Redefining Retail Logistics

What does the future hold for supply chains, warehousing and the role of the store?

November 2019

We are convinced that retail is still about product and service, convenience and experience. The future, however, will be defined by next generation logistics. Those who deliver the right logistics model will deliver a new era of profitable retail.

A time of unprecedented change but manageable risk and latent opportunity

Urbanisation, demographics and technology are driving huge structural change across the real estate industry. In retail and in retail logistics, the growth of e-commerce and 'event-driven' retail, coupled with an explosion in customer choice, expectations and service, have fundamentally shifted the landscape and real estate outlook.

Furthermore, ethical and sustainability challenges will increasingly need to be addressed, as we predicted when we published *Retail 2020* back in 2010; these are wide-ranging and progressively subject to regulation and more stringent reporting requirements.

While retailers are having to adjust to numerous challenges, **this report focuses on how traditional bricks-and-mortar retailers have responded to the growth of e-commerce, and how they are seizing opportunities, by implementing profitable digital strategies and providing an enhanced service to their customers.**[1] Some have made more progress than others. But for all retailers, this challenge has raised serious questions about the extent to which current supply chains are 'fit for the future' and what they need to do to respond.

Having the 'right' real estate – stores and distribution facilities – and utilising it in an optimal way is central to the efficiency of supply chains. The shift to omni-channel retail and the redesign of supply chains will have deep-rooted implications, not just for the retailers and others that operate from this real estate, but also for the real estate developers and investors that supply, own and manage it. Therefore, against this background:

- **Sections 1 and 2** respectively consider the evolution of retail and of retail logistics, and examine how we have arrived at where we are today.
- **Section 3** presents our perspective on the critical success factors that retailers need to address to tackle the challenges of omni-channel retail logistics, and make the most of the opportunities it presents; **Section 4** provides some examples of retailers that are leading the way in addressing some of these issues.
- **Section 5** concludes by considering the implications for investors in real estate, how they should respond to create new opportunities for their customers, and to enhance the performance of their real estate.

We are convinced that retail is still about product and service, convenience and experience. The future, however, will be defined by next generation logistics. Those who deliver the right logistics model will deliver a new era of profitable retail.

1. E-commerce is widely used to describe commerce (retail and other services) conducted online; multi-channel retail is where a retailer offers consumers different channels – physical and digital – but their management is not fully integrated; omni-channel involves the integrated management of different channels to provide the consumer with a seamless, or frictionless, customer experience. Each of these can be considered as being a part of the wider digitisation of retail and supply chains.

Executive Summary

This global insight paper sets out how retail and logistics have evolved in response to the e-commerce revolution and explosion in consumer expectations. It explores the challenges and outlook for retail supply chains and the role and symbiotic relationship between logistics and store networks, in an increasingly multi-channel world.

This is a detailed global study of what is a complex and fast-moving space. The summary below provides our key insights and point to the future evolution of retail and associated real estate, specifically how retailers can optimise their property portfolios to fulfil in-store and online sales, and how real estate investors should adapt their strategies.

- **Consumers will be the continued and uncompromising drivers of change in retail in the next ten years.** They will dictate the pace at which retailers evolve. They are increasingly channel agnostic and expect a frictionless experience.
- **Retailers will need to transform customer engagement across both physical and digital platforms.** Those that get this right will better serve customers and secure brand loyalty and trust. Those that fail to respond will become obsolete; the future favours start-ups and retailers that are customer-obsessed, innovative, responsive and well-capitalised.
- **Supply chain and logistics management are critical differentiators for retailers.** Efficient and effective operations will be required to enhance customer service, lower costs and secure competitive advantage. The shift to omni-channel retail has added enormous complexity to retail logistics – it is no longer about on-shelf availability, but availability anywhere, anytime, as well as the successful management of returns. Logistics 'failures' are unacceptable to consumers and damage reputation.
- **Click-and-collect (and click-and-returns) will play a crucial role in retailers' profitable fulfilment strategies.** By enabling retailers to reduce costs and mitigate 'last mile' delivery, inventory management, returns and environmental and congestion challenges, click-and-collect (and returns) will become the major route to online Fulfilment.
- **There are five critical aspects to next-generation omni-channel retail supply chains:**

1. **Customer-obsession:** a relentless focus on consumers
2. **Long-term vision:** strategic alignment for continuing success
3. **Agility and partnerships:** an end-to-end supply chain approach
4. **Optimising real estate:** leveraging networks to ensure frictionless fulfilment
5. **Scaling excellence:** a long-term investment for scale is required to redesign existing supply chains.

- **Technology will be the overarching enabler for success.** Artificial Intelligence (AI), big data, the Internet of Things, automation and robotics – all enable retailers to reduce costs, to improve inventory management and efficiencies and to provide customers with a superior service. Ultimately, the whole supply chain will be digitalised – e-commerce is just a part of this process.
- **Supply chains will become sustainable and transparent.** Leading retailers and their supply chain partners will put sustainability at the forefront of their supply chain strategies – including measures aimed at decarbonising their supply chains and addressing wider issues, such as pay and worker-conditions.
- **Strategic planning is fundamental.** Most retailers have been reactive, rather than proactive, about the growth of online shopping. They often lack a fully developed strategic plan. However, a select few have already adopted a more sophisticated approach, providing a glimpse into the future of next-generation supply chains. These include the likes of Walmart, Inditex, John Lewis, Ocado, Alibaba and Adidas.
- **The outlook for retail and logistics is not binary.** The right physical locations have significant value to retailers, consumers and investors. They provide customer engagement and experience (brand loyalty), and service omni-channel fulfilment. In fact, demand (and values) for convenient, connected and productive retail locations will increase, as retailers improve operations and real estate value attribution across the supply chain.

2. Last mile delivery describes the movement of goods from a transportation hub to the final delivery destination, often a personal residence.

- **There is a risk that investors could throw the 'baby out with the bathwater'.** Through this period of adjustment and uncertainty, adopting an overly simplistic, herd approach to investing in retail and logistics has inherent risk. The need to develop a broadened understanding of supply chains is fundamental to identify relevant and resilient real estate, and stay ahead of the curve.
- **A more nuanced appreciation of how omni-channel is changing retail and logistics is required.** In mature markets, at least 25% of traditional retail space will become obsolete – however, polarised demand will drive premiums for the space that remains, assuming it is the right space in the right location. Stock selection will be critical.
- **Investors will need to adapt their strategies.** They will have to:
  - Evaluate the impact of structural changes, in addition to cyclical trends
  - Address the elevated risk of obsolescence through a greater understanding of real estate customers (tenants)
  - Provide asset management services, with investors increasingly becoming operators, in addition to owners
  - Future-proof existing assets to ensure they remain fit for purpose in their current use
  - Dispose of, or repurpose obsolete assets by conversion to alternative uses.
- **Sustainability will become paramount for real estate investors.** Understanding the economic, environmental and social sustainability issues generated by their real estate and investment strategies will be essential for investors, as regulatory and reporting frameworks become more stringent. There is a growing body of research that suggests that green buildings can enhance values and performance, and improve liquidity.
- **Retail will prevail, thriving as a tech and data-driven, consumer-centric, responsive, and profitable industry.** In this respect, omni-channel will drive positive change for both retail and logistics. Adaptive and agile retailers and investors who understand the longer-term trends and real estate requirements, and respond in the short-term, will seize opportunities and outperform.

1. The Evolution of Retail

Structural change:

from markets to multiple store networks to e-commerce

In their most basic form, retail markets have existed ever since humans began to engage in trade thousands of years ago – and they've been evolving ever since. Retail, when stripped down, has always been about product, sales and distribution. In earlier periods, people with merchandise to barter or sell would take their wares to traditional physical marketplaces. People would then visit these to exchange or purchase products, and take them home. 'Making money' was simple; sell merchandise for more than it cost to buy, produce and distribute.

