



AEW RESEARCH - JUNE 2018

**FUTURE-PROOFING EUROPEAN RETAIL**  
INNOVATE TO MEET THE E-COMMERCE CHALLENGE



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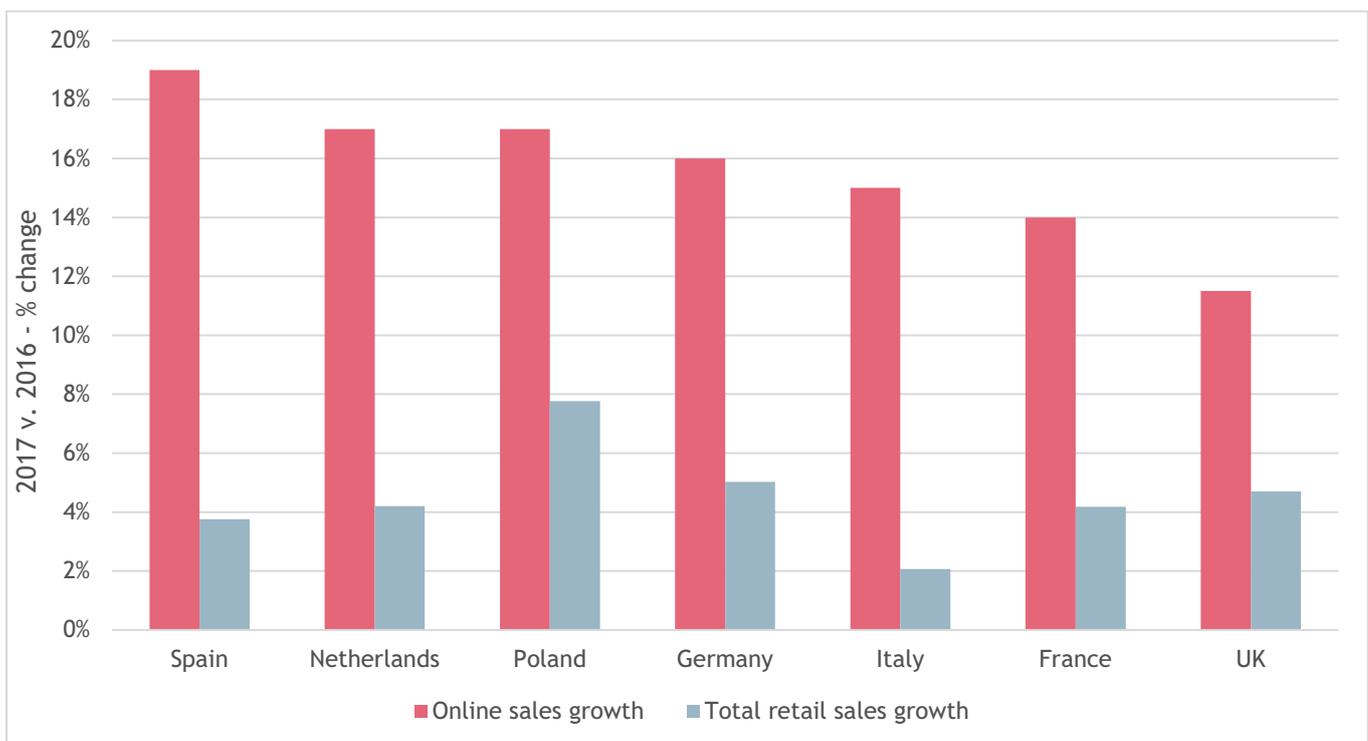
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### How is European retail going to face its challenges?

The European retail sector is facing challenges as some high profile retailers are closing stores or even going out of business both in the UK and across Continental Europe. Many of these problems seem tied to the continued rapid growth of on-line retail sales at the expense of conventional in-store retail sales. The UK leads Europe in on-line sales with nearly 20% of all retail sales via on-line platforms. These problems might further intensify if the economic recovery slows or even reverses in the future. In this report, we take a closer look at both consumer and retailer trends as well as their impact on rents and capital values. As part of this “deep-dive” into retail, we take a closer look at new footfall statistics (using mobile app data) and cluster patterns in historical transaction data across European city center retail markets.

#### GROWTH IN RETAIL SALES DOMINATED BY E-COMMERCE (2017 v. 2016)

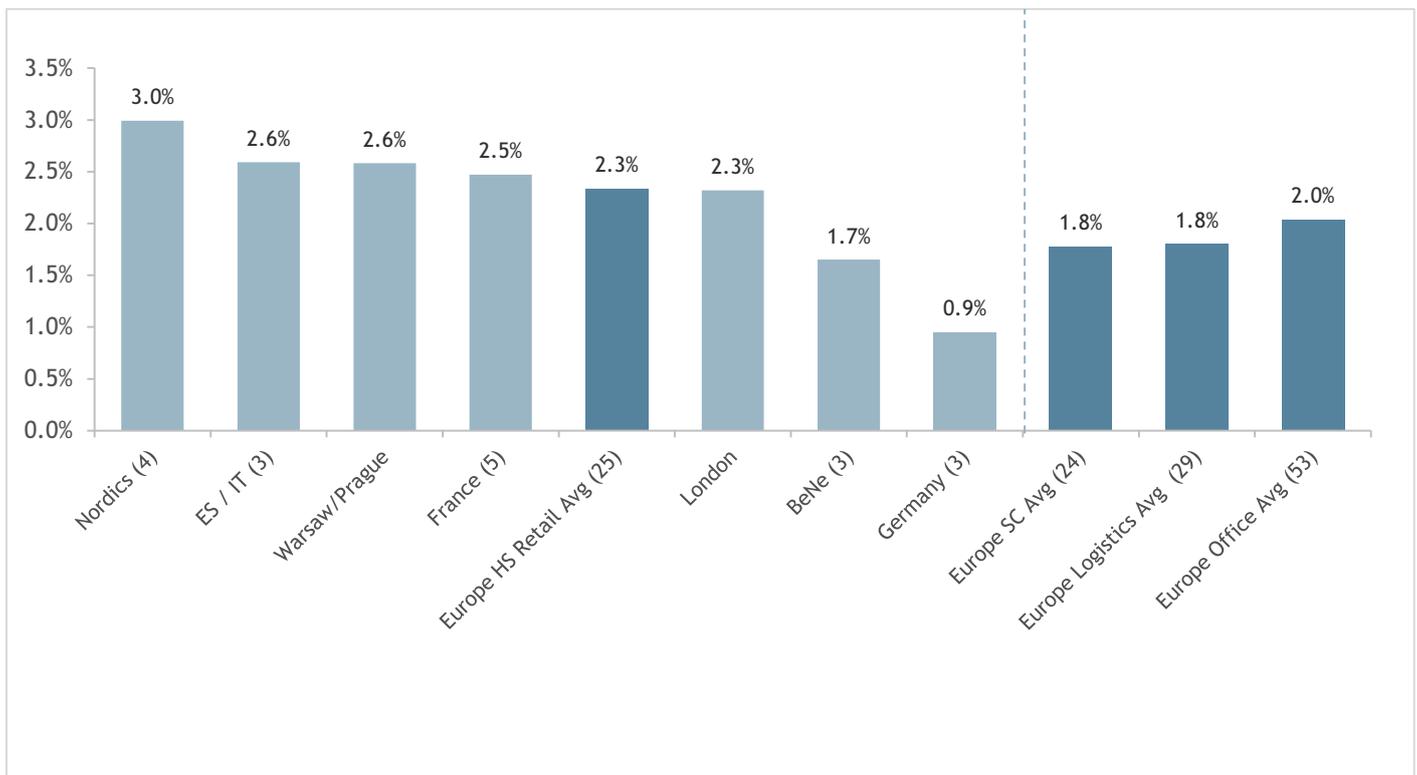


Source: Center for Retail Research, Oxford Economics & AEW Research 2018

## EXECUTIVE SUMMARY: INNOVATE TO MEET E-COMMERCE CHALLENGE

- The exciting growth in online sales is a major structural change profoundly impacting the global retail industry. This has resulted in negative news headlines in the US, UK and Germany in particular, with store closures and insolvencies for retailers unable to adjust to the new consumer requirements for omni-channel and experience-focused shopping.
- E-commerce sales penetration rates are already high in the UK and Germany, which explains in part why UK retailers share prices have suffered. But, it also leaves other countries like France, Spain and Italy to catch up, challenging traditional retailers in these markets to adjust to these new consumer dynamics.
- However, the positive outlook for the European consumer and the much lower supply of retail space per capita compared to the U.S. should limit the magnitude of the impact of e-commerce for most European retail markets compared to the U.S.
- This expectation is also confirmed by our latest forecasts for market rental growth. In fact, prime high street retail rental growth is expected to outperform both shopping centers, offices and logistics over the next five years.
- However, total returns for retail are below the other property types due to the larger impact from rising bond yields in the next five years. In this more challenging investment environment, investors can future proof their retail strategies with innovative business practices, including new data sources and analytics.
- We include two such approaches: (a) footfall analysis of benchmark prime high streets; and (b) new clustering analysis, which allows the identification of micro-markets with long term investor focus and price stability.

