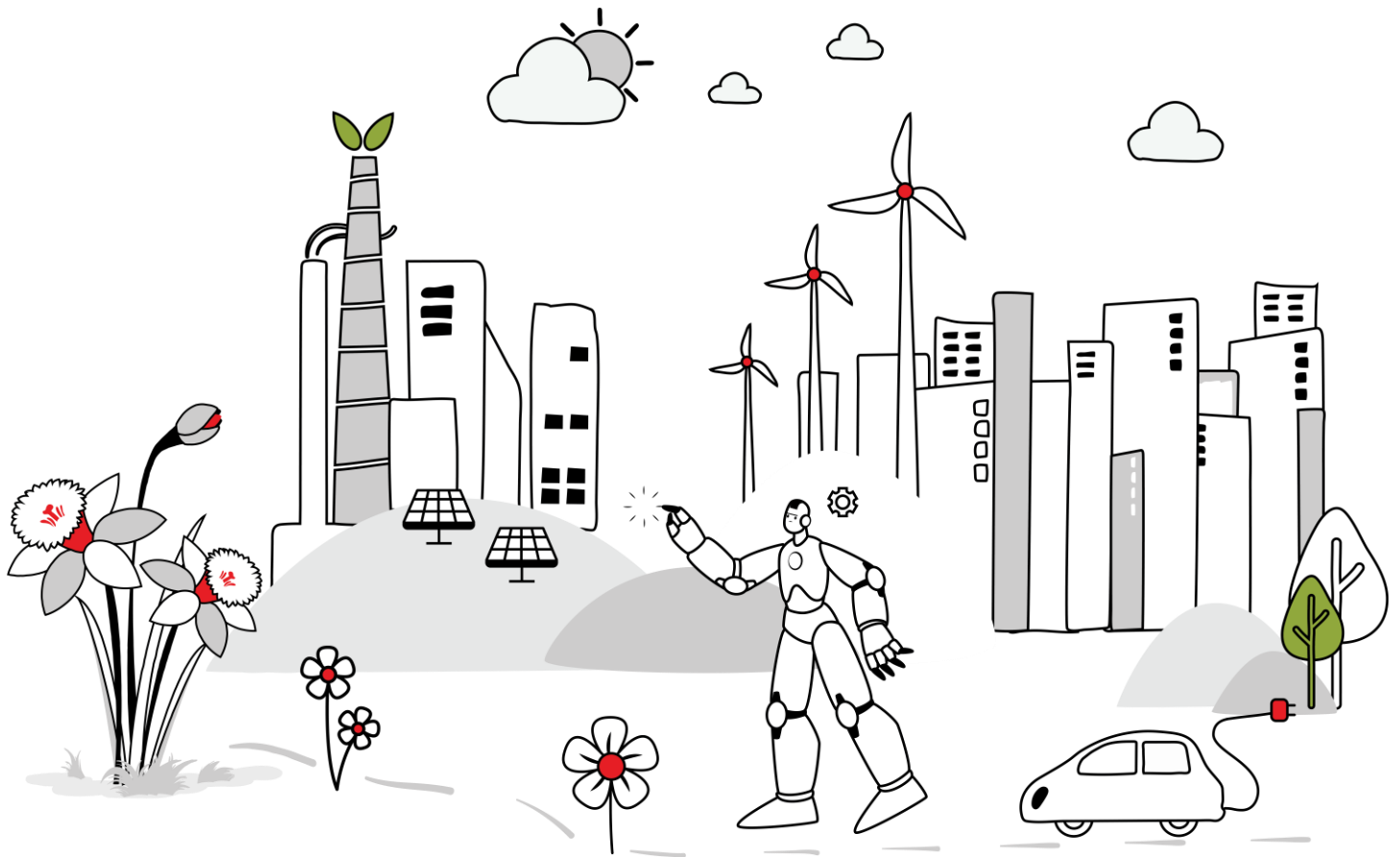


IPM

Edition March 2023

Our quarterly **insights** into **private markets**



Future in sight

Exit activity expected to gain momentum in private equity

Growth continuing

Life science VC still active despite volatility

Price correction

Market adjusting quickly in global real estate

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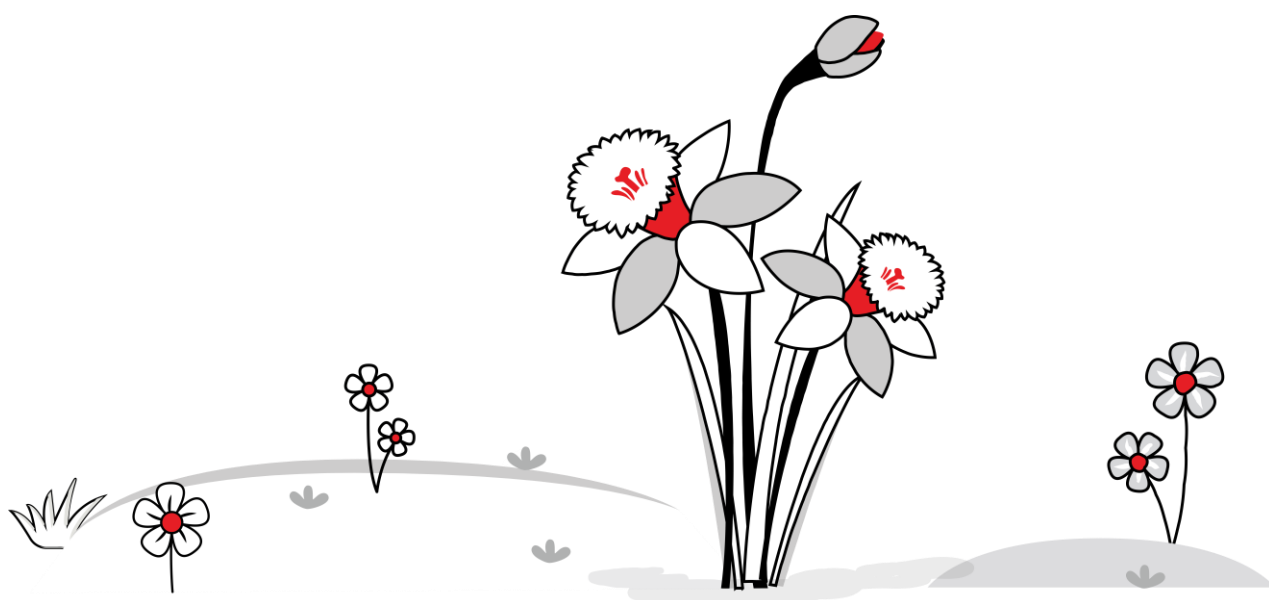
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Dear readers



Olivia Muir

Head of ESG – Real Estate & Private Markets

Welcome to our first 2023 IPM edition!

Looking back at 2022, for most asset classes and investors it was a challenging year. Private markets in general saw lower volatility in returns over the year, further encouraging the long-running trend of increased allocations to alternatives as part of a multi-asset portfolio. Another trend of note was seen in open-ended strategies and ETF flows. In 4Q22, global sustainable fund flows were resilient, with inflows of USD 37 billion compared to USD 200 billion withdrawals across the broader market, according to Morningstar. This trend did vary across geographies, unsurprisingly strongest in Europe. When considering new strategies launched there was a clear preference for sustainable versus non-sustainable, a trend likely to continue with new regulatory requirements especially in Europe.

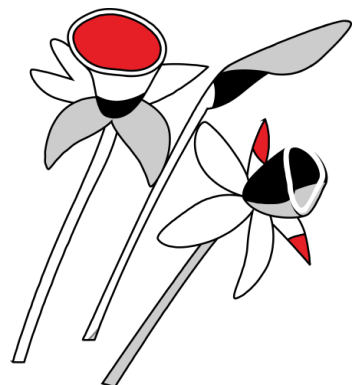
I mention these two patterns (public/private, sustainable/non-sustainable) because they point to the continued tailwinds for sustainability themes in private market investments, a focus area for Real Estate & Private Markets.

In the following pages, the team will provide the outlook on our asset classes and regions. I hope you find this issue insightful and educational and are as excited as we are for the year ahead.

Kind regards

A handwritten signature in black ink that reads "OJ Muir".

Olivia





Fergus Hicks
Real Estate Strategist

“A correction in capital values is under way. Investment activity has dried up, as usual during market downturns when prices adjust. Initial data suggest a swift re-pricing. This would allow the market to settle at new levels and give investors confidence to start transacting again.”

Market correction under way

News on the economy at the start of 2023 was better than expected. The eurozone allayed fears and grew slightly in 4Q22, while the US economy maintained a good pace of expansion. Warm weather curbed energy use in Europe and natural gas tanks remained close to full. Optimism also flowed on China following the government's rapid ditching of its zero-COVID-19 policy. In addition, inflation has fallen globally and looks to have peaked, but remains far above the central bank's 2% target. The outlook is mixed, with UBS Investment Bank's analysis of hard data putting recession in the US within the next 12 months at a near certainty, though a strong January jobs report showed little signs of it so far. In the eurozone, the recession probability has fallen back to 25%, while China's re-opening is set to boost Asia Pacific.

Key central banks announced further interest rate rises at the start of February, with the US Fed dialing back its pace of increase to just 25bps. Moreover, we and the market believe that rates are close to their peak. What happens to them for the rest of 2023 is less certain and will be key in determining real estate performance. A stronger than expected economy and labor markets which remain tight may mean central banks have to hold interest rates at high levels for longer. And the final push to get headline inflation from 4% to 2% may prove harder than the initial squeeze back down to 4%.

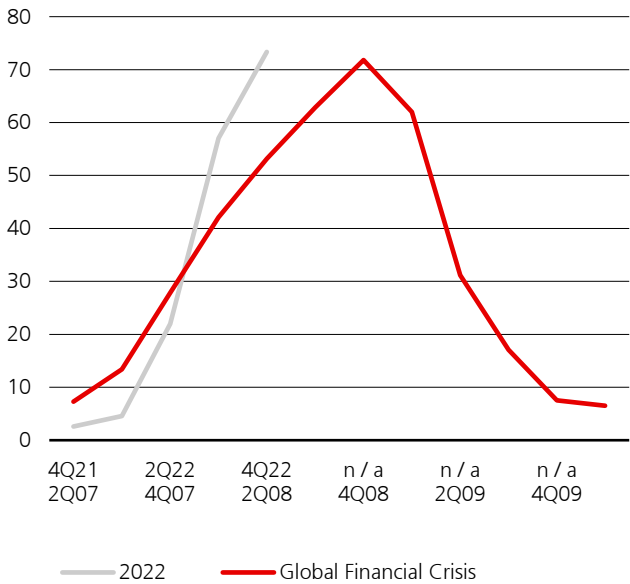
The adjustment in real estate markets, which started around the middle of 2022, has continued apace. Global investment activity slumped below USD 200 billion in 4Q22 from a peak close to USD 550 billion a year earlier when the pandemic eased and prompted a surge in deal flow. In 4Q22, investment volumes pulled back further, down sharply across all regions and sectors as uncertainty gripped the market, buyers pulled out of deals, refinancing became harder and prices started to adjust. We expect activity to remain subdued in the first half of the year, before gradually recovering as the price correction takes place and investors regain confidence to transact.

The pervasiveness of the correction in 4Q22 can be seen in cap rates and yields which rose in 73% of the more than 300 city-sector markets yields we monitor globally (see Figure 1). By contrast, they fell in just 3% of markets. The falls occurred across sectors in Tokyo and Istanbul and a couple of city-sector specific markets in the US. The drop in Tokyo reflects Japanese interest rates which have remained on hold and are not exerting any upward pressure on property yields. Zero interest rates are also generating sizeable hedging gains for overseas investors in Japanese real estate. In Turkey, runaway inflation has seen investors flock to the stock market to try and protect the real value of their savings and also to seek haven in property, given its inflation protection characteristics.

4Q22 performance data released so far showed significant capital value declines. The correction was by far the largest in the UK, exacerbated by a since withdrawn unfunded government spending program which caused interest rates to spike. According to data from MSCI and NCREIF, UK all-property capital values fell 13% QoQ, while US and Canadian capital values dropped 4% QoQ and Irish values fell 5% QoQ. UK industrial capital values showed the biggest drop of 19% QoQ, following an 8% QoQ fall in 3Q22. However, the declines followed a phenomenal run since 2Q20, when UK industrial capital values rose 55% as the boom in online retail took hold and drove strong rental growth.

Mirroring the broader equity market, global listed real estate also showed a strong performance in early 2023. If the recovery is sustained and the listed market did bottom out in 4Q22, this would suggest a trough in private markets global real estate capital values in the second half of 2023. Moreover, initial signs of a more rapid correction in pricing mean capital values could bottom out slightly sooner, around the middle of the year maybe. Ultimately, the trough in the market will be determined by what happens in the economy, which will feed through to rental income, and what happens to interest rates. If interest rates need to stay high for longer than investors expect, this could delay the timing of the trough in real estate capital values.

Figure 1: Share of global city-sector markets in which cap rates and yields rose (%)



Source: CBRE; NCREIF; PMA; UBS Asset Management, Real Estate & Private Markets (REPM), February 2023. Note: Refers to 309 global city-sector markets. **Past performance is not a guarantee for future results.**



Prudent lending to cushion LTVs

Debt financing and its impact on real estate is an important topic for investors. Historically, debt has been added to equity investments to boost returns. Overall, since the millennium we think that debt financing can be categorized into three distinct periods. First, there was the pre-Global Financial Crisis (GFC) period of plentiful credit. Next, until the pandemic there was the post-GFC period of low interest rates and more measured lending. Finally, there is a new post-pandemic period which we are now entering.