In recent decades, the global proliferation of retail store networks in urban areas and along arterial routes, has provided a permanent location for storing, showcasing and selling merchandise. The growth of multiple site retailing (chain store retailing) introduced the need for more sophisticated and efficient distribution, in which warehouses played a key role.

The growth of 'home shopping', initially introduced in the United States and Europe, saw the development of a consumer-direct channel via the use of direct selling and mail order catalogues. However, the retail store remained overwhelmingly the end-point in the chain of distribution.

Over the past 20 to 25 years, the introduction of E-commerce has fundamentally changed retail logistics – and over the past few years these shifts have become more structural and rapid (and for some retailers, existential). While pure-play retailers led this revolution, traditional retailers, with their extensive store networks, have had to respond. Over the same period, retail has become increasingly 'event-driven', a change closely related to the growth of e-commerce. This has led to much greater volatility in customer demand than previously experienced and raised significant challenges, including a growing need for more responsive and faster supply chains and flexible warehouse capacity.

The key challenge is still how in-store and online purchases can be fulfilled in the most efficient and profitable way, while accommodating the specific needs of product 'returns'.
In some sectors, such as fashion, up to 50% of online purchases may be returned; for many retailers the volume of returns is so substantial, that their customers have become their largest supplier.

Retail Darwinism:

expansion, saturation and stagnation

Retail has benefitted from but has also fallen victim to decades of growth and increasing competition, both in-store and online. Global retail sales have doubled since 2000 and retail has developed into a dynamic and truly global industry. As it has evolved, and the range of goods for sale has expanded, there has been an explosion of new entrants. Retail is now a breeding ground for innovation and new concepts, and competition is fierce. Pockets of the industry, those that have been unable to innovate, have also suffered from saturation, stagnation and a lack of investment.

Retailer profitability and margins are under pressure, despite consumption and sales continuing to rise. This is down to myriad factors, not least increased competition, costs and consumer price transparency as a result of technology. Across the majority of product categories, margins for global retailers have eroded in the last five years. Of course, some retailers have fared better than others as they continue to adapt to a fast-changing market place.

Retail that fails to respond to change will eventually die.

Products and services must remain relevant or risk being usurped by the competition. Today's retail has become hyper-competitive, and the introduction of online retailing as a sales channel has increased competitiveness exponentially in the last ten years, compared to the ten years prior.

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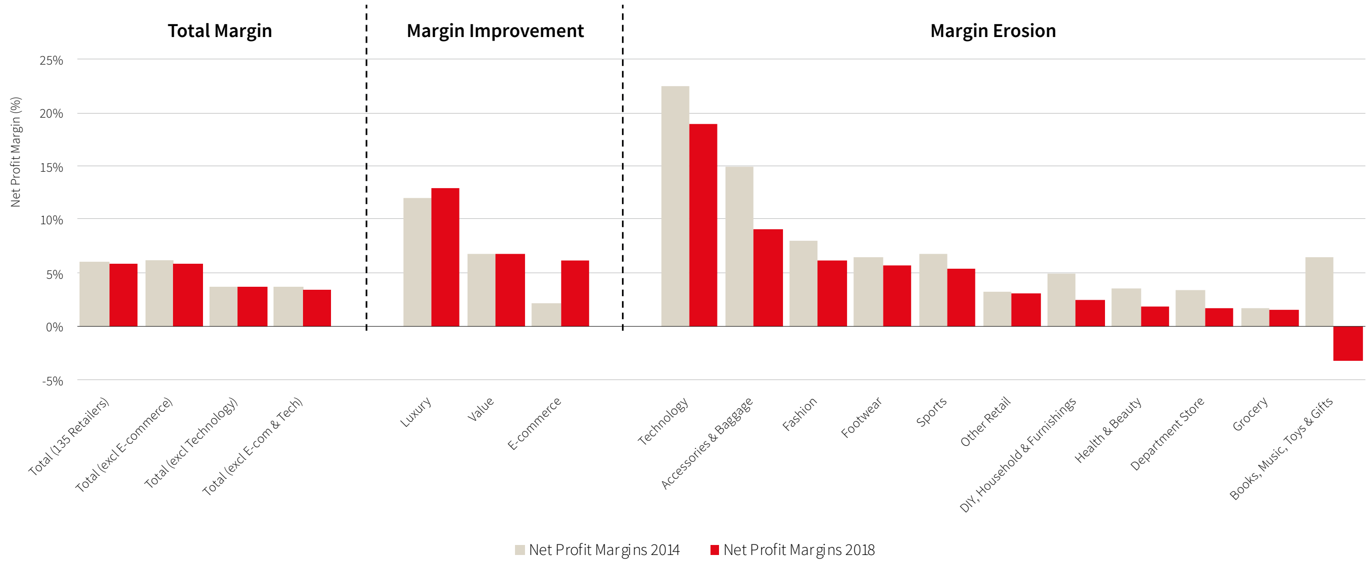
Global Profit Margins by Retail Category: 2014 vs 2018



Source: Annual Reports, JLL (July 2019); Note: Data based on latest fiscal years published (i.e. some years end early 2019, but are classified as 2018 for analysis purposes).

Inflection point:

efficient logistics will be the route to profitability

Online retail is growing at different speeds across different countries and regions, and has varying levels of market penetration. Global online sales penetration is forecast to grow from 13% currently to 18% by 2021. This is despite slowing growth in some of the more mature online markets, such as China and the UK, where online penetration had reached 24% and 18% of total retail sales respectively in 2019.

The growth in online retail, and the shift to multi-channel and omni-channel retail models, has increased consumer choice, but has also brought strong headwinds. Fulfilling orders made both online and in-store efficiently and profitably is a challenge. For many retailers, online fulfilment (particularly home delivery) is loss-making, or margin-eroding at best. Net-net, retail has been and is facing long-term, structural, efficiency and profitability challenges like never before.

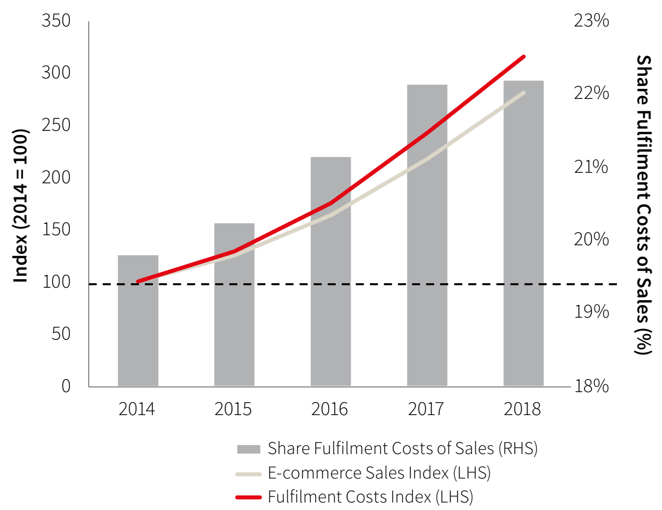
We are at an inflection point where it is clear that profitable retail can now only be achieved through efficient logistics. It's critical for servicing store replenishment, but also for fulfilling online orders, including delivery to home, work, or to a collection point, click-and-collect from store or from a click-and-collect facility. Ultimately, where these orders are picked and dispatched from will depend on where a product is physically located and what is the most efficient and profitable way of meeting a particular customer's needs, at any specific time for any given purchase. This has resulted in a profusion of new logistical challenges.

While the industry currently splits out online and in-store sales, it is rapidly becoming evident that for many successful bricks-and-mortar retailers, the physical store network actually 'fulfils' most online sales (and subsequent returns) – fueled by the success and growth of click-and-collect. This mechanism will become even more dominant over the next five years, offering a win-win solution to retailers and customers alike.

The terms 'online' and 'in-store' are arguably redundant; consumers require both, they are inextricably linked and are essential elements of the new business of retail.

