

ANALYSIS

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Why Industrial (Warehouse) Is Likely to Fare Better

Introduction

On Friday, June 5, the Bureau of Labor Statistics (BLS) published its employment report for May, showing that nonfarm payrolls increased by 2.5 million¹, recovering about 10% of the jobs lost since the start of the pandemic. Three days later, on June 8, the National Bureau of Economic Research (NBER) officially declared that the US had been in a recession since February 2020, marking the end of 128 months of continuous economic expansion, the longest such period on record.² Forecasts for second quarter GDP were revised, suggesting economic contraction would be less severe than initially expected: the New York Fed's Staff Nowcast estimates a 25%³ annualized decline (down from 35% the week before); the Atlanta Fed's GDPNow model predicts a 48.5% annualized decline (down from approximately 54% the week prior⁴).

The COVID-19 pandemic has forced analysts to continually revise their estimates for economic activity as the public health crisis has evolved. In the face of this kind of uncertainty, how should we think about how the industrial property sector will be affected? What did industrial fundamentals look like prior to the pandemic and what do our current forecasts say for short- and mid-term outcome variables? What kind of longer-term structural changes will influence the landscape of industrial property metrics? Finally, what will the long-term challenges and opportunities be in the industry? Will exposed weaknesses in the supply chain alter the footprint of warehouse and distribution facilities throughout the US? Will firms repatriate their manufacturing? Does an increase in online shopping change the size and spacing of industrial needs?

Some Weakness Prior to the Pandemic (But Why?)

Since late 2017, industrial property performance metrics had been showing signs of weakness, suggesting that the sector had likely entered latter stages of the real estate business cycle. Vacancies have been flat or increasing slightly, and asking and effective rent growth has been weak. Flex/R&D, a subtype that has at least a 20-25% office component, has a current vacancy rate of 9.6% as of the first quarter of 2020 (flat relative to a year ago), with asking and effective rents coming in at a paltry 0.4%.

1 <https://www.bls.gov/news.release/empsit.nr0.htm>

2 <https://www.nber.org/cycles/june2020.html>

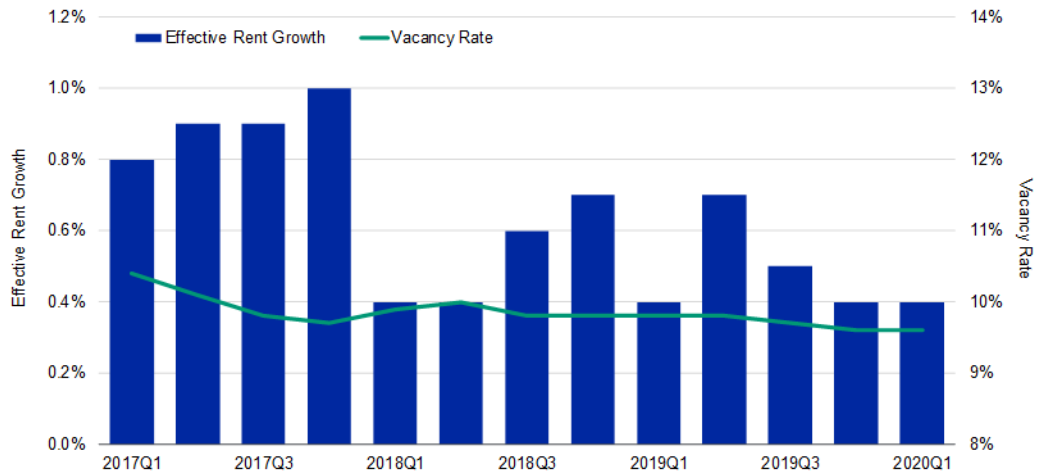
3 <https://www.newyorkfed.org/research/policy/nowcast>

4 <https://www.frbatlanta.org/cqer/research/gdpnow>

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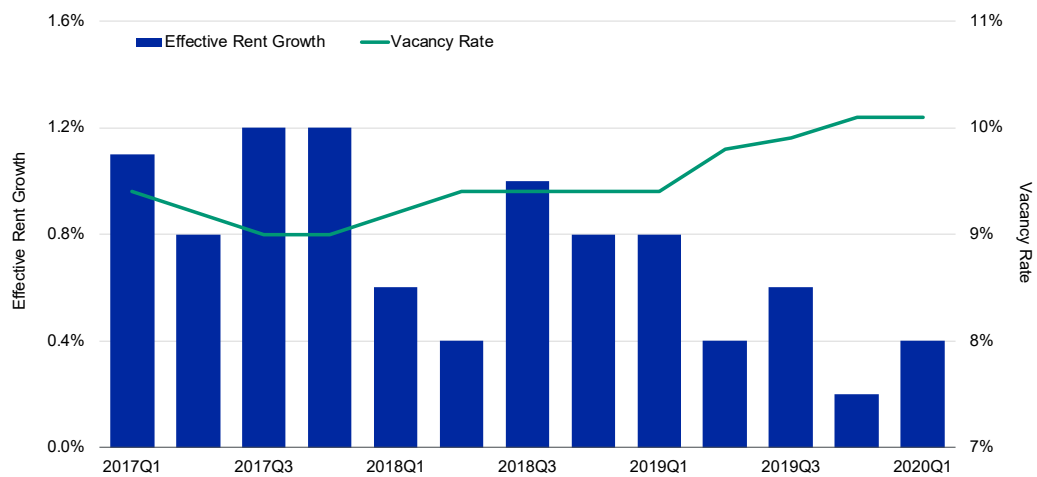
Figure 1 Rent and Vacancy Trends: Flex/R&D



Source: Moody's Analytics REIS

Warehouse and distribution vacancies, which performed slightly less better than Flex/R&D, are at 10.1%, up from 9.4% a year ago. Asking and effective rents rose by 0.3% and 0.4% respectively.

