

Europe - Real Estate/Property

Key takeaways from BofA 2023 EMEA Real Estate CEO Conference

Industry Overview

Record attendance

BofA EMEA Real Estate CEO Conference just ended. It saw a record attendance from >300 worldwide attendees as we met with c.50 corporate from nine countries.

Navigating tighter funding and price discovery

Investors' discussion focused on 1/ excess debt and the double whammy of higher borrowing costs and the banking-sector stress; 2/ shrinking avenues to refinance and bondholders' risk of structural subordination; 3/ price discovery: credit volatility makes real estate pricing impossible; 4/ the need to deleverage to cut debt and fund ESG/growth capex; 5/ growing concerns of economic recession.

Top four themes we have heard -1/ Lending is getting tighter and slower as banks are more cautious on screening leverage, cash position and prices; 2/ Excess leverage and heavy reliance on credit makes defending investment grade a top priority; 3/ Outside of industrials assets, cap rate only expands a fraction of interest rate moves. No price floor can be confirmed unless we see transactions. There is not much going on since owners are hanging onto yesterday's prices; 4/ EUR and USD real estate face same >5.8% bond yield despite difference in leverage and valuation: different spreads.

Top 5 takeaways from our thematic panels - 1/ **Views from the top: private equity:** Guillaume Cassou, Partner Real Estate in KKR, believes that it is crucial to invest in assets where pricing power lies. ESG capex is probably the biggest mispricing they see so far. 2/ **Shifting geopolitics: how the property crisis will unfold:** Elyas Galou, analyst from Global Investment Strategy in BofA Research views that the next credit event might be the issue for the sector, with most of the commercial real estate lending originated by US regional banks. 3/ **Visioning the future in a transforming world:** Felix Tran believes that ChatGPT will help democratise technology and enhance productivity. Gen Z is a generation after 'sustainable, insular and good over experience'. 4/ **Credit real estate year ahead:** Ramzi Kattan, VP of Corporate Finance Group in Moody's believes UK should outperform vs Europe given a faster and stronger value correction, and ICR is the weakest metric across European real estate so far. **and 5/ Green/ESG panel – why green capex will drive dividend cuts?** Kay Hope from ESG Global Fixed Income from BofA Research is of the view that green bonds tend to have a more stable value and a cheaper yield during market sell-off.

Stockholm field trip feedback

We hosted a two-day fieldtrip in Stockholm focusing on the Nordics real estates. Yields are expected to rise further as investors / landlords pay more for their financing. If the historical relationship between the key interest rate and yields hold: 'yields should increase – relatively drastically'. Current buyers are equity buyers and there are virtually no transactions for low yielding assets. Rental growth is fading to zero. Indexation helps.

04 April 2023

Equity
Europe
Real Estate/Property

Marc Mozzi >>
Research Analyst
BofASE (France)
+33 1 8770 0374
marc.mozzi@bofa.com

Allison Sun >>
Research Analyst
MLI (UK)
+44 20 7996 1052
allison.sun@bofa.com

Marcus Kulesa >>
Research Analyst
BofASE (France)
+33 1 8770 0382
marcus.kulesa@bofa.com

Panos Seretis >>
EMEA ESG Strategist
MLI (UK)
panos.seretis@bofa.com

Felix Tran >>
Equity Strategist
MLI (UK)
felix.tran@bofa.com

Florent Egonneau
Credit Research Analyst
BofASE (France)
+33 1 8770 0460
florent.egonneau@bofa.com

Kay Hope
Credit Research Analyst
MLI (UK)
kay.hope@bofa.com

[Europe - Real Estate/Property:
German residential – How far will
house prices fall? 22 February 2023](#)

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 26 to 28.

12536193

Timestamp: 04 April 2023 01:00AM EDT

What we have heard

Commercial real estate (CRE) is a particular area of concern given the recent drop in the value of US commercial mortgage-backed securities (CMBS). We don't have much CMBS market in Europe. Europe relies more on credit markets. The on-going tightening of bank lending adds to shrinking real estate bond markets. Corporates aim at moving out of the bond market into bank lending with still the aim to dispose of assets at book value to deleverage, cut debt and fund ESG capex. So far, we have seen dividend cuts and dividend suspensions from the most leveraged companies. Only the UK and high cap rate businesses will be able to cope with the re-pricing ahead both for liabilities and assets. We stay in price discovery mode.

Theme #1: Tightening liquidity

Lending is getting tighter and slower as banks are more cautious on screening leverage, cash position and prices. Banks look to preserve liquidity/capital while growing increasingly cautious on interest cover ratios (ICR). With current RE bond yield solidly above 5.5%, REITs expect to re-finance bonds with cheaper (secured) bank debt. Banks are pickier on assets they underwrite (best assets), aim at lower leverage than the bond market (regulatory stress test) and take longer (about 3-6 months) to complete due diligences. For sure, unsecured corporate lending and RCF (revolving credit facilities) will continue to be available for REITs (corporate loan). But the challenge is more for the private side of the market which represents >90% of the overall real estate market. We see ICR (interest cover ratio: EBITDA / net financing costs) as the new LTV (loan-to-value) this time around. With low embedded cap rates and cost of new debt multiplied by 4-5x in Europe in the past three-five years, most ICR would today be under water at <2.5x... this is the upcoming trigger for distressed sellers. And cap rates are still far too low in balance sheets (<4.5% for prime office, prime retail and prime logistics - sub-3% for residential) with recession ahead and solidly higher cost of debt above cap rates. Balance sheets in Europe are wrong with average LTV at 45% allowing only 10% of price decline (or 50bp yield expansion) to reach IG rating threshold of 50% LTV (among many others). Not mentioning ND/EBITDA at 14x already above IG threshold of 13x.

Main difference with the GFC (a) this time regulators delivered a forceful policy response in a matter of days, while it took weeks for them to act in 2008; and (b) back then, the situation was triggered by illiquid, difficult-to-value assets, while the assets in focus now are liquid and transparently priced.

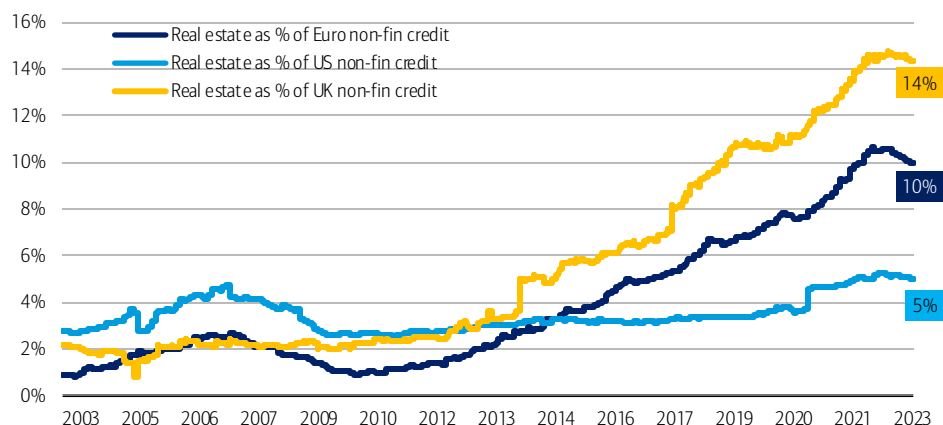
Theme #2: High reliance on credit market

Excess leverage and heavy reliance on credit makes defending investment grade (IG) a top priority. The European real estate credit market is shrinking as quantitative tightening bites. Reliance on credit markets is much higher than before the GFC. Real estate bonds represent 11% of the overall IG EUR bonds and 15% of the GBP IG bonds in Europe, compared to 5% in the US. The real estate sector is 6x more dependent on the bond market than 10 years ago. Volume of EUR real estate bonds have multiplied by 12x in 10 years at €190bn (€60bn for GBP).

And now defending credit rating becomes the priority. Credit agent Moody's is looking at loan-to-value, net debt to EBITDA and ICR in a cohort way. And ICR is now at the highest risk to be breached. Net debt to EBITDA at 14x now, a similar level versus 15 years ago pre-GFC.

Exhibit 1: European RE bonds make up 10% of EU IG non-financial sector vs UK 14% vs US 5%

Share of real estate in US/Euro/UK corporate bond market (%)



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Theme #3: Need transaction evidence, not opinion

Outside of industrials assets, cap rate only expands a fraction of interest rate moves. No price floor can be confirmed unless we see transaction. There is not much going on since owners are hanging onto yesterday's prices. In Continental Europe, valuers have only widened cap rates a fraction vs interest rate moves. With €300bn of debt to be refinanced in Europe in the next three to four years, this capital-intensive asset class is likely to struggle. Transaction evidence is thin, and a high-volatile market makes it even more unlikely to agree on a large-sized deal. Price discovery to continue. Credit price volatility makes pricing impossible. So may be funding is not entirely shutting down, but the RE investment market is. Of course, we consider that this will be temporary and 2023 will be the trough year. But credit needs to know first where price will land. Transaction evidence needs to be seen, not opinion, for pricing to be established. Private equity is of less liquidity now.

