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Real estate assets: To build or not to build?

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It's about when, not whether.

by Koh Chaik Ming

The COVID-19 pandemic and subsequent lockdowns imposed by nations sparked a surge in online shopping for fresh food items, which necessitated cold chain solutions that were then laden with vaccine storage requirements. This had a considerable impact on the Asia Pacific cold chain logistics and cold storage warehousing market, which was valued at US$68.3 billion in 2019 and is expected to nearly double to US$133.97 billion by 2027.[1] Perishable foods have limited shelf-life and their quality deteriorates steadily due to temperature, humidity, possible interactions with other foods, as well as shock during transportation.[2] In China, about 15 percent of all perishable products are transported in refrigerated vehicles, resulting in losses amounting to US$8.9 billion annually for those involved in fruit and vegetable distribution.[3] Cold storage warehousing is therefore a crucial element of cold chain solutions.

There are many similarities between the development of cold chain real estate in China and the country's ambient logistics (non-temperature control storage) real estate sector. In 2021, Asia's largest economy generated a record 108 billion parcels, accounting for two-thirds of the global parcel volume of 159 billion.[4] China's e-commerce companies have invested heavily in their supply chain and last-mile delivery capabilities to meet this unrelenting demand. The two biggest Chinese players in the sector, Alibaba and JD.com, have taken different routes to that end: the former has taken stakes in four of the largest courier companies in China, while the latter set up JD Logistics, its own in-house logistics company. JD Property, the infrastructure arm of JD.com, has also been busy developing its own warehouses. While the two market leaders have adopted different approaches to address the logistics issue, on another more fundamental level, they are doing the same thing–strengthening ownership or control over logistics assets to create a strategic advantage from their supply chain and last-mile delivery capabilities.

The asset-heavy approach of building facilities facilitates superior control, but it can be inflexible and, perhaps more importantly, it ties up financial resources. Conversely, an asset-light approach involving more renting than ownership delivers greater flexibility and lower profit volatility, but operations could prove hard to manage. Is there a way to combine the best of both worlds? My study on China's cold chain logistics suggests a hybrid facility build and sale-and-leaseback approach might be the answer.

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THE COLD (CHAIN) HARD TRUTH

The debate about whether a company should employ an asset-heavy or asset-light strategy has been a persistent one. While companies would prefer to pursue their strategies with the lowest possible level of asset ownership, determining the optimal asset level is often challenging due to the trade-offs.

The cold chain logistics sector in China (refer to box story) provides an excellent example to illustrate choices around asset-heavy and asset-light strategies, specifically the pivot from the former to the latter. The insights are drawn from my doctoral dissertation, for which I built an optimisation simulation model to assess the results of a large Chinese cold chain operator that had leased and used multiple cold chain warehouses to store its imported frozen products.

Constructing optimisation model for hybrid asset strategy

The optimisation model for a hybrid strategy basically combines two models–a real estate model and an operations research model. The real estate (asset-heavy) model accounts for the investment and returns, while the operations research (asset-light) model represents the transportation and storage costs. The two models are integrated using the asset capitalisation method, allowing for the establishment of asset value through the rental income received by the asset.

The operations research model addresses a classic facility location problem, where the economic benefit is maximised by seeking the lowest logistics cost. In the context of this study, the company imports hundreds of refrigerated containers into a key port in northern China, unloads these containers, and stores the products for a number of days in the cold chain warehouse of choice in the port city until the products are reloaded back into the container for delivery to the wholesale markets.

The logistics cost, therefore, is the sum of the total storage cost (the number of pallets stored multiplied by the number of days of storage and the daily storage cost per pallet) and the transportation cost (cost of transporting each container to the chosen warehouse in the port city). The daily rental rate for each warehouse is different (e.g., older warehouses charge cheaper rents) and the transportation cost to each warehouse also differs (e.g., the farther the facility is from the port, the higher the transportation cost). The general optimisation strategy is to store products that will be in the warehouse for longer durations in warehouses charging lower rents, even if it is further away from the port.