### ROBUST PRIME HIGH STREET GROWTH (AVERAGE P.A. MARKET RENT GROWTH 2018-22)

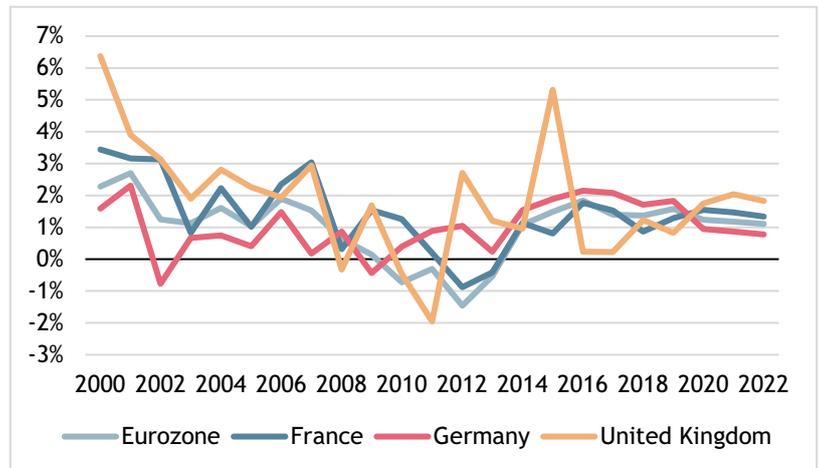


Sources: CBRE, Natixis and AEW Research 2018

## SECTION I: THE CONSUMER & RETAIL INDUSTRY

### REAL PERSONAL DISPOSABLE INCOME RECOVERY CONTINUES (P.A. GROWTH IN %)

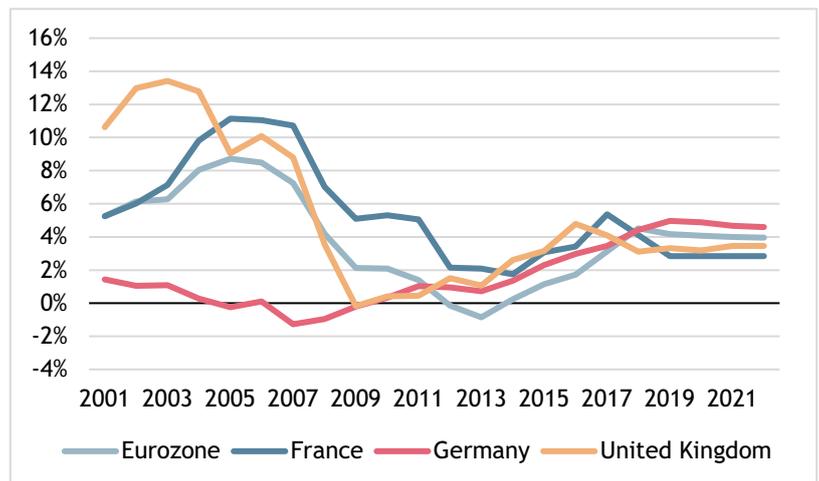
- Despite greater historical volatility, the projections for real disposable personal income growth underpin private consumption trends.
- The biggest surprise is the subdued outlook for further growth in Germany for 2020-22, while the UK is expected to rebound strongly in 2021-22.
- The UK forecasts are based on a perhaps overly optimistic assumption that a mutually acceptable exit agreement will be concluded between the EU and the UK.
- Given the latest news and recent lack of progress on this front, this might prove to be an overly optimistic assumption.



Sources: Haver Analytics & Oxford Economics

### HOUSEHOLD LIABILITIES RISING ON LOW INTEREST RATES AND INCREASED CONFIDENCE (P.A. GROWTH %)

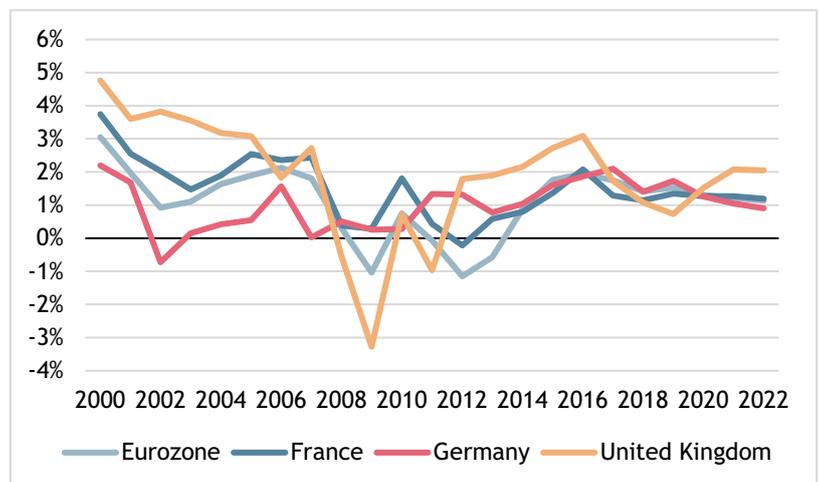
- After a 10-year period of low growth in Eurozone household liabilities, the increases in disposable income and low interest rates allow for a projected increase of 4% p.a. for 2018-22.
- In a break from the historical trend, German households are showing an appetite to grow liabilities more in line with the rest of Europe.
- UK and French household liabilities are forecast to grow at just over 3% p.a., which is at modest levels of only 30-40% of the annual growth realised in the 2000-07 period.
- Increases in interest rates might dampen households' appetites for adding more liabilities down the line.



Sources: Haver Analytics & Oxford Economics

### REAL PRIVATE CONSUMPTION TO STEP UP IN EUROZONE IN NEXT FIVE YEARS (P.A. GROWTH IN %)

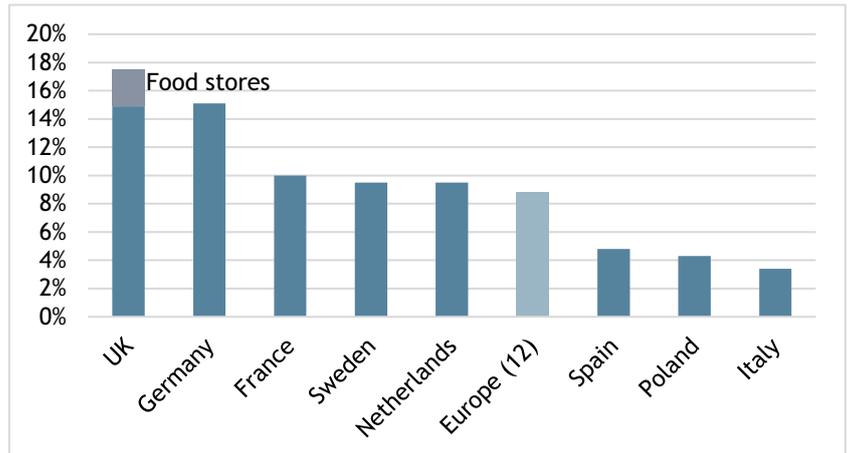
- Increasing growth in real private consumption provides a supportive backdrop for retailers as the economic recovery across the Eurozone continues. This is supported by the fact that average growth in real private consumption for the next five years is projected to be stronger than the last five years.
- With Germany and France having been much less impacted by the GFC when compared to the UK and the rest of the Eurozone, their rebound has also been less pronounced.
- Despite a significant slowdown in the UK after 2016, the forecast remains for a rebound in 2021-22, assuming a smooth Brexit process as mentioned.



