THE U.S. WAREHOUSE BOOM:
HOW CONSUMPTION & EFFICIENT DELIVERY ARE DRIVING ONGOING GROWTH

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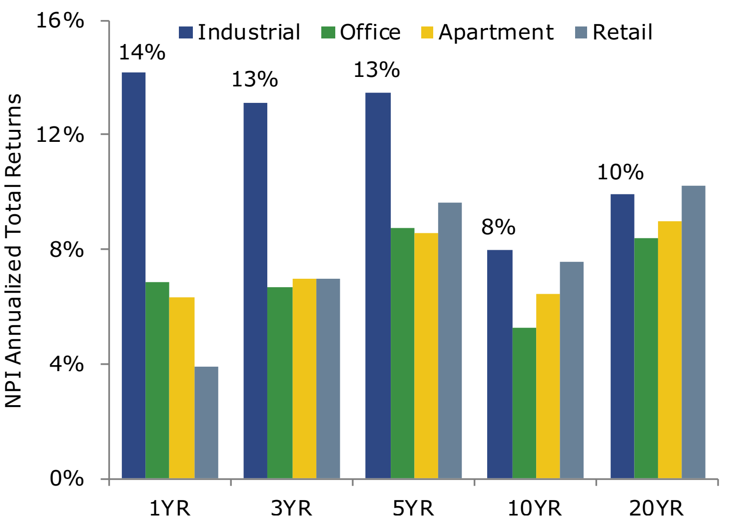
THE LOGISTICS INDUSTRY: A GROWING FORCE IN THE U.S. ECONOMY

The U.S. logistics industry is a rapidly growing force in the national economy and is driving extraordinary demand for industrial warehouse property. The major supply chain drivers – consumer spending (in-store and online), trade, business inventories, and industrial production – are all at a record high. Furthermore, logistics employment, measured by transportation and warehousing jobs, has become a larger and fast-growing sector. Industrial commercial real estate fundamentals are stronger than ever. The vacancy rate is near a record low just over 4.0%, while annual effective rent growth ranged between 3.5% and 6% from 2014 to 2018, well-above the major core sector average. Institutional investors' allocations to the sector have risen and should continue to in the years ahead. The investment outlook is bright, and the National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index (NPI)[1] has performed extremely well over the past several years *(Figure 1)*.

FIGURE 1: Industrial Sector Outperformed This Cycle

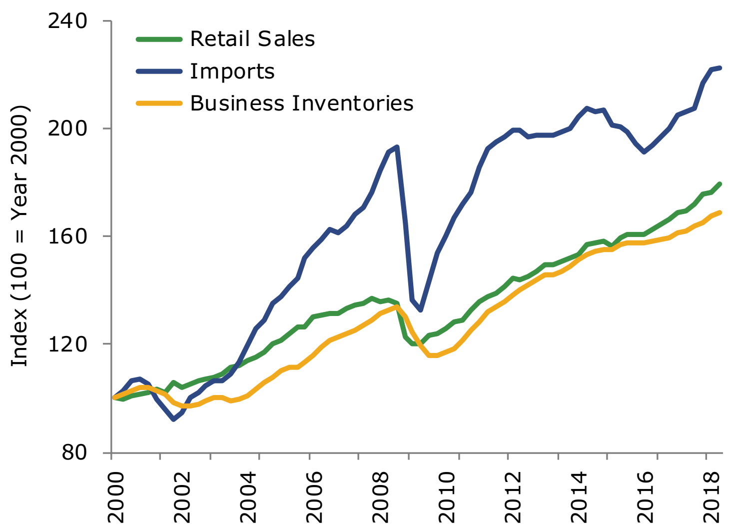


Source: NCREIF, Clarion Partners Investment Research, Q3 2018. **Past performance is no guarantee of future results.** Indexes are unmanaged, and not available for direct investment. Index returns do not include fees or sales charges. This information is provided for illustrative purposes only and does not reflect the performance of an actual investment.