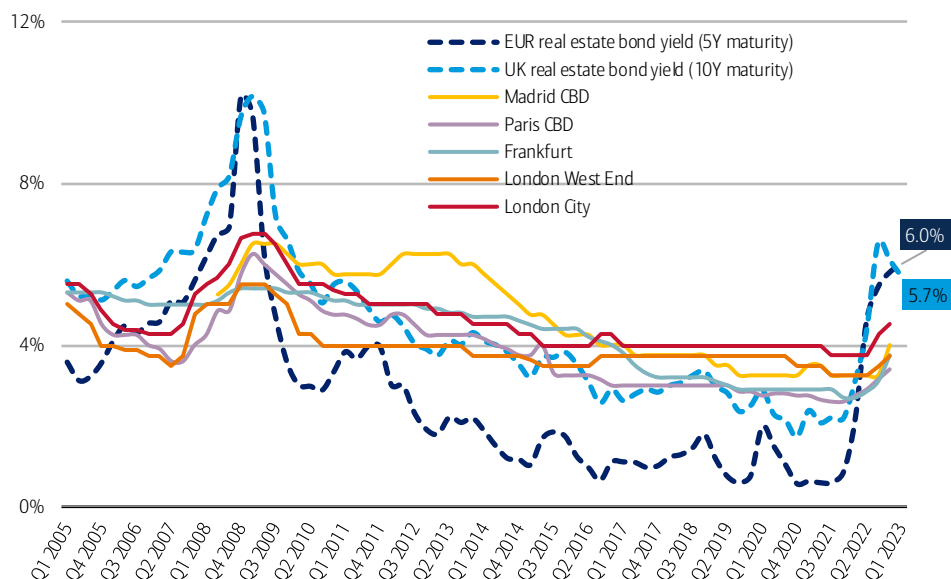
Transactional activities are needed for pricing to be established, for valuations to be based on rather than opinion. Now, that's just not much happening, with many sellers hanging onto yesterday's price and therefore there hasn't been enough true stress come to market yet, but the longer it goes on, the more likely it is that it will come.

To call the sector this year we need to see where property prices will land and how balance sheets can deleverage to avoid having to raise equity. Earnings and asset values will be hampered by higher financial costs. Plummeting transactions volumes will delay finding a price floor. The bid-and-ask range remains as wide as 10-20% as sellers only face opportunistic buyers so far. Costs of borrowing are solidly higher than investment yields and property investment yields are clearly too low (Exhibit 2).

Asset prices have just started to fall to adjust. The real estate sector will certainly remain in price discovery mode for most of the year 2023. We will likely find out how inflation, interest rates, quantitative tightening and credit will impact occupational demand, rental values and cap rates.

Exhibit 2: Cap rate have not expanded meaningfully vs financing cost

Europe prime office yield vs real estate bond yield



Source: BofA Global Research, CBRE 4Q'22

BofA GLOBAL RESEARCH

Theme #4: Different spreads, same bond yield

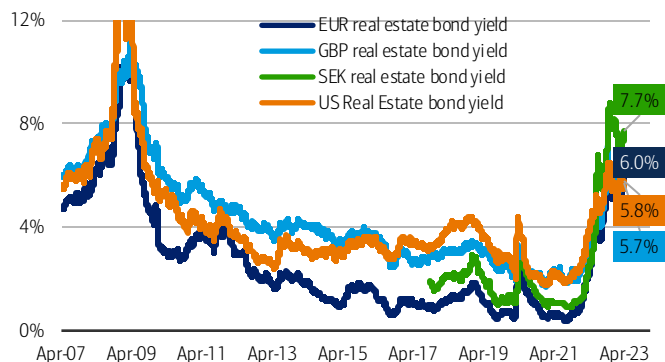
Interestingly US and EU real estate bond are now trading at a similar levels (US 5.8% and EU 6.0%) despite very different credit and leverage: Different spreads, same credit costs: (Exhibit 3, Exhibit 4). US real estate net debt to EBITDA at <6x (vs GFC 9x) and Europe at 14x, exactly the same level as back in 2008. With capital getting more expensive along with the higher interest rate, corporates are turning to banks for refinancing, banks are cherry picking therefore, for the best quality asset / balance sheet companies. It also takes a longer time before any origination of financing as banks are more cautious on screening cash position and real estate assets. The recent bank upheaval is adding pressure on real estate owners who need to refinance this year, not only from higher borrowing costs but also from scarcer availability of new debt from credit and banks. See our report: 'Europe - Real Estate/Property: The funding market is shutting down', 23 March 2023. We prefer names with positive carry, strong credit quality and best earnings momentum.

Listed real estate companies mostly still have investment-grade rating and therefore still have bank support, few have had need to speak with banks since the recent banking upheaval. Just 7% of commercial real estate is held by listed names and overall, they are likely to be in a better shape (relatively speaking) than the 93% held by others (private equity, family office. Etc.), where these are already seeing some notable defaults. However, there is a contagion fear from the direct markets that makes European listed real estate challenging, despite the already significant corrections. If the bid-ask spread persists, names relying on asset sales are likely to continue to struggle.

Key takeaways in six charts

Exhibit 3: US and EU real estate bonds are trading at a similar yield despite massive different leverage

Real estate bond yield by region

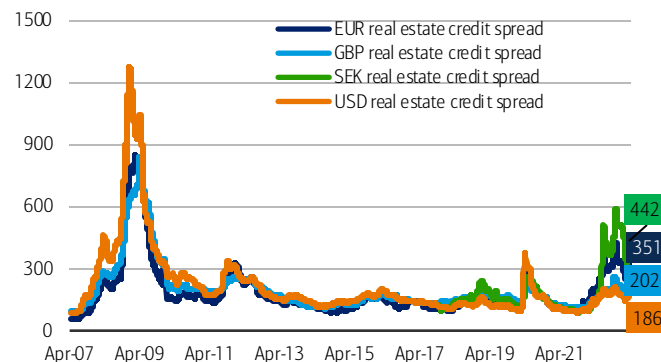


Source: BofA Global Research, Bloomberg as of 30 March 2023

BofA GLOBAL RESEARCH

Exhibit 4: Different credit spread between US vs Europe but similar credit costs (bond yield)

Real estate credit spread by region

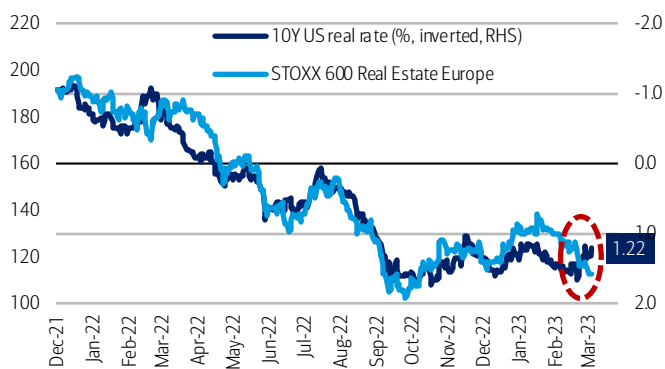


Source: BofA Global Research, Bloomberg 30 March 2023

BofA GLOBAL RESEARCH

Exhibit 5: Correlation between real rates and REITs lately broken

Real estate share performance vs 10Y US real rates

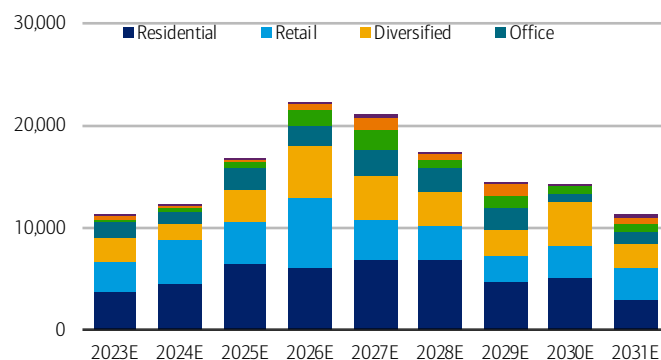


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 6: Steep debt maturity wall over 2023-26: >€60bn

European real estate - reported debt maturity schedule (thousand in Euro)

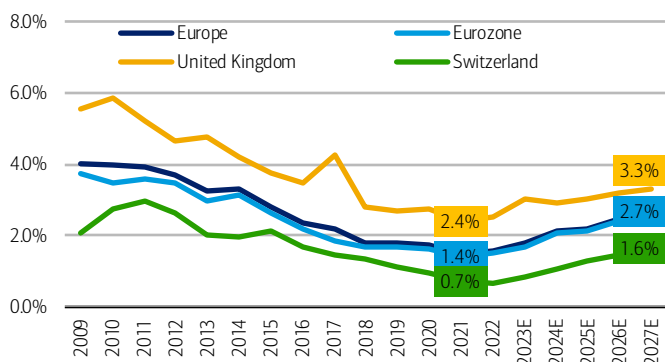


Source: BofA Global Research estimates, latest company report

BofA GLOBAL RESEARCH

Exhibit 7: Average cost of debt to be up 100bps-130bps in 5Y

Average cost of debt: financing costs/avg net debt N & N+1 (BofA coverage)

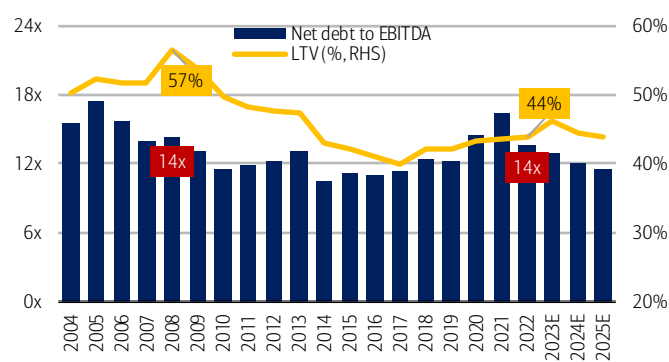


Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Exhibit 8: Net debt to EBITDA at same level with GFC's

European real estate net debt to EBITDA and LTV



Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Stockholm field trip feedback

BofA hosted a two-day tour in Sweden visiting residential, office, hotel, logistics, public (education/nursing) real estate assets and meeting local property leaders. In a nutshell: yields are expected to rise further as investors / landlords pay more for their financing. Current buyers are equity buyers (not debt reliant, “pension capital”) and there are virtually no transactions for low yielding assets. Overall, the market is still in price discovery mode. Past years largest buyers (listed and private property companies) are now sellers. The most liquid market is logistics, because of higher yields (4.75% prime yield) but also because owners are willing to sell. Large transactions haven’t been seen so far, and contrary to the past years, there is no ‘portfolio premium’ anymore and portfolios now need to be split and sold on a single asset basis.