The real estate model determines the economic benefits of a new warehouse based on the size or capacity of the warehouse and its quality. In general, the larger the capacity, the higher the economic benefit derived from the development profit when the asset is sold to a financial partner due to the higher rental income that a bigger asset can command. However, the larger capacity warehouse comes with a larger leaseback commitment, which obliges the developer to factor in confidence to sufficiently utilise the warehouse over the committed period of the leaseback. In addition, the quality of the warehouse also affects the development profit since a higher quality warehouse generally commands a higher rent, which translates into a high sale price when sold to a financial partner. However, a higher quality warehouse also means higher construction costs that may reduce the development profit if the quality-cost ratio is not as efficient.

In my study, I built a composite model that combines the above two models to quantify the total economic benefits that can be optimised by simulating a multiple-period plant location problem.

FINDINGS FROM THE STUDY

The operator was considering developing and building its own cold chain warehouse at a size comparable to the combined use area of the facilities it currently rents. It is believed that once the asset is built and stabilised (i.e., the utilisation rate is high), it can be sold to a capital partner and leased back. In choosing between asset-heavy and asset-light strategies, the company needs to be clear about whether the asset is strategic or scarce. If a particular asset is integral to the company's competitive position, as is the case of a cold chain warehouse, then ownership is usually a good option. It is also wise for companies to own assets that are in short supply so that they can act more decisively than their rivals.[7]

The study uncovered several findings about the impact of various parameters and its effect on the economic value of a build-and-lease-back strategy. For example, when the rent spread increase for a higher quality warehouse is larger than the unit construction cost increase, the optimal decision would be to build the warehouse to the highest quality. In my model, the industry rent spread quantum for a higher quality warehouse is 75 percent higher than that for an average quality warehouse even though the construction cost of a higher quality warehouse is 50 percent more than that of an average quality warehouse.

The research also found that the economic benefits of a build-and-lease-back arrangement decrease linearly as construction costs increase. When the construction cost becomes so high that it exceeds the asset sale value, my simulation model recommends not building the warehouse at all. Instead, it recommends the full use of third-party warehouses via rental because the real estate development will not yield a sufficiently high asset development profit. Additionally, different cities have varying degrees of attractiveness in real estate development (e.g., top-tier cities such as Beijing and Shanghai have extremely high development profit potential) despite slight construction cost differences across China.

COLD CHAIN LOGISTICS: FROZEN POTENTIAL? LET IT GROW

Over the last few years, more sophisticated and experienced cold chain logistics developers are designing an increasing number of generic cold chain logistics warehouses that can satisfy most temperature-controlled storage requirements for a broad range of users. According to global commercial real estate services company JLL, Chinese cold chain users can choose from built-to-suit (BTS) facilities or standardised cold storage facilities, which offer differing propositions for different users.[5] BTS storage facilities are typically favoured by businesses that have unique supply chain functions, such as supermarket distribution centres and fresh produce e-commerce platform businesses, and are better designed for last-mile distribution needs. Standardised cold chain facilities are generally favoured by traders or importers where the facility caters mainly to the storage of palletised products with containerised inbound and outbound shipments.

Cold chain warehouses are now moving to embrace standardisation, like what their ambient counterparts (which store goods at room temperature[6]) have experienced over the last two decades. This will substantially lower the risk of rent volatility of cold chain assets, driving future growth like what their ambient counterparts have experienced.

My research also found that for a given city, the location of the self-developed warehouse has only a marginal negative effect on the economic benefits. In fact, the optimal decision to achieve the optimal economic benefits is to ensure the self-developed warehouse is being used as much as possible, especially when it is coupled with a competitive transportation rate.

Last but not least, the asset capitalisation rate, defined as the ratio of the net operating income generated by the asset divided by its current market value, is the most sensitive parameter in economic benefits optimisation. A low capitalisation rate leads to a significant non-linear increase in economic benefits. Asset capitalisation rates differ across cities and low capitalisation rates are associated with cities where either the demand for these assets is high or the supply is limited.

The final transition to an asset-light strategy involves transferring capabilities to 'better owners of the assets' to enable companies to focus on their strengths and business models. Financial institutions or asset managers that are focused on managing completed assets and maximising yields are considered better owners of these completed assets after the assets are fully leased out. The users of these assets should eventually transition from a fixed-cost to a variable-cost structure. This enhances agility and facilitates a shift of resources to focus on core capabilities. Partnership models that can transition from an asset-heavy strategy to an asset-light model include joint ventures, spin-offs, partnerships, and sale-and-leaseback.[8]

HYBRID STRATEGY VALUE GOES BEYOND THE LOGISTICS SECTOR

Although this study was conducted in the cold chain logistics sector in China, and was inspired by the experience of Chinese e-commerce players with ambient logistics assets, this hybrid strategy can be applied to other asset classes, including commercial properties used for retail or food and beverage (F&B), and industrial properties such as factories and assembly plants.

