ASIA PACIFIC

SHAPING TRENDS IN LOGISTICS

CBRE GLOBAL RESEARCH AND CONSULTING

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Contents

Executive Summary

CBRE expects positive rental growth for APAC's logistic warehouses on the back of continued strong underlying demand for logistics warehouse space. Against the backdrop of a more clear global economic recovery and APAC's relatively higher growth, three key trends underpinning the upbeat demand outlook are: (1) increasing expansion of organized retail; (2) growing online user bases and sales volumes of e-commerce across APAC; and (3) expanding presence of 3PLs. Whilst overall supply will increase by 80% y-o-y in 2014, low vacancy and strong demand will help offset the impact of increased new completions, particularly in Hong Kong, Tokyo, Shanghai, and Guangzhou where we expect 4%+ y-o-y rental growth; lagging the region at 0-1% expected y-o-y rental growth are Beijing, Singapore and Sydney, where strong upticks in new supplies will keep rental growth in check.

The three key catalysts to further drive demand for the APAC logistic warehouse sector are:

1. **Expansion of organized retail:** The continued trend of developing well-organized shopping malls, increasing trend of urbanization, and growing middle class in emerging and less-developed markets will support retailer expansion in APAC, including the build-out of store networks and set-up of supply chains.

2. **Continued growth of e-commerce:** Operational success rests upon inventory management and rapid delivery, requiring well-stocked and well-located logistic facilities. Whilst China and Japan, the largest markets by sales turnover, have seen a marked increase in modern logistics facilities, potentially high-growth, emerging markets such as India and Southeast Asia remain undersupplied.

3. **More dependency on third-party logistics (3PL):** With rising demand for organized retail and growth of e-commerce, demand from 3PL providers will rise. The need for delivery efficiency, inventory management, and freight-forwarding is driving the need for experienced logistics operators in the region, leading to greater outsourcing to logistics service providers.

As such, we expect overall rental growth in CBRE's APAC Logistics Index of 3-4% y-o-y in 2014, mainly led by Hong Kong at 7.5% y-o-y, followed by Tokyo, Shanghai, and Guangzhou at 4% y-o-y. Rental growth in Singapore, Beijing, and Sydney, will lag other APAC markets with rental growth of 0-1% y-o-y expected this year.

Key Drivers for 2014

Development Pipeline

80% y-o-y
increase in new developments expected in seven main markets in 2014

Urbanization

APAC will have an extra
307 million
urban residents in 2020, with the largest increases occurring in China, India, Vietnam and Indonesia

Organized Retail

accounts for 2% and 4% of total retail in India and Vietnam, respectively, compared with **84%** in the United States, indicating that APAC countries still have lots of potential for growth in the retail sector

Leasing Demand

retailers accounted for approximately **35%** of leasing demand in Hong Kong and Sydney in 2013

Internet Users

there will be **346 million** extra internet users in the APAC region by 2020, roughly the same population as the United States

E-commerce

between 2013 and 2018, revenues in APAC's top 5 markets are expected to double from approximately $400 million to
US$830 million

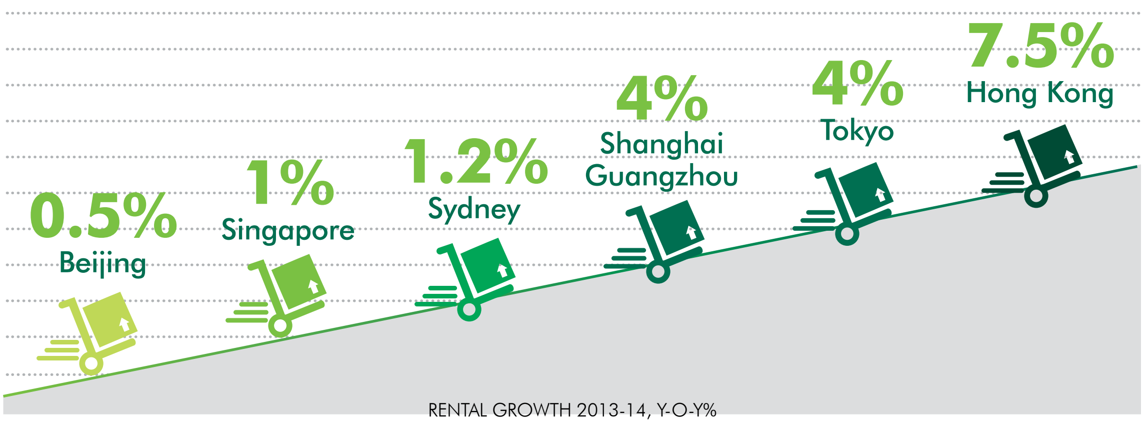
3PL

APAC will account for
US$300 billion
in global 3PL industry revenues by 2015, up from US$121 billion in 2007