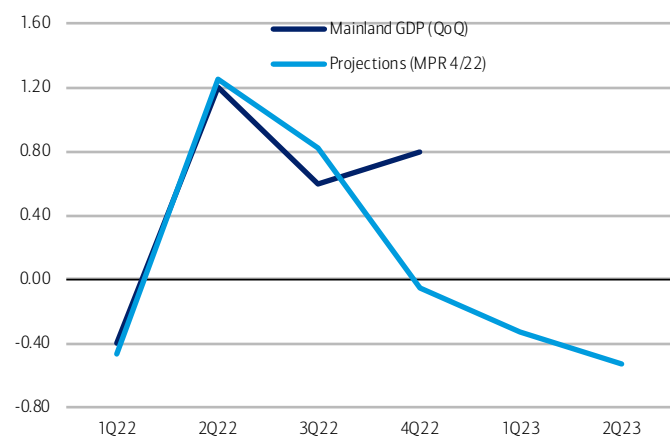
As highlighted by Newsec’s Head of Research, Adam Tyrcha, property yields are mostly below current lending rate (5Y SWAP + spread). If the historical relationship between the key interest rate and yields hold: “yields should increase – relatively drastically (~around 50 bps when interest rate increases 100 points – but with delays)”. Rates are already up 300bps. Our speakers and companies still see liquidity for financing for real estate, but it has become more expensive, at lower LTVs and it takes longer (hence transactions take longer). Refinancing issues and especially ICR (interest cover ratio) has been an important thematic since end 2022 and has already triggered capital increases and disposals.

Residential

Sweden is a “world of variable rates”: Sweden is a mostly floating and low-amortization-rate market, and borrowers have built record debt over the past decade. The spillover of higher rates on disposable incomes is substantial. The positive trend in Sweden’s housing market has already reversed in recent months. The Riksbank sees home prices falling 16% through end of 2023, from peak in March 2022. Around 40%-50% of mortgages are floating, and c. 90% if floating or fixed for 3 years. Variable mortgage rates are heavily influenced by the Riksbank’s policy rate. With the debt-to-income ratio at 200% and c70% of mortgages to be repriced within a year, interest-to-income will further accelerate. Therefore, households could come under increased pressure as this comes at a time of surging energy and overall living costs. On the positive side, Swedish households have accumulated a significant savings buffer, employment remains strong, and it is among the top three European countries in terms of population growth, according to Newsec. Yet with uncertain macroeconomic environment ahead.

Exhibit 9: Norway mainland GDP

4Q22 GDP has surprised on the upside

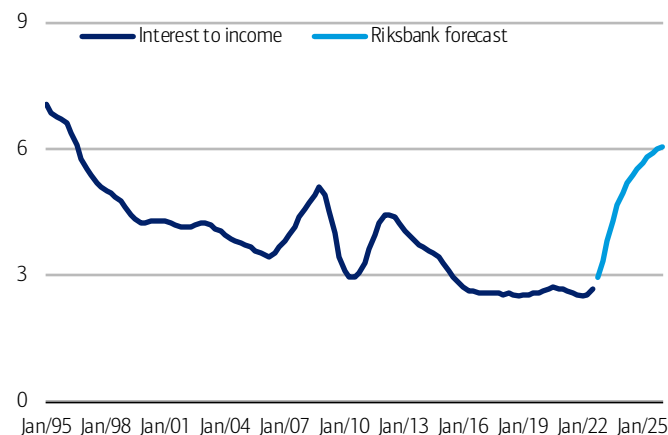


Source: Norges Bank

BofA GLOBAL RESEARCH

Exhibit 10: Interest to income ratio

To be back to mid-90s level



Source: Riksbank

BofA GLOBAL RESEARCH

We visited Vonovia’s Swedish residential portfolio with representatives from Vonovia and the CEO of Victoria Park (95% owned by VNA) in Husby (Stockholm). Swedish

residential benefits from exceptionally low vacancy due to the low rents/regulation. This was confirmed by Claudia Wörmann (former Chief Economist of SBAB Bank - state owned mortgage bank) and Amanda Welander (Head of Research CBRE Sweden and Nordics) at our expert discussions, with an average eight to nine year waiting list to be granted a rental apartment in Stockholm, seven years in Gothenburg and almost four years in Malmö. Most municipalities or landlords have a queue system and a service that acts as an agent, which distributes vacant rental apartments. Roughly one third of residential in Sweden is rental housing, which is slightly more than the average European country (the highest being Germany and Switzerland at > 50%). The residential rental market is strongly regulated, with rents determined annually by a negotiation between the landlord and tenants' association/unions. For 2023 for example, unions and landlords have agreed to a c. 5% rent increase. Anyone in Sweden is entitled to permanent tenancy of a rent-controlled apartment. Consequently, affordability is high: only around 8% of Swedes live in households spending more than 40% of disposable income on housing, compared to 15% in the UK. This system, aimed at guaranteeing that those who do not own property have access to quality affordable housing, has however created a housing "shortage"/queue, and large grey 'secondary' market (authorised subletting) and a black market (illegal subletting), where tenants pay on 20% to twice as much rent than the regulated market rent. In 2017, the Swedish government released a report according to which 25% of all leases were signed on unlawful terms, a number probably even higher today. Rooms in flat-shares are also scarce, since Sweden has a higher proportion of single-person households than in the EU.

There have been virtually no transactions recently of these regulated apartments due to very low rental yields (below 1%) and no privatisations like for German residential, as apartments usually cannot be sold individually.

Office

Prime office cap rates are at 3.7% in Stockholm, but as CBRE's Amanda Welander (Head of Research CBRE Sweden and Nordics) and Patrick Kallenvret (Head of Capital Markets, Nordics) highlighted, primarily due to very few and very prime transactions, which biases this number downwards.

We visited Stockholm office properties of Castellum with their region and Stockholm managers highlighting that tenant demand focuses on the right location and the right product. While transactions for low yielding assets is scarce, the few liquidity focuses entirely on prime in "very good" location. Non-prime, non-CBD assets are un-sellable. Vacancy rate in Stockholm is 7-8%, with 3.4% in CBD.

In accordance with CBRE, Castellum sees rents after passing through CPI indexation slightly above market rents in some cases. Castellum on the other side owns some assets (where leases are maturing) with 30-40% rent uplift potential post full refurbishment. Key focus for many landlords is: not starting new development projects, focusing on balance sheet/Investment grade rating and trying to sell assets. Risks are rising bankruptcies (slight increase already visible) and F&B in secondary locations.

Logistics

Logistics is this year's most/only liquid investment market, because of higher yields (4.75% prime yield, up 130bp since peak in 2022) and willing sellers. The tenant demand remains high, with historic low vacancies and strong rent growth. CATENA (we visited their DHL last mile facility in Drivremmen 1, Stockholm with CEO Jörgen Eriksson) corroborated with indexation passed through without any push back. Especially helped by some of their assets with old leases which are way below market rent (up to 100% rent reversion potential in some cases). Like for office, standard leases have no floor or cap on CPI indexation. The outlook is unchanged with currently declining supply and especially developers leaving the market which were aggressive on rents to quickly fill their assets.

Healthcare

Education is the largest “healthcare property” category in Sweden. The latter, as well as elderly care and hospitals in Sweden are publicly funded, providing stable cash flows. We visited Stockholm’s SBB schools and elderly care with the company’s treasury director and head of business development. Yields have gone up from c. 3% to 4% since last year, with no transactions so far in 2023. By 2040, Sweden is expected to have 1.1 million more people in population, an increase of 11% from 10.4 million people 2021. The share of the population aged 75+ will increase with more than 40% until 2040 reaching 1.4 million people. This dramatic increase in population aged 75+ puts pressure on demand side for elderly homes and care homes. According to CBRE and Swedish authorities a minimum of 2 care homes per week (104 per year) should be built in Sweden in order to meet an increasingly elderly population. This is to compare with approximately 70 care homes or less delivered annually in the past years.

Most schools are run municipally, but there are also private/independent schools, also funded by public funds (“free choice system”). Due to historic reasons, most Sweden’s colleges and universities generally cannot own buildings. The centres of education receive grants from the State to cover rental costs including an annual upward adjustment.

Self-Storage

Sweden has substantially less storage space per capita compared to countries such as the United Kingdom and the United States, though the urbanization rate, buying power and cost of property vs. revenue are all higher. We visited Shurgard’s flagship store in Solna (Stockholm), the company’s biggest facility. Contrary to its main competitors, Shurgard offers still staffed stores, and not only online, which is a differentiating factor as customers, even if booking online, often need practical information or help once on the premise. Shurgard highlights higher store EBITDA margins (70%) in Sweden compared to its European average. The Solna store reflected the company’s organic growth potential on existing land/stores, with easy capacity addition on parking spaces, unbuild land through containers and other simple space addition. The company aims to add c. 3,000sqm just through of extensions on existing assets.

