

CapEx: Opening the Black Box

November 2024

IN A NUTSHELL

- Changes to occupier and regulatory requirements are pushing CapEx bills for asset owners up at a rate faster than inflation.
 - Underestimating CapEx can lead to poor decision-making in capital allocation strategies and underperformance relative to underwritten business plans, yet CapEx is not well understood by the market and few studies exist that measure CapEx using asset-level data.
 - This analysis seeks to address this gap by using analysis of real estate asset level data from DWS's European real estate portfolio to estimate CapEx as a % of Net Rental Income (NRI) and Gross Asset Value (GAV).
 - The results show that sectors differ widely in average CapEx expenditure through the property lifecycle, with retail requiring the most, and residential the least.
 - CapEx also tends to jump at certain points in the property lifecycle either upon lease expiry and/or as key elements of building infrastructure reach the end of their useful life.
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1 / Introduction

Capital expenditure (CapEx) should be a key element of allocating capital and underwriting asset-level transactions. It can be a significant drain on returns and for some sectors, CapEx can reach on average more than 20% of net rental income (NRI). Underwriting models that underestimate or ignore the impact of Capex on cash flows may consistently overstate performance. Yet while there is much discussion around increasing energy efficiency requirements and changing occupier standards, little is known about how much these trends are increasing investors’ CapEx bills. Analysis from Green Street has demonstrated that REITs with a high concentration of property sectors where CapEx is typically lower have outperformed their CapEx-heavy peers, suggesting that the market is not sufficiently pricing in the impact on returns.

To address this knowledge gap and test whether our underwriting assumptions sufficiently factor in CapEx requirements over the property lifecycle, we have analysed both existing studies and our in-house data. The analysis shows that, in general, CapEx needs are going up, with building age being a key factor. During the first decade or so of a building’s lifecycle, CapEx tends to be minimal, but we noticed a substantial rise after 10-12 years post-construction. Age has a particularly strong impact on CapEx requirements for offices and logistics, while retail tends to have higher needs on average, but the relationship between CapEx and building age is less pronounced. Residential and logistics tend to have lower requirements in general compared to office and retail.

1.1 What is CapEx

During a property lifecycle, there are typically three main costs: recurring maintenance (part of OpEx), infrequently recurring maintenance, and redevelopment/repositioning. CapEx typically describes the latter two and is generally paid for by the asset owner in European leases. It can be expressed as a percentage of income or building value, and can be defensive, offsetting depreciation, or offensive, adding value. The long-term CapEx burden of a property should not include added square footage but should include most other costs incurred to improve or restore a property’s competitive position. The distinction between which costs are non-recurring and which are recurring is often blurred, leading to over- or under-estimation of true CapEx levels.

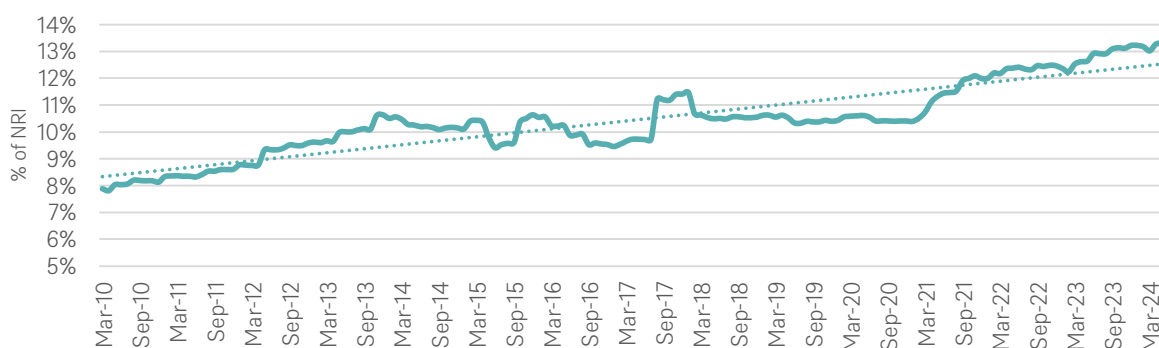
Recurring Maintenance Costs (OpEx)	Infrequently Recurring Maintenance Costs (CapEx)	Redevelopment / Repositioning Costs (CapEx)
<ul style="list-style-type: none">– HVAC maintenance– Roof repairs– Common area upkeep– Landscaping maintenance	<ul style="list-style-type: none">– Landscaping works– Replacement of HVAC systems– Roof replacement– Façade replacement	<ul style="list-style-type: none">– Added square footage– Full repositioning of asset
<ul style="list-style-type: none">– Electrical repairs		

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2 / How is CapEx changing?

