Pandemic accelerates e-commerce adoption
Implications for Industrial and Retail
EXECUTIVE SUMMARY

• The historic 34.2% surge in e-commerce activity in 2020 – an acceleration of a pre-pandemic trend – helped drive demand in the industrial sector while weighing on retail fundamentals during the year.

• EA expects that e-commerce growth will slow in 2021 but will resume its long-term trend of gaining share in the retail space in outer years, approaching 35% by 2030 and settling at 40%, or more, by 2040.

• The strength of e-commerce should provide a tailwind for industrial demand over the next several years, though increased usage of omni-channel practices and increasing costs associated with e-commerce may dampen some of the benefits for the sector.

• Depending on the good/service type it provides, certain types of retail tenants will face more pressure from e-commerce, and increased efforts will be necessary to accommodate consumers’ needs for convenience and differentiate the in-store experience. Service retailers will continue to be more protected from e-commerce adoption and will see traffic rebound when the pandemic eases.

• The tenant mix of malls makes this type of real estate more prone to e-commerce competition than others like neighborhood, community, and strip centers, which can provide convenience that consumers demand.
INTRODUCTION:
The spread of the COVID-19 pandemic throughout the U.S. had a significant effect on the U.S. economy in the first half of 2020, leading to the first recession since the Global Financial Crisis (GFC), which began at the end of 2007. Economic output experienced record declines in the middle of the year as large swaths of the economy were forced to shut down or reduce production to try to stem the spread of the pandemic. Millions of workers suddenly found themselves unemployed as a result, while many who remained employed were forced to adjust to work without being able to meet in offices. And consumers had to explore alternatives to buying goods and services without exposing themselves to the dangers of the virus.

The pandemic also had significant implications for industrial and retail commercial real estate. The expedited shift toward e-commerce during the pandemic accelerated trends, benefitted industrial demand, and eroded brick-and-mortar retail sales. With vaccine deployment accelerating in 2021 and the economy gradually opening back up to full capacity, it’s worth examining the outlook for e-commerce and its implication for the industrial and retail sectors.

INDUSTRIAL REMAINED RESILIENT
Throughout an unprecedented macroeconomic backdrop in 2020, the industrial sector continued to perform well throughout the year. Industrial net absorption slowed slightly in the second quarter of the year, but regained momentum quickly in the second half of the year, finishing with a 20-year high of 104.0 million sq. ft. (MSF) in the fourth quarter. Availability fell to 7.3% to round out the year, effectively erasing the slight increase from the previous three quarters.

Class A warehousing\(^1\) continues to be the big winner in the industrial space. Net absorption hit an all-time high of 186.8 MSF in 2020, eclipsing the previous high by nearly 40 MSF. Class A availability dropped 80 basis points (bps) during the year, also setting a record low of 10.7%. Rent growth has also been healthy in the Class A space, with net asking rents up 4.3% for the year. Non-Class A demand also showed some signs of life at the end of the year, as net absorption hit a four-year high of 32.7 MSF in Q4 2020 after disappointing results earlier in the year.

---

\(^1\)Class A refers to newer, larger warehousing space. EA defines Class A as warehouse properties that are less than 15 years old and greater than 100,000 square feet.
Much of the strength in the industrial sector in 2020 revolved around the growing importance of e-commerce during the pandemic. As many businesses were forced to close and households began to shelter in place in fear of spreading the coronavirus, consumers increasingly turned to online channels. Total e-commerce growth surged above 40% year-over-year in the second quarter of 2020 and remained elevated throughout the remainder of the year as online shopping gained significant share in the retail space. While the figures for e-commerce retail are not yet official, EA estimates that 2020 e-commerce sales grew 34.2% - more than double the pace of 2019.

This, in turn, helped provide significant support for industrial demand even as other aspects of the economy such as manufacturing and industrial output remain below
pre-pandemic levels. E-commerce supply chains typically require more space than traditional brick-and-mortar retail for a couple of reasons. First, traditional retailers typically keep a portion of inventory at the physical location, reducing the need for additional warehousing space. In addition, online purchases typically have higher return rates than traditional retail purchases, and extra warehousing space is required to accommodate reverse logistics. Lastly, e-commerce fulfillment requires that a portion of items are stored and selected in single units. Each piece of inventory has its own order variability and level of safety stock, as well as its own area to be selected from. As a result, there is more safety stock inventory in more places from which to select inventory, requiring more warehousing space.

