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E-commerce: Shifting the Tide of Industrial Demand | April 2016

Industrial facilities, though out of sight to many, play an integral role in our economy. An industrial warehouse is often where a small business gets its start. It's cheap, flexible, and spacious. At the opposite end of the spectrum, an industrial warehouse is also what drives the "behind the scenes" operations of major enterprises. It's the place where goods are received, manufactured, assembled, stored, and/or shipped.

Nearly every business is touched by industrial real estate. Because it is a fundamental part of economies worldwide, this real estate sector is an important component in our portfolios with a weight of about 8% invested in three companies as of December 31, 2015: Duke Realty (NYSE: DRE), Eastgroup Properties (NYSE: EGP), and Prologis, Inc. (NYSE: PLD).

Industrial real estate may seem uneventful and ordinary, but the fundamentals behind the sector are anything but that. We have long suggested that this real estate cycle would be one for the record books. Now 6-7 years long, it remains particularly robust for the industrial sector.

4Q 2015 was the 23rd consecutive quarter of positive industrial space absorption, which is the longest streak in the past 20 years. Helping to keep markets in equilibrium, developers have been more disciplined in the development process, which we attribute, in part, to the increased role of institutional equity capital in the financing/ownership equation. Requirements for adequate investment returns and lower risk are making for more informed decisions by all parties. The result has been less speculative development.

The lack of easy financing has also contributed to keeping many of the smaller players out of the development business. In addition, the industrial market benefits from the relatively brief construction cycle of about six months, which has traditionally acted as a governor on new starts once vacancy rates begin to rise.

Industrial rental rates and development bottomed in 2009, and both metrics remained relatively flat through 2012. Even after significant rental rate growth from 2012 to 2015, current market rents are still below the pre-recession peak. However, the recent rent growth has encouraged an uptick in development. In 2015, approximately 150 million square feet was delivered in the U.S., inline with the 15-year average.

Despite the new supply, demand for over 200 million square feet in 2015 lowered the overall industrial vacancy rate to 5.3% according to commercial brokerage firm CBRE, which is 30% below the 10-year average and a record low. Demand was helped considerably by increasing imports and changing trends within the retail/e-commerce space, including growth in "last mile" delivery.

An Import-ant Demand Driver
Import volumes have been increasing across the country, as both consumer spending and the U.S. Dollar have remained strong. According to Green Street Advisors, U.S. import volume into seaports has one of the highest correlations to demand for industrial space. The effect is very visible in Southern California, an area that comprises 1.6 billion square feet in seven distinct submarkets. In fact, due to high demand, vacancy rates are below 1% in some infill locations that are largely developed urban areas.

50 miles east of the Los Angeles and Long Beach ports is an area called the Inland Empire which contains 500 million square feet of in-

dustrial space. Since China entered the World Trade Organization in 2001, imports into Los Angeles and Long Beach have increased by 2.7 million TEU's (twenty-foot equivalent unit, a common term for a standard shipping container) per year, or 53%.

However, land prices in the submarkets close to the ports are simply too high to allow for new construction of warehouses. As a result, the Inland Empire has experienced an influx of new supply to accommodate the higher quantities of imported goods. The Inland Empire industrial market has more than doubled in size since 2001. Rents are up 58% since the Great Recession and, though there is 22.4 million square feet under construction (the most in the country), vacancy is expected to continue to fall in 2016 from 4% in 2015, which compares to 13% in 2009 according to brokerage firm Newmark Grub Knight Frank.

Prologis owns 54.4 million square feet in Southern California, making it the largest market for the company. PLD's portfolio within Southern California is primarily focused near the ports and on the west side of the Inland Empire. As a result, the company has been one of the major beneficiaries from the increase in imports given a portfolio occupancy of 98.8% at year-end, and the company sees demand exceeding supply again this year. Accordingly, the Los Angeles industrial market is poised to be one of the strongest rental rate growth markets in the world in 2016 according to a company report.

From Coast to Coast

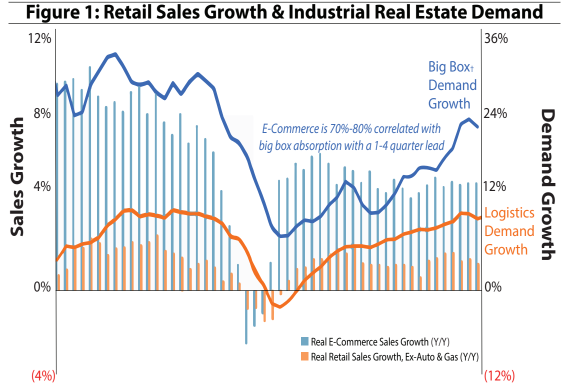
Currently, about 50% of the goods that are imported into the Los Angeles and Long Beach ports stay in the Southern California area. The other 50% is loaded onto trucks and trains to be shipped across the United States. This is one of the cheapest and fastest ways (total of 18.3 days) to deliver goods from Asia to the Eastern U.S. Coast. However, the Panama Canal, which has been undergoing a $5.3 billion expansion since September 2007, is expected to open a new, larger lane on June 26, 2016. The improvements will allow "Post-Panamax" ships, which are about 1,200 feet in length and carry almost three times the cargo of the current Panamax ships, to pass through to the East and Gulf Coasts. Going through the canal would not be the quickest route (total of 21.6 days), but it would be the cheapest per container.