Sources: Haver Analytics & Oxford Economics

E-COMMERCE PENETRATION RATE UK LEADS WITH GERMANY & FRANCE BEHIND (AS % OF RETAIL SALES)

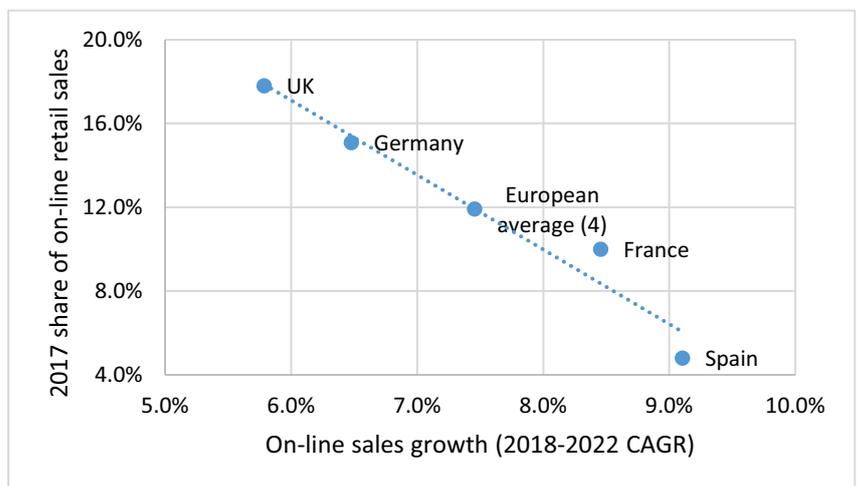
- UK e-commerce penetration stands at near 18%, with a very clear lead over both Germany (15%) and France (10%).
- This is partly due to a large proportion of UK grocery/food sales that are processed over food stores and e-commerce platforms.
- 23 UK retailers have filed for bankruptcy in the first six months of 2018, affecting 1,851 stores and 20,890 employees. E-commerce is not the only culprit, as excess debt also played a role.
- Data on e-commerce sales are not yet available from most of the traditional sources of economic and business data. Therefore, we rely on Center for Retail Research.



Sources: Center for Retail Research, ONS & AEW Research 2018

GROWTH IN ON-LINE SALES VS SHARE OF SALES: SPAIN & FRANCE TO GROW FASTEST (2018-22)

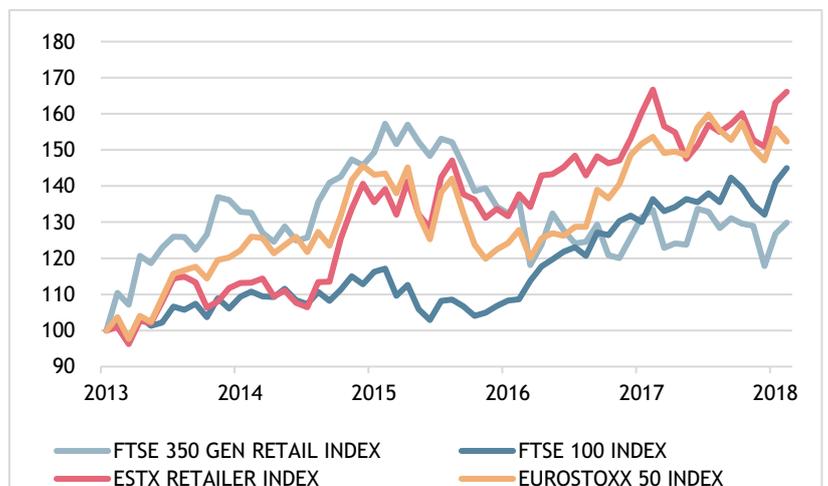
- Given that Spain and France show low penetration levels for on-line sales at the moment, it is not surprising that Statista is projecting more growth in on-line sales than in the UK, which is at a much higher starting point.
- It is not so much that the exact speed of the catch-up is relevant, but rather that French and Spanish retailers will be next in line to deal with the emergence of on-line retailers.
- Many traditional retailers have already responded to this on-line challenge by launching their own in-house platforms independently or in JV with existing platforms.



Sources: Statista, Center for Retail Research, ONS & AEW Research 2018

UK & EURO RETAILERS INDEX TOTAL RETURN PERFORMANCE VS GENERAL STOCK INDICES (2013-18)

- UK stock market investors have been pricing in this adverse e-commerce trend since mid-2015, which is when UK retailers started consistently underperforming the FTSE 100 index.
- In the other European markets, this is not (yet) the case as the Eurostoxx retailers index has in fact outperformed the general Eurostoxx 50 index also since about mid-2015.
- The large representation of grocery store chains in the Eurostoxx retailers sub-index helps, since we suspect that these have even lower on-line penetration than general retailers.

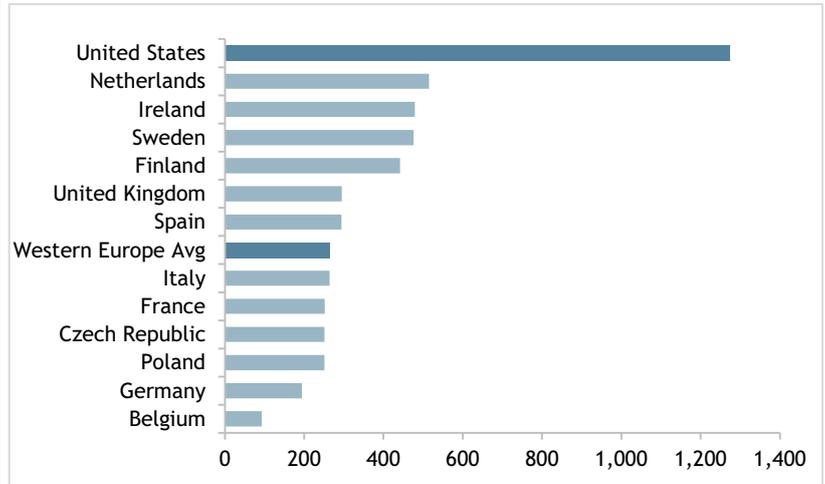


Sources: Bloomberg & AEW Research 2018

## SECTION II: OCCUPIER MARKET OUTLOOK

### SHOPPING CENTER STOCK PER CAPITA MATTERS - IT IS NOT ALL ABOUT ECOMMERCE (SQM PER 1,000 INHAB.)

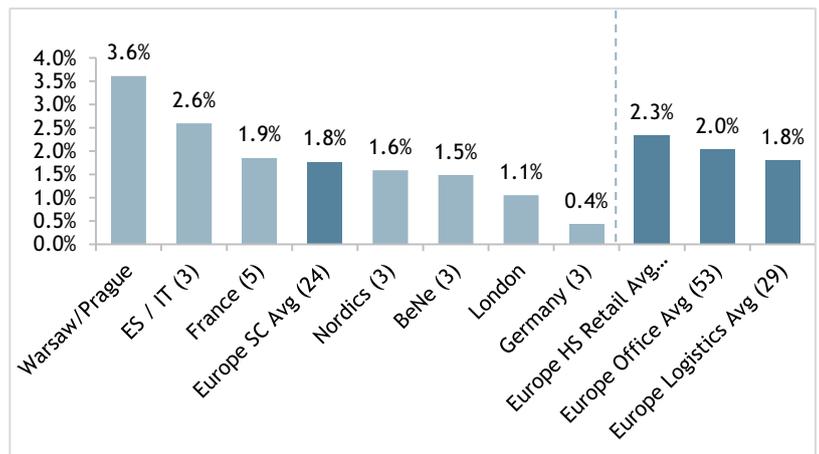
- Announcements of store closures dominated the US retail news last year. While there are similar downsizing risks in Europe, markets differ significantly in terms of retail provision.
- In the US, there are 1,274 sqm of shopping center GLA per 1,000 inhabitants, compared to 266 sqm per 1,000 on average in Western Europe.
- This can be partly explained by the fact that shopping centers make up a larger proportion of total retail space in the US than in Europe, where historic centers offer attractive high street retail.
- There are also important differences within Europe, with the Dutch market having significantly more supply than Belgium for instance. This has implications for occupancy and rental growth.