Hotels

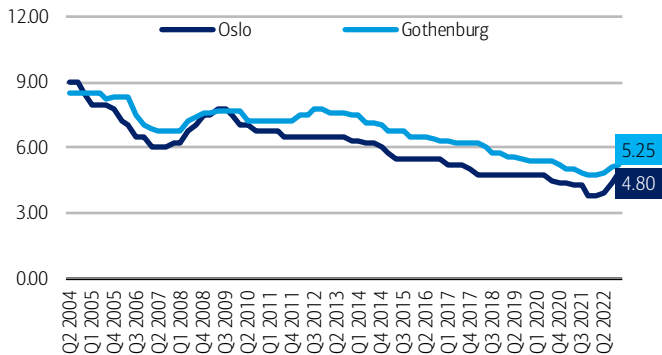
The Swedish hotel market is relatively mature and is majorly dominated by domestic chain brands. In Sweden, Stockholm County accounts for almost 1/3 of all hotel stays booked by foreign visitors and more than 1/5 of all overnight hotel stays. Stockholm’s hotel market experienced a substantial increase in supply from 2017 to 2019 with more than 3,500 rooms added to the market, resulting in a slight occupancy decrease from the mid-70s to around 70%. The city’s hotel pipeline is, however, quite modest, with projects representing 3.2% of the current room stock. Prior to the pandemic, rates were also decreasing in euro terms despite the solid growth in both business and leisure demand, as a result of the weakening of the Swedish krona.

We visited FABEGE’s Zero Energy Hotel in Solna (Stockholm) with the company’s head of IR and project manager, Scandinavia’s first zero-energy hotel, which was also named BREEAM Building of the Year by Sweden Green Building Council. The 336-room hotel, which is part of Nordic Choice Hotels’ Comfort Hotel chain was inaugurated in 2021, with its 2,400 square metres of solar cells, it is the hotel with the biggest concentration of solar panels in the world according to Fabege, with solar energy fully covering its annual consumption of electricity. The building is net-zero carbon dioxide emissions per square metre over a full year (adding electricity in the winter, selling in the summer). The energy (including from 25 geothermal energy boreholes) is used intelligently inside the property, with the ability to distribute heat from one part of the operation to the rest of the building.

Nordics & Swedish market in six charts

Exhibit 11: Industrial yields expanded by 50-100bps in the past 12M

Industrial prime yield movement

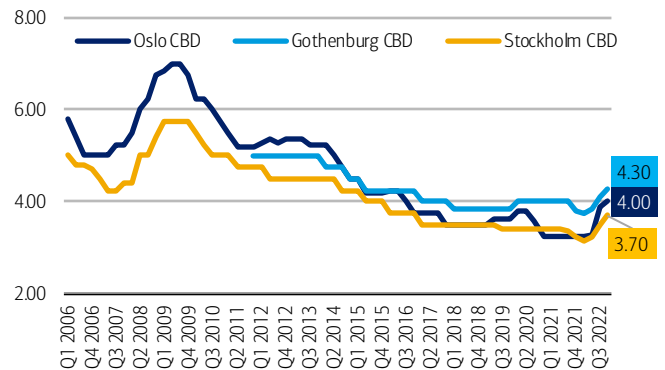


Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Exhibit 12: Office yields move up by c.55bps in the past 12M

Office prime yield movement

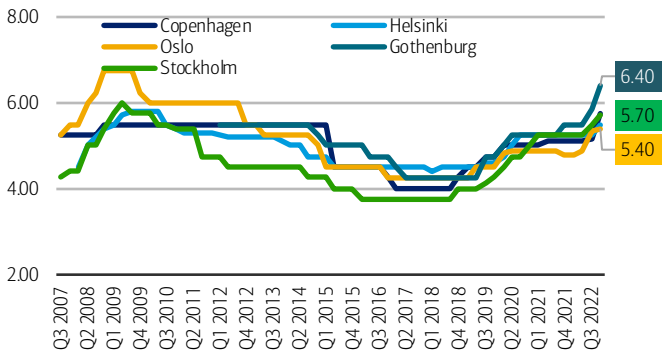


Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Exhibit 13: Retail yield has been moved up since pre-Covid

Shopping centre prime yield movement

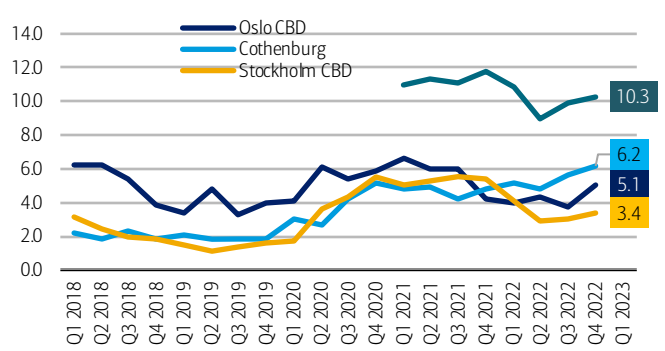


Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Exhibit 14: Office vacancy ticking up post Covid

Office vacancy movement

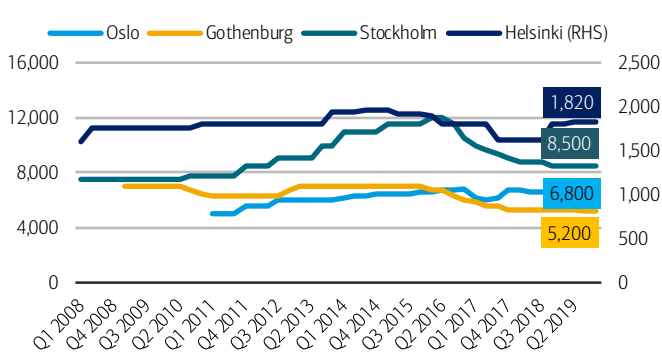


Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Exhibit 15: Retail rent growth momentum weak

Shopping centre rent/sqm p.a. (local currency)

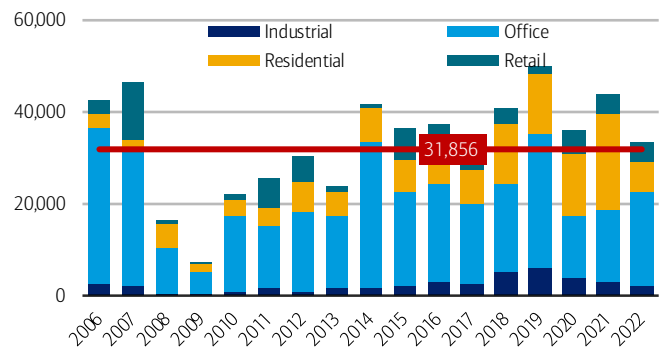


Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Exhibit 16: 2022 investment volume fell but still at 15YR average

Stockholm investment volume (SEK m)



Source: CBRE 4Q'22

BofA GLOBAL RESEARCH

Panel takeaways

We hosted five typical panels on 1/ Views from the top: private equity, 2/ Shifting geopolitics: how the property crisis will unfold, 3/ Visioning the future in a transforming world, 4/ Credit real estate year ahead, and 5/ Green/ESG panel – why green capex will drive dividend cuts?

Key takeaways from our panels

1. Real estate is a long-term investment. Volatility and mark to market is a challenge now. In the long run, decarbonisation is far more important than market daily news.
2. Next credit event might happen in commercial real estate (CRE) market in 2023, with low office utilisation rate in the US and a majority of CRE lending originating from regional banks.
3. ChatGPT should benefit us all in enhancing productivity and democratising technology.
4. When look at LTV, net debt to EBITDA and ICR, the third metric is now at the highest risk of being breached in European real estate.
5. Carbon-intensive companies usually trade at a discount to their peers in Europe and US. Cutting dividend will be the first step to satisfy mandatory green capex requirement for liquidity-stretched company.

Panel #1: Views from the top: private equity

We invited Guillaume Cassou, Partner Real Estate in KKR, Samir Amichi, Head of Real Estate acquisitions Europe in Blackstone, Brad Hyler, Managing Partner and Head of Europe Real Estate in Brookfield and John O'Driscoll, Global Co-head of Real Estate in AXA IM to join our session.

How active is investment market now?

They don't see many opportunities yet, although many investors want to participate. 'price discovery still not quite landed yet'. Investment in sub-sectors such as student housing/logistics and life-science are still active. Right now there is less liquidity for sure, which is an issue as transaction evidence is needed before valuation stabilises. Private equities are willing to invest but more selective. Sentiment is more benign than last year for sure despite banking sector turmoil.

Which asset class do they go to?

Debt vs equity: currently debt return is very good. Broadly speaking, unlevered IRR can hit 6-7%, and levered at double digit returns. **Core vs value-added:** believe now is more opportunistic time vs core time. There is a maturity wall of £300bn to be refinanced in the next three to four years, use equity reserve / capital raise is unavoidable.

Contagious risk from private to public?

Only 7% of commercial real estate is held by listed names and in general they are likely to be in a better shape than the 93% held by others (PE funds, family office, etc.). However, there is for sure a contagious fear from private market, but view that the system is more stable than GFC's time. The picture is still murky with many uncertainties plus increasing regulation risks.

Office sector any good?

There is still good demand for quality assets with supply limited. They are confident on delivering office story in 2H of this decade: both landlords and tenants are committed to science-based emission target. Demand for sustainable office space should be strong, prime office also works economically, but it will be a long journey. **Why more concerns in the US office now?** Many US offices are large-play tall towers, with Europe space planning system more restricted. Population in US is more mobile and makes it easier to WFH (work from home).