Transaction data shows that pure e-commerce businesses were responsible for over 20% of all bulk industrial square feet transacted in 2020. In addition, a significant portion of third-party logistics and general retail tenants likely purchased additional space to address e-commerce needs. As a result, the surge in e-commerce spending in 2020 drove more demand than the pure e-commerce transaction data would suggest.

The Outlook for E-commerce in a Post-Pandemic Environment

Given the importance of e-commerce in propelling industrial’s strong performance in 2020, the strength of e-commerce growth going forward plays a significant role in driving industrial forecasts. EA expects that COVID-19 vaccinations will continue at an accelerating pace throughout the year. This should lead to a broader reopening of the economy with a notable recovery during the latter half of 2021. This introduces some interesting questions about e-commerce's performance as the U.S. adjusts to a new normal:
• How much of the retail share gained by e-commerce in 2020 will return to brick-and-mortar stores?
• Over the long-term, where does e-commerce’s share of retail level off?
• How long does it take before e-commerce’s share levels off?

For context, consider that prior to the pandemic, the pace at which e-commerce gained share in the retail sector essentially followed an S-curve pattern for technology adoption, in which gains eventually slow down over time. E-commerce’s share of total retail sales excluding motor vehicles and gas then jumped from 16.7% in Q1 2020 to 22.5% in Q2 before finishing the year at 20.6%.

It may be that the majority of consumers who were forced to use online channels because of the pandemic find that they prefer this way of shopping. Consumers, particularly older consumers, who had never tried e-commerce before were forced to try and found that they actually quite liked it. In this case, we would expect e-commerce to hold the retail share that it gained during the pandemic and continue to gain share as it did prior to the pandemic. Alternatively, the shift to e-commerce could prove to be a temporary inconvenience to consumers, in which case we would expect that the majority would head back to physical retail locations once the pandemic is reasonably contained.

EA expects that the future of e-commerce lies between these extremes. The share decline in the second half of 2020 as states eased restrictions suggests that a portion of consumers want to go back to shopping in physical stores. As vaccines are deployed, this trend is likely to continue up to a point, and we expect e-commerce’s share of retail excluding motor vehicles and parts to decline by nearly 1% throughout 2021. This translates to significantly slower year-over-year e-commerce growth throughout the year, particularly after Q1, but leaves e-commerce as a higher share of retail than the pre-pandemic trend would suggest.

In outer years, EA assumes that share gains resume the general S-curve pattern of adoption beginning in 2022, with e-commerce’s share of retail (excluding motor vehicles and gas) eventually approaching 35% by 2030 and settling at 40%, or more, by 2040.

**IMPLICATIONS FOR INDUSTRIAL FORECASTS**
This pattern of e-commerce activity has some important implications for the industrial sector. Over the near term, e-commerce activity is likely to provide less support than it did in 2020, particularly towards the end of 2021 and start of 2022. However, the continued e-commerce share gain in the medium/long term should keep activity strong in the sector over the next several years, translating to below-average availability and above-average rent growth.
Over the long term, the path of e-commerce’s share gain will continue to drive industrial trends. If e-commerce settles at 35% of retail excluding motor vehicles and parts by 2040 instead of 40%, this translates to approximately 1.7% slower e-commerce growth per year over the next five years. This, in turn affects market fundamentals in the industrial sector, reducing the outlook for rent growth by approximately 0.7% per year on average. Similarly, changes to the amount of share that returns to physical stores once the pandemic subsides or the speed of share gain can noticeably alter the industrial outlook.