Figure 2 Rent and Vacancy Trends: Warehouse/Distribution



Source: Moody's Analytics REIS

While construction activity was robust (particularly for warehouse/distribution) from 2012 to 2018, supply growth has slowed down somewhat over the last couple of years. 14.2 million SF of warehouse and distribution space completed during the first quarter of 2020 was the lowest quarterly total since the first quarter of 2014. Flex/R&D registered 905,000 SF of new space, well below 2018's quarterly average of 2.1 million SF. Space coming online was not being absorbed rapidly, indicating relative leasing weakness. Warehouse and distribution absorption came in at 15.2 million SF in the first quarter, down from a 2018 quarterly average of 27.2 million SF. Flex/R&D posted net absorption of 366,000 SF, well below the 1.7 million SF average quarterly absorption in 2018 to 2019. Effective rent trends, as shown in Figures 1 and 2 above, evince a distinct downward trend over time.

There are several reasons why industrial fundamentals had been softening in the period leading up to the COVID-19 crisis. First, performance metrics on the rents and occupancy side had been stellar up to around 2017. The industrial sector, particularly warehouse/distribution, benefited from the continued transition of retail from brick and mortar space to e-commerce: After all, Amazon and other e-retailers still needed warehouse space to store and deliver its goods. Despite having built over 550 million square feet of new warehouse and distribution space from 2015 to 2019, national vacancies kept declining from above 11% to as low as 9% in 2017.

The second reason: In or around 2017, US economic growth became more variable, requiring tax cuts for a boost in 2018 that didn't last into the following year. Trade wars also contributed to the uncertainty, with some experts believing that warehouse/distribution jobs could be put at risk as imports slowed.⁵ It takes time for firms to relocate their production facilities, but consider a situation where China falls out of favor: If a significant portion of the global supply chain shifts towards countries where it is more efficient to ship goods through the Suez Canal towards the East Coast of the United States, versus the Pacific Ocean towards West Coast ports, this will reorient where industrial properties ought to be located.

This combination of robust supply growth and uncertainty about the global geography of supply chain logistics likely led to a slight pullback in performance metrics.

A Short History of Flexibility: How Industrial Properties Adapt to Change

Before we discuss further what the COVID-19 crisis means for the industrial sector, it is instructive to examine the factors that determined why some industrial properties are able to adapt to economic change better than other commercial property types.

Structural simplicity.

Industrial buildings are not complicated architectural structures. A typical warehouse/distribution building sports relatively simple dimensions, few windows, one to three stories at most, and certainly less ornate designs than most multi-floor office buildings. They are also typically subject to less stringent building codes that impose safety regulations, compared to multifamily buildings used as dwellings. Therefore, industrial buildings tend to go up faster (9.9 months on average, compared to 15.1 months for office buildings and 22.2 months for apartment buildings). They are also less likely to encounter construction delays.⁶

This structural simplicity allows industrial buildings to be repurposed relatively quickly should business needs evolve. For example, note how industrial production shifted during World War II, when peacetime industries were converted into manufacturing plants for weapons and military equipment. There were approximately 3 million automobiles manufactured in the US in 1941. After the US entered the war in December of that year *only 139 automobiles* rolled off factory floors until the end of the war in 1945.⁷ While this is an admittedly extreme example, it is not altogether removed from the current COVID-19 situation: When production is repurposed to focus on producing treatments or vaccines for the pandemic, the facilities involved are industrial buildings—not hotels, offices, or apartments.⁸

Relative proximity to economic activity—particularly goods manufacturing.

The US economy has evolved significantly over the past century, making the transition from manufacturing to services. Manufacturing accounted for 39.8% of GDP in 1947, but by the end of 2019 services dominated economic output, accounting for 70.4% of the total.⁹ Over that period, industrial properties had to adapt, leading to the rise of Flex/R&D properties, which emerged around the early 1970s. This property subtype contains at least a 20% office component, allowing service-based activities typically performed in office space to be performed in the same building where goods continued to be produced. Similar subtypes have emerged over time—data centers, for example—as economic activity shifted to online channels starting in the late 1990s.

5 <https://www.nreionline.com/industrial/trade-war-china-may-result-loss-us-warehouse-jobs-some-experts-warn>

6 For an extended discussion of construction delays and its drivers, see "Downturns, Construction Delays, and the COVID-19 Pandemic." (Moody's Analytics REIS, May 27, 2020. Available upon request.)

