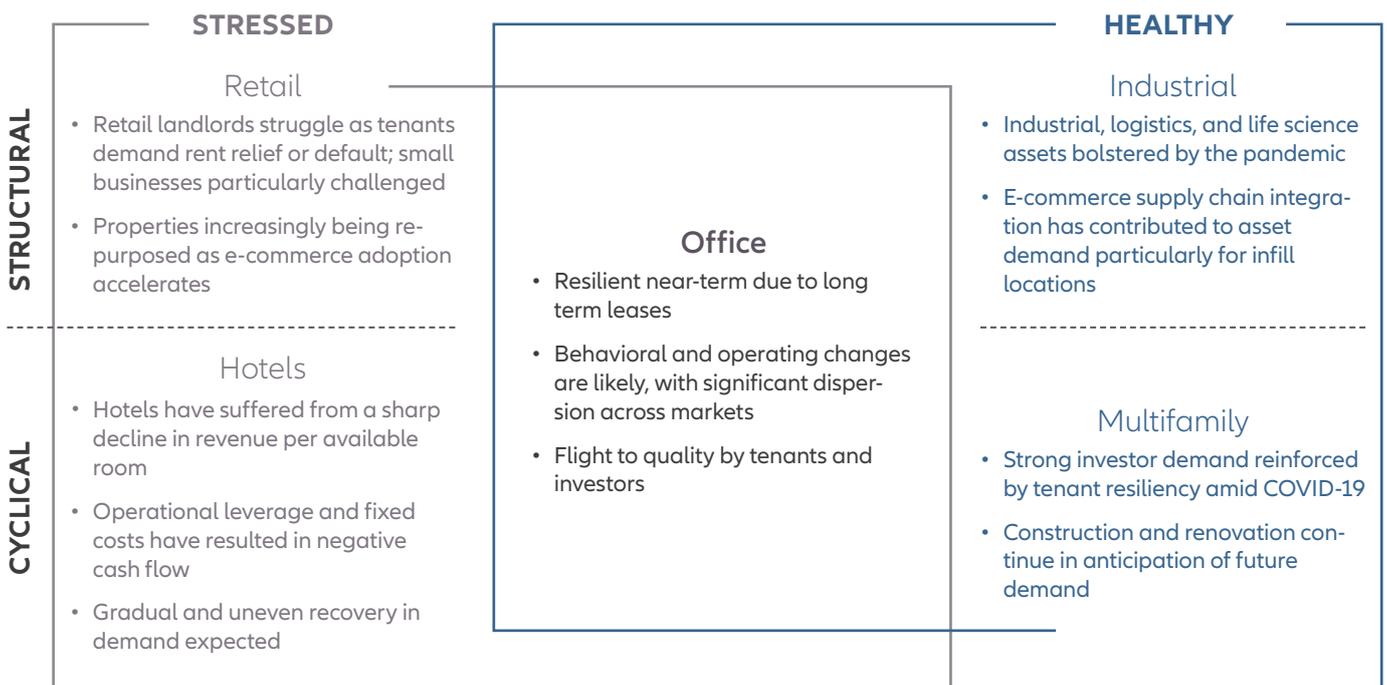
- Central locations in cities with high population densities will continue to be successful in maintaining occupier demand in a post-COVID environment
- The pre-COVID focus on quality assets in prime locations supported by compelling demographics has become more marked
- Organizations and landlords will have to recalibrate office footprints, in line with their goal of maximizing the productivity of their workforce
- New technologies will play a key role, not only to enable seamless switching between working inside the office and remotely but also to analyze space utilization patterns or improve office quality for employees
- ESG will be a key legacy of the pandemic – it has kickstarted a race among stakeholders for best-of-breed assets in prime locations

Introduction

This short paper summarizes Allianz Real Estate’s view on how the office sector will evolve post-COVID-19 – primarily, how we expect buildings and cities will adapt and accommodate as greater numbers of people work remotely.