Growth in E-commerce Fulfilment Costs

(Fulfilment and shipping costs as % of net sales)



Source: Annual Reports, JLL (July 2019)

Conclusion:

the future is not online or offline, the future is Retail

Ultimately, whether a retailer succeeds or fails will come down to how well they service their clients. Supported by technology, consumers will continue to be the dominant and uncompromising driver for change in retail and will dictate how quickly retailers will have to evolve. Consumers are channel agnostic and expect a frictionless experience from the brands they shop with. Critically, retailers will need strong customer engagement across both their physical and digital platforms – supply chains will be central to this. Retailers that get this right will enhance brand affiliation and secure the loyalty and trust of consumers. Retailers that fail to respond will become obsolete. **The future is not online or offline, the future is Retail.**

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In recent decades, the global proliferation of retail store networks in urban areas and along arterial routes, has provided a permanent location for storing, showcasing and selling merchandise. The growth of multiple site retailing (chain store retailing) introduced the need for more sophisticated and efficient distribution, in which warehouses played a key role.

2. The Evolution of Retail Logistics

The restructuring of retail logistics:

expansion, internationalisation and technology

The growth of store networks over recent decades led to the development of alternative distribution channels for supplying retail goods. Until the 1970s/80s, the main distribution channel for stores in the United States and in Europe involved direct delivery from a manufacturer's production point, or via a manufacturer's distribution network. This meant that retailers needed relatively large amounts of backroom storage space in their stores to receive, process and store goods.

From the 1980s, this approach began to decline in importance as large retailers started to take greater control over secondary distribution (i.e. from distribution warehouse to shop). They required manufacturers to deliver into retailer-controlled distribution centres which allowed them to maximise in-store retail space and enhance the efficiency of their logistics operations.

Technological developments were a catalyst for these changes, particularly the development of electronic data interchange (EDI), which improved communications between retailers and their suppliers, and electronic point of sales (EPOS) ordering, which permitted more efficient and accurate store replenishment from distribution centres.

In addition, over recent decades retail supply chains have become increasingly global, reflecting the expansion of retailers into new countries and the growth of international sourcing. The latter has often increased the lead-time of supply, while customer order lead-times have typically shortened. **This has elevated the importance of end-to-end supply chain planning** and in some cases, retailers have gone back to more local sourcing to ensure their supply chains are responsive to changes in consumer demand.

These developments have changed the type of distribution real estate that retailers and others require. Major retailers have developed networks of large-scale distribution centres for stock-holding/distribution and cross-docking, while suppliers have often consolidated their distribution centres into fewer but larger facilities. The internationalisation of supply chains has generated demand for large import centres, typically at major gateway seaports or in strategic inland hubs.

The restructuring of retail logistics over the last 50 years has been driven by expansion, the internationalisation of retail and technological advances. **Technology will change logistics exponentially over the next decade.**

E-commerce:

increasing complexity, pace of change and cost

The growth of e-commerce, in particular, has driven a further step-change in retail logistics, because the supply chain requirements of servicing customers directly are fundamentally different from servicing stores. In particular:

- The challenge has shifted from ensuring the availability of products in-store ('on-shelf' availability) to satisfying consumers who expects delivery when and where they choose.
- Expected order lead-times have fallen drastically – from several days, typically, for stores to increasingly 'same day' for e-commerce.
- The number of units per order is much smaller with e-commerce and the transit/delivery costs per unit are much higher.
- The volatility of demand for e-commerce is much higher than the volatility experienced in retail stores.
- The level of returns in e-commerce is much higher than store retail (up to 50% for online fashion) and can substantially erode profitability.
- In e-commerce, any logistics malfunction/error tends to be immediately obvious to the customer.

The shift to omni-channel has increased logistics costs, as the cost of fulfilment for online orders is much higher than for traditional bricks-and-mortar models. Although comparative costs can vary according to the calculation method, **DHL estimates that online fulfilment costs can be up to four times higher, due to 'last mile' delivery[2], item picking and returns processing.[3]** As a result, retailers face a 'profitability challenge' to strike the right balance between the level of customer service they offer and their logistics-related costs.

3. DHL Omni-Channel Retail: Fulfilling Demand Profitably, 2016

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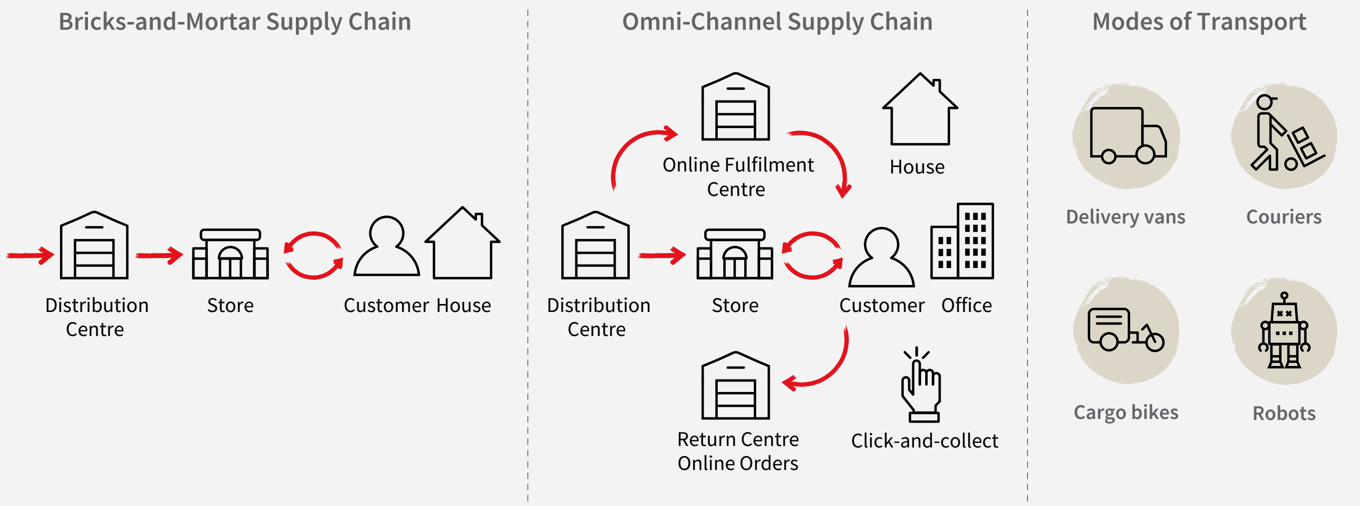
Omni-Channel Supply Chain Complexity



Source: JLL (2019)

The adoption of multi-channel or omni-channel retail has led retailers to acquire a broad range of distribution facilities, depending on the product type.

1. **Standard non-food items:** For products distributed through a parcel network, retailers have often opened large new fulfilment centres, which deliver into a central parcel hub. This, in turn, delivers to a local parcel depot for final mile delivery. For large retailers with very high volumes, it may be cost effective to set up a network of sortation centres and local delivery depots.
2. **Large non-food items:** Items that are too large to be handled by a parcel network (e.g. household appliances or larger items of furniture) were typically delivered to homes pre-e-commerce, so the fulfilment process has required comparatively little redesign.
3. **Grocery:** Grocery retailers face the greatest logistical challenges. They are regularly required to pick orders comprising 60 to 80 items, across three temperate ranges, for delivery to customers at fixed time slots. The two main models adopted by retailers are store-based picking and dedicated order-picking in warehouses. Some retailers use a combination of the two, with dedicated order picking in areas where drop densities are high, and store-based picking elsewhere. An alternative model involves more centralised order picking in a dedicated fulfilment centre with trans-shipment at distributed outbases.

Finally, as mentioned earlier, retailers have also had to accommodate high volumes of returns, typically either within their fulfilment centres or within dedicated facilities – cross-border returns are particularly problematic and costly. New rules require a new rule book.

In response to the challenge from pure-play online retailers, predominantly bricks-and-mortar retailers have increasingly sought to use their extensive store networks as a source of competitive advantage. This can be through offering click-and-collect or by fulfilling from stores. In addition, many original pure play retailers have started to open physical retail outlets to enhance their sales and service proposition. These trends highlight that stores will continue to have an important future in an omni-channel retail world, beyond their traditional function of displaying merchandise for sale, as well as their increasingly important role in engaging with customers and driving experience.

