AEW

AEW RESEARCH

EXPANDING THE EUROPEAN UNIVERSE

Q2 2017

FOCUSED ON THE FUTURE OF REAL ESTATE

Market Segment	Allocation	Profile A	Profile B	Profile C
OFFICE - LILLE	0 - 15%	✓	✓	✓
OFFICE - MARSEILLE	0 - 15%	✓		
OFFICE - TOULOUSE	0 - 5%		✓	✓
OFFICE - BONN	0 - 15%	✓	✓	✓
OFFICE - ESSEN	0 - 15%		✓	✓
OFFICE - EINDHOVEN	0 - 15%	✓	✓	
OFFICE - WARSAW	0 - 9%	✓		
RETAIL - DUSSELDORF	0 - 6%	✓		
RETAIL - MANNHEIM	0 - 3%			✓
RETAIL - STUTTGART	0 - 6%	✓	✓	
RETAIL - FLORENCE	0 - 15%			✓
RETAIL - GOTHENBURG	0 - 15%	✓	✓	✓
RETAIL - STOCKHOLM	0 - 4%	✓	✓	
RETAIL - GLASGOW	0 - 2%	✓		
RETAIL - LEEDS-BRADFORD	0 - 4%	✓		
LOGISTICS - LILLE	0 - 15%	✓	✓	✓
LOGISTICS - EINDHOVEN	0 - 15%	✓	✓	✓
LOGISTICS - GOTHENBURG	0 - 5%	✓		
LOGISTICS - BRISTOL	0 - 12%			✓
LOGISTICS - PORTSMOUTH	0 - 5%		✓	✓
Active Market Allocation		14	11	11

Source: AEW

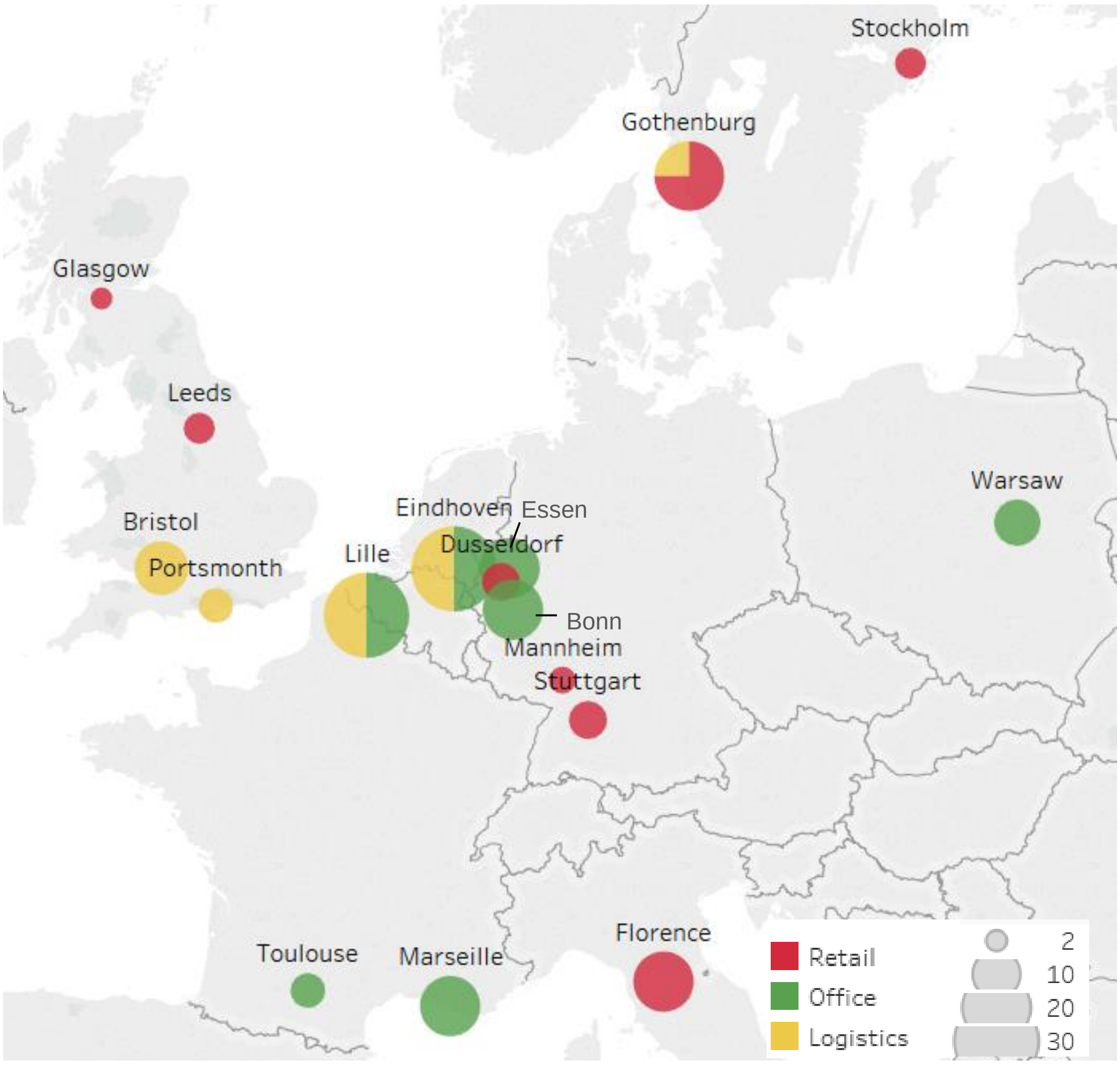
- Following our Q1 2017 report, we have now doubled our universe of real estate markets from 50 to 100. This expansion is focused on including the 100 most liquid local European markets. In fact, the average investment volume per market segment over the last five years is EUR 4.2bn across our 100 markets, while the minimum amount of investment volume for a market segment to be included in our 100 universe is EUR 180mn over the last five years. In our view, this offers sufficient choice for investors. We follow the same three-step analysis as in our Q1 report:

   1) Our proprietary market scoring now ranks the 100 most liquid markets in the European investment market based on four equally weighted drivers: economics, liquidity, risk and return
   2) The market scores are used to limit the universe from 100 to 42 markets to provide investors with a more manageable and attractive universe
   3) Optimal portfolios are constructed based on the 42 market universe to meet three different risk-return profiles

- As shown on the map, our investor-preferred optimal portfolios select 20 allocations from the 42 available segments

   1) As correlations play a big role in portfolio optimization, high return markets are not automatically included
   2) Non-gateway markets represent 100% of our optimal portfolio

