For professional clients only.
Capital at risk.

Industrial Real Estate in a 4D world

LGIM

2024 | Industrial Real Estate in a 4D world

Executive summary

- LGIM Real Assets expects the industrial sector to outperform over the long term.
- Consensus forecasts and investor sentiment surveys show that other investors expect strong performance and would like to increase portfolio weightings. However, we believe that investors chasing a simplistic overweight position to 'all industrial' risk missing the performance prospects from new and growing segments.
- We identify seven distinct segments within the sector. We believe the unique drivers behind each one could enable *diversification within an overall industrial holding.
- Critically, many segments within industrial are supported by our '4D' megatrends (digitalisation, deglobalisation, demographics and decarbonisation). We believe looking at opportunities through this lens could support targeting structural outperformance over the long term.

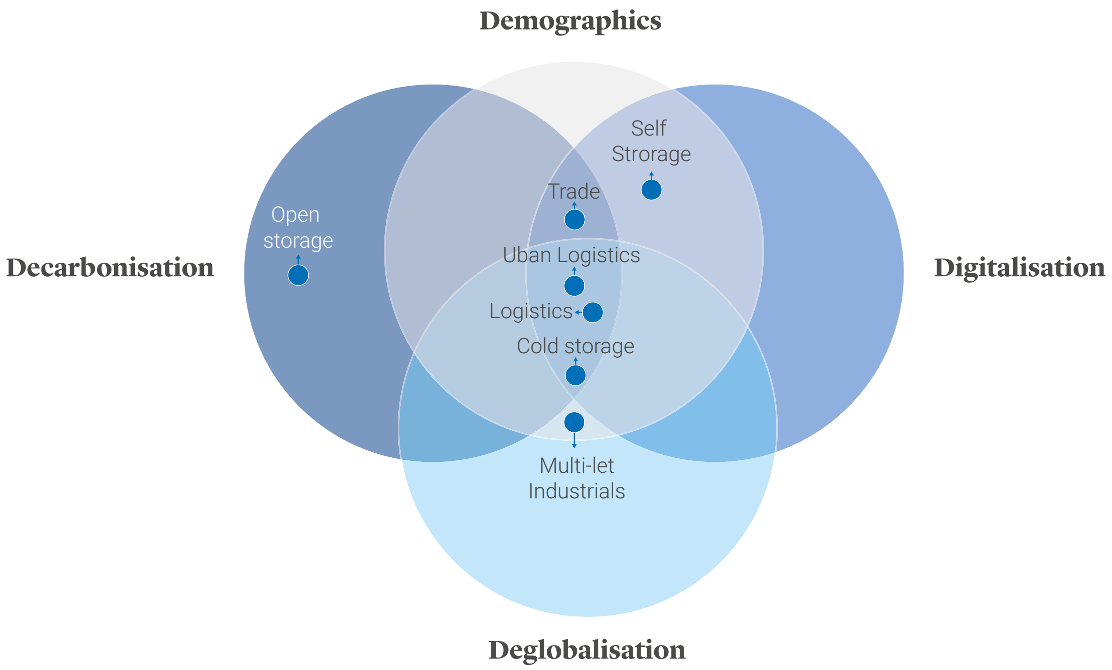
*It should be noted that diversification is no guarantee against a loss in a declining market.

Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

2024 | Industrial Real Estate in a 4D world

Industrial and the '4Ds'

The below diagram places our seven identified industrial segments into '4D' categories, with several benefiting from more than one structural force.



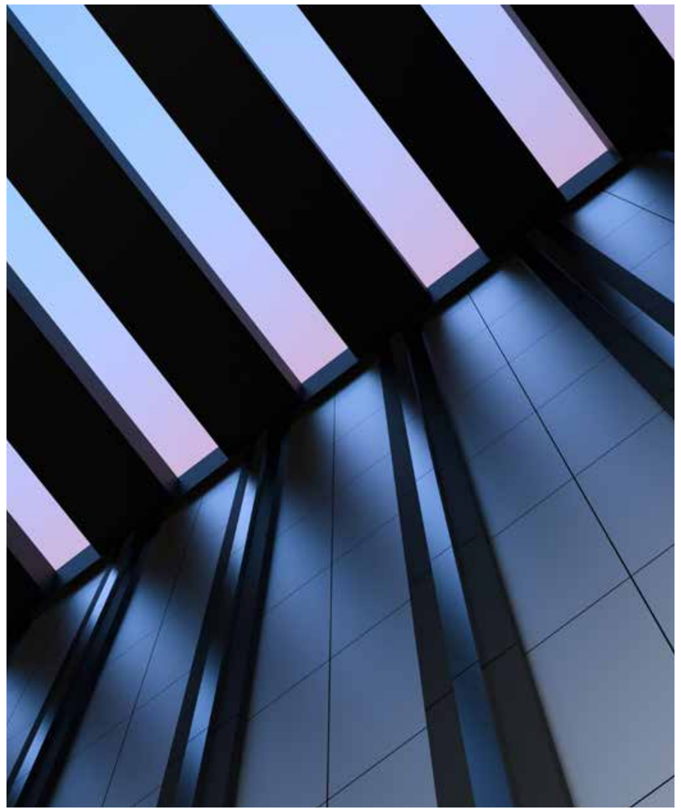
Source: LGIM Real Assets, 2024.

The consensus trade

'Beds and sheds' has been an investment mantra for some time and with good reason, given established tailwinds and expected performance. Investment volumes from industrial remain above long-term averages despite a weak overall investment market.[1]

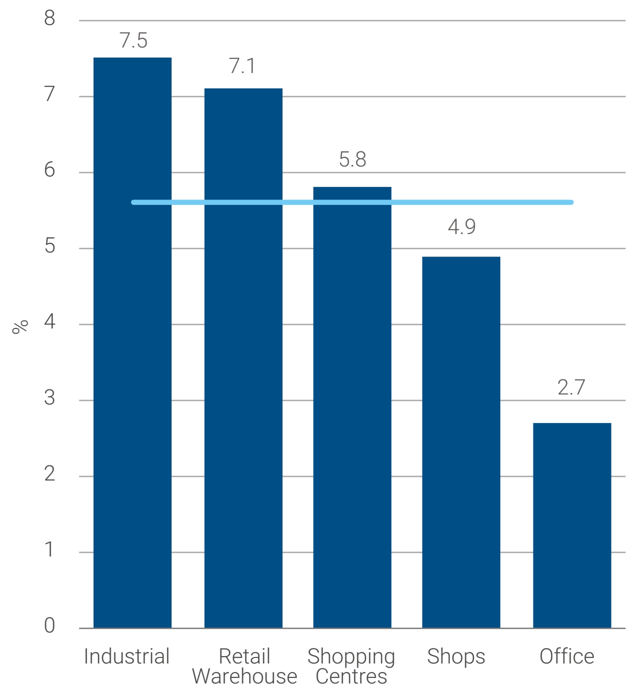
Meanwhile, following the sector's repricing from summer 2022[2], LGIM Real Assets forecast outperformance from the sector. Being overweight industrial has worked; UK funds that outperformed over 2023 had an overweight allocation to 'beds and sheds' in common. Meanwhile the sector has given investors an additional 6.4% p.a. over all property over five years, and 6.1% p.a. over 10.[3] Also average allocations have grown: using the MSCI Quarterly Digest as a proxy, institutional weights generally showed a 35% allocation to all industrials at the end of 2023 compared to 15% 20 years ago.[4]

1. RCA, part of MSCI, year-end 2023 data.
2. Figures from MSCI Monthly Digest suggest current values are >25% lower than 2022 peaks.
3. Data from MSCI to Q4 2023 and our own analysis.
4. MSCI Quarterly Digest Q4 2023, standing investments capital value.