'Click-and-collect'

A route to profitable omni-channel retailing

'Click-and-collect': a cost-effective alternative to home delivery

For retailers, a key challenge is how to manage omni-channel retail fulfilment in a profitable way. The cost of distribution must be borne somewhere, and customers are increasingly cost-conscious. From a consumer perspective, click-and-collect is mostly a 'free' solution, with the added certainty that what they have bought is waiting in store

Click-and-collect also works from a retailer perspective, as home deliveries can be five times more expensive than 'click-and-collect'.[4] This is because of the high costs associated with 'last mile' delivery, including the risk of non-delivery or repeated deliveries. There are of course other cost implications for retailers, including reconfiguring retail space to allow for backroom storage, and creating collection points, but on balance click-and-collect represents a cost-effective solution (and one that can also boost additional impulse spend).

The 'last mile': the profitability challenge

The 'last mile' is the key logistics and fulfilment challenge, particularly in urban environments. The myriad fulfilment choices now demanded by customers is putting huge pressure on retailers, which are having to balance this customer choice and convenience with the cost and profitability of service. More retailers are offering click-and-collect solutions in urban locations, and incentivising customers to use them.

Financial and ethical cost of the returns process: returns 'in fashion'

Returns processing is a major issue in online retail. Ideally, the retailer wants the returned item to be re-sold as quickly as possible, but in some cases the item may end up being scrapped. Returns are usually processed either at the main fulfilment centre, in a dedicated returns processing centre or at a store.

The process of handling returns, which unlike inbound deliveries from suppliers are often delivered to the retailer in a 'non-compliant' form, can substantially erode a retailer's margin. Sometimes the returns cost erodes profit to the point where the product may as well be written off; this doesn't take into consideration the additional ethical cost of waste. Click-and-collect can significantly mitigate much of this pain.

Inventory management: a growing profitability challenge

Retailers are having to manage a varying quantity of effectively 'unsold' merchandise that customers have bought but are planning on returning, meaning the true inventory position is unknown. Returned products are also expensive to process, move and store. Some retailers reportedly have more 'unsold' merchandise sitting with consumers than they have in-store. Click-and-collect does not completely solve the inventory challenge – consumers can still order, pick up and then return multiple items – but the scale of the problem can be significantly reduced, with the cost of 'last mile' passed on to the customer and returns left in store.

Environmental impacts: the world's most important challenge

The environmental effects of retail logistics include greenhouse gas emissions (the carbon footprint), noxious gases (including particulate matter), noise, accidents, waste, packaging and visual intrusion. Attempts to measure the environmental impact of online retail have focused on the relative carbon footprint of online shopping compared with conventional (offline) shopping. More research is needed, with some early studies suggesting that buying online rather than in a shop reduces carbon emissions. More recent research shows that the net environmental effect is highly sensitive to a few key parameters and assumptions.

Whatever the overall net effect, taking account of vehicle journeys made both by retail logistics and by consumers, it's highly probable that online shopping increases the overall carbon footprint of retail logistics as it services both stores and customers directly. Purely from a retailer's logistics perspective, click-and-collect generates a lower carbon footprint than home delivery because, in most cases, the delivery to store can be combined with an existing replenishment delivery.

Any online versus in-store impact analysis is highly complex, but in-store purchases as part of a linked trip are certain to be the least impactful.

4. John Fernie & Leigh Sparks (ed) Logistics and Retail Management, 2019, page 271

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'Last mile' collides with urban logistics

Many retailers have developed a wide range of delivery and collection options, but home delivery (for now) remains a very popular solution to the problematic final 'last mile' stage.

This challenge has increased over the past few years as growing numbers of retailers have introduced same-day delivery services. Some retailers have gone further, promising delivery of certain items within one or two hours. Retailers can only do this if they have stock close to customers, either in stores or in warehouses. In addition, **customers now broadly expect 'last mile' distribution for free, which is both commercially and environmentally unsustainable**.

As cities have better internet infrastructure and higher densities of online shoppers, the challenge is overwhelmingly urban – and will become more so with time. **In 2015, some 54% of the global population lived in cities; this will rise to over 60% by 2030, against the backdrop of a growing population**.

The 'last mile' challenge feeds into 'urban logistics,' which aims to make logistics more efficient in urban areas and minimise its adverse impacts, such as congested roads, the emissions of greenhouse and noxious gases, noise, accidents and waste. The issue for retailers and others involved in their supply chains is how to satisfy the growing demand for 'last mile' delivery in a sustainable way.

Supply chain and logistics management – and the resulting consumer experience – are now critical differentiators for retailers.

Innovation:

industrial intensification and multi-storey / level logistics[5]

A major issue in densely developed urban areas is the lack of appropriate land for logistics activities, which have often been squeezed out of inner urban areas by higher value uses such as residential – a development that has been referred to as 'logistics sprawl'.

To help address this, city planners have been encouraging industrial intensification to optimise land use. In both the United States and Europe there has been rising interest among developers and investors in providing multi-storey / multi-level buildings, which, with one or two European exceptions, have not been developed in these markets over recent decades. By contrast, in densely developed cities in Asia – in Japan, China, Hong Kong and Singapore, for example – multi-storey and multi-level buildings are the norm.

In the United States, multi-storey industrial facilities started with Prologis in Seattle but have since spread to the boroughs of New York and other cities such as San Francisco. In Europe, there have been developments in Paris and Munich, and there are active proposals in cities such as London and Barcelona. In many cases these buildings are being used or promoted for omni-channel retailers.

In many countries, the **grocery sector accounts for 40 to 50% of total retail spending**. Although it is currently relatively underdeveloped in terms of e-commerce (with global online grocery penetration currently standing at approximately 5%), it is forecast to grow rapidly over the next few years, reaching approximately 10% by 2025, according to Kantar Worldpanel. This will encourage retailers to look to dedicated warehouse picking solutions around major cities. **Given the logistical challenge around fresh food in the urban environment, significant investment and innovation will be required.**

Conclusion:

supply chains – a key differentiator and driver of retailer success

The shift to omni-channel retail has added enormous complexity to retail logistics. The focus on on-shelf availability has been replaced by the challenge of providing customers with goods anywhere and at any time – and dealing with a high volume of returns. Stores will continue to play a key role in omni-channel retail including facilitating order fulfilment and returns. In major cities around the world, growing demand linked to 'last mile' delivery coupled with shortages of industrial land are leading to pressures to intensify industrial land via the development of multi-storey or multi-level buildings.

Supply chains and logistics management, and the resulting consumer experience, are now critical differentiators for retailers.

5. We use multi-storey to refer to a warehouse with multiple levels, some or all of which are served by a ramp to provide direct vehicle access. We use multi-level to refer to a warehouse with multiple levels but where access to upper levels is provided by a cargo lift.

3. The Blurring of Retail and Logistics

Linear supply chains become more complex webs

As e-commerce and omni-channel retail grows, the lines between the roles of shops and of distribution centres are blurring. Traditional bricks-and-mortar stores are increasingly functioning as places where online orders can be picked and fulfilled. They are also the end-points of the click-and-collect process that consumers travel to. Meanwhile, distribution centres still replenish stores, but are increasingly consumer-facing as the delivery process becomes more visible.

Supply chains were once linear – they moved goods from suppliers through to stores with the aim of providing 'on shelf availability'. **Linear supply chains are being replaced by more complex webs of supply chains** involving a wider variety of potential paths to customers, who expect availability 'anywhere anytime,' and who are creating a higher volume of returns, which move back up the chain.