In recent years, CapEx reserve requirements have tended to increase. This trend has been particularly pronounced post-pandemic. Assumptions of CapEx which rely on historic data may therefore underestimate future requirements.

Pan-European look-forward CapEx reserves



Source: Green Street, June 2024. All sectors. Adjusted from CapEx as % of net rent to NRI.

There are several reasons for the trend of increase, including:

2.1 Environmental targets are becoming more stringent

The revision of the European Energy Performance of Buildings Directive will introduce minimum energy performance standards (MEPS) for commercial and residential buildings. For commercial buildings, the 16% most energy inefficient commercial buildings are required to be renovated by 2030. For the residential sector, EU member states must establish a national plan to reduce average primary energy use of residential buildings by 16% by 2030 and by at least 20% by 2035. The UK already has MEPS and the minimum may be raised by 2030. Green Street estimate that for offices the change in regulatory standards will necessitate additional CapEx of an estimated 3% p.a. of net rental income.¹

2.2 Lease lengths are shortening

For a real estate landlord, CapEx is often incurred in the gaps between tenants to achieve a new letting and offset any depreciation that has occurred during the tenant's lease. When lease lengths get shorter, CapEx is incurred more frequently. Particularly in markets such as the US and UK, where commercial leases are traditionally longer (10 years or more), we have seen a decline in average lease lengths in recent decades. In the retail sector, for example, in 2011, the average lease length in the UK was 10.2 years,² falling to just over 6 years by 2023.³

2.3 Retail and offices need to work harder to attract occupiers

In an environment where the functions of physical office and retail spaces can be fulfilled at home, either through working from home or through online shopping, these spaces need to transition from places people *have* to be, to places they want to be. This is a problem for landlords as assets need to work harder to achieve high occupancy, and this means investing more CapEx to improve the attractiveness of the space.

¹ Green Street, August 2021

² Briant Champion, 2011

³ Savills, Q1 2023

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3 / What does DWS data say about CapEx?

To test the question as to whether CapEx underwriting assumptions are fit-for-purpose, we analysed the in-house Data for our European portfolio. We excluded assets with less than five years of history from the analysis on the basis that these assets would skew the results downward, as the non-recurring nature of CapEx should mean that it will appear only infrequently in our data. We also excluded data points which related to a transformational project which added floorspace to an asset or appeared unduly distorted. Data describing land without a building or parking was also removed from the analysis. The final sample we obtained was 36 assets, around half of which were office.

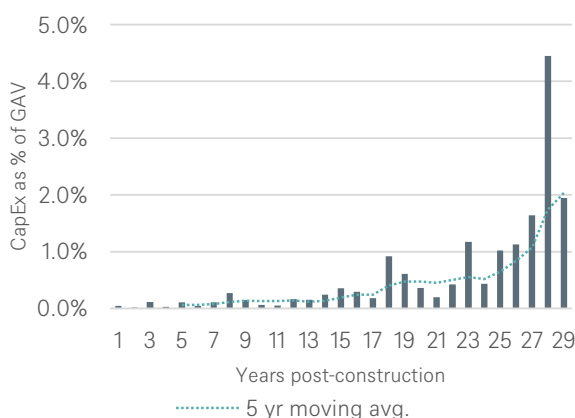
3.1 Retail is the most CapEx intensive sector

Our results showed that, at 0.7% - 1.1% of GAV, retail requires the most CapEx, ahead of office (0.5%-0.8%) and logistics (0.3%-0.7%). These figures were slightly lower than comparable studies by Green Street and Property Market Analysis (PMA) and may be because the DWS portfolio is weighted towards prime assets which typically have a higher asset value.

