

Cold Storage in a Post-Covid World

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Empty grocery shelves. Shuttered meat processing facilities. Overbooked grocery delivery services. The Covid-19 crisis has pushed our food supply system to its limit. The critical behind-the-scenes component holding it together: cold storage.

Cold storage is the infrastructure and real estate subsector consisting of large refrigerated warehouses. These warehouses store our nation's fresh and frozen produce and protein while it moves from farmer to processor, wholesaler to distributor, and direct to consumer. Though cold storage is far from top of mind for most people, it is a vital component of our food supply chain. Underlining the point, the Department of Homeland Security in March 2020 classified cold storage facilities and their employees as essential infrastructure, keeping them open and operating through the peak of pandemic. Ultimately, the front lines workers in this sector prevented widespread food shortages across the country.

The experience of Covid has changed the outlook for cold storage as an asset class. While it had been gaining momentum among investors, the Covid episode has propelled cold storage to the forefront, with future demand augmented by three key trends emerging from the pandemic: increasing inventory levels, shifting global food flows, and automation. These trends, reinforcing previously existing growth drivers, are serving as a catalyst for the cold storage sector as it advances from a niche investment subsector to a core infrastructure asset class.

Background

Post-2008 financial crisis investors picked up on the e-commerce transformation that was underway, bringing industrial real estate from the quiet corners of the market to the forefront. Cold storage, representing 1-3% of all warehouse space in the U.S.¹, remained a niche due to substantial capital costs, technical complexity and limited existing development expertise. As capital moved into conventional industrial warehousing, returns compressed and investors seeking yield increasingly explored alternative subsectors such as cold storage. The growing interest was buoyed by tailwind trends, including consumer demand for fresh, healthy and organic food; the rise of online grocery ordering and delivery; and tightening supply chains in response to just-in-time inventories. As a result, 2019 was the busiest year on

¹ CBRE.

record for cold storage mergers & acquisitions², with new pools of capital entering the space, including pension and sovereign wealth funds, insurance companies and infrastructure investors.

Fast forward to today and the outlook for many real estate sectors are muddled by the impacts of Covid. Retail properties are facing an acute demand shock resulting in a wave of bankruptcy filings by tenants and mortgage defaults by property owners, compounding the secular decline of brick-and-mortar stores. Office and hospitality are similarly challenged by short-term freezes on in-office work and travel with uncertainty around the timing and shape of a recovery. Multifamily and conventional industrial are faring better, though the impact of a potential recession weighs heavily. Cold storage has historically proven resilient in times of recession: in 2009, with revenues for the third-party logistics (“3PL”) sector down nearly seven percent in aggregate, food & beverage (“F&B”) 3PL revenues fell by just one-tenth of one percent³. Further, through the past two recessions F&B was the third-best performing retail sector, experiencing a 3.7% month-over-month growth rate against a decline of 6.1% for total retail sales. F&B sales have performed exceptionally through the Covid crisis with 25.6% growth for March 2020, compared to an 8.7% decline for retail as a whole⁴. Cold storage has consistently performed during times of economic distress, in line with expectations for an infrastructure asset class.

Beyond sector performance figures, the Covid experience has brought into clear focus the need for resilient food supply chains in the face of pandemic risk. Below we highlight three emerging trends at the forefront of food supply chains in the aftermath of Covid.