Next generation omni-channel supply chains: the key to success

The growth of e-commerce represents a significant threat to physical retail, but it also opens up significant opportunities for retailers to grow their brands in existing or new markets. As sales migrate online, retailers will need to 'stress test' their physical stores and adapt their supply chains accordingly. The distinction that retailers typically make between in-store and online sales will rapidly disappear as they are driven by their customers to provide a fully seamless – or frictionless – omni-channel service. This will require more radical changes than many retailers have so far embraced, but for those that get this right the future is bright.

There are five high-level critical success factors and one overarching enabler that retailers need to focus on:

1. **Customer-obsession:** a relentless focus on consumers

   Retailers are focusing more sharply on customer service, and the changing nature of demand, to design supply chains that are more responsive and efficient. While essential to future success, it requires major technology and data science investments to improve sales forecasting across all channels, while providing better visibility of end-customer demand along the whole supply chain.

   Better customer relationship management (CRM) is also a critical part of this shift. **Managing the customer experience and journey is a differentiator and a race** – a digital transformation aimed at ensuring virtual engagement and a seamless experience. In a social media-driven, peer-review world, poor service is simply not tolerated; increasing demand for seamless and affordable fulfilment and related customer satisfaction is a must.

   Consumer engagement will be 'high tech and high touch'. The front door of a retailer is the smart phone – understanding how to engage with consumers at this interface, and creating a seamless engagement and user experience (UX), will be a key differentiator.

2. **Long-term vision:** strategic alignment for continuing success

   Retail favours innovation, start-ups and interesting concepts. But scaling requires a different skill set and business models and a clear grasp of strategy. **Organic growth without a clear omni-channel strategy will leave businesses fatally exposed as they scale.** A good omni-channel strategy will need to support the wider business strategy, so that the supply chain design supports the retailer's value proposition to the market. The key issues to resolve include:

   - The appropriate approach to inventory management – for example, integrated between channels or separate
   - The role of distribution centres and stores in fulfilment
   - How to implement 'last mile' delivery
   - The best way to process returns.

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3. **Agility and partnerships:** an end-to-end supply chain approach

   A fundamental element of a retailer's competitive advantage is how well it manages its end-to-end supply chain to ensure responsiveness and agility – **increasingly it is the supply chains that compete rather than just the retailers**. Retailers need to extend their reach further up and down their supply chains to make them as efficient and responsive as possible.

   Collaboration with the right key supply chain partners, and the correct balance of in-house and outsourcing activities are essential, with some retailers adopting more strategic relationships with their third-party logistics service providers. Traditionally, supply chain collaboration has mainly been 'vertical' between different companies in the same supply chain, but it may also be 'horizontal' between competitors, where they agree to collaborate on certain parts of their supply chain but compete on other parts.

4. **Optimising real estate:** leveraging networks to ensure frictionless fulfilment

   Distribution facilities and stores have long been critical parts of the retail logistics mix, but in an omni-channel world their roles have become blurred. **Omni-channel retailers need to fully leverage both their distribution and store networks** to ensure frictionless fulfilment and efficient 'last mile' delivery and returns processing as well as providing more touchpoints for customer engagement. To do this, retailers need to embrace a fully integrated approach to inventory management, network planning and fulfilment. Given the greater sales volatility associated with online and 'event driven' retail, retailers are likely to have an increasing need to flex their warehouse capacity, which may drive demand for more on-demand, or dynamic, warehousing.

5. **Scaling excellence:** long-term investment for scale and adaptation

   Scaled retail needs investment. A pop-up stall and product will suffice for a start-up, but **for retailers to scale effectively requires investment – people, systems, technology, distribution facilities, stores and innovation**. This will favour entrants from the online world – but will challenge indebted legacy retailers with old-world portfolios and business models.

Technology is the key enabler

Technology has long been a critical driver of successful retail logistics, but its importance is growing exponentially. Retailers need to continue to invest in their websites and digital marketing systems to improve the 'front-end' of their omni-channel offer, while simultaneously making significant technology investments to support their 'back-end' supply chains across the board. Technology can:

- **Improve sales forecasts:** big data and predictive analytics enable companies to anticipate customer demand, optimise stock-ordering from suppliers and have inventory in the right place to rapidly fulfil orders.
- **Enable a fully integrated approach to inventory management:** by providing complete visibility of their inventory, retailers can leverage their entire stock throughout the supply chain (whether in a distribution centre or store).
- **Dynamically allocate order fulfilment:** orders are fulfilled at the most appropriate location, based on the customer service commitment and costs.
- **Improve warehouse productivity:** benefits include greater pick accuracy, and lower costs through investment in automation and robots.
- **Improve returns handling:** retailers can maximise the value from returns.

Technology investments, however, often involve huge costs and disruption and they come without a guarantee of success – a significant issue in low margin businesses such as retail and logistics. But in a world where the digitisation of retail continues apace, the digitisation of supply chains is already well underway and will proliferate across supply chains.

Sustainable supply chains to the fore

Environmental considerations have always been central to sustainable supply chains, and this will remain the case due to the global climate emergency. However, over time, sustainability has come to embrace a wide range of economic, environmental and social factors, as highlighted by the United Nations' 17 Sustainable Development Goals (SDG) launched in 2015 . As a result of growing regulations and reporting requirements and increasing pressures from consumers (and shareholders), leading retailers and their supply chain partners are making significant investments to ensure their supply chains are more sustainable and transparent. Measures include decarbonising their supply chains, including investing in 'green' buildings and transport modes, and addressing wider issues such as the pay and conditions of workers across their supply chains. E-commerce has highlighted some sustainability issues more than others – for example, the environmental impact of home delivery or returns. **In the future, successful omni-channel supply chains will need to put sustainability at the forefront.**

Conclusion: supply chain risk and opportunity

The growth of e-commerce poses inherent risks and challenges for retailers, while simultaneously creating opportunity. Retailers cannot dictate how their customers shop, but must adapt to serve them whenever, however and wherever they want. Optimising real estate portfolios (shops and warehouses) will be a key element of any successful omni-channel strategy, and smart investment in supply chain technology will become a critical differentiator.

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Retailers will need seamless customer engagement across both physical and digital platforms.

4. Best Practice Retail and Logistics Execution

Defining success: identifying future best practice

To date, many (perhaps most) retailers have responded reactively to the growth of online as best they can, but often without a fully developed strategic plan. However, a number of retailers stand out for the way they are restructuring their supply chains to offer customers a better service, even as the challenges and set-up costs of doing so increase.

In this section we profile some of those at the leading edge of omni-channel logistics – retailers who have worked out their strategies and are leading the pack.

From Inditex to Walmart: global market leaders show the way

Inditex is the largest fashion retailer in the world. The success of the Inditex brands is driven by an unerring focus on changing consumer demand, and their supply chains are designed to ensure maximum responsiveness to these shifts. New products can move from drawing board to store within just three weeks, and Inditex refreshes its physical stores and online collections twice a week, delivering to stores within 48 hours.

This is only possible through the extreme responsiveness of the Inditex supply chain and its logistics and distribution operations. It operates ten logistics centres in Spain, close to the headquarters of its eight brands. The transportation and distribution of its products is undertaken entirely by external contractors. By 2020, all of its brands will be available online anywhere in the world – even where it does not have stores. In addition, Inditex aims to adopt an integrated stock management system in all countries with a physical store presence. Based on radio frequency identification technology (RFID), this system will make it possible to fulfil online customer orders with store inventories.

Adidas is another market-leading retailer whose strategy places the consumer at the heart of its supply chain strategy. For example, Adidas previously used a warehouse in Germany to undertake online fulfilment for the UK, but with the exponential growth of online sales and the increasing demand for next-day delivery, it moved its distribution operations to the UK, enabling next-day delivery into London. This is an example of a retailer moving its operations closer to the end consumer to ensure ‘last mile’ fulfilment, and to satisfy consumer expectations with greater speed and precision.

IKEA is also reshaping its global strategy in response to the twin forces of urbanisation and digitalisation. Its vision is to create an integrated offer where its stores, logistics, digital capabilities and services will combine to drive online sales and improve customer engagement, both in-store and online.