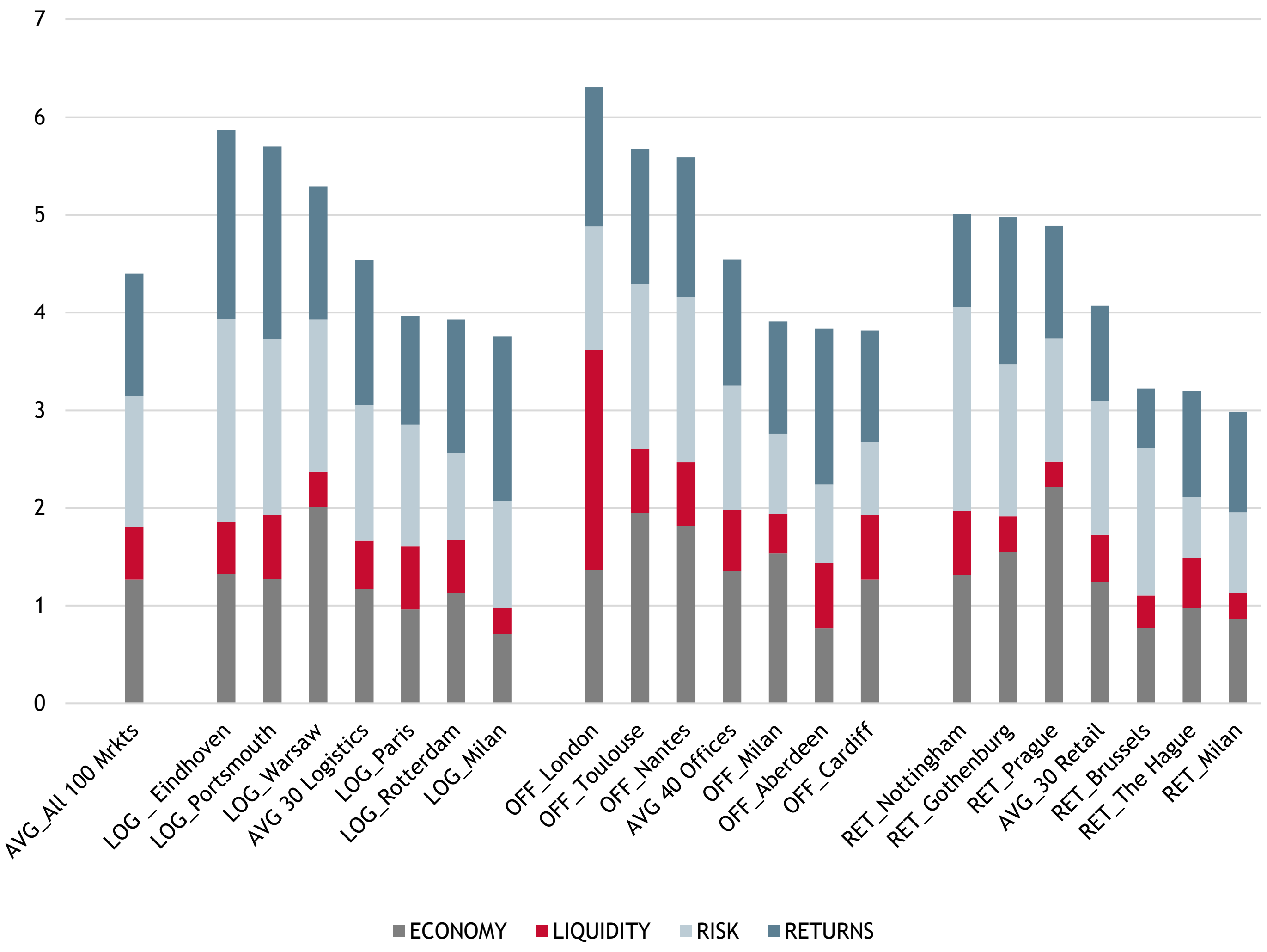
- Returns are forecasted at 7-9% p.a. on an unlevered gross basis for the next five years across the three optimal portfolios. Given this strong allocation to smaller markets across Europe, the strategy is more akin to what could be defined as a core plus strategy



Source: AEW

LONDON BUCKS TREND AS NON-GATEWAYS TOP MOST PROPERTY TYPE MARKET SCORING

- In this Q2 2017 ranking, average logistics and office markets overall scores are now tied at 4.5, just ahead of the overall 100 market average of 4.4
- London comes out top overall as well as in offices on the back of its strong liquidity score, with Toulouse and Nantes completing the office top three. Cardiff, Aberdeen and Milan are ranked in the bottom three.
- Nottingham is a surprising number one in retail due to a strong risk score, closely followed by Gothenburg and Prague. Milan, The Hague and Brussels score poorly mostly due to low risk scores
- Another newcomer, Eindhoven, enters at the top of the logistics ranking. Milan comes bottom due to low economic and liquidity scores



SEGMENTS SCORED ACROSS FOUR EQUAL-WEIGHTED CRITERIA

- Our expanded universe now includes the most liquid 40 office, 30 retail and 30 logistics (not industrial) markets across ten European countries
- To avoid distortion of absolute values in underlying variables, each criteria is normalised across its min-max range and equally weighted (25%) in the overall score
- Please note that CBRE forecasts for 73 markets were used while 27 segments were modelled by AEW using historical actual transaction yields and cross-market correlations

SCORING KEY CRITERIA	Weight
Economics - each property type has different city-level economic drivers	25%
Liquidity - last 5 years' investment volume & JLL Transparency index	25%
Risk - standard deviation, maximum drawdown and Sharpe-ratio	25%
Return - Forecasted total return for the next 5 years	25%

Sources: AEW, Oxford Economics, CBRE, RES, JLL and RCA

ECONOMIC DRIVERS CUSTOMISED FOR EACH PROPERTY TYPE

- GDP, bond yields and unemployment are common drivers
- Offices driven by specific industry sector employment growth
- Retail spending and trade GVA are key retail drivers
- Trade and transport GVA as well as retail spending are logistics factors

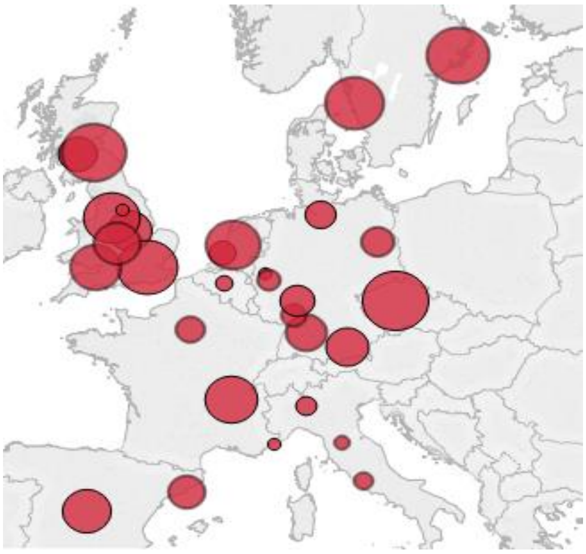
ECONOMIC DRIVERS	OFFICE	RETAIL	LOGISTICS
10y bond yield	3%	3%	3%
National GDP	2%	2%	2%
GVA - Manufacturing	-	-	3%
GVA - Trade	-	8%	5%
GVA - Transportation & storage	-	-	5%
Employment - ITC	4%	-	-
Employment - Finance & Insurance	4%	-	-
Employment - Real Estate	4%	-	-
Employment - Admin & support	4%	-	-
Unemployment	4%	4%	4%
Retail Spending	-	8%	3%