Source: JLL. Schemes >5,000m<sup>2</sup> GLA; excludes retail warehouses & outlet centers

### ROBUST PRIME SHOPPING CENTER RENTAL GROWTH EXPECTED OVER THE NEXT 5 YEARS (% P.A.)

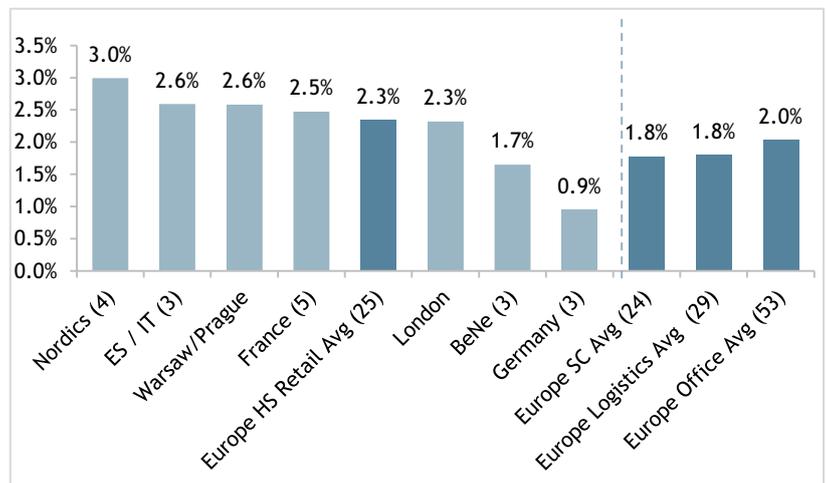
- Over the next five years (2018-22), prime shopping rental growth is expected to reach 1.8% p.a. in Europe, in line with prime logistics and slightly lower than for prime offices.
- Prime shopping centers in Warsaw and Prague are expected to experience the strongest rental growth. Other outperformers include Dublin, Madrid, Barcelona, Milan, Toulouse and Copenhagen.
- Prime shopping center rental growth is expected to be weaker than the European average in Frankfurt, Munich, Berlin, London, Helsinki, Amsterdam and Brussels.



Source: CBRE, Natixis and AEW Research 2018

### PRIME HIGH STREET RETAIL RENTAL GROWTH TO OUTPERFORM OTHER SECTORS OVER THE NEXT 5 YEARS (% PA)

- Prime high street retail is expected to be the strongest performing sector in terms of future rental growth with 2.3% p.a. forecast for the next five years compared to 1.8% for logistics and 2.0% for offices.
- Retail units on the best prime pitches are in high demand as brands need flagships in key locations. Combined with a very constrained supply, this explains the strong rental growth recorded by the high street retail sector.
- Prime high street shops in the Nordics are expected to experience the strongest rental growth. The Nordic average is boosted by the outperformance of Oslo. Other strong performers include Dublin, Bordeaux, Lyon, Milan, Prague, Toulouse, the Spanish markets and Warsaw.



Source: CBRE, Natixis and AEW Research 2018

## FOOTFALL SPECIAL FOCUS

- As consumer behaviour evolves faster than ever before, new research techniques might help both retailers and investors evaluate retail locations in greater detail.
- Footfall statistics are becoming available to assess the attractiveness of specific streets and precise addresses in cities.
- The relevance of footfall is tied to (potential) customers being exposed to the shop location which should drive spending in store. However, footfall by itself is insufficient to explain the precise potential for consumer spending in-store.
- When we review the footfall data (40 streets in 17 cities across 12 European countries), we note that famous London and Paris streets, like Oxford Street and Champs Elysee do feature in the top 10
- But, Spanish and Italian streets actually dominate the absolute footfall top 10 ranking
- When we switch to footfall per square meter of retail space, other smaller markets, like Amsterdam, Florence, Dublin and Copenhagen have strong showings in our top 10 ranking.

### HIGH STREET FOOTFALL ANALYSIS - TOP 10

RANK	STREET	CITY	FOOTFALL (MLN) 2017
1	Oxford Street	London	148.5
2	Calle Gran Via	Madrid	117.9
3	Rue de Rivoli	Paris	77.7
4	Las Ramblas	Barcelona	69.6
5	Corso Buenos Aires	Milan	65.3
6	Via del Corso	Rome	40.9
7	Paseo de Gracia	Barcelona	39.5
8	Avenue des Champs Elysées	Paris	37.8
9	Calle de Serrano	Madrid	29.3
10	Via Torino	Milan	23.4
<b>AVERAGE OF 40 STREETS</b>			<b>26.5</b>

### HIGH STREET FOOTFALL PER SQMT ANALYSIS - TOP 10

RANK	STREET	CITY	FOOTFALL PER SQMT 2017
1	Leidsestraat	Amsterdam	19,000
2	Kaufingerstrasse	Munich	16,000
3	Piazza Spagna	Rome	16,000
4	Calle Gran Via	Madrid	16,000
5	Calimala	Florence	15,000
6	Oxford Street	London	15,000
7	Stroget Ostergarde	Copenhagen	15,000
8	Grafton Street	Dublin	15,000
9	Corso Vittorio Emmanuele II	Milan	14,000
10	Kobmagergade	Copenhagen	13,000

Source: CBRE and AEW Research 2018

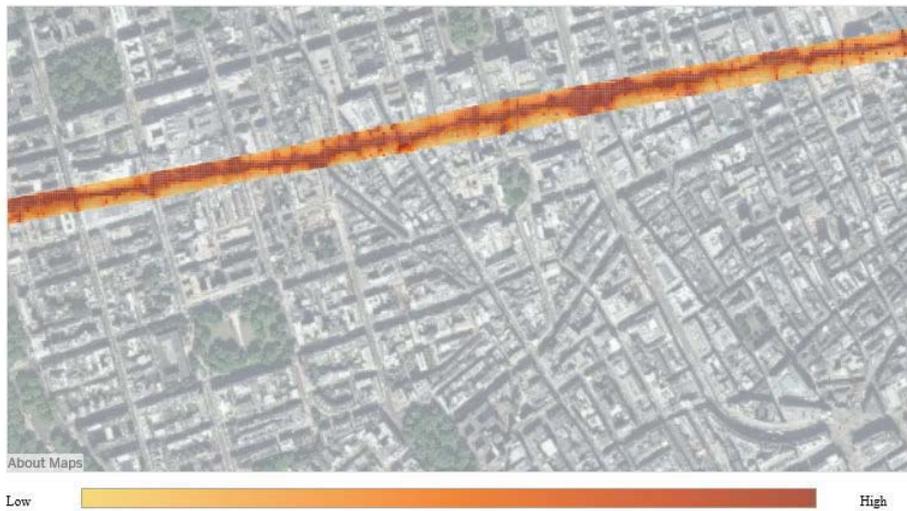
Footfall data is sourced from CBRE Calibrate and comes from a large number of app-linked sources, mostly based on mobile advertising platforms. This data allows us to understand consumer movements based on over 100 million devices, including their estimated home and work locations. The data is anonymised and does not allow us to identify specific individuals. But, precise movements on specific streets and precise addresses on these streets is possible on a 5 meter by 5 meter block basis. This allows for both a comparison of benchmark streets across cities as well as different streets inside cities.

At a later point we plan to add data on spending power from the precise visitors to differentiate the attraction for retailers targeting the mass consumer market and luxury goods segment. But, in the first instance a comparison of footfall is interesting both on an absolute level (i.e. for the last 12 months) and relative basis (per available square meter of retail space).

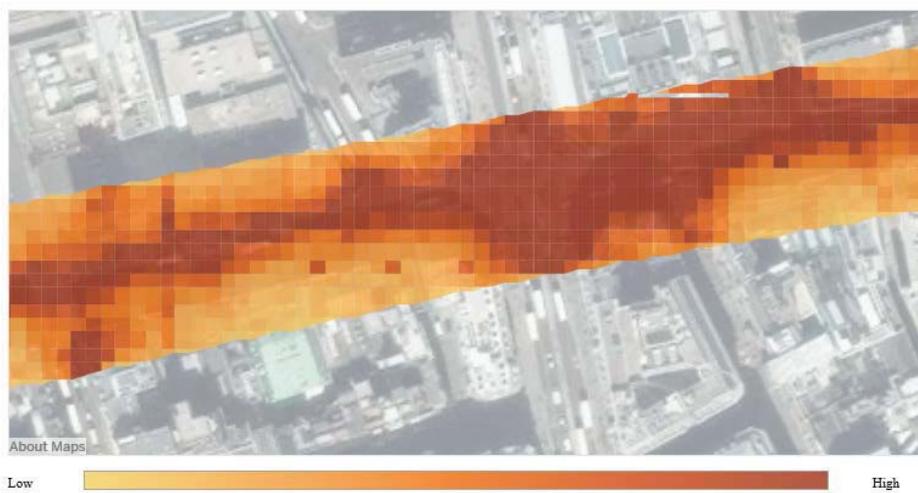
LONDON - OXFORD STREET AND BOND STREET FOOTFALL



