

INVESTMENT RESEARCH

QUARTERLY INSIGHTS

As real estate markets turn a corner this quarter, we continue to focus on the drivers of risks versus returns and, with that, determine which strategies are best to pursue despite still wider economic and financial uncertainty. Typically, the strategic decision is fairly straightforward – choosing the right balance between tactical short-term rental growth and the structural, more resilient, income plays. But this divide is becoming increasingly unhelpful. A third option is at hand – long-term resilient growth opportunities that reflect the ongoing structural shortfalls in development, capital spending and finance. We might call it a long-term recovery story, but this quarter it means we're also focused on testing how resilient the demand-side of that long-term recovery really is.

In PGIM Real Estate's latest Quarterly Insights, our regional research teams focus on the following themes and opportunities:

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- How Misleading Is Asia's Outlook?

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- November Election: What Changes for Real Estate in a Policy U-Turn?
- Does Retail Still Offer Value if Consumers Pull Back?

ASIA PACIFIC

Key Themes

- Why Are Asia's Office Utilization Rates So Different?
- How Misleading Is Asia's Outlook?

Why Are Asia's Office Utilization Rates So Different?

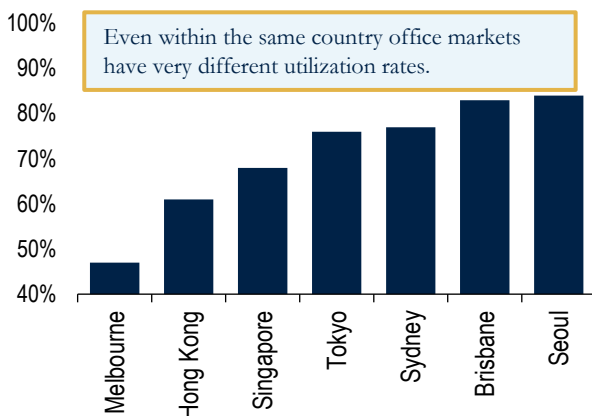
A puzzle across Asia's markets, post-COVID, is why are there such big differences in the return to office numbers. Even allowing for variations in employment and new development, these differences are large. What's more, these return to office numbers continue to change. Over the past two years, utilization rates have continued to climb, albeit slowly, in most cities. And this matters because, as it stands, the office market is

illustrating a resiliency that hasn't been priced in – that office demand might yet surprise to the upside.

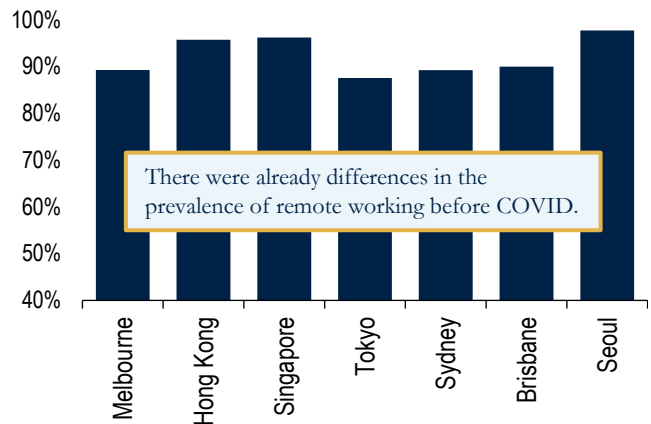
City differences, such as the importance of ICT office work, how densely occupied they are, the importance of small businesses and so on, can help but not consistently. For instance, having a high share of ICT office workers helps explain Australia's utilization numbers, but you find the opposite result in other cities such as Tokyo and Singapore (**Exhibit 1**).

Exhibit 1: Latest Office Utilization Data for a Selection of Major Office Markets Against City Estimates of Utilization Rates in 2019¹

Office Utilization Rates (1Q24)



Estimated Office Utilization Rates (2019)



¹ PGIM calculations, borrowing heavily from a number of sources giving country estimates on remote working and then cross-referencing those to sector differences as spelt out in Telework in the EU before and after COVID-19: where we were, where we head to, Science for Policy Briefs, European Commission, 2020. Sources: CBRE, Savills, PGIM Real Estate, August 2024.

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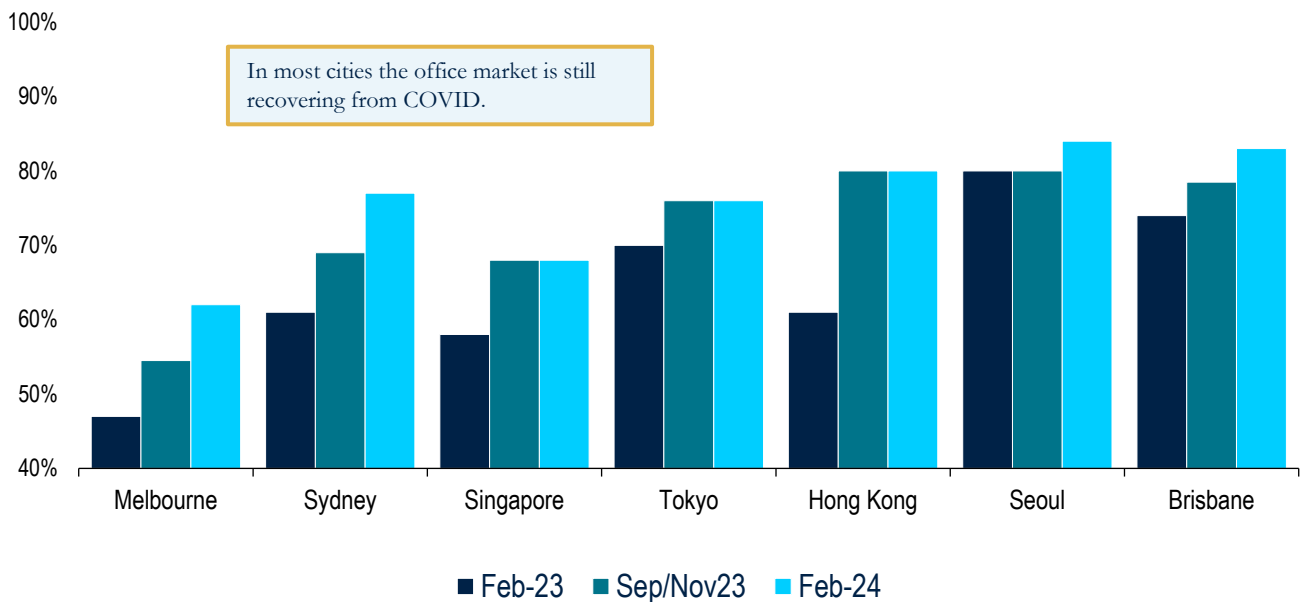
That there is no common factor is fine, of course, because it speaks to how cities are different and how the pandemic perhaps accelerated change in some cities quicker than others.

But we still don't get a full picture that explains these post-COVID differences and why workers are still returning to the office. This tendency for utilization rates to climb up, as shown in **Exhibit 2**, suggests other factors are at play.

A strong candidate is linked to the COVID pandemic itself. As the theory goes, the tougher the COVID restrictions in place, the longer it has taken for cities to recover. And with that, some cities are still recovering.

Exhibit 2: Workers Are Still Returning to the Office

Office Utilization Rates As A Percentage of Office Space (2023-24)



Sources: Nippon, CBRE, Savills, PGIM Real Estate, August 2024.