Sources: AEW, Oxford Economics, CBRE, RES, JLL and RCA

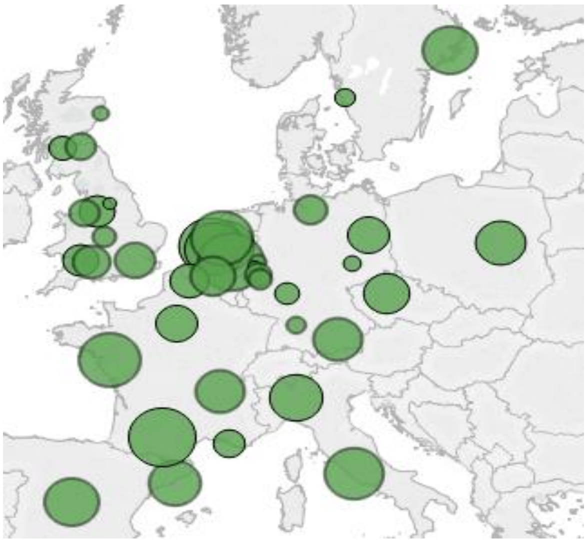
ECONOMIC SCORE

- The three maps presented here show both the property type-specific economic scores as well as the exact markets covered
- UK retail markets in general score well triggered by strong retail spending projections, with Prague and Swedish markets also showing strong results
- Regional Dutch and French office markets show high economic scores on the back of above average employment growth. Italian and Spanish markets also do well, as they are coming from a lower base
- If the new French president Macron implements his labour market reforms sooner than expected, the boost to French competitiveness might be stronger than initially expected, boosting office and possibly other property type economic scores
- Economics scores in logistics are especially strong in Polish and Czech followed by Swedish, Dutch and UK markets
- Italian logistics economic scores remain restricted by low national GDP and GVA growth

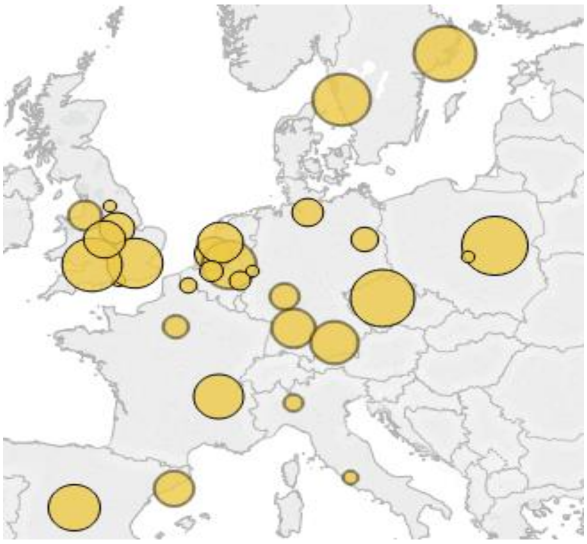
Retail Markets Economic Scores (Q2 2017)



Office Markets Economic Scores (Q2 2017)



Logistics Markets Economic Scores (Q2 2017)



Sources: AEW & Oxford Economics

LIQUIDITY SCORE

- Liquidity scores are mapped in concentric rings per market per property type with retail in red, office in green and logistics in yellow. Total transaction volumes over the last five years are represented by the coloured concentric rings for each market's property type

- London and Paris offices remain the most liquid segments across our European markets

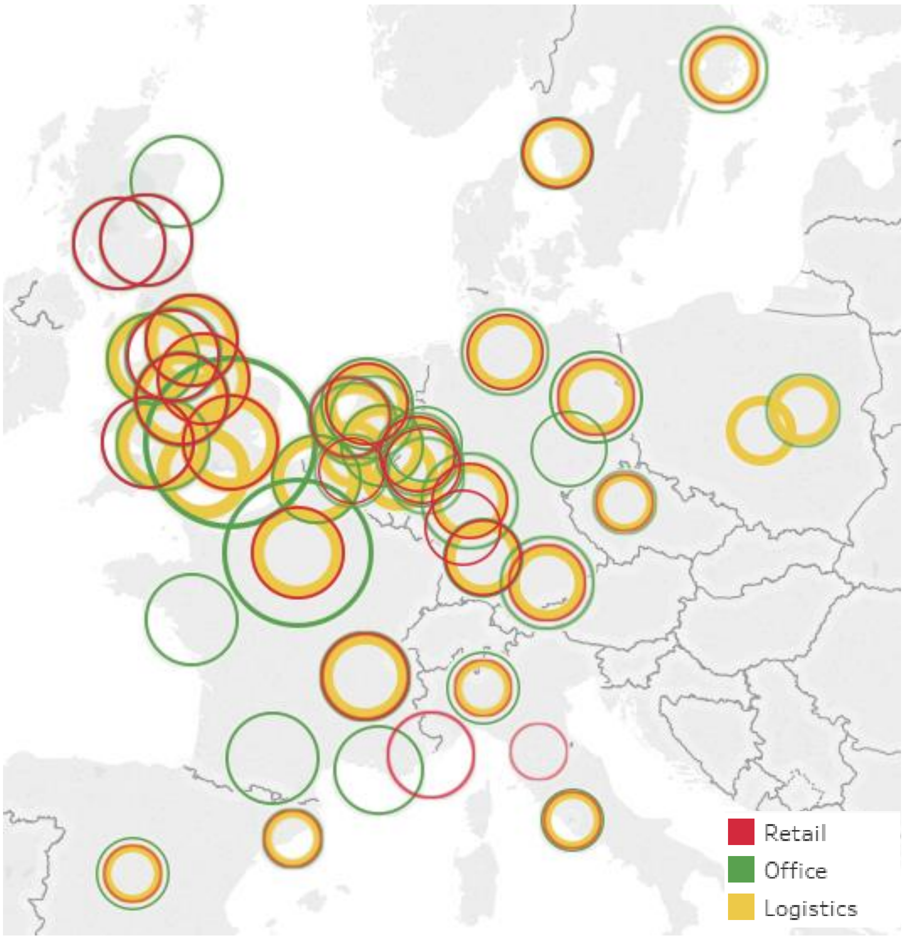
- In respect to retail markets, we note the strong scores for regional UK, French and Dutch markets. Lack of data transparency on deal volumes is a major issue for Spanish, Italian and even German markets, impacting their liquidity scores negatively. As more deal details are expected to become available in future, we expect these scores to change

- Provincial French, German and Dutch office markets also show good liquidity scores. An unexpected strong performer in both offices and logistics is the regional Dutch market of Eindhoven. As a technology centre, this market is expected to continue to attract investment

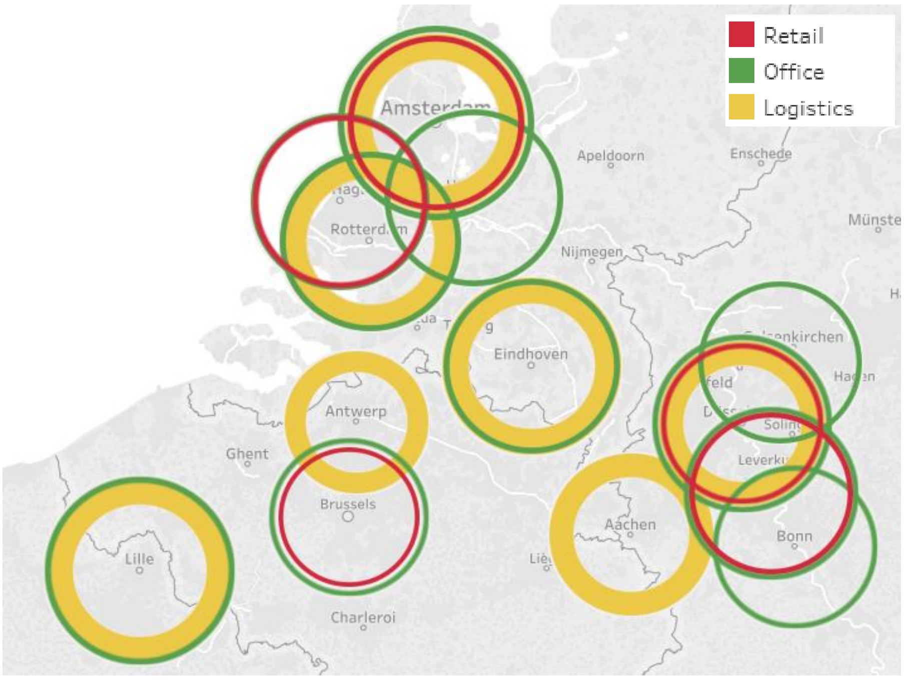
- Logistics shows good liquidity across regional UK, French and Dutch markets in particular. Similar to retail, lack of data transparency remains a major issue as well