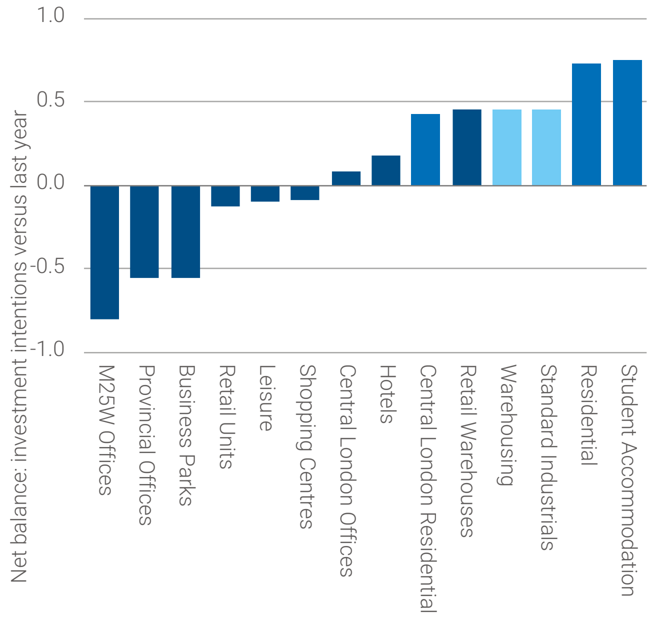


Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

IPF Consensus forecast returns, UK 2024-2028

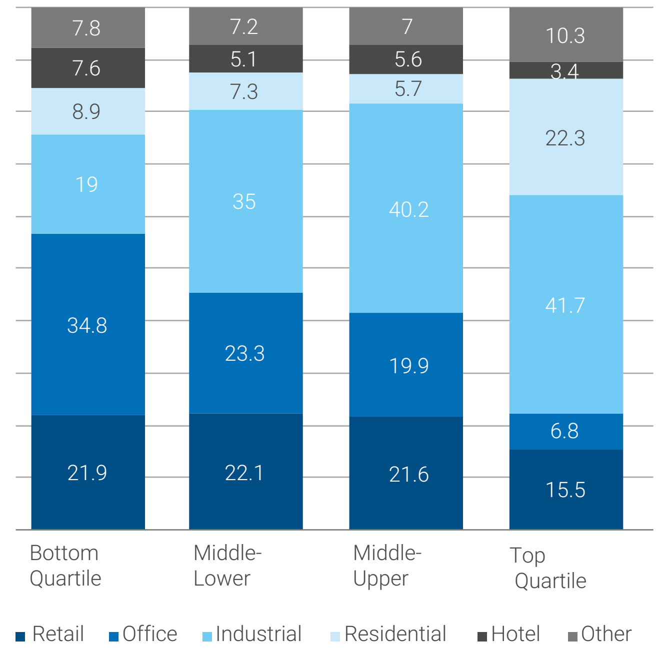


PMA Investor Sentiment Survey, Q4 2023

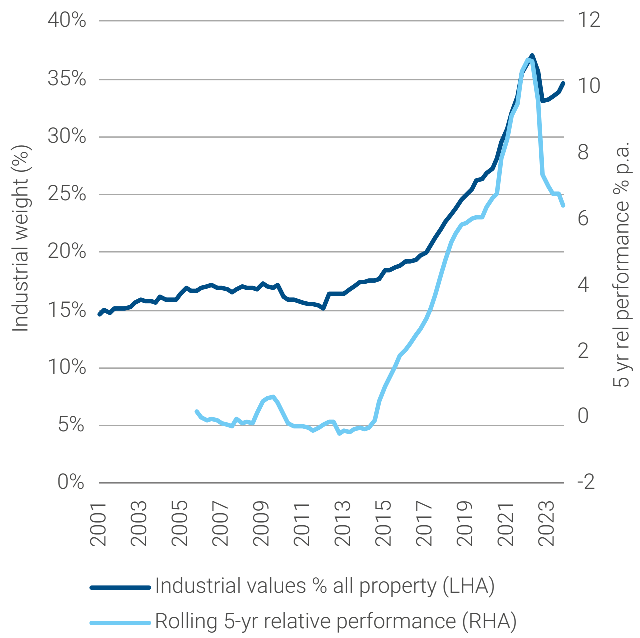


Source: IPF Consensus Forecasts, 2023, PMA Survey of Investor Preference 2024. **Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.**

Sector weight by fund return quartile, % of capital value, 2023



MSCI weights 2000-2023

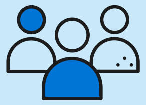


Source: MSCI Quarterly Digest, Q4 2023. Past performance is not a guide to the future. **The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.**

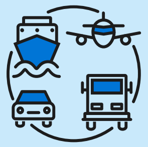
The 4Ds and industrial

The 4Ds represent four global megatrends we think will affect real asset sectors and strategies in different ways. See this paper for more information, but below is a summary. We expect that most industrial segments will be supported by these megatrends in different ways, with UK PLC experiencing an increasing structural dependency on the sector.

Global structural support: Net positive for industrial occupier demand

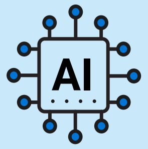


Demographics
Demography – the composition and location of populations – affects a wide range of macroeconomic fundamentals like inflation, productivity, savings ratios, and ultimately economic output. Understanding these drivers is essential for gauging the resultant impact to the built environment and infrastructure requirements.



Deglobalisation
World economies experienced a period of rapidly increasing integration across goods, services, and people driven by a gradual reduction in barriers to trade, labour cost arbitrage, a move towards just-in-time supply chains and relatively muted geopolitical tension. While we do not expect a reversal in globalisation, we do see it slowing sharply and anticipate increased barriers to trade and cooperation, particularly between China, the US, and their respective allies.

Decarbonisation
Decarbonisation is a global policy priority as countries representing almost 90% of the world's population adopt net-zero targets. The acceleration of global decarbonisation efforts could create a variety of infrastructure assets with varying investment characteristics while affecting capital expenditure requirements in real estate and the relative attractiveness of buildings to occupiers.



Digitalisation
Digitalisation has been used as a catch-all term to describe anything to do with the digital revolution. It has the potential to disrupt business models across all sectors. We expect this to be accelerated via the adoption of artificial intelligence (AI). This may also influence life choices and educational needs as well as economic productivity, office space demand, and the processing and storage of data.

Segments within a popular sector

We think there are at least seven segments within industrial that are differentiated by specification as well as function: multi-let estates, urban logistics, regional logistics, trade parks, self-storage, and cold and open storage.