7 <https://www.defense.gov/Explore/Features/story/Article/2128446/during-wwii-industries-transitioned-from-peacetime-to-wartime-production/>

8 <https://www.bbc.com/worklife/article/20200413-how-factories-change-production-to-quickly-fight-coronavirus> Some hotels with low occupancies have been repurposed in certain places to accommodate COVID-19 patients, given overburdened hospital systems. But they are not used for production of goods.

9 <https://fred.stlouisfed.org/series/VAPGDPSPI>

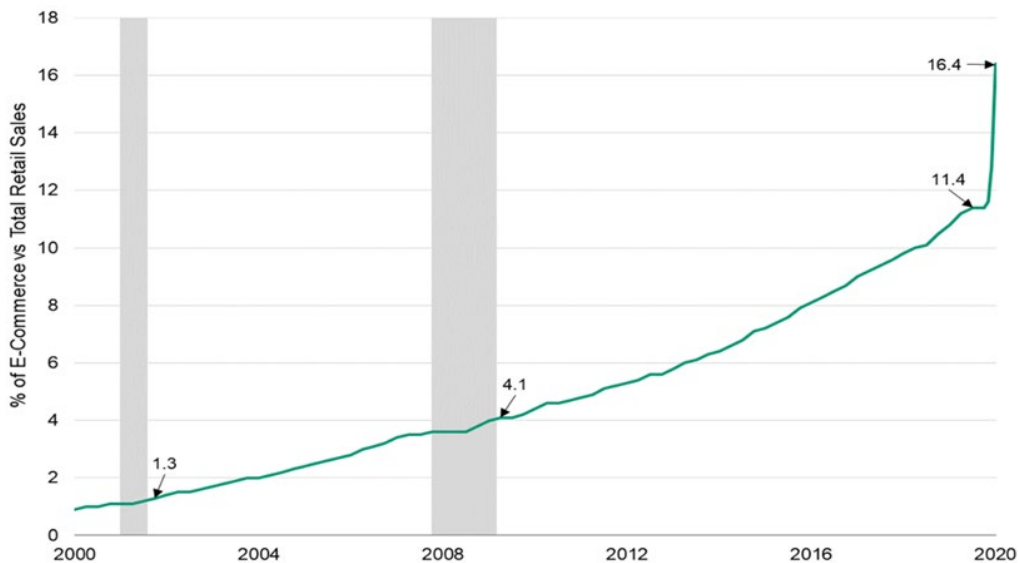
It is certainly not the case that every industrial building has managed to adapt to economic change. Detroit, for example, remains a case study for empty factories and stores, the product of the decline of the US auto industry.¹⁰ However, it is also true that rarely are existing apartment, office, retail, or hotel structures repurposed for use as easily as relatively simple industrial buildings, in the face of economic change. An entire teardown might be required, which is often cost-prohibitive. There are also significant disincentives for local governments to rezone land and property for industrial use if it was originally zoned for other commercial or residential uses, given that property tax assessments tend to be lower for areas zoned for industrial use.¹¹

COVID-19 and Structural Change

While the National Bureau of Economic Research dates the current recession as having begun in February, the COVID-19 crisis did not really spark a wide-scale shutdown in US economic activity until mid-March. As such, first quarter 2020 performance metrics for industrial (as well as other property types) did not immediately show distress in terms of rising vacancies or negative rent growth. Manufacturing activity slowed significantly, with the Purchasing Managers Index from the Institute of Supply Management falling to 41.5 in April (from 50.1 in February)—any reading below 50 represents a contraction in manufacturing activity. The index actually rose to 43.1 in May, in line with the upbeat jobs report from the BLS.¹² But there is still significant uncertainty about the duration of this recession as the economy slowly reopens.

There is one major structural trend that accelerated due to shelter-in-place policies: the shift to online commerce. With most brick-and-mortar retail properties closed and households limiting outdoor activity, online sales have increased significantly, even as total retail sales fell by an historic amount in April. Moody's Analytics REIS estimates that in the months of March and April alone, the proportion of e-commerce relative to total retail sales spiked by 500 basis points, from 11.4% at the end of 2019 to 16.4% as of the latest figures. The share figure had been rising steadily since the dawn of e-commerce in the late 1990s, but the magnitude of the spike over two months prompted by COVID-19 is historic.

Figure 3 Share of E-Commerce vs. Total Retail Sales
Recessionary Periods Highlighted in Grey



Source: US Department of Commerce; Moody's Analytics REIS

¹⁰ For a fascinating profile on the attempts to rehabilitate 43 decrepit buildings known as the Packard plant in Detroit, see: <https://www.post-gazette.com/news/nation/2018/09/20/Abandoned-and-in-decay-the-Packard-plant-an-iconic-Detroit-ruin-is-being-revived/stories/201809210091>

¹¹ There is a rich literature in the fields of law and economics devoted to the topic of zoning, which is beyond the scope of this paper. Euclidean zoning, the most common form in North America since *Euclid v. Ambler* in 1926, imposes single uses for specific areas: only residential in some, only industrial in others. Commercial properties like retail and office tend to have a higher property tax base versus industrial properties, which also tend to be zoned further away from residential areas given pollution concerns.