Excess liquidity and credit were the primary causes of the GFC as banks lent freely across the economy, including against residential and commercial real estate. New products to collateralize debt helped boost the supply of credit, broadening it from traditional bank lending. In the case of real estate, loan-to-value (LTV) ratios were pushed sharply higher, while loan covenants were weak. Leverage on the NCREIF ODCE US fund index was 20% in mid-2007 on entering the GFC and peaked at 33% at the end of 2009. Moreover, some individual deals were transacted at LTVs in excess of 70%.

Following this period of excess, there was the post-GFC period. The transition to ultra-low interest rates boosted real estate values. At the same time lenders, having been bruised during the GFC, were much more cautious over lending terms and were also subject to much tighter regulation. Borrowers became more disciplined, particularly with regard to speculative development. By end-2017, the ODCE fund index LTV dropped to 21%. LTVs rose slightly during the immediate onset of the pandemic as capital values weakened, though the ODCE index LTV rose to just 23% by end-2020.

Leverage impacts returns for investors. At the end of 2006, prior to the GFC, the spread between global net operating income yields (NOI) and five-year swap rates plus a 150bps margin, was negative 51bps. Hence at this point, adding debt was diminutive to returns. By contrast, over the post-GFC period 2011-19 inclusive, the spread averaged a positive 216bps, meaning that debt was strongly accretive to real estate performance and boosted returns for investors.

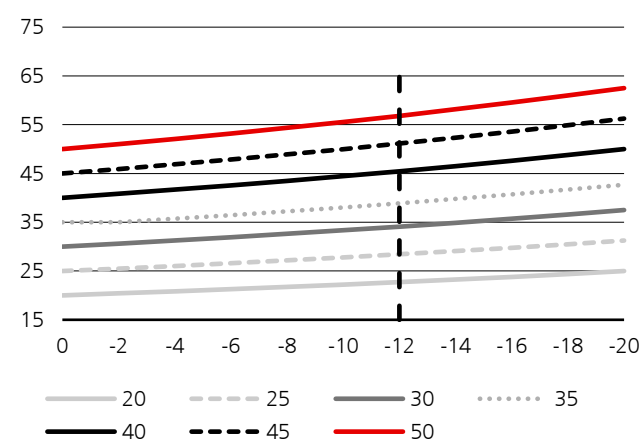
A key question for investors now is what the post-pandemic landscape will look like. The current declines in capital values will, by definition, push up LTVs. However, we think that prudent lending prior to the downturn should make loan covenant breaches less likely. For example, for an asset or fund with a 25% LTV in mid-2022 on entering the downturn, the 12% or thereabouts peak-to-trough fall in global capital values we are expecting would see the LTV rise to 28%. Moreover, even a more significant decline of 20% would only see the LTV rise to only 31% (see Figure 2).

What might be more challenging for investors is the sharp rise in interest rates over the past year. By the end of 2022, global five-year swap rates had risen to 3.3% which, adding on a 150bps margin, gives an all-in lending rate of 4.8%. This compares to an estimated NOI yield of 4.0% and means that debt is diminutive to returns again. This will make leveraged investment unattractive for the time being. Hence, in the current environment we do expect to see some distress as some borrowers default on loans or struggle to refinance them. But we are not expecting the same levels of distress that occurred during the GFC period.

In the medium term, once interest rates start to fall and the market has fully repriced, the spread should become positive again and debt should become accretive to returns again. We are not expecting interest rates to fall back to pre-pandemic levels, rather that they will be somewhat higher. Hence, we do not expect a return to the post-GFC period when debt turbo-charged returns for investors and yields trended downwards. Instead, we think debt will be mildly accretive to returns and most effective for value-add and opportunistic investments with higher projected returns.

The final area for investors to consider is whether they use fixed or floating rate debt. Fixed rate debt provides certainty for the interest expense over the duration of the loan, but the loan can be marked to market, causing fluctuations in value as interest rates change. By contrast, floating rate debt means the interest cost is related to prevailing interest rates. Ultimately, the choice requires investors to take a view on rates and assess which type of financing best suits their needs.

Figure 2: Loan-to-value ratios versus capital value decline (by initial LTV, %)



Source: UBS Asset Management, Real Estate & Private Markets (REPM), February 2023.

Real estate investment performance outlook

2022 forecast and 2023-25 outlook are measured against the country-sector's long-term average total return, with the average +/- 100bps described as "in line with long-term average". The long-term average refers to the period 2002-21. The red underperformance quadrant refers to negative absolute total returns, either in 2022 forecast or the 2023-25 outlook.

		LTA	Office	LTA	Retail	LTA	Industrial	LTA	Residential
North America	Canada	8.5		8.4		11.2		9.2	
	US	7.5		8.7		11.4		8.5	
Europe	France	7.6		9.0		9.9		7.8	
	Germany	5.0		5.2		8.5		7.4	
	Switzerland	5.7		6.1		6.6		6.4	
	UK	6.9		4.9		10.7		9.1	
Asia Pacific	Australia	10.0		8.8		11.9		n/a	
	Japan	5.2		5.3		6.1		5.7	



: Forecast 2022



: Outlook 2023-25

- : Underperformance (negative absolute returns)
- : Underperformance vs. long-term average
- : In line with long-term average
- : Outperformance vs. long-term average

Source: Oxford Economics; UBS Asset Management, Real Estate & Private Markets (REPM), February 2023. Note: Abbreviation LTA: long-term average.
Expected / past performance is not a guarantee for future results.



Zachary Gauge

Head of Real Estate Research & Strategy – Europe ex DACH

“European property values have only moved down marginally and have a long way to go to reach a level that reflects the higher interest rate environment. The UK is an exception, which after a – 13% correction in 4Q22 appears attractively priced versus other global markets.”

Some economic risks dissipate

Economy

Much of the economic commentary in 2022 focused on how higher inflation and interest rates would impact the European economy in 2023. But as we kick off the year, there is a cautious optimism that the actual impact on the economy may not be as bad as previously feared. The eurozone is now expected to avoid a recession in 2023 (UBS Investment Bank forecast +0.8% GDP growth). The risk of gas shortages has eased with the unseasonably warm winter and the economy has been boosted by the easing of supply chain stress, and the reopening of China lifting industrial production and export prospects. The UK is still forecast to have a recession in 2023 (UBS Investment Bank forecast -0.5% GDP growth), although this is lighter than anticipated towards the end of 2022. And importantly, unemployment is only forecast to rise marginally (0.3 percentage points in both markets to end-2024). CPI is forecast to come down sharply over the course of 2023, averaging 6.5% in the UK and 4.8% in the eurozone, largely driven by base-effects and the fall in wholesale energy prices.

Both the ECB and BoE hiked by 50bps in their January meetings, to 2.5% and 4% respectively. However, the tone of the commentary which accompanied the hikes has started to diverge. Although the BoE is still reiterating the need to fight inflation, assuming UK CPI does continue to fall, the BoE is expected to hike just once more in March, leaving 4.25% as

the terminal rate. The BoE is then forecast to cut rates by 50bps in 2H23, and a further 125bps in 2024 to support the sluggish economy and bring the base rate closer to a neutral level at 2.5%. The ECB however gave a clear intention to hike by 50bps in March, with a further 25 or 50bps hike anticipated to follow in May to leave the terminal rate at between 3.25-3.5%. Interest rate cuts are not forecast to start until 1Q24 (75bps forecast for 2024), which would bring the ECB depo rate to just 25bps lower than the BoE. This perceived divergence in policy direction has narrowed the spread between 5-year euro and GBP swaps over 100bps at the end of 2022 to 75bps as at 6 February 2023.

Occupier markets

Despite the slight improvement in the economic outlook noted above, there are early signs that some of the negative sentiment has started to impact the office occupier markets. Take-up had recovered to around 80% of its pre-pandemic level but fell back in 4Q22 by 4.2% on the previous quarter and by 25% on 4Q21 (see Figure 1). Available supply, which had leveled out at an aggregate vacancy rate of ca. 7% since the pandemic, increased to 7.3% in 4Q22. Despite this, prime rents continued to move up in a number of markets including Paris, the big five German cities, Milan, Amsterdam and Madrid. This is reflective of the low availability of genuinely sustainable office buildings.

Liquidity dries up

Similarly, the logistics market also saw take-up reduce by ca. 25% on 4Q22, although this was coming off a much higher base than office markets. We do expect the economic slowdown to weigh on both consumer and business demand for goods in 2023. But with vacancy levels at just 2.6% and structural drivers negating some of the economic slowdown, the outlook for rental growth remains positive, albeit lower than previous years. Occupiers will become increasingly focused on quality and the sustainability of units, and in locations which can drive cost and operational efficiency.

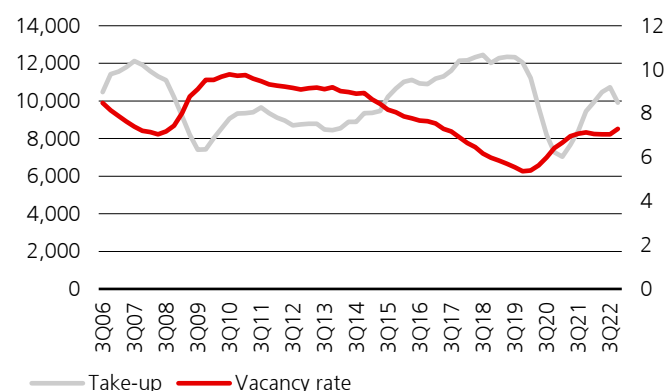
The overall retail sector will see some challenging trading conditions as consumer spending power continues to decline as real wages remain negative throughout 2023. Christmas sales held up better than expected although this was partly due to the reserves of savings and credit being drawn upon which is unsustainable going forward. Prime pitches in tourism cities are likely to be more defensive as they continue to benefit from the surge in European travel post-pandemic, with luxury locations potentially seeing an even stronger recovery in footfall if Chinese tourists are able to travel again in 2023.

Capital markets

The impact of rising interest rates and debt costs is now clearly being felt in European capital markets. Quarterly investment volumes totaled just EUR 50 billion in 4Q22, compared to EUR 141 billion in 4Q21. This was the lowest quarterly volume in Europe since the height of the eurozone crisis in 2012. A number of high-profile deals have been withdrawn from the market as bids came in well below vendors' expectations, whilst deals which have gone through generally had significant discounts to their valuations.

Commercial agents have responded by moving out prime yields across all markets and sectors, with the largest movements coming in the logistics sector, despite the very strong occupational dynamics. Against a backdrop of strong rental growth, we believe yields in this sector have become attractive again. In sectors where occupational demand is weaker, investor demand is also weaker and, as a result, deals have completely dried up. Rather than taking this to imply a significant drop in pricing, some European valuers have opted to keep values relatively stable. The issue this creates is that there is now a wide gap between where buyers would realistically come into the market, and a price sellers can accept.

Figure 1: European office vacancy rate and take-up
(%, '000 sqm)



Source: JLL, 4Q22.

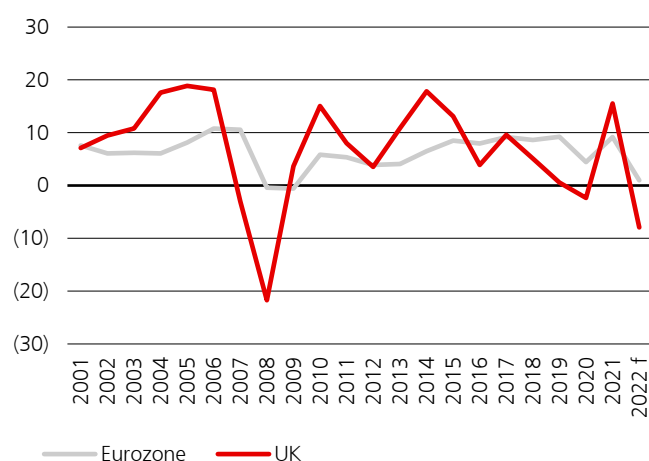


European versus UK valuations – who's right?

Performance data can be misleading

There is a sizeable discrepancy between UK and eurozone direct property performance, as inferred by the MSCI index. Between 2001 and 2021, the UK property index outperformed the eurozone by 1.2 percentage points, but at a level of volatility that was in theory three times higher (see Figure 2). Taken literally, on a risk-adjusted basis, this would be deemed to be a pretty poor pay-off for the much higher volatility.

Figure 2: MSCI all property total returns (%)



Source: MSCI; Oxford economics; February 2023. **Past / expected performance is not a guarantee for future results.**

The issue of course, is we're not comparing like-for-like. More European valuers use DCF models, which are naturally smoothed compared to the marked-to-market approach which is dominant in the UK. During a bull-run, this rarely causes an issue – most investors are happy to find that their assets can be sold at levels above their most recent valuation. But when the market turns, unrealistic valuations start to create liquidity problems.

Official numbers are yet to be released, but Oxford Economic forecasts values to decline by just -2.8% in the eurozone in 2022. With UK direct values falling by 13%, the gap is likely to be around 10 percentage points – a huge difference even by historic standards.