In particular, this means how they will look to remain competitive and attract talent. Allianz Real Estate is one of the world’s largest investment managers in the office sector, and this study is based on our extensive research and our deep market knowledge.

Figure 1: Dispersion across property sectors amplified amid COVID-19



COVID-19 represents the most significant impact on the global real estate sector in living memory. Office and retail sectors have been particularly hit hard. For instance, first quarter 2021 global office leasing volumes declined 31% compared to Q1 2020 (US -45%; Europe -8%; Asia Pacific -26%).¹

But the pandemic has also accelerated trends which started some time ago, including urbanization, the rapid adoption of technology, a focus on sustainability, and the need for tenant-centric workspaces. A pre-COVID focus on quality assets in prime locations supported by compelling demographics has become more marked, and will likely increase in importance.

¹ JLL Global Real Estate Perspective May 2021

The draw of big cities will get bigger post-pandemic

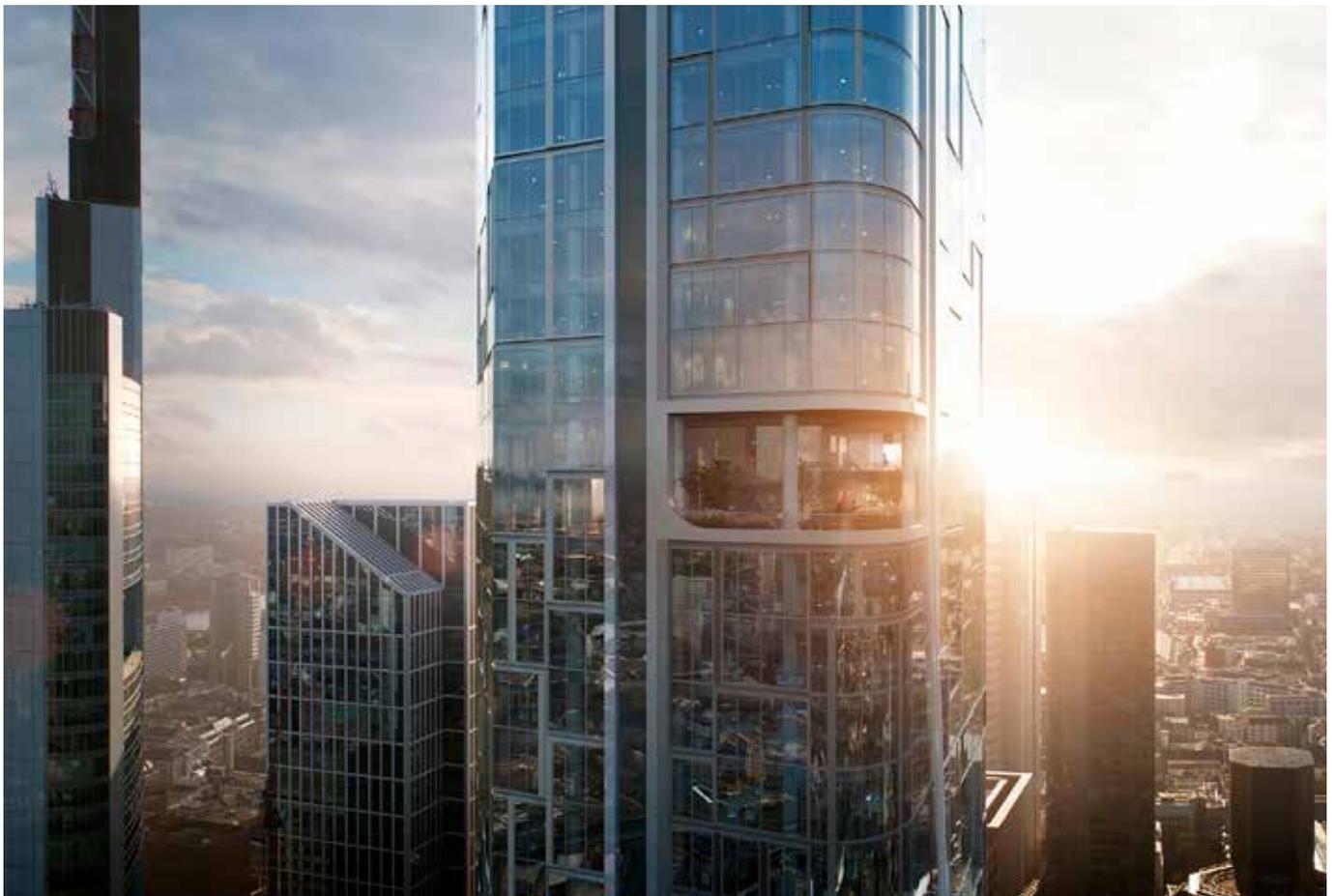
The draw of big cities will get bigger post-pandemic as we return to work more frequently. Central locations in cities with high population densities will continue to be successful in maintaining occupier demand. These cities not only include megacities like Tokyo, Singapore or New York with densities of 9,000 people and upwards per square kilometer within a 20km radius around the city center, but also large cities in Europe with densities between 3,000 and 6,500 people per square kilometer such as London, Paris, Madrid or Berlin.