As a result, Boston Consulting Group estimates that up to 10% of container traffic to the U.S. from East Asia could shift from the West Coast ports to the East Coast ports by 2020. In preparation to handle the influx of larger ships, some of the largest ports on the East and Gulfcoasts have been pouring money into infrastructure improvements. As of 2015, it was estimated that there were about 125 projects worth $29 billion either ongoing or planned. The Port of New York and New Jersey dedicated $1.3 billion to raise the Bayonne Bridge to 215 feet from 151 feet to allow for the passage of the larger ships, in addition to over $2.7 billion of other infrastructure improvements. Though the canal is not yet complete, many East Coast ports have already witnessed an increase in import volume. The Port of NY and NJ saw import volume increase 9.2% to 3.2 million TEUs in 2015. If import volumes continue to increase as expected, the coastal markets that have invested in their port infrastructure should experience an increase in demand for space.

Though the completion of the new lane for the Panama Canal will open the East Coast to more trade, the western ports will still be the fastest and cheapest method of transportation for most goods with their final destination on the West Coast or the Central United States. Also, due to the extended timeline of the Panama Canal construction, even larger "Super Post-Panamax" ships, which can carry 14,000+ TEUs, are already in use. On December 26, 2015, the Benjamin Franklin, which has an 18,000 TEU capacity, docked at the ports of Los Angeles and Long Beach, making it the largest ship ever to dock at a U.S. port. Though these "super" ships are not expected to take the majority of market share anytime soon, the West Coast ports are the only ports that can handle them currently. The Panama Canal and East Coast ports will have to go through another phase of infrastructure improvements before such ships can be accommodated.

E-commerce and the "Last Mile"

Figure 1: Retail Sales Growth & Industrial Real Estate Demand

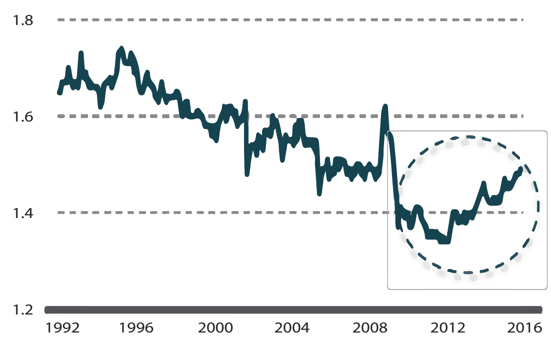


Sources: Moody's Analytics; U.S. Census Bureau; CoStar Portfolio Strategy; Duke Realty Corp.
*National index comprising 54 major Core Based Statistical Areas (CBSAs) as defined by the U.S. OMB. "Logistics" defined as industrial facilities with at least 1 dock door per 10,000 SF, 28'+ clear heights, no more than 5% office. †"Big Box" = Logistics 100K SF+ & 1995+. Forecasts not available for Big Box absorption or retail sales ex-auto & gas. As of December 31, 2015.

Advances in supply chain management and the emergence of e-commerce has had an extensive effect on the real estate industry. Though arguments can be made about its effect on bricks and mortar retail, industrial has undoubtedly been a major beneficiary of online shopping. Essentially, warehouses have become a critical adjunct to retail given the role they play in enhancing the speed of delivery of goods to the consumer, especially the "last mile". **Figure 1** shows the strong relationship between retail and e-commerce sales growth and demand for industrial space.

In the 1990s and early 2000s, companies became more efficient with managing inventories, which was a headwind for industrial demand. However, with the rise of e-commerce, inventories as a percent of sales have begun to reverse against the historical trend (**Figure 2**). In fact, according to Prologis, e-fulfillment requires three times the logistics space due to high inventory turnover, broader product variety, and having to deal with reverse logistics (returned packages).

Figure 2: Inventories to Retail Sales Ratio



Sources: Federal Reserve Bank of St. Louis, Prologis Research. As of January 1, 2016.

Not only does e-commerce influence the amount of space, but it also influences where the space is located. As e-commerce has grown, the expected time window for goods to go through the delivery channel has shortened, causing companies to reevaluate how they select locations for their warehouses. The old model was to find cheap, centrally-located land near a major transportation route. Generally speaking, the new model drives demand for two different types of facilities with more emphasis placed on proximity to population centers. Each facility type has unique functions and features.

One of the two facility types acts like a regional hub and is typically a "big box" warehouse (up to 1 million square feet) located on the outskirts of a population center. These facilities have uses including fulfillment (where inventory is picked, packed, and shipped), sortation, redistribution, and returns. Depending on the purpose, the build-outs for these facilities can be wide-ranging. In fact, as more facilities become automated, the design of buildings is being modified.