OXFORD STREET - EAST & WEST OF OXFORD CIRCUS



OXFORD CIRCUS & IMMEDIATE SURROUNDING AREA



Sources: CBRE & AEW Research 2018

### CENTRAL PARIS FOOTFALL



### RUE DE RIVOLI FOOTFALL



### RUE DE RIVOLI - CHATELET

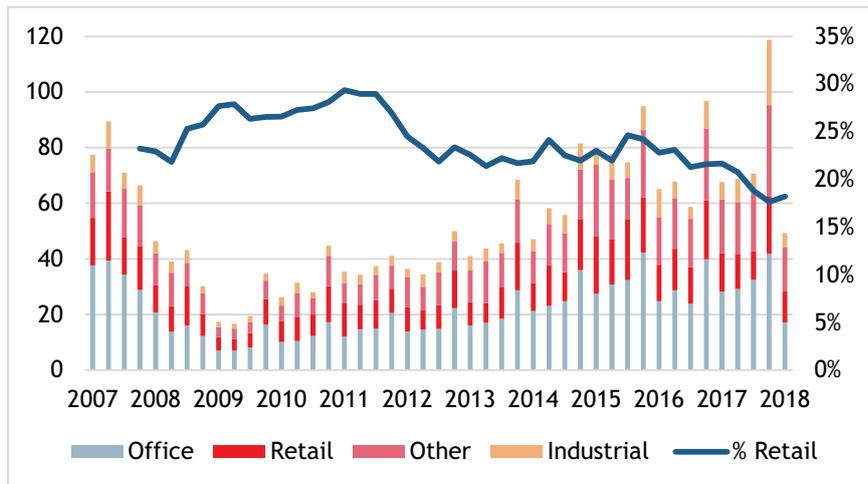


Sources: CBRE & AEW Research 2018

## SECTION III : INVESTOR PERSPECTIVE

### EUROPEAN TRANSACTION VOLUMES BY PROPERTY TYPE 2007-18 (LINE WITH % IN RETAIL)

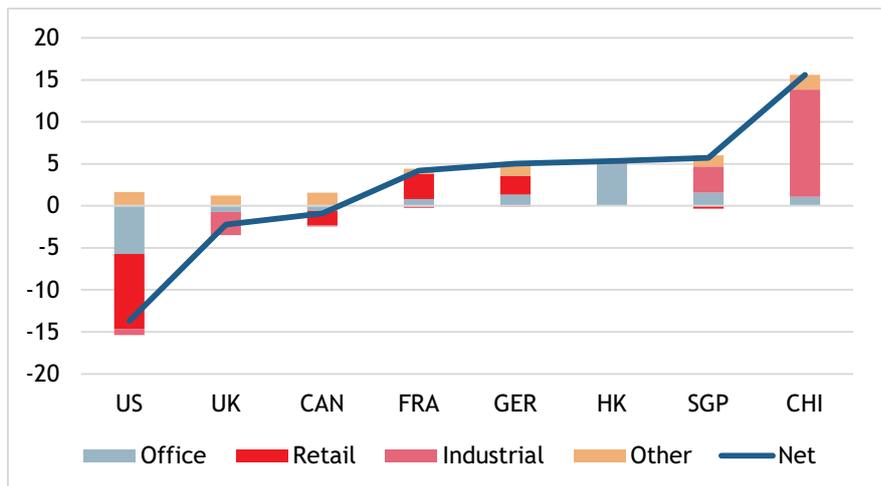
- Investments into European retail assets in the last 12 months including Q1 2018 amounted to EUR 55bn, an impressive amount by any standard.
- However, despite setting new historical records of transaction volumes, investors' commitment to retail has declined from nearly 30% in 2011 to 18% on a 12-month rolling average.
- Going forward, we might see a reversal of this trend with more portfolio and corporate deals following the pending acquisition of Westfield by Unibail Rodamco.



Sources: RCA & AEW Research 2018

### NET INVESTMENT BY SECTOR AND DOMICILE OF INVESTOR 12 MONTHS THROUGH Q1 2018

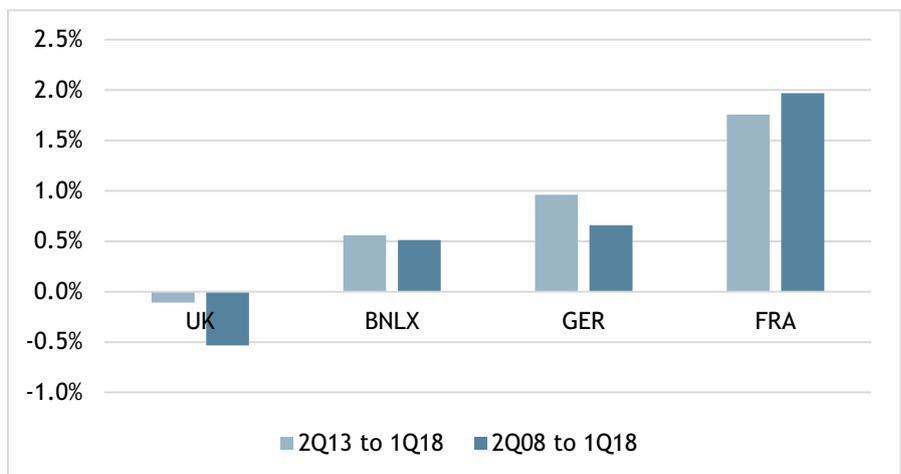
- U.S. and Canadian investors were the biggest net sellers in the last 12 months including Q1 2018.
- This was particularly true for the retail sector with over EUR 10bn of asset sales during the period by North American investors.
- It is possible that negative sentiment from the retail occupier markets in North America has triggered some of this selling.
- French and German investors were the biggest net buyers of retail during the same period with over EUR 5bn.



Sources: RCA & AEW Research 2018

### CHANGE IN AVERAGE SALES PRICE PER SQUARE METER OF RETAIL SPACE PER COUNTRY (P.A.)

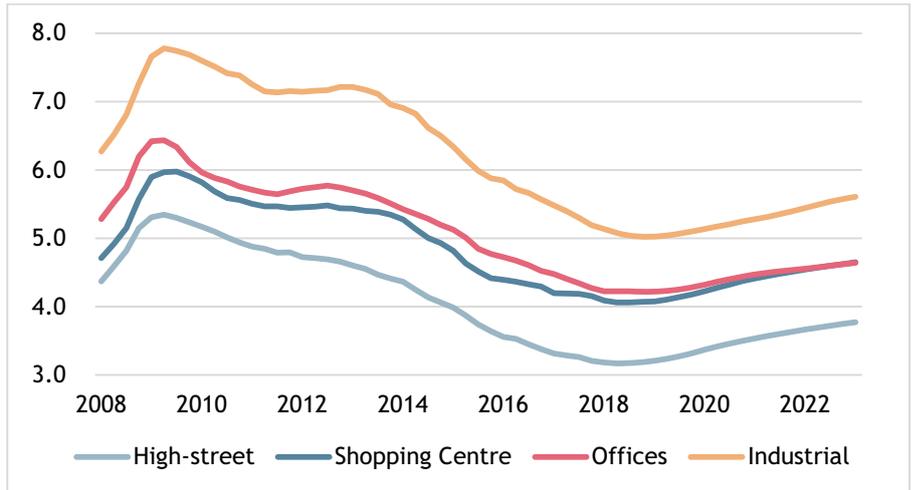
- Average sales price growth per square meter of retail space in the UK, Benelux and Germany have trended up over the last five years, when compared to the last ten years.
- French retail asset prices have gone against this trend with the strongest increase over both 5 and 10 years. The UK stands out as having price declines for both periods.
- Since this data does not reflect matched asset sales, it needs to be treated with some caution.



Sources: RCA & AEW Research 2018

AVERAGE PRIME NET INITIAL YIELDS FOR RETAIL & MAIN PROPERTY TYPES (NO. OF MARKETS)

- For the first time, our forecasts show a 40-60 bps yield widening over the next five years across all property types.
- Neither high street retail nor shopping center average prime net initial yields have suffered over the last ten years, as they tightened in line with both industrial and office yields.
- We expect a delay of increasing bond yields translating to higher property yields given the significant cushion of excess property yields over bond yields and the (slight) negative correlation of bond and property yields over the 2008-18 period.