3PL Leasing

3PL accounted for **68%** of total leasing reported in China and Japan by GLP, Goodman and Prologis in Q1 2014

APAC Logistics Annual Rental Growth 2013-14

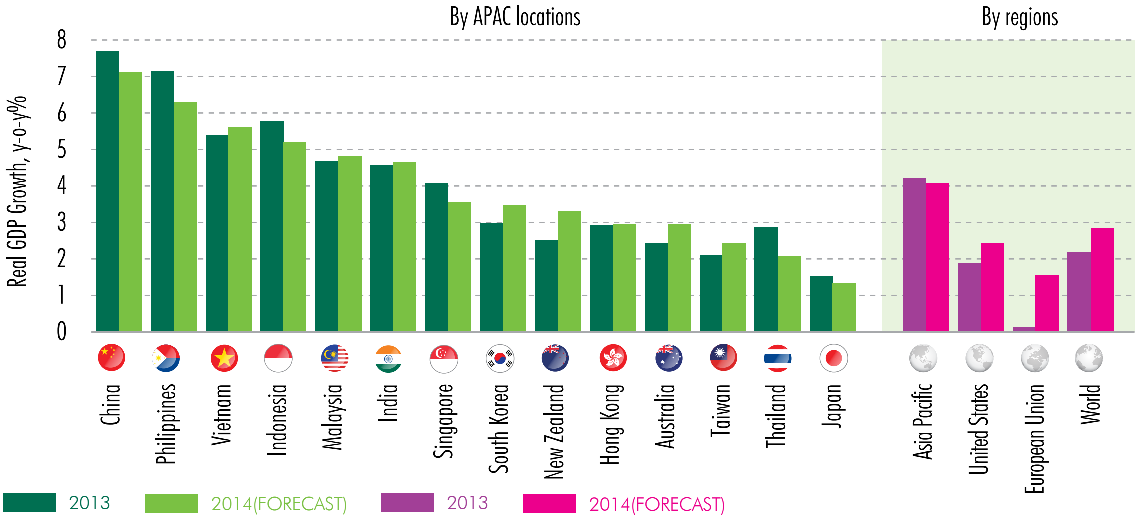


Source: CBRE Research, May 2014.

Favorable Macroeconomic Backdrop

With economic growth recovering above 2% in the United States and swinging from virtually zero to 1.5% in the European Union, the global recovery is gathering pace in 2014. Supported by the recovery in the West, APAC will continue to enjoy a faster pace of growth relative to the world at 4.1%, and will see faster export growth on the back of improving world trade outlook. In 13 of the 14 major economies within APAC, exports are expected to grow at a faster pace in 2014, especially in Southeast Asia.

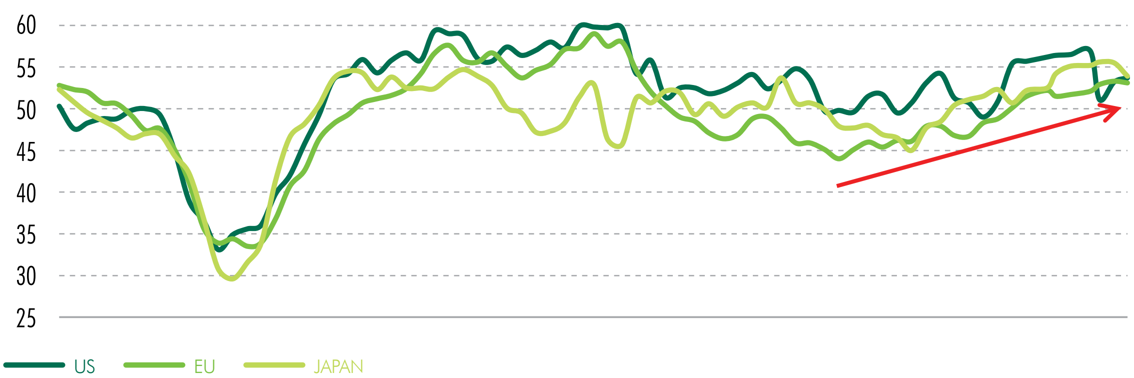
Chart 1: Recovery in the West underway; APAC continues to grow a quicker pace



Source: Oxford Economics, May 2014.

Improvements in business sentiment in developed economies, represented by higher purchasing managers' index (PMI) readings, point to more positive expectations of future purchases, higher number of new orders, and increased inventory in preparation for growing demand of goods.

Chart 2: Positive business sentiment supported by PMI uptrend in developed markets



Source: Markit, May 2014.

With business sentiment more upbeat, estimated industrial production will also stand to benefit. The latest forecasts expect APAC industrial production to grow at 5.9% and 6.1%, for 2014 and 2015, respectively, compared with 3.5% y-o-y growth in 2013. The strong growth will translate to demand for warehouse space, given increased trade flows and port throughput, inventories turnover and pressure on supply chains.