- We map the Benelux markets separately, as markets are located in close proximity

Liquidity Score - Europe



Liquidity Score - Benelux

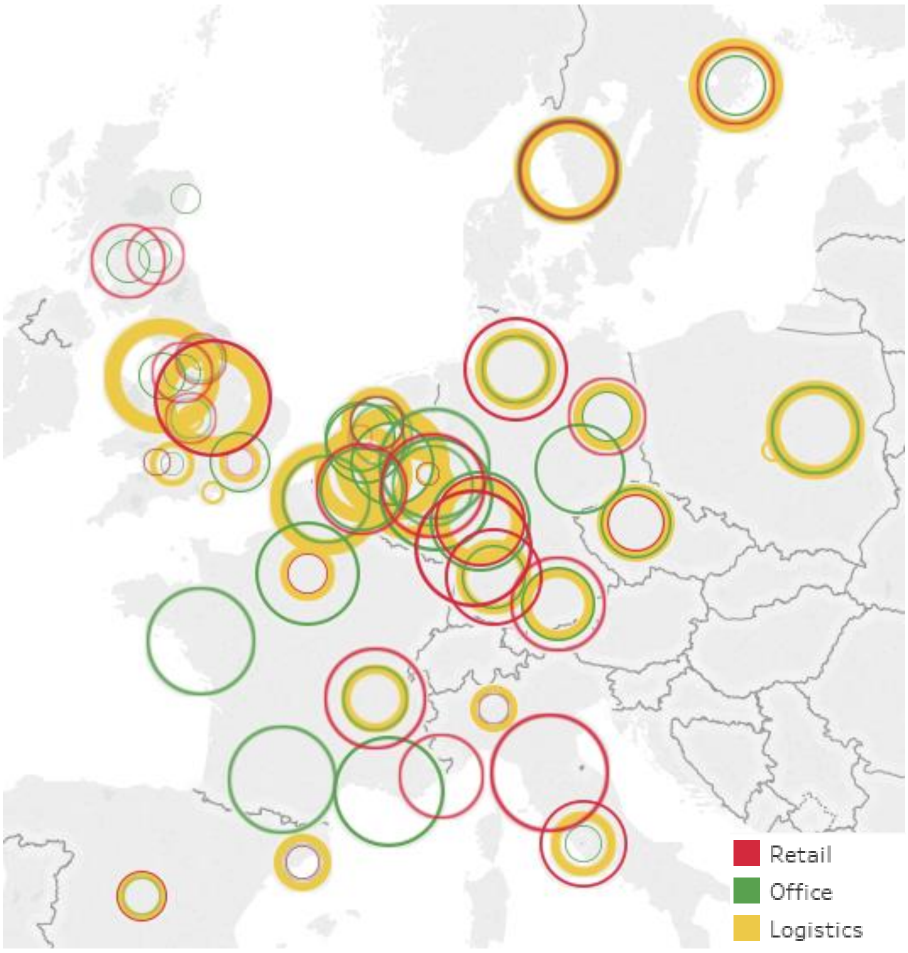


Sources: AEW & RCA

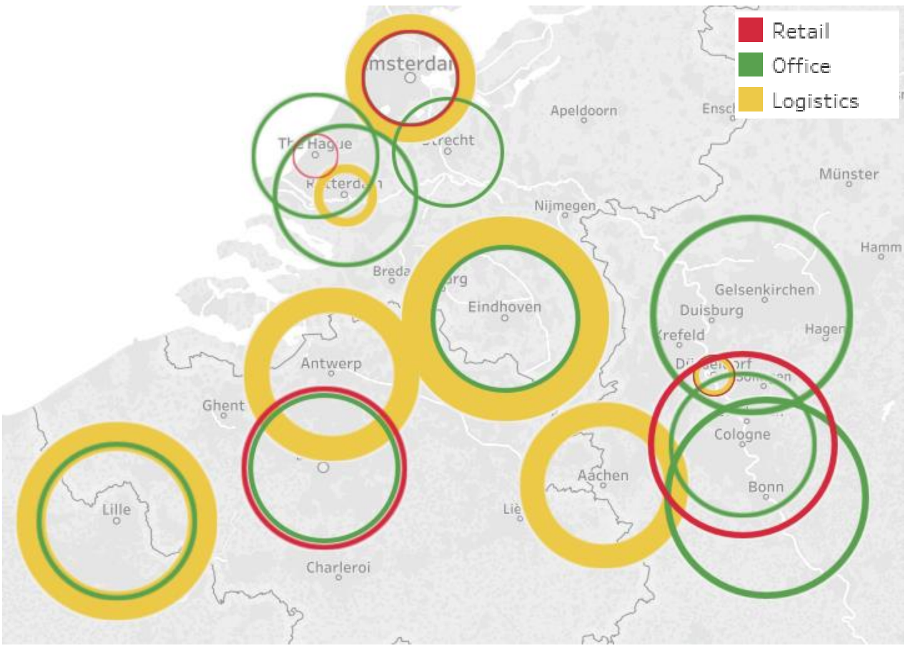
RISK SCORE

- Risk scores are again mapped in concentric rings per market per property type, following the same colour scheme. The bigger the ring, the higher the risk score – the lower the risk
- In general most provincial French, German and Benelux markets show good risk scores
- Many regional UK and Spanish markets do not have strong risk scores, partly due to a delayed recovery from a deeper downturn compared to other markets. In the case of the UK, the delay might be tied to the Brexit-related uncertainty
- The highest risk score is observed for the Florence retail market, while the Bristol office market exhibited the lowest risk score
- Some regional logistics markets also have very attractive risk scores, including Liverpool and Eindhoven
- As a reminder, our risk scores are based on historical standard deviation (10%), Sharpe ratio (10%) and maximum drawdown (5%)