Any new trend in investment market now?

Investment universe has shrunk for some sectors such as office. And there is an imbalanced capital chase on appealing sectors such as student housing and self-storage with too little product supply. Real assets used to be the only real assets but now you also have infrastructure assets to look at.

How do you view public vs private market now?

Access to capital is much constrained for listed companies now and they do not want to issue equity given the steep discount and cannot or do not want to level up, meaning they cannot achieve growth rate as they used to have (without capital support). Private market value and listed usually do not move simultaneously and therefore creates opportunities. Volatility and mark-to-market is a challenge now. Agree listed companies should be a reference point for forward looking prospective.

What do you think of short-term and long-term interest rate?

In the short-term, stabilisation of interest rate is more important as investors need to know how to price assets. But in the long run the absolute level of interest rate matters more: if rate stays at 4-5% level in the next 10 years then this sector is completely overvalued.

Final wrap-up points

Fundamentals in real estate are more robust than this cycle suggests (except some office/retail assets). Real estate is a long-term assets and patience is needed. If overall quality is sound (right locations and right type of buildings) then should create pricing power in the long term. Decarbonisation is far more influential on valuation than market news. Believe that biggest mis-pricing lies in how to price decarbonisation capex.

Panel #2: How the property crisis will unfold

We invited Elyas Galou, analyst from Global Investment Strategy from BofA Research, Kerry Brown, Director from Lau Institute in Kings College London and Pierre-Henri Flamand, former CIO of MAN GLG to join this session.

- In the transition from the 2010s to the inflationary 2020s, real estate has suffered the most in this transition. Valuation decline ranges from anywhere between -15% in Sweden, -14% in New Zealand, -13% in Australia, to about 0% in the US. Corporate bond market has grown from about €40bn when the ECB started its corporate sector program, to about almost €200bn at the end of 2022. It's now well over €190bn. Elyas believes this market is going to suffer a bit more. However, in China, which has been very early in the cycle to take the hit, Elyas is growing more constructive towards China, China high yield corporate bonds, in particular. There have been about 25% to 30% default rate in this cycle. Still cautious on European corporate bond market and US commercial real estate bond market.
- **How should we think about real estate investment in the long run?** Pierre-Henri discussed that from Elliott Wave theory we usually have five waves: 1/ Surprise wave. And we are just going through that 2/ the "I told you so" wave. We are going to have a deflationary shock in this wave. 3/ Panic

wave. People will realise inflation is here for good and it is probably when real estate prices will be the most hit. Investors will be panicked to change the way their portfolio is configured. 4/ Hesitation wave. Pierre-Henri believes it will create more of these inflationary forces. And then 5/ Consensus wave. In that wave, real estate will do extremely well because at the end of the day, it's a real asset and should remain intact in the long run. Admit it is very foggy now and there is no other way to run money but to be very diversified - cash, real assets (including real estate). Situation will probably deteriorate as more debt piles up.

- **Geopolitical wise**, the panel expressed a view that cooperation between major powers is needed to solve potential areas of disagreement (eg. climate change) and whoever can deliver that cooperation will have a major advantage. Conversely, any rise in tensions within Asia-Pacific could have significant economic consequences, especially considering that Taiwan is the source of 85% of the world's high-tech semiconductors.
- Different parts of the market seem to think different things about geopolitics. There are many investors who believe investing that China is challenging right now, given the political risks. Given this backdrop, it is difficult to make sense of various asset classes or within an asset class.
- Elyas Galou is of the view that next big credit event might happen in commercial real estate market, and everything related to the shadow banking market. Office utilization in the US is only 60%, 80% of commercial real estate lending is originated by regional banks with assets under \$250bn. Credit event might not happen in 2023, but likely in 2024 and 2025.

Panel #3: Visioning the future in a transforming world

We are joined by Felix Tran from Thematic Investing in BofA Research to share his insights on the future trends that might have an impact on what we invest, how we live and work. We cannot talk about any specific sector without talking about what is happening around the world, important trends include technology (AI), demographics (ageing society), net zero and geopolitics. Key question is when does the short-term trend end and when does long-term trend begin.

- **ChatGPT - democratisation of technology.** ChatGPT is the fastest growing app in history - It took 5 days for ChatGPT to reach 1m users (TikTok took roughly 14 days and reached 1bn cumulative visits over last few months). ChatGPT is opening floodgates due to the democratisation of data. We cannot think of any sector that won't benefit from generative AI - many investors asked who the losers are? e.g. job automation and restructuring, however we think AI is like general-purpose technology and printing press like the internet, net net should have enhance productivity and allow us to do things in a smarter and more efficient way. Some investors are already applying for an AI license.

Did you know?

- Every day we create 2.5 quintillion (million trillion) bytes of data, yet we are only using 1% of global data. By better capitalising on data, AI could boost the world economy by up to \$15.7tn.
- Back in 1970s, 80% of stock market cap was around tangibles/heavy assets/equipment, etc. vs in 2019 only 8%.
- GPT-3 was 150x more powerful than GPT-2, and 1,500x more than GPT-1 (GPT-4 was released two weeks ago although parameters have not been announced). Computing power to train AI database has doubled every three months, outpacing Moore's Law by a factor of 6x.

- **Demographics + innovation = ultimate deflation?** We have reached 8bn people on the planet and will probably plateau at around 11bn by the end of this century. Technology and demographics are important to put into perspective that innovation and medicine are giving us greater insights. In 2022 we had a record low birth rate, new generations are more likely to be buying pets than having children (e.g. in Taiwan there are more pets than children under 15, same as in Japan). First time in history, we see more grandparents than grandkids in 2020 (Pension deficits could reach \$400tn by 2050). New generation Z are likely to switch from goods purchase to services experience, this could be a strong deflationary source.
- **Generation clashes.** Gen Z is a generation after 'sustainable, insular and goods over experience'. Understand our future consumer behaviour matters to investing in real estate – do they like to work from home? Do they shop online often? how would they affect ESG investing? How much do they trust financial advisory? Do they still like to live in urban? Do they want to downsize their current living space?

What is Gen Z like?

- Generation Z is born between 1996 to 2016. Global population so far is around 2.4bn (or 32% of total population).
- >10% of Gen Z prioritise activism (such as climate changes, social justice, etc) above all else.
- Over half of Gen Z have meat restrictions, and over half of Gen Z don't drink vs 1 in 3 Millennials.

- **Geopolitics.** We are entering an era of increased competition between great power rivalry, almost every country and region are in the game for solar PV, rare earth metals, hydrogen. Surprisingly China leads in areas like R&D in 2020 (it surpassed US for the first time on R&D spend \$501bn in China vs \$493bn in the US).

Other megatrends

- Future technologies: emotional AI, brain computer interfaces, bionic humans, hologram and green tech.
- Quantum computers – will do more calculations than the number of atoms in the universe by 2030.

- By 2028, 5G mobile networks could reach their full capacity and 6G will be needed.
- Metaverse – by 2030, we will spend more time in the Metaverse than in the real world.

Panel #4: Credit real estate yead ahead

We invited Ramzi Kattan, VP of Corporate Finance Group in Moody's, Barnaby Martin in European Credit Strategy in BofA Research and Florent Egonneau, credit analyst in EMEA real estate, food retail and gaming in BofA Research in this panel.

- The hubris of a decade of negative rate needs to pay back now. In the past investors have to take risks as virtually no return yield in cash. Borrowings have increased significantly. Now refinancing sources are smaller for sure. Most of the funding in real estate came from bond issuance five years ago, ECB was buying real estate bonds as well, but that support no longer exist. \$300bn debt maturity is almost too big to refinance. The hope was to go back to bank financing, and now that corridor looks narrower post the recent banking sector turmoil.
- Moody's has so far downgraded 40% of real estate portfolios. Their working assumption is corporates will go to bank for refinancing (not capital market). Financing cost for secured bank is probably north of 4%. **Access to liquidity** accounts for 20% in their credit scorecard. Share price discount to NAV is a negative factor. Moody's is forward looking and exercises extra caution when they intend to downgrade credit rating ('fallen angle' scenario). **Three criteria** they look at in cohort: Loan-to-value (should be no more than mid to low 40%), net debt/EBITDA (less of a concern for now) and ICR (a much more important metric now and also the weakest in real estate which has the highest risk to be breached).
- Moody's would recommend investing in assets with >3% rental growth rate given negative carry, but admit opportunities are quite limited. Office with an age of >10 to 15 years is like retail for them, given the biggest valuation drop and how difficult it is to refurbish such assets to ESG compliant.
- Geographically speaking, Moody's believe UK will outperform continental as UK assets mark to market more quickly and have a stronger value correction. Nordics is likely to underperform given too much leverage and too short debt maturity at 3-4 years on average. Swiss assets should be stable as inflation is under control so far. Eastern Europe traditionally carry a higher risk.
- Financing costs account for c.50%-60% of total cost base and FFO will decrease fast with a higher interest rate (if no protection from interest rate hedging). When assessing corporates' credit, maturity profile needs to be good and companies should not rely much on disposals given the difficult market condition. Issuers now shift their refinancing from bond issuance to either cash generation from operations or disposals (which is mostly likely to be done at a discount). Origination of secured loans now takes a much longer time (3-6 months) with banks being more cautious.

Panel #5: Why green capex will drive dividend cuts?

We are joined by Kay Hope, Head of ESG for Global Fixed Income and Panos Seretis, Head of EMEA ESG in BofA Global Research in this session, to discuss the prospect of green capex and green bond financing in real estate.