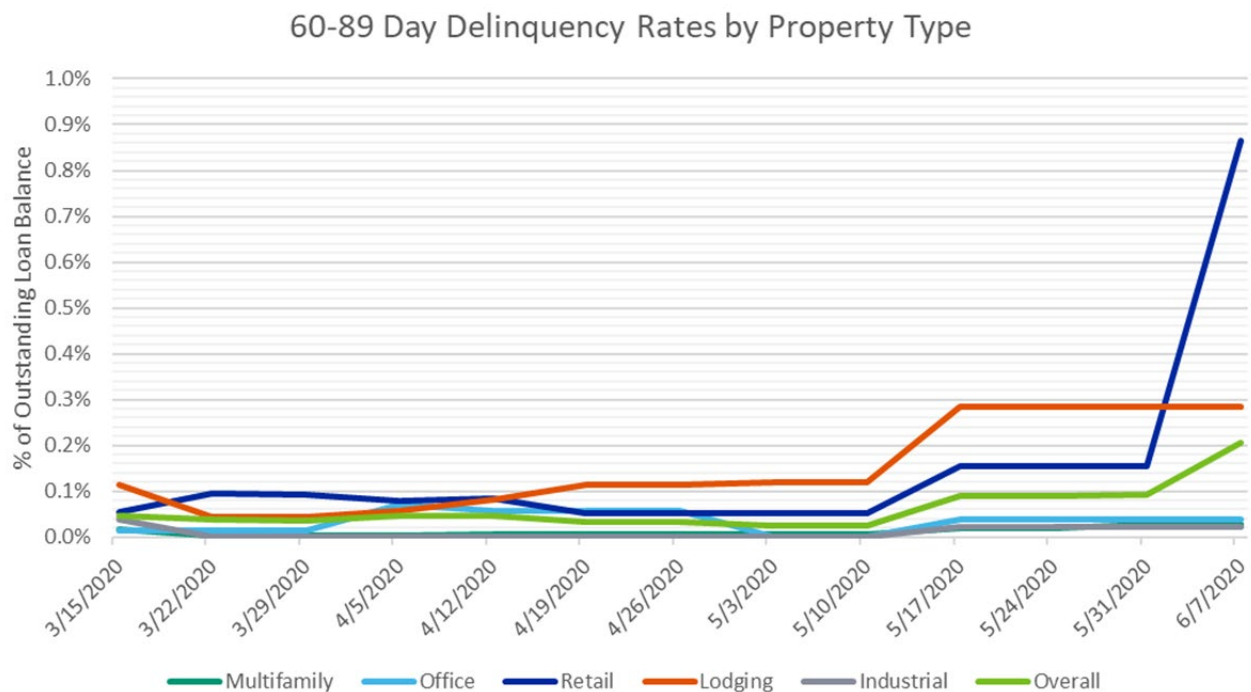
¹² <https://www.instituteforsupplymanagement.org/ismreport/mfgrob.cfm?SSO=1>

The 16.4% historic drop in total retail sales in April reduced the denominator significantly, contributing to the rise in the ratio. But the bigger driver was the 20.5% increase in non-store retail sales over the same time period, which included e-commerce as a significant component. This one-two punch of a massive increase in the numerator and a historic decline in the denominator drove the 500-basis point movement in the ratio presented in Figure 3.

Little distress in the short run.

Industrial property fundamentals have remained largely stable during the COVID-19 pandemic. As a result, industrial properties supporting CMBS loans have not had a problem servicing debt. The same cannot be said for retail, given widespread store closures and the pullback in retail sales.¹³ The 60-89 day delinquency rate for CMBS loans has risen significantly for retail properties (with the recent spike primarily driven by the Hudson’s Bay Company, which missed its payments in late April¹⁴). Note that the delinquency rate has also risen for most other property types—but has stayed close to zero for industrial properties.

Figure 4 Figure 4. Trends 60-89 Day Delinquency Rates Across Property Types March 15 to June 7, 2020