There are a few factors one could point at to explain the UK's apparent underperformance, and the disastrous mini budget undoubtedly accelerated the correction in 4Q22. But the reality is that methodology and a reluctance of European valuers to move the numbers to anywhere near a level that transactions would realistically happen at, is the biggest reason behind the discrepancy.

If assets never had to be sold during a downturn in Europe, perhaps this wouldn't be a problem – the valuation can be seen as more of an accounting mechanism rather than a realistic sale value. However, that's not the reality of the market – if anything, liquidity events increase during a downturn as redemption requests build and refinancings become more challenging. But potential sellers are unwilling or unable to accept large discounts on their most recent valuations. Potential buyers, on the other hand, need substantial discounts to underwrite deals to get to target returns which are appropriate in the new interest rate environment. As a result, transactions have fallen dramatically to EUR 31.9 billion in the eurozone in 4Q22, from EUR 86.1 billion in 4Q21. The lack of liquidity means an absence of market evidence to base values off, but rather than take a view on the fact that bids are coming in well below previous valuations, many European valuers have opted to leave values largely stable.

Unrealistic performance data doesn't help the market, or real estate as an investment asset class. Values fall sometimes as markets are cyclical and will be impacted by wider macro-trends. It happens across all asset classes, and a value correction in one or two years does not make the sector a bad long-term investment. But when values don't move during periods of uncertainty, the sector might appear even more illiquid and opaque. In the UK by contrast, the recent movements have restored credibility in the system, and with pricing now reaching a level where investors can now see attractive returns, we may see a recovery start for some sectors as early as 2Q23. In Europe, as was the case post GFC, this could continue for much longer until there's a willingness to accept reality.



Wai-Fai Kok

Head of Real Estate Research & Strategy – Asia Pacific

“APAC economic growth eased due to an export slump. Inflation seems to be under control and paves the way for rate pauses in 1H23. Yield spread is still tight and further cap rate expansions are expected in 2023. Japan’s policy risk has increased but the country still offers relative value.”

Clearer signs of a slowdown

APAC GDP growth slowed to 3.2% YoY in 4Q22, largely driven by an export slump. Asian exports fell ca. 10% YoY during the quarter in the steepest decline since early-2020. External trade was on a tear during the pandemic period, as consumers channeled spending into goods amidst restriction on services. This trend turned on its head in mid-2022. While still elevated relative to 2019 levels, Asian exports reversed almost half of their gains in 2H22. We believe this weakness will likely continue driven by a continued normalization of face-to-face services spending, a turn in the semiconductor cycle, and moderation in global demand.

On a sequential basis, the pent-up demand from reopening seems to have faded in the fourth quarter though most countries still recorded positive QoQ GDP growth underpinned by a resilient private consumption. South Korea and Taiwan were among the countries to have contracted, by 0.4% and 1.1% QoQ respectively, as they were dealt an external blow from a downturn in the semiconductor cycle. In South Korea, the tighter financial conditions have also started to hit consumers as private consumptions shrunk. China’s growth was lackluster due to a COVID-19 outbreak but should show a more meaningful recovery, albeit bumpy, in the coming quarters with the lifting of its *zero-COVID-19 policy*.

Inflation has finally peaked and eased 0.3 percentage points QoQ to 5.3% in 4Q22. The softening should continue given the plunging energy prices – Brent crude oil now hovers at around USD 80/bbl while coal prices almost halved YTD. That said, the key risk would be a persistent strength in consumption and labor markets, which contributed to the stalling of disinflation in the US. The good news is that this has been less evident in APAC save for Australia and New Zealand (ANZ).

Correspondingly, we believe the interest rate upcycle is also coming to an end in 1H23. In ASEAN, Bank Negara Malaysia paused its hiking in January while Bank Indonesia signaled an end to its tightening. Consensus thinks Bank of Korea’s 25bps increase in January could be its last, while UBS Investment Bank expects Singapore to stay on hold through 2023. ANZ is on the opposite end of the spectrum with the Reserve Bank of Australia (RBA) keeping its hawkish stance despite the two straight months of increases in unemployment rates to 3.7% in January.

A pricing stand-off

APAC leasing activity in 4Q22 moderated further on the back of mounting macro uncertainties. According to CBRE, office net absorption softened 4% QoQ, while logistics demand also fell as major e-commerce operators scaled back expansion plans. Retail fared better with leasing activity improving amid signs of tourist recovery. 4Q22 retail sales were robust and trended at >10% above pre-pandemic levels. We expect the overall leasing sentiment to weaken further in 1H23 as the economy enters a period of slower growth.

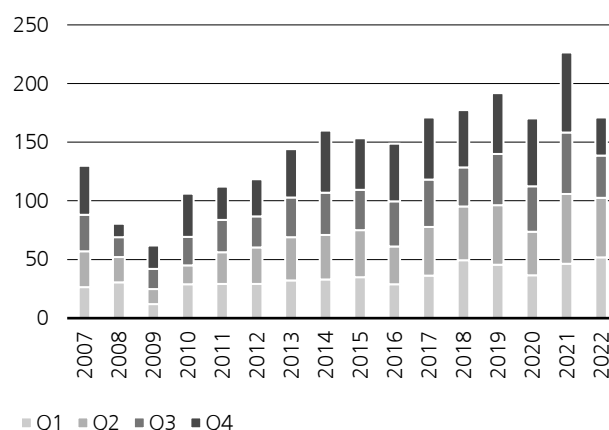
The transactional market remained sluggish in 4Q22. Cap rates have started to move out but at a considerably slow pace relative to the rise in funding costs. Bid-ask spread stayed wide and impeded deal closings. Equities and bond prices have rebounded but insufficient to alleviate the allocation cap on real estate given the slow valuation adjustments.

According to MSCI, APAC real estate transactions fell 52% YoY to USD 33 billion, the lowest since 2Q16 (see Figure 1). For the full year, 2022 transaction volume fell 24% YoY to USD 171 billion, similar to 2020 level but 11% below 2019. The decline was sharp across all sectors particularly in retail (-70%) and hotel (-60%). Japan was the most resilient market thanks to its continued positive yield spread not seen in most other markets. The country's transaction volume fell only 23% YoY in 4Q22 and -19% YoY for the whole of 2022.

In APAC, cap rates have expanded the most in South Korea and Australia, not surprising as their central banks have been among the most aggressive in rate hikes. Australia logistics witnessed the largest increase (+75bps) as it was perhaps an

easier revaluation exercise with its strong rental growth offering offset. Indeed, logistics valuations were still written up in Australia despite the rising cap rates. Elsewhere, Singapore's valuations stayed firm with limited notable office transactions. Two large retail transactions were concluded with mixed results, Jurong Point (6% below 2021 valuation) and Nex Mall (6% above), and will likely provide support to current cap rates. In the listed space, Singapore REITs mostly reported stable cap rates in the December quarter and higher valuations driven by rental growth. Australia REITs, meanwhile, lifted cap rates by up to 25bps for retail and office and up to 50bps for industrial assets.

Figure 1: Asia Pacific transaction volume (USD billion)



Source: MSCI, February 2023.



A new guard at the last bastion

APAC real estate valuations turned out to be relatively resilient in 2022. Potential sellers have been able to hold out with little to no distressed selling. However, this could be a function of timing according to debt and fund maturities. Balance sheet stresses have so far been minimal but could change upon refinancing and repricing. In the listed space, Asian REITs are starting to undertake pre-emptive equity raising to beef up their financial positions. Link REIT's HKD 18.8 billion rights issue and ESR-Logos REIT's SGD 300 million raising are cases in point. Australian REITs opted a less direct route through convertible bonds, such as Dexu and Centuria Industrial REIT.

With bond yields staying elevated, yield spread remained razor thin / negative. We think this will need to be adjusted and expect cap rate expansions to accelerate in 2023. By country, we think South Korea and Australia could see faster repricing due to their steeper yield-funding mismatch. For example, South Korea's debt cost of ca. 7% eclipses the asset yield of 4-5% (prime office and logistics) while Australia's debt cost of ca. 5% is also higher than its asset yield of 4-5%.

Being the last bastion of low interest rates, Japan has been an outlier with a highly accretive yield spread. However, the surprise move by the Bank of Japan (BoJ) in December has thrown a spanner in the works. What to expect for 2023?

Japan – will 2023 be a watershed year?

In December 2022, the BoJ widened the band of its Yield Curve Control (YCC) for 10-year yield target from +/-25bps to +/-50bps. This was not intended as a monetary tightening move but rather as a measure to improve the functioning of bond markets. Nonetheless, this came as a negative surprise. Since then, bond markets have deteriorated further with a distorted yield curve driven by market speculations of further YCC relaxation ahead.

From a real estate perspective, the 25bps increase in 10-year bond yield could potentially have negative implications for cap rates. However, it needs to be put in context. Even after a 25bps increase, Japan's yield spread remains among the highest in the world. We think this relative attractiveness should continue to draw investment capital. Assuming no further policy tweaks, cap rates should remain stable. This is in contrast to some investor surveys prior to the policy tweak suggesting potential for continued compression.

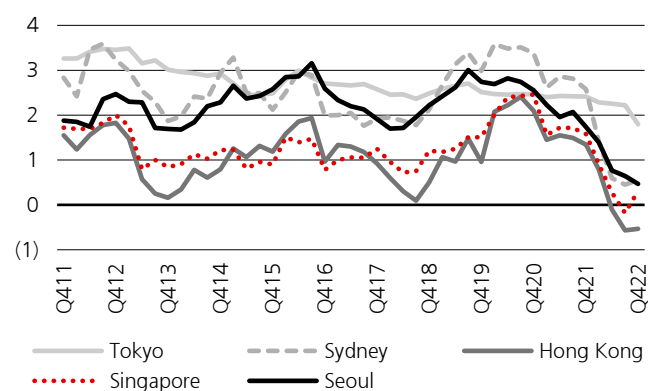
Nevertheless, market expectations have shifted. The likelihood of further YCC tweaks is no longer viewed as a matter of *if*, but *when*. The current dysfunctional bond market is one key reason. Inflation is another. We believe the outcome will be dependent on the upcoming macro data. The key metrics to

watch will include inflation, spring wage negotiation and macro momentum in the US. The wage outcome would be pivotal in determining the sustainability of the current inflation after decades of near-zero price movements. Meanwhile, a slowdown in the US would weigh on bond yields and in turn alleviate pressure on Japan's yield curve.

For real estate, we think the impact of an inflation-led YCC adjustment would be more manageable as it would likely be accompanied by a pick-up in rental growth. Nonetheless, the pace and extent of this tweak would be crucial. Much of this may hinge on the ideology of the next BoJ governor (and the incumbent administration) due to take over the driver's seat in April 2023. Kazuo Ueda was nominated for the role and most economists consider him a pragmatist with a neutral stance as opposed to a clear dove. Under his helm, we think any policy changes are likely to be gradual. That said, market conviction is currently low after the bombshell in December. A change in the short-term policy rate is still deemed unlikely in 2023 given the current state of the economy. 4Q22 macro print signaled continued recovery but uninspiring at best.

Using prime office as a proxy, Japan's yield spread has narrowed from 230bps in 3Q22 to 180bps in 4Q22 due to cap rate compression (-25bps) and higher bond yields (+25bps). This is still significantly higher than other APAC markets of between -50bps and +50bps (see Figure 2). In the event of a total abolishment of YCC, the current 10-year swap rate provides an indication of the potential 10-year JGB yield without control. Following the December tweak, the swap rate shot up to a high of 1.1% and averaged ca. 0.9% YTD. This implies an upside of 40-60bps from the current 10-year JGB yield of 0.5%. This looks manageable to Japan's current spread buffer. Still, the pace matters.

Figure 2: APAC office yield spreads (%)



Source: PMA; Reuters, February 2023.



Kurt Edwards

Head of Real Estate Research & Strategy – US

“US private real estate values are now correcting, and capital availability is at a cyclical low. Fundamentals are still expected to remain relatively healthy across the apartment, industrial, and retail sectors but the pricing of these sectors will impact total returns the most.”

Finding the bottom

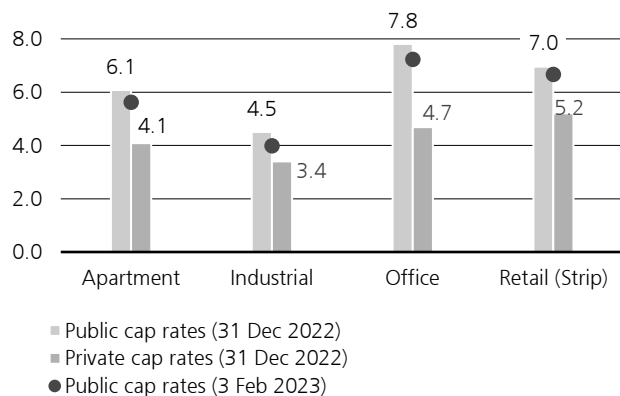
Private real estate values are now correcting, and capital availability is at a cyclical low. Heightened uncertainty around the cost of capital and minimal amounts of financing contribute to the scarcity of capital. 4Q22 transaction volume declined by 62% when compared to 4Q21, creating hardships for appraisers trying to use comparable sales to evidence price changes.