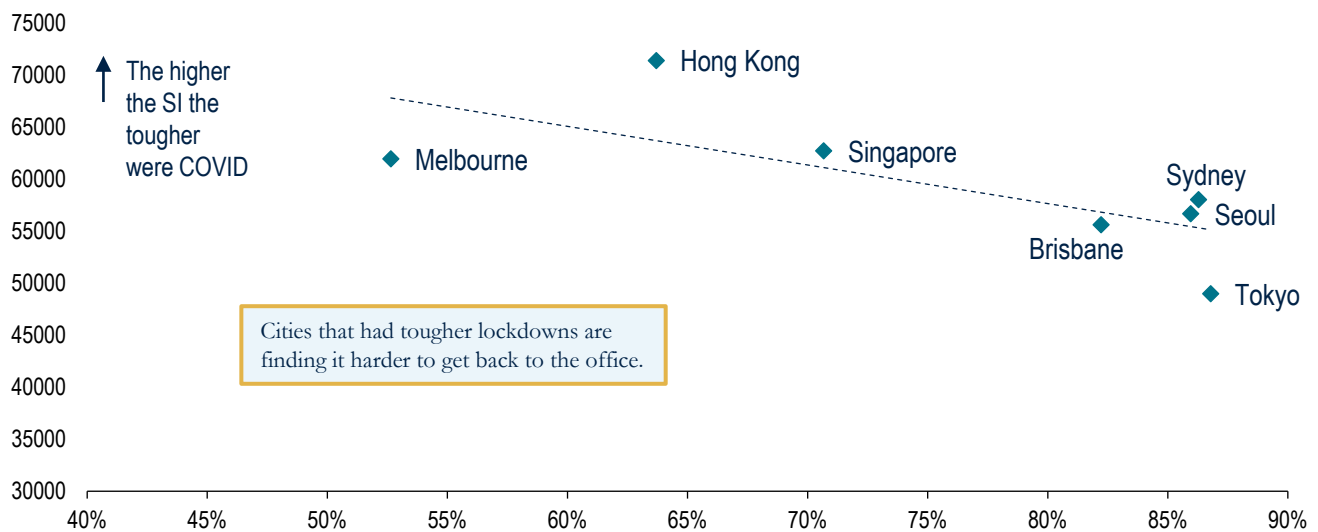
To test this, we plot Oxford’s Stringency Index (SI)² that we use to score cities in terms of how stringent COVID restrictions were against the latest utilization data – particularly given that globally restrictions differed less in terms of measures adopted and more in terms of duration. Sure enough, we find that to date the higher the SI for those three years of the pandemic, the lower the office utilization rate is (**Exhibit 3**).

Exhibit 3 implies that workers faced with tougher/longer in-place restrictions became more accustomed to remote working and, as a result, have found returning to the office harder.

For investors this is an important finding – it explains the ongoing rise in office attendance and as such shows the office market is still recovering from COVID. It is not suggesting that the world will go back to levels of office attendance we saw in 2019, but it does imply that there is more office space demand to come than is currently expected – and that points to a better rental growth story. While it does not tell us how long it might take for cities to fully recover, it does suggest that the office market cannot be written off as readily as some think.

Exhibit 3: Tougher Restrictions Leave a Legacy of Lower Office Use

COVID Stringency Index (2020-22) vs. Office Utilization Rates Relative To Pre-COVID (1Q24)



Sources: Our World in Data, CBRE, Savills, PGIM Real Estate August 2024.

² Note: Technically, this is called the COVID-19 Stringency Index, based off the Oxford Coronavirus Government Response Tracker (OxCGRT).

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How Misleading Is Asia's Outlook?

An easy way to examine the outlook for Asia real estate is lumping the major investment markets together and presenting a sector summary. This then gives a cross-sector comparison, but it is also more often used to compare against Europe and the U.S. So far, so good. However, aggregating Asia's markets this way implies that it's a good or fair representation of each city. The problem, of course, is that most times it isn't. The current down cycle is a case in point.

Take the capital value peak to trough analysis across the region to 2Q24 for our three major sectors, shown in **Exhibit 4**.

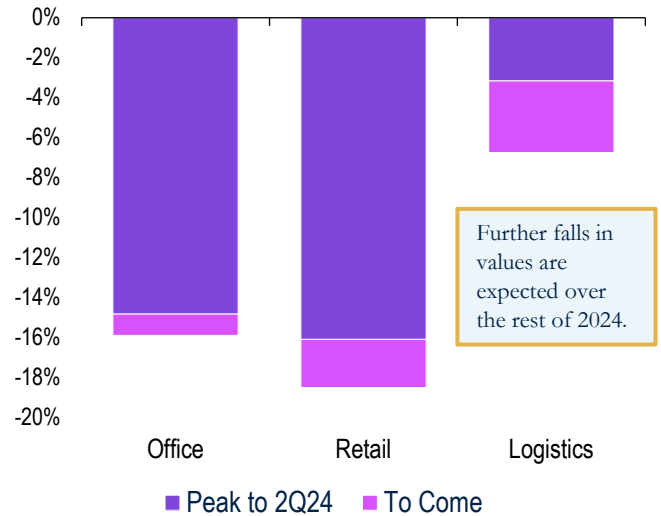
Based on these numbers, Asia's pricing correction is currently in line with the rest of the world. Using the latest forecasts – as value declines slow – Asia's property values should hit their bottom around the end of this year, ready for the recovery in 2025.

But these numbers are simply not representative of what is actually happening at the city level. Just take the capital value growth across the cities to see by how much they differ from one another, as shown in

Exhibit 5. Here we've highlighted the end period highest and lowest value growth for each sector. Without digging below the aggregate, we don't actually know what is driving it.

Exhibit 4: In Aggregate Values Are Expected to Fall Further

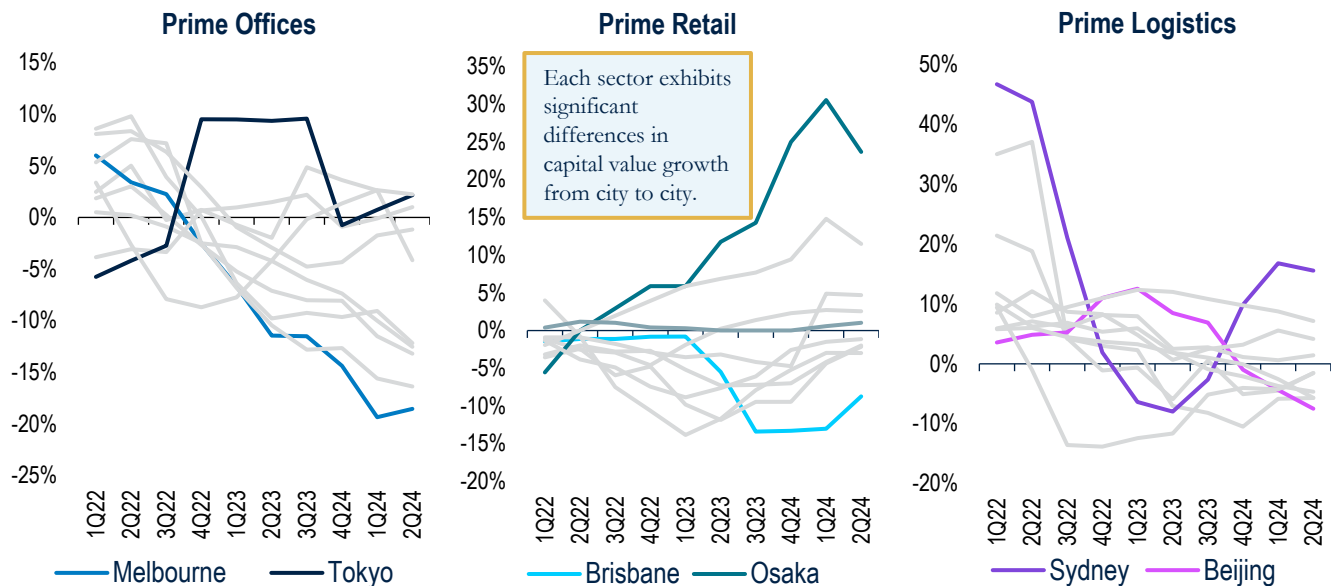
Peak to Trough Capital Value Falls to Date and Forecasts by Main Sector (%)



Sources: Nippon, CBRE, Savills, PGIM Real Estate, August 2024.

Exhibit 5: There Are Significant Differences in Capital Value Growth Across the Region

Nominal Capital Value Growth Various Cities (% p.a.)



Sources: CBRE, Savills, PGIM Real Estate, August 2024.

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Turning to the city stories, we immediately see the challenges of relying on the average. **Exhibit 6** illustrates the realized and expected peak to trough falls in capital values as of 2Q24 across our 10 major investment markets by main sector and against the regional average. This may not be a surprise, but three things stand out.

The first is Japan, where recent changes to the interest rate outlook have put values under pressure. As such, Japan is lagging the region when it comes to value correction. On our forecasts, with Japanese bond yields set to rise further, Tokyo and Osaka are set to report values falling over the next 2-3 years.