This list could be expanded to include factories (whether traditional or hi-tech labs or giga factories) and specific industrial processes such as waste to energy, but we restrict it to more investible segments. We have also chosen to exclude things like dark kitchens or dark stores as we feel this is more a description of a function within a conventional industrial unit than a dedicated specification.

It is worth pausing to consider data centres. These are a rapidly growing part of the investible universe for real asset investors with compelling structural tailwinds. However, in operation they are dissimilar to conventional industrial and are better regarded as digital infrastructure, in our view. Furthermore, up and built lot sizes can be very large, creating concentration risk for most conventional real estate funds. Having said that, we also recognise that the skills in site selection, assembly, development and power provision are similar to those required for modern regional logistics. We therefore see data centres as an important strategy for industrial investors in providing exit opportunities from existing industrial holdings, with transferable skills in site selection and development, but do not see datacentres as an 'in use' industrial segment.

Multi-let industrial

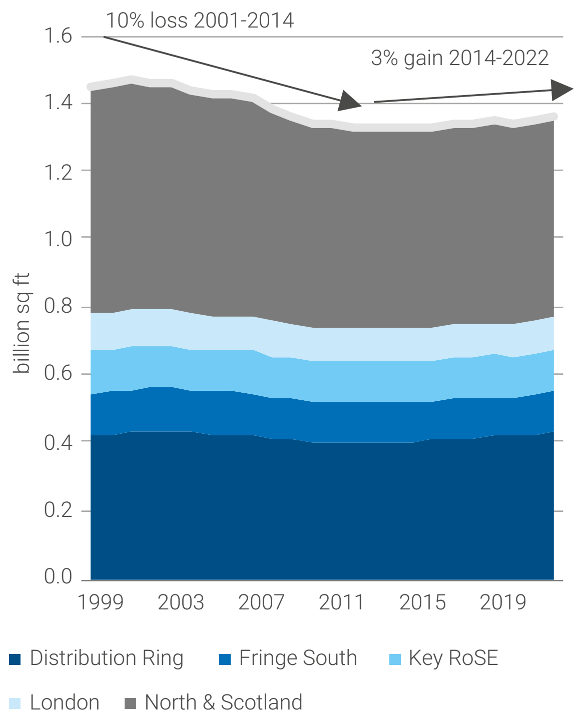
Segment	4D support		Structural support	Cyclical
Multi-let estates	Demographics	✓	Land pressure from housing need. Pressure for UK plc to innovate to counter deglobalisation risk resulting in demand across supply chains.	Equity-led development opportunity both new and infill. Rising occupier costs differentiate product allowing operational efficiencies. Some favourable pricing for more operationally intensive estates possible.
	Decarbonisation			
	Digitalisation			
	Deglobalisation	✓		

Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

Investment performance has been supported by low vacancy and supply tension fuelled by net stock loss over the long term as estates were converted into housing (or the Olympic Park). Development-led supply risk remains low due to complexities in delivery compared to a 'single box' regional logistics, while planning policy tends to favour residential. Business creation across all sectors has been strong over the medium term, especially in London and the South East, supporting the stock of small and medium sized enterprises (SMEs), which could offer some income *diversification benefits.

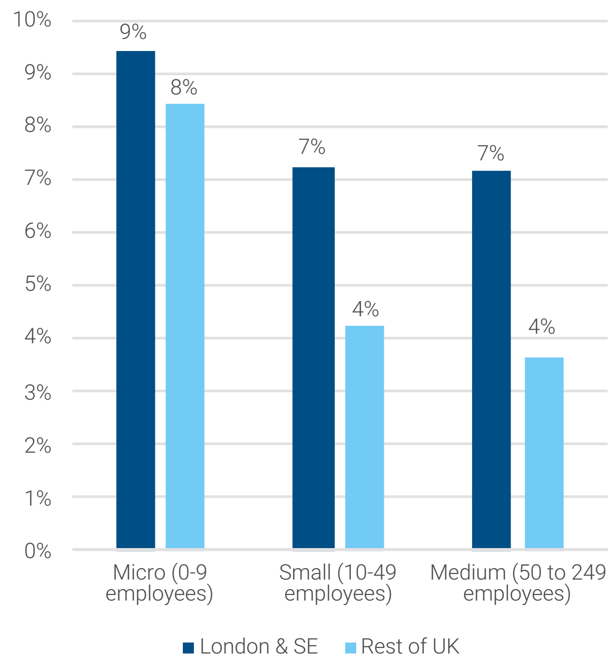
Although there are cyclical risks from rising occupier costs, we think that will most likely result in slowing rates of rental growth – compared to the 8.7%[5] p.a. seen over the last three years.[6] Structurally, government support for innovation may offer support for 'makers' within expanded and targeted supply chains. Cyclically, we see potential opportunities for selective equity led development within existing estates and capitalising on current market pricing to re-enter the market, particularly where asset management can aim to drive performance from relatively complex holdings.