The lag in private real estate price correction has exacerbated the performance differential between public and private markets, creating a need for institutions to rebalance. Redemption pools are now common across most open-end investment vehicles, but without a reasonable ability to create liquidity.

All four of the traditional real estate sectors experienced negative total returns driven by depreciation during 4Q22 according to NCREIF's ODCE performance attribution data set. Continued weakness in the office sector combined with hardships in refinancing contributed to the sector's negative quarterly return of 5.7%, followed by apartment and industrial both returning -3.9%.

The higher priced sectors (i.e., lower cap rates) are impacted more severely by exit cap and discount rate increases. Conversely, the retail sector, which exhibited higher cap rates, had a total return of -1.0%. The public markets are a good indicator of directional pricing movements in the private sector but tend to overcorrect. The graph (see Figure 1) shows the gap in pricing between private and public real estate, but recent improvements in the equity markets since October 2022 are bringing public implied cap rates closer to private pricing.

Figure 1: Yield spreads (%)



Source: Green Street Advisors and Altus Databridge, as of 3 February 2023.
Note: Private cap rates are unlevered and appraised rates for ODCE properties. **Past performance is not a guarantee for future results.**

Bracing for headwinds

Figure 2: February US real estate return forecasts

Total return (%)	2020	2021	2022	3-year forecast
Apartment	1.8	19.9	7.1	4.8
Industrial	11.8	43.3	14.6	5.1
Office	1.6	6.1	(3.4)	4.6
Retail	(7.5)	4.2	2.7	5.2

Source: Oxford Economics Forecasts, as of February 2022. Note: Total return: NCREIF as of December 2022. Data shows unlevered NCREIF Property Index total returns. **Expected / past performance is not a guarantee for future results.**

Apartment

Apartment fundamentals continued to soften in 4Q22 (see Figure 2). The apartment sector delivered a total unlevered return of 7.1% in 2022 – a moderation from 2021's robust performance of 19.9%. Capital returns fell during the quarter by 4.1%, signaling that price corrections on the private side are catching up to the public markets.

A slower pace of job growth and hesitancy around the outlook of the economy discouraged new leases. Demand fell for the third consecutive quarter, while deliveries picked up and drove the occupancy rate down by 70bps over the quarter and 200bps over the year to 95.4%. Apartment rent declined by 0.8% QoQ, but was still 6.7% higher than a year ago. Transaction volume was reduced in 4Q22, down 36% from a quarter ago, and 70% from a year ago. We expect returns to moderate in 2023 before picking up again, as a cooling labor market and elevated interest rates weigh on returns.

Industrial

Tight market conditions kept industrial fundamentals solid amid a slowing economic backdrop. Availability increased 20bps over the quarter to 4.9% but remained 30bps below 4Q21 levels. Industrial rent rose 13.8% YoY in 4Q22, as low availability rates reinforced landlord's ability to push rents.

Despite solid fundamentals, volatility in the capital markets has weighed on returns. The sector's 2022 total unlevered returns moderated to 14.6%, as value declines during the fourth quarter dragged performance. Capital returns fell by 4.5% during 4Q22, breaking the sector's 13-year streak of appreciation. Transaction volume increased slightly by 5.3% over the quarter, but was 60% below 4Q21 levels. We anticipate a further moderation in returns in 2023, primarily driven by capital markets.

Office

The office sector struggled to maintain demand in 4Q22. Office utilization relative to pre-pandemic levels is at ca. 50%, and the sector faces additional headwinds from a cooling economy and volatile capital markets. Total annual unlevered returns for the sector fell by 3.4% in 2022, driven by further value declines during the fourth quarter.

Net absorption turned negative while the pace of new deliveries slowed in 4Q22. Office occupancy rates reached a 29-year record-setting trough of 82.7% during the quarter. We expect structural vacancy to be higher and demand for high-quality office buildings to persist as companies seek to attract workers back into the office while reducing their footprint. Our outlook supports the long-term average return forecast over the next three years.

Retail

Retail fundamentals ended 2022 on a solid note. Robust leasing activity surpassed new deliveries for the eighth consecutive quarter, boosting occupancy rates up by 20bps QoQ and 110bps YoY to 93.1%. Total unlevered returns moderated to 2.7% in 2022, but capital returns during 4Q22 were resilient relative to other property types. Values fell by just 2.9% during the quarter, partly because the sector already took a big hit in 2020 when capital returns fell by 11.2%. Additionally, the pandemic swept away the weakest retailers, which reduced the number of store closures and tenant bankruptcies in 2022. Transaction volumes remained slow in 4Q22, down 17% from a quarter ago and down 54% from a year ago. We expect retail performance over the next three years to be on par with industrial, because of limited write downs in 2023.

Select niche sectors

Returning back to normal

Self-storage¹

Self-storage fundamentals softened in 4Q22 as seasonal patterns resumed. A slowdown in mobility and a partial return to the office contributed to lower move-in rates. Same-store occupancy for Public Storage (PSA), a self-storage REIT, was 92.4% in 4Q22, down 90bps from a quarter ago and 250bps from a year ago. According to PSA, rapid growth in rents from existing customers offset a decline in move-in rental rates. In-place rents grew by 15.0% YoY, while move-in rents fell by 5% during the quarter. Supply remains a headwind for the sector, but elevated construction costs, supply chain bottlenecks and labor shortages have pushed back the incoming pipeline for another two years.

Cold storage²

Cold storage occupancy rates continued to climb above pre-pandemic levels in 4Q22. Americold, a global cold storage REIT that holds 83% of its inventory in the US, reported a 630bps YoY increase in economic occupancy to 85.0%. The company also reported strong same-property NOI growth but noted that labor shortages remain Americold's greatest operational headwind that continues to weigh on NOI margins. Although NOI margins remain ca. 400bps below 4Q19 levels, they have improved by 156bps over the year as the company hires more permanent workers. Same-property NOI during 4Q22 was 15.4% higher than 4Q21 levels, and over the full year of 2022, grew by 6.7%. We expect occupancy rates to continue to rise as the demand outlook for manufacturing, food production and online grocery consumption positions remain.

Senior housing³

The senior housing sector continued to make positive gains in 4Q22. Occupancy rates in primary markets rose by nearly 100bps to 83.0%, marking the sixth consecutive quarter of an upward shift. While occupancy rates are 520bps above the pandemic-driven trough, they are still 450bps below pre-pandemic levels. Solid recovery during the quarter was driven by strong demand paired with slow inventory growth. Quarterly net absorption was 1.2% of total inventory, outpacing new deliveries at 0.5%. The industry also saw improvements from an operational side, as a slowdown in wage growth helped ease staffing pressures and operating expenses.

Life sciences⁴

The life sciences sector retracted to pre-pandemic levels, but fundamentals remained solid in 4Q22. Venture capital (VC) funding, a major driver of demand, increased by 18.4% QoQ in 4Q22, after falling for three consecutive quarters. Total VC funding for 2022 was 34.4% below 2021's record level, and just 3.7% below 2020 levels. However, public funding from the National Institute of Health (NIH) continues to increase, and funding for 2023 is budgeted to be 45.6% higher than 2022 levels. Despite solid funding, demand slowed as life sciences companies anticipate economic headwinds. Vacancy rose by 60bps over the quarter to 5.7%, matching rates in 4Q21 but still near record lows.

Source: **1** Green Street, as of February 2023; **2** Americold Company Report, as of 4Q22; **3** NIC MAP, as of February 2023; **4** CBRE, as of February 2023.

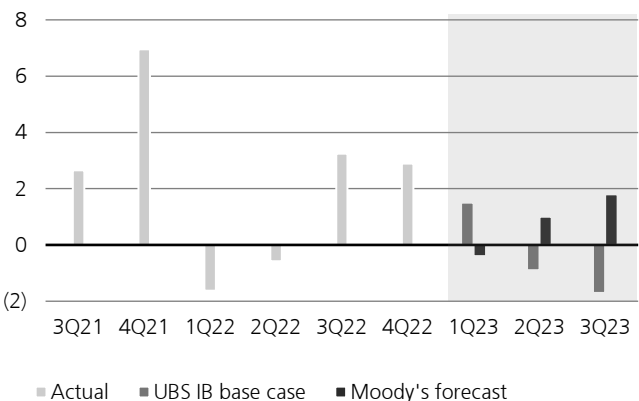


Balancing act

Economic viewpoint

Real GDP came in at a 2.9% annualized growth rate during 4Q22 (see Figure 3). Despite beating consensus estimates, the details from the report show that the surprising increase in GDP came from unexpected contributions from inventories – adding 1.5 percentage points. Consumer spending was also stable, contributing 1.4 percentage points to GDP growth, but came in below expectations after declining in November and December. Unexpectedly high retail sales in January will balance out some of these declines, but we expect further weakening in 2023. GDP gains were partially offset by decreases in residential fixed investment and exports. Imports, a component that is subtracted from the GDP calculation, also decreased. An increase in inventories and a decrease in imports are both signs of weakening demand.

Figure 3: Real GDP quarterly annualized forecast (%)



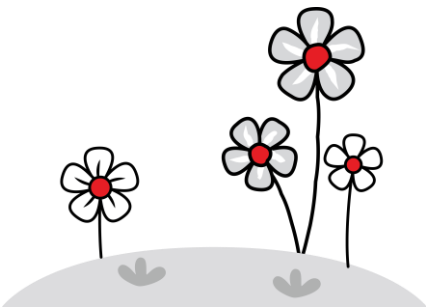
Source: Actual Moody's Analytics as of 15 February 2023; UBS Investment Bank forecast, as of 15 February 2023. Note: Shaded area indicates forecast data.

Nonfarm payrolls came in well above expectations, increasing by 517,000 in January. These robust gains were driven by hiring in the service sector, as consumer spending on leisure and hospitality businesses remain solid. Consumer credit balances have continued to increase while savings rates remain relatively low. Despite this, the Federal Reserve has continued to hold steady on their median terminal goal of 5.1% with no cuts during 2023. The elevated nonfarm numbers in January could also mean further rate hikes in May, as the Federal Open Market Committee (FOMC) attempts to balance controlling inflation with a resilient labor market. Inflationary pressures are already easing, and during 2023, we will likely see more disinflationary pressures coming from a reduction in core goods prices and rent measures that have been slow to respond.

UBS Investment Bank economists expect the terminal rate to peak at 5.25% after increases in March and May 2023 with a risk of further increases in June. GDP is forecast to increase 0.7% in 2023, but with declines starting in 2Q23 through 4Q23. Growth is expected to rebound at the beginning of 2024 and continue into 2025 following a reduction in the restrictiveness of the Federal Reserve policy.

The key measures to watch going into 2023 will certainly shift towards job numbers and domestic demand when attempting to gauge how the FOMC will adjust their policy during 2Q23 and the second half of the year. A continuously strong labor market could mean no rate cuts during the second half of 2023.

In the scenario that UBS Investment Bank lays out, the durability of income in real estate will become key, rather than the more recent focus on shorter lease duration to capture rent bumps. Investors should continue to focus strategies on defensive positioning while economic uncertainties persist. This can include marginal movements around strategy targets, i.e. less leverage, and a lower number of value-add activities. Additionally, investors can dollar-average into sectors with general repricing that also exhibit strong demand forecasts over the next three-to-five years.





Jonathan Hollick

Head of Real Estate Europe ex DACH



Olivia Drew

Portfolio Manager, UK Life Sciences



Zachary Gauge

Head of Real Estate Research & Strategy – Europe ex DACH

“As an investor it’s crucial to show a long-term commitment, reliability, a relevant track record and an ability to support the wider cluster.”

Breaking the ground

With a strong growth potential and a distinct social angle, the life sciences sector is developing at a fast pace, increasing investors' interest in securing a spot in this forward-looking niche. But access is selective, and real estate industry experience alone is not enough to be successful. What does it take? Our life sciences experts Jonathan (Jon) Hollick, Olivia Drew and Zachary (Zac) Gauge discuss the sector's dynamics and give an outlook into what the next few years might look like.

What are the main macro-drivers behind the UK life sciences sector's growth?

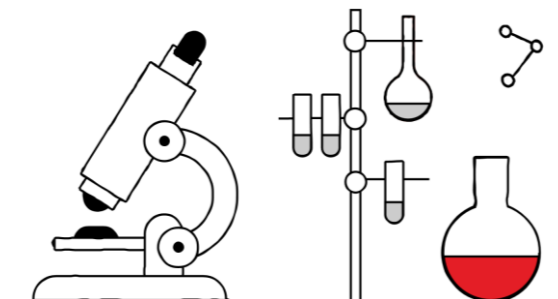
Zac: The COVID-19 pandemic undoubtedly focused attention on the life sciences sector in the UK. But even prior to the pandemic, the sector's importance to the UK economy had been growing, as the presence of leading global research institutions placed the market in a strong place to benefit from the wider macro-drivers behind the healthcare sectors.

By 2050, we'll have a larger patient base for chronic diseases. Growth in disposable incomes in emerging markets is also contributing to a larger global healthcare market, as more of the population has access to health insurance policies. Underpinning these demographic trends is a sharp increase in research and development (R&D) spending on new treatments, with global spending on R&D forecast to increase.

R&D for the life sciences sector is notoriously expensive with high failure rates, but significant progress in artificial intelligence and data-driven health solutions is accelerating advances and reducing the cost and length of trials. As the potential return on investment for R&D into new treatments has strengthened, more venture capital funding has targeted early-stage companies to support their growth, which provides the capital to fast-track early-stage companies focusing on niche areas of research into the commercialization phase.