There are a number of factors at play here. First, the numbers game that plays out in these cities means that there is a high volume of alternative users available in case office space might be vacated. Secondly, cities with a high population density can draw in a higher number of people within a certain commute time. Thirdly, the overall propensity to commute and work in an office is higher in

high-density cities, because apartments are more expensive and usually smaller which makes it more difficult for people to accommodate working from home.

High-density cities remain centers for creativity and culture where trends are set and where people want to go in order to meet and exchange with others. This applies, in particular, to younger demographics who show a strong preference to live and work in urban centers and are eager to interact with peers in a live-work-play environment. Once such a social location is built, it is very hard to move it.

The combination of high-value office space already maximized in its use, and global cities likely to attract talent to its center, suggests that modern premium quality offices will be most protected from space giveback due to economic downturn and working from home.



FOUR T1, Frankfurt. Source: GroB & Partner

Figure 2: City density people per sq km measured at 20 km circle

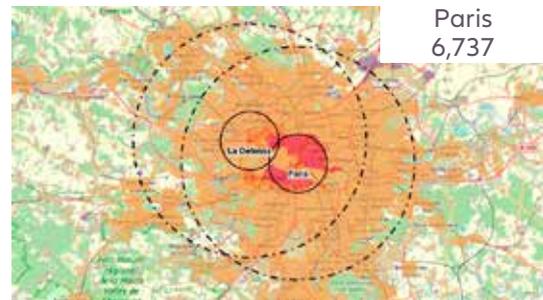
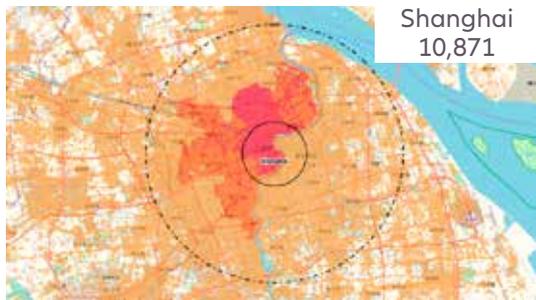


Figure 3: City density aligned with occupancy costs (rather than GDP per capita)

City listed by density	Adjusted people density sq km at 20 km radius Colour coded by region	Premium office rent and occupancy costs on a unified basis
Tokyo	13,124	174 / 129 ¹
Singapore	12,536	117
Shanghai	10,871	121 / 100 ¹
Beijing	9,618	184 / 150 ¹
New York	9,483	212 / 107 ¹
Paris	6,737	78 / 45 ¹
London	6,521	182 / 107 ¹
Madrid	4,018	69
Los Angeles	3,906	104 / 69 ¹
Sydney	3,382	95
San Francisco	3,236	162 / 118 ¹
Berlin	3,076	78
Milan	2,642	69
Washington DC	2,105	88
Stockholm	2,047	92
Amsterdam	1,712	54
Houston	1,683	50
Munich	1,669	80
Frankfurt	1,485	72
Dublin	1,462	75

● Asia Pacific ● U.S. ● Europe

Source: JLL (Dec 2019, June 2021), Michael Bauer GmbH, Allianz Real Estate
¹ Rent and occupancy costs in secondary CBD locations

In order to validate our thesis, we looked at density in a total of 47 global cities. One interesting point to note is that city density aligns with office rents rather than GDP per capita.