Ocado is a fascinating example of an operator that is continually reinventing its strategy and business model. Ocado started life in the UK in 2000, and is now not only the world’s largest dedicated online grocery retailer, but increasingly is also a technology solutions provider and supply chain partner for the whole industry. Ocado has developed an industry-leading, dedicated end-to-end operating solution for online grocery retail based on a broad estate of proprietary technologies including machine learning and Artificial Intelligence, forecasting, routing systems, the Internet of Things and big data. The Ocado Solutions business uses these best-in-class technologies to support retailers around the world with their own online grocery strategies. Central to this offer is the Ocado Smart Platform (OSP), a modular, automated online retail fulfilment and delivery solution with the e-commerce distribution centre at its heart.

Chinese online behemoth, **Alibaba**, has achieved dominance through strategic partnerships and technology. Alibaba, which delivers over 5 billion packages in China annually, does not own its own logistics company. Instead, it works with a network of 14 logistics providers that all have an established delivery network. Known as the China Smart Logistics network, it connects these logistics providers, buyers and sellers through its online platform. When buyers place orders, they can choose delivery methods and examine expected delivery times based on the seller’s data. One of the key drivers of Alibaba’s success is its heavy investment in technology, and Artificial Intelligence in particular.

> Alibaba has recently acquired a 36% stake in China’s largest offline hypermarket chain Sun Art Retail Group for US$2.9 billion, on the back of founder Jack Ma’s comment that ‘new retail’ is about ‘the integration of online, offline, logistics and data across a single value chain’.

Technology is at the heart of successful supply chains, but equally as important are optimised real estate networks. **John Lewis**, the UK’s leading omni-channel retailer, is a leading example of best practice. Following the 2008/9 Global Financial Crisis, John Lewis shelved plans for ten new stores. Its new distribution centre, which opened in 2009, became a semi-automated National Distribution Centre to support both its stores and its growing online business (which now accounts for over 40% of total sales). Since then, John Lewis has added another two distribution centres at its campus in Milton Keynes, and launched a click-and-collect service from its network of 349 Waitrose stores. In total, John Lewis has invested more than £500 million in creating a best-in-class omni-channel supply chain.

Another leading international retailer that has invested significantly in its supply chain to drive strong growth is **Walmart**. The world’s largest retailer has doubled its e-commerce sales over the past two years, underpinned by significant investments in technology, and in particular its dedicated e-fulfilment centres. These centres are strategically located across the United States to provide access to 98% of customers in two days or less, using ground shipping. In addition, Walmart continues to leverage its store network to expand online grocery pick-up and delivery and increasingly uses its stores to fulfil online grocery orders. With cutting edge systems and unrivalled scale, it intends to offer its customers more choices, in both its product range and delivery options. This is being enabled by long-term investment in a next-generation fulfilment network.

Size isn’t everything: start-ups drive future innovation

While supply chain best-practice is currently more easily identifiable in the world’s dominant, leading retailers, the next wave of innovation will likely come from the other end of the spectrum. With a blank sheet of paper and a nimble and fearless attitude, retail start-ups will learn from the giants and drive next-generation fulfilment strategies.

Conclusion: the future is here

While many retailers continue to grapple with the challenges of omni-channel, we can already glimpse, to a degree, what next-generation omni-channel retailing will look like. As the American author, William Gibson, famously commented: “The future is already here – it is just not evenly distributed.” One thing is clear – with the magnitude and pace of change within retail showing no signs of abating, only those retailers that adopt supply chain best practice will survive.

5. Implications for Investors

The future for retail and logistics is not binary

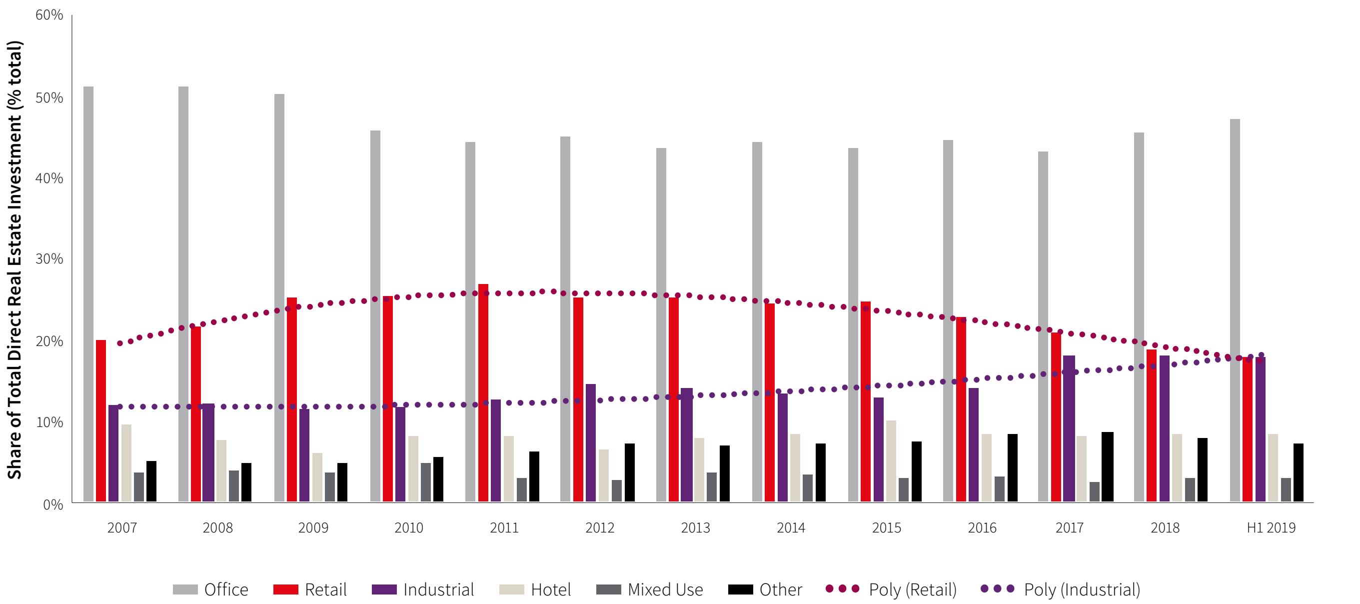
Over recent years, retail real estate has been viewed by many investors as increasingly challenging to navigate, while logistics real estate has been very much in favour (highlighted by the converging share of total investment volumes). This has largely been a result of investor perceptions around the adverse impact that e-commerce has had on physical retail, and the concurrent benefits to logistics. However, any binary view should be much more nuanced, because in an omni-channel world, **the most successful retailers will be those that can optimise both their store and distribution networks.**

The utter demise of physical retail is being overplayed. Retail is changing – the UK, as one of the more mature online markets globally, is a useful touchpoint. Based on our analysis, 25% of UK retail space is potentially obsolete, because of changing demand dynamics, driven primarily by e-commerce. For the implied 75% of retail space that will remain, particularly in urban locations (and once retailers have worked out their optimum space dynamics), polarised demand will drive premiums for the right space in the right locations. Conversely, buildings or locations that fail to meet consumers' and retailers' requirements will become obsolete – and much of this stock is identifiable today. With global population growth focused on urban areas over the next decade, and a limited supply of residential, student accommodation, healthcare, urban logistics, and in some cases offices in these locations, this space will find alternative uses.

By and large, this dynamic will be replicated around the world in more mature markets, as retailers shrink their store footprints as online grows. However, in less mature retail markets, demand for physical floorspace will grow even as online sales increase. Demand will be selective. In many geographies, this demand will be driven by population growth, urbanisation, consumption and rising retail spend, despite increasing online penetration.

Logistics has long been critical to the success of retailers. The retail sector, as a major demand driver for warehousing or logistics space, is equally critical to the health of logistics real estate. The relationship between retail and logistics is becoming symbiotic; investors need to understand this interdependency in order to recognise that 'future-fit' retail estate has a bright future, as does 'future-fit' logistics real estate. On the basis that not all real estate is equal, however, the question is: what constitutes 'future-fit'?