What makes this an attractive real estate asset class to invest in today?

Olivia: There are several factors that make this niche area worth exploring in today's market. In the UK, the clear mismatch between supply and demand of space makes investing attractive, and in our view, risk-adjusted returns can be strong, as the rental growth potential given by occupational demand is expected to outweigh supply in the near future.



In addition, with the recent macro shocks to the market and the subsequent impact on the traditional real estate sectors, we see life sciences as more defensive because of this rental growth potential and supportive market dynamics. At the same time, the structural drivers discussed above by Zac, along with being more defensive with regard to the lifestyle changes caused by COVID-19 to other sectors and the social-impact angles, all add to the attractiveness of the asset class.

With many schemes now being marketed with a life sciences angle, do you believe there is an oversupply risk?

Zac: Since the explosion of investor interest in the sector, a large number of schemes have been put forward as potential life sciences developments or conversions. It is no coincidence that this has coincided with a difficult period for business park office buildings and the opportunity to rebrand a struggling office asset as one with life sciences potential was clear to see. But we are not expecting the bulk of these schemes to actually deliver life sciences space, for the short-medium term at least.

Office buildings do not easily convert into the wet laboratory and manufacturing space which is in high demand. There are stringent regulations when an asset is used to handle any biohazardous material, and traditional office layouts without specialist ventilation systems cannot simply be retrofitted to provide this space. The other key constraint is location. Life sciences companies tend to operate in clusters, close to a university, hospital or key employer.

This is where many of the startups actually start their life. They develop connections with the local institutions and build their teams from the local area. So, moving a significant distance away from these clusters is rarely an option. If the proposed life sciences schemes are not part of those clusters or do not have the potential scale to reach a critical mass, then we do not see that stock as being competitive in the market.

What happened to VC funding in 2022, and do you see this as a risk to future tenant demand?

Zac: The demand side is absolutely fundamental to the future success of real estate investment into UK life sciences, as even taking aside some of the less realistic schemes in the pipeline, there will still be a lot of new space coming through in the Golden Triangle during the next few years.

The investment strategy is based on the premise that the level of occupier demand stemming from the influx of growth capital will continue to surpass the level of new supply coming through and deliver strong levels of rental growth. If that capital were to fall away, clearly this would pose a risk to the forecast levels of occupational demand to absorb the new supply coming through.

Unsurprisingly, given the wider economic pressures, VC funding for UK life sciences companies has slowed in 2022 to around GBP 1.8 billion (EUR 2.1 billion) from GBP 3.7 billion (EUR 4.2 billion) in 2021¹. On the face of it, this may seem concerning but there are some very significant caveats.

Firstly, 2021 was by a vast distance a record year of VC funding for UK life sciences companies, and the capital raised in 2022 actually exceeded the previous peak level recorded in 2020 and was significantly above the levels that were raised between 2012-2019.

Secondly, the world is going through a significant economic upheaval that is leaving no sector unaffected – the rapid rise in global interest rates has sent shockwaves through financial markets, as they adjust to a higher cost of capital. Within the context of what is happening to other risk assets, the fact that there is still a strong flow of VC funding going into the sector during this very challenging time is quite encouraging.

And finally, there is still a vast amount of pent-up demand from previous funding rounds where companies have not yet been able to find suitable real estate to expand into. What we are seeing is companies being a bit more cautious with their capital plans, as there is more uncertainty on future raises, which is resulting in slightly longer-term decision making and more cautious spending.

We also consider good manufacturing practice (GMP) real estate as more defensive in these conditions, as this is generally required by companies that are more mature and have higher company valuation and wider source of capital streams, so are less reliant on VC funding to complete their product development.

As a niche and new sector in the United Kingdom, what is the best way for investors to access the market?

Jon: Access to this market is not easy, as the current available supply is quite limited and often controlled by institutions, which are selective in terms of whom they want to partner with or sell to. As an investor, it is crucial to show reliability, ability to deploy capital, a relevant track record, and an ability to support the wider cluster. We also feel that due to the limited amount of fit-for-purpose existing stock available today in the UK, a development-led approach is the best way to access the market. As there have been limited options available, companies and occupiers have been forced to retrofit older buildings or take suboptimal space in order to continue their operations.

What sets UBS's expertise apart from other competitors in this space?

Jon: Being part of the wider UBS Group gives us access to significant breadth and depth of life sciences expertise not typically available to real estate managers. Our Investment Bank has extensive research capabilities in the space, as well as being a market leader on the banking side, advising healthcare companies across IPOs, M&A, debt advisory and more. This allows us to enhance our understanding of the complexities in the space, as well as understand what drives these companies and how to analyze industry trends and growth. We also have teams focused on healthcare venture capital and private equity investing within our own Real Estate & Private Markets business, who support our team on the sector head and tailwinds and keep us informed of the funding landscape – a crucial leading indicator for the real estate market.

What are the social benefits to investing in UK life sciences real estate?

Jon: We are now seeing major breakthroughs and rapidly improving treatment options for patients globally that are being developed across the industry. There is a shift in place from long-term general disease management, to individualized, preventative and curative treatments. Real estate investors have a key role to play in helping facilitate the growth and expansion of this sector by providing labs and GMP space that are fit for purpose, well located and environmentally friendly.

Without the development of these facilities, there is a risk of a bottleneck in the sector without the access to space to expand. Importantly, by creating this space, we are also supporting growth in skilled employment opportunities for the local and national economy. As these facilities scale up, they require more people to operate them and to be trained across a number of skilled roles in the industry. We have worked to provide data to quantify the social impact we are having across these metrics and provide that to investors throughout the year, such as the number of skilled jobs created or the percentage of space let to SMEs.

How do you see life sciences real estate evolving during the next five years, and what developments can we expect within the sector?

Olivia: We see the UK life sciences real estate market moving closer to the more mature market in the US in the sense that it will become an established subsector within its own right. But as with the US, the market will remain relatively niche – the very specialist nature of life sciences work will constrain it to the key cluster locations. So, it won't become a mainstream asset class in the sense of retail, office or logistics space.

Also, following the model of the US market, we expect several key developers to emerge, who have forged strong relationships with the key occupiers and institutions in the main markets, and can be relied upon to deliver the time-critical space to enable further expansion within the sector. In this regard, the market may consolidate from where it is today, in order to meet the needs of occupiers.

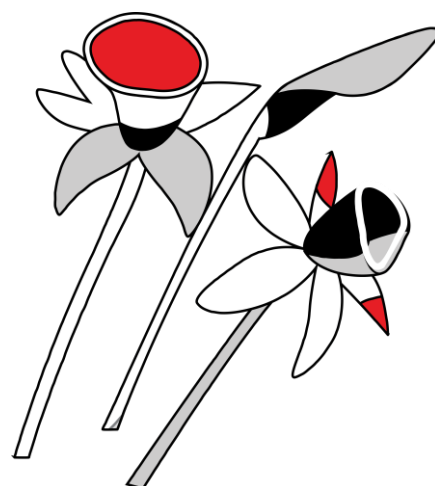
And we expect with further growth in the supply of life sciences real estate, that the UK will enhance its credentials as a life sciences market, globally. We also believe that GMP will be an increasingly important component of the market, as the companies receiving VC funding today get closer to commercialization and will need to have manufacturing facilities in place to progress through the clinical trials and into commercialization.

¹ Pitchbook, December 2022.



Olivia's podcast on the niche in life sciences real estate

Listen in





Alex Leung

Infrastructure Analyst, Research & Strategy

“It is important for managers to stay agile and adaptable in order to take advantage of new opportunities and maximize returns, but they must also have realistic expectations.”

Risks and rewards of renewable energy investing

What does 2023 look like for the renewables industry compared to 2022?

2022 was marked by several major events that will influence the energy and renewables industry in 2023 and potentially beyond. The most crucial one was obviously Russia's invasion of Ukraine, which led to elevated commodity prices around the world.

Although in the short term there has been a lot of focus on fossil fuels, especially for natural gas supply this winter and next, longer term governments are looking to aggressively diversify their energy sources and increase energy security by all means necessary. This increased government support for renewable energy favored policies such as the Inflation Reduction Act (IRA) in the US and REPowerEU in Europe.

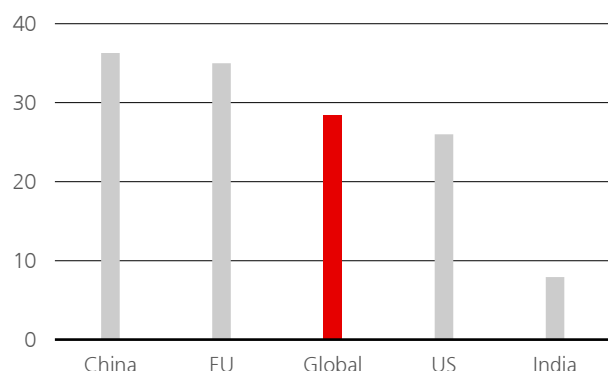
In the US, the IRA is arguably the most important clean energy legislation in recent history. The policy visibility that the IRA brings is key, too. In the past, renewable tax credits were often extended unpredictably on a year-to-year basis. Now, tax credits have been extended for a minimum of 10 years, which helps developers, utilities, equipment manufacturers and investors in project planning and development.

The IRA also looks to streamline the monetization of clean energy tax credits by allowing them to be transferred (i.e. sold) to a third party, or via simple direct-pay mechanisms. Overall, for investors, these tax credits mean that previously marginal projects are suddenly economic, which should broaden the investable universe for clean energy and accelerate project deployment.

In Europe, REPowerEU looks to phase out fossil fuel imports from Russia by encouraging over EUR 200 billion of investments between now and 2027, with a focus on solar power, heat pumps, renewable hydrogen, biomethane and energy savings initiatives.

Due to the potential step change in renewable energy roll out, the International Energy Agency (IEA) estimated in December 2022 that renewable capacity expansion in the next 5 years will be 2400 GW worldwide¹ (see Figure 1), which means an 85% acceleration versus the previous 5 years and is almost 30% higher than their previous estimate a year ago, driven mainly by EU, China and the US.

Figure 1: Upward revisions to renewable capacity expansion forecasts from Renewables 2021 to Renewables 2022 (%)



Source: Renewables 2022, IEA, December 2022.

However, before investors get too excited, there are still lots of uncertainties around the actual mechanics of various subsidies and government programs. 2023 will therefore involve a lot of back and forth between the government, industry groups and legal experts around actual policy implementation.

Directionally, policy changes are positive, but investors will need to be patient. Those who are looking to make investments in 2023 may even need to make certain assumptions on how policies will shape up before actually gaining clarity.

How have investment strategies evolved for renewable investors?

With the maturation of the renewables industry in the past decade, investments have gradually de-risked as investors gained a deeper understanding of the underlying economics, technologies, markets, and operational risks. This means all things equal, project hurdle rates have declined, and investors who are looking to generate higher returns must take on more risk.

For example, renewable investment strategies have shifted away from plain vanilla renewable energy projects with long-term power-purchase agreements (PPAs), to projects with more merchant exposure, which means investors must now perform more rigorous forecasts on energy markets and commodity prices.

In addition, investments have moved away from operational projects to broader renewable energy platforms, where investors are betting on management teams that can drive growth from a pipeline of future projects. Investors must make sure they have the right people in place, scrutinize the track record of the individuals, and ensure that appropriate incentives are in place to align the management team with the growth plans.

Finally, strategies are also embracing newer technologies such as energy storage, renewable natural gas (RNG / biomethane), hydrogen etc., as there is increased conviction that these investments will further de-risk and become more mainstream in the long term, especially with the policy tailwinds.

The trick is identifying when to enter these new markets as an investor. At what point does the increased technology or development risk make the investment too risky, or too venture-capital like? At what point does it fall within the domain of more traditional renewable energy investors? This depends on each investor's strategy and risk tolerance.

Can you talk a bit more about these new renewable energy technologies?

There are several areas that the industry is focusing on. First, the intermittency of traditional renewables (solar and wind) is an issue to tackle, and is at the same time putting energy storage in the spotlight. Not only does energy storage smooth out renewable energy generation, but it is also an enabler for future renewable energy growth.

Beyond the power sector, there are also many areas that are prime for decarbonization. We're seeing an acceleration in the roll out of clean energy technologies such as hydrogen, renewable natural gas, carbon capture, utilization & storage (CCUS). These could all play an important role in decarbonizing hard to abate sectors such as transportation and industrial manufacturing.

Finally, decarbonization can also be supported on the demand side if users reduce or become more efficient with their energy consumption. That's where investments in smart city infrastructure, energy efficiency, urban mobility, digital connectivity and circular economies come in. Power consumption growth across many developed markets have been flat in the last 10 years mainly due to energy efficiency improvements, so demand side initiatives should not be underestimated.

What are the risks and challenges for renewable investors?

As mentioned before, there will be an acceleration of renewable energy project deployment over the next decade. However, growth can be a messy business, so there will certainly be risks involved. Given all the hype in energy transition, the biggest challenge is probably competition. This could be market specific where potential overcapacity could negatively impact projects economics, or it could be deal specific where you need to pay a high premium to close a transaction due to the large number of bidders.