Sources: CBRE, Natixis & AEW Research 2018

BOND YIELDS AND PROPERTY YIELDS ARE EXPECTED TO DECOMPRESS AND NORMALISE OVER THE NEXT 5 YEARS

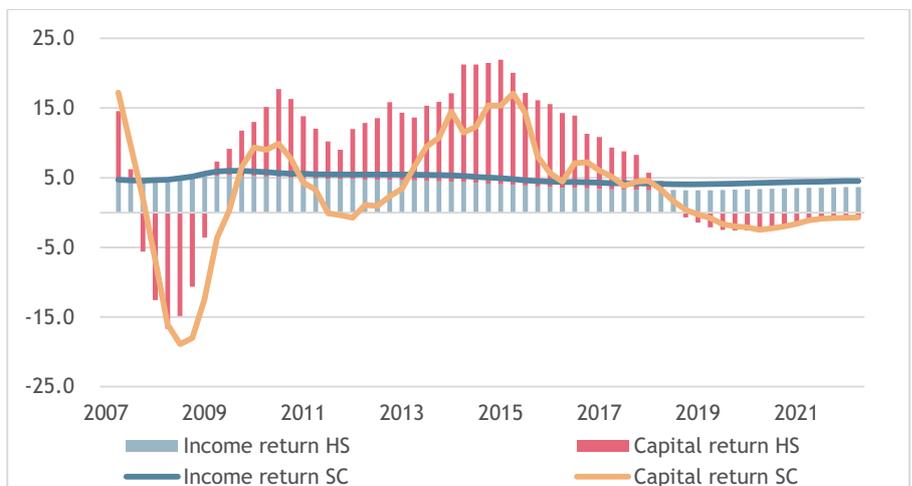
- We have updated our previous bond yield forecast and now expect a yield widening of 140 bps on average for Europe (2018-2022). This is in comparison with our modest bond yield forecast of earlier this year.
- This change in bond yield forecast reflects the latest long term Natixis forecasts, which are in line with current consensus forecasts.
- As a result of our bond yields moving out by 140 bps on average, our models now predict a widening of property yields between 40 and 60 bps over the next five years. This is a change from our Feb-18 projections.



Sources: CBRE, NATIXIS & AEW Research 2018

HISTORICAL & PROJECTED TOTAL RETURNS (INCOME & CAPITAL) FOR EUROPEAN PRIME RETAIL

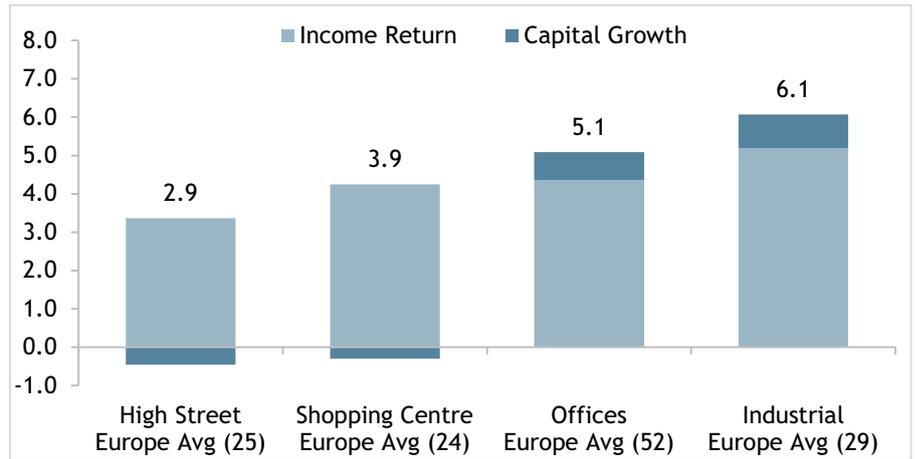
- As with other property types, total returns in retail will be focused more on income returns going forward.
- Income returns for shopping centers have been historically above high street shops and are forecast to remain so going forward.
- Perhaps investors need to be compensated for the potential larger negative impact of on-line sales penetration for shopping centers compared to prime high street shops. This seems to be consistent with U.S. trends at least.



Sources: CBRE, NATIXIS & AEW Research 2018

TOTAL RETURN FORECAST SUBDUED WITH HIGHER RETURNS IN THE NON-RETAIL SECTORS (P.A. % over 2018-22)

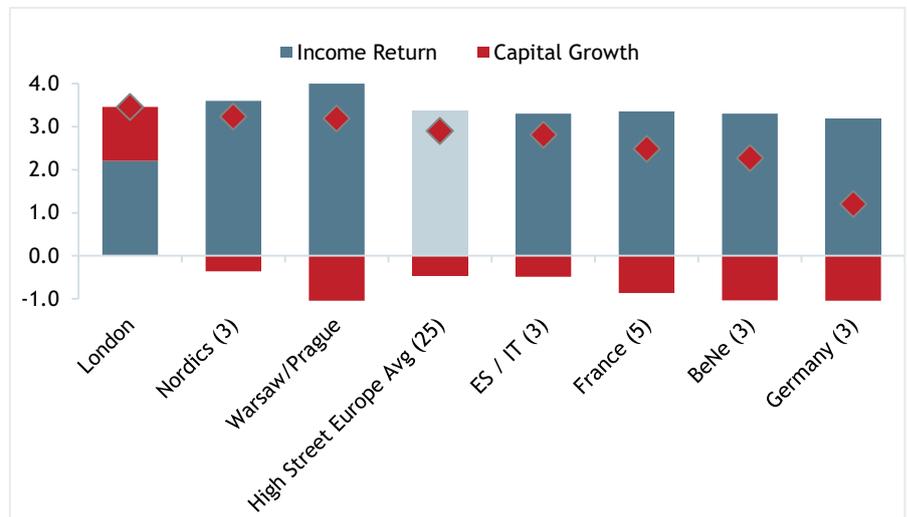
- Stronger total returns are forecast for shopping centers (3.9% p.a.) than for high street retail (2.9% p.a.) over the next five years.
- High street retail shops are expected to underperform other sectors. Yield decompression is expected to be a drag on returns given the very low current yield levels in this sector.
- Shopping centers are expected to underperform offices (5.1% p.a.) and logistics (6.1% p.a.), as the negative impact of yield decompression is not expected to be fully offset by rental growth.



Sources: CBRE, Natixis and AEW Research 2018

TOTAL RETURN FORECAST FOR HIGH-STREET ABOVE AVERAGE IN NORDICS AND CEE (P.A. % over 2018-22)

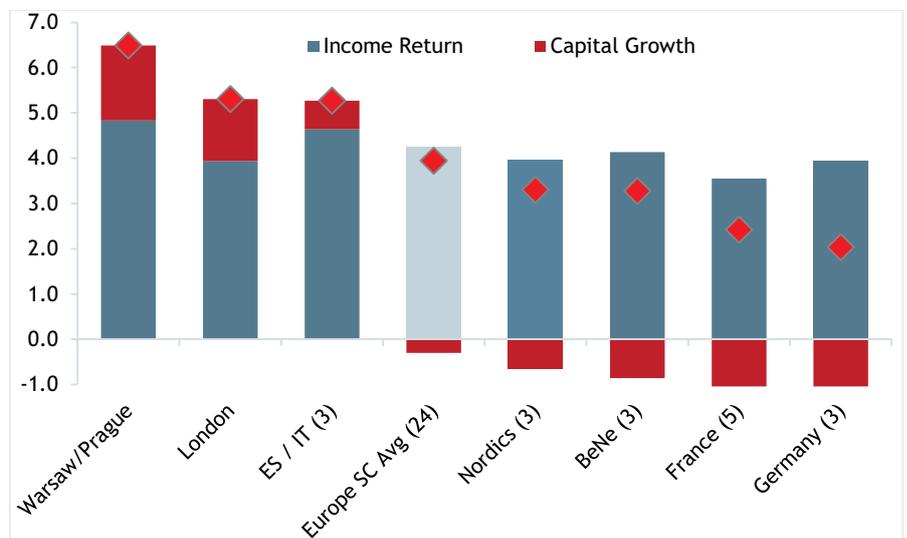
- High street retail total returns are the lowest across all property types. The latter is due to the fact that property yields for high-street are lower and therefore more sensitive to bond yield increases (a 10 bps increase impacts a yields of 2.5% more than a yield of 5.5%).
- Total returns are lowest in Germany followed by the Benelux and France amid below average rent growth to off-set yield widening.
- As bond yield widening is not as significant in the UK, there is a positive capital return over the forecast period.



