The logistics sector has become a fundamental part of the global economy. The evolving macro-economic framework, technological innovation, changing demographics, swings in trade patterns and changes in customer behaviour – notably the rise of e-commerce - are having a profound impact on global supply chains. As competition is stiff, the logistics industry has to be increasingly flexible as satisfying consumer’s needs in different markets requires a flexible supply chain that can adjust easily to unforeseen circumstances. Structural drivers create demand for logistics real estate. At the same time, the more cyclical drivers of demand are rapidly improving. This combination of factors makes us particularly confident about the prospects of the sector.

Investor interest for logistics assets keeps increasing, partially due to the relatively attractive yields offered compared to other types of property but also as a result of the progressive institutionalisation of the logistics sector, which has resulted both in improving asset quality and investment turnover. Overall, logistics investment has always been and still is about income. This is reflected in its investment performance. For example, the importance of income return in Europe is on average 52% and 72% for the residential and retail sectors, respectively. The equivalent figure for the logistics sector is 91%. This is why we recommend income-driven investors to have a closer look at the logistics sector.

However, savvy investors should always be wary of the different features of each European market. In this note, and to the benefit of our investors, BNP Paribas REIM Research has analysed different drivers of performance and ranked European markets according to their potential for out-performance.
WHY EUROPEAN LOGISTICS

The logistics\(^1\) property sector has proven to be a solid and defensive asset class, providing an attractive return profile over time. Investment in this sector has increased considerably, as this property class has gained favour with investors, leading to more transparency and liquidity. According to BNP Paribas Real Estate, the investment volume in European logistics was approximately 38 billion in 2017, the new record year. Moreover, while logistics investment represented around 8% of total commercial investment in 2012, this share has mounted to 14% in 2017.

TOTAL RETURNS

Logistics has been one of the best-performing property sector both in the medium and long term. Since the start of the pan-European MSCI series in 2001, total returns for the logistics sector have equalled 8.5% per annum (Exhibit 1).

EXHIBIT 1: HISTORIC TOTAL RETURNS – PAN EUROPEAN

<table>
<thead>
<tr>
<th>%</th>
<th>retail</th>
<th>office</th>
<th>logistics</th>
<th>residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max (17 years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: MSCI

INCOME RETURNS

One of the most attractive features of logistics is its high income return. The level and stability of the income return offered by logistics remain attractive to a number of investors, especially those with liability matching mandates (Exhibit 2).

EXHIBIT 2: PRIME YIELDS AND BOND RATES IN EUROPE\(^2\)

With an average historical spread over office yields at around 200 basis points, logistics clearly outperforms on a current income basis. However, the progressive institutionalisation of the logistics sector, along with increasing liquidity, has reduced investors’ risk premium relatively to other sectors. Indeed, the logistics-office yield gap in Q1 18 was around 170 points.

Finally, the current spread over bond rates – currently 450 bps - should act as a buffer against increasing bond rates over the next few years.

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1. We use the “logistic” denomination to describe what performance indicators (e.g. MSCI indices) call industrial. Indeed, logistics assets represent the most important part of the industrial sector nowadays.

2. Average of the main European markets.
CYCLICAL DRIVERS

Macroeconomic drivers are often a starting point in analysing future demand for logistics space, as the relationship between GDP and demand for logistics is quite robust. While local employment and population growth tends to correlate to logistics, variables such as national retail spending and manufacturing trends provide strong indications of future performance. In this sense, European logistics will continue to benefit as pan-European trade, manufacturing and retail sales are all again growing after the slump witnessed during the GFC crisis (Exhibit 3).

STRUCTURAL DRIVERS

The most important trends and factors that impact the design and redesign of global supply chain networks are presented in this section and include:

Globalization: the removal of barriers to the movement of all factors of production has made access to global sourcing alternatives possible and speeded up global trade. Markets have become increasingly interlinked on a global level, leading to more complex supply chains. As a result, Europe has become a large and interconnected market, as shown in Exhibit 4.