UK industrial stock loss 1999-2022



Source: Valuation Office Agency, PMA, LGIM Real Assets, 2024

Growth in SME businesses between 2016 and 2022



Source: NOMIS, February 2024, LGIM Real Assets

5. MSCI Quarterly Digest, Q4 2023
6. MSCI Quarterly Digest, Q4 2023

***It should be noted that diversification is no guarantee against a loss in a declining market.**

2024 | Industrial Real Estate in a 4D world

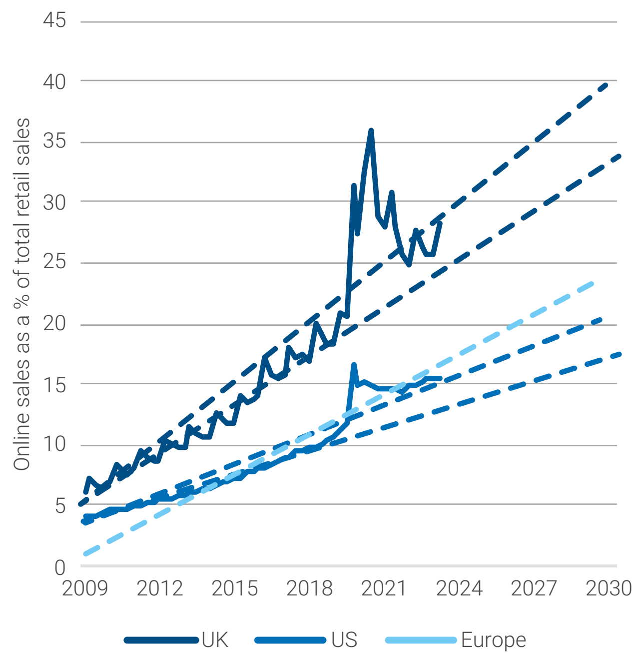
Urban logistics

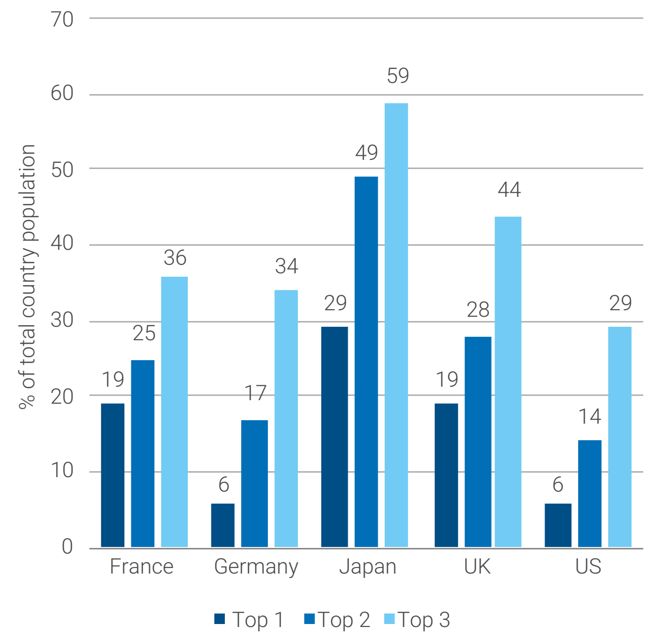
Segment	4D support		Structural support	Cyclical
Urban logistics	Demographics	✓	Growing urban populations and ecommerce-savvy older generations are growing the demand base. Deglobalisation-related pressure to de-risk the supply chain is notable while assets that help provide fleet electrification solutions will aid decarbonisation. AI-supported distribution management (digitalisation) enables efficiencies.	Lack of fit-for-purpose product. Development frictions can create opportunity for equity development. Rising occupier costs encourage take-up of efficient product offering portfolio-wide solutions
	Decarbonisation	✓		
	Digitalisation	✓		
	Deglobalisation	✓		

In our view, urban logistics previously described an activity but now describes a segment differentiated by specification. Buildings are typically between 20,000 and 100,000 sq. ft, with functionality to allow cross docking and the rapid throughput of goods with quality defined by EV charging capacity and efficient site coverage. Following limited development over the last 20 years we see restricted existing stock that is fit for purpose, from the perspective of modern occupiers. Structurally, there are many supportive factors including the continued growth of ecommerce – both overall and across older generations – and urban population density. We also note that business-to-business delivery networks (B2B) remain the largest source of parcel revenues across Europe[7] so, although business-to-consumer (B2C) ecommerce may be the main driver of growth, B2B remains its foundation.

Even if ecommerce growth slows or flatlines we think supply networks still need to be repositioned to changing B2B and B2C delivery models resulting in new locational requirements and a need for fit for purpose product. There is therefore an opportunity for equity led development. The segment is also supported by a pressure to de-risk all parts of the supply chain – from manufacturing to storage – as global trade frictions increase, thus increasing the potential occupier pool. Meanwhile, supply chain management is becoming more sophisticated supported by machine learning and AI.

Ecommerce penetration and trend projections, UK, US and Europe; Share of population in largest urban areas, % of total country population



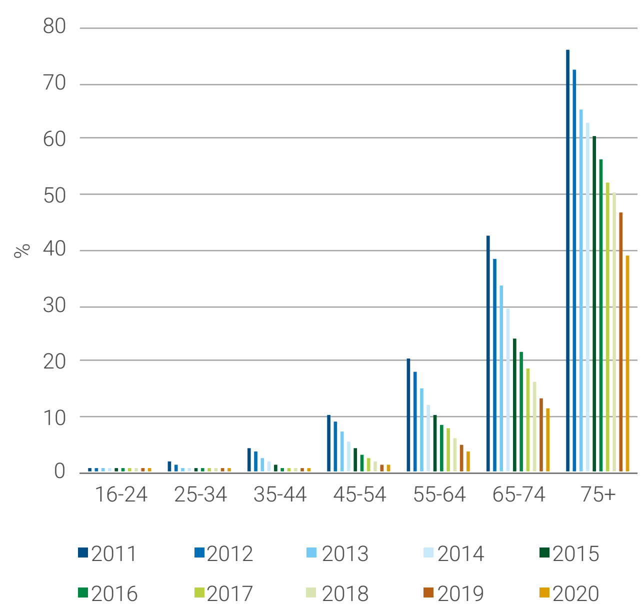


Source: World Bank, ONS, Note: Upper dashed line represents overall trend while lower dashed line represents 10-year pre-covid trend

7. Apex Insight, 2023

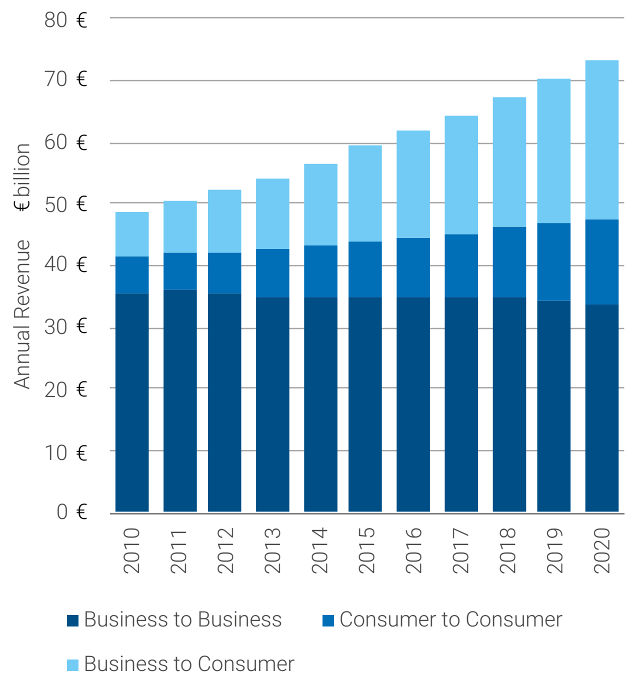
Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

Internet "non-users" by age group over time 2011-2020



Source: ONS, Retail Sales, 2024

Annual revenue of the parcel market in Europe



Source: Apex Insight,Hermes 2023

The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.

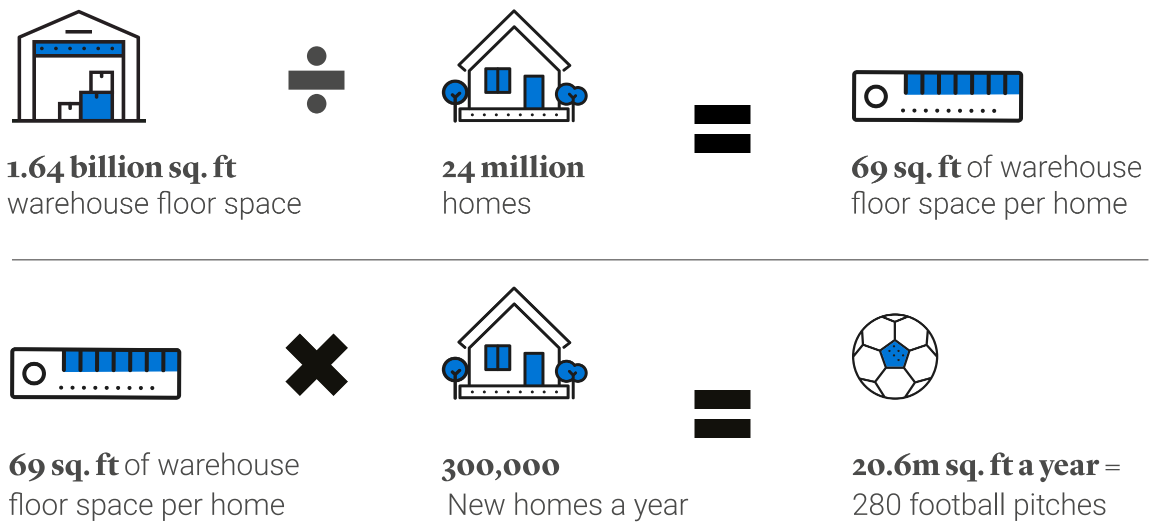
Regional logistics

Segment	4D support		Structural support	Cyclical
Regional logistics	Demographics	✓	Deglobalisation encouraging onshoring operations. Ecommerce savvy older generations. Pressure to de-risk the supply chain and provide fleet electrification solutions. AI-supported distribution management and stock replenishment.	Although cautious on long-term growth, a cyclical rent spike likely in 18-24 months based on cessation of construction. Emerging obsolescence risk on older product will differentiate market. Rising occupier costs differentiate product allowing operational efficiencies.
	Decarbonisation	✓		
	Digitalisation	✓		
	Deglobalisation	✓		