The typical clear height for current big box warehouses ranges from 32-36 feet. However, as technology changes the efficiency of warehouse operations, some users are finding they can save money by leasing buildings that are built *up* rather than built *out*, and as such have started testing 40-foot clear heights that include layers of mezzanine space. Innovations like higher ceiling heights, greater building depth, and wider column spacing are driving demand for newer, Class-A space while making older, poorly located buildings obsolete. These newer, highly specialized facilities also help to control speculative building as they can cost up to three times more to build than traditional space.

Urban facilities, which are much smaller than their regional counterparts and average about 50,000 to 60,000 square feet, complement the regional hubs. The ideal location is within infill submarkets that are well-positioned to expedite the "last mile" of delivery to urban customers. At Citi's 2016 Global Property CEO Conference, Eastgroup CEO Marshall Loeb highlighted these features within the company's portfolio. Loeb sees the company's smaller, infill focus as a differentiator between it and its peers and, as e-commerce continues to grow, he believes EGP should benefit from the changing trend.

Amazon: Creating the New Distribution Model

Amazon (NASDAQ: AMZN) is one of the leaders in establishing the new model of distribution focused on speed. At the start of 2016, Amazon had 78 active fulfillment and distribution facilities totaling 60 million square feet and 23 sortation facilities covering 6.6 million square feet spanning across North America. These facilities are located in proximity to population centers rather than transportation routes. Products are shipped from the fulfillment centers, which are like regional hubs, to the sortation centers located on the outskirts of urban areas. From the sortation facility, products are transferred to the nearest post office for the last mile delivery.

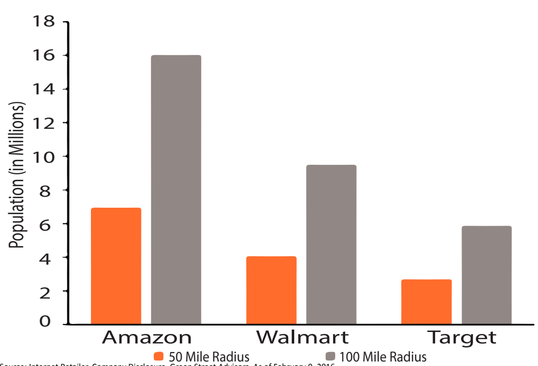
Duke Realty is developing one of these large facilities for Amazon in the Rickenbacker Global Logistics Park just 12 miles southeast of downtown Columbus, Ohio. The project is part of a larger 1,500-acre master-planned logistics park with 1,200 acres left to develop, all of which is under the control of DRE. The logistics park is in a foreign trade zone and is serviced by the

Rickenbacker International Airport and the Rickenbacker Intermodal Terminal, which is a gateway for products moving from Norfolk to Chicago by train. DRE's 1 million square foot project will have a 36-foot clear height, plenty of parking for employees, and is located on a bus line. It is expected to be delivered in late 3Q 2016.

Amazon's latest offering, Prime Now, is the next step in expediting delivery. The company guarantees one-hour and two-hour delivery of daily essential goods in select cities. Amazon is the only retailer currently able to accomplish this feat; the company has 43 Prime Now hubs in North America as of the start of the year. Each one is located in a densely-populated urban area, and AMZN plans to continue expanding the service.

As seen in **Figure 3**, the population density of Amazon's warehouse portfolio is much higher than Walmart (NYSE: WMT) and Target (NYSE: TGT). As companies decide to compete more with online retailers, the trend is moving warehouses into more densely-populated areas. Consequently, demand for space in infill industrial markets should encounter a boost. In fact, Prologis, whose top customer is Amazon at 2.8% of net effective rent as of December 31, 2015, said that e-commerce alone accounted for 25% of the company's development leasing in 2015.

Figure 3: Weighted Average Population Density/Warehouse



Source: Internet Retailer, Company Disclosure, Green Street Advisors. As of February 9, 2016.

In for the Long Haul

As of March 31, 2016, the industrial REIT index (Bloomberg: BBREINDW Index) has underperformed the MSCI US REIT Index (Bloomberg: RMZ Index) on a total return basis over the year-to-date, 3-year and 5-year periods. Historically, industrial REITs have been at the mercy of U.S. imports/exports and consumer spending, which has contributed to average annual same store net operating income (NOI) growth of 2.7% for the sector over the past 5 years according to Green Street Advisors.

However, the cultural shift toward online sales has created a new demand driver that is somewhat insulated from the broader economic data. As such, Green Street Advisors estimates industrial same store NOI growth will be 3.8% for 2016, and they expect it to average 3.1% through 2020. While the sector may have stock performance that is still sensitive to global economic trends, we believe the e-commerce trend is here to stay and are confident that industrial REIT fundamentals are more predictable than ever.

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RMS: 1864 (3.31.2016) vs. 1753 (12.31.2015) vs. 346 (3.6.2009) and 1330 (2.7.2007)
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