Global Direct Real Estate Investment by Asset Class (% total)



Source: JLL (July 2019)

Identifying resilient retail and logistics real estate

E-commerce has been a source of disruption for two decades, although it has only really begun to impact on occupier and investor demand over the past few years. We are now beginning to see what 'future-fit' retail and logistics real estate looks like – what type of retail and logistics real estate will be resilient and deliver solid long-term performance for investors. **Global capital is primed to invest in both sectors, with a pricing inflection point in retail a likely trigger for a selective investment feeding frenzy**.

Different investors have different approaches to risk and returns – as highlighted by core, valued-add and opportunistic approaches. The outlook for rental growth – often a key consideration – reflects local demand and supply factors, but there are specific and identifiable stock attributes that will drive enhanced rental growth for retail real estate and logistics real estate respectively.

All retail markets have their own characteristics and market dynamics at both a 'macro' and 'micro' level. Consumer shopping preferences and convenient and/ or dominant retail places will vary by catchment, and each individual investment opportunity will need to be assessed in its own right. However, the criteria set out in the tables below and on page 24 provide a framework to identify opportunities that benefit from changing consumer demands and retailer needs. These opportunities should ultimately deliver robust returns, while also balancing risk.

In addition to these attributes, successful retail stock selection is also highly dependent on investors being able to recognise the optimum role and value of the store in real estate strategies. For retailers, the value of a store goes beyond product distribution and encompasses both marketing and customer experience. They also face an increasingly competitive online space where the cost of customer acquisition is going up and up.

Stock Selection Drivers of Enhanced Rental Growth in **Retail Real Estate**

Attribute	Explanation
Economic fundamentals	Strong economic fundamentals, including a large consumer base or rising levels of consumption, provide resilience for profitable retail models and retail places.
Strong locations for flagship or convenience retail	Retailers will seek optimum locations (benefitting from enhanced connectivity) for different types of retail, from flagship experiential to convenience. These stores will be complemented by next generation 3PL (Third Party Logistics) or supporting distribution facilities, such as consolidation centres.
Diversity of tenant mix	Retail places that incorporate the diversity of mix and services to satisfy the needs of the modern 'visitor' and to truly differentiate, will see stronger performance. Landlords can unlock latent value through proactive tenant mix engineering, optimising layout and operational efficiency and demand for space.
Flexibility – in leasing	Retail places need to provide the flexible space and shorter leases for dynamic and up-to-date pop-up stores or bring online retailers into the physical space. This includes embracing a holistic, asset-wide approach to leasing and rental income as well as zoning and clustering to produce synergies. Leisure and F&B (Food and Beverages) are key elements here. In addition, catering for events or temporary flexible work space will further increase overall appeal.
Flexibility – in asset management	Flexibility to re-engineer space at a shop unit level will become more important as increased demand for in-store mini-distribution spaces for click-and-collect reduces gross to net ratios.
Redevelopment / repurposing opportunities	Investors are increasingly considering the potential to reposition assets through extension or refurbishment, or extend the asset into other use classes, including leisure, hotels, offices, residential units or community services.
Sustainable building	Sustainability attributes to minimise environmental impacts will become more important, for both retail and logistics assets.

Stock Selection Drivers of Enhanced Rental Growth in **Logistics Real Estate**

Attribute	Explanation
Strong location for strategic distribution	Strong locations for strategic distribution are typically: 1) 'gateway' locations for market entry, such as seaports or airports; 2) inland hubs that are well connected by strategic transport infrastructure to service large centres of population and consumption; and 3) locations close to major manufacturing clusters. In addition: 4) with e-commerce proximity to a parcel hub is often critical to offer late cut of times for next day delivery.
Strong location for 'last mile' and urban logistics	'Last mile' and urban logistics are colliding due to the growth of e-commerce (including same-day delivery), urbanisation, constraints on land supply and sustainability concerns. High density populations in cities will drive retailer demand but also challenge supply solutions. In major cities it is likely that 'last mile' facilities may also be combined with micro-distribution centres to service small city centre areas in particular.
Multi-storey and multi-level buildings	In certain major cities, land supply constraints and high values support land intensification and multi-storey and multi-level logistics real estate. With suitable planning, these developments may be co-located with other uses or form part of a wider mixed user development. Cleaner and quieter vehicles, or the use of autonomous vehicles, could facilitate the juxtaposition of logistics with other uses.
Flexibility	Supply chains need to be as responsive and agile as possible. Logistics real estate is fixed in terms of location, but buildings need to provide operational flexibility and potential to downscale and upscale via divisibility and / or expansion.
Suitable for automation and robots	Automation and robots will increasingly feature in warehouse operations and more gradually in transport operations. Suitable buildings, all other things being equal, will cover a smaller land area but be taller than their manual counterparts, enabling occupiers to better utilize the building cube.
Designed with people in mind	Despite the rise of automation and robots, modern logistics buildings often employ large numbers of people. In many countries, such as Japan and Germany, ageing populations will lead to a labour force contraction. Warehouses need to provide more attractive environments to occupiers who want to recruit and retain staff. WELL certification has started to make in-roads in logistics real estate.
Sustainable building	Sustainability attributes to minimise environmental impacts will become more important. This is partly related to e-commerce and urban logistics but not exclusively so. Although the traditional focus of sustainability in real estate has been on 'green building,' measures of economic and social sustainability will become more important.

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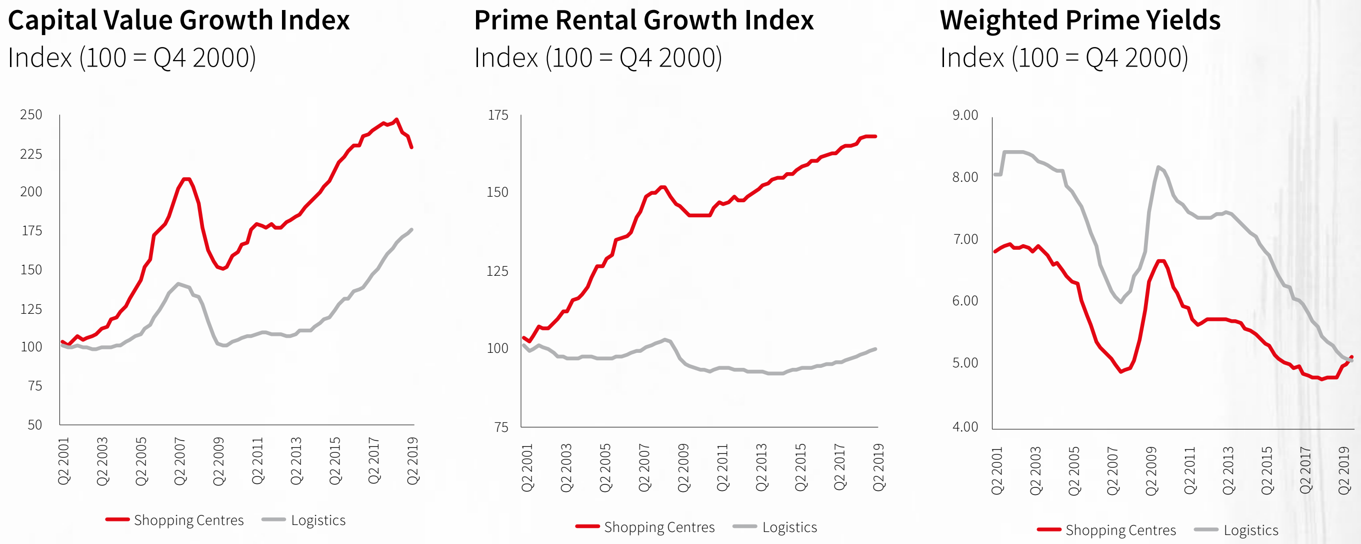
The challenge for investors (and indeed operators) is to attribute value to real estate based upon the role that the stores play in promoting, selling and distributing goods. Products that move through space can be valued (store sales and online fulfilment through click-and-collect), but it is harder to measure the value-add for the central role of the store in marketing and experience.