NATIONAL DEMAND DRIVERS: ALL AT RECORD HIGHS

Ten years into the U.S. economic expansion, pro-growth policy, a strong labor market, and a healthy household sector have benefited most demand-side metrics within the industrial sector. Total goods, which can be measured by dollar amount, tonnage volume or twenty-foot equivalent units (TEU), have climbed at nearly all top U.S. distribution hubs. At the same time, various measures of transit activity are all up, such as commercial air carriers, vessel cargo, intermodal rail, and truck traffic. Major supply chain indicators have also maintained positive momentum and reached new highs in 2018 *(Figure 2)*.

FIGURE 2: Select U.S. Supply Chain Indicators (2000-2018)



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Consumer Spending (In-Store & Online). Consumer spending, the primary engine of the U.S. economy, has seen very strong growth at a pace well above the long-term average. Total retail sales are now about 35% above the prior peak reached in 2007.[2] E-commerce, in particular, now captures about 12% of core retail sales and has grown at an annual pace of about 15-20% in recent years.[3] At the same time, the aging of Millennials into their prime spending years and accelerating wage growth should lift spending power further going forward.

U.S. Trade. U.S. trade is very healthy, with both imports and exports, leading demand drivers of U.S. warehouse space, at a new peak. Research shows that a dollar increase in imports consumes three times as much warehouse space as a dollar increase in exports, due to the multi-point repackaging and storage of inbound goods.[4] At the same time, local production of goods, or the 'regionalization' in manufacturing, is on the rise given the recent increase in transit and labor costs globally. More companies are reportedly seeking new plant facilities closer to customers to offset high trucking costs and leverage pockets of available labor.[5]

Business Inventories. Corporate spending has been greatly buoyed by recent tax reforms and higher overall demand. Inventory restocking, tracked by manufacturers, retailers, and merchant wholesalers, has picked up and been integral to the recent upturn in gross domestic product (GDP)[6] growth. New orders and stock of durable goods, autos, planes, machinery, and energy products have been strong. Domestic manufacturing still accounts for about 12% of U.S. economic output.[7] Industrial production also rose to an historical high in 2018, boosted by gains in factory and energy output.

All these factors have driven logistics employment to levels not seen since the 1990s. Hiring in the sector is now contributing more to U.S. job growth and is a rising share of the total labor force. One in five job openings is now within the trade, transportation, and utilities industry.[8]

INDUSTRIAL REAL ESTATE FUNDAMENTALS

U.S. warehouse stock has increased by about 75% over the past three decades. Nationwide, industrial property now totals 14.0 billion square feet (sf) across approximately 258,000 properties.[9] Class A property accounts for about 14% of total stock. Today the largest and most active industrial markets are Los Angeles/Inland Empire, Chicago, NY/NJ, Dallas/Fort Worth, and Atlanta. Warehouses are often referred to as 'light' (50,000-399,999 sf) or 'bulk' (400,000+ sf). Over 80% of warehouse properties are under 400,000 sf *(Figure 3)*. While small-sized buildings are more abundant, the average square footage has continued to climb (now at approximately 185,000 sf).[10] More importantly, much of the existing stock is now quite dated – almost 50% was built prior to 1980 *(Figure 4)*.

FIGURE 3: Total Stock by Size (SF)

