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Allianz Real Estate

Research Report, March 2022

Real estate investing in an uncertain environment

A PIMCO Company

Editorial Note

The editorial cut-off date for this report was 15 February 2022.
All data points provided in this report were accurate as of this date.

Since then, the geopolitical situation concerning Russia and Ukraine has escalated, significantly heightening global uncertainty and inflationary pressures.

This report nevertheless addresses real estate investing under conditions of uncertainty and we therefore stand by the conclusions and recommendations outlined in this paper.

Allianz Real Estate
Global Research Team

4 March 2022

Real estate attractive amid inflation uncertainties

Significant inflation uncertainty is one of the key challenges for investors in early 2022, along with opportunities for economic recovery post pandemic and a greater emphasis on people's well-being.

Three secular trends will be important for real estate investing over the coming years: digitalization will drive change in all real estate sectors; the green transformation implies significant capital expenditures but also opportunities; and social concerns are increasing political risk.

Against this backdrop, global, diversified core portfolios should build exposure in five preferred sectors:

1. Prime offices in global talent pool cities → resilient, growing income
2. U.S. multifamily → inflation protection
3. Europe logistics → growth
4. Japan multifamily → diversification and yield
5. Life sciences → growth

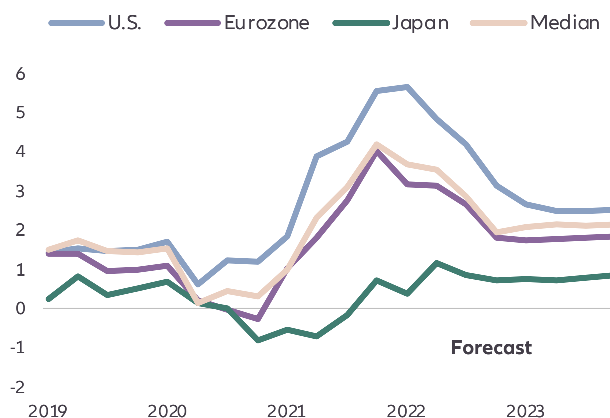
As we enter 2022, inflation features prominently in newspaper headlines and on investors' agendas. January 2022 saw CPI inflation climbing to 7.5%[1] in the U.S. and to 5.1%[2] in the eurozone – among the highest readings for decades.

Certainly, several factors which contributed to last year's inflation spike, such as significant fiscal stimulus packages or base effects from rising energy prices, will likely not repeat in 2022.

Many economists expect supply chain disruptions to ease this year and consumer demand to shift towards services from a strong focus on goods. Goods consumption dominated last year as repeated COVID-19 infection waves forced Western consumers to socially distance to varying degrees. As a result, most forecasts see inflation in advanced economies to moderate over 2022, albeit not to decline back to pre-pandemic levels (Figure 1).

However, uncertainty around inflation remains high with potential upside risks from several sources.

Figure 1. **Inflation outlook, advanced economies (%)**



Data source: OECD, *Economic Outlook Volume 2021, Issue 2*, December 2021.

Omicron or new virus strains could extend supply chain disruptions if containment measures in Asian manufacturing hubs are imposed. In addition, consumption by Western consumers could continue to be redirected towards goods rather than services following social distancing. This would contribute to inflation staying elevated for longer than expected.

Geopolitics – such as escalating tensions between Russia and the Ukraine – could be a game changer for energy prices. In certain scenarios, energy prices could accelerate, rendering current expectations of stabilizing oil and gas prices and moderating inflation obsolete.

Inflation expectations may become unanchored following an extended period of elevated inflation levels caused by goods inflation from supply chain distress, and/or unexpectedly high levels of energy prices. The risk of wage-price feedback loops is highest in those countries where the labor market is tight. This is particularly the case in the U.S. where the unemployment rate of 4.0% in January 2022 was close to a post-pandemic low.[3] Still, with 62.2% by January 2022, the labor force participation rate remains below the level of 63.4% shortly before the pandemic.[4]

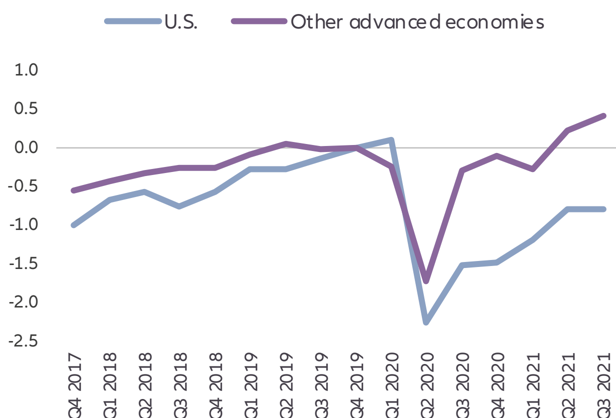
[1] U.S. Bureau of Labor Statistics, 10 February 2022.

[2] Eurostat flash estimate, 2 February 2022.

[3] U.S. Bureau of Labor Statistics, 4 February 2022.

[4] U.S. Bureau of Labor Statistics, 8 February 2022.

Figure 2. **Labor force participation (%, Q4 2019 = 0)**



Data source: IMF, *World Economic Outlook Update*, January 2022.