However, the utility of this strategy comes with a critical requirement: the existence of a well-developed capital market, such as China, Hong Kong, and Singapore, where asset capital recycling can be done. Asset capital recycling refers to the practice of using the revenue gained from selling or leasing current assets like existing warehouses to finance the purchase or building of new assets, such as another storage facility. The financial market needs to have ready capital partners or asset management firms like real estate investment trusts (REITs) and real estate development platforms that are seeking real estate assets to purchase for rental yield returns. With this in place, a similar model can be constructed to maximise real estate development gains while considering the potential sale-and-leaseback obligation.

e-Commerce companies have begun to partner with financial players (for instance, by using private equity development funds) to develop logistics properties, and also recycle them once they are stabilised through the sale-and-leaseback mechanism.

Conceptually, if the real estate cannot be sold at a value higher than the construction cost, there will be no incentive to self-develop the real estate. In some countries, the asset sale value does not command a good premium above the cost of construction due to the high asset capitalisation rate (for example, in cities where this asset class is in oversupply or the achieved unit rent is highly suppressed). In China, for many real estate asset classes, especially in top-tier cities like Shanghai, the asset sale value far exceeds the cost of construction. Coupled with high demand and the availability of affordable debt, the real estate development gain can easily cover the sale-and-leaseback obligations.

Moreover, if the owner of the business needs to use real estate and would end up paying the rent anyway, the sale-and-leaseback obligation of a properly-designed capacity asset would be similar to the operating cost that the firm would have to pay for the rental expenses. In addition to the financial benefits derived from the net real estate gains, the self-developed facility would likely be purpose-designed and can lead to positive strategic benefits for the firm. Finally, the proper design of the sale-and-leaseback obligation also ensures sufficient certainty about the future use of the real estate without the burden of an asset-heavy strategy.

CONCLUSION

Cold chain facilities, particularly in China, continue to be in short supply despite their strong growth. In 2016, cold chain warehouse space in China stood at 0.14 square metres per capita, which was about half of Korea's and one-third that of the US, and well below the global average of 0.2 square metres per capita.[9] China's cold chain logistics market is expected to reach 470 billion yuan (US$66.5 billion) by 2020, with a compound annual growth rate of more than 20 percent.[10] Being specialised assets, cold chain facilities require substantially higher construction investment. An asset-heavy strategy offers superior control but ties up financial resources and is inflexible, while an asset-light strategy is more nimble but hard to manage.

With regard to the related e-commerce sector, e-commerce companies have begun to partner with financial players (for instance, by using private equity development funds) to develop logistics properties, and also recycle them once they are stabilised through the sale-and-leaseback mechanism. In fact, logistics is now seen as a core business for many tech and e-commerce firms. For example, Cainiao Network, the logistics arm of e-commerce giant Alibaba Group, has established a 8.5-billion yuan (US$1.24-billion) fund with China's largest insurer, China Life Insurance, to finance the expansion of its storage facilities across China. It is also expected to transfer ownership of its existing logistics centres to the fund in exchange for cash.

The prospects look so promising that Singapore's sovereign wealth fund GIC and JD have established funds that focus on China's logistics properties with capital commitments of US$725 million and US$756 million respectively.[11] The cold chain logistics property sector is expected to undergo a similar development path, thus helping to speed up the much-needed boost in the cold chain warehouse space in China and Asia Pacific.

To conclude, the hybrid asset strategy has its merits. By combining a facility location model and a real estate development model, optimised through the analysis of historical asset usage data, firms can easily achieve significant corporate value by first adopting an asset-heavy strategy (developing the real estate), recycling the asset (real estate asset sale with a sale-and-leaseback commitment), and then pivoting to an asset-light model (paying rent as an operating cost as part of the leaseback commitment). I also argue it has broader applicability beyond the e-commerce or logistics sectors, and other sectors, such as F&B and retail, may also benefit from employing such a hybrid strategy. ANI

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Endnotes

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