Sources: CBRE, Natixis and AEW Research 2018

TOTAL RETURN FORECAST FOR SHOPPING CENTERS INDICATE GEOGRAPHICAL DIFFERENCES

- Total returns for shopping centers are geographically uneven distributed with the highest returns in Warsaw and Prague where returns are 6.5% per annum.
- On the other side, in Germany and France, total returns are respectively 2% and 2.4% amid a decline in capital values. The latter is compensated by the income return.
- The positive capital growth for Warsaw and Prague here is due to the fact that shopping center yields are less impacted than for high-street retail.

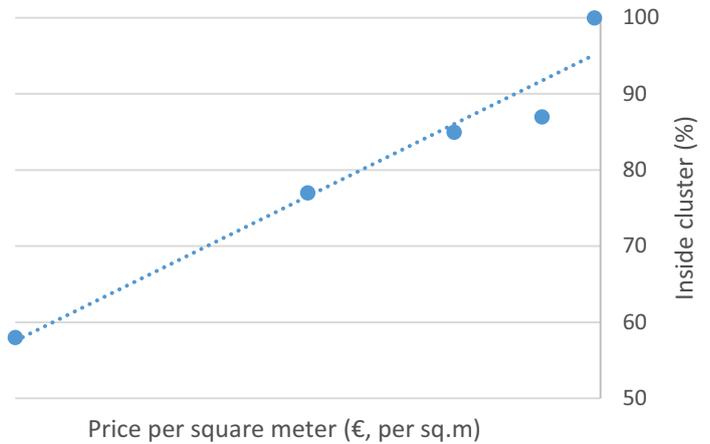


Sources: CBRE, Natixis and AEW Research 2018

# CLUSTER ANALYSIS

## RELEVANCE OF RETAIL INVESTMENT CLUSTERS IN EUROPE

- As the retail landscape evolves faster than ever before, new research techniques might help us understand retail locations in greater detail.
- We do this by focussing on geographical clusters of retail transactions that allow us to compare the ‘most attractive’ locations across cities.
- Why are these clusters relevant? They show where the heat of the retail investment market has concentrated within inner cities. Clusters may also signal quality: we observe that properties with the highest square meter prices are predominantly located inside clusters.



Sources: RCA, University of Groningen & AEW Research 2018

## METHODOLOGY OF CLUSTERING

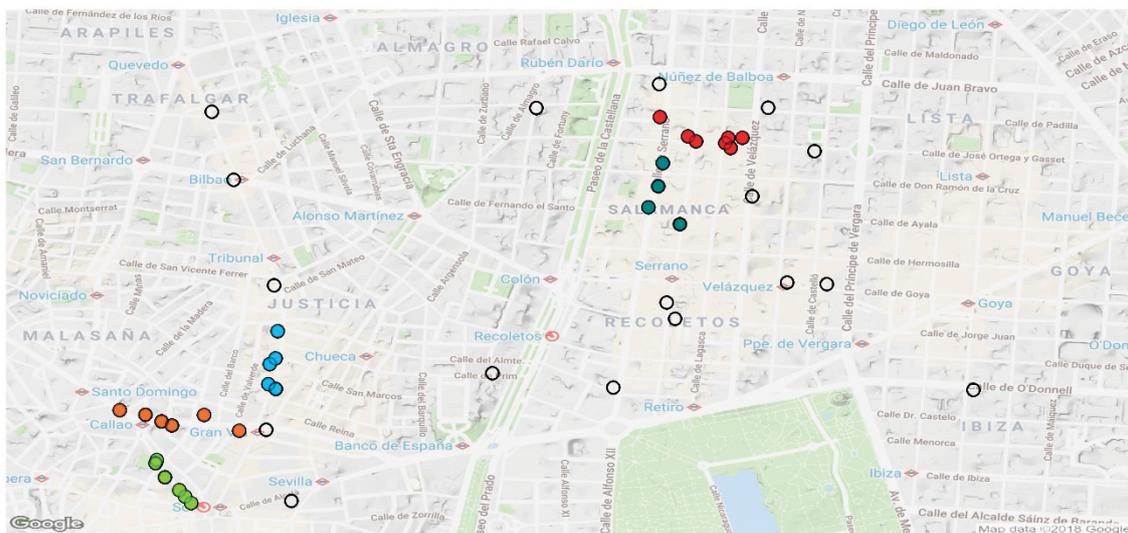
To do this, AEW worked together with the University of Groningen (Department of Economic Geography) and applied an innovative clustering algorithm that was presented by the University of Groningen at our AEW-Cambridge ‘New Data in Real Estate Lab’ in February 2018. The following steps outline the cluster methodology, which relies on geographic machine learning, in a nutshell:

- A cluster is initiated when a retail property investment transaction is surrounded by at least 3 other retail transactions within a city-specific threshold distance.
- There is no restriction on the size of a cluster as it agglomerates until all locally ‘connected’ retail property transactions are included in the cluster, defining the cluster’s final size.
- The clustering process accounts for city-level variation in building density to ensure that clusters can be compared across cities.
- Property prices per square meter are indexed to 2017 prices based on annual average square meter price across the RCA universe.

We use RCA transaction data over the 2003-2018 period and geocode all properties in the database. (cities: London, Paris, Madrid, Milan, Rome, Ghent, Amsterdam, Copenhagen, Dublin, Brussels, Vienna, Barcelona, Frankfurt, Stuttgart, Budapest, Helsinki and Prague)