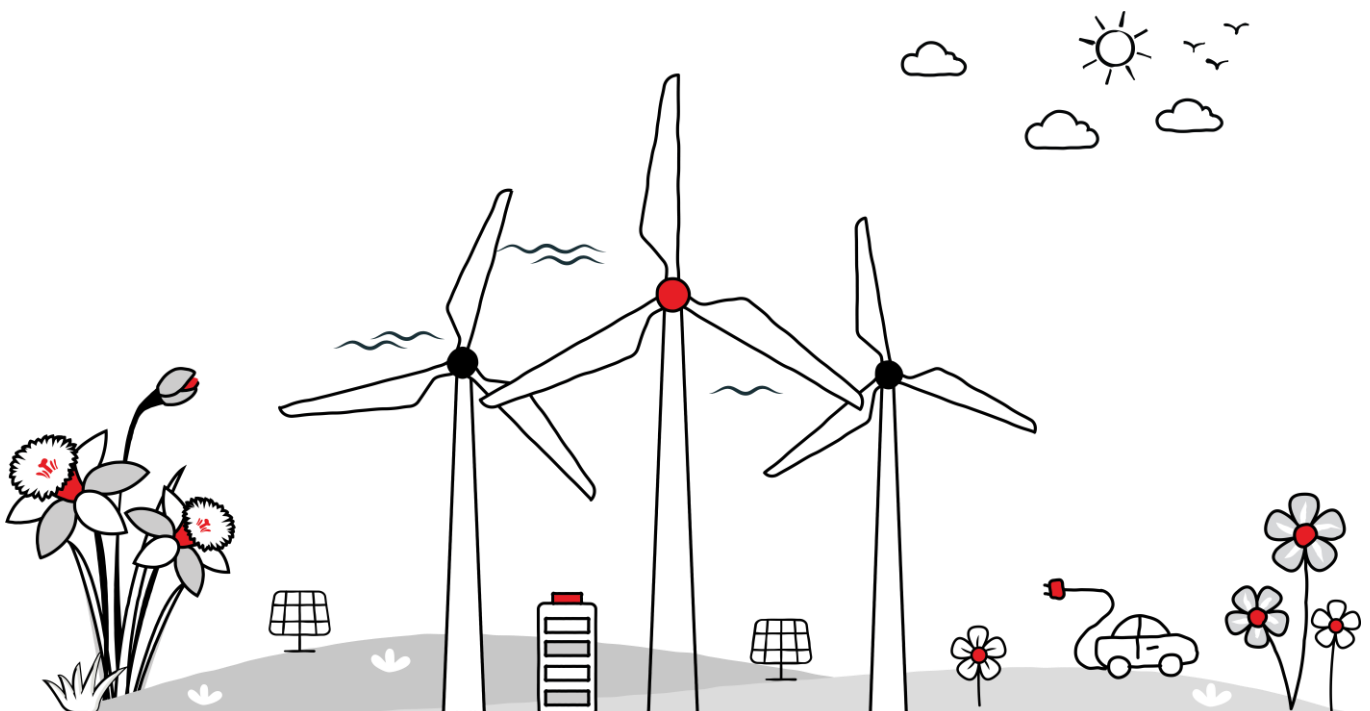
Luckily, the market is growing so fast that it should be able to absorb all the different players, especially when we are talking about trillions of dollars of investments that are needed in just a few years. However, some markets will likely be overbuilt at some point, and that is just a feature of any rapidly growing markets that have long construction cycles and project lead times. Investors must be wary of these risks.

Government policies are also a risk despite overwhelming positive tailwinds at a high level. For example, there are still uncertainties around the actual mechanics of various tax credits and subsidies. It will take time for some of these issues to get ironed out, and even in the future, there could be further adjustments and changes based on legal rulings or government decrees.

Finally, I've also talked about the opportunities across newer renewable energy technologies, but some of them are also riskier investments. Due to the positive track record from the previous rollout of renewable energy, some investors may be tempted to make overoptimistic assumptions.

For example, they may assume that these new technologies will enjoy similar learning curves, market penetration rates and cost reductions experienced by wind and solar. However, not all technologies are created equal, so being able to identify which one is going to be as scalable as wind or solar would be key.

It is important for managers to stay agile and adaptable in order to take advantage of new opportunities and maximize returns, but they must also have realistic expectations.



How about the widely reported bottlenecks across the global clean energy supply chain?

This remains a significant issue for the energy industry. For example, American Clean Power reported that in 3Q22², 14 GW of clean power capacity has been delayed, bringing the total backlog of delayed projects to 36 GW. During the quarter, developers only installed 3.4 GW of new capacity in the US, down 22% year-on-year. This is mainly due to supply chain issues and growing interconnection queues of projects trying to connect to the grid.

Similarly in Europe, wind turbine orders in 3Q22 have fallen by 36% year-on-year³. However, tightening monetary policy around the world, demand destruction, and the slowdown in the global economy are starting to alleviate these issues. The New York Federal Reserve's Global Supply Chain Pressure Index (GSCPI) has declined from the peak of 4.3 standard deviations above mean set in December 2021 to 1.2 standard deviations above mean in December 2022⁴. An economic slowdown benefits renewable energy investors, as there will be less competition for raw materials and equipment from more cyclical industries.

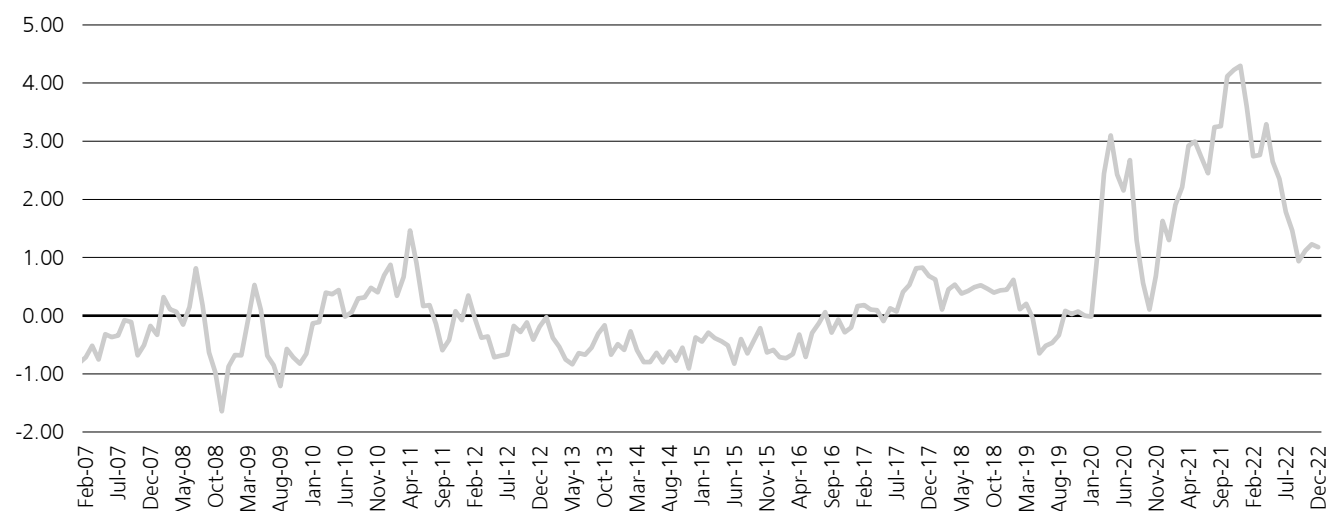
¹ Renewables 2022, <https://www.iea.org/reports/renewables-2022>, December 2022.

² Clean Power Quarterly Market Report, <https://cleanpower.org/resources/clean-power-quarterly-market-report-q3-2022/>, November 2022.

³ WindEurope.org <https://windeurope.org/newsroom/low-wind-turbine-orders-call-step-change-europe-energy-security-strategy/>, October 2022.

⁴ Global Supply Chain Pressure Index (GSCPI), <https://www.newyorkfed.org/research/policy/gscpi#/interactive>, November 2022.

Figure 2: Global Supply Chain Pressure Index (GSCPI) – Standard deviations from average



Source: Federal Reserve Bank of New York, December 2022.



James Pilkington

Multi-Managers Private Equity Portfolio Manager

“We think valuation pressures will be more modest than those observed in 2022, and market environments like the one in which we find ourselves today frequently produce outperforming fund vintages.”

Easing pressures in a mixed environment

The pace of mark-downs appears to slow

Now well into the first quarter of 2023, private equity fund managers across all strategies are in the process of aggregating full year results across their portfolio companies. We do not yet know exactly how the drastically changed macro environment of 2022 has affected the industry overall, but based on early indications from our own portfolios and anecdotal evidence from conversations with our fund managers, we can venture some educated guesses.

While we believe that private equity valuations could still trend modestly lower into 1H23, we think these pressures will be more modest than those we observed in 2022. Mark-downs are likely to be concentrated among those companies that have widely been considered over-valued in recent quarters, particularly those which are trading at inflated multiples of *adjusted* revenue and EBITDA.

For the majority of remaining companies, the pace of mark-downs has slowed markedly in 3Q22, to -0.6% based on the latest projections (see Figure 1). We see the pace of change slowing in our own portfolios: the majority of valuation movements are centered near zero and we observe generally single digit movements, positive or negative.

Many private equity valuation adjustments are driven by public markets, either directly (mandatory mark to market of public positions within the portfolio) or indirectly (mark to market of unlisted companies based on public-market comparables). The pace of these adjustments has moderated for the time being, with most public markets flat or higher in 4Q22 and into early 2023.

Turning to fundamentals, the picture remains mixed. The inflationary pressures of higher energy prices and wages, supply chain difficulties, and the increased cost of capital remain challenging for companies across strategies and sectors. However, private equity managers with their active ownership approach have historically demonstrated a remarkable ability to adjust to and prosper in adverse market environments: we are, for instance, hearing from some of our managers that have taken advantage of the current climate to increase prices and adjust their cost bases, thus actually increasing margins.

The increased cost of capital under continued central bank rate-raising programs does have the potential to affect private equity returns in the medium term. As a silver lining, the pace of monetary tightening appears to be slowing.

Capital deployed in challenging years such as 2022 and the subsequent years (2023-2024) often ends up delivering stronger-than-average performance. Markets for privately held companies are now adjusted to more realistic valuations, and adverse macro conditions often create a fertile deal environment (as companies experience momentary softness in their core businesses, more modest valuation metrics are then applied to a lower revenue or EBITDA base). This can be especially true in the lower and middle markets, where companies often have less capital to weather the storm, creating attractive buying opportunities for private equity. We believe this opportunity is now most pronounced for sponsors which are well established in terms of their deal sourcing processes and capital base, without having grown their fund sizes or number of active companies excessively in the exuberant environment of 2020-2021. These managers, acting decisively in against the current backdrop, have the potential to benefit doubly on the way back up: firstly as company performance improves, and secondly as valuation multiples recover.

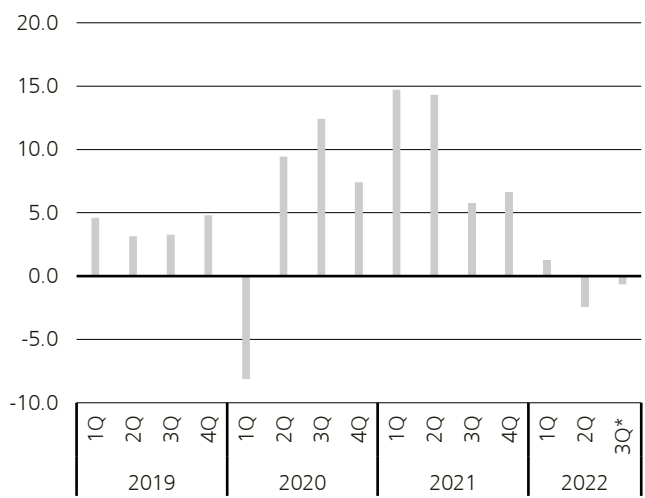
Exit activity expected to gain momentum in 2023

We also expect exit activity to progressively recover as 2023 evolves and as fund managers are more accepting of the new valuation environment, with the pressure to provide liquidity to existing building ahead of new fundraising processes. The general lack of liquidity in recent quarters has focused limited partners’ attention on active portfolio management. To this end, we expect secondary continuation fund vehicles to play a significant role as a way for managers to return proceeds to their investors while attracting new (fee and carry paying) capital.

Secondary focused strategies more broadly are well positioned this year to benefit from the continued undercapitalization of the market relative to other segments. According to Evercore’s 2022 Secondary Market Survey results, capital held available to be deployed at secondaries funds was estimated at USD 131 billion heading into 2023.

The confluence of public markets factors, higher rates, and recent weak exit environment should provide good conditions for secondary buyers, in particular as 4Q22 valuations become available and more buyers move to take advantage of discounts which could prove fleeting.