Second, further value falls are more widely expected in logistics than office and retail. Beijing, Hong Kong and Shanghai are expected to report further falling

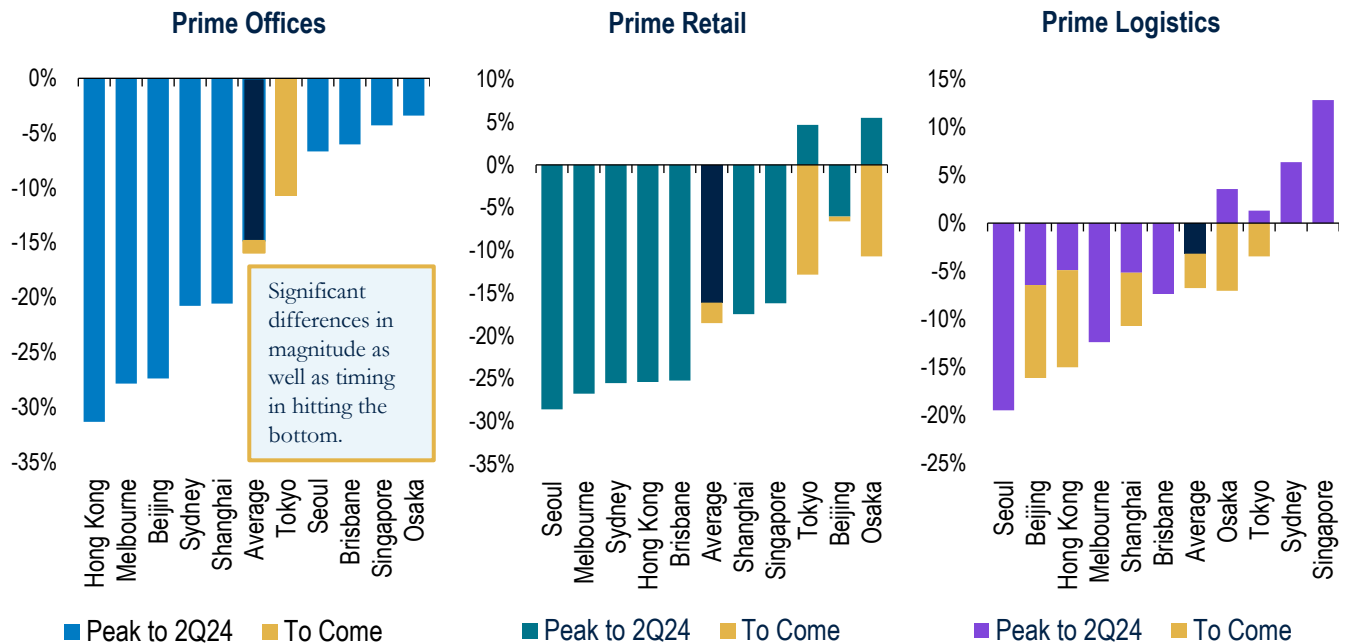
values throughout 2025 thanks to a varying mix of slower than expected trade growth and new supply.

Which brings us to the third stand out – most markets have already hit the bottom of their value declines, particularly in office but also in retail.

It’s this last point that really counts. Despite the average analysis at the start, in reality most of the region is actually leading the global real estate recovery. We end with two takeaways: First, taking an aggregate outlook, particularly for a region as economically diverse as Asia, is, at best, simply misleading. Second, given the city-by-city analysis, the case for investing in Asia is actually now.

Exhibit 6: There Are Big Peak to Trough Differences Across Cities, Sectors and Time

Peak to Trough Values to Date & Forecasts (% p.a.)



Sources: CBRE, Savills, PGIM Real Estate, August 2024.

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QUARTERLY INSIGHTS | INVESTMENT RESEARCH

EUROPE

Key Themes

- Are Real Estate Yields Stabilizing Everywhere?
- Which Logistics Markets Are Expected to Outperform?
- What Factors Are Driving Prospects For Self Storage in Europe?

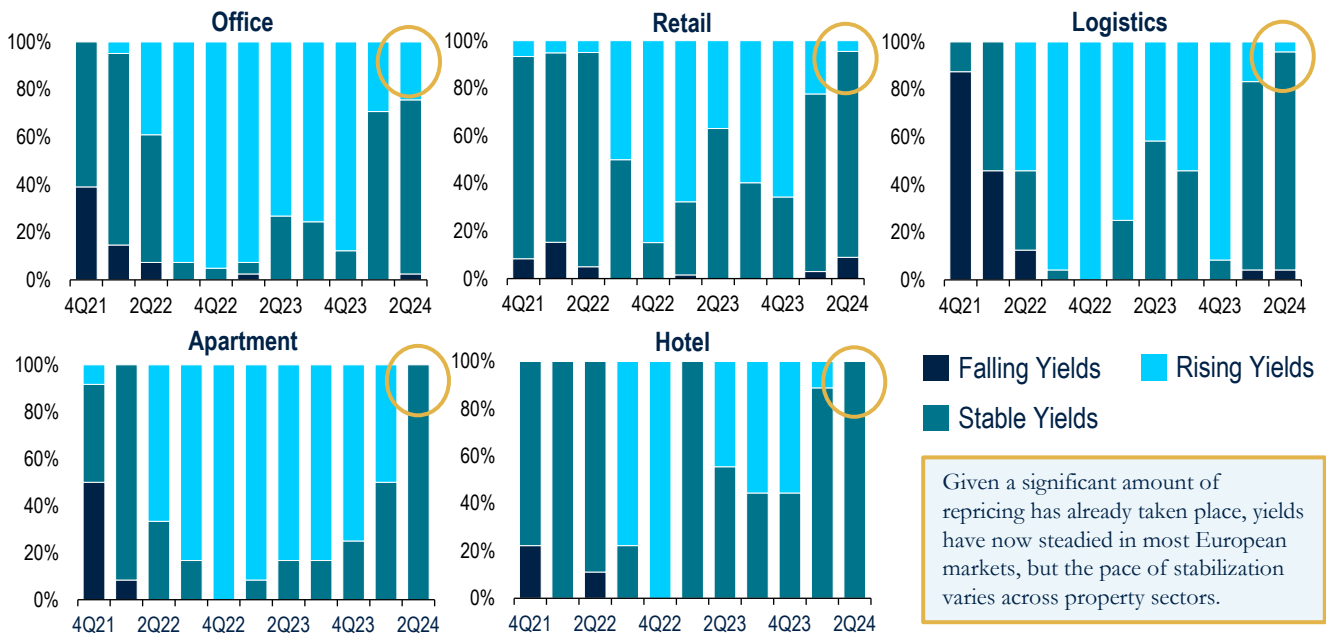
Are Real Estate Yields Stabilizing Everywhere?

With significant repricing having already taken place, and as market interest rates start to fall on the back of central banks starting to loosen policy, prime real estate yields have now steadied in most

European markets (**Exhibit 1**). Across Europe, only 9% of major markets reported rising yields increased in the last quarter compared to 76% in the fourth quarter of 2023.

Exhibit 1: Real Estate Yields Are Stabilizing, But There Are Sector Differences

Share of Markets Recording Falling, Stable and Rising Yields (%)



Sources: Sources: Cushman & Wakefield, PMA, CBRE, PGIM Real Estate. As of August 2024.

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However, there are differences across sectors. Where there is a benefit from strong ongoing rental growth and relatively high occupancy – such as for the logistics, apartment and hotel sectors – over 95% of the major markets we track have yields stabilizing. On the other hand, around 25% of office markets still reported rising yields, most notably in Germany CBDs as well as French and UK regional cities. For offices, location is playing an important role – outside of major CBDs with tight supply, the investment story remains challenging, owing to headwinds from hybrid working, concerns around rising vacancies and future capex risks linked to growing needs to meet environmental regulations.