Office space in high-density cities tends to be expensive and, as such, is generally utilized to its maximum in the form of open plan working and desk-sharing.

Adapting offices in the new environment

Within these cities, many organizations and landlords will have to recalibrate their office footprint to a new environment, one in line with their goal of maximizing the productivity of their workforce. They will have to ensure that they provide locations and working environments that are attractive to their employees and most suitable and efficient to deliver on their respective tasks and roles.

Allianz Real Estate believes that city center head offices will grow in importance, albeit their role will be a different one. In many cases it will be the place where corporate culture will be shaped, a forum for social interaction, collaboration and creativity-enhancing discussions, and a platform for networking, training and onboarding of new hires. Work will still take place in the office, but the portion that can be done from home will, going forward, be done from home.

Figure 4: Office density and style matters for how much space is given back

Case 1: same amount of space per employee as before crisis (12.5 sq m per employee)

% of Workforce adopting WFH	Days per week which WFH workforce spends at home				
	1	2	3	4	5
20%	-4%	-8%	-12%	-16%	-20%
40%	-8%	-16%	-24%	-32%	-40%
60%	-12%	-24%	-36%	-48%	-60%

Case 2: space per employee +20% to 15 sq m due to de-densification for enhanced talent retention and socialization

% of Workforce adopting WFH	Days per week which WFH workforce spends at home				
	1	2	3	4	5
20%	15%	10%	6%	1%	-4%
40%	10%	1%	-9%	-18%	-28%
60%	6%	-9%	-23%	-38%	-52%

Source: Allianz Real Estate estimates

Traditional Office



Contemporary Office



Future Office



Prime office in core city centre locations likely to be contemporary style. Older offices, secondary locations and lower cost locations may still be traditional style and will see most space give back

To fulfil this new role, building layouts will have to accommodate larger social spaces and more breakout areas or meeting rooms for collaboration. This will result in a reversal of the trend towards densification of office space per employee which has been observed over the last two decades.

Floor area will be an important factor. Case 1 in Figure 4 shows space given back if 40% of people work at home for two days a week. However, as seen in Case 2, the decision

to de-densify and increase space per employee by 20% will still require about the same amount of space - so space coming back onto the market due to working from home is not a foregone conclusion.

Higher density cities may already have seen maximized workspace with higher densities per floor area and so will less likely see space given back than lower density cities. There is asymmetry, with users more alike and assets much more diverse in their offering.

ESG – a focus on decarbonization but also the tenant experience and well-being

The role that ESG and sustainability will play in attracting tenants and employees for both companies and cities should not be underestimated. This will be a key legacy of the pandemic – it has kickstarted a race among stakeholders for best-of-breed assets and locations.

This means attractive buildings need a clear path to carbon footprint reduction. They will need to leverage technology, energy choices and find ways for tenant interaction and they will need to be well connected to public transport. This means providing a positive tenant experience, i.e. beside amenities, which will exploit the

concept of healthy buildings and technology to guide tenants on how to optimize workspaces.

As occupiers themselves state more and more that they will be net carbon neutral over the next few decades, this will catalyze the focus on prime cities and assets and the amenities that serve them – for example, through public transport. This could start to limit which cities the very large occupiers might want to locate in. This further adds to our view that we will start to see a split in the office market as we have seen in the retail market: with core office assets in global gateway cities doing well while secondary assets in secondary locations may see yields expand.