- Green capex is now mandatory, assets disposals are difficult. Cutting dividend will be the first step to preserve liquidity. Carbon-intensive companies usually trade at a discount to their peers in Europe and US. Interestingly coupon rate increase for companies in oil and gas on average is 70bps higher than average coupon rate increase in 2022, despite that this sector is making considerate profit last year. Tobacco corporates (which mostly issued US bonds) have seen 60-70bps higher coupon rate in 2021, and in 2022 it is 130bps higher.
- Smarter companies categorise their green capex into three different buckets: first one is the capex that is easier to execute and in-immediate need, second is more time-consuming and expensive to apply, and third one is post 2030.
- Green bond might be a solution for real estate refinancing. In 2021, total real estate bonds issuance is \$52bn and 28% of that is green bond. In 2022, \$23bn of bond is issued in real estate with \$11bn of them green (48%). Therefore, green bond proportion is going up despite the volume is smaller given a higher interest rate. 'Greenium' is not that significant with only 0-3bps cheaper vs non-green one. However green bonds do not get sold much and therefore yield premium might be wider and price less volatile during market sell-off.
- **ESG flows:** \$1 out of \$2 investment fund goes to ESG investing. Despite the turmoil share price performance in 2022, there are still small positive inflows to ESG funds in 2022. Whichever company/sector behind the curve of achieving net zero in 2030 will be underweighted by ESG investors.
- ECB is still buying green bonds. When decides which bond to buy, ECB looks at 1/transition plan on decarbonisation, 2/ carbon intensity and 3/ quality of reporting. Interestingly high carbon intensity corporates in general have better quality of reporting.
- **Is there a greenwashing in real estate?** The answer is probably no. As those green financing projects do have green bond framework, green capex and green project selection process.

When looking at emission scope 1-2: most carbon-intensive sector is energy and utilities (c.80% of emission in Europe). But when including scope 3, real estate will have a much larger proportion.

Selected company meetings takeaways

Residential

Vonovia

- The decision of not cutting dividend in full is a balance between preserving cash flow vs shareholders' expectation on dividend. It doesn't move the needle of lowering net debt with such volume of dividend cut. They have capacity to invest, but they are not investing to preserve liquidity.
- Disposal: right now, for Vonovia is a price discovery in a political environment, and government is not experienced in due diligence. Vonovia is flexible on what products to sell but limited flexibility on price ('will be based on book value', 'the more we disclose, the weaker positioning we will be in'). They have 50k units that can be sold unit by unit. But is privatisation on their table?
- They don't have to do stress-sales because they are not stressed. But will leave options open once situation changes ('although no signs so far'). Their recurring sales is still >30% of book value but slower now. 30x rent multiples vs 25x now possibly. Modernisation capex is coming down. There is a hire freeze on craftsman but no lay off.
- Believe their stress test scenario is a stress scenario - they model >20% value decline in two years-time which has never happened before.
- 68sqm average for 1 bed. Waiting list in the city would be 20 years. Average household income is three times the rents. €1,000-1,500psm per year. 15-20% higher for renovated. Annual rent 4.7% increase in Stockholm and is from 1st March 2023 for existing tenant. Increase in utility bills will make this year tougher.

LEG Immobilien

- Privatisation will be a minority and should not expect a significant number in 2023. Acquisition team is now doing disposals. They have identified 5,000 units for potential sales (1,500 from Adler). They believe the difficulty of disposing now is mainly due to market conditions not because of asset quality.
- They are not dependent on asset disposals, although it helps to deleverage fast. Agree they don't have control over valuation, however, believe that once market liquidity improves, they can fix LTV issue. Sale price should be no discount to book value since the latter is coming down.
- Ultimately, they need to see interest rates coming down before buyers/sellers become clearer where they stand. In terms of if it makes sense that yield now is below marginal financing cost, they are positive on further rent increase with inflation pushing through over time.
- Too early to say if 2022 dividend cut is a special situation or will be repeated in 2023 if LTV goes higher.

Grand City Properties

- They cut FY22 dividend to preserve cash and meet debt obligation. Liquidity should be enough for next two and half years. Dividend payment in future depends on market condition and asset disposal progress. They so far have €330m assets marked for sales but is looking for more volume. Disposal price will depend on the quality of the asset, but if deadline of paying debt is tight then they will have to sell at a discount. Most buyers they see now are small, local and private investors. Despite €170m of the asset intended to be disposed is in good progress, Grand City

still tries to be in defensive mode given the highly uncertain macro environment backdrop.

- Expect future cap rate to compress with now average cap rate at 3.9% and potentially go to 3.8%/3.7% given rent multiples and valuations.
- Lfl rental growth guidance in 2023 at 1-2% vs 2.9%. Their rent increase mostly is from vacancy reduction, and now they have a good occupancy therefore driver from there is limited.

Grainger

- Their 'doubling the size' story will mostly come from on-site developments. All development cost is fixed and fully funded. Funding: they accelerated financing in early 2022, and now all banking facilities are refinanced. No debt maturity in 2023-2025, and only minimum in 2026 and 2027.
- Valuation wise, most investors in this sector are long term investors (such as pension funds), therefore no panic sellers so far.
- Believe right now a good market for demand with no new supply. A higher mortgage rate will also direct more clients to rental market. Their yield expansion is mostly attributed to rental growth. Believe rent growth should be in line with inflation in the long run. Virtually no rental delinquency. All tenants pay on time.
- On regulated tenancy: c.18% discount to open market value and they sell 7% of those stocks p.a., no price shock coming through yet. Now UK residential looks cheap to international investors given currency benefit

Logistics

Segro PLC

- They believe the strongest rental growth story is in London given growing population and shrinking land supply. London lost 30% of industrial land in the past 30 years. Long-term demand will be driven by sustainability and digitalisation. They have a diversified tenant base, with Amazon rent exposure at only 7%.
- With capital much more expensive and less available, it is actually a good time for Segro to invest with less competition. IRR is now higher given a higher financing cost and Segro has capacity to deliver such projects. Credit on their overall RCF is 30-40bps and 90bps for drawn parts. Target IRR at 8-9% vs marginal funding cost at 4-5%.
- They have c.6-7% rent exposure to data centre. Would not be surprised to see more rental growth from this sector in future. Although (green) power supply is a challenge until grid infrastructure upgrading, which will probably come in 2027.
- Believe they have the right asset, right balance sheet. So where could it go wrong? Long-term occupier demand might not be as robust as they have expected with a ton of new supply. But unlikely in their view. New normality would more be <5% vacancy and 6% rental growth vs <2% vacancy and 10% rental growth in the past.

Tritax Big Box

- Yield softening (compression) possible in 2H23 and along with value recovery, there is still a lot of dry powder in logistics sector now. YoC now at 6.5% and expecting to increase towards 7%. Yield spread between YoC vs yield on asset disposed is forecast to widen again from c.200bps to c.250bps in future. (average NIY they achieved from recent asset sales is at 4.6%).



- Demand is going from exceptionally-good level to a still very good level, helped by eCommerce/ESG requirement/operating efficiency. 'No significant slowdown in demand' is seen so far. And in the event of slow down, supply will respond – speculative development is slowing down already. They now increase indexation cap from previous 3-4% to now 5-6% and even 7% in some cases.
- Nowadays logistics land is controlled mostly by long-term investors/developers vs trading developers pre GFC who have a much shorter investment horizon. Believe land value should be more stable.

CTP

- LTV target at 40-45%, now at 45%. Believe this target will be affected by 1/ quantum of development and 2/asset value changes. Do not expect negative valuation in 2023, yes yield will expand but will be more than offset by the solid rental growth. There is not much transaction evidence in East Europe given too many long-term investors. Cap rate in Romania is still high at 7% vs 3.5% in Germany despite similar building quality. On development side: 2023 should see a higher YoC as construction cost comes down and rent continues to grow.
- Typically, they buy land via options given no balance sheet pressure. But now land bidding market is too competitive they have to buy land directly. Land value is still cheap (compared with West Europe) so will not be much of a drag on balance sheet.
- Credit rating: no risk of downgrading. Net debt to EBITDA is at the high end but other metrics are doing fine (such as ICR). They are committed to defending the credit rating. Their secured financing usually uses local bank since they know the assets better and the spread is tighter. For unsecured facilities, big names (such as JP Morgan) usually can provide a lower cost of debt. Bank lending is still open to them and continue to finance at c.4.5%.
- Don't see any deterioration in tenant health, SME <10% of total tenant base. Their 2022 lfl rental growth at 4.5% (1.7% from inflation, reflecting 2021 level). 2023 expect +6% lfl rental growth driven by indexation and fixed rent growth. (their CPI linked rent will increase from 50% in 2022 to 70% by 2023).

Self-storage

Shurgard

- Largest self-storage landlord in Europe with 1,200 units. 80% of customers comes within 20min range. Street rates are lowest in town. Enquiries lower in the Nordics due to more challenging economy environment. 24 units bought by Nuveen Real Estate. 90% occupancy (slightly below last year).
- 40% employee's turnover. Easier to attract new talent. Wages inflation so far at 2%. Swedish union negotiations should end at 4% for one year. Google marketing costs continue to go up, but stable as proportion of sales. Competitive advantages lie in people on site and customer relationships.