EXHIBIT 3: TRADE, MANUFACTURING ACTIVITY AND RETAIL SALES IN EUROPE

EXHIBIT 4: MAIN LOGISTICS MARKETS AND TRADE HUBS

The drivers of demand for logistics space can be broadly defined as a) cyclically-based and b) structurally-based. In general, cyclical factors depend mostly upon the fortunes of the economy, both at global and local level. On the other hand, structural factors are related to modifications in trade patterns and chain reconfiguration due to, among other reasons, changing demographics, innovation and, last but not least, changes in consumers’ purchasing habits such as the progressive rise of e-commerce.
Urbanisation: in general, consumer preferences are driving the choice of the location for modern warehouses. As a result, operators need to conciliate between the choice of centralised hubs, characterised by developed transport networks, and other facilities adjacent to or within major population centres, driven by trends like faster delivery times and retailer scale.

Competition for last-mile facilities is expected to be fierce. Highly densely populated areas support strong retailer activity. Indeed, it is estimated that around three-quarters of European leases are in urban conurbations with more than 1 million inhabitants. Exhibit 5 shows the European “core” regions for logistics, according to this criterion. Within the euro zone, the most attractive areas are the Benelux, Germany, selected areas of France, the north of Italy and major Spanish conurbations.

Innovation: in logistics, information, communication and automation technologies have substantially increased the speed of identification, data gathering, processing, analysis and transmission, with augmented level of accuracy and reliability. The “gig economy” is increasing the speed and flexibility of supply chains, a typical example is the optimisation of deliveries. The use of drones and self-driving vehicle are also developments that companies are experimenting with to enable faster and more continuous delivery timings. Experimentation with blockchain technology has the potential to allow documentation to be processed in a fully automated manner, potentially streamlining legal paperwork. We also see increasing reports of companies choosing to partly or fully automate warehousing.

E-commerce: one of the biggest trends that impacted the logistics industry over the last 10 years has been the rise of e-commerce. While the retail sector only recently started recovering from the crisis, e-retailers have seen strong volumes growth for some time. Being able to react to the changing environment it is now a necessity for traditional retailers, as those who will not adapt their strategy and will not engage in e-commerce are likely to lose market share to pure-play specialists. As a result, brick-and-mortar retailers are increasingly embracing the multi-channel experience. Exhibit 6 shows the diverging pattern between on-line sales and traditional retailing.

E-commerce represented around 16% of all logistics take-up in Europe in 2017. The e-commerce industry is much more diverse than is normally thought. In Europe, the top 10 e-retailers account for around 12% of all on-line sales with the top 500 accounting for approximately 30% of the total. The average daily sales for the top 500 companies is roughly €700k, with seasonal peaks that need to be catered for, therefore resulting in strong demand for logistics space. Most of the remaining sales (the other 70%) are then divided across smaller retailers, which use shared premises or are just starting to grow their own supply chain. These smaller retailers often tend to out-source the logistics activity to third-party operators.

The perception that e-commerce demand focuses only on large facilities is therefore erroneous as demand ranges widely in terms of requirements, according to different factors, including the type of product and the retailer’s business model. If anything, only a limited number of e-retailers require very large warehouses, e.g. the likes of Amazon or Zalando who necessitate XXL surfaces (sometimes >150k sqm) with both a ground floor and a mezzanine. In this case, of course, there may be an issue with re-letting the space once the tenant leaves.

EXHIBIT 5: EUROPEAN POPULATION DENSITY

Source: GFK Geomarketing

EXHIBIT 6: ALL-RETAIL VS. ON-LINE SALES

Source: Eurostat

3- Also called omni-channel
4- Demand of warehouse space. Source: PMA
5- Source: Ecommercenews.eu
On the other hand, these type of retailers tend to stay for very long periods of time within the same premises.