The recovery in U.S. labor force participation is thus lagging other advanced economies, according to the IMF (Figure 2).[5]

The U.S. labor force participation rate is forecast[6] to peak below its pre-pandemic level over the course of 2023. This partly reflects structural factors like population ageing which resulted in increasing early retirements. It is estimated that around 30% of the decline in the U.S. labor force participation rate compared to pre-pandemic levels is due to population ageing.[7]

Real estate can offer inflation protection

Even with record inflation levels and significant uncertainty regarding future inflation trends, it is worth recalling that real estate can provide long-run inflation protection for investment portfolios.

The current bout of inflation is cost push where input price increases are passed on to consumers, leading to falling aggregate demand and slowing economic growth. Some[8] debate that real estate may not be an effective hedge against this short-term cost-push inflation. However, we believe long-term 40-year data does show real estate is a hedge against inflation and the five select sectors presented in this report are, in the short term, superseded by additional, structural demand drivers.

There are five global gateway office cities where data is sufficiently long run to see the effects of inflation: New York, London, Paris, Frankfurt and Sydney. Market rents proved broadly inflationary over long periods of time since the mid-1980s. In the short term, supply and demand cycles dominate office rent growth with GDP as a key driver of office demand. In the long run, however, the data shows that office rents grow broadly in line with inflation and real rents are relatively stable within the context of real estate cycles (Figure 3).

Long-term data also shows that real estate yields are real yields and thus tend to be unaffected by rising inflation or inflation expectations. Real estate yields across global office cities remained fairly stable over time, featuring significant reverse yield gaps with nominal government bond yields during periods of double-digit inflation levels in the 1980s and 1990s.

As a result, real government bond yields are a key benchmark for real estate yields and the spread between the two can be thought of as a risk premium for owning property. Historically, the long-term average for this risk premium was in the order of 340 bps for five global office markets, according to our calculations.[9] At year-end 2021, the spread of 515 bps exceeds the long-term average, providing a cushion against rising real bond yields (Figure 4).

This is important as several central banks have turned hawkish in the latter half of 2021 against the background of spiking inflation readings and have started or announced plans to tighten monetary policy.

Since year-end 2021, real long-term government bond yields have increased by 50 bps in the eurozone and by 65 bps in the U.S. In the UK, real gilt yields have risen by around 90 bps since mid-December 2021 following two Bank of England rate hikes.[10]

Due to the wider than average spread of real estate yields over real government bond yields, however, real bond yields have further room to rise without putting upward pressure on real estate yields.

[5] IMF, *World Economic Outlook Update*, January 2022.

[6] Oxford Economics, January 2022.

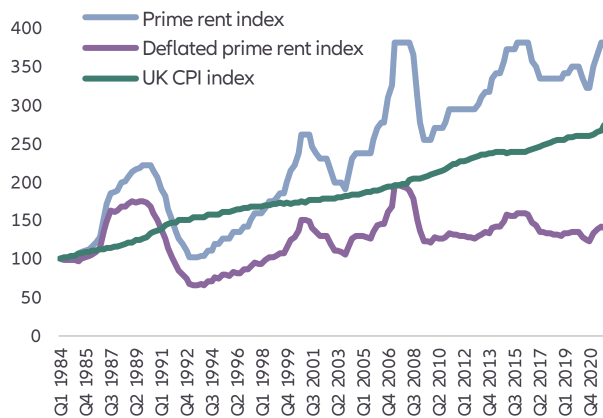
[7] Oxford Economics, Research Briefing 'Five crucial questions on the labor market', 26 January 2022.

[8] For example Oxford Economics, Research Briefing 'Real Estate to outperform bonds and equities', January 2022; Savills, 'Inflation: Implications for Real Estate', December 2021 (https://www.savills.com/impacts/market-trends/inflation-implications-for-real-estate.html).

[9] Allianz Real Estate, 'Inflation: Spotting the 'real' in prime office yields', *IPE Real Assets Magazine*, September / October 2021.

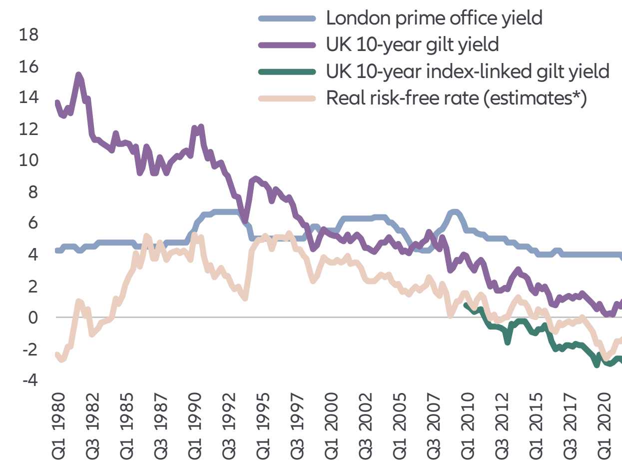
[10] Refinitiv, 11 February 2022.

Figure 3. **London prime nominal and deflated office rent vs national inflation (indexed, Q1 1984 = 100)**



Data source: CBRE, February 2022; Oxford Economics, February 2022.
Note: Inflation refers to consumer price index. Latest data point Q4 2021.
London refers to City and West End.

Figure 4. **London prime office yield vs real and nominal gilt yield (%)**



Data source: Oxford Economics, February 2022; Refinitiv, February 2022; CBRE, February 2022.
*Allianz Real Estate estimates for real risk-free rate calculated using Fisher equation. Expected inflation estimated as average of actual inflation in preceding five years (GDP deflator used as inflation measure). Prime office yields for London City. Latest data point Q4 2021.