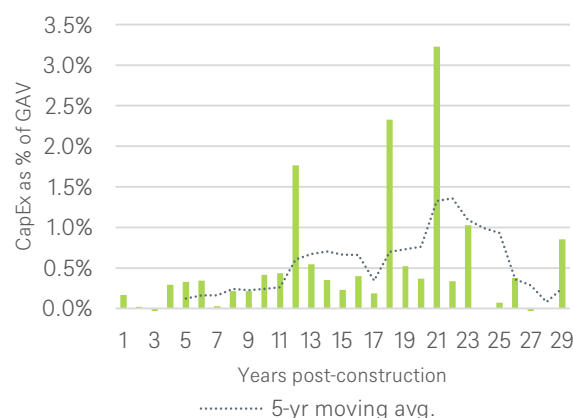
As a proportion of NRI, DWS data was more closely consistent with external studies. Retail required on average expenditure of 24% of NRI and offices close to 20%. Logistics assets required by far the least CapEx at just below 10% of NRI.

The trend of CapEx increase in the years following building completion also differs between sectors. While office and logistics show a clear increase in CapEx requirements as the building reaches 20 years old, retail tends to require more CapEx earlier. The likely reason for this is shorter lease lengths and higher levels of churn in shopping centres which necessitate more frequent expenditure from the landlord to entice new tenants. Shopping centres must also present an attractive image for customers which means maintaining landlord-controlled areas to a high standard.

Office and Logistics



Retail



Source: DWS, July 2024

3.2 CapEx in practice

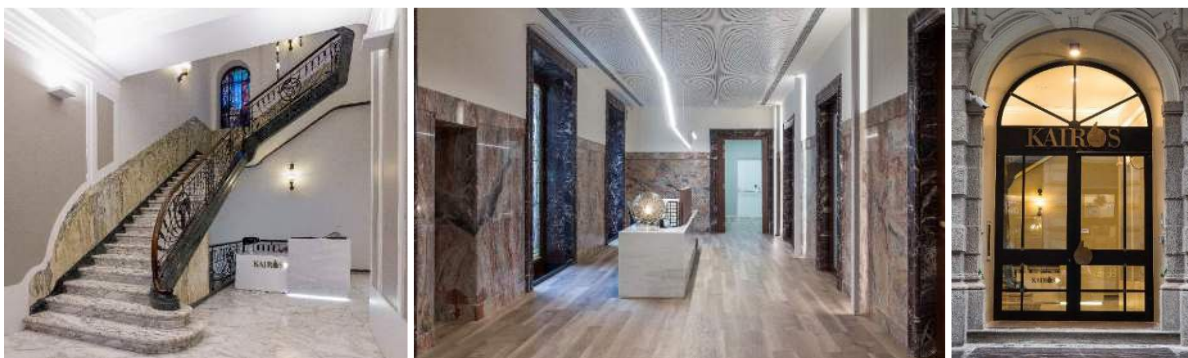
To gain some further detail on the other factors (location, market cycle, asset management strategy) that might affect CapEx, we analysed three case studies. These were chosen due to having a long history of ownership with DWS, and therefore a long time series of CapEx data to analyse. Many projects had not expanded the total floorspace or comprehensively redeveloped the asset, so any CapEx registered would fit comfortably in our definition of 'non-recurring maintenance' costs.

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Historic prime office in CBD with infrequent CapEx requirements