Risk Score - Europe



Risk Score - Benelux

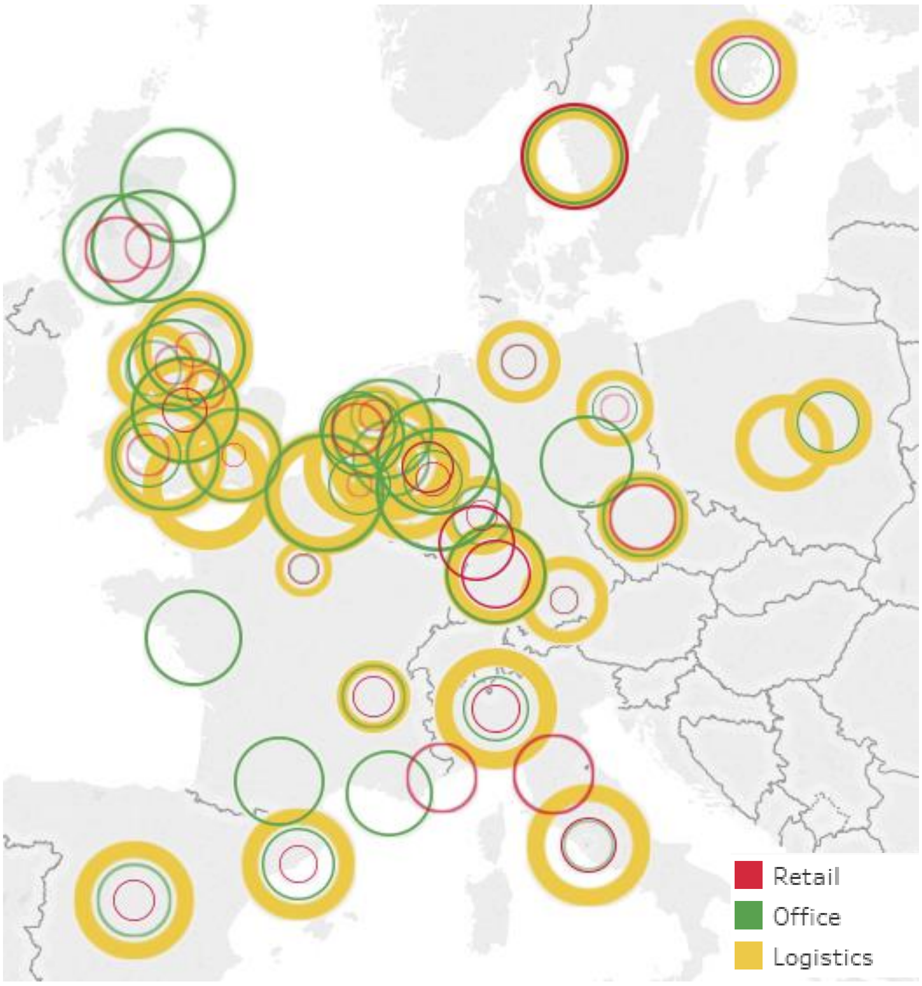


Sources: AEW, JLL & CBRE

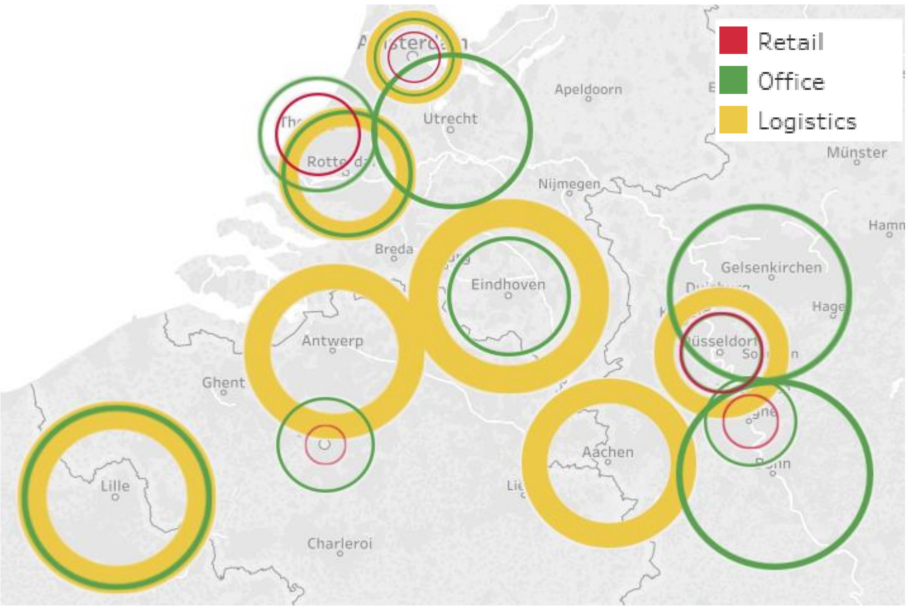
RETURNS SCORE

- Returns scores are again presented in the same exact fashion as liquidity and risk scores with the concentric rings per property type
- Logistics markets stand out very clearly on the maps and show high return scores pushed by strong cyclical recoveries. French, UK and Dutch logistics segments lead, but Italian and Spanish markets are not far behind
- Regional German, French and UK office segments are in the second league of return scores, as the economic recovery is starting to reach these economic centres
- Only three retail markets from the 30 scored have a return score above the overall average of 100 markets.This is partly driven by the strong recovery already seen in most prime retail segments
- As with last quarter, the return score is based on total return (10%), income return (10%) and capital growth (5%)