The year 2022 has started with elevated inflation in many countries and a high degree of uncertainty regarding future inflation dynamics. In the current environment, our five highlighted real estate sectors are therefore among the top choices for globally diversified core portfolios.

Their attractive investment proposition is based on inflation-linked income streams (through lease indexation or inflationary market rents in the long run) and a sizeable yield spread over real risk-free rates.

Image: Pexels from Pixabay.com

Digital, green and social trends shaping the real estate investment environment

In its October 2021 Secular Outlook, *Age of Transformation*, PIMCO concluded that green, digital and social drivers will have a transformative impact on the global economy and markets over the next years.[11]

It is therefore important to understand how the three secular trends will shape the real estate investment environment.

Digitalization driving change in real estate

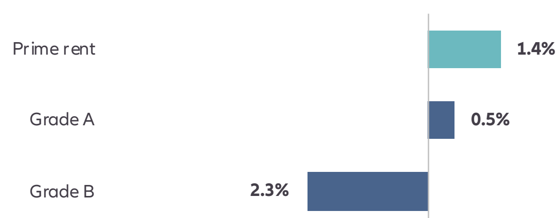
The growth of the tech sector, accelerated by the pandemic, will continue to disrupt various real estate sectors, in particular logistics, retail and office.

The rise of e-commerce has created new structural demand for logistics. Lockdowns and other pandemic restrictions have enabled e-commerce to achieve years of growth in just a few months.[12] This growth comes with greater logistics requirements as e-commerce fulfilment may require as much as three times the logistics space of conventional retail.[13] New necessities include e-fulfilment centers and parcel hubs as well as sorting and delivery centers of different sizes and locations. Demand will be concentrated in urban locations as firms look to offer faster delivery times than rivals.[14] New facilities will need to be built with these requirements in mind, potentially incorporating automation or robotics.

The retail sector, in turn, is under pressure from the paradigm shift towards e-commerce. Shopping centers' tenant mix and layout will have to change to accommodate more entertainment and dining options in order to continue to attract footfall. This will require significant amounts of capital expenditures at a time when pandemic-related lockdowns have amplified the financial strains on retailers. The polarization between large, dominant and modern shopping centers and smaller, outdated schemes will thus intensify.

New digital working practices will change the purpose of offices. Virtual working technology will continue to improve, blurring the line between home and office work. This is reflected in firms' preference for a hybrid working model of 2-3 days per week in the office.[15] The purpose of offices will shift towards socializing, collaboration and training. These functions are best served by high-quality buildings in central locations, and so the gap between prime and secondary assets will continue to widen (Figure 5).

Figure 5. **European rental change Q3 2021 YoY (%) reflects increasing polarization of office rents**



Data source: JLL, Q3 2021.
Note: Prime rent includes data on 19 European office markets.

Tech firms will be a key source of future demand for these prime offices which offer flexibility and amenities, and meet stricter environmental standards.

Real estate investors looking to capitalize on tech growth should pay attention to the divide between the Chinese and Western digital spheres. China has become the world's largest e-commerce market and its digital ecosystem is highly advanced. However, digital companies in China have limited reach into Western markets and vice versa. Investors therefore may want to diversify across both digital geographies to benefit from tech sector growth.

[11] PIMCO, *Age of Transformation*, October 2021.

[12] McKinsey, *How COVID-19 is changing consumer behavior – now and forever*, July 2020.

[13] Prologis, Citi Global Property CEO Conference, March 2019.

[14] PWC, *Global Consumer Insights Pulse Survey*, June 2021.

[15] JLL, *Worker Preferences Barometer*, June 2021.

Image: DTACC

Green transformation through decarbonization

Real estate occupies a key role in global decarbonization efforts as buildings are responsible for around 40% of global greenhouse gas (GHG) emissions.[16] This impact was recognized during last year's COP26 Climate Change Conference in Glasgow which, for the first time, dedicated an entire day to the 'Built Environment'.

Strong commitment from investors and occupiers to decarbonize[17], and increasing regulatory pressure, will result in significant changes. We see this as an opportunity to generate returns in real estate. Allianz Real Estate's 'Building Signature Program' is setting standards for cutting-edge, smart, green buildings. As part of its active asset management capabilities, Allianz Real Estate is rolling out the program across its 225 office assets globally. A recent example is the redevelopment of the 23-29 rue de Châteaudun office complex in the 9th arrondissement in Paris.[18]

Decarbonization of the buildings sector could require spending on physical assets globally in the order of USD 1.7tn per year between 2020 and 2050.[19] Owners may expect considerable capital expenditure to reduce operational carbon emissions of standing property. The economics of retrofitting imply that buildings in higher rent locations will see faster payback, leaving suburban assets in lower rent locations more likely to become stranded.

Investing into the greening of buildings can pay off. In Central London, Grade A offices with an 'Outstanding' or 'Excellent' BREEAM rating recorded rental premiums of around 10% over comparable non-rated buildings over 2011 to 2019.[20] In the U.S., LEED-certified Grade A urban offices achieved an average price premium of ca. 25% per square foot compared to non-certified buildings since 2011.[21]

The opportunity for decarbonization investments is large in Europe, where around 85% of office stock is more than ten years old.[22] As occupiers and their employees are in-

[16] World Green Building Council, *Bringing embodied carbon upfront*, September 2019; JLL, *Regeneration – Shaping the built environment to create value for all*, November 2021.