Source: Moody’s Analytics Structured Finance Portal

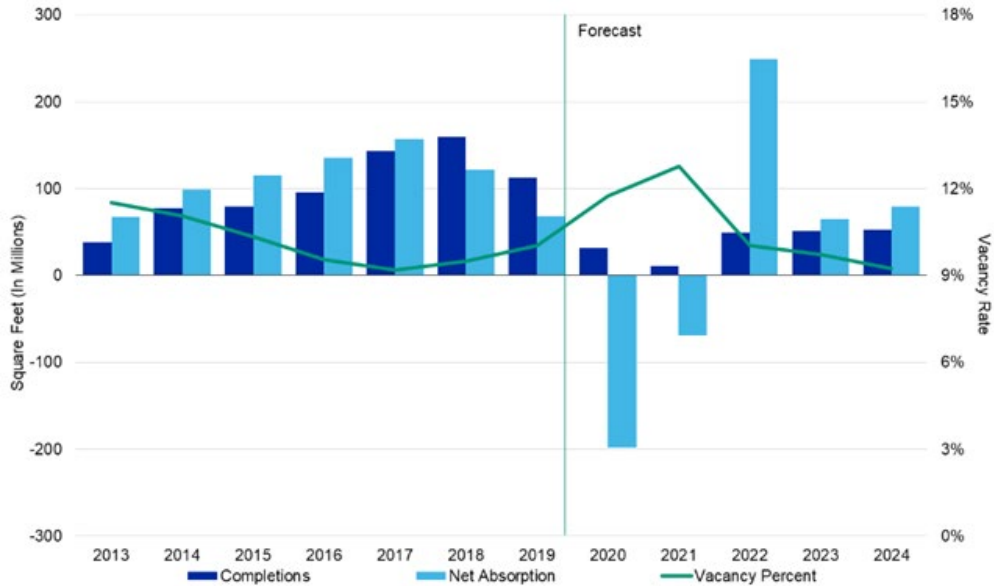
It is unlikely, however, that industrial properties will escape the current downturn unscathed. The IMF forecasts that the US economy will contract by 5.6% in 2020, about 1.5 times worse than the GDP contraction in 2008-09. Global production of goods and services is also expected to contract by 3% in 2020, the worst downturn for the world economy since the Great Depression.¹⁵ As such, Moody’s Analytics REIS forecasts that industrial vacancies will rise, even as completions scale back slightly.

¹³ For an extended discussion of how COVID-19 will force the retail sector to evolve, see “The COVID-19 Pandemic and the Retail Debacle: A Grim Near-Term and an Uncertain Future.” (Moody’s Analytics REIS, published on April 3, 2020 and available upon request.)

¹⁴ <https://www.bloomberg.com/news/articles/2020-04-29/saks-owner-hbc-missed-april-payments-on-commercial-mortgage-debt>

¹⁵ <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020>

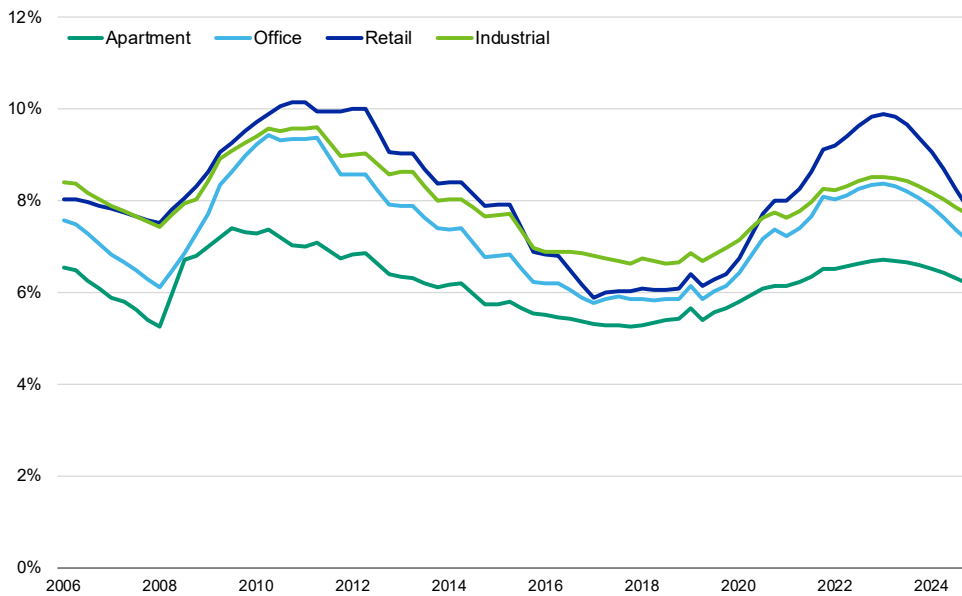
Figure 5 Industrial Trends: Completions, Absorption, and Vacancy



Source: Moody's Analytics REIS

With that said, on a relative basis, industrial property values are expected to fare better than either office or retail. Moody's Analytics REIS expects industrial property values to fall by 10.2% in 2020, half the magnitude of decline expected for retail (a projected 20% decline) and much less than the 16.8% drop forecasted for office properties. The only property type expected to have values hold up slightly better than industrial is multifamily (a projected 7.8% decline for 2020). As Figure 6 below shows, cap rates are expected to rise significantly for retail and office, reflecting projected value declines. Multifamily and industrial cap rates are forecasted to rise as well, but not with as steep of a slope.

Figure 6 Cap Rate Forecasts Across Property Types



Source: Moody's Analytics REIS

Quantifying the long-term structural shift.