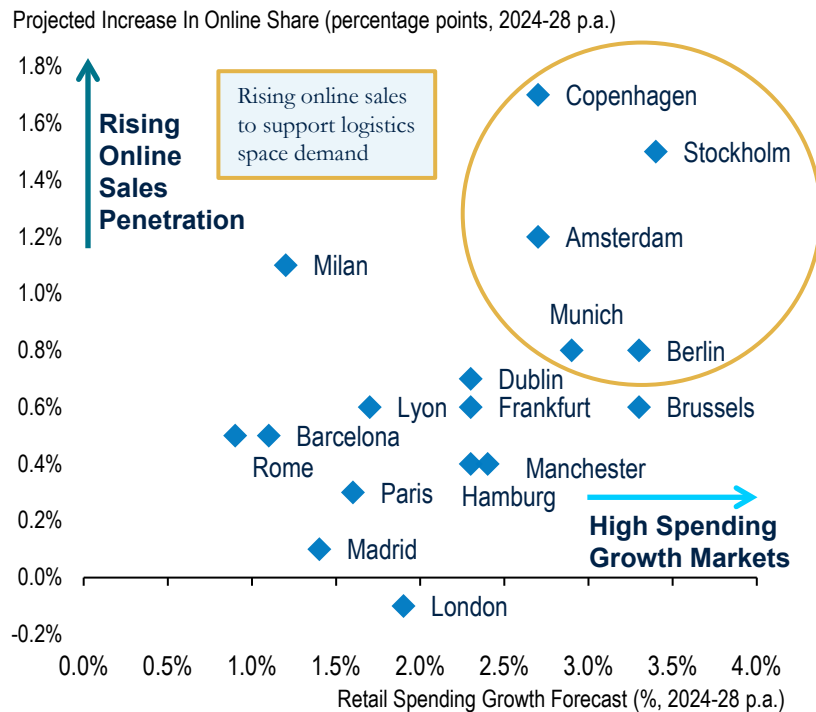
Which Logistics Markets Are Expected to Outperform?

While UK logistics markets delivered relatively high returns during the last cycle on the back of a significant ramp up of online sales penetration, forecasts point to other European cities starting to catch up – something that the market has been factoring into returns projections for a while now.

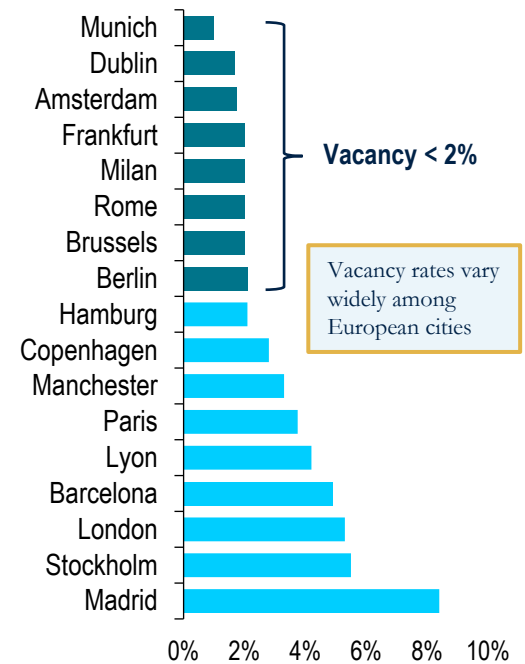
As online penetration levels off in the UK, cities such as Amsterdam, Copenhagen and Stockholm are expected to have the fastest growth in online penetration in Europe over the next five years. Evidence from the UK suggests that this will provide significant support to logistics space demand. The logistics outlook is also favorable in major German cities, including Berlin and Munich, as an anticipated recovery of retail sales is set to drive online-related space requirements even as sales penetration remains contained (**Exhibit 2**).

Exhibit 2: Rising Online Sales Support Logistics, But Vacancy Is a Risk to Look Out For

Projected Increase of Online Sales vs. Retail Spending Forecasts (2024-28 p.a.)



Estimated Logistics Vacancy by Major City (%)



Sources: Colliers, PMA, Oxford Economics, PGIM Real Estate. As of August 2024.

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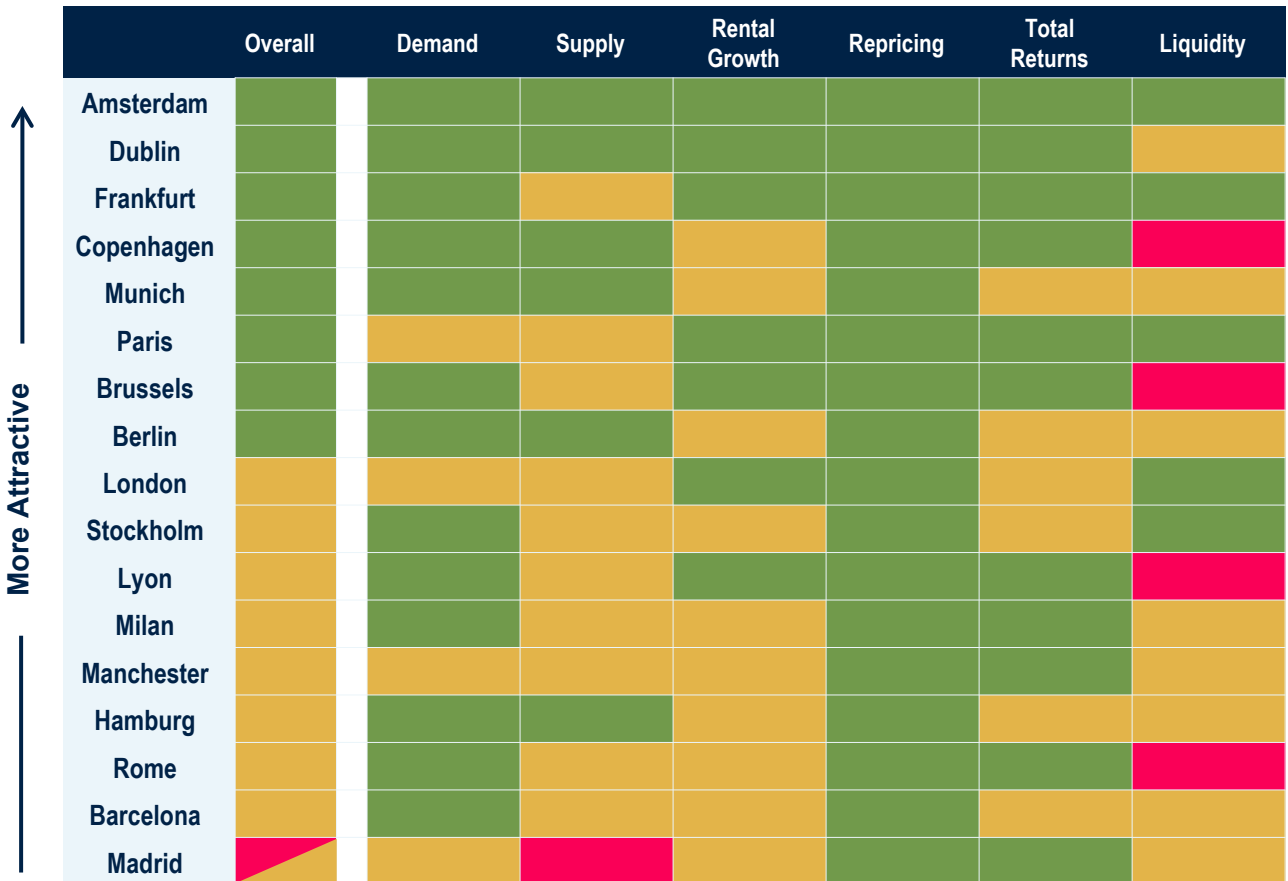
The supply side is also set to have a key role in city performance over the next cycle. As a result of significant development activity over the past few years, logistics vacancy is picking up across Europe. While vacancy rates remain low in many cities, supply risks are rising in some markets, notably in Madrid, which has recorded high levels of speculative development in recent years. Selective investment opportunities will still exist in such cities, for example in inner city locations where last-mile logistics sites are limited, but the rise of market vacancy is definitely a risk to look out for.

By assessing a wide range of market indicators covering the occupier and capital market outlook, some logistics markets are looking more attractive than others, notably Amsterdam, major German cities

and Paris, largely due to favorable demand-supply dynamics (**Exhibit 3**). In contrast, an elevated supply pipeline is more of a concern in Spain, while in the UK slowing online sales penetration and affordability constraints after strong rental uplifts in recent years are limiting rental growth potential.

A key risk is the slowing of e-commerce growth as markets mature over time. Online penetration forecasts were already downgraded compared to a year ago, driven by a larger-than-anticipated reversion to in-person shopping. Nonetheless, latest forecasts still point to significant logistics space needed for e-commerce requirements. Across Europe, we expect income growth of around 3% per annum over the next few years, and the repricing means initial income yields will be much higher than in recent years too.