Trend 1: Reversing inventory management strategies

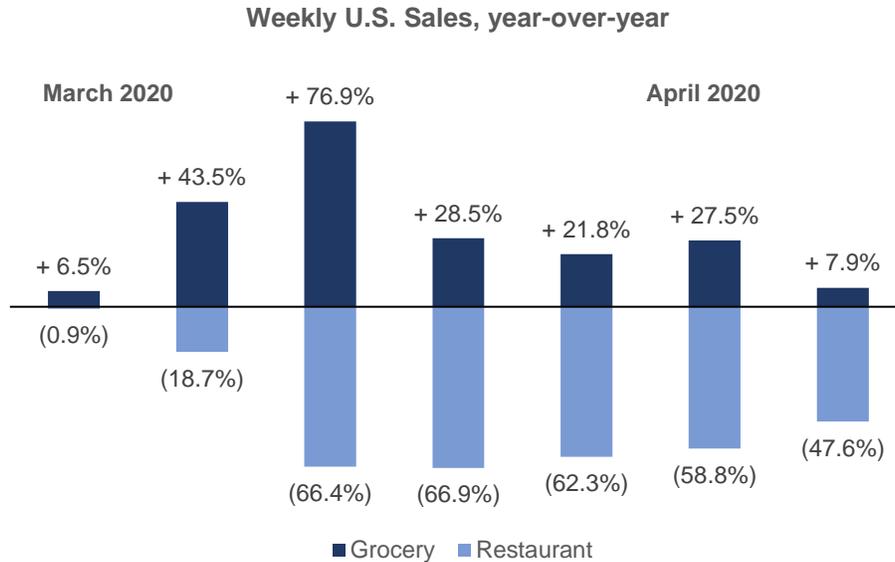
Just-in-time inventory management originated in the auto sector, pioneered by Toyota, and was steadily adopted on manufacturing floors. Beyond manufacturing, the philosophy of just-in-time spread across economic sectors, from healthcare to retail to grocery, as a means of reducing cost and increasing capital efficiency. In the context of food, just-in-time refers to the slimming of inventory levels at every step of the food supply chain. The result was a shift in risk up the supply chain from retailers to producers, who increased production flexibility to meet the lean inventory needs of their customers.

² Example transactions include Cloverleaf Cold Storage/Zero Mountain Inc., Lineage Logistics/Preferred Freezer Services, Americold Realty Trust/Cloverleaf Cold Storage, Lineage Logistics/Emergent Cold, Americold Realty Trust/Nova Cold Logistics.

³ Armstrong & Associates.

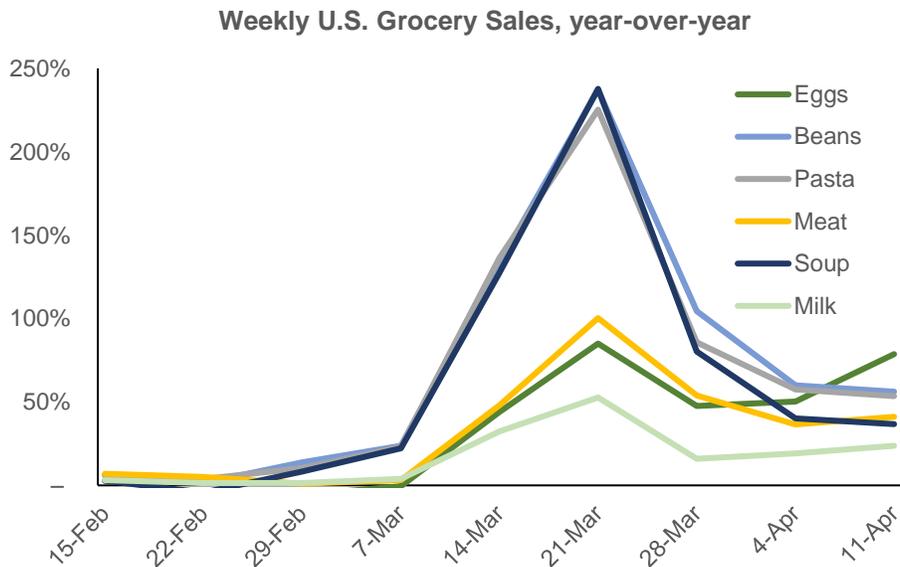
⁴ Prologis.

As Covid unfolded, a complex story of parallel food supply chains played out, one for commercial users such as restaurants and one for consumers, in the form of opposite demand shocks, both impacted by the broader shift to just-in-time inventory.



Source: WSJ.

On the consumer side, demand for basic food products skyrocketed. The consumer/grocery supply chain, precariously balanced from years of paring down to just-in-time inventory levels, buckled under the shock, manifesting as images of empty grocery store shelves across U.S. cities that will be remembered for a long time to come.



Source: WSJ.

Meanwhile, with restaurants across the country all but shuttered, product that could not shift from the restaurant/commercial supply chain to the consumer supply chain backed up in the limited warehousing stock available. Record year-on-year levels of items such as frozen poultry, beef, and potatoes were in cold storage in March 2020.