Industrial properties are poised to benefit from this structural shift over the long run, even as brick and mortar retailers and retail properties brace for even more distress. Based on internal data on retailers that have made the shift from brick and mortar to internet sales, Prologis (an industrial REIT that invests in logistics facilities) estimates that e-commerce retailers need approximately *three times the warehouse space to generate comparable revenues* relative to brick and mortar sales. To generate \$1 billion of revenue, a brick and mortar retailer needs about 350,000 to 400,000 SF of warehouse/distribution space while an e-commerce retailer needs about 1.2 million SF.¹⁶ Why is this the case? It is ultimately driven by the *physical* differences required to manage the logistics of a brick and mortar versus e-commerce operation:

1. *B2B versus B2C stocking and shipping needs:* Brick and mortar retailers need warehouse space to stock goods for shipment to their stores, which means there is a lag from when stock in warehouses needs to be shipped out to replenish goods on shelves that are close to being sold out, to when inventory in warehouses then needs to be restocked from suppliers. E-commerce retailers need to ship directly to customers, requiring them to keep more goods on hand to avoid the opportunity cost of a lost sale. Furthermore, physical retailers can ship goods in efficient pallets to their stores, whereas online retailers need to ship out each order in an individual box.

'Just In Time' versus 'Just In Case' Also Benefits Warehouses. The COVID-19 crisis has also changed the calculus, at least temporarily, of one important facet of inventory management: the whole concept of managing inventory is about balancing the need to have goods on hand to meet customer demand but minimizing stocking fees as well as the opportunity cost of tying up funds in unsold merchandise). Supply chain management has focused on *efficiency* – the ethos of “just in time.” But COVID-19 and shelter-in-place mandates boosted demand for specific types of goods: groceries and cleaning products in the first few weeks, and then fitness and entertainment devices as quarantine dragged on.¹⁷ This has prompted retailers to increase stocks of specific goods, at least as COVID-19-driven conditions persist, ‘just in case’ demand spikes.

If this trend towards maintaining a larger stock of inventory persists in some form over the long run, this will contribute to demand for additional warehouse space.

2. *Broader product lines.* Online retailers, not constrained by what they can physically stock on retail shelves, tend to offer a larger number of SKUs per product line. Higher product variety in stock requires more space.
3. *Accounting for returns and restocking.* While physical retailers also need to contend with returns and restocking needs, they can use both their retail space and warehouse space to manage returned goods. Online retailers need buffer space in warehouses for orders that are returned.

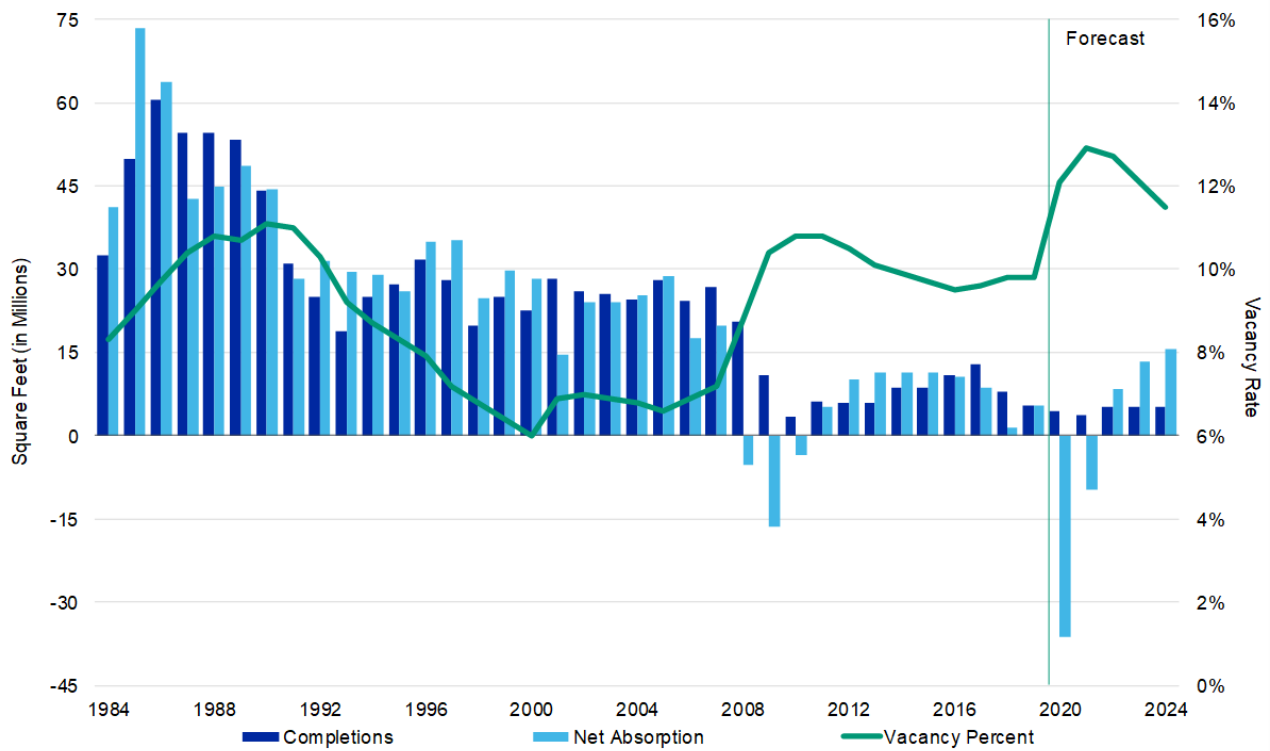
In short, a shift from physical retail may mean some industrial space going vacant in the interim (consider how a J.C. Penney bankruptcy and liquidation will lead to J.C. Penney warehouses being repurposed). But the shift to online retail magnifies demand for industrial space (specifically warehouse/distribution) by a *net factor of two* (online retailers need three times the space to generate comparable revenue, but 3x is offset by one unit going vacant from physical retailers leaving the business).