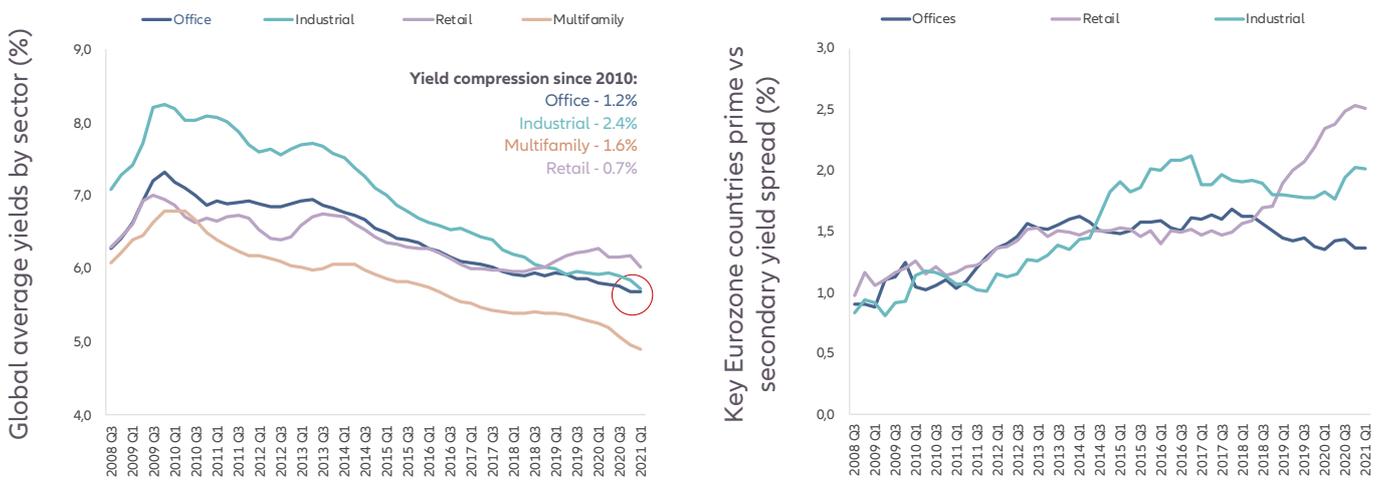
Ronsin Technology Center, Beijing

A flight to quality

In this environment, Allianz Real Estate fully expects a flight to quality – whether actual buildings themselves or the cities that host them. In Figure 5, the chart on the left

shows global yield compression, with a shift between sectors with a greater compression in industrial/ logistics reflecting investor confidence in the sector.

Figure 5: Mix in yield compression by sector & widening spread between prime and secondary grade retail stock



Source: RCA, CBRE (May 2021)

The chart on the right in Figure 5 shows the split in prime and secondary yields. Shown in purple you can see the increasing split between prime grade and secondary grade retail shopping malls. E-commerce has affected malls but prime assets have held up reasonably well. What we can see is that secondary stock is becoming increasingly risky, as reflected by the widening spread.

Looking ahead, we expect to see a similar split in prime and secondary office assets, with core city center assets in 24/7 global cities remaining in demand from occupiers and therefore investors, and secondary suburban assets fairing much less well and hence a similar split in yields going forward to that seen in retail/ shopping centers.

Conclusion

The big work-from-home experiment has triggered lasting changes and, in many cases, accelerated existing trends. Research tells us that three out of four companies expect at least 20% of their workforce to operate in a hybrid model post-COVID (e.g. around two days a week at home) while one in three expect at least 50% to do so.¹

Our opinion, formed quite early, has been that central locations in cities with high population densities will continue to be successful in maintaining occupier demand and attracting talent. These cities typically carry a global brand name and benefit from high productivity gains arising from close physical proximity of talent, capital, science and business.