![Figure 4: Rent Forecasts and E-commerce Share of Retail](image)

**Figure 4: Rent Forecasts and E-commerce Share of Retail**

Aside from concerns over the long-term path of e-commerce growth itself, there are other trends that can influence how much e-commerce affects the demand for warehousing space. For one, it is worth noting that the shifts away from traditional retailers are not uniform across industries. Moreover, during the pandemic some of this surge in e-commerce spending is being fulfilled by consumers buying online but picking up in store (BOPIS), and the industrial space requirements for a BOPIS supply chain can be quite different than a last-mile residential delivery network.

Consider that one of the more pronounced trends during the pandemic has been the shift of food spending towards grocery stores as many bars and restaurants were forced to closed or significantly reduce capacity in response to local and state restrictions on public gatherings. Sales at restaurants tumbled over 50% year-over-year during the early months of the pandemic in the U.S. and remain more than 20% lower than pre-pandemic levels. Meanwhile, grocery stores experienced historically strong growth in 2020, rising 10.8% from 2019 levels.
Online grocery shopping also surged during the year. According to the grocery e-commerce specialist Mercatus, the share of grocery shopping that occurred online tripled to 10.2% in 2020, up from 3.4% as online sales surged 306% during the year. However, much of this growth comes from traditional grocery chains that are either expanding their BOPIS options for customers or delivering to residential addresses using items that are already stocked in stores. In either case, this kind of online sales growth likely stimulates some additional demand for cold storage warehousing but requires less additional space than establishing a full last-mile delivery supply chain.

This kind of repurposing of existing space is not limited to online grocery. While consumers may continue to want the convenience associated with online shopping, the reality is that rising rents and increased space requirements associated with e-commerce delivery and reverse logistics will pressure the profitability of retailers. This is likely to force retailers to push for more efficiencies in their online sales channels. Whether this means that retailers will take additional efforts to bring customers back into physical stores, further repurpose existing retail assets to accommodate online sales and returns, or attempt to pass these higher costs on to consumers remains an open question with implications for the outlook for industrial space. The increased importance of e-commerce is still going to provide a tailwind for the industrial sector, but these additional efforts may restrain some of the benefits.

**RETAIL EXPERIENCE BY TYPE**

In contrast to the industrial sector, 2020 was a rocky year for most retailers. Faced with unprecedented difficulties and uncertainties, many retailers managed to quickly adapt themselves to the changes and took responsibility for their consumers, communities,
and employees. However, the pandemic and its impact still took a heavy toll on most unessential retailers, especially those with limited cash reserves, rendering increased bankruptcies and store closures.

The rise of e-commerce does create competition for brick-and-mortar retail stores, but not entirely. There are two major types of retail: service and goods. According to a report from the International Council of Shopping Centers (ICSC), as of 2017, there are more service establishments in unit (53%) than retail goods establishments, and this is a trend that has been occurring in the past decades and will most likely continue forward when the pandemic eases. Service establishments, according to the U.S. Census Bureau, consist of restaurants and drinking places, repair and maintenance, personal and laundry services, motion pictures, wired and wireless telecommunications carriers, amusement arcades, fitness, and recreational sports centers. Service retail is comparatively less prone to e-commerce penetration. For example, the sales volume of food service and drinking places has been growing rapidly in recent years as more consumers shift to consume experiences rather than owning goods. The number of health clubs & fitness centers has also increased from 29,750 in 2009 to 41,370 in 2019, a 39% increase over 10 years.  

However, certain goods are facing definite pressures from e-commerce. Figure 6 shows the decline of share for department stores. Its share of total retail sales (excluding motor vehicles, parts dealers and gas stations) has dropped from 6% in 2010 to 3% by the end of 2019. However, non-store retail (mostly e-commerce) has increased from 11% in Q4 2009 to 18% by the end of 2019.