Returns Score - Europe



Returns Score - Benelux

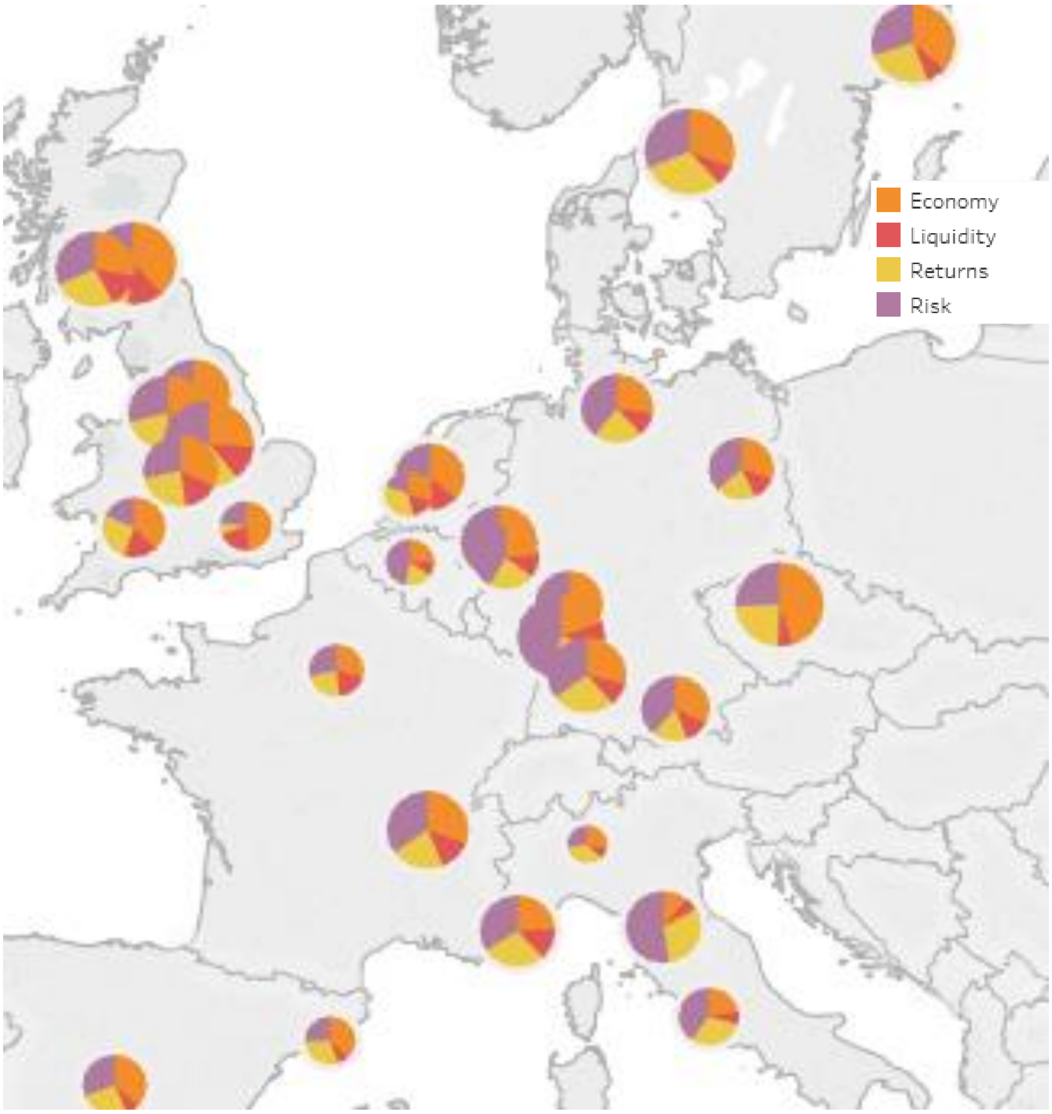


Source: AEW, CBRE & RES

OVERALL MARKET SCORES - RETAIL

- In presenting our overall scores for the markets per property type, we show each segments' four sub-scores in different colours showing their contribution and the size of the pie representing the overall score. The bigger the pie, the higher the overall score, the stronger the market
- Nottingham, an unexpected newcomer to the retail universe comes top of the retail market scoring, driven by the strongest risk score implying strong price stability. In regional markets, historical price stability can be linked to lower transaction volumes despite our minimum hurdles for inclusion in the universe. This lack of liquidity might limit investors' ability to enter the market
- Gothenburg comes second on the back of a strong return score, followed by Prague which has the strongest economic score
- Milan shows the lowest overall retail score due to its low risk sub-scores. This is driven by its above average historical volatility
- The Hague and Brussels also score poorly in the Q2 retail rankings, due to risk and economic sub-scores

Retail Markets Overall Scores

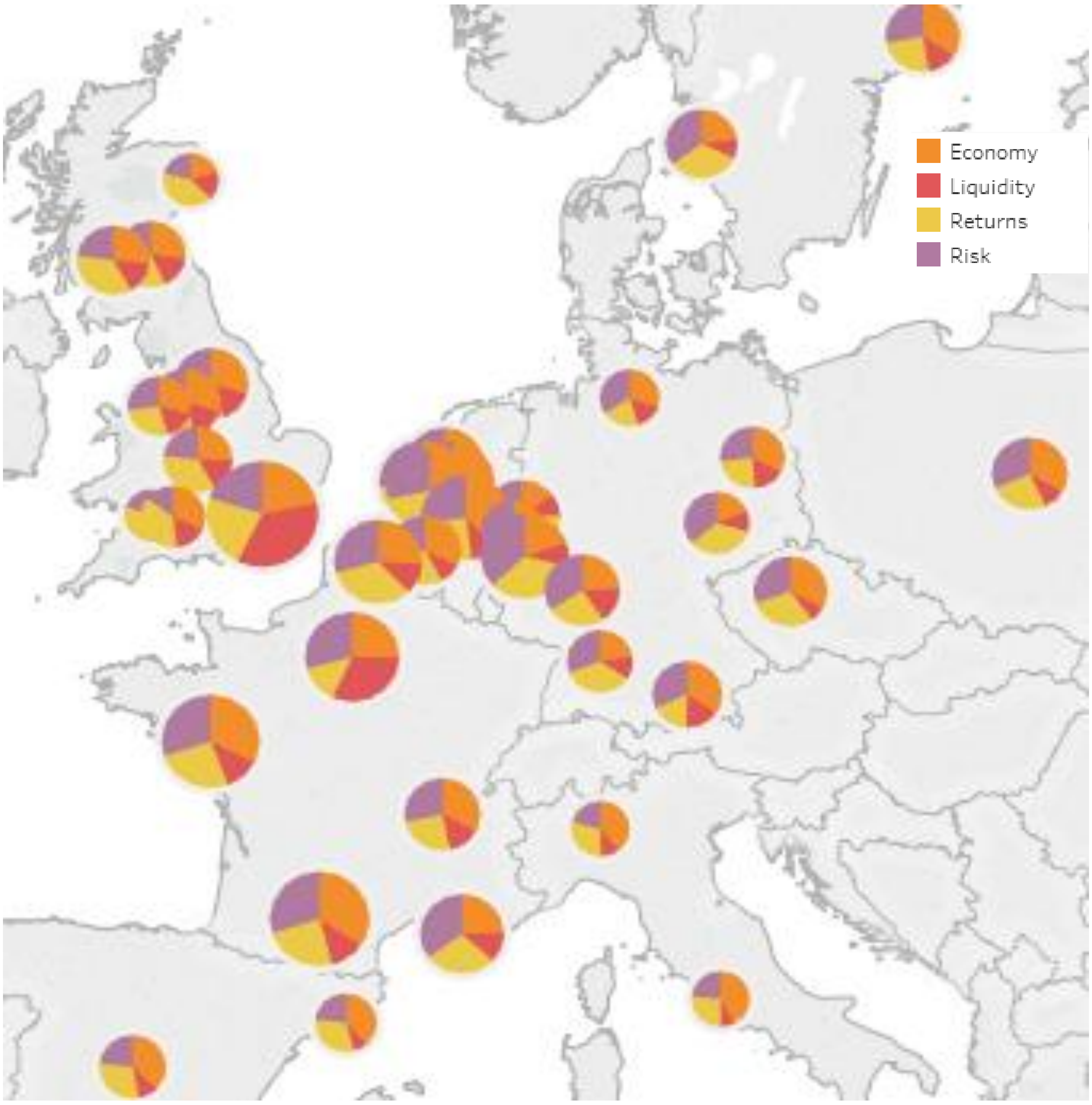


Source: AEW

OVERALL MARKET SCORES - OFFICE

- London tops both the all-property type and offices rankings, due to its strong liquidity score
- Toulouse, Nantes and Paris are the next highest ranking office markets. Paris offsets a low return sub-score with a strong liquidity score. The regional French markets do well, especially on risk and economics
- Many of the regional UK office markets rank poorly in the European context. Milan and Rome are restricted by their historical price volatility
- Despite mostly modest scores for German markets, Bonn stands out as a top 10 office market