¹ Source: JLL survey (May 2021)

New technologies will play a key role, not only to enable seamless switching between working inside the office and remotely, but also to help analyze space utilization patterns or improve air quality for employees. These technologies might even also help to reduce buildings' energy usage and carbon emissions, in line with corporates' ESG targets.

Overall, we expect to end up with more attractive office space that helps a business to support a healthy and sustainable environment, one that caters to user needs and new hybrid working models. In a potentially more competitive office environment, such buildings will continue to outperform.



York House, London

Dr Megan Walters
Global Head of Research

Contributors
Gizem Bartu, Clemens Ernst, Dr Eric Li

Allianz Real Estate
Seidlstraße 24-24a
80335 Munich
Germany
email: info@allianz.com

Disclaimer

The sole purpose of this brochure is to provide information on a non-reliance basis. In this brochure Allianz Real Estate GmbH and Allianz Real Estate of America, their subsidiaries and affiliates are jointly referred to as "Allianz Real Estate". Allianz Real Estate is a PIMCO company.

Any views expressed were held at the time of preparation and are subject to change without notice. While any forecast, projection or target where provided is indicative only and not guaranteed in any way. Allianz Real Estate accepts no liability for any failure to meet such forecast, projection or target.

No representation, warranty or undertaking is given by Allianz Real Estate or any other person in respect of the fairness, adequacy, accuracy or completeness of statements, information or opinions expressed in the brochure and neither Allianz Real Estate nor any other person takes responsibility for the consequences of reliance upon any such statement, information or opinion in, or any omissions from, the brochure. The information contained in this brochure has not been audited or verified.

The material contained herein is for informational purposes only and does not constitute legal, tax or investment advice. A recipient should consult advisers regarding such matters and must not, therefore, rely on the content of this document when making any decisions.

The information contained herein is proprietary and confidential and may include commercially sensitive information, must be kept strictly confidential, and may not be copied, used for an improper purpose, reproduced, republished, or posted in whole or in part, in any form, without the prior written consent of Allianz Real Estate. The recipient of this material must not make any communication regarding the information contained herein, including disclosing that the materials have been provided to such recipient, to any person other than its representatives assisting in considering the information contained herein. Each recipient agrees to the foregoing and to return or destroy the materials promptly upon request.

The distribution of this brochure in certain jurisdictions may be restricted by law. Persons into whose possession this brochure comes are required by Allianz Real Estate to inform themselves about and to observe any such restrictions.

The value of investments and any income from them can go down as well as up and investors may not get back the amount originally invested. Where overseas investments are held, the rate of currency exchange may also cause the value of such investments to fluctuate.

No market data or other information is warranted or guaranteed by Allianz Real Estate or its subsidiaries and affiliates as to its completeness, accuracy, or fitness for a particular purpose, express or implied. Allianz Real Estate may have issued, and may in the future issue, other communications that are inconsistent with, and reach different conclusions from, the information presented herein. Those communications reflect the assumptions, views, and analytical methods of the persons that prepared them.

It should not be assumed, and no representation is made, that past investment performance is reflective of future results. Nothing herein should be deemed to be a prediction or projection of future performance. If and to the extent that any statements herein include prospects, statements of future expectations and other forward-looking statements, these are based on the current views and assumptions of the persons that prepared this document, and involve known and unknown risks and uncertainties. No representation is made or assurance given that such views are correct. Actual results, performance or events may differ materially from those expressed or implied in such forward-looking statements. Prospective investors should not rely on these forward-looking statements when making an investment decision.

Allianz Real Estate expressly disclaims any and all responsibility for any direct or consequential loss or damage of any kind whatsoever arising directly or indirectly from: (i) reliance on any information contained in this document, (ii) any error, omission or inaccuracy in any such information or (iii) any action resulting therefrom. Allianz Real Estate assumes no obligation to update any information or forward-looking statement contained herein.

This disclaimer notice (and any non-contractual obligations arising out of or in connection with it) is governed by German Law.

PIMCO is a trademark of Allianz Asset Management of America L.P. in the United States and throughout the world. ©2021, PIMCO.