Frozen Product in Cold Storage			
lb 000's			
	March 31, 2019	March 31, 2020	Year-over-year change
Eggs	37,561	39,586	5.4%
Chicken	868,359	921,422	6.1%
Juice concentrate	1,058,046	1,220,703	15.4%
Potatoes	1,291,811	1,308,513	1.3%
Ground beef	422,310	466,869	11.2%
Red meat	1,095,919	1,167,789	6.6%

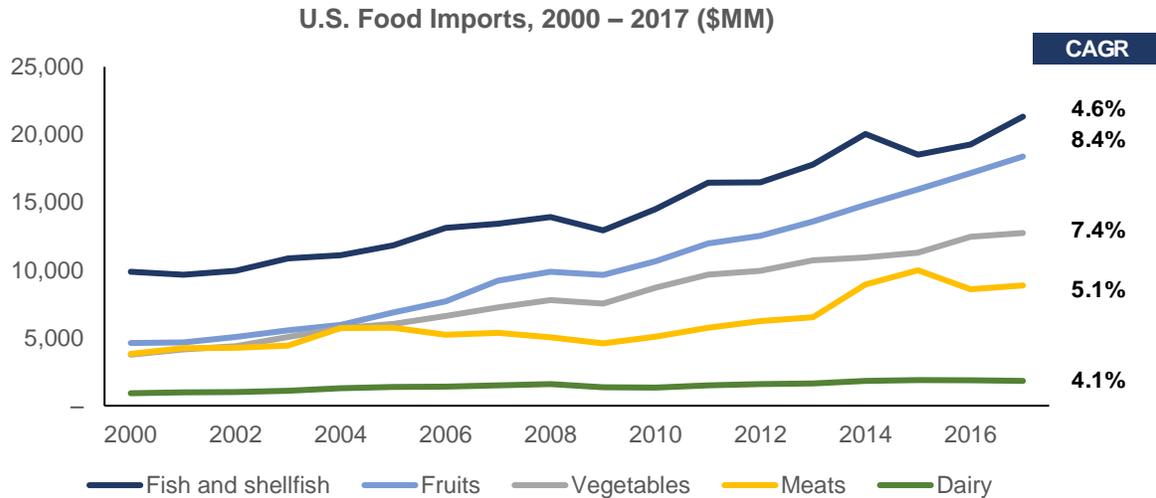
Bold indicates record level of product. Source: USDA.

The answer to a higher frequency of demand shocks in our food system resulting from pandemic risk is “surge capacity”. Surge capacity is the ability to rapidly scale output in times of acute stress. In the post-Covid world, we will see larger tenant demand for food storage capacity across the supply chain – from retailers to wholesalers and producers. Larger storage capacity means a need for more warehouse space, square footage and pallet positions.

Trend 2: Changes to global food flows

Heading into Covid, U.S. food imports had experienced a decades-long increasing trend. Contributing factors include improvements in containerization and storage, evolving tastes of U.S. consumers, new varieties expanding geographies of production, and lower costs attributable to labor and reduced tariffs. In a self-reinforcing cycle, the availability of imported products encouraged buying behaviors to shift towards year-round consumption of fresh produce, driving further import growth⁵. Consumers today have grown accustomed to ripe avocados and citrus fruits even during winter months in the Northeast.

⁵ New York Times.



Source: USDA.

The Covid experience has revealed the precarious nature of long, global food supply chains. Though we avoided significant food shortages in the U.S., domestic and international producers are experiencing pressure from multiple angles, with cratering demand from the commercial supply chain and reduced workforce availability impacting harvest and processing. Advocates of local/regional food systems rightly point to these approaches as resilient in times of disruption, but the complete picture is not so clear cut.

First, consumer buying behaviors must be considered. More education on the benefits of eating local should be made available, but the fact remains that consuming fresh produce year-round is an important component of a healthy diet, and not just for those in regions of the U.S. with longer growing seasons. Second, to extrapolate the lessons of the Covid experience, pandemics are not geographically homogenous. It is entirely likely that, as Covid is brought under control globally, some areas or regions will experience secondary and tertiary outbreaks, possibly for an extended period. An entirely closed-loop food system is not a resilient solution in the face of pandemic risk.