[17] Allianz SE is part of the Net-Zero Insurance Alliance since July 2021.

[18] Allianz Real Estate, 'Allianz Real Estate gives new life to 23-29 rue de Châteaudun in Paris', 21 September 2021 (https://tinyurl.com/2p-8pad2u).

[19] McKinsey, *The net-zero transition*, January 2022. Based on Network for Greening the Financial System 2021 (Net Zero 2050 scenario).

[20] JLL, *The impact of sustainability on value*, May 2020.

[21] Cushman & Wakefield, *Green is good part 2: Sustainability's impact on office investment pricing*, December 2021.

[22] Allianz Real Estate Research calculations based on JLL data as per Q4 2021.

creasingly demanding green and sustainable space, the bifurcation between 'green' and 'brown' assets in terms of occupancy, rent levels and capital values will become more pronounced.

Social – inequality concerns raising policy risk

The pandemic struck after several high-income and less developed countries had seen within-country income inequality increase for many years.[23] In contrast to emerging countries, massive fiscal policy responses in high-income countries alleviated rising income inequality during the pandemic. Wealth inequality, however, increased significantly, with top wealth groups benefiting the most.[24] Inflation over recent months has the potential to add to inequality in many countries as lower-income households spend disproportionately more of their income on food, energy and housing.

Policymakers have, in some cases, started to address public concerns about inequality, most notably in China, where 'common prosperity' will be on top of policy agendas for the coming years.[25] In Europe, inequality concerns have often crystallized in public discontent about housing affordability. Most prominently, a majority of Berlin citizens voted in favor of a referendum to expropriate large residential landlords.[26]

Against this background, real estate policy risk increases, particularly in the residential sector. In Europe, the focus is on regulating and controlling residential rents – especially in undersupplied markets. In addition, elevated inflation levels can affect tenants through rent indexation and rising ancillary expenses, amplifying affordability concerns and political pressure to tighten regulation. Elsewhere, taxation can become part of the political toolbox to address inequality concerns, as in the case of China, where the central government has introduced a property tax in tandem with the 'common prosperity' campaign.

[23] Gradín, C., *Changes in inequality within countries after 1990*, WIDER Working Paper 2020/116, UNU-WIDER, September 2020.

[24] World Inequality Lab, *World Inequality Report 2022*, December 2021.

[25] Gavekal Dragonomics, *Politics and policy in common prosperity*, November 2021.

[26] Deutsche Welle, 'Germany: Berlin locals vote to expropriate real estate giants', September 2021; retrieved 15 February 2022 (https://www.dw.com/en/germany-berlin-locals-vote-to-expropriate-real-estate-giants/a-59315431).

Image: congerdesign from Pixabay.com

Five top real estate sectors for growth, income and inflation protection

The current environment described above requires investors to navigate through inflation uncertainties as well as secular digital, green and social trends.

We therefore recommend global, diversified core portfolios to build or increase exposure in our five top real estate investment choices.

1. Prime offices in global talent pool cities

Tech firms continue to drive global office leasing volumes.[27] Despite the pandemic, they continue to diversify from traditional locations into U.S. Sun Belt markets and expand their presence in global gateway cities with a view to accessing broader talent pools.

The announcement in January 2022 of Alphabet, Google's parent company, to acquire the Central St Giles building in London for USD 1bn, soon after the announcement in September 2021 to buy Google Hudson Square in New York for USD 2.1bn, reflects this continuing draw of global gateway cities for occupiers looking to attract talent to their organizations. This is a global phenomenon; other tech giants such as Bytedance bought their Shanghai headquarters in September 2021 for around USD 1.25bn while Alibaba bought Axa Tower in Singapore in mid-2020 for close to USD 1.2bn. In Europe, international tech talent pools can be found in cities such as Paris, Berlin, Amsterdam and Barcelona. This is reflected in the tech sector's rising share in office leasing.[28]

We believe that post COVID-19, agglomeration economics[29] of cities will still apply, and that cities will remain talent magnets. Our report on the evolution of the office concluded that offices[30] in higher density cities would be most resilient in the new hybrid working era which will be shaped by new technologies. Central locations will be key due to their proximity to public transport and amenities for networking and socializing.

These trends are mirrored in investment and leasing market activity. While overall global office leasing volumes are trailing below long-term averages, there is evidence that prime location leasing in key city centers is thriving. Global transaction volumes in offices in 2021 were still 13% below 2019 levels.[31] For the very best location assets in thriving cities, however, pricing is competitive.

Our own office portfolio covers approximately 225 office assets in 47 cities globally, providing a test case to measure a range of metrics including city density, location, asset quality, ESG innovation and tenant quality. Back at the start of the pandemic, with our Risk & Portfolio team we categorized the assets and formed a model to predict which assets would fare best.

Almost two years later, the findings are clear; city center assets with adjacent bars and restaurants and amenities, strong ESG credentials and public transport, that can attract talent, will continue to be in demand from occupiers. This is reflected in valuation yields compressing at a rate greater than RCA global average office yields during the pandemic. Looking forward, office assets will provide resilient and inflation-protected income growth. Allianz Real Estate forecasts long-term rental growth of 3%+ pa on average for global top office markets.