Office Markets Overall Scores

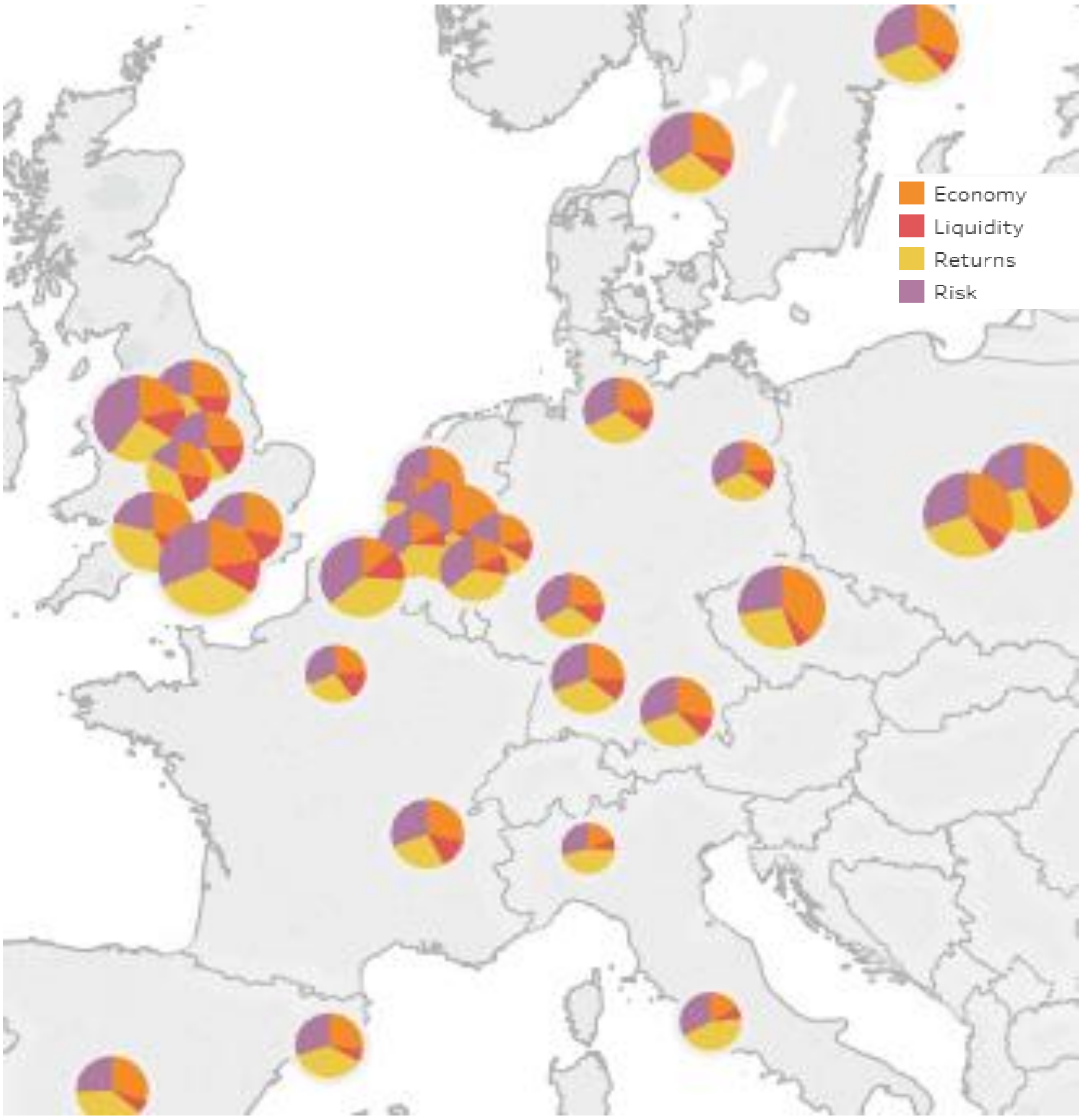


Source: AEW

OVERALL MARKET SCORES - LOGISTICS

- Eindhoven, another unexpected newcomer to our universe comes top of the logistics market scoring, driven by the second strongest risk score across the entire 100 market universe
- Portsmouth comes second on the back of a strong return score, followed by Warsaw which has the second strongest economic score across the full 100 market universe
- Milan shows the lowest overall logistics score due to it's low economics and liquidity sub-scores
- Rotterdam and Paris also score poorly in the Q2 logistics rankings, due to risk and returns sub-scores