Figure 6: Percent of Total Retail Sales (Excluding Motor Vehicles, Parts Dealers & Gas Stations)

![Figure 6: Percent of Total Retail Sales (Excluding Motor Vehicles, Parts Dealers & Gas Stations)](image)

Source: Census Bureau

---

2 Data from Statista  https://www.statista.com/statistics/244922/us-fitness-centers-und-health-clubs/#:~:text=The%20statistic%20shows%20the%20number,41%2C370%20gyms%20in%20the%20U.S.
This pandemic, however, has put the brakes on the growing service retail sector. According to the National Restaurant Association, more than 110,000 restaurants have closed permanently or long-term as of December 2020. Yelp’s September Impact Report showed that of 16,585 beauty and spa shops that closed, over 58% were closed permanently. Consumers’ demand for these service retailers, however, will not be going away. And even though many of these service retailers are closed permanently, new ones will take their place and continue to meet the need of the public. There is no denying that people are eager to get back to normal. Looking at OpenTable data, in cities like Austin where the COVID-19 related restrictions are not as strict, restaurant sales were much better than cities like Los Angeles which experienced more stringent lock down mandates. However, it will take time for service-oriented retailers to get back on track, and especially for people to be confident enough to return to normal and sales volumes to recover.

Figure 7: Y-o-Y Change in Reservations & Walk-Ins at Seated Diners (Two Week Moving Average)

Source: OpenTable

E-COMMERCE VS BRICK-AND-MORTAR RETAIL SPACE

News headlines in 2020 were full of retail bankruptcies and store closures. According to S&P Global Market Intelligence, there were 52 retail bankruptcies in 2020\(^3\), the highest since 2009. For comparison, 2018 experienced 34 bankruptcies and 2019 had 32. Additionally, as of the end of 2020, there are approximately 12,130 announced closures and 6,352 actual closures. We are likely to see more store closures in the coming years as the store announcements in 2020 materialize, and more retailers file bankruptcies or right size their stores due to e-commerce and changing consumers.

\(^3\)S&P Global Market Intelligence analysis includes only public companies or private companies with public debt in which either assets or liabilities at the time of the bankruptcy filing are at least $2 million.
However, right-sizing does not mean closing all the stores and moving everything online. It means reducing redundant stores that are not generating enough profit and influence and retaining the stores that are in the right locations and produce value to the brand. The stores that remain will likely have better resources and be given more purposes to serve the customers. As retailers know, physical stores are still valuable and would give them edges to compete with other brands.

Consumers are favoring convenience more than ever. They want to get the product quickly and with limited cost, and this requires not only a strong supply chain but also proximity to consumers. This is when a brick-and-mortar store can offer tremendous value for retailers.

Curb-side pickup, BOPIS, in-store pickup, pickup lockers etc. have never been so popular. Many retail stores, especially those located in a neighborhood or strip center, are located within three miles of nearby residents. Being so close to the consumers means retailers can leverage their stores to fulfill the consumer’s order and at the same time, save the cost of delivery. Consumers also prefer the flexibility to pick up their product at their convenience and save the money in delivery. Mass merchants like Target have been actively leveraging their stores. In December alone, consumers purchased 150 million items using omni-channel like drive-up and order pickup, almost four times more than over the same timeframe last year. Stores fulfilled approximately 95% of Target’s sales in November and December 2020.

Brick-and-mortar stores also benefit from their ability to accept returns. Consumers are now demanding free returns and a hassle-free return experience. To build loyalty and increase competitiveness, many retailers are offering free returns. This could again put pressure on the retailer’s profitability. According to eMarketer, the average return rate for a brick-and-mortar retailer is between 8% and 10% of total sales throughout the year. E-commerce would generate up to 30% of total sales in returns, according to reverse logistic software provider Optoro. Also according to Optoro, on average, reverse logistics costs amount to 59% of the original sales price of the item. Faced with such high costs, retailers are testing different ways to deal with returns. One method is to use their physical store as a return center so that consumers can drop off the returned product at their convenience. This also saves time and cost from the retailer’s side.

E-commerce itself is an expensive practice. As experienced e-commerce brands continue to raise the delivery standard, consumers are now expecting speedy, frequent, and low-cost delivery from other retailers. A survey from Capgemini Research Institute showed that the average last mile cost is $10, but customers are only paying $8 and are
unwilling to absorb the complete cost. To stay competitive, retailers have no choice but to take the erosion of profit. In addition to the expensive last mile cost, marketing and advertising is another big expense. With more retailers joining the e-commerce competition, the cost to attract a consumer’s attention and retain their loyalty will likely become more expensive.