2. U.S. multifamily

The U.S. remains an obvious location for multifamily investments. Since Q2 2017, it has been the most liquid real estate sector globally. In 2021, transaction volumes more

27 CBRE, *Tech-30 2021: Measuring the tech industry's impact on U.S. & Canada office markets*, October 2021.

28 CBRE, Q4 2021. Share of "Computers & Hi-Tech" in total office take-up rose to 47% in 2021 from 36% (2016) in the four cities mentioned.

29 A.J. van der Vlist, M.K. Francke, D.A.J. Schoenmaker, 'Agglomeration economics and capitalisation rates: Evidence from Dutch real estate office market', *Journal of Real Estate Finance and Economics*, 2021.

30 Allianz Real Estate, *Evolution of the global office sector in a post-covid world,* August 2021.

31 Real Capital Analytics, Q4 2021.

than doubled from 2020 (+128% YoY) to USD 335bn.[32] Among the largest transactions were Brookfield's USD 437m acquisition of a partial interest in Waterside Plaza in New York in December as well as Blackstone's USD 418m Kapillina deal (also a partial interest) in October.[33] Beyond liquidity, the market is also highly transparent and benefits from a positive regulatory environment.

Certain areas within the U.S. are benefiting from pandemic-accelerated trends. Widespread homeworking has bolstered existing domestic migration towards Sun Belt cities. Workers can prioritize weather, living costs and space, creating population growth in new tech hubs like Austin, Dallas or Phoenix (Figure 6). These changing preferences are also fueling suburbanization within cities. Demographic changes will support this trend: Millennials are now reaching prime household formation age and so need the space offered by suburbs.

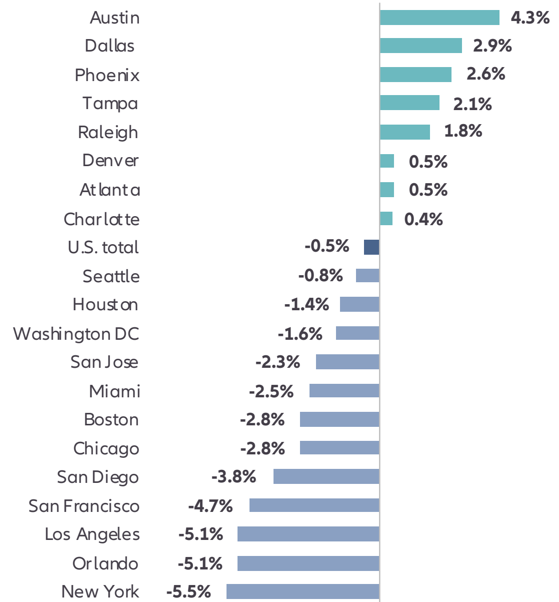
For these reasons, investors should focus on urban multifamily and suburban single-family sectors in Sun Belt cities and growing tech locations.[34] Within a diversified portfolio context, U.S. multifamily investments serve as a hedge against inflation. Annual rent resets in this sector are perfectly suited to capture increasing inflation dynamics.

[32] Real Capital Analytics, Q4 2021.

[33] Real Capital Analytics, Q4 2021.

[34] Allianz Real Estate, *U.S. multi-family in the investor spotlight*, November 2021.

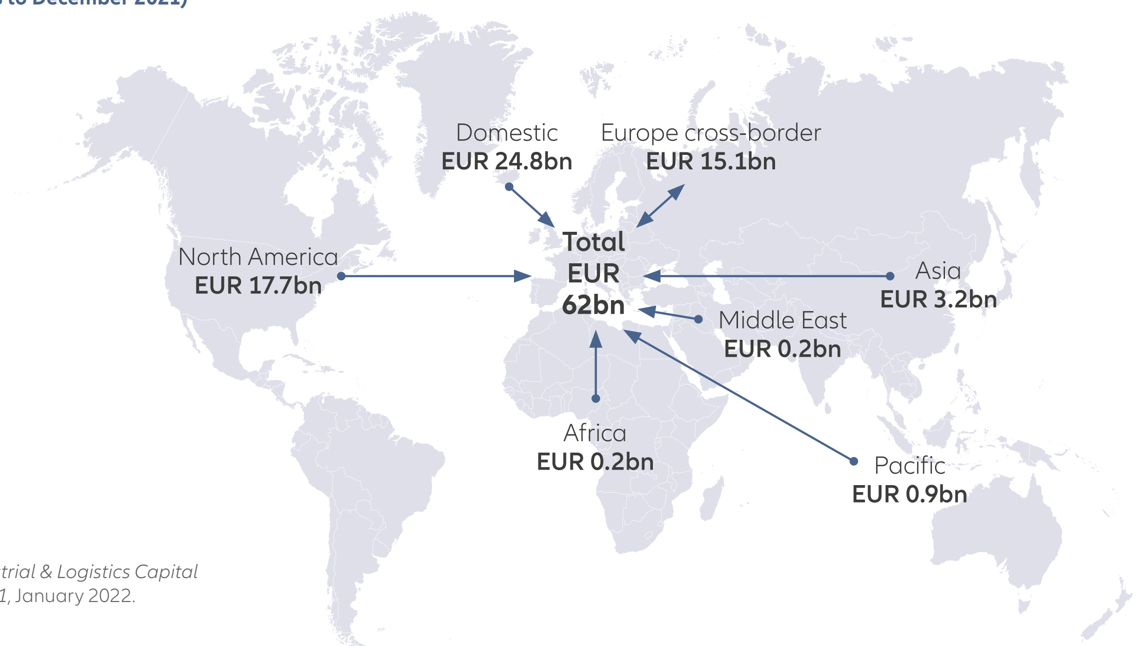
Figure 6. **Non-farm employment December 2021 vs February 2020**



Data source: Greenstreet, January 2022.