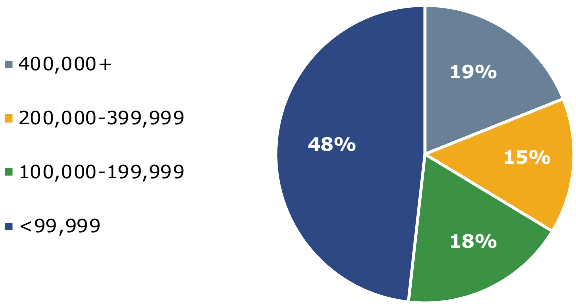
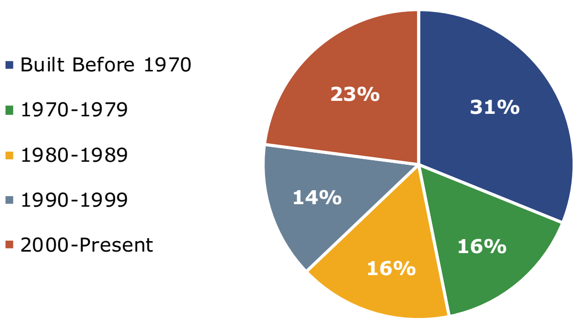


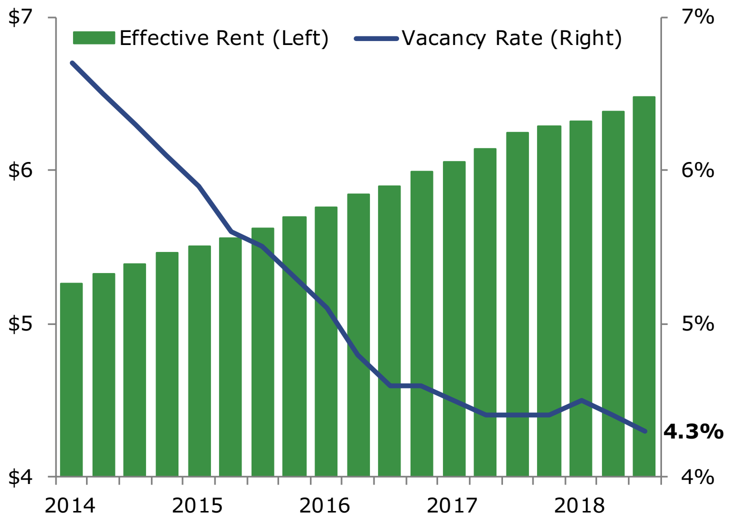
FIGURE 4: Total Stock by Vintage



Source: CBRE-EA, Clarion Partners Investment Research, Q3 2018.

Nationwide, the U.S. warehouse vacancy rate of about 4.0% is near the historical low, also more than 300 basis points[11] below the long-term average of 7.4%. At the same time, effective rents are at an all-time high *(Figure 5)*. New demand (net absorption) has outpaced supply growth (completions) for nine consecutive years (2010-2018). U.S. effective rent growth was above 5% in 2016 and 2017 and over 4% in 2014 and 2015. By industry, leasing demand has been greatest in third-party logistics (3PL), e-commerce, food & beverage, manufacturing and processing, and building materials.[12] The U.S. 3PL market is projected to grow rapidly as the next-generation supply chain improves fulfillment and drives efficiency.

FIGURE 5: Vacancy & Effective Rent (2014-2018)

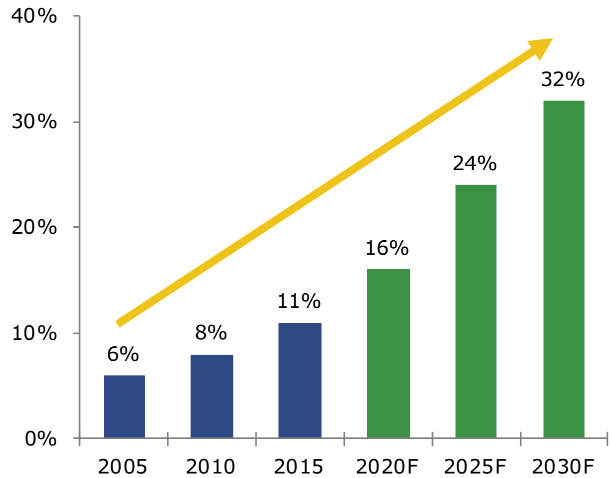


Source: CBRE-EA, Clarion Partners Investment Research, Q3 2018. **Past performance is no guarantee of future results.** This information is provided for illustrative purposes only and does not reflect the performance of an actual investment.