As previously mentioned, there are plenty of small and mid-sized retailers and numerous e-commerce strategies. Constant evolution drives a high variety of needs ranging from large platforms to smaller urban units and there is no industry consensus on size or building features. Prologis, the largest owner and developer of logistics facilities globally, has over 400 e-commerce customers occupying more than 5 million sqm of logistics buildings. Across this portfolio, considerable variability exists in customer size, industry, geography and building requirements. Requirements vary from 1K sqm to more than 100k sqm and average 10k sqm, which is not dissimilar to the requirements from other types of customer. Exhibit 7 shows that the distribution of logistics requirements in Europe is quite diverse.

**EXHIBIT 7: E-COMMERCE TAKE-UP BY SIZE IN EUROPE, 2013-2017**

The growing importance of the omni-channel where traditional retailers also create their online business reinforces overall demand for logistics space. E-commerce requires more space than traditional retailing for the following reasons:

- E-retailers tend to have a wider selection of products, which results in higher demand for space
- E-retailers usually have higher stock levels as they cater directly to consumers
- B2C orders require individual picking, packing and shipping, which results in boxes substituting for pallets
- Reverse logistics\(^6\) needs space for returns and restocking

The shift from brick-and-mortar to online retailing results in retailers substituting logistics space for retail space. The net effect of this shift has been estimated to produce up to 3 times more demand for logistics space for the same amount of retail sales\(^7\). Each €1 bn of incremental online sales is estimated to generate almost 80k sqm of demand for logistics space (Exhibit 8). When this multiplier is combined with the strong estimates for e-commerce growth, it follows that the potential for growth of demand for European logistics space is huge, in the order of a few millions of sqm.

**EXHIBIT 8: DEMAND FOR SPACE – RETAIL VS. LOGISTICS**

<table>
<thead>
<tr>
<th>Size bands (sqm)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 10k &amp; &lt; 20k</td>
<td>12%</td>
</tr>
<tr>
<td>&gt; 20k &amp; &lt; 40k</td>
<td>36%</td>
</tr>
<tr>
<td>&gt; 40k &amp; &lt; 75k</td>
<td>34%</td>
</tr>
<tr>
<td>&gt; 75k</td>
<td>18%</td>
</tr>
</tbody>
</table>

\(^6\) As some customers send the product back to the retailer, the provider follows the process of restocking the product. It is estimated that in the US fashion sector more than 30% of e-commerce orders are returned, compared with 9% of those bought in bricks-and-mortar stores.

\(^7\) Source DTZ. Of course, this trend has some negative implications for demand of traditional retail space.
Obsolescence in the logistics sector is not dissimilar from other sectors, given the tendency for the specs of buildings to evolve over time. Our understanding is that buildings required by e-players do not differ substantially from the rest as the “modern” logistics warehouse is typically designed to accommodate most standard needs, not just those of e-commerce occupiers, as developers appreciate that there is no “ideal” spec and requirements will continue to change. As a result, even when some layout changes are demanded, they often tend to be designed to cater for other generic occupiers and e-retailing is generally not an exception to the rule. For example, Prologis estimates that 40% of their e-commerce customers are located in buildings that are at least 10 years old. For most customers, the location criterion is paramount and this includes access to economic networks and primary transportation knots. As a result, the key design features of logistics mainly concern the height and cross docking spec of the buildings – the kit that goes inside the buildings is what ultimately makes it suited to the specific needs of the occupier.

Overall, e-commerce is supportive of long-term demand for the whole logistics sector and both for new and existing warehouses alike. We should not forget that the core of lease transactions is still composed of traditional retailing, trade and manufacturing, for example the automotive industry in Germany. As supply of good-qualities facilities is quite tight and vacancy rates are trending down in most markets, tenants from all industries (including non-retailers) compete fiercely for good, well-located product. As a result, while rental growth has never been spectacular for the logistics sector, values are supported by strong fundamentals which benefit the whole market.

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8. These include ports, airports, multimodal hubs, large and growing consumer catchments.
CAPITAL VALUES

Since the decline due to the GFC, capital values have fully recovered only for the residential sector. Capital values for European logistics are still around 20% below their 2007 peak (Exhibit 9). As a result, we believe that there still is significant “catch-up” for values. For example, values are still around 15% below the peak in “core” countries such as Germany and France, while in Spain they are almost 30% below their highest value recorded in 2007.