Image: LMC

Figure 7. **Capital flows into Europe industrial and logistics (12 months to December 2021)**



Source: CBRE, *EMEA Industrial & Logistics Capital Markets Snapshot Q4 2021*, January 2022.

In select markets where growth drivers are strongest[35], we forecast long-term rent growth to even exceed 4% annually. Moreover, residential investments provide stabilization in a portfolio thanks to low volatility which enhances overall portfolio risk-adjusted return.

3. Europe logistics

Europe logistics offers an attractive opportunity for capitalizing on e-commerce growth. The pandemic marked a tipping point in European e-commerce adoption which had lagged other regions for years. Compared to 10.6% at the start of the pandemic, the online share in retail sales in Europe is expected to have reached 14.3% by year-end 2021.[36] Still, this leaves plenty of potential to catch up with e-commerce shares in the U.S. (ca. 20%) and Asia Pacific (South Korea >35%; China >25%).[37]

Estimates show that this rise in online spending in Europe requires ca. 28m sqm of additional space over the five-year period to 2025.[38] Supply has so far struggled to keep up, even with developers becoming more risk-inclined and committing to speculative schemes. In most European countries, obtaining planning permissions remains difficult and site availability is limited, particularly in urban locations.[39]

Capital flows into Europe industrial and logistics reflect investors' preference for sectors benefiting from secular demand drivers. Europe industrial and logistics investment volumes surged 48% YoY in 2021 to EUR 60bn, even surpassing prior record levels from 2017 by more than 40%. Cross-border investments from the U.S. in the amount of EUR 18bn played a significant role (Figure 7).[40] Institutional investors show a strong interest in logistics investments. In December 2021, EQT Exeter sold a Europe logistics portfolio for EUR 3bn to Singapore's sovereign wealth fund GIC in one of the largest transac-

[35] Allianz Real Estate, *Long-term demand drivers behind logistics real estate*, December 2021.

[36] CBRE, December 2021. Europe figures based on Allianz Real Estate Research calculations as simple averages of nine large European countries.

[37] CBRE, *Global E-commerce Outlook*, May 2021. Figures refer to 2020.

[38] CBRE, 'CBRE forecasts 300m sq ft of additional European logistics space will be needed by 2025 to meet rising e-commerce demand', June 2021; retrieved 4 February 2022 (https://news.cbre.co.uk/cbre-forecasts-300m-sq-ft-of-additional-european-logistics-space-will-be-needed-by-2025-to-meet-rising-e-commerce-demand/).

[39] CBRE, *EMEA Market Outlook 2022,* December 2021.

[40] CBRE, *European Industrial and Logistics Capital Markets Snapshot Q4 2021*, January 2022.

Image: VGP

tions in Europe.[41] Allianz Real Estate and VGP expanded their longstanding partnership in January 2022 by forming a joint venture to develop prime logistics assets across Germany, Hungary, the Czech Republic and Slovakia with a GAV of EUR 2.8bn.

Europe logistics prime yields moved in by ca. 160 bps over the last five years[42], and are in some cases now even lower than office yields. As a result, room for further yield compression in Europe logistics is likely limited and future returns will rather be driven by rental growth over the next years. For top locations where supply-demand dynamics are most favorable, Allianz Real Estate forecasts logistics rent growth of more than 3% annually on average in the long run. For a diversified core portfolio, Europe logistics will therefore enhance total returns through growth in income and capital values.

4. Japan multifamily

COVID-19 accelerated pre-existing socio-demographic trends in Japan. The country's 'Big Four' cities – Tokyo, Osaka, Nagoya and Fukuoka, representing 37% and 28% of Japan's GDP and population respectively – are among the primary beneficiaries.

Young population cohorts migrate to the large cities searching for better healthcare, employment and education opportunities. Although muted during the pandemic, international migration is also concentrated in Japan's large cities. Coupled with population ageing and delayed marriage decisions, single households are increasing. As a result, population and household numbers in the central areas of Japan's Big Four cities are still forecast to rise in the coming years[43], despite Japan's shrinking population.

Since the onset of the COVID-19 pandemic in early 2020, Japan's multifamily residential sector has proven to be resilient. The nationwide occupancy levels remained above 93%[44] and were barely changed in Q4 2021 in the Big Four cities.[45] Rental corrections were also milder than those during the 2008-2009 Global Financial Crisis.[46]

Japan is the largest institutionalized and most liquid residential market in the Asia Pacific region. In 2021, mul-

[41] CoStar, 'QT Exeter Completes €3 Billion Logistics Portfolio Sale to GIC', 22 December 2021; retrieved 7 February 2022 (https://www.costar.com/article/2009430899/eqt-exeter-completes-%E2%82%AC3-billion-logistics-portfolio-sale-to-gic).

[42] CBRE, Q4 2021. Average movement of 14 European markets.

[43] National Institute of Population and Social Security Research, March 2018.

[44] Savills, J-REITs (Nippon Accommodations Fund, Advance Residence, Comforia Residential REIT), Q4 2021.

[45] Savills, J-REITs (Nippon Accommodations Fund, Advance Residence, Comforia Residential REIT), Q4 2021.