Moody's Analytics REIS is expecting retail vacancies to rise to historic highs, hitting 13.3% in 2021. That is a full 230 basis points higher than the previous historic high of 11.0% that the sector hit in the third quarter of 201

¹⁶ <https://www.prologis.com/about/logistics-industry-research/e-commerce-and-new-demand-model-logistics-real-estate>

¹⁷ <https://www.cnbc.com/2020/04/21/what-people-in-the-us-and-europe-are-shopping-for-in-the-covid-19-lockdown.html>

Figure 7 Retail Trends: Completions, Absorption, and Vacancy



Source: Moody's Analytics REIS

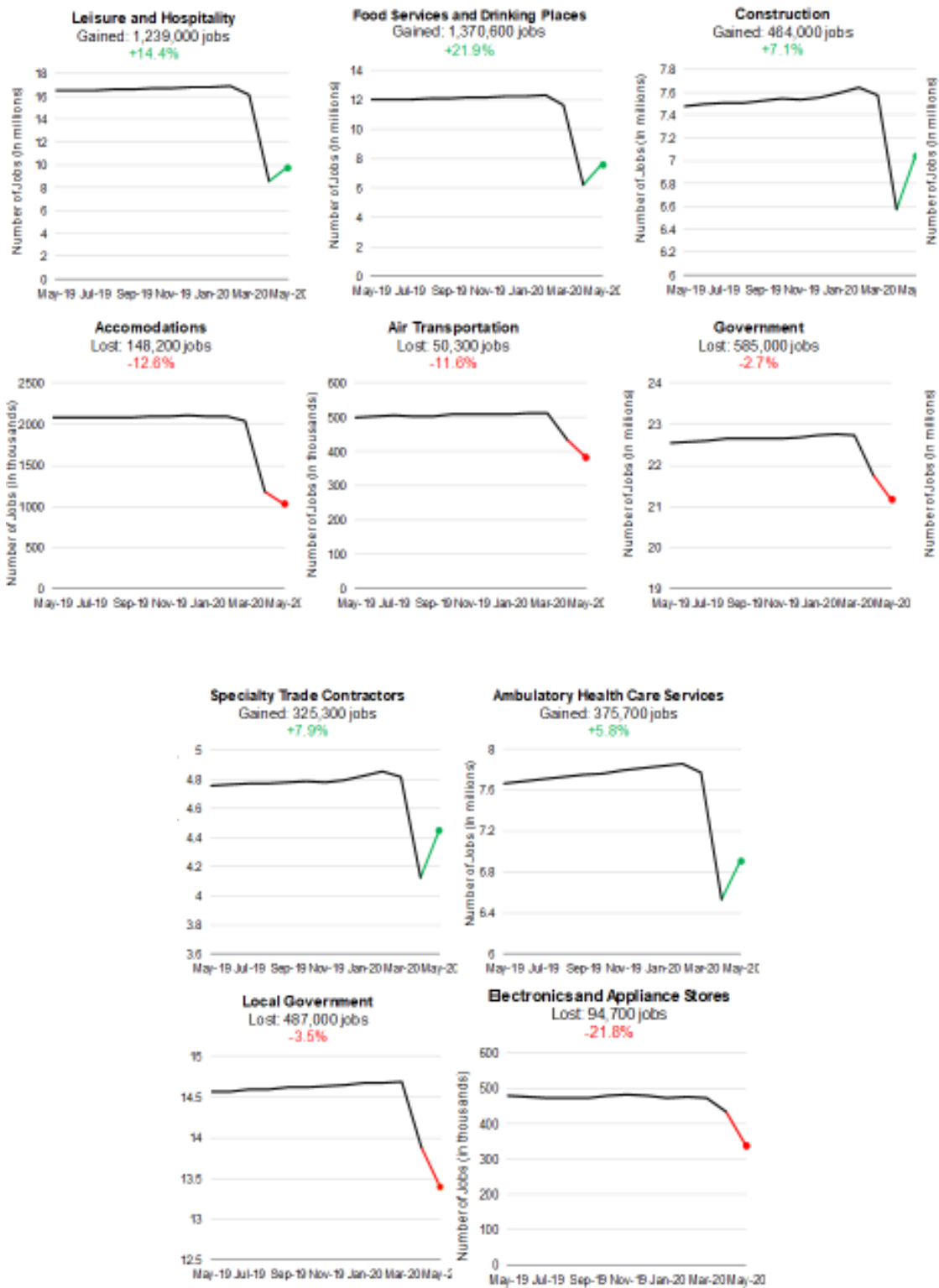
The shift toward demand for more industrial space will likely not be 1:1, and will depend on how business evolves market by geographic market, but the distress experienced by retail is likely to be tailwinds for the industrial sector, for the reasons described above. The 230-basis point increase in vacancies pertains to the 4 billion SF neighborhood and community center market, resulting in a net decrease in occupied stock of about 60 million SF. If even 25% of that shifts online and increases demand for warehouse/distribution space in the manner described by the Prologis study, that would amount to 30 million SF of additional demand for the industrial sector—not counting how other retail types like malls might be repurposed as evolution takes hold.