Exhibit 3: Some Logistics Markets Are More Attractive Than Others



Sources: Sources: Cushman & Wakefield, Colliers, PMA, Oxford Economics, MSCI, PGIM Real Estate. As of August 2024.

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What Factors Are Driving Prospects For Self Storage in Europe?

Right now, Europe’s self storage market is facing challenging operating conditions. The key demand drivers – often referred to as “the 4 Ds” (death, dislocation, divorce and downsizing or similar) – generally play out via housing transactions. High interest rates and rising mortgage costs have dampened housing demand in the last couple of years, and it is no surprise that self storage occupancy rates have dropped back as a result (Exhibit 4).

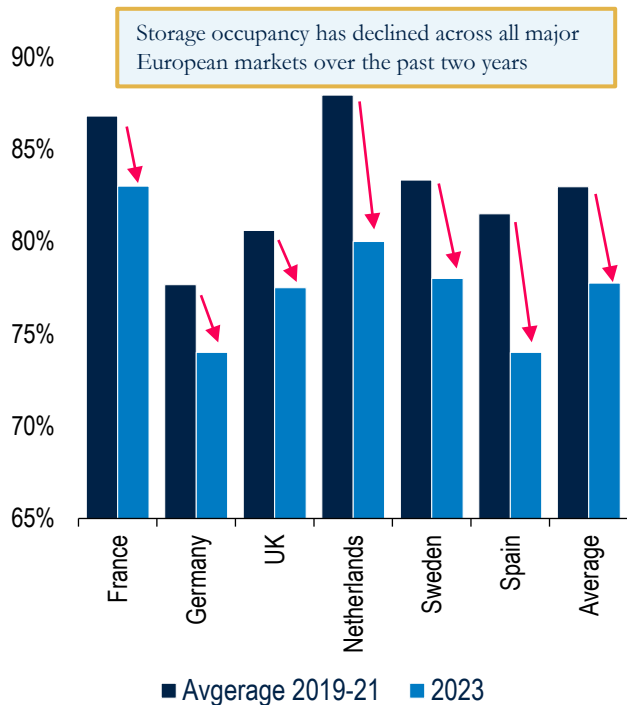
With supply also expanding and small business formation – another key, though smaller, driver of demand – facing headwinds from higher interest rates,

the picture is similar across most European markets (and in the more mature U.S. market as well).

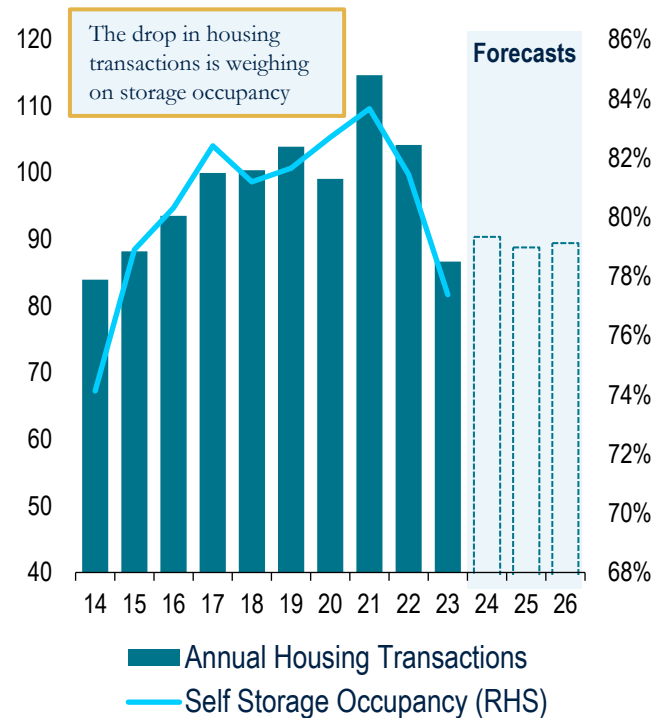
At the same time, investor and lender interest in the sector has been rising – although self storage remains a small niche within the overall investment landscape. In contrast to a sharp decline in aggregate real estate investment volume over the last couple of years, annual self storage investment volume has averaged €330 million per year since 2022 according to Real Capital Analytics, up from an average of €147 million per year during the last cycle.

Exhibit 4: European Storage Operators Facing Headwinds From Weak Housing Market

Self Storage Occupancy by Major Country (%)



Index of Annual Housing Transactions (2017=100) vs. Self Storage Occupancy (%) – Europe



Sources: Eurostat, PMA, European Self Storage Association (FEDESSA), PGIM Real Estate. As of August 2024.

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There are several factors that support the outlook for investing in self storage in Europe today, despite near-term demand headwinds.

i) Higher yields. At a simple level, yields are higher than on standard industrial units and investors can enhance returns by investing in the operation platforms as well, which can be attractive to value-add players.

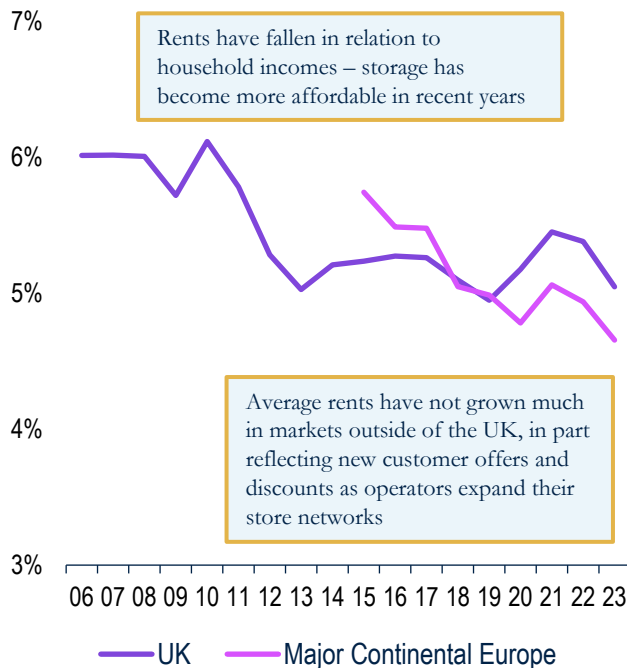
ii) Affordable rents. In recent years, headline rents have fallen as a share of household income, most notably in less mature continental European markets where operators are expanding into new markets, and often use discounts to attract new customers during the scale-up phase of their businesses (**Exhibit 5**). The trend is less pronounced in the more mature UK market – rental costs have been stable as a share of income over the past decade.

With household incomes growing on the back of tight labor markets, rising wages and prospects of improved economic growth in the coming years, self storage rents have room to grow significantly from current levels assuming the share of income stabilizes as per the UK in recent years. Of course, this is contingent on supply remaining broadly in line with potential demand and overall occupancy stabilizing.

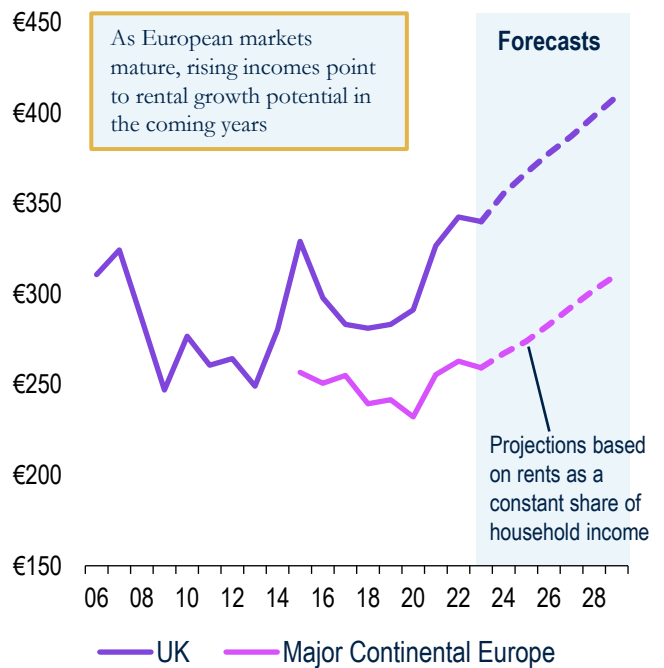
iii) Population density. Comparisons with the U.S. storage market – that offers something in the region of 20x more space per capita than in Europe – are fraught with difficulty. For starters, American households are both wealthier than their European counterparts and they purchase far greater quantities of goods typically found in storage, such as recreation equipment and furniture.