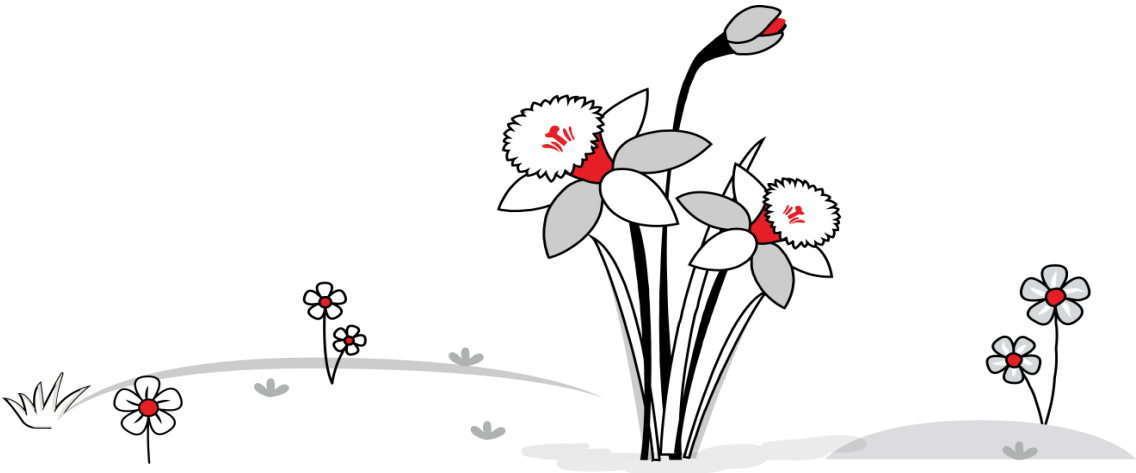
Figure 1: Private equity fund quarterly returns (%)



Source: Pitchbook, as of February 2023. (* = Pitchbook projection). **Past performance is not a guarantee for future results.**

We expect that buyers will find a receptive audience of fund managers and limited partners alike looking for solutions to balance liquidity, time, and flexibility for private equity capital that is already at work.

It is looking increasingly likely that strategic acquirors will be sidelined a while longer as they continue to prioritize protecting their core businesses over expansion, also evidenced by widely reported layoffs across industry sectors.



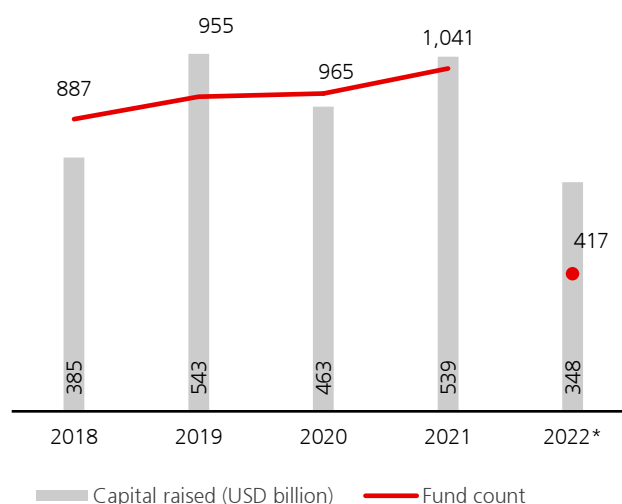
Private equity fundraising environment will start slow

Fundraising has had a slow end to 2022 and a slow start to 2023 as investors grapple with the weak exit market and a desire to rebalance their overall portfolios across asset classes (see Figure 2). As many public equity allocations have suffered significantly in 2022 (with the S&P 500 posting -19.4%, its worst return since 2008), some investors have temporarily reduced their private markets allocations, with a net effect of creating a difficult fundraising environment for fund managers heading into 2023.

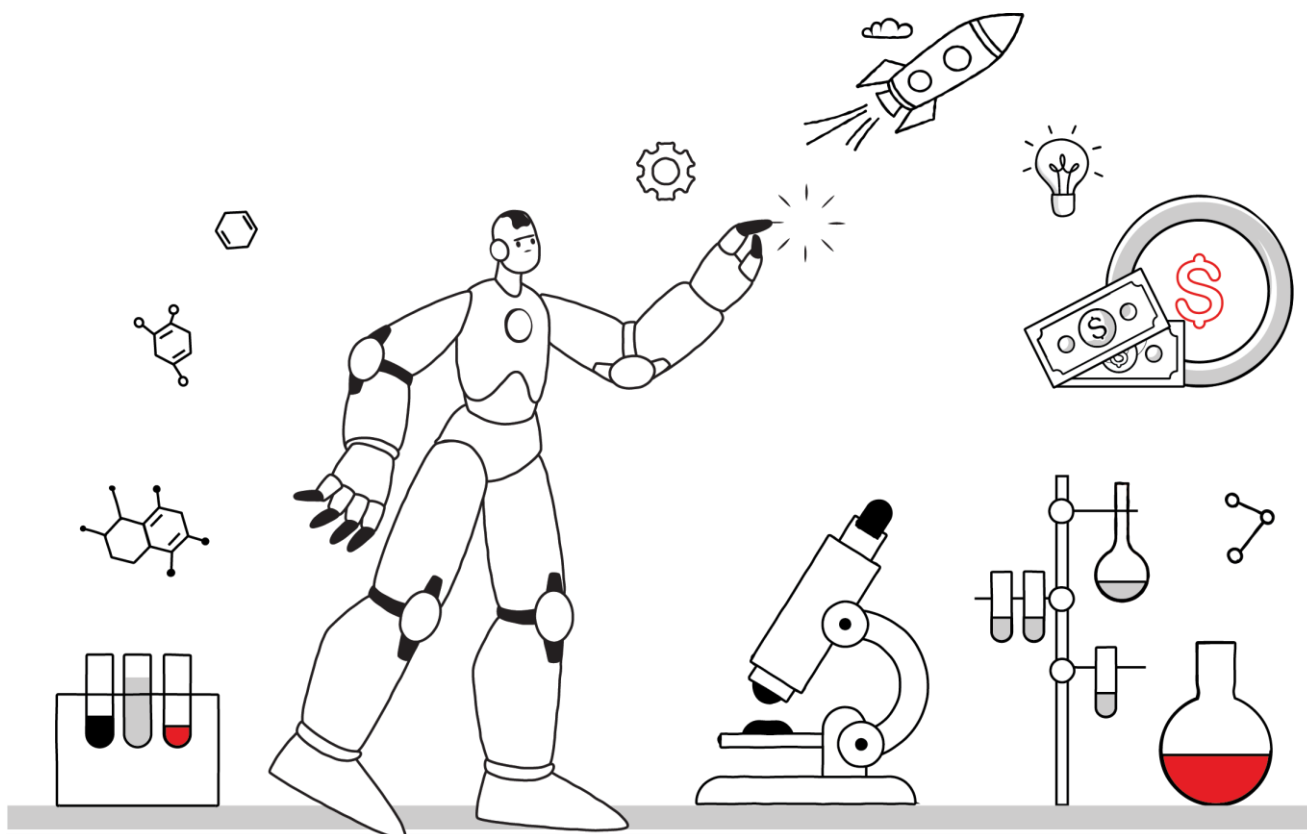
It is too early to tell how enduring this trend will be; it will probably depend upon how quickly private equity exits accelerate (returning private equity capital to investors) and at what pace public markets mount a recovery to alleviate rebalancing demands.

We reiterate our belief that market environments like the one in which we find ourselves today, frequently produce outperforming fund vintages. Investors taking a wait-and-see approach may well regret their choice.

Figure 2: Private equity fundraising



Source: Pitchbook as of November 2022. (* = through 30 September 2022)





Jochen Mende
Head of Secondaries



Tanja von Ehrlich
Head of Wholesale Real Estate & Private Markets

The secondaries market is a logical entry point for private wealth clients looking to access private markets. We are starting to see a lot more strategies coming to market that are designed specifically to appeal to private investors. As companies stay private for longer, investors simply cannot afford to ignore private equity.

A second look at democratization

Would you say we're heading towards a full democratization of private markets? What are the key drivers behind this evolution?

Tanja: There are three primary drivers behind the democratization of private markets: regulatory change, supply-side dynamics and, of course, demand. In terms of regulation, the overhaul of the European Long-Term Investment Fund (ELTIF) regime represents a really interesting development: it enables new managers who have not previously been able to offer access to private wealth customers to join the game, while also increasing optionality for those players already serving private wealth clients.

We expect the new ELTIF regime to be friendly to both investment managers and clients. It is something we see as highly beneficial.

In terms of supply, firms like UBS are creating dedicated units to look after distributors who serve private wealth clients, which means our understanding of what they actually need in order to invest in private markets is increasing significantly. It isn't a question of simply opening up existing solutions, which were built for institutional investors, to the private wealth market.

It is important to adapt strategies for private investors, providing features such as lower minimum investment requirements and fully paid-in structures, as opposed to the capital call model. We are starting to see a lot more strategies coming to market that are designed specifically to mitigate some of the characteristics of private markets investing that have historically deterred this investor group.

The third driver behind the democratization of private markets involves increased demand from private wealth clients themselves. Allocations to private assets are being increased as a result of advice from CIOs and family offices – in fact, there is a real fear-of-missing-out phenomenon because private markets are proving so popular and are gaining wide coverage in the mainstream media. Private clients themselves are therefore actively seeking out private markets solutions, and our distribution partners are happier to commit than they would have been in the past.

What are the risks associated with the democratization of private markets? Is it necessarily a good thing for private wealth investors?

Tanja: As with any investment instrument, this needs to be explained properly. I think our distribution partners are investing significantly in that education process. It is particularly important that investors understand what investing in private assets really means when it comes to topics such as liquidity – or a lack thereof. As long as information is flowing freely, then I absolutely believe that democratization is a good thing. After all, choice is always advantageous.

What options do CIOs and wholesale distributors have when it comes to implementing their target allocations to private markets?

Tanja: We are primarily seeing a three-pronged strategy being employed by CIOs and distributors. In the first instance, they are offering access to handpicked investment solutions through aggregator vehicles such as feeder funds.

With this model, the only concession to the private investor is a lower minimum ticket. After that, they are expected to behave like an institutional client, for example by responding to capital calls just as an institutional investor would, and tolerating illiquidity. Wholesale distributors are also offering strategies that provide a bit more diversification, such as multi-manager strategies – which, again, will tend to be closed-end and will require long-term investment horizons.

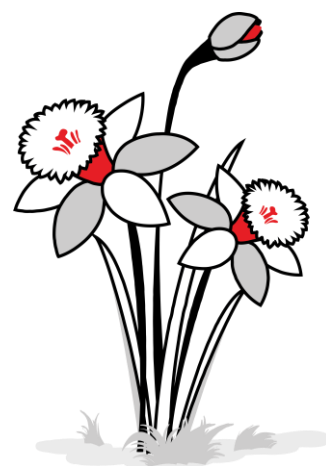
Finally, we are increasingly seeing the advent of semi-liquid programs, which broaden the opportunity set to include those clients who have historically shied away from private markets due to a lack of liquidity. Typically, all three of these offerings co-exist. We rarely see distribution partners favoring one over another.

Which private markets asset classes make most sense for private clients to invest in?

Tanja: Private wealth clients interested in accessing private markets will want to be compensated for lower levels of liquidity with attractive returns. This quickly leads them to higher-returning strategies like private equity. If you then look at the areas within private equity that help private investors mitigate many of their concerns, including the J-curve effect and diversification, secondaries quickly becomes a logical contender.

Jochen: When you look at the full spectrum of private markets asset classes available – private equity, real estate, infrastructure and private credit – I would agree that in terms of the longevity and returns profile of the industry, private equity makes a great deal of sense. However, some of the access points Tanja was describing remain somewhat underdeveloped, particularly semi-liquid solutions.

It is important to educate the end-investors on the fact that, even though a strategy is labelled 'semi-liquid', there is still a chance that the underlying portfolio does not produce enough liquidity to serve redemption requests. That is where private equity secondaries come in, given the shorter duration. Outside of private equity, private real estate is probably the asset class that can best offer diversified exposure in a semi-liquid format. However, we have all seen the headlines: some are implementing outflow restrictions, and it is becoming clear that investors were expecting more liquidity than is actually available.



How would you describe the deal flow that you are currently seeing in the secondaries market?

Jochen: We are not spending much time on the LP-led secondaries market at the moment; we feel that there are still further valuation adjustments that need to come. In my opinion, private equity portfolios have not yet been fully marked to a point where valuations are robust, and there is a huge disparity between sellers' willingness to take a discount and buyers' willingness to pay for assets. As a result, we don't believe that a great deal of LP transactions are actually being concluded at this point.

However, there are statistics out there that suggest over a hundred billion dollars' worth of LP deal flow is currently being prepared for launch in the first half of 2023. That should provide ample buying opportunities for liquidity providers such as ourselves.

For now, we are focusing our time and attention on GP-led transactions where we believe the underlying value and asset quality are high.

Do you expect GP-led secondaries deal flow to continue increasing as other exit routes remain closed?

Jochen: That is certainly our belief. There is one question that must be asked, though: if a fund manager is unable to exit in the usual way, is there an inherent problem with the asset? That is something we ask ourselves every time we look at a GP-led secondaries deal today.

Having said that, I think the GP-led phenomenon is only just getting started. There are a lot of use cases where GP-led transactions make a great deal of sense, be it for single-asset deals or multi-asset portfolios. Generally speaking, when GPs wanting to hold on to these assets present us with asset and value creation plans, the quality of these plans is highly credible.

We are also observing very strong alignment of interest in these transactions, which of course sends a very strong positive signal. In the case of deals where there are question marks around asset or GP quality, or rationale for the transactions, I think these are very hard to get done currently – mainly because there are just so many other good deals out there for buyers to focus their time and attention on.