Regional logistics shares many foundational macro drivers with urban logistics. An additional structural driver to mention is household growth driven by population change and the partial fragmentation of traditional family units. Ratios of homes per sq. ft of distribution space can provide a framework for space need. Turley, for instance, estimated a current ratio of 69 sq. ft of warehouse space per household across the UK,[8] which would suggest that the government's ambitious housing target of 300,000 per year would need a net additional 20.6 million sq. ft of warehouse space annually. Although this does not factor efficiency gains in warehouse operations, the mantra of houses = delivery addresses and population = ecommerce demand is compelling. It is also evident that ecommerce requires more space per unit sold than conventional distribution, given a need to hold more inventory across all stock lines, storing items in racking rather than in more efficient pallets, and a requirement to store and process more frequent returns from consumers.[9]

Although we view the long-term structural support to occupier demand for logistics as compelling, supply is more elastic than other segments of industrial. Consequently, we see relatively slower rental growth over the long term. In the short term, however, there may be a rental spike given the reduction of new development over the last year. We also think this segment may be more exposed to depreciation risk given increasingly stringent occupier requirements (especially for EV charging infrastructure and more energy-efficient warehouses) and a large proportion of older product in need of upgrading to meet modern standards.

Simplified stock per household ratio

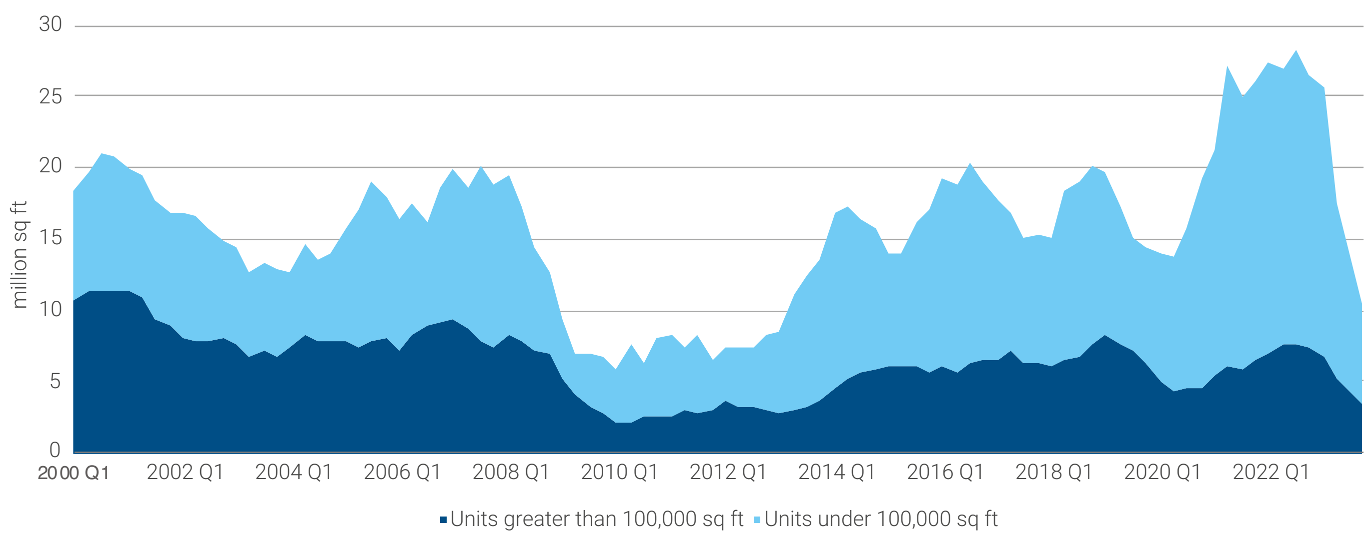


Source: BPF, Turley, 2019

8. Turley, BPF, What Warehousing Where?, 2019
9. https://www.prologis.com/insights/global-insights-research/e-commerce-and-new-demand-model-logistics-real-estate

Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

Development activity (rolling 12-month starts)



Source: PMA, December 2023

Trade parks

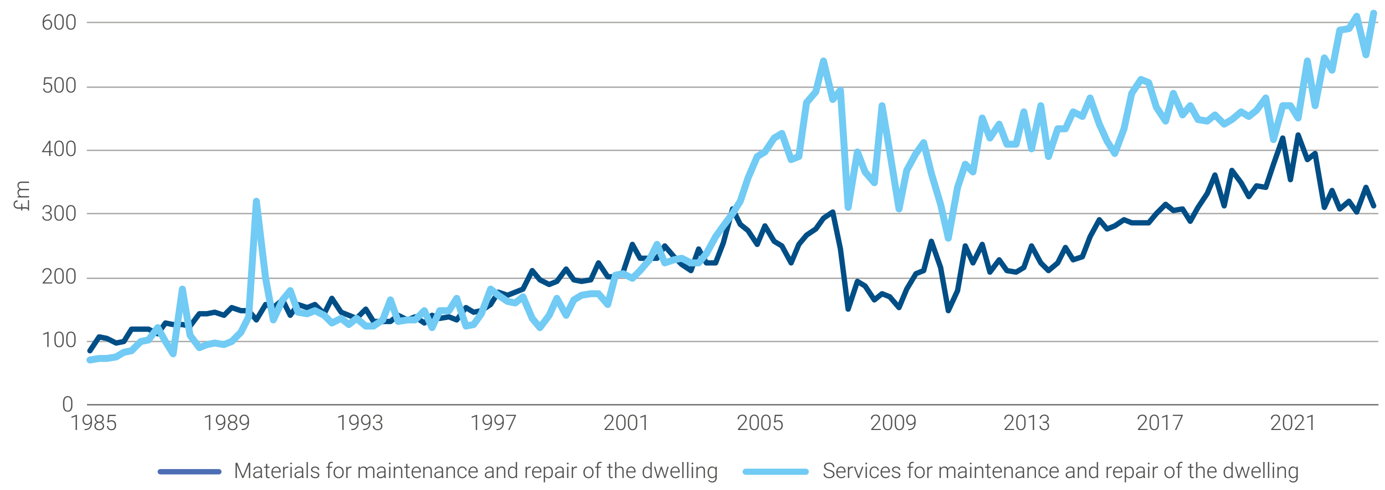
Segment	4D support		Structural support	Cyclical
Trade	Demographics	✓	Housing and infrastructure need; climate event remediation. Fragmentation of supply chains. Paying someone else (PSE) growing faster than DIY.	Some risk from slower housing transactions given mortgage costs but not borne out in recent experience evidenced by occupier requirements.
	Decarbonisation	✓		
	Digitalisation	✓		
	Deglobalisation			

Trade parks are distinguished from multi-let estates by form and function, with units typically smaller than an average multi-let unit with a trade counter positioned in front of warehousing. Evidence from MSCI suggests longer leases and stronger historic rental growth than multi-lets, at a marginally lower yield.[10] Covenants can consist of global multinationals[11] and income leakage, in our experience, is lower than in conventional multi-let.