Exhibit 5: Self Storage Rents Have Room to Grow

Indicative Rental Cost for a 10 sqm Storage Unit as a Share of Household Income (%)



Average Self Storage Rents (€/sqm/year)



Note: Major Continental Europe refers to Denmark, France, Germany, Italy, Netherlands, Sweden and Spain.

Sources: European Self Storage Association (FEDESSA), Oxford Economics, PGIM Real Estate. As of August 2024.

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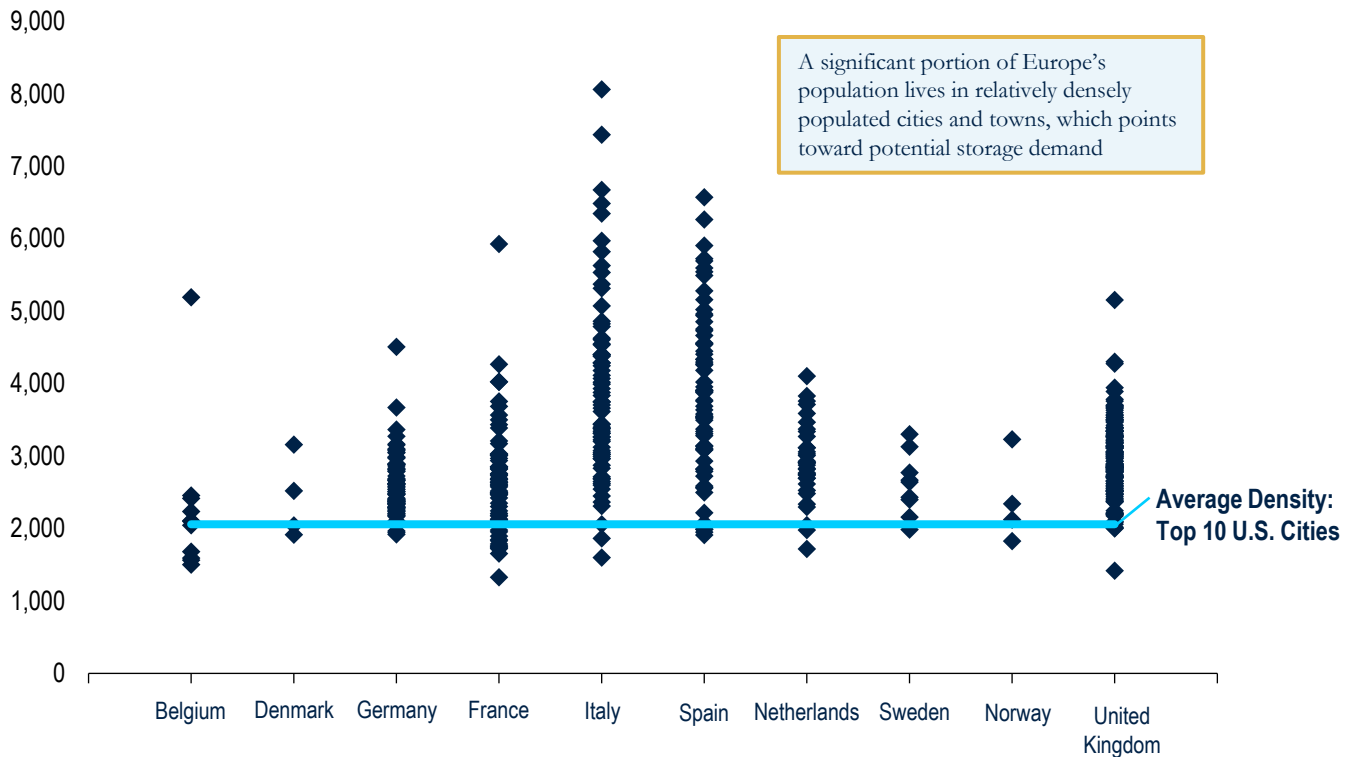
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However, one factor that stands out for Europe is population density. European city and town areas are typically high density in their urban core, especially when compared to major U.S. cities that generally have established storage markets (**Exhibit 6**).

Notably, even in countries that have relatively low overall density – including France, Italy and Spain – the main urban areas are densely populated. So this points to the potential for storage provision to expand further from very low levels, especially in parts of Europe that have a combination of relatively high incomes and high urban density.

Exhibit 6: Population Density Is High in Many European Urban Centers

City and Town Population Density Distribution by Country (50k+ Population, Inhabitants per sq km)



Sources: Global Human Settlement Layer / European Commission, PGIM Real Estate. As of August 2024.

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UNITED STATES

Key Themes

- November Election: What Changes for Real Estate in a Policy U-Turn?
- Does Retail Still Offer Value if Consumers Pull Back?

November Election: What Changes for Real Estate in a Policy U-Turn?

With labor markets still tight, and after a wild three years whipsawing real estate values, policy changes might be the difference between a delayed real estate recovery and an accelerated one.

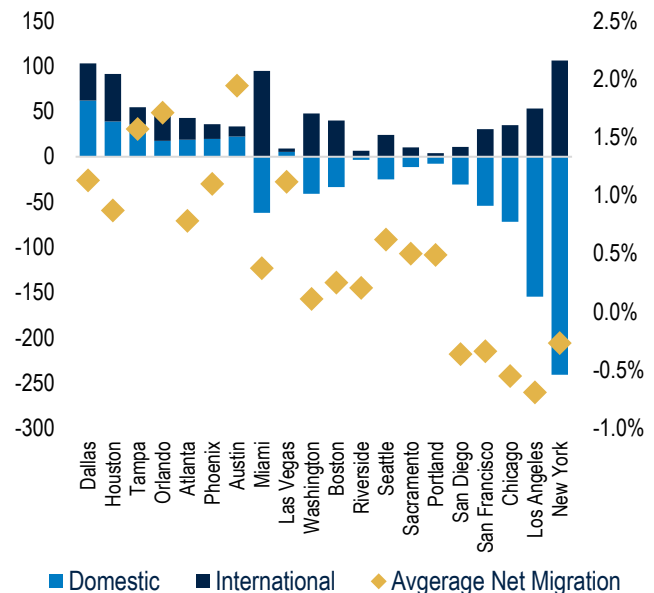
We modeled two potential outcomes: status quo, defined as a Democratic president and a closely divided Congress; and a Republican sweep in which both the executive and legislative branches are fully controlled by a new nominee. We focused on three policy areas where there are likely to be substantial differences in the latter scenario:

- **Less migration**, with reduced legal immigration and less unauthorized immigration;
- **More restrictive trade policies**, which would be more restrictive in a Republican sweep due to new high tariffs; and,
- **Lower personal and corporate taxes**, which would stimulate higher nominal economic growth but also higher Treasury rates.

Less migration would pressure labor costs up, given today’s tight labor markets. This would be felt unevenly across the U.S., as shown in **Exhibit 1**, with metros on the right particularly exposed to wage cost pressures.

Exhibit 1: Rents Need Another Year to Catch Up With Incomes

Total Migration in 2023 (ths.) vs Avg. 10-Yr Net Migration (% of population)



Sources: Bureau of Labor Statistics, PGIM Real Estate. As of August 2024.

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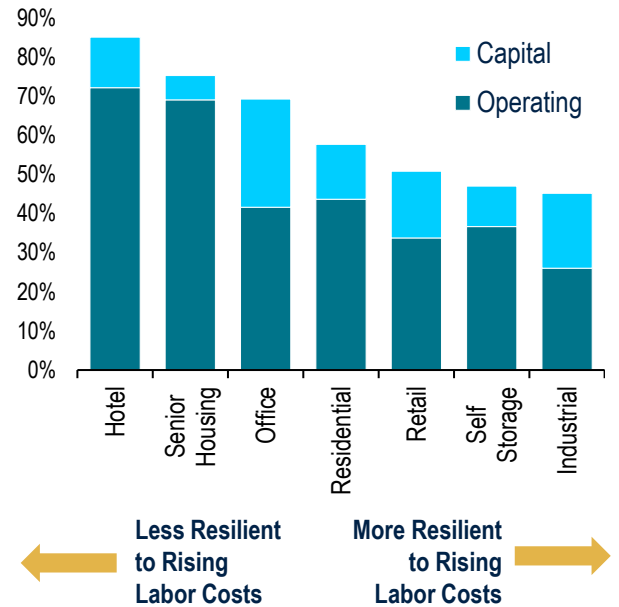
Higher labor costs would also disproportionately hit sectors with high operating expenses, as shown in **Exhibit 2**. Retail, storage and industrial are best positioned to weather another round of wage increases.