Ultimately, stores should be valued not just on sales volumes, but also on product movements and how they enhance the brand through marketing and the customer experience they provide. The role technology plays in this cannot be underestimated. This new paradigm will place pressure on turnover rent models, and the use of rent-to-sales ratios in assessing sustainable rents. Ultimately, rents are driven by demand and until supply adjusts, many markets will be seen as retailer friendly, with the availability and choice of retail locations reducing rental tension. This dynamic will reverse as resilient locations with the attributes outlined above are increasingly identified.

In the world of logistics real estate, there can be 'no one size fits all' approach, as different buildings perform different functions in supply chains (and supply chains will vary by retailer). Location will continue to be critical with a greater emphasis on servicing cities – the engines of growth in most countries and often the location for first and 'last mile' logistics. Rental growth will remain a key driver of performance, but where new buildings are significantly different to the general class - such as where very tall buildings enable multiple levels of mezzanine floorspace - there is perhaps a case for recalculating how rents are derived, before we can assess rental growth prospects.

If, as argued in Section 3, the role of stores and distribution centres has become blurred, this raises a question about the relative investment pricing of these assets. Traditionally, retail real estate yields have been lower than logistics real estate yields, but perhaps omni-channel logistics assets should be priced closer to retail given their function and their likely occupation, in many cases, by a retailer.

European Property Indices: European Shopping Centres and Logistics



Source: JLL (July 2019)

Key lessons for investors:
enhanced understanding required to seize opportunity

While the general attributes above represent a 'broad framework', they should contribute to enhanced performance. However, investors need to examine forensically each asset – whether retail or logistics – to better identify characteristics for outperformance and minimise risk. This involves not just a detailed examination of the property's attributes, but of all the features of the location and its broader catchment.

The digitisation of retail and logistics throws up huge challenges for investors, but those that can respond to these intelligently can create new opportunities for their customers and drive real estate outperformance. The key lessons for investors involve:

- **Structural changes and cyclical trends:** Investors need to be aware of the potential impact on real estate performance of huge structural changes, including the digitisation of retail and supply chains. Understanding cyclical trends in rental growth, capital values and returns will no longer suffice for assessing medium and long-term performance. Investors must incorporate the impact of structural changes to evaluate their assets (or potential acquisitions) more broadly.
- **The risk of accelerated obsolescence:** Given the scale and pace of disruption, the challenge posed by obsolescence has become more acute. To counter this risk, investors now require a more detailed appreciation of how their customers (tenants) use their buildings and how this use is, in turn, driven by their end-customers and the people who work in the real estate.
- **Investors as operators - the rising importance of asset management:** Investors that better understand their customers and their people can offer appropriate asset management services to preserve or enhance real estate value. In the case of retail assets, for example, asset management services might involve providing services or facilities to enhance a frictionless end-customer experience, whereas for logistics assets it may involve creating common amenities to support worker wellbeing. Increasingly, successful investors will need to be good real estate operators not just owners.
- **Future proofing assets to ensure they remain 'fit for purpose':** By understanding structural and cyclical drivers of performance and what customers require, investors should be able to identify existing assets (either currently owned or available to acquire) which, while at risk of becoming obsolete, can be adapted to remain fit for purpose in their current use. In many cities, for example, land is very constrained and adaption of well-located buildings may be appropriate, with relatively modest capital expenditure far below replacement costs. Given the costs and environmental impact associated with developing new buildings, refurbishment (and redevelopment) will become more important for investors.
- **Repurposing obsolete real estate assets:** Where real estate is no longer fit for purpose in its current use, investors should be ready to identify opportunities to repurpose assets for an alternative use. For example, there are already many examples of investors that have successfully repurposed obsolete retail real estate into alternatives uses including housing, logistics and leisure. Given our predication that the stock of retail floorspace will contract significantly in many countries due to digitisation, repurposing will become a more widespread challenge for investors.

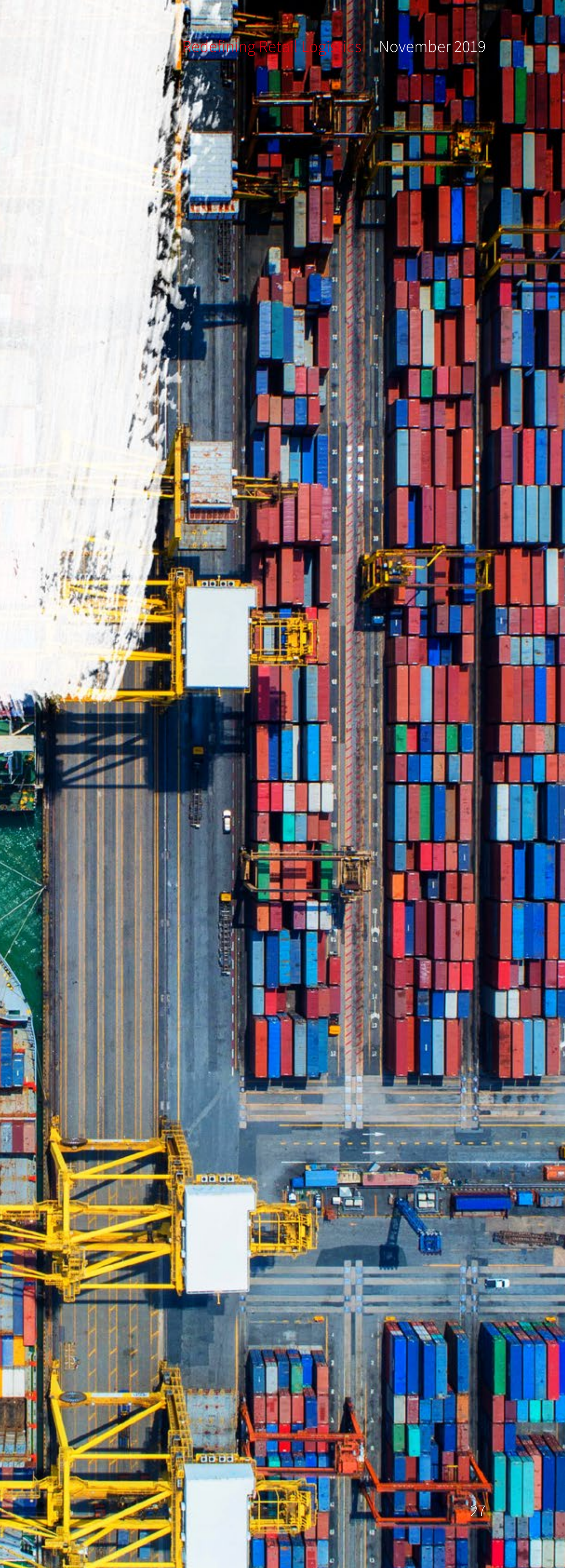
Understanding the economic, environmental and social sustainability issues that extend across all these areas will become critical for investors, as regulatory and reporting frameworks become more demanding. There is also growing research – although mostly focused on office buildings – that green buildings can enhance values and performance and improve liquidity. **Therefore, just as sustainability will become more critical for retailers, so it will be fundamental for real estate investors.**

Conclusion:
the future is bright for investors with foresight and bravery

There is a real risk that real estate investors are 'throwing the baby out with the bathwater' and, as a community, adopting an overly simplistic, herd approach to investing in retail and logistics. The need to develop a broadened understanding of the digitisation of retail and supply chains has never been more pressing to identify real estate that is relevant and resilient.

Ultimately, retail will prevail, thriving as a technology and data-driven, consumer-centric, responsive and profitable industry. After a painful period of adjustment, the industry will operate far more efficiently and profitably than it has for decades. In this respect, omni-channel will drive positive change for both retail and logistics.

The retailers that can combine the right physical retail, logistics real estate and digital infrastructure, and investors that can identify 'future-proof' real estate assets, can look forward to significant outperformance.



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