KEY CONSIDERATIONS

E-Commerce. E-commerce sales totaled $450 billion and accounted for 12% of total core retail sales in 2017. Amazon remains the largest e-commerce company by far, capturing about 24% of publicly and privately reported online sales.[13] eBay, Apple, Walmart, The Home Depot, Wayfair, Best Buy, Costco, Macy's, and QVC also rank highest, but represent much smaller shares.[14] By 2030, total online sales are forecast to grow to approximately $1 trillion, or about 32% of total retail sales *(Figure 6)*.[15] A typical e-commerce order can require three times more warehouse space than a traditional retail transaction. With every $1 billion in new e-commerce sales equating to 1.25 million sf of new warehouse demand, an estimated 240 million sf of new space will be needed for e-commerce alone over the next five years (2019-2023).[16]

FIGURE 6: E-Commerce as a % of Total Retail Sales



Source: U.S. Census, A.T. Kearney, Clarion Partners Investment Research, 2018.[17] This information is provided for illustrative purposes only and does not reflect the performance of an actual investment.

Automation & Efficiency. Emerging technology is transforming every aspect of the next generation warehouse and optimizing logistics efficiencies. Major changes in building requirements are underway, as many existing facilities are under-equipped to meet the new e-fulfillment demands and high-tech capabilities. Rapid growth in automation, which is likely to drastically reduce inventory management expenses, mainly labor and transit, has the potential to improve profit margins of logistics operations. The industry's largest costs stem from labor in both production and transportation.[18] Owning or leasing commercial properties is a minor share of overall business costs.[19]

- **Labor Impact.** Currently, access to labor is a key factor in site selection. Going forward, robots and artificial intelligence will be incorporated more frequently into operations, which should optimize speed and reduce costs. More warehouses will likely feature automated picking, real-time tracking, sophisticated bar coding, and hyper-connectivity infrastructure throughout.[20] In the future, proximity to large labor pools may be less critical with the rising use of robotics.
- **Transit Impact.** Many companies are also strengthening supply chain connections to existing plant operations through investments in various new logistics carrier services, such as driverless cars and drones. Fast turnaround times tend to spur increased orders.[21] The major 3PLs and carriers (UPS and FedEx) all face serious supply constraints in space, fleet, and labor, which modern innovation should improve.

Shifting Inventory & Lease Dynamics. A paradigm shift has occurred that is blurring the lines between the retail and industrial sectors. Traditionally, the retail sector has boasted the longest lease terms of all property types offering investors steady income. However, new recent leasing activity indicates the industrial sector's average lease length has climbed almost 50% over the past five years.[22] With more inventory now increasingly stored in warehouses (as opposed to the store), the sector's future occupancy and cash-flow outlook has improved.[23]

Volume & Passage of Goods. Most logistics hubs have reported higher overall volume of goods, which usually translates into more demand for physical space. More tepid growth in global trade may be an outcome of more localized production worldwide, which could potentially accelerate with emerging 3D printing technologies. Furthermore, greater use of drones and driverless cars is likely to accelerate speedy delivery in the future. Specialized products and expedited personal delivery will likely boost demand for air cargo carriers and airport distribution hubs as well.

Trade Policy. The recent import tariffs are ultimately designed to boost domestic production; however, these reforms could increase the cost of some goods, raise consumer prices, and slow economic growth. An ongoing tax on trade, in the long run, could lead to increased nearshoring and onshoring depending on input costs, productivity, and transportation efficiency. U.S. warehouses ultimately serve domestic consumption. The preference of warehouse locations may change, but overall demand for distribution space should continue to grow along with retail spending.