The resilient answer lays in a highly open food system with low friction for domestic production to flow through the country as needed, supplemented by imported items from diversified source countries. Similarly, the world will continue to benefit from increasing U.S. food exports, particularly in the protein sector. For example, the effects of a very different epidemic are playing out in the protein market today in real-time – African Swine Fever (“ASF”). ASF is a highly contagious virus that affects swine populations⁶. While there is currently no risk of the virus transferring to humans, mortality rates in swine can be as high as 100 percent. ASF was first reported in China in August 2018 and decimated

⁶ Swine includes pigs, hogs and boars.

swine populations through 2019⁷. As a result, U.S. swine exports are expected to play a significant role in filling Chinese demand for pork products.

Shifting to a resilient food system of open product flows will require not just additional square footage of cold storage, but a high quality and diversified stock of facilities. Port-located facilities, which have attracted significant development attention to date, will continue to be critical. However, the buildout of a network of facilities at intermodal logistics hubs, in secondary and tertiary city population centers, and adjacent to centers of food production will also play an essential role.

Trend 3: New worker safety practices and rapid adoption of automation

Social distancing is a difficult proposition on the warehouse and production facility floor, and occurrences of concentrated Covid outbreak in distribution centers and food processing plants have taken a toll on workers, their families and the communities that support them. The reports are devastating, and the industry is attempting to course correct with the rapid turn of a large ship. The response will be three-pronged: occupational design changes and workforce education; “ground-up” automation in new facilities; and “retrofit” automation in existing facilities.

The most accessible and short-term solutions are being rolled out in cold storage facilities as we speak. These measures are focused on keeping workers safe against the immediate risk posed by Covid, and include:

- Adding hand sanitizing stations on forklifts and throughout facilities
- Adding hand sinks on employee movement paths to encourage continued hand washing
- Designing welfare HVAC with more outside air changes
- Staggering additional break times to reduce the amount of people in lockers rooms and break rooms
- Creating better education platform for workers to include at home precautions

Additional – and more invasive – measures may also be incorporated. These could include monitoring of employee temperature and health and tracking of movements and interactions with coworkers. It remains to be seen both the level of pushback against these technologies and how long they remain in place. That said, there is some precedent in the rollout of electronic logging devices (“ELDs”) across the trucking and transportation sector, which has been controversial but appears to have staying power.

On the automation side, the introduction of advanced technologies for new cold storage facilities has accelerated. Economics will continue to drive adoption, supplemented by the emerging health benefits of reducing employee density

⁷ USDA.

in facilities. The primary technology in the market today is automated storage/retrieval systems (“ASRS”). ASRS offers a number of advantages: economic efficiencies in areas with high land values, operating efficiencies of high clear heights and narrow aisles, and health and environmental benefits from lower power consumption and increased fire safety.

Retrofit automation for existing warehouses is a more diversified space with many complementary and competing technologies in development. Solutions include temperature and humidity monitoring applications of distributed sensors, robotics for assistance in picking and packing pallets, and systems for last-mile grocery fulfillment. Fundraising and acquisition activity have been high and exciting new technologies will continue to be brought to market at a rapid clip.

Will it last?

Through the Covid experience, cold storage has been shown to be more critical than most previously appreciated, and the sector will be profoundly shaped by trends emerging from the pandemic. The reversal of just-in-time inventories to more resilient supply chains requires a behavioral change by many uncoordinated actors in the economy and is thus the most precarious trend of those discussed. The duration of the Covid experience and the severity of its impacts will determine its stickiness. On the other side, the shifts in global food flows which have been underway for the past two decades will be reinforced, further driving demand for cold storage capacity. Likewise, increasing adoption of automation in the warehouse has been driven by economic and operational efficiencies prior to Covid, with the realities of the post-Covid setting serving only to accelerate the shift.

Cold storage has emerged as the most dynamic component of the real estate and infrastructure asset class. If the 2008 financial crisis and Great Recession saw the arrival of the industry as an established investment sector, the Covid crisis and the resulting drive for resilient food supply chains is proving to be the inflection point for accelerated growth and rapidly ramping demand. In the dark of the Covid experience, cold storage is shining bright.

We thank all essential workers in cold storage and food processing who are continuing to provide a secure food supply for our country through the Covid pandemic.

About Cold Summit:

Cold Summit Development is a pure-play cold storage developer and owner of refrigerated warehouses and low-temperature distribution centers. Learn more at www.coldsummit.com or by emailing info@coldsummit.com.