## EXAMPLE OF CLUSTERING IN MADRID

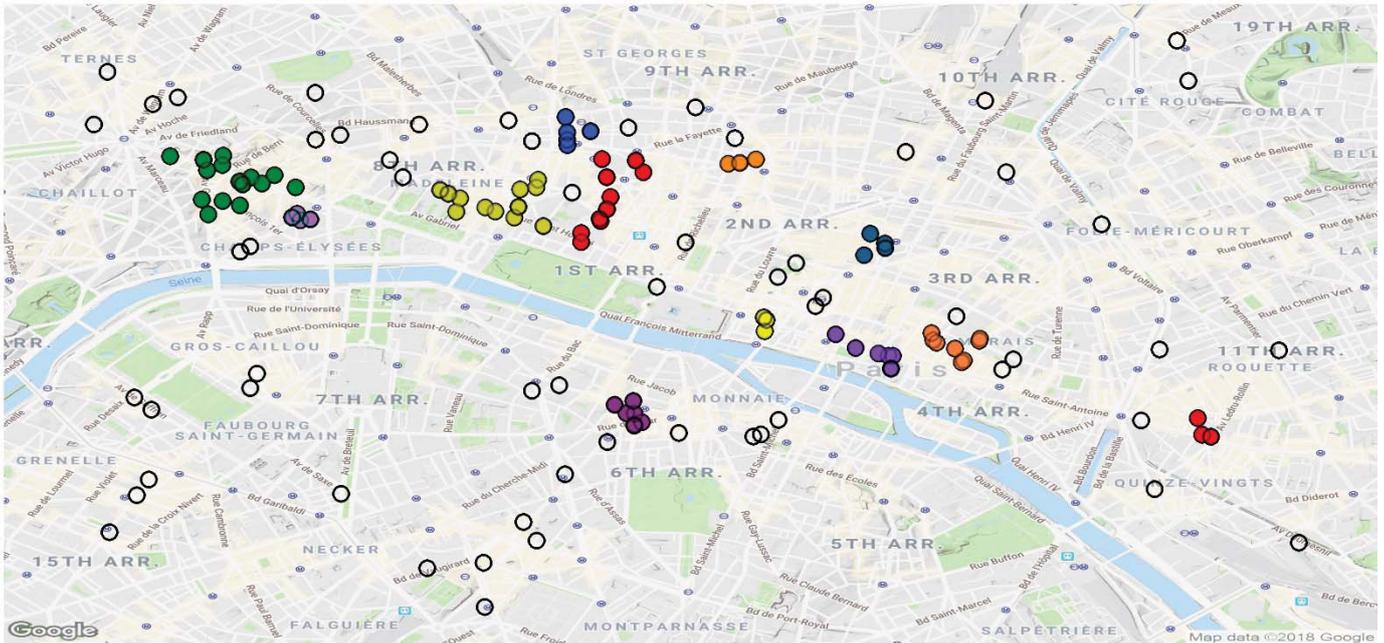
### Madrid



Sources: RCA, University of Groningen & AEW Research 2018

CLUSTERS IN PARIS & LONDON

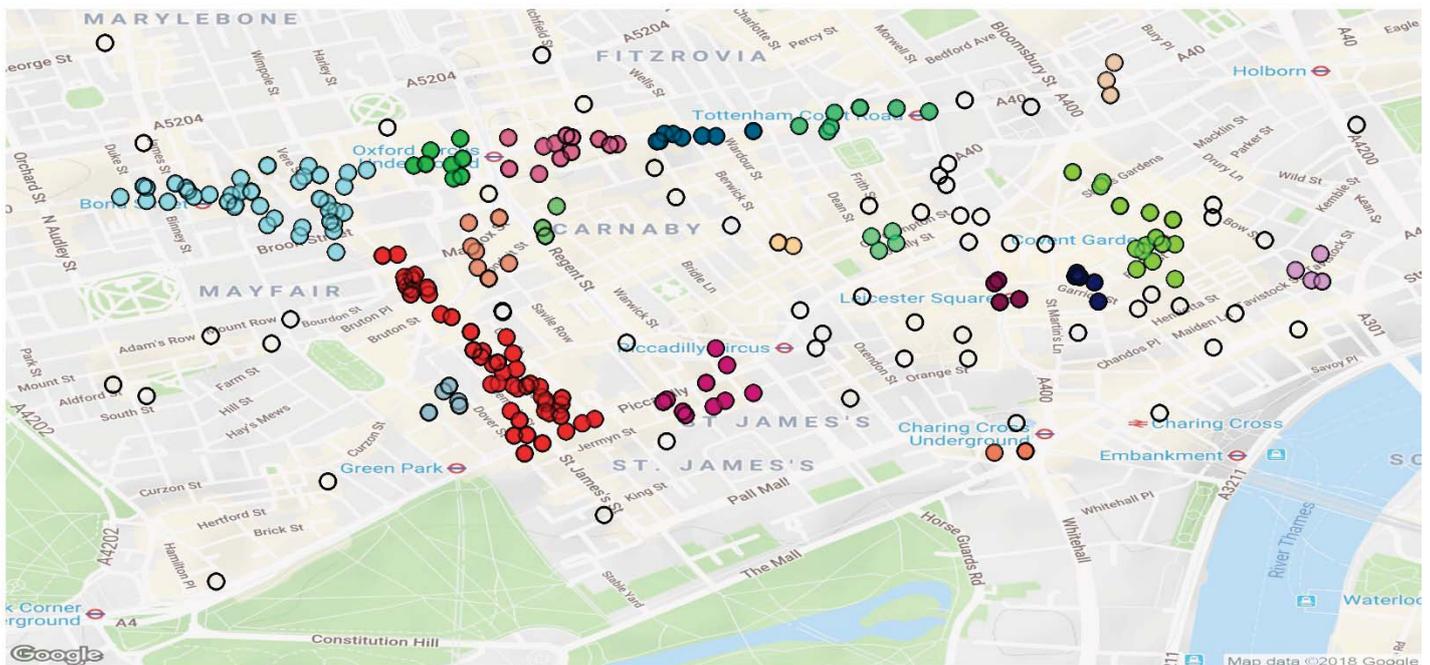
Paris



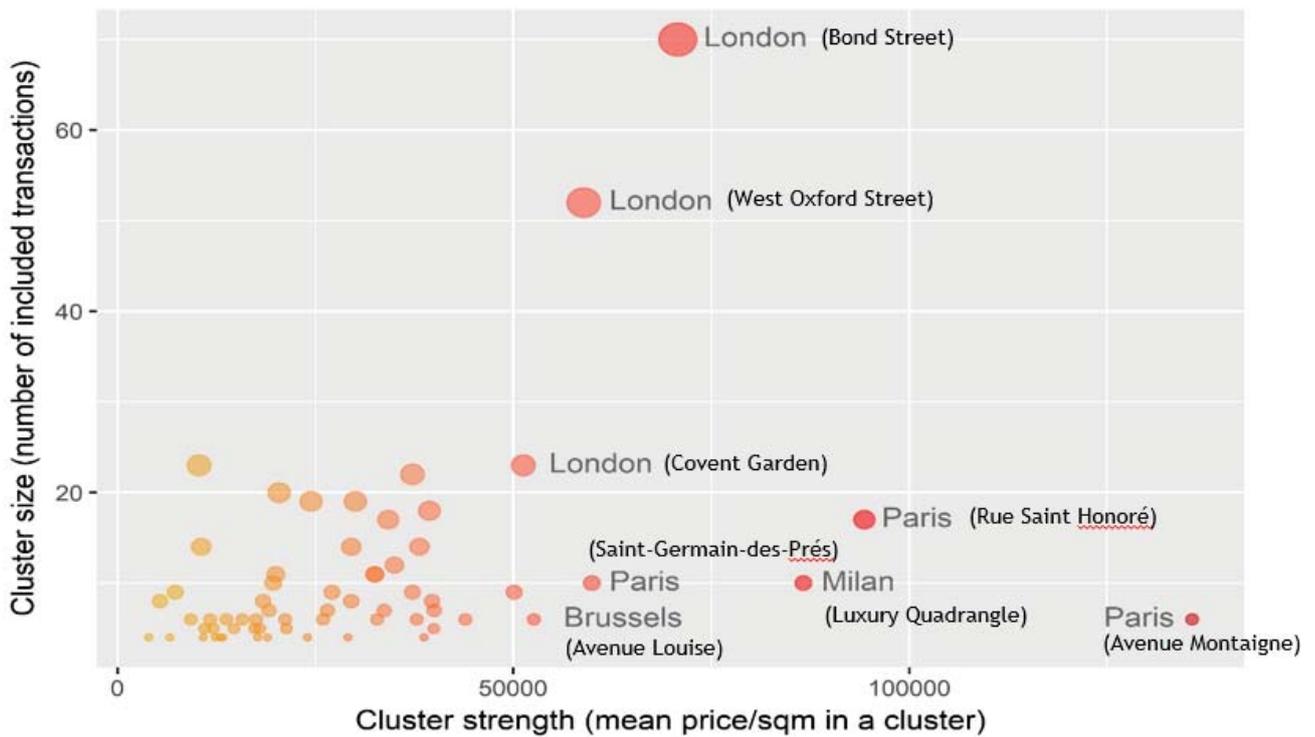
Sources: RCA, University of Groningen & AEW Research 2018

- In Paris clusters are dispersed over the city. The well-known luxury part of the French market, i.e., Avenue Montaigne, is the purple cluster on the left. It is closely connected to the Avenue des Champs-Élysées cluster in green.
- Furthermore, we identify Rue de Rivoli as the middle purple cluster with Marais closely located on the east side.
- In the lower figure, London illustrates an example of a city with many clusters within the city (most in our sample). Larger clusters around West Oxford Street and (new/old) Bond Street (highest price per square meter) can be observed on the left side. These clusters have seen the highest interest of investors. In contrast, we observe that Regent Street in London has no significant clusters due to the nature of ownership, i.e., the Crown Estate.
- Other notable clusters in London include Covent Garden on the right side and the cluster on the east side of Oxford Circus (pink colour).

London



CLUSTERING IN AN EUROPEAN PERSPECTIVE



Sources: RCA, University of Groningen & AEW Research 2018

- In the final step we summarize our cluster approach by means of a scatter plot that shows the size and price of each cluster (mean price per square meter). There are many clusters among the cities in our research, however, we observe that London has the largest clusters (West Oxford Street and Bond Street) while the most expensive, per square meter, clusters are in Paris (Avenue Montaigne).
- What now is important, is that we can consistently rank and compare clusters by size and price per square foot on an international basis.
- This quantitative tool will allow us to improve our due-diligence going forward when looking at new retail investment opportunities.

## ABOUT AEW

AEW is one of the world's largest real estate asset managers, with €59.3bn of assets under management as at 31 March 2018. AEW has over 660 employees, with its main offices located in Boston, London, Paris and Hong Kong and offers a wide range of real estate investment products including comingled funds, separate accounts and securities mandates across the full spectrum of investment strategies. AEW represents the real estate asset management platform of Natixis Global Asset Management, one of the largest asset managers in the world.

As at 31 March 2018, AEW managed €29.4bn of real estate assets in Europe on behalf of a number of funds and separate accounts. AEW has close to 400 employees based in 10 offices across Europe and has a long track record of successfully implementing core, value-add and opportunistic investment strategies on behalf of its clients. In the last six years, AEW has invested and divested a total volume of over €19.4bn of real estate across European markets.

## RESEARCH & STRATEGY CONTACTS



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