Retail

Unibail-Rodamco-Westfield

- URW emphasized its "credit market access and strong liquidity", with upcoming debt maturities covered over the next three years through €3.5bn cash and €4.4bn undrawn credit facilities, and a 10x net debt/EBITDA, above 2019 levels according to URW calculations. Cost of debt in 2023 should be stable vs. 2022 thanks to hedging in place and using cash to repay maturities, according to the company. Hybrid bond (€1.25bn with first call date in Oct 2023) call depends on ability to re-issue new hybrid and/or disposal volumes, as URW wishes to keep the equity

component to protect credit ratings metrics. URW has c. €0.6bn of debt maturing in 2023 (excluding the €1.25bn hybrid) and €1.7bn in 2024, €3bn in 2025.

- US disposal: URW reiterated its objective to become a pure European retail company, which at the same time allows to “strengthen the balance sheet”. Currently the disposal process is slowed down due to lack of transactions. Last year’s disposals show that there is interest for higher yielding non-flagship malls. For flagships, management expects no transactions until the FED has inflation under control and financing comes back. URW continues to spend capex on the flagships to keep them attractive. No more capex spent on the regional malls. Rating agencies model c. €4bn disposals in 2023 (Moody’s, S&P no disposals).
- Operationally improvement has continued since COVID, OCR stands at 15% (better than pre-COVID) which means a good profitability for tenants given the high sales intensity in URW malls. And c. 30% of click and collect revenues is not reflected in tenant sales volumes. If adjusted for the latter, OCR could be closer to 12%. URW is confident with its positioning into prime dominant malls and highlights recent Inditex FY results, which showed increased store productivity: +23% store sales with 10% less stores, 6% less space than in 2021. As Inditex has been closing unprofitable stores in unattractive locations, this repositioning into profitable stores benefits dominant malls such as URW’s.
- Dividend (guided to be reinstated in 2023, paid in 2024) depends on how valuations will evolve and on rating agencies.

Klepierre

- Rent collection rate at pre-COVID levels and still c. 20% positive rent reversion, which will allow to capture upcoming CPI indexation without too much stress for tenants. No pushback on inflation indexation related rent increases (outside of the Netherlands and Denmark), with c. 5-6% indexation in 2023 (3.7% in 2022). The tenant mix will continue to change, with c. 20-25% of fashion surface to disappear (especially the mid-priced segment, while large fashion brands continue to increase space in large malls), replaced by new segments: health services and other services (laundry, shoe repair), etc. i.e. more convenience stores.
- Investment market quiet for shopping malls, no liquidity for large malls, some liquidity for smaller malls. All recent disposals (€0.6bn in 2022) close to book value. Comfortable with current portfolio with top 20 malls representing c. 54% of total value and top 70 malls representing 92% of portfolio value, given large dominant malls should see strong demand. The smaller malls will be unattractive. What tenants look for is above all location, rather than price. Slowing disposals as some “shareholders say Klepierre is a bit too earnings dilutive due to disposals”. But no acquisitions either, to keep strong balance sheet.
- Refinancing: Klepierre has c. €0.7bn of debt maturing in 2023 (excluding commercial papers), of which €0.5bn need to be refinanced and €0.7bn in 2024. The two options are 1/ going to bond market, but too expensive, and 2/ secured bank financing at c. 130bp spread over 5Y swap. Company expects cost of financing to increase from 1.2% in 2022 to c. 1.5%. Reiterates guidance of €2.35 net current cash flow per share for 2023, which is -10% vs. 2022 or: +5% vs. 2022 if adjusted for one-offs/provision reversals (€2.24), up due to rent growth and some cost reduction.

Carmila

- Leasing momentum so far is good but acknowledging there are concerns on French fashion tenants. One third of their tenants are doing well, one third is doing fine, and one third is not so well-off but insist in general is good except a few fashion tenants. They have no single tenant rent exposure of >1.5%.



- Disposal and capital allocation: buyers for their recent shopping malls are family offices who are familiar with local retail market. Carmila still manages the majority of malls disposed. They cut development capex from €550m to €200m for their major extension projects and now spent €40m p.a. on smaller refurbishment projects. They try to achieve a yield spread of c. 150-200bps between yield on cost and market yield for such projects.
- Their expectation of 4% rental growth (pushed by indexation) in 2023 should compensate partially on yield expansion. Feedback from valuers is positive so far. Comment that Carmila is of smaller market cap and therefore might get a lower attention and liquidity. Overall market sentiment towards retail landlord is dragging their NAV discount.

Office

Derwent London

- Their strategy is to hold green building for longer with yield movement to be much less volatile. Confident to see strong rental growth for green office. High quality long-income assets will be scarcer. The assets they try to sell is either too small or impossible to upgrade.
- Vacancy rate is low in the West End with tight supply. Occupants will be more selective. Believe number of job creation is crucial for office space demand. Business operators concern less on ERV/pricing and more on space quality (if staff want to be in or not). A bit surprised that demand is still going strong, but believes it is held up during Covid time when corporates were hesitant to make decisions. Believe London is still a competitive office market where supply is tight.
- Acquisition: likely to buy buildings with 2-3 years income (low yield to start with), also grey buildings with EPC upgrading potential. Leverage: focus more on interest coverage while running a low leverage which leaves many doors open. No equity issuance is needed.

Great Portland

- Starting to see interesting opportunities for acquisition – family-owned assets that need someone who can execute a ground-up redevelopment. Gearing at sub 20% and still confident can sell core assets with high-3 handle to middle east and Asia investors. Prefer West End to City. Supply side for quality stocks still super tight.
- Financing side, they have £450m RCF and banks are still happy to extend for them. Marginal cost at >5% all in for less good borrowers. Their WACC at low 7% and underwrite to double-digit unlevered IRR.
- West End retail sales is now at Covid levels. Footfall slightly less. Earnings can dip below dividend in development cycles.

Workspace

- Their small-and-medium sized tenants (SME) are largely focused less on Central London – difference between SMEs and international / large corporates who are more interested in central locations. It is difficult to get operational data from tenants since they are private. Customer base is diversified. Many of their tenants' business is service-focused and not capital intensive.
- Enquiry level is still strong. Occupancy stable and rent increases 'significantly'. Utilisation rate is typically 3-4 days a week. They strategically keep occupancy target at 90% to give space to upsize.

- They continue to look for disposal opportunities outside light industrial. Out-of-town business parks and some residential schemes for example. Market sentiment now is better vs six months ago on light industrial assets. Their last valuation was in Sep-22, and when you think about how industrial valuation has been done in Oct 22 (CBRE reported -11% decline, the largest monthly decline in 2022), FY23 (ending March-23) valuation will be at a significant lower value vs Sep-22. Happy to sell still since this transaction has no implication to the rest of its portfolio.
- Competition from service office. Workspace provides 'individual touch' to tailor-made tenant's demand. Service fee and energy bills are included in rent. Energy costs are fixed until 2024. SME tenants usually benefit from business rates (exemption).

Prime Swiss Property

- PSP Swiss Property confirmed the acceleration in rent indexation in 2023 vs. 2022. 90% of rents are indexed, without cap or floors. Management expects increased market share of Swiss Kantonal banks, Raiffeisen Bank and foreign banks post Credit Suisse-UBS combination. Operationally, current rent indexation is in line with market rent growth, thus no negative nor positive rent reversion potential, and expected stable.
- Sound balance sheet allows company to be net buyer in current market, yet with caution as want to keep leverage at current low levels. (33% LTV as of Dec. 2022, among only three A rated companies in the sector). Management expects a "reasonable" adjustment to prime office yields as current levels don't make sense given cost of funding, which could result in a low single digit asset decline. The counter effects are resilient tenant demand and reducing level of supply. PSP guides for an EBITDA of CHF285m in 2023, in line with consensus. This implies a 3% YoY decline vs. 2022, due to lower contribution from the sale of project developments and condominium. Cost of debt should increase from 0.5% to 0.8%. Latest refinancing was 6.5Y loan at c. 2.1% cost.

Diversified

British Land

- Retail momentum (including retail parks) still strong with good ERV growth. On the office side: rent grow strongly for new development. Tenants are mostly international firms (no co-working space). Occupancy was c.70% during Covid and now >90%. Regarding Meta (Facebook), they are not using 1 Triton and British Land is confident to get the reversion once this space is relet again. Life Science space to expand in future (maybe in 1 Triton).
- They believe what matters more is the quality / service of office space not locations. The ERV level they see across all campuses is largely similar at £80/sqm (Broadgate, Paddington and Regent's place).
- Banks have been supportive, secured financing at tight margin. New RCF spread at a typical 90-100bps.
- Their development financing cost is going higher and therefore requiring a higher IRR hurdle rate. YoC used to be 5.5% for super prime assets, now need to be 6%. They target 150bps yield spread between YoC and market yield.
- Optimistic on the outlook for urban logistics and retail parks. For logistics assets, they will not necessarily hold them, and will dispose once opportunity arises. Retail Park market becomes competitive now, with more retailers want to move their in-town stores to retail parks or prime shopping centre.

Land Securities

- Higher rates and tighter credit mean a better competitive environment for them. In the last two years they sold £1.8b London offices at a NIY of 4.35%. LTV now is just shy of 30%. New developments have a YoC at c.7.5%. they could potentially work with 3rd party capital sources who have lower cost of capital in a vehicle for growth.
- Central London grade-A vacancy is just 1.5%. N2 is now 70% pre-let at rents well above ERV.
- Bullish on major retail. Could double that portfolio weight to 25%. Retail sales are now at pre-covid level, but rents and values are well below. Interested to increase their shares in some co-owned assets (i.e. they now have 49% in shopping centre Bluewater). Retailers are looking for larger sites.