INVESTMENT OPPORTUNITIES: UNDERWAY & EMERGING

The U.S. warehouse available supply is the tightest in two decades, mainly due to the combined forces of an extended economic cycle, the e-commerce boom, and manageable new supply. Robust demand is expected to continue from retailers, 3PLs, and manufacturers in national, regional, and local distribution centers. In an increasingly complex delivery environment, tremendous investment opportunity now exists in both developing new facilities and redeveloping existing properties. 'Light' and 'bulk' Class A facilities are in the highest demand by tenants at both inland and coastal distribution hubs.

The sector offers many compelling opportunities that are both well underway and just emerging:

Underway

- **U.S. Metropolitan Statistical Areas (MSAs) with Largest Populations and Fastest Growth.** In the coming years, more traditional warehouses in the surrounding exurbs of the largest U.S. cities will continue to be in high demand, as should the regions with the fastest population growth, now largely in the South/Southeast/Southwest. Over the past five years, rent growth has surged in Oakland, Riverside, New York, San Francisco, Fort Worth, Orange County, Atlanta, Seattle, Las Vegas, Allentown, and West Palm Beach.[24]
- **Low-Cost Inland with Good Coastal Access.** Even as the local delivery model accelerates, the soaring cost and scarcity of coastal land should drive steady demand in the largest inland hubs, especially for big-box warehouses. These hubs include South-Central Pennsylvania, Las Vegas, the Central Valley (CA), Atlanta, Dallas-Fort Worth, Indianapolis, and Chicago.
- **The 'Last Mile.'** Online retail sales have transformed consumer expectations and revolutionized how companies transport inventory from business to consumer. Optimizing speed and minimizing cost are more essential than ever. Locally-sourced logistics, referred to as the 'last mile,' have driven much of the recent warehouse redevelopment and leasing activity in and around the largest metropolitan statistical areas (MSAs).[25] Local and regional warehouses and distribution centers are now more prevalent, with the same-day and two-day delivery model as the new norm.[26] Amazon Prime is the dominant player in this service.
- **Inner Cities.** To keep pace, many major retailers are implementing advanced last-mile distribution strategies designed to streamline logistics. Vertical warehouses in urban infill locations within the heart of the most densely populated areas – even in the most expensive real estate markets in the country – are now on the rise. Multi-story warehouses may make sense because of scarce land availability, justifiable rents, and accessibility to dense population. One of the largest is now in Brooklyn, New York.[27] Local zoning in cities will certainly impact the growth of these smaller-sized urban properties.
- **Functionally Obsolete Inventory.** Over 75% of stock was built before 2000 prior to the e-commerce boom, which has transformed the structural demands of many fulfillment centers. Clear heights, for example, are increasing. Today new building clear heights typically range from 36 to 40 feet, up from 24 to 26 feet in the 1990s.[28] In the years ahead, the rate of functional obsolescence is expected to rise. Based on the average warehouse lifespan of 50 years, almost 10% (approximately 470 million sf) of the existing stock will surpass the average useful life threshold over the next five years. Currently, Northern NJ, Pittsburgh, Boston, and Philadelphia, all near large population clusters, report a weighted average age of 45 to 60 years.[29]

Emerging

- **Shift from West to East Coast Ports.** Until recently, the West Coast captured a larger share of loaded TEU container volume than the East Coast; however, recently, the market share between the coasts has evened at 46%, with most of the U.S. population residing on the East Coast and more frequent ship traffic from both the Panama and Suez Canals.[30] Most East Coast ports are now post-Panamax ready − able to accommodate larger ships. TEU volume has grown most quickly at the NY/NJ, Norfolk, Savannah, and Charleston ports, though cost-effective inland ports may have benefited more based on overall warehouse storage volumes.
- **Specialty Warehouses (e.g. E-Grocery & E-Pharmacy).** A big growth area that is just beginning to take shape is in e-grocery and e-pharmaceuticals. A rising share of grocery and pharmacy sales are occurring online. Online grocery sales, now less than 5% of total grocery sales, are predicted to capture 20% of total grocery sales by 2025.[31]