More restrictive trade policies would also have geographically disparate impacts. As shown in **Exhibit 3**, an increase in tariffs would weigh most on trade-dependent economies on the left-hand side of the chart. The outlook is particularly uncertain for smaller East Coast ports like Savannah, Charleston and Norfolk, which are major gateways for autos and other goods manufactured in Europe.

By contrast, markets such as Laredo, El Paso and Detroit on the Mexico and Canada borders would be insulated from tariffs if those countries continue to be exempt due to the free trade agreement in place at least through 2026.

Exhibit 2: Low Opex Sectors Are Most Defensive

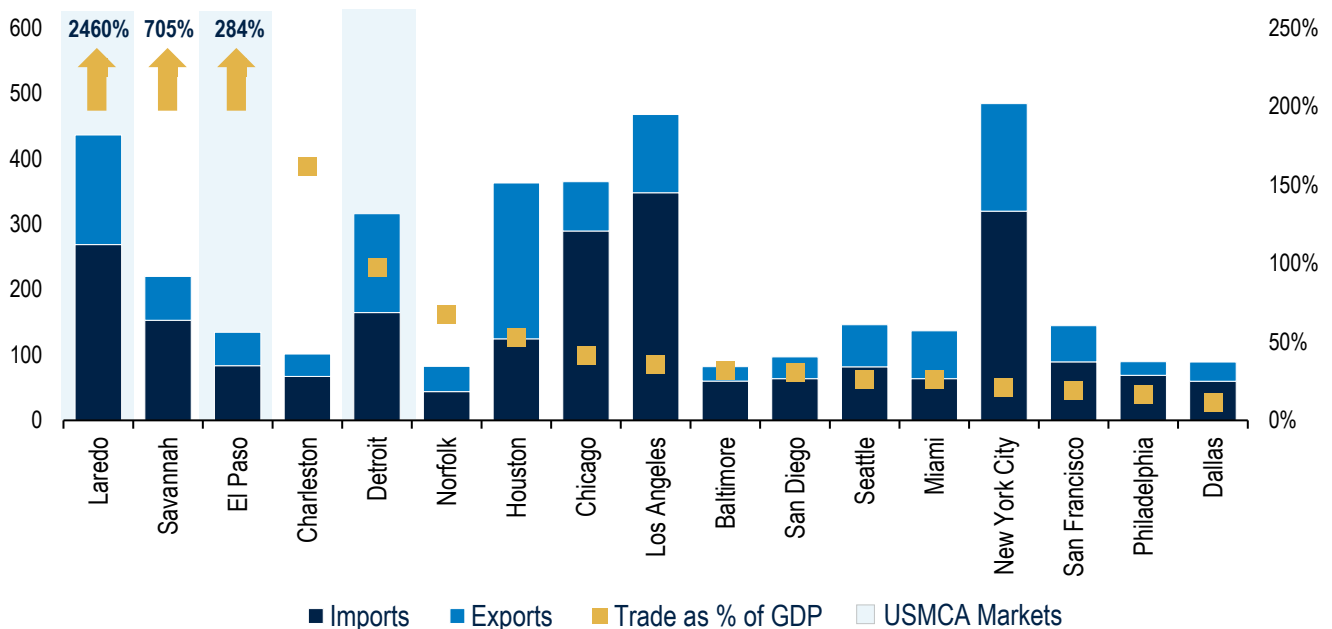
Expenses as a Percent of Revenue (20-year Average)



Sources: NCREIF, PGIM Real Estate. As of August 2024.

Exhibit 3: Tariffs Will Weigh on East and West Coast Transit Hubs

Trade Activity by District (US\$ Billions)



Sources: U.S. Census, Oxford Economics, PGIM Real Estate. As of August 2024.

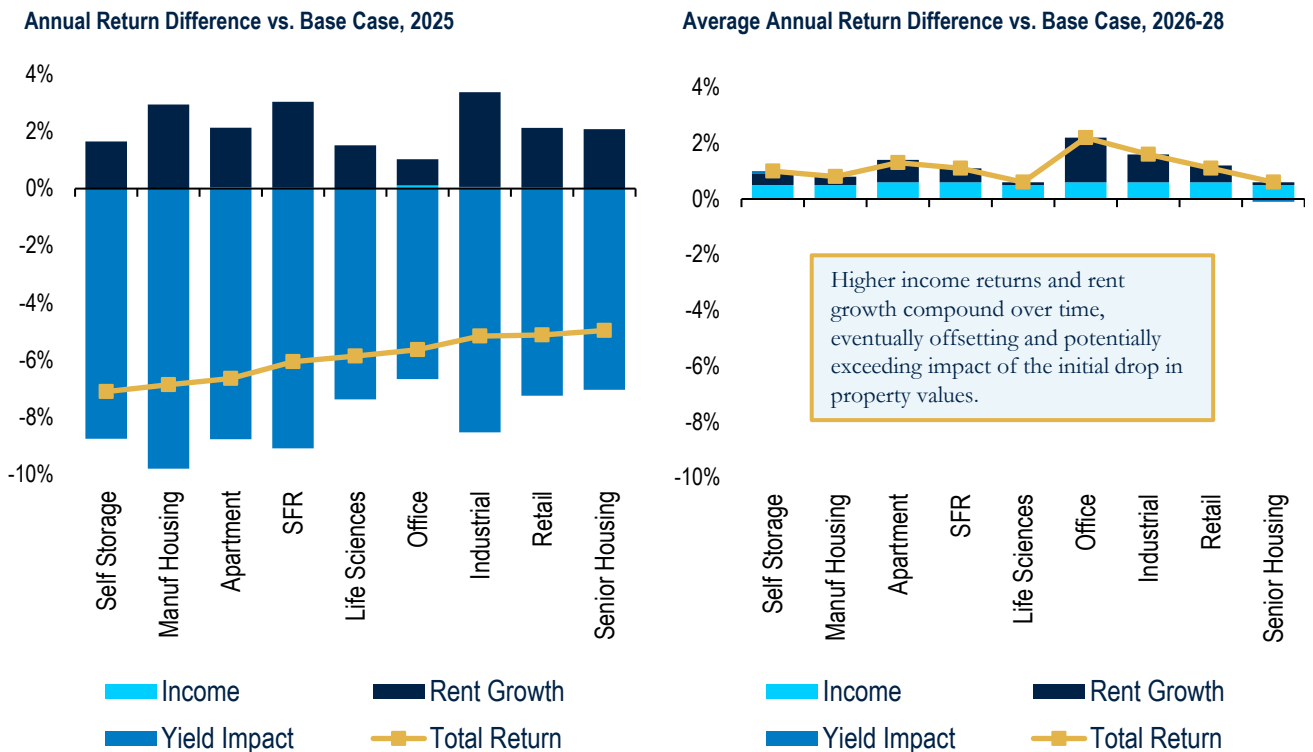
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Finally, lower taxes would be a boost to economic growth, but unless offset by deep spending cuts (not proposed by either party as part of their 2024 platform) would cause the fiscal outlook to deteriorate and long-term bond yields to stay high for longer.

We estimate the impact of a 100 basis point increase in 10-year Treasury rates in **Exhibit 4**. The first order effect, shown on the left-hand chart, would be another leg down in property values, to re-establish real estate’s risk premium. That impact would be highest for property types with the lowest cap rates, such as self storage and manufactured housing.

However, the second order effect would be positive via higher income returns and, for most property types, rent growth due to less construction as financing becomes more expensive and slightly better tenant demand growth. The scale of this chart is deceptive: the positive effects compound, and would eventually offset the initial property value decline.