Structurally, the format is supported by the trend of paying someone else (PSE) over doing it yourself (DIY), the fragmentation of construction supply chains (requiring more points of purchase), the fundamental need for more housing and infrastructure (requiring the services offered by trade) and climate change requiring more physical mitigation in the built environment. Clustering of trade occupiers and the similarity of the asset typology across the UK has enabled greater rental growth through competitive occupier tension and a wider catchment of rental evidence respectively. While we believe the sector still represents compelling investment characteristics, the wider multi-let sector has caught up in rental growth for some regions.

10. Data commissioned from MSCI by LGIM Real Assets, 2023
11. For instance, Kingfisher, Saint Gobain, Ashtead etc

Consumer spending on PSE versus DIY



Source: ONS, LGIM Real Assets, 2024

Self-storage

Segment	4D support		Structural support	Cyclical
Self-storage	Demographics	✓	Changing lifestyles and habits. Life events: divorce, downsizing and death. Structural undersupplying the UK versus US.	Some risk from slower housing transactions but not borne out in LGIM RA stock
	Decarbonisation			
	Digitalisation	✓		
	Deglobalisation			

Self-storage, especially fourth generation assets, is a distinct typology often within or adjacent to industrial estates. Its structural drivers are predominantly demographic with life events (including divorce, death, and downsizing) underpinning more cyclical demand from house moves. The proportion of revenues from SME business is significant and provides income diversification alongside insurance and merchandise revenues.[12]

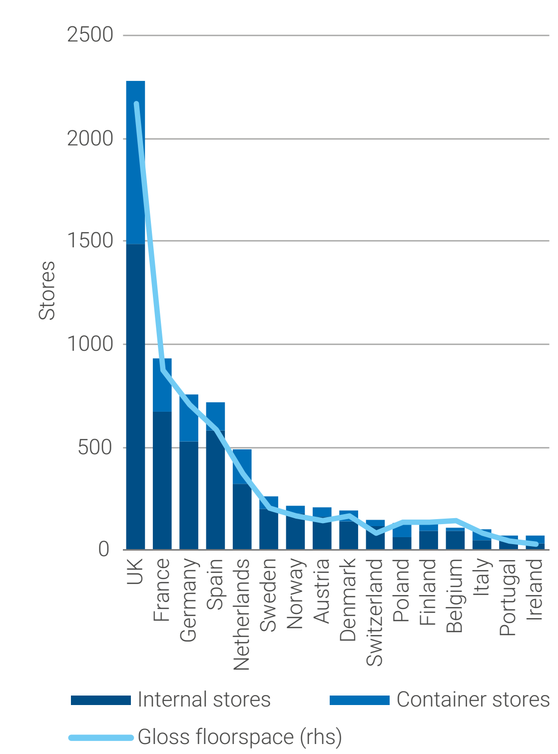
While the UK has more self-storage than European peers, the majority of assets are legacy first-generation facilities, sometimes purely containers.[13] UK market penetration is also far less per capita than the US (0.82 sq. ft per capita compared to around 6 sq. ft),[14] indicating growth potential, notwithstanding the fact that the US's oversupply of older product has led to reductions in rental growth and move in rates recently.

The sector in the UK is highly fragmented and dominated by owner occupiers but where operational exposures (partnerships with operators) can be secured there is income growth potential, we believe. Although there may be cyclical risks from a slower housing market, the lack of choice of modern product in the UK has kept rental values stable, in our experience, and there is growth potential from increasing consumer awareness.

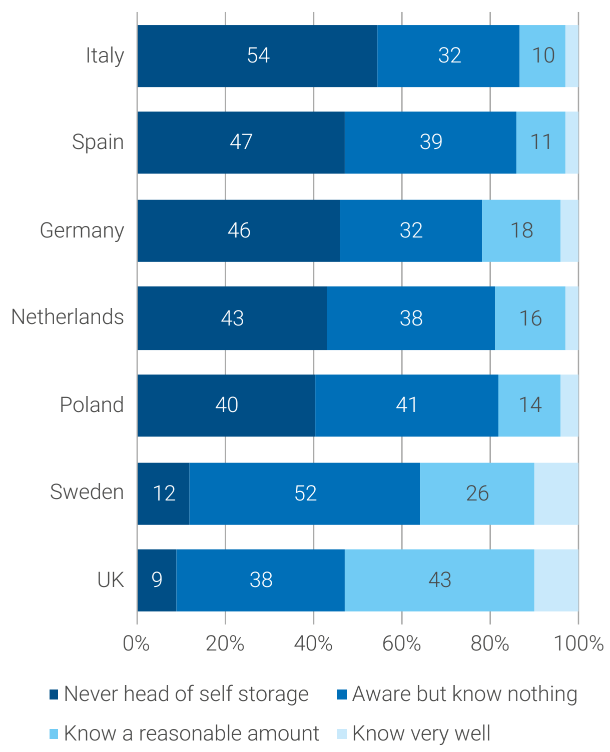
12. Various reports, LGIM RA views, March 2024
13. Various reports, LGIM RA views, March 2024
14. Various sources, our own estimates, March 2024

Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

Self-storage market sizing, Europe



Awareness of self-storage, Europe



Source: Fidessa, CBRE, 2023

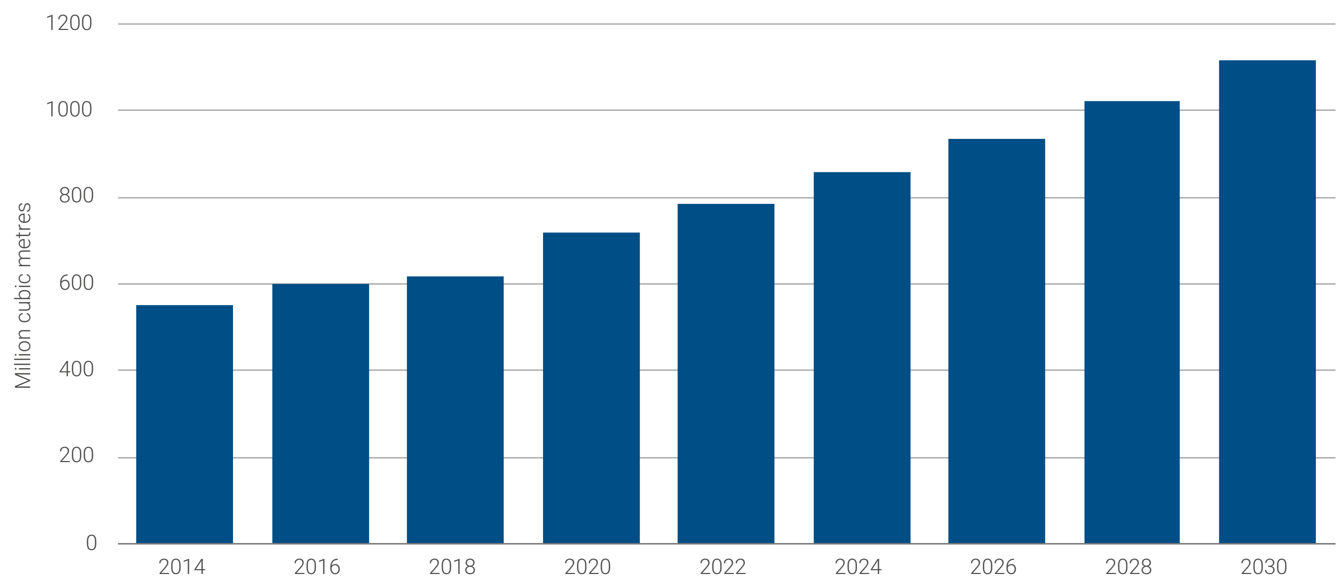
Cold storage

Segment	4D support		Structural support	Cyclical
Cold storage	Demographics	✓	Need for fresh-frozen food, vaccines and pharma. Food safety regulations. Ecommerce savvy older generations. Pressure to de-risk all parts of the supply chain and provide fleet electrification solutions. AI-supported distribution management.	Rising occupier costs differentiate product allowing operational efficiencies.
	Decarbonisation	✓		
	Digitalisation	✓		
	Deglobalisation	✓		

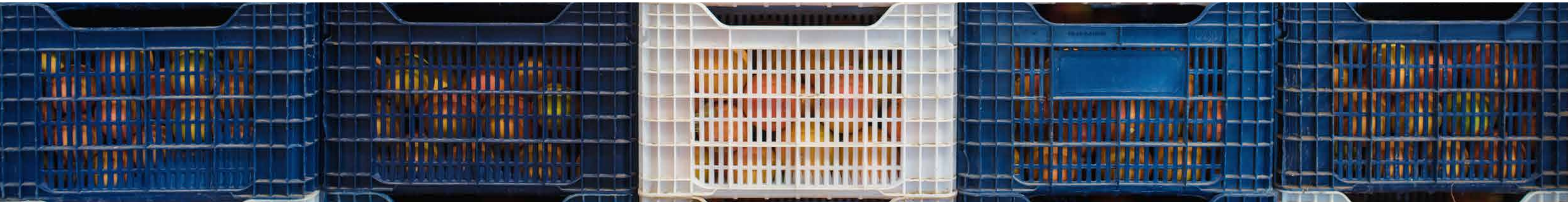
Stringent food safety regulations are supporting the need for more refrigerated storage and transport with consumer demand underpinned by growing e-commerce and online grocery use. We also think growing consumer awareness of harmful additives and preservatives in common foods will support consumer demand for 'frozen fresh' products. Several big drug companies have taken steps to safeguard medicine supplies, which require refrigeration and can provide diversification away from food.[15] However, there are some headwinds for the segment in that the speed of growth, especially during COVID-19, led to labour shortages while energy prices have affected profits and viability. Cold chains also place a significant burden on the environment because refrigeration is energy intensive and there are greenhouse gas emissions from refrigerants.

The segment is relatively embryonic in the UK compared to the US and, although growth prospects are compelling, depreciation risks may be significant and strategies for dilapidations and re-letting on lease expiry are challenging compared to more traditional segments. Nevertheless, JLL forecast the sector will grow 4.5% annually to exceed 1.1 billion cubic metres across the world by 2030.[16]

Estimated growth in global cold storage to 2030



Source: JLL, 2019 is the most recent data we have?
Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.



15. JLL, Cold storage: a real estate perspective (jll.com), 2019
16. https://www.jll.com.au/en/trends-and-insights/research/is-cold-storage-still-a-hot-investment-pick

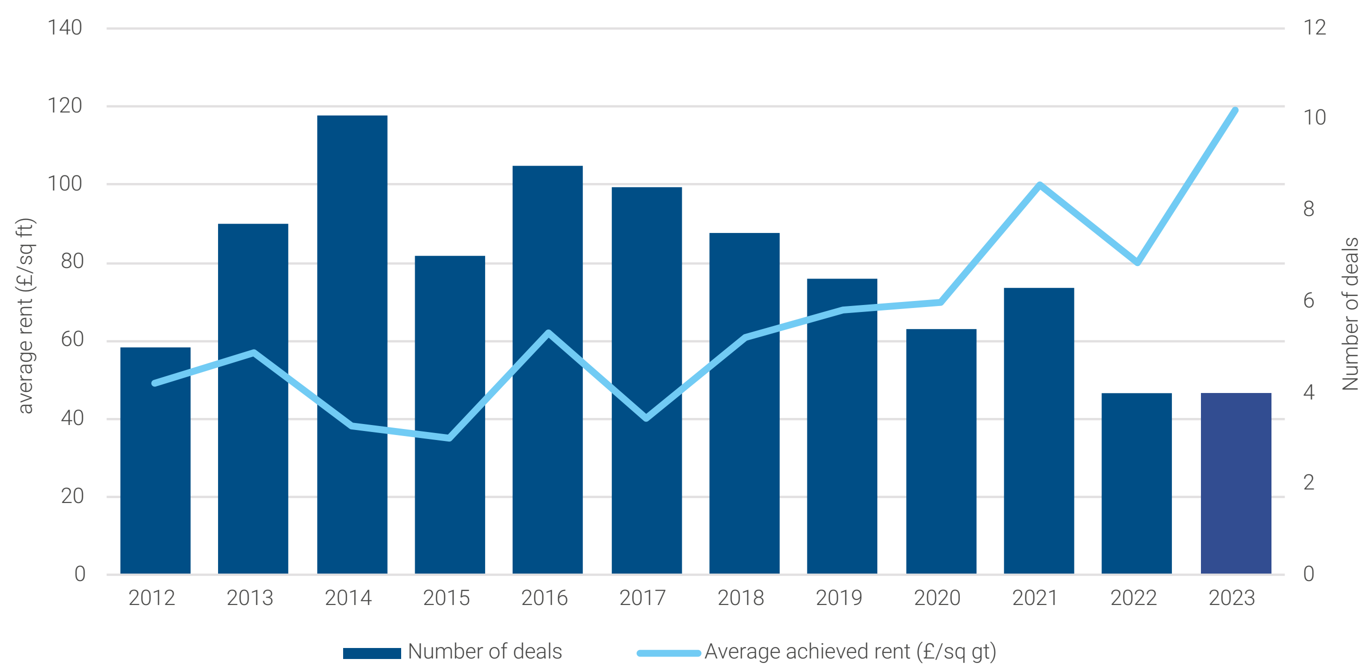
Open storage

Segment	4D support		Structural support	Cyclical
Open storage	Demographics		Land value underpin. Opportunities for consolidation centres to decarbonise construction industry and provide fleet electrification solutions, for instance.	
	Decarbonisation	✓		
	Digitalisation			
	Deglobalisation			

Open storage is, as the name suggests, simple in specification but management operations are growing in sophistication and the limited available performance data is compelling. Currently, demand is being driven by HGV, van and private car parking, recycling, storage of building materials, containers, and scaffolding. The potential from electrical vehicle charging and organised construction material consolidation centres is notable.[17]

Affordable rental levels and a demand/supply imbalance make this a growth sector with defensive characteristics, in our view. Although an alternative land use underpin may seem attractive in theory it might dampen growth potential as possible development plots are often only offered to occupiers on a short-term basis, restricting institutional investment. Fragmented ownership also means it may be difficult to deploy significant capital in a single transaction.