Aroundtown

- Bank refinancing: now more funding demand on bank facilities instead of capital market since it is getting much more expensive, therefore banks are cherry-picking. For Aroundtown, bank is supportive and open, however the assets and cash position are more strictly screened and takes a longer time, especially for international lenders who are not familiar with German residential sector.
- Disposals have been difficult since last year, but it is surely on their agenda. Happy to sell at low-to-mid-single digit discount to book value since it still makes profit vs acquisition value. Office portfolio sales might be an option, along with London resident assets. Development pipeline is flexible as cash preservation is priority now. Selling stakes in Grand City properties (GYC) at such a steep discount is not on the table. They will continue on modernisation capex, but again it needs to balance between cash preservation.
- Their office assets are more of B location but cheaper, believe tenants 'stickiness' is good. Vacancy on the long run is at c.10%. since they sell stabilising assets with a higher occupancy. For existing tenants Aroundtown will probably not push full indexation just to maintain tenant occupancy.

Icade

- Nicolas Joly will be appointed as new CEO in April-June, replacing Olivier Wigniolle after two mandates. Nicolas comes from Casino Group (Head of M&A).
- Strategy is 1/ selling healthcare (goal is that by end 2025, everything is sold), 2/ refocusing the portfolio (rotate of non-core office, buy prime office), 3/ Focus on landbank (business parks, life science), 4/ Refocus geographically on main French cities.
- Icade Santé disposal: Three tranches, each based on previous reported NTA (hence future disposals price could move with NTA). First tranche (by July 2023) is sale of 64% of Icade's share in Icade Santé to Primonial REIM (and full deconsolidation of the Santé segment). Second tranche is sale of remaining stake of Icade in Icade Santé (by Dec. 2025) to Primonial REIM. Third tranche is sale of IHE (Icade Healthcare Europe) assets (by Dec. 2024) – no buyer yet. This will trigger a €710m special dividend, distributed as the sales are executed.
- The remaining proceeds are to be redeployed into land bank. Icade is looking at various options with a focus on business parks and life science, yet still unclear and no precise plans. The change is that in the past capex was focused on healthcare (to the detriment of office), and post disposal capex will now again be allocated to office. The company has a €1.6bn development pipeline post exit of healthcare, of

which c. €0.8bn still to be spent. They currently see a slowdown in demand for letting current developments projects.

- Key is to maintain BBB+ (S&P) rating, which implies 35% LTV (as calculated by S&P) and net debt/EBITDA <8.5x (vs. >10x in 2022).
- EPRA EPS and net current cash flow per share from H1 2023 will exclude Icade Santé and Icade Healthcare Europe earnings but include their dividend payment to Icade. More guidance with next results. Need to work on the figures. Expect office asset values to fall 5% in 2023.

Swiss Prime Site

- Swiss Prime Site has a <1% exposure to Credit Suisse, and the leases on these remain valid, with not exit possibility for the tenant. The company has also a five-year CHF1.3bn syndicated loan facility with Credit Suisse (and UBS), where the terms are unchanged. Probably at maturity of the facility UBS would not roll over the full exposure by itself and another bank would need to be added to the facility. Swiss Prime Site is among only three European real estate companies with an A credit rating (with peer PSP), and management aims to keep it this way.
- Transaction market has dried out in Switzerland also, with especially pension funds out of the market. Liquidity is still there for small assets, not aimed at pension fund buyers. Management sees “flattish” asset values for Swiss prime office, with upward pressure on yields, compensated by c. 4% rent indexation in 2023 and disposals close to book value which should reassure valuers. The relative resilience of Swiss office market is, in part, explained by Swiss regulation: Swiss lenders do not provide mortgages with a loan-to-value ratio above 80% and has to be serviceable under a 5% interest rate stress test. Taxation also penalises short holding periods, making the market unattractive for many foreign buyers. On the macro side, Switzerland remains a strong net immigration country with high employment. There are circa 90k net new office employees per year from immigration, largely outbalancing any potential layoffs by Credit Suisse.
- Swiss Prime Site decided to close its Jelmoli department store it was operating, and convert the Jelmoli building on Bahnhofstrasse, Zurich into mainly prime office space, stop any retail operations by itself, and thus refocus the company on the property business. Swiss Prime Site plans to invest more than CHF100m in the redevelopment project, with higher rents targeted post reconversion and at a lower cap rate (prime office should be at lower cap rate than the same building used for retail). Circa 20% of the space should remain retail, but externally operated (Zara store, fitness, healthcare services, which will remain open during the redevelopment). The decision to redevelop the building/exit retail operations is a consequence of the boom in online retail and changes in consumer behaviour, with stationary retail increasingly under pressure. Despite high investment by Swiss Prime Site, and large efforts on the part of employees, this structural change was clearly reflected in the profitability of the department store Jelmoli. This led Swiss Prime Site to conduct extensive market research over recent months, with the objective of transferring the department store operations externally. However, in-depth talks with numerous possible partners have not led to the intended success. Hence, Swiss Prime Site has decided to adapt the department store Jelmoli to the new market backdrop from the end of 2024. The building transformation project had a negative one-off impact of around CHF 34 million on Swiss Prime Site's income statement for the 2022 financial year. This amount consists exclusively of non-cash impairment charges and extraordinary depreciation (for fittings, furnishings, IT, inventories, etc.). Despite these non-recurring expenses, Swiss Prime Site achieved the targets set for the 2022 financial year, largely from positive letting results and growth in the Real Estate Asset Management business

Fabege

- Getting 80% indexation. Think inflation will be 7-8% by year end. Have too much non-yielding assets / land. They are testing the market now with one asset (not a core holding).
- All financing comes from Nordic banks. Face a 1 notch downgrade from Moody's if ICR 'well below 3' vs ICR 2.8x already. 30% of debt is floating rate.
- Higher construction so YoC now at sub 5%. But costs are starting to come down (steel for example). Expect SEK2.8b capex in 2023 and below SEK2.5b in 2024.

Castellum

- 7,000SEK for new letting in central Stockholm. Top floor at 8,100SEK on fringe of CBD and top rent at 8,400 SEK in core CBD. Additional space from building courtyard for 4K sqm. Most challenging part is outside of CBD. Financial occupancy at 92%.
- Rate of bankruptcy is increasing (5-6 tenants in their portfolios). Logistics property have most of the problems. Will have discussion with tenants to put rent at market level and not pass through entirely the indexation. Restricted on new development. Trying to defend IG rating.
- Considering some disposals - quality products in very good location with good liquidity. A lot of capital available in the market. So far domestic buyers are mostly pension capital. Distressed sellers will be the next catalyst.

Healthcare

Aedifica

- Don't see rent deteriorating so far. For Opcos (underlying tenants) yes there are pressure on the cost side (staff, energy costs etc.). Their EBITDA margin normally at 25% but now lower. Also given a scarcity of staff now more agency service needed. But on the positive side: residence occupancy improving. In the UK, occupancy going up from lower 80% to higher 80% beginning in 2022. Fees charged to residence is up by a high-single-digit %. Opcos in the UK are doing well since they can increase fees quicker Vs continental where fee increase need to go through negotiation with the government but eventually revenue will catch up.
- In terms of transaction, market is very slow and quiet. Believe market appetite is still there but of much smaller size. No forced seller yet. Outlook on valuation: Lfl value decline in 4Q22. But in healthcare they don't expect to see big change in valuations. Question mark remains on how many quarters valuation will go down (marginally but consecutively). ERV growth should partially offset yield widening.
- In general they are still pushing full inflation to tenants. But compared with 1H22 they have more push back/negotiation requirements from tenants. German has more push backs.

Cofinimmo

- Nursing home operator stress peak is behind according to Cofinimmo, which was summer 2022 when COVID subsidies ended, energy prices spiked, rent indexation started and staff costs rose. We are now in a normalisation phase, helped by local authorities allowing price increases to compensate staff cost inflation. The next catalyst will be the finalisation of Orpea's balance sheet restructuring with debtors. Following which, Cofinimmo expects nursing home disposals from Orpea, but mainly outside of Europe.

- Buyers are still active in the sector, with private specialist investors (Primonial, etc.). Healthcare (nursing homes) represent 70% of Cofinimmo's portfolio (vs. 50% in 2018) and should raise further with the planned disposals.
- Cofinimmo aims for neutral cash flows in 2023 with €300m disposals (of which >80% will be office), matching closely the investment program spending. Of these, €85m are already signed. This should keep LTV stable in 2023 according to management. Cofinimmo has no debt to refinance in 2023 (followed by €200m in 2024, €250m in 2025 - 90% hedged). The disposals are single assets of small size (<€50m) at >6% yield, with often redevelopment permits these still find buyers in current market. Buyers are for example local developers (for residential-to-sell redevelopment).
- Management sees lower yield expansion for nursing homes in continental Europe than in other countries such as the UK given Continental Europe is mostly a public funded market, with income stability and indexation. The company referred to the 2007-09 financial crisis where European nursing resisted relatively well (assets declined c.5% / 60bp cap rate expansion, stable rents).

Disclosures

Important Disclosures

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's: absolute total return potential as well as its attractiveness for investment relative to other stocks within its *Coverage Cluster* (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible. BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended. SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Information relating to Affiliates of BofAS, MLPF&S and Distribution of Affiliate Research Reports:

Refer to [BofA Global Research policies relating to conflicts of interest](#).

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofam.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSF); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai

Financial Services Authority (DFA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSCF; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the [Electronic Communications Disclaimers](#) for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities. This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Copyright 2023 Bank of America Corporation. All rights reserved. iQdatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research

policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.