CONCLUSION

The industrial sector's outperformance has attracted more institutional capital, though many investors are still under-allocated. The new logistics models required for the omnichannel consumer world will continue to lead to enormous transformations in the current industrial landscape. Inefficient space can have major implications on the cost of running an operation. Clarion Partners believes that we are in the early stages of modernization in the logistics industry following the rapid expansion of e-commerce. Over the next five years, we anticipate four major trends will reshape logistics and drive the evolution of warehousing: labor-cost inflation (both trucking and warehousing), automaton, online sales growth, and the dominance of Amazon.

In the years ahead, there is still sizeable opportunity in warehouse facilities amid a shrinking availability of prime land and the anticipated high-tech productivity gains. Most buyers are bullish and are willing to buy at record-high prices and low cap rates. We recommend building up positions in strategic, supply-constrained markets for long-term above-average rent growth and appreciation potential. Our outlook for industrial remains bright, and we expect the sector's outperformance to continue.

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[1] **The NCREIF Property Index (NPI)** provides returns for institutional grade real estate held in a fiduciary environment in the United States.
[2] Moody's Analytics. Q4 2018. Note: Based on data through October.
[3] U.S. Census, Clarion Partners Investment Research. Q3 2018. Note: E-commerce growth rate range based on the past 5-10 years.
[4] CBRE. What Trade Barriers Might Mean for U.S. Warehouse Demand. January 2017.
[5] WSJ. More Factories Crop Up Closer to Customers. November 2018.
[6] **Gross Domestic Product ("GDP")** is an economic statistic which measures the market value of all final goods and services produced within a country in a given period of time.
[7] U.S. Bureau of Economic Analysis. Q3 2018.
[8] WSJ. Logistics Hiring Contributes 10% of October U.S. Job Growth November 2018.
[9] CBRE-EA. Q3 2018. Note: Data excludes Allentown, Honolulu, Memphis, Pittsburgh, Raleigh, Toledo, and Vallejo.
[10] Ibid. Note: Average warehouse size weighted by total number of buildings and square footage for each building size range.
[11] A **basis point (bps)** is one one-hundredth of one percent (1/100% or 0.01%).
[12] CBRE. 2018.
[13] e-Marketer Retail. 2018.
[14] Ibid.
[15] U.S. Census, A.T. Kearney. The Future of Shopping Centers. 2018.
[16] CBRE. 2018.
[17] U.S. Census, A.T. Kearney. The Future of Shopping Centers. 2018. Note: E-commerce is forecast to grow at a CAGR of 10.5% (2015-2030) vs. a CAGR of 15% (2005-2010) and 12% (2005-2020F). Retail sales are forecast to grow at a CAGR of 3% (2016-2030) vs. 3.3% growth (2015-2016) and 4.6% growth from (2014-2015).
[18] CBRE. 2018.
[19] Ibid.
[20] Jones Lang LaSalle. 2018.
[21] WSJ. More Factories Crop Up Closer to Customers. November 2018.
[22] Based on the recent leasing activity from Clarion Partners' industrial investments.
[23] CBRE-EA. Q3 2018.
[24] Ibid.
[25] ULI, IMS Worldwide, Inc., NAIOP, CBRE-EA, MPVWL, Clarion Partners Investment Research, Q3 2018.
[26] http://www.globeconfreight.com/blog/understanding-role-last-miledistribution-warehousing/.
[27] https://www.bisnow.com/seattle/news/industrial/instant gratification-millennials-expectations-drive-demand-for-industrialwarehouse-real-estate-91951.
[28] Ibid.
[29] CBRE-EA. Q3 2018.
[30] Pacific Merchant Shipping Association, Clarion Partners Investment Research. Q3 2018.
[31] Coresight. Q2 2018. Forbes. Online Grocery Sales to Reach $100 Billion In 2025; Amazon Is Current and Future Leader. January 2018.

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