Exhibit 4: If Interest Rates Rise, Another Round of Valuation Losses Counterbalanced by Higher Returns



Sources: Federal Reserve Board, Oxford Economics, RealPage, Moody’s, American Community Survey, PGIM Real Estate. As of August 2024.

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Does Retail Still Offer Value if Consumers Pull Back?

Retail has endured six years of bankruptcies, a pandemic, and continued erosion of in-store sales from e-commerce. Nevertheless, retail returns were high than any other major sector over the past year. We think retail is well positioned to weather its next challenge: consumer fatigue.

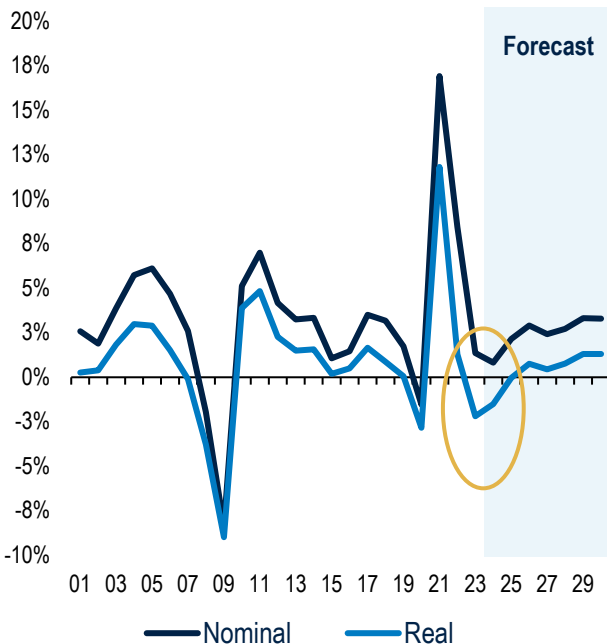
The topline in-store shopping data, shown on the left chart in **Exhibit 5**, are sobering. On a nominal basis retail sales are positive. However, factoring in inflation, annual retail sales are down by nearly as much as they were in 2020. After cleaning out the stores in 2022, it's not surprising consumers are taking a breather.

Some context is in order. First, in-store sales are not the only metric retailers look at. Some retail stores function as showrooms to drive online sales, with branding as much or more important than in-store sales.

Second, as shown in the right chart, consumers are not done buying everyday items like groceries or eating out. Retail sales are down because people aren't buying many houses, leading to weakness in the home improvement and furniture categories. That will persist at least as long as mortgage rates remain high, and perhaps longer if economic growth slows.

Exhibit 5: In-Store Retail Sales Are Squeezed by Sluggish Homebuying

In-Store Retail Sales (Annual Change)

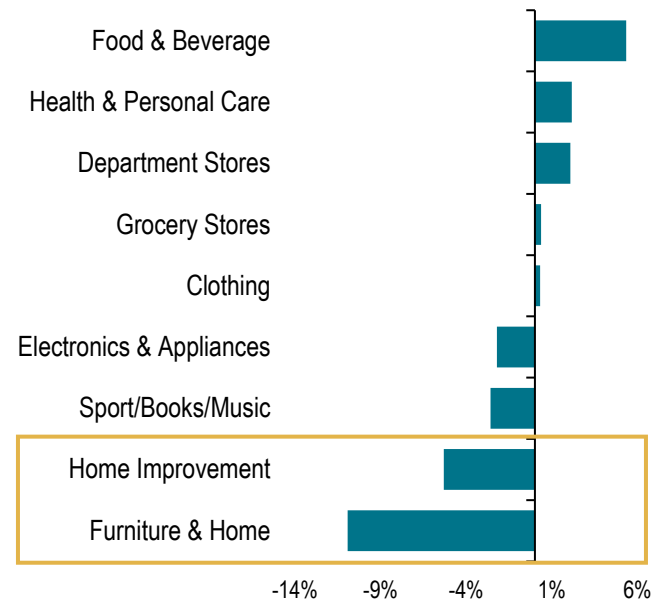


*Note: Q1 2024 vs Q1 2023.

Sources: Moody's Analytics, PGIM Real Estate. As of August 2024.

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Nominal Retail Sales (Annual Change, 1Q 2023 – 1Q 2024)*

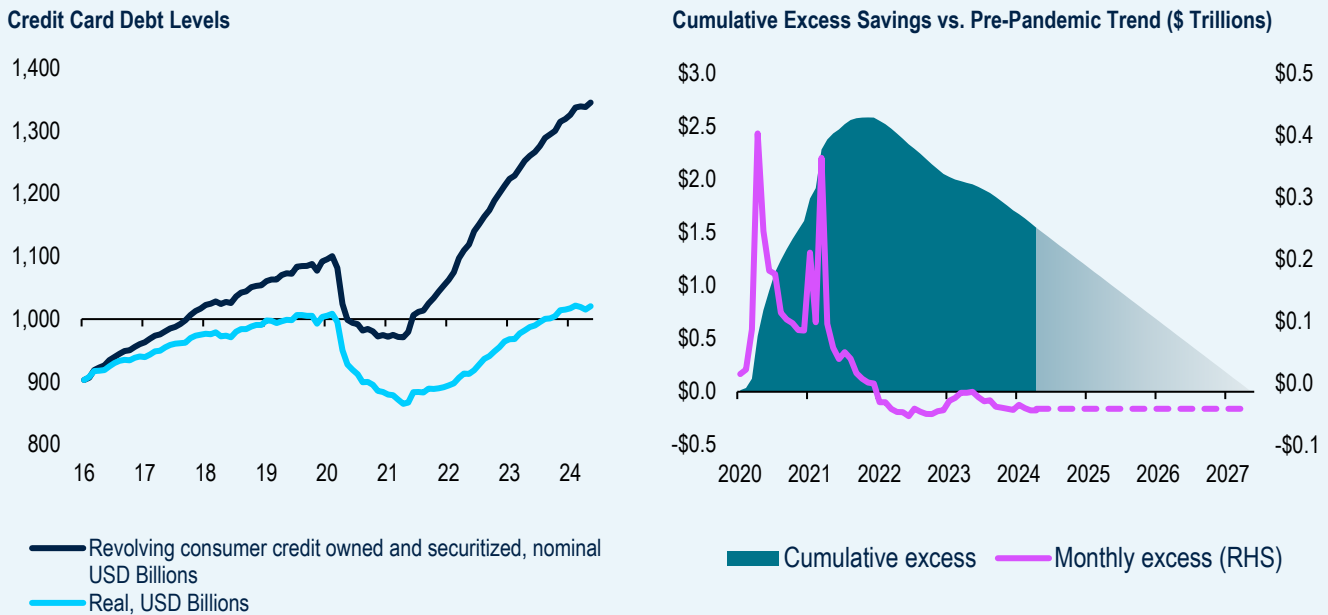


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Credit and Credit and savings data also indicate that consumers are cutting back because they want to, not because they must. While nominal credit card debt is growing at its pre-COVID pace, as shown on the left chart in **Exhibit 6**, on a real (inflation-adjusted) basis it has only recently surpassed its early-2020 peak. More recently, real credit card debt has leveled off, suggesting consumers are holding back.

Households also have ample savings, after pocketing much of the stimulus payments in 2020 and 2021, as show in the right chart. After peaking at an “excess” savings (the difference between savings rates prior to 2020 and actual savings) of \$2.5 trillion, consumers have been spending down this excess savings since mid-2022. However, we estimate consumers still have more than half of this savings available to them, ready for when they want to spend again.

Exhibit 6: Consumers Can Keep Spending...If They Want To



Sources: Federal Reserve Board of St. Louis, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, PGIM Real Estate. As of August 2024. Forecasts are not guaranteed and may not be a reliable indicator of future results.

Exhibit 7: Strip Center Occupancies Are High



Finally, necessity retail property markets have not been in such good shape in decades. While malls and street retail remain weak, as shown in Exhibit 7, strip (neighborhood) center occupancies are now above 93%. Even within that segment there is a distinction. Centers without a grocer average 91% occupancy, and those with one are now 95% full.

While the near-term outlook for consumption is less positive than it has been for the past few years, the retail sector enters this environment in a position of strength.

*Note: Retail: Street data in NCREIF only goes back to 1995. Sources: NCREIF, PGIM Real Estate. As of August 2024.

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