Via San Prospero 2, Milan

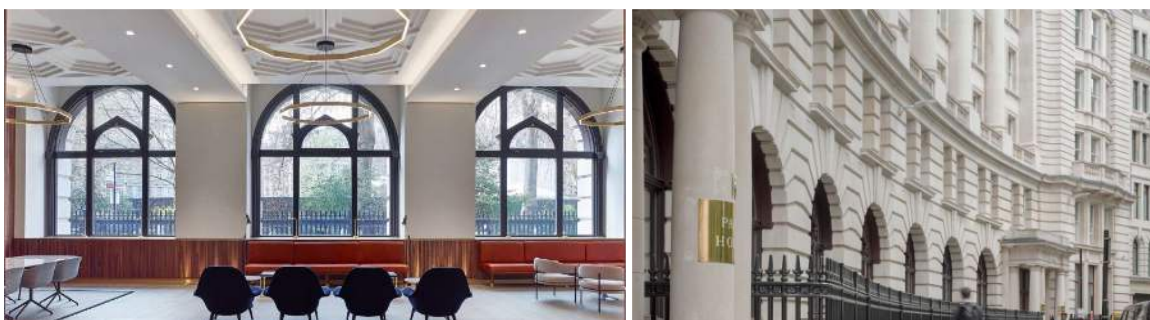
Via San Prospero 2 is an office built in the early 1900s in a prime location of Milan's CBD. The asset was acquired in 1999 and occupied by Deutsche Bank until 2011. The last refurbishment was in 1995 and the net lettable area totals just over 3,000 sqm, including a retail space on the ground floor. After the Bank vacated most of the building, a round of refurbishment works were undertaken in 2012/14 to replace the heating and cooling systems, which had become defunct, improve insulation and refresh internal spaces. The works were mainly defensive in nature and allowed for a 25% uplift in rents to be achieved at the next letting. The rental tone achieved was still below the prime for Milan but represented a good return on investment. Overall, during the time DWS has owned this building, CapEx has been equivalent to 1.0%-1.4% of GAV and 16%-24% of NRI, assuming a 10-15-year cycle of investment, in line with external estimates.



New Grade A office in competitive submarket

Park House, Finsbury Circus, London, UK

Park House is located in a prime office location in the City of London. The building was comprehensively redeveloped in 2008 and offers 18k sqm of net lettable area. In line with our findings that CapEx tends to increase after the first decade post-construction, in 2018 and 2020, two rounds of works were undertaken to improve the common and reception areas and Cat A fit out for five floors following the departure of several tenants. Each round respectively achieved a 20%-25% uplift in rents. Given tenant expectations for offices in the City of London are high, and competition for occupiers for second-hand office space is intense, CapEx is vital to maintain occupancy for an office of this caliber and location. However, as the building is relatively new, CapEx for the holding period so far has been well below the average for the office sector, at 0.4%-0.7% of GAV and 7%-11% of NRI assuming a 10-15 year CapEx cycle.



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Regionally dominant shopping centre in need of a refresh

Nosso Shopping Centre, Vila Real, Portugal

The final case study is a shopping centre in a regional location in Portugal, built in 2004. It illustrates how crucial CapEx is in keeping a shopping centre a desirable destination for tenants and customers alike. In 2016/17, a comprehensive remodeling of the food court, introduction of a playground for young families, and general upgrade of the lighting and painting allowed for a significant boost (+12%) in sales and 5% increase in rents across the centre. The impact for the food court was even more noticeable. By increasing seating capacity and providing space for several new anchor tenants, sales increased by 70% and rents rose by 112%. Vacancy is now less than 1%. Several much smaller-scale rounds of CapEx works were completed in later years, taking the total spend on the centre to €4.4m. Overall, total CapEx equated to 1.2%-1.7% of GAV, and 12%-17% of NRI - below the average for the retail sector in Europe. This case study illustrates how, when a shopping centre is dominant in its catchment, initial return on investment can be high. However, the sustainability of returns in retail can be undermined in the long term if spending too much CapEx raises passing rents above market, resulting in a downward correction later. Managing CapEx in this sector requires care: too little and the centre loses appeal, too much and long-term returns are eroded.