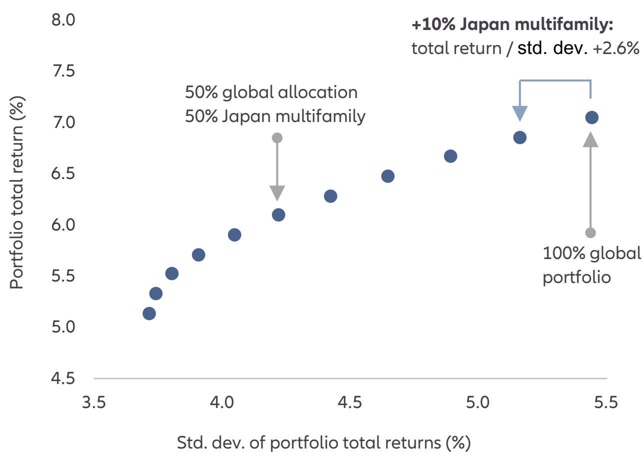
[46] Savills, Q4 2021.

tifamily residential investment in its Big Four cities alone accounted for approximately 56% of the overall Asia Pacific transaction volume in the sector.[47] Interest from cross-border capital remains strong: around 30% of 2021 investment volumes involved foreign buyers.[48] In December 2021, Allianz Real Estate announced the first close for a closed-ended investment platform, which the firm manages on behalf of Allianz, Ivanhoé Cambridge and a third investor, with an investment capacity of up to USD 2bn focusing on multifamily residential assets in Japan's Big Four cities.

Japan multifamily investments provide a highly attractive income yield for a globally diversified core portfolio. Levered cash-on-cash returns are boosted by Japan's ultra-low-cost of borrowing and favorable funding conditions. Transactional yields of c.4.4%[49] imply outsized spreads over Japan's negative real government bond yields.

In addition, the sector provides diversification benefits to a global real estate portfolio. Adding a 10% Japan multifamily allocation to a global portfolio (represented by the MSCI Global Annual Property Index) reduces the volatility of the portfolio's total returns by around 5% and increases total return per unit of risk by ca. 2.5% (Figure 8).[50]

Figure 8. **Portfolio total return and volatility for various allocations to Japan multifamily**



Source: Allianz Real Estate Research based on MSCI data 2002-2022, February 2022.
Note: Global portfolio / allocation based on MSCI Global Annual Property Index (all property); Japan multifamily based on MSCI Japan Annual Property Index (residential segment).

[47] Real Capital Analytics, *Asia Pacific Capital Trends 2021*, January 2022.

[48] Real Capital Analytics, Q4 2021.

[49] Real Capital Analytics, Q4 2021.

[50] Allianz Real Estate Research calculations based on MSCI data (February 2022) for MSCI Global and Japan Annual Property Indexes.

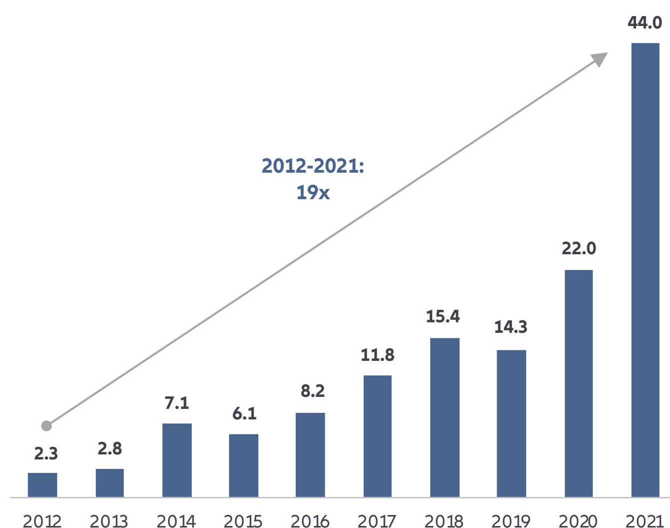
5. Life sciences

COVID-19 moved life sciences into the spotlight, but the sector's strong fundamental drivers had been in place already well before the pandemic. Population ageing over the coming decades both in the West and in Asia will drive demand for new and personalized therapeutics or digital health applications.

The secular trend of rising technology adoption will greatly expand the set of opportunities available in life science innovation and enhance the productivity of research & development processes.[51] Public and private funding for life sciences, not least from venture capital investors, has grown significantly over recent years. Most notably, global fundraising in health innovation reached USD 44bn in 2021, twice the amount raised in 2020 and an almost twenty-fold increase vs 2012 (Figure 9).[52]

The life sciences sector is highly location sensitive. Occupiers rely on ecosystems of research institutions, a deep and diverse talent pool, the presence of

Figure 9. **Global health innovation funding (total funds raised, USD bn)**



Data source: StartUp Health Insights, January 2022.

[51] JLL, *2021 Life Sciences Lab Real Estate Outlook*, September 2021.

[52] Startup Health Insights, *2021 Year End Report*, January 2022.

incumbent pharma corporations and access to capital.[53] Core life sciences clusters are thus generally difficult to replicate.

Investment opportunities for real estate investors include established life sciences clusters in the U.S. (such as Boston, San Francisco or San Diego), Europe (e.g. London or clusters in Ireland or Germany) and Asia Pacific (e.g. Shanghai, Tokyo, Singapore, Sydney and Seoul). In addition, emerging clusters in urban areas, for example the King's Cross Knowledge Quarter in London, are partly moving into focus.