The brick-and-mortar stores, however, are a great source of marketing and advertising. According to a study from ICSC, physical stores can boost a brand’s web traffic in the market and increase brand awareness. From a sales perspective, the study found that when a consumer spends $100 online then goes to a physical store within 15 days of that purchase, they spend an additional $131. And if the consumer starts shopping in the physical store and then moves to online, the additional spend would be $167. This study is further evidence of why pure online retailers like Warby Parker and Casper started to open physical stores to capture the sales through omni-channel.

In addition, retailers were spending more efforts on providing a unique and personalized experience for their consumers even before the pandemic. This trend is likely to continue after the pandemic. When the pandemic eases, many people will return to the stores looking for an experience they can’t get from shopping online.

**E-COMMERCE AND DIFFERENT TYPES OF RETAIL**

Different types of retail spaces were hit differently. Malls were hit much harder than other retailers. The Q4 2020 Y-o-Y increase in availability rate for lifestyle and malls reached 92 bps- the highest among all the sub-categories. Net asking rent for lifestyle and malls in Q3 dropped 10% Y-o-Y and remained flat in Q4, also the worst performance among all the sub-categories.

![Figure 8: Q4 2020 Retail Availability Rate Change](image-url)

*Source: CBRE Econometric Advisors*
Mall-based retailers were hit extremely hard because there are not many essential tenants in malls to keep the door open and many malls are enclosed. Most mall-based tenants sell apparel and apparel sales have been declining in the past decade, a trend that was accelerated by the pandemic. Among those that have declared bankruptcies or announced store closures, many are mall-based retailers like JC Penny, Lord & Taylor, Francesca’s, Ascena Retail Group. Others like department stores Macy’s and Nordstrom, which serve as anchor tenants of malls, also announced a large amount of store closures which will make a big impact on mall owners. Many retail leases would include co-tenancy clauses. Depending on the negotiation between landlord and retailer, this clause potentially could allow other tenants to reduce their rent or break their leases without legal consequences, which will create a domino effect of store closures in malls. There are already two mall-based REITs that have filed for bankruptcies. Mall Operator PREIT and CBL & Associates Properties filed for bankruptcies in November due to declining rental revenues caused by tenant store closures and rent reduction/deferrals.

LOOKING AHEAD
The COVID-19 pandemic largely accelerated the long-term shift away from traditional brick-and-mortar retailers toward e-commerce spending in 2020. The surge in online sales throughout the year forced many retailers to expand their online capabilities, boosting the demand for warehousing space. They are also repurposing their existing real estate and right sizing their space going forward.

While there remain some open questions about the future of e-commerce, EA expects that much of the recent surge in online spending remains online in a post-pandemic environment and that there is still more room for share gain over the next several years. Over the long term, retailers are likely to adjust the way they leverage retail assets and will push to make use of industrial space more efficiently in the face of rising e-commerce costs and consumers’ need for convenience and experience. Still, the net effect is still positive for the industrial sector, leading to above average rent growth and relatively low availability in EA’s forecasts as warehousing continues to drive demand. On the retail side, certain markets and property types are likely to prove more resilient than others, but the sector overall will be weighed down by retail bankruptcies and decreased reliance on physical stores for sales volume.
FOR MORE INFORMATION CONTACT:

Ibrahiim Bayaan  
Economist  
CBRE Econometric Advisors  
+1 404 504 5953  
Ibrahiim.Bayaan@cbre.com

Christina Tong  
Economist  
CBRE Econometric Advisors  
+1 617 912 5222  
Christina.Tong@cbre.com

Neil Blake, Ph.D.  
Global Head, Forecasting & Analytics  
CBRE Global Research  
+44 207 182 2133  
Neil.Blake@cbre.com

TO LEARN MORE ABOUT:

CBRE Econometric Advisors and our sector forecasts, please visit our website:  
www.cbre.com/forecasting

CBRE Econometric Advisors thought leadership from all of our sector Economists visit:  
EA Insights

Subscriptions to Market Forecasts and Data Tools:  
Mary.Suter@cbre.com

Complimentary Office Vacancy Index Alert Subscription:  
Sign Up Now