Leasing deals and achieved rents in UK open storage



Source: EG Radius, Savills, Q4 2023

17. https://www.avisonyoung.com/experience/marketing-uk/open-storage-land/

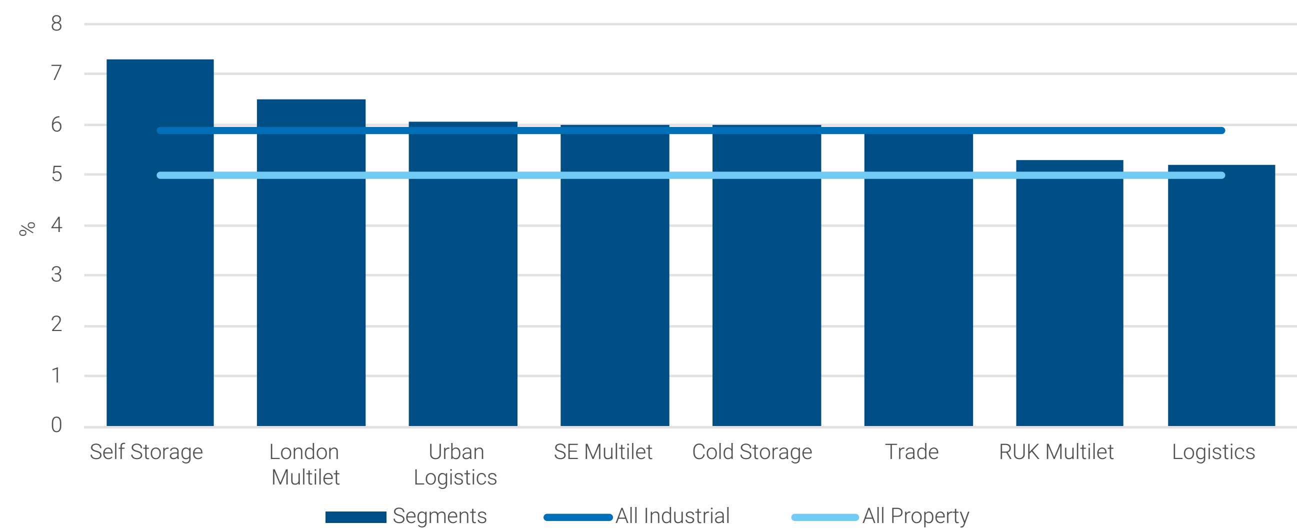
Return forecasts

Our long-term forecast methodology takes today's net operational income yield as a base and adds long term expected income growth. It then removes depreciation which includes an assumption for the capital expenditure required to meet net zero carbon targets. Most of this yield information, for the UK, can be sourced from MSCI but for niche segments we can use third party sources like Green Street or observations from the REIT market.

Our longer-term return assumptions are illustrated in the graph below. All segments within industrial are expected to outperform the all-property average and therefore are accretive to performance compared to a balanced property portfolio. However, across industrial segments we believe performance will be dominated by self-storage, London and South East multi-let estates, and urban logistics, with cold storage and trade parks performing close to the average. Lower historic rental growth from regional UK multi-lets compared to those in London is expected to persist while a harsher depreciation assumption, along with a rental growth number adjusted for supply elasticity, penalise logistics. We would emphasise that these forecasts are for the MSCI sample rather than newer, fit-for-purpose stock.

These UK numbers are stronger than assumptions for conventional industrial in the US based on lower starting yields and slower income growth in the latter market,[18] but we note the strength of assumptions from third-party forecasters for sectors like US cold storage.

Long-run return assumptions



Source: LGIM Real Assets, MSCI, Green Street, March 2024. **Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.**

18. See, for instance Green Street Global Insights, 24th April 2024

Market sizing

Given the embryonic nature of some industrial segments mentioned above, precise market sizing as at today is tricky. However, taking the IPF estimates of the total UK industrial market to be worth approximately £283 billion across 384 million sq. ft[19] as a starting point, as well as referencing the current MSCI sample[20] we can make some estimates as below with an indicative future portfolio split provided for illustration.

	End 2023 Base		2030 Illustrative	
Segment	**MSCI Value £bn**	**% Of total Industrial**	**MSCI Value £bn**	**% Of total Industrial**
Distribution Warehouses/ Regional Logistics	12.6	30%	7.5	15%
Standard Industrials/ Multi-let Estates	21.5	52%	17.4	35%
Urban Logistics	0.7	2%	9.9	20%
Trade Parks	5.6	13%	7.5	15%
Self-Storage	0.8	2%	4.7	10%
Open Storage	0.1	0%	0.5	1%
Cold Storage	0.1	0%	2.2	5%
MSCI				
All Industrials	41.4		49.7	
Distribution Warehouses/ Regional Logistics	13.5	33%	16.2	
Standard Industrials/ Multi-let Estates	27.9	67%	33.5	
IPF UK Estimates				
All Industrial end 2020	283.0		339.6	
All industrial End 2023 (estimated)	321.8			

Source: LGIM Real Assets 2024, IPF 2022, MSCI Quarterly Digest Q4 2023. **Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.**

19. IPF, Size and Structure of UK Real Estate, 2022
20. MSCI Quarterly Digest, Q4 2023

Strategic conclusion

This report highlights seven typologies within industrial, their distinct drivers and long-term performance prospects. To an extent this suggests investors can diversify risk within an overweight position to industrial, but more practically this greater conviction can aid segment and asset allocation strategies. This would strengthen attribution credentials against an industrial benchmark weighting that many are seeking to match or exceed – but often only at a high level with insufficient differentiation within.

We favour, and see potential investment opportunities in multi-let industrial, urban logistics, (selective) regional logistics and trade parks. We view self-storage, cold storage, and open storage as still emerging and likely to form a relatively smaller proportion of an industrial portfolio.

These observations are broadly global in nature and the repricing seen by the sector over the last 18 months offers investors reset yields with undimmed long term growth potential, in our view.

Beds and sheds are likely to remain a consensus trade over the medium term. Investors who recognise distinct strategies and typologies within are best placed to outperform, in our view.

Contact us

For further information about LGIM, please visit lgim.com or contact your usual LGIM representative

Key risks

The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested.

It should be noted that diversification is no guarantee against a loss in a declining market. Assumptions, opinions and estimates are provided for illustrative purposes only. There is no guarantee that any forecasts made will come to pass.

D008040