**EXHIBIT 9: CHANGE IN CAPITAL VALUES BY SECTOR**

Source: MSCI, BNP REIM Research

DEMAND

Take-up in the European logistics market is improving every year since the lows of 2009 (Exhibit 10). In addition, the trends for outsourcing logistics activities leading to more leasing as opposed to owner-occupation, as well as the booming of on-line retailing, have all contributed to strong demand for logistics units. Overall, logistics players account for around 40% of total take-up, while retailers and manufacturers represent 35% and 16% respectively.

**EXHIBIT 10: LOGISTICS TAKE-UP FOR MAJOR EUROPEAN CITIES**

Source: PMA, BNP Paribas REIM Research

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SUPPLY
Supply levels of new warehouse space plummeted after the peak years of 2007/2008, reaching levels well below the historic average. While overall completions are increasing, contrary to the years before the crisis, developers are exercising restraints and mainly developing on a pre-let basis. PMA reveals that just 20% of new development starts in Europe in H1 2018 were speculative, which is almost the contrary of what was seen before the crisis, where speculative schemes accounted for the vast majority of new developments (Exhibit 11).

RENTS
Increased demand for warehouse space, along with low new completions has driven down vacancy rates in Europe, therefore providing support to rental values.

Logistics rents are much less volatile than that of other sectors, given the shorter building cycle, which results in quicker rental adjustments (Exhibit 12). Prime headline rents are generally below their previous peak in 2007 in most markets, with the notable exception of some of the major German cities. Rental values are especially depressed in Italy and Spain. We expect that improving market fundamentals, along with limited new supply, will continue to put upward pressure on rents in the coming years. Supply-constrained markets near larger population centres and port gateways are expected to see the highest rates of rental growth.
There are many reasons why logistics markets are attractive. However, in the context of limited resources available, the analysis needs to identify where the best opportunities are. We believe that when deciding where to invest a ‘holistic’ approach should be adopted. In our analysis, we look at a combination of both structural and cyclical variables and, based on this methodology, we rank markets accordingly. For example, from a structural viewpoint, we look at factors such as market size and liquidity, among other things. At the same time, we also analyse cyclical variables such as the potential for demand and rental growth, the risk of oversupply, etc.

We have adopted a concise methodology to ranking logistics markets. The first step is to create a score for each of the six major critical areas that we have defined (expected demand growth, supply risk, market size, liquidity, income potential and market efficiency). Each country scores from 1 to 10 (where 10 means that the country ranks the highest for the specific criterion) for each factor. In our matrix, the components are equally weighted so that the overall score will not be biased toward any one component. Overall, the purpose of the matrix is to reflect the investment environment in the countries surveyed in the most balanced way possible. Based on these criteria, the overall attractiveness column shows our preferred markets in Europe (Exhibit 13). Specifically, we believe that Germany, France, the Benelux, Italy and Spain rank amongst the most attractive markets within the euro zone.

**EXHIBIT 13: RANKING OF THE EUROPEAN LOGISTICS MARKETS**

<table>
<thead>
<tr>
<th>Country</th>
<th>Expected demand growth</th>
<th>Supply risk</th>
<th>Market size</th>
<th>Liquidity</th>
<th>Income potential</th>
<th>Market Efficiency</th>
<th>Overall attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>HIGH</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>9</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Germany</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>HIGH</td>
</tr>
<tr>
<td>Denmark</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>LOW</td>
</tr>
<tr>
<td>Spain</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>HIGH</td>
</tr>
<tr>
<td>France</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>6</td>
<td>HIGH</td>
</tr>
<tr>
<td>Hungary</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>LOW</td>
</tr>
<tr>
<td>Ireland</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>Italy</td>
<td>3</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>9</td>
<td>4</td>
<td>HIGH</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>10</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

Source: BNP Paribas REIM Research

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10. For the methodology please contact the author.