Conclusions: Short-Term Prospects and Long Run Concerns

It is likely that the industrial sector will be net beneficiaries from trends that the COVID-19 crisis has either produced or accelerated. The increased shift to online shopping, greater space needs from online versus physical retailers, and structural flexibility allowing some (but not all) industrial space to evolve alongside the economy as it transforms all belong on the positive side of the ledger when it comes to the prospects of performance metrics like rents and vacancies.

There are possibilities over both the short- and long-term that are more ambiguous. First, consider the so-called “bounce back” in jobs in the May BLS report. 2.5 million jobs added is a significant number, but represents only 10% of the jobs lost over March and April. Furthermore, as Figure 8 shows, the large majority of those jobs (1.37 million) were added in the food services and drinking places subcategory, suggesting that the recovery has really only begun for the worst-hit sectors, which are starting off from a base close to zero. With restaurants and drinking places previously forced to shut down and furlough or lay off most of their employees, reopening at even 50% capacity will produce a large jobs gain figure.

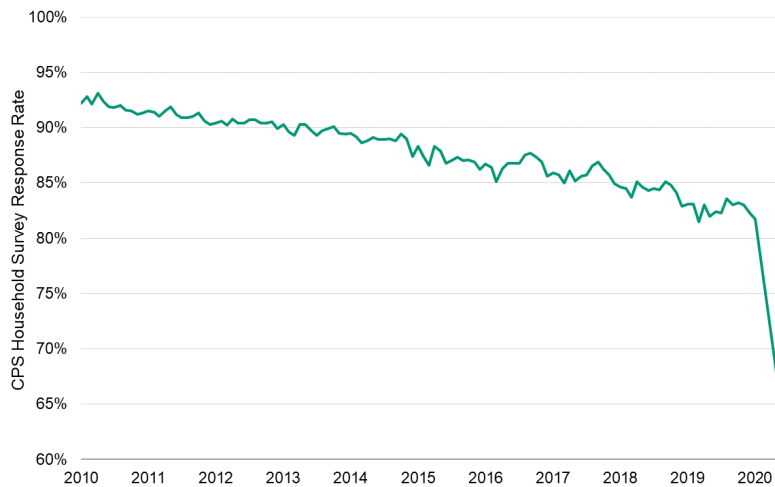
Figure 8 Figure 8. Biggest Gains and Losses in the May 2020 Jobs Report
 May 2019-May 2020 Line Graph. Gain/Loss Figures and Percentages for May 2020.



Source: Bureau of Labor Statistics

Furthermore, the 13.3% unemployment figure for May is based on a significantly lower sample of the population. The response rate for the BLS's Current Population Survey, the basis for estimating the unemployment rate, fell to 67% in May, a full 15 percentage points lower than the prior three months.¹⁸

Figure 9 CPS Response Rate, January 2010 to May 2020



Source: Bureau of Labor Statistics

In other words, while there are many aspects of the May jobs report that can be viewed as positive news, there is not yet enough evidence that would require a significant positive restatement of economic forecasts for 2020. This suggests that industrial fundamentals are still likely to be weak for the rest of the year.

Over the long run, some trends like reshoring and deurbanization may also prove to be double-edged blades for the industrial sector:

Reshoring: Friend or Foe?

If more manufacturing operations are relocated back to the United States, the manufacturing subtype of industrial properties stands to benefit. But the effect is ambiguous for other subtypes like warehouse/distribution properties in port areas like Los Angeles and the Inland Empire area: Will “reshoring” lead to a decline in demand for industrial space as imports decrease? Or will any such decline be offset by an increase in domestic shipments and interstate commerce as manufacturing activity perks up between US cities?

Deurbanization: The Last Mile ... to Where?

If the COVID-19 crisis results in a permanent reassessment of urban areas as being less desirable places to live and work, and if a significant number of households and businesses move out of cities, what does this mean for increased demand for urban infill locations for warehouse space as online retailers depend on “the last mile” for two-day or same-day delivery service promises? The whole premise of the “last mile” approach is to co-locate close to dense urban centers of demand: a more dispersed population center means online retailers and industrial investors will need to rethink the geography that is most efficient.

Still, despite these long-term uncertainties, it appears that the COVID-19 crisis has produced, or accelerated, structural trends in the economy that are poised to benefit the industrial sector, both in the short run (in relative terms, as industrial property performance is expected to deteriorate less than office, retail, and hospitality) and over the long term.

¹⁸ <https://www.bls.gov/news.release/empisit.nr0.htm> The Bureau of Labor Statistics discusses a variety of reasons why the response rate was significantly lower in May. They estimate that the unemployment rate could be as much as 3 percentage points higher because of factors that contributed to a larger margin of error in May.

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