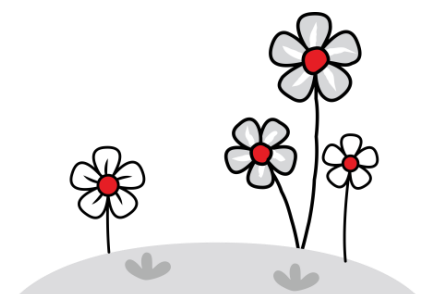
How do you see the democratization of private markets evolving over the coming years? How significant a role could individual investors play in the fundraising process?

Jochen: My opinion is that investors simply cannot afford to ignore private equity because, among other things, the universe of public companies is shrinking. You can miss out on important sectors and diversification parameters if you don't embrace private equity. That said, it is very hard to predict just how much volume is going to come from private investors because of the relatively limited number of strategies out there that can accommodate smaller investors, or that address the hurdles that have thus far deterred private investors from investing.

Currently, there just aren't that many products offering liquidity, small bite sizes and a fully paid-in model. However, a number of these products are in the works across the market. Once that universe broadens, it would certainly make it easier for those currently excluded from the asset class to start investing.

So, absolutely, that would be a step in the right direction. It remains to be seen whether the current liquidity restrictions that are imposed by other semi-liquid strategies – for example, in real estate – will deter investors from embracing the same format to invest in private equity. I do think we could see some negative knock-on effects there.

Nonetheless, if investors are really serious about getting access to private assets and follow through on what they have signaled about increasing their asset allocations to private markets, then I think private clients' contribution to private equity fundraising could be very significant.





Joseph Sciortino

Head Multi-Managers Private Credit

“...investment banks’ riskier business lines were wound down, spun out or acquired by private firms. One of these such businesses, higher risk middle market direct corporate lending, became the basis of a new *asset class* known as private credit.”

Not your father’s distressed market

Risk is like that growing gelatinous mess in the 1950’s horror film, *The Blob*. Left unchecked, it will expand into every corner of the market it can. During the early 2000s, risk assets such as private corporate loans, residential mortgages and other structured credit assets were generally concentrated on banks’ balance sheets. As 2008 played out, this market structure nearly resulted in a collapse of the entire financial system. Governments and banks stepped in to save the day and, “make sure this would never happen again.” However, we all know the world loves a good sequel.

During the 2008 crisis, central banks enacted the loosest monetary measures in history to throw a lifeline to the financial system. They simultaneously implemented new regulations that restricted what banks could hold on their balance sheet, in an effort to stop them from becoming epicenters of concentrated risk. However, these risk assets didn’t stop existing, they instead migrated to central banks and government balance sheets as they purchased an unprecedented amount of Treasuries, corporate credit, residential mortgages, and even equities.

As part of this new market regime, investment banks’ riskier business lines were wound down, spun out or acquired by private firms. One of these such businesses, higher risk middle market direct corporate lending, became the basis of a new *asset class* known as private credit. These businesses continued to operate as they did within banks, originating risk, but now decentralized, occurring outside of the highly-scrutinized confines of regulated financial institutions.

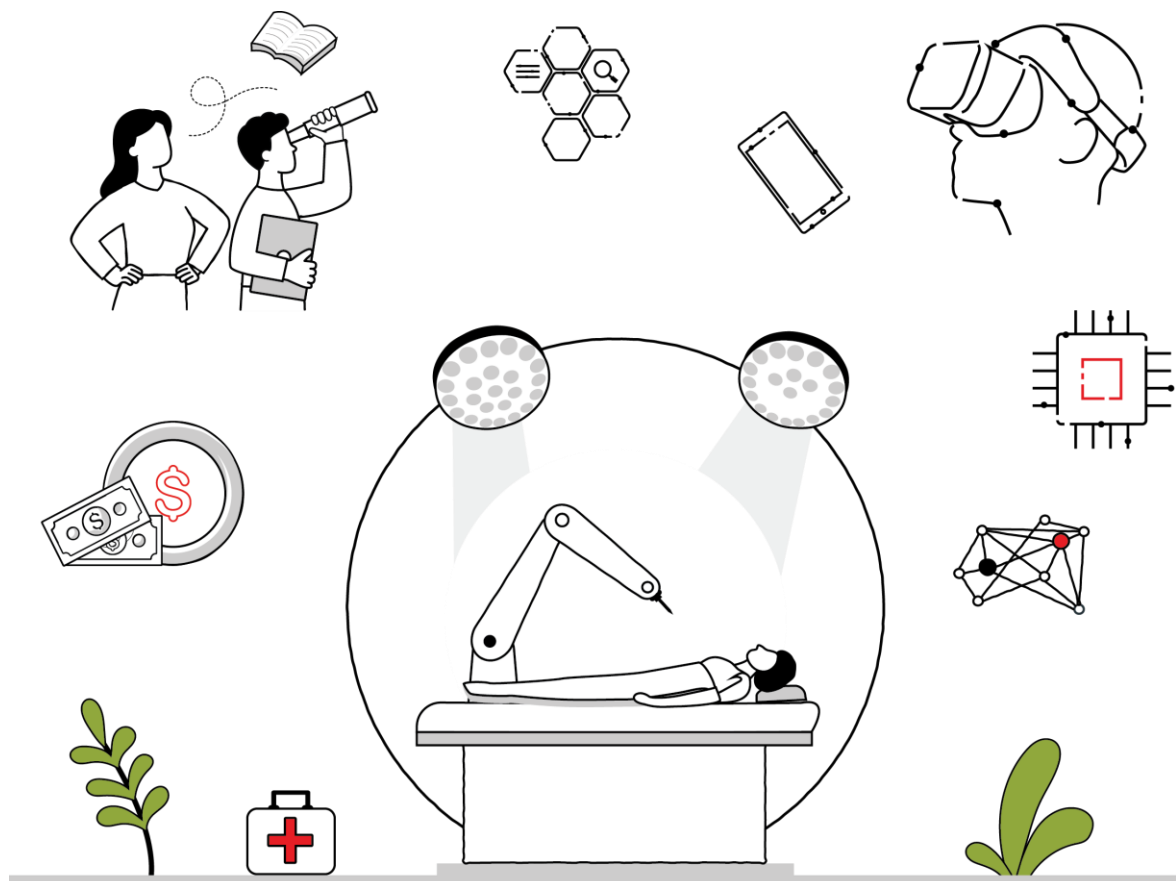
And then came the catalyst: COVID-19. The pandemic exposed the fragile global supply chain and reversed the multi-decade trend of globalization, while subsequent stimulus programs resulted in rampant inflation. Businesses were forced to shut down for months, and customers, revenue and liquidity dwindled. In private credit, sponsors were forced to inject liquidity, modify or extend financing to their portfolio companies to keep them afloat. Loans with loose underwriting, covenant-lite or lofty growth assumptions were hardest hit. As markets reopened alongside inflation, central banks were forced into a corner, embarking on an aggressive hiking cycle to curb inflation.

This hiking cycle has created tremendous mark-to-market losses across risk assets, particularly fixed rate corporate and residential credit, as well as more speculative assets such as growth / unprofitable tech. Central banks will likely continue to hike until something *breaks* or other issues beneath the surface suddenly emerge.

Per design, the US central bank and Treasury saved financial institutions from heavy losses during COVID-19, as they were the *bag holder* of risk assets this time around, rather than the banks. Assuming fixed rate, long-duration assets experienced losses of -10%. Central banks are looking at hundreds of billions of losses that have been absorbed by the US taxpayers, that would have otherwise created complete havoc for banks. The Treasury can hold these assets as long-term investors, and realize losses over time.

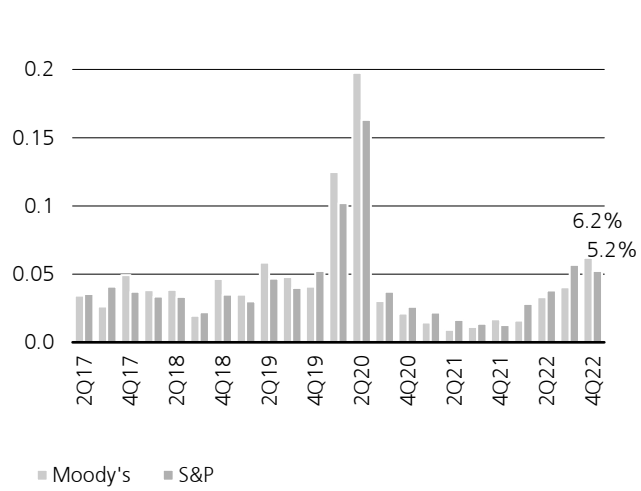
You may be asking yourself: "Joe, what about those riskier assets you called private credit?" . Well, I'm glad you asked. Over the past decade, the zero-interest rate policy made of credit an otherwise un-investable asset class, and increasingly pushed most investors further out the risk spectrum into higher risk, poorer quality credit, as yield became considerably difficult to find. Credit investors were forced to provide increasingly cheaper financing with looser terms.

Credit risk, left unchecked during this *decade of equity*, has reached unprecedented levels. This phenomenon is best seen in the rapid growth of the leveraged loan market over the past decade, which now rivals the size of the high yield bond market. As lower quality and first-time issuers found more traction, the leveraged loan market's overall ratings quality has trended down as more loosely underwritten cov-lite loans have grown in frequency.



Terms like *earnings adjustments* that became commonplace in private equity, have leaked into the loan market, as loans were underwritten with lofty growth assumptions, creative adjusted EBITDA addbacks, and high leverage (see Figure 1). The surge of inflows into private credit strategies helped fuel the expansion, as managers were forced to originate loans on increasingly soft terms. After outperforming bonds in 2021, as investors flocked to floating rate securities, loans now present a risk epicenter, as the bill will likely come due. Ratings' downgrade momentum and defaults have started to pick up, as these issuers are hit on both sides on rising financing costs and downward earning revisions hit bottom lines, and ultimately interest coverage ratios.

Figure 1: T3M issuer-weighted loan downgrade rate (%)

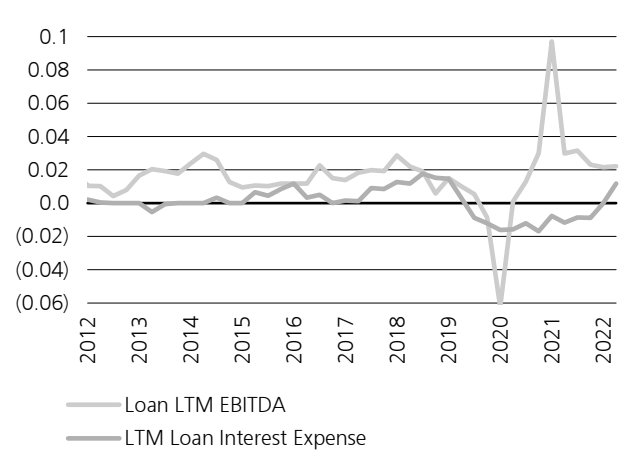


Source: Pitchbook LCD; Bloomberg; Moody's; Morgan Stanley Research, as of 4Q22. Note: T3M = Tax Management Maturity Model. Downgrade rates at both agencies are tracking a 5-year high (excluding the COVID-19 window).

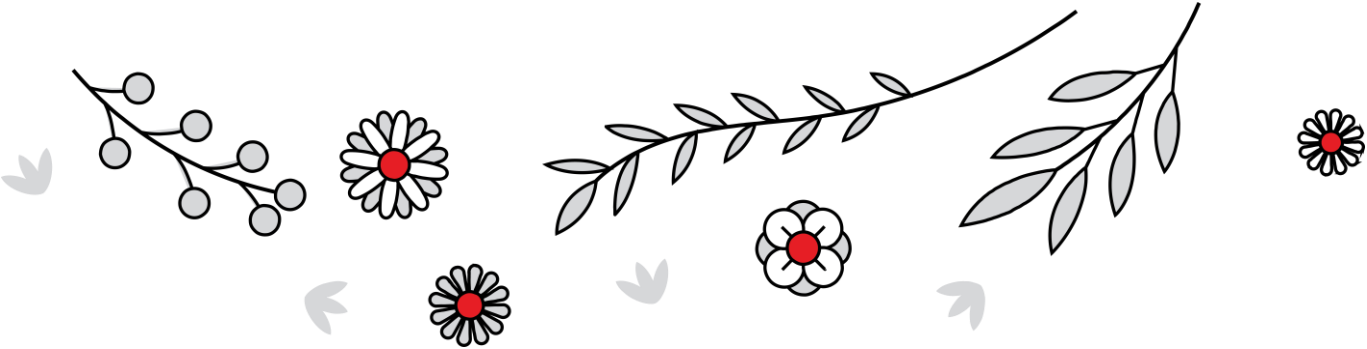
The share of loans trading below USD 80 (see Figure 2) continues to march upward as investors recalibrate expectations for the zombie companies that have amassed, even before any materially quantifiable slowdown in the economy has been acknowledged.

So the stage is set now, for what we believe will be the one of the largest distressed cycles we have seen in a generation. However, the duration and depth will likely look vastly different from past cycles. More on this to come...

Figure 2: Loan LTM EBITDA and interest expense growth (QoQ)



Source: Bloomberg; S&P Capital IQ; PitchBook LCD; Morgan Stanley Research, as of 3Q22.



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