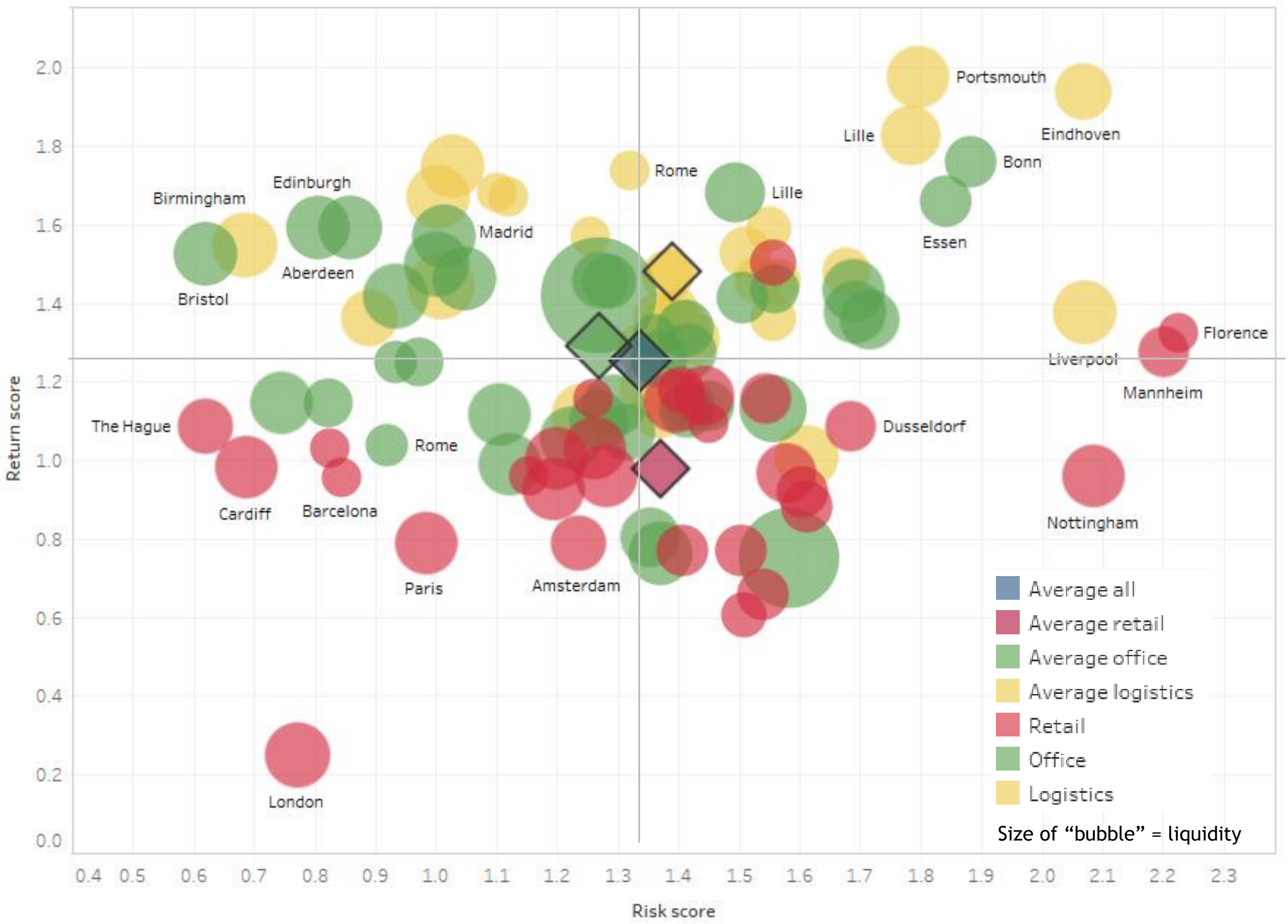
Logistics Markets Overall Scores



Source: AEW

LIMITED 42 MARKET UNIVERSE IDENTIFIED BY ABOVE PROPERTY TYPE MARKETS SCORE

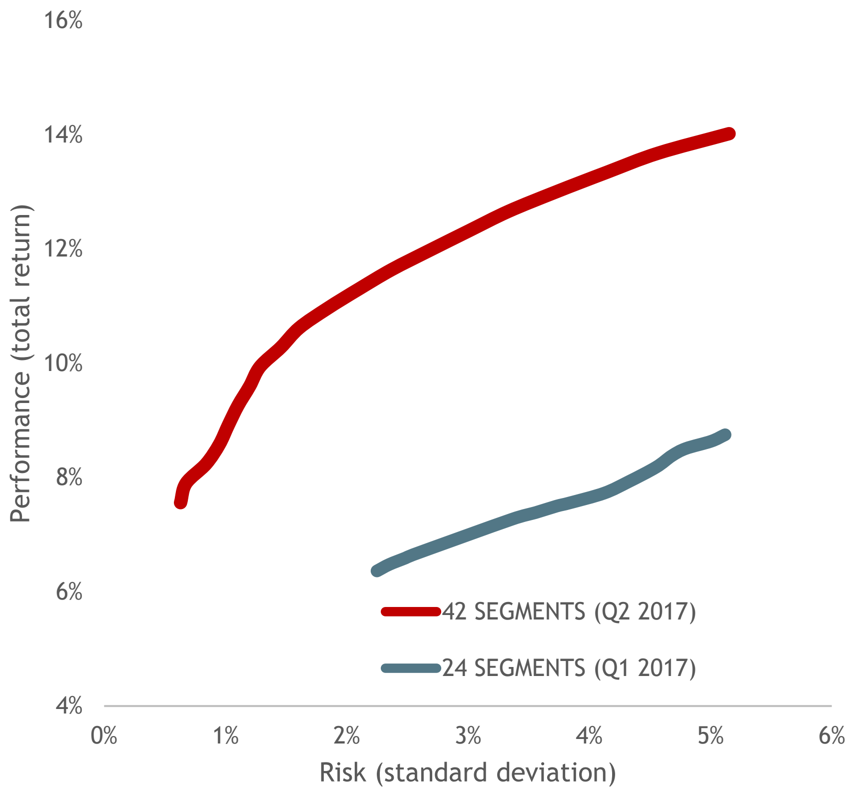
- 100 markets is still a lot for most managers and investors, so to reduce the number of markets while preserving the property type mix, we selected the 42 market segments each with an overall score above their respective average property type overall score
- The below bubble chart shows clearly the distribution around the 100 market universe average and each of the property type and overall averages are represented by the diamonds



Source: AEW

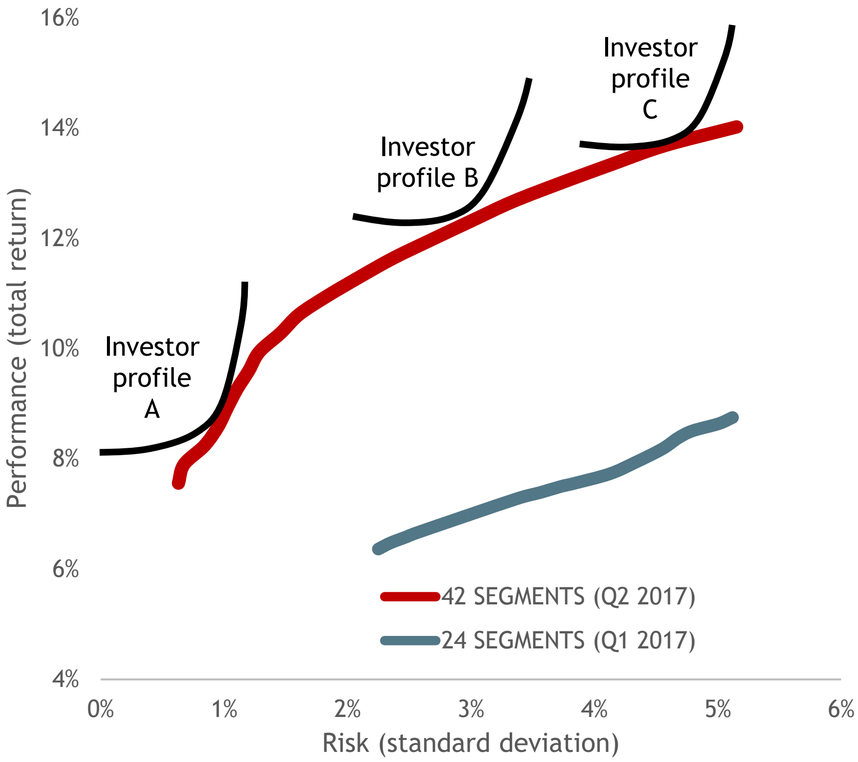
ADDING ADDITIONAL MARKETS IMPROVES THE OPTIMAL PORTFOLIO SIGNIFICANTLY

- As with the Q1 analysis, the optimal portfolio with the 42 above property type average ranked market segments, has better risk-returns dynamics and validates our market scoring
- Even at low risk, by expanding the universe from 24 to 42 segments, investors can nearly double returns. But, returns represented here include both future and past returns
- We used five allocation restrictions:
  - not more than 15% in a single segment
  - not more than 20% in a single city
  - not more than 50% in a single country
  - not more than 50% in office or retail
  - not more than 25% in logistics



MULTIPLE PORTFOLIO OPTIONS FIT TO INDIVIDUAL RISK PREFERENCES

- A range of optimal portfolios fit to a individual investors' risk-return preferences
- Risk averse investors (Profile A) allocate among the 42-market universe
- Average investors (Profile B) can improve returns by increasing risk and using the final portfolio
- High risk investor (Profile C) can further improve returns by taking more risk
- High risk investors can also consider Core Plus and Value Add strategies



Source: AEW

PORTFOLIO ALLOCATIONS ENTIRELY OUTSIDE GATEWAYS

- Non-gateway markets dominate our new optimal portfolio with 100% of the total allocation
- A number of surprising markets make it into the portfolio, including Eindhoven and Gothenburg
- Other markets, like Lille and Marseille were already part of the Q1 optimal portfolio
- Across the 20 markets selected for the three optimal portfolios only between 11 and 14 are actively allocated
- Despite showing a strong overall market score, London offices does not get an allocation in the optimal portfolio due to its insufficiently attractive average return and risk profile
- Returns for these new optimal portfolios are forecasted to be between 7-9% for the next five years, a healthy increase from the estimated returns for the Q1 2017 analyses at 5.5-6.0%
- Please note that these higher forecasted returns are linked primarily to our expanded investment universe, which includes more markets with higher performances

Market Segment	Allocation	Profile A	Profile B	Profile C
OFFICE - LILLE	0 - 15%	✓	✓	✓
OFFICE - MARSEILLE	0 - 15%	✓		
OFFICE - TOULOUSE	0 - 5%		✓	✓
OFFICE - BONN	0 - 15%	✓	✓	✓
OFFICE - ESSEN	0 - 15%		✓	✓
OFFICE - EINDHOVEN	0 - 15%	✓	✓	
OFFICE - WARSAW	0 - 9%	✓		
RETAIL - DUSSELDORF	0 - 6%	✓		
RETAIL - MANNHEIM	0 - 3%			✓
RETAIL - STUTTGART	0 - 6%	✓	✓	
RETAIL - FLORENCE	0 - 15%			✓
RETAIL - GOTHENBURG	0 - 15%	✓	✓	✓
RETAIL - STOCKHOLM	0 - 4%	✓	✓	
RETAIL - GLASGOW	0 - 2%	✓		
RETAIL - LEEDS-BRADFORD	0 - 4%	✓		
LOGISTICS - LILLE	0 - 15%	✓	✓	✓
LOGISTICS - EINDHOVEN	0 - 15%	✓	✓	✓
LOGISTICS - GOTHENBURG	0 - 5%	✓		
LOGISTICS - BRISTOL	0 - 12%			✓
LOGISTICS - PORTSMOUTH	0 - 5%		✓	✓
Active Market Allocation		14	11	11

Source: AEW

ABOUT AEW

AEW is one of the world's largest real estate asset managers, with €60.2bn of assets under management as at 31 March 2017. AEW has over 600 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 2017, AEW managed €26.6bn 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 €22.0bn of real estate across European markets.

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