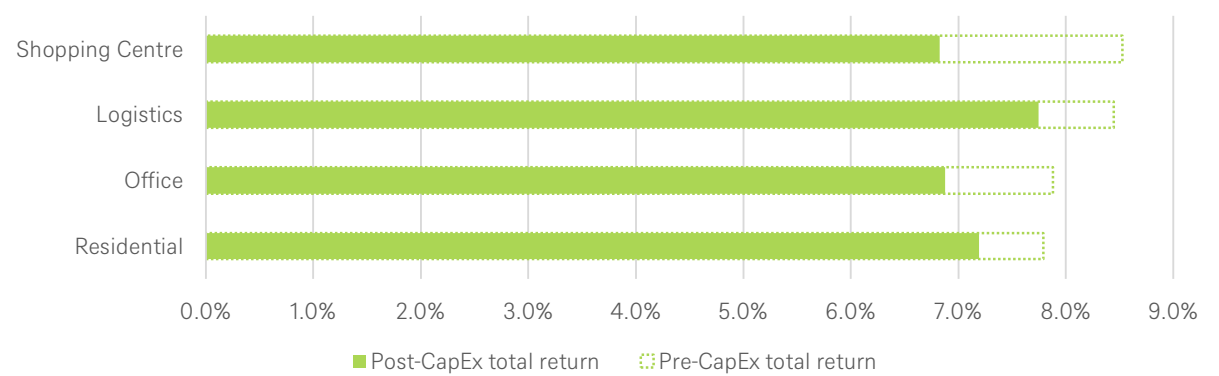


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2 / Implications

Paying attention to CapEx can have significant implications for sector allocations. The following chart illustrates the difference CapEx makes with total returns assuming a 10-year hold.

Forecast average total returns, Europe, pre- and post-CapEx, 2024-2033



Source: DWS, August 2024; DWS, July 2024

Without considering the high CapEx burden for shopping centres, this would be our top-performing sector. However, when CapEx is taken into account, logistics outperforms and shopping centres drop to fourth position, just behind office. This highlights the potential for capital misallocation when CapEx is poorly understood and/or not factored into decision-making. Going forward, calls on outperforming sectors should be made with CapEx baked in.

Another area CapEx counts is in asset-level business plans. For the first decade or so following the completion of a building, CapEx is typically very low. Rather than taking one number for the whole holding period, a number more in keeping with our findings of 0.1% of GAV for the first decade post-completion would be appropriate. However, once the building ages past around 12 years, a higher number should be used. This also needs to be factored in when calculating the next buyer’s return on investment.

There is room for further work in this area. Other, bottom-up studies using asset-level CapEx data are needed to verify the findings from DWS data. A longer time series of data will also show how the real estate cycle affects CapEx requirements. Asset managers report that CapEx tends to be higher in a weak occupier market, but this is not possible to verify without a long time series of data at an asset level. There are many opportunities for further work on the topic of CapEx, which should be possible in the future.

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Real Estate Research Team

Office Locations

Frankfurt

Mainzer Landstrasse 11-17
60329 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London

45 Cannon Street
London, EC4m 5SB
United Kingdom
Tel: +44 20 754 58000

New York

875 Third Avenue
26th Floor
New York
NY 10022-6225
United States
Tel: +1 212 454 3414

San Francisco

101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore

One Raffles Quay
South Tower
15th Floor
Singapore 048583
Tel: +65 6538 7011

Tokyo

Azabudai Hills Mori JP Tower
1-3-1 Azabudai
Minssato-ku
16th Floor
Tokyo
Japan
Tel: +81 3 6730 1300

Sydney

Level 16, Deutsche Bank Place
Corner of Hunter and Phillip Streets
Sydney NSW 2000
Australia
Tel: +61 2 8258 1234

Teams

Global

Kevin White, CFA

Global Co-Head of Real Estate Research

Simon Wallace

Global Co-Head of Real Estate Research

Americas

Brooks Wells

Head of Research, Americas

Liliana Diaconu, CFA

Office & Retail Research

Ross Adams

Industrial Research

Sharim Sohail

Self-Storage Research

Europe

Ruben Bos, CFA

Head of Real Estate Investment Strategy, Europe

Tom Francis

Property Market Research

Rosie Hunt

Property Market Research

Martin Lippmann

Head of Real Estate Research, Europe

Asia Pacific

Koichiro Obu

Head of Real Estate Research, Asia Pacific

Seng-Hong Teng

Property Market Research

Hyunwoo Kim

Property Market Research

Matthew Persson

Property Market Research

AUTHORS



Siena Golan
Research Analyst Generalist: London



Ruben Bos, CFA
Head of Real Estate Investment Strategy, Europe

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