In the second half of 2021, two major transactions were concluded in the London-Cambridge-Oxford life sciences triangle. BioMed Realty, a Blackstone portfolio company, announced in September 2021 an investment of GBP 850m into two purpose-built laboratory sites in Cambridge International Technology Park.[54] One month later, Singapore sovereign wealth fund GIC acquired a 40% stake in a life sciences park near Oxford University from Magdalen College for GBP 160m.[55]

Within the context of a diversified global portfolio, life sciences clearly is a growth investment which contributes to total return through growth in rental income and capital gains.

What did we miss?

In our selection, we could have included U.S. logistics, Asia Pacific logistics, data centers, student accommodation and the hospitality sector globally.

The finite nature of management time and attention compared to the opportunities provided by commercial real estate made us limit ourselves to the five sectors outlined here.

[53] JLL, *2021 Life Sciences Lab Real Estate Outlook*, September 2021; Savills Spotlight, *European Life Sciences*, September 2021.

[54] Cambridge Independent, 'BioMed Realty invests £850m in two Cambridge lab sites', September 2021; retrieved 7 February 2022 (https://www.cambridgeindependent.co.uk/business/biomed-realty-invests-850m-in-two-cambridge-lab-sites-9217326/).

[55] Mingtiandi, 'Singapore's GIC buys 40% stake in Oxford Life Sciences Park', October 2021; retrieved 7 February 2022 (https://www.mingtiandi.com/real-estate/projects/gic-buys-40-stake-in-oxford-life-sciences-park/).

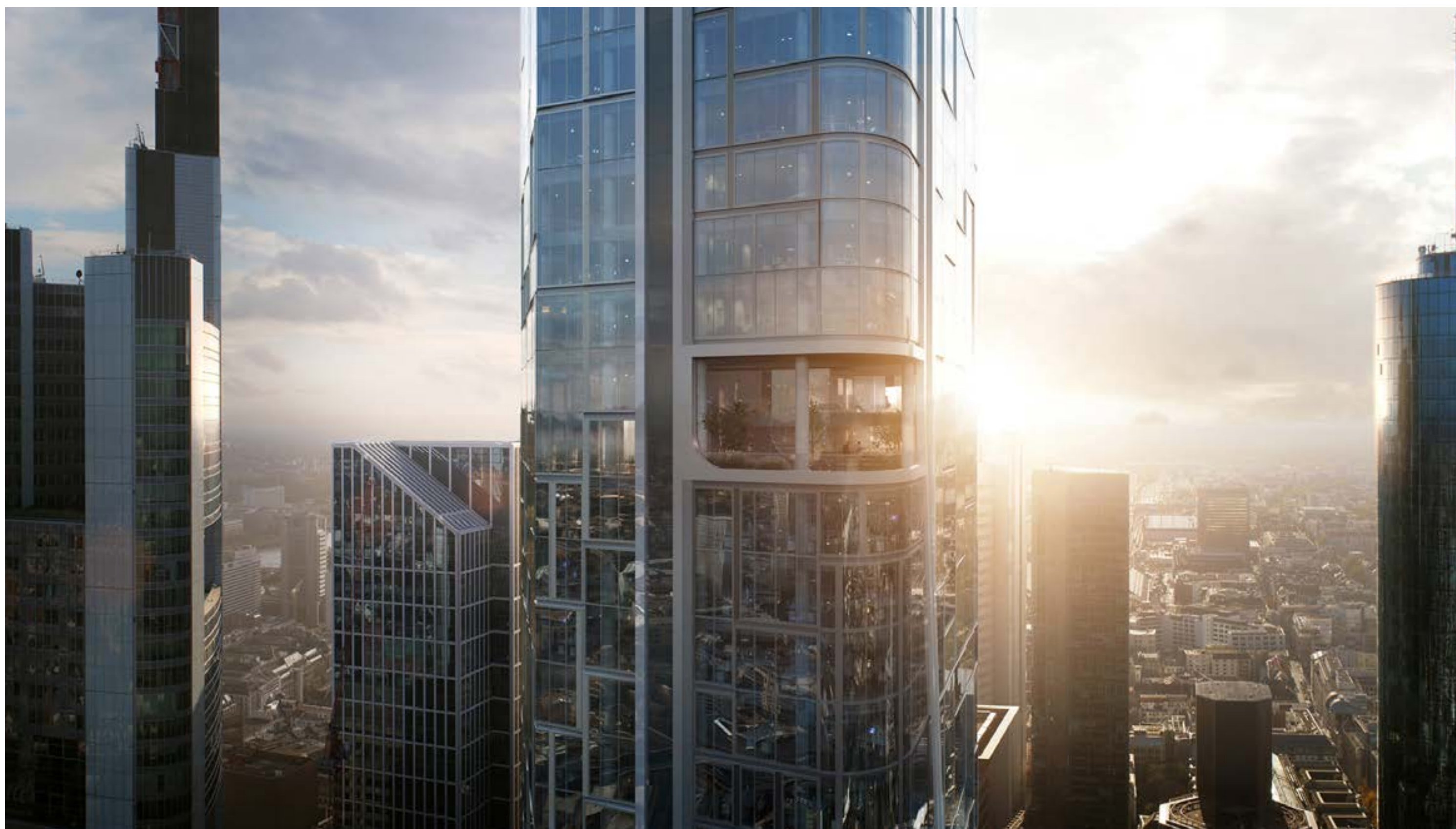


Image: Groß & Partner

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