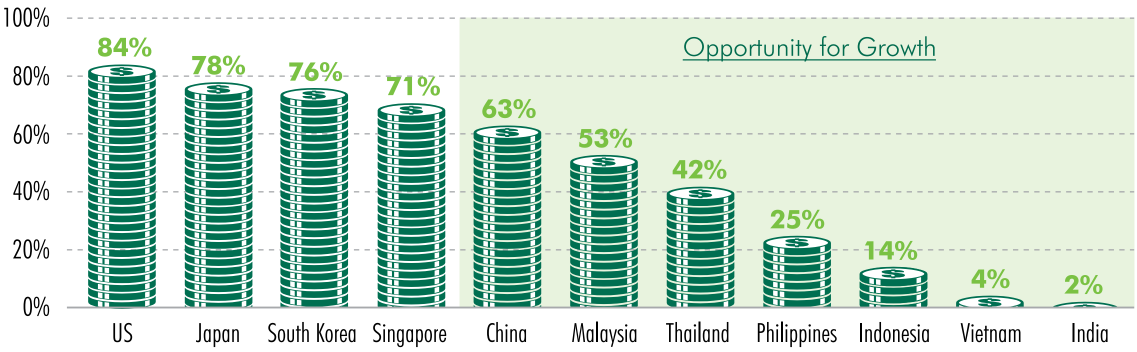
Shaping Trends Driving Logistics Demand

Trend 1: Expansion of Organized Retail

The development of organized retail within APAC is and will be a key source of demand in 2014 and beyond. CBRE defines organized retail as networks of retail outlets requiring extensive supply chains and inventory management systems, in contrast to individual stores or stalls operated in the small-scale traditional or 'unorganized' sector.

With private consumption on the increase and growing middle-class populations in increasingly urbanized cities, organized retail is expanding and driving growth in new shopping center and hypermarket developments, especially in under-represented developing markets such as China, India, and Southeast Asia.

Chart 3: Modern trade*/organized retail penetration, as of 2012



*Note: *Modern trade refers to multi-brand retail stores in shopping centres and hypermarkets.*
Source: Bain & Co., April 2014.

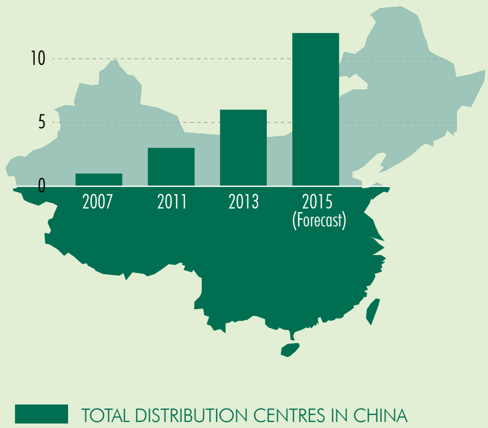
Organized retail: accounts for 2% and 4% of total retail in India and Vietnam, respectively, compared with 84% in the United States, indicating that APAC countries still have lots of potential for growth in the retail sector.

Case Study 1: Walmart's Expansion Linked to Growth in Warehouse Space Demand

One way to illustrate the link between organized retail and demand for warehouse space is to look at the example of Walmart in China; it has since 2004 built a store network of 405 stores, largely big box retail sites but also including wholesale sites.

To support this expansion it has built a wide network of logistics/supply chain facilities. Most notably it has expanded its range of distribution centers in China, starting with one in 2007 and now comprising a total of six with a total area of 278,000 sq.m., with an estimated eight more distribution centers anticipated in the next two years, taking its total distribution center network to 14 with an estimated total space footprint of 600,000 sq.m.

Chart 4: Walmart distribution center network in China, 2007-2015 (Forecast)



Source: Walmart Company Reports, Press Releases, 2009-2014.

CBRE's recent report '*How Active are Retailers in Asia-Pacific*' showed that relatively undeveloped markets such as India, Vietnam, the Philippines and China are attracting the most expansion interest from international and domestic retailers in 2013.

Recent cases of leases completed in markets covered by CBRE also demonstrate the linkage between the expansion of organized retail and demand for warehouse space. Our data indicates that retail-related demand accounted for approximately 35% of all warehouse leasing demand in Sydney during 2013, with a similar amount tracked in Hong Kong during the same period. This dynamic is an important source of demand for warehouse space, since logistics operations are the basis for retailers' supply chains.

Looking forward, we see China as being the key growth market in APAC, since it has the most compelling prospects for urbanized market growth over the next ten years and strong potential for development in lower-tier cities. High-growth potential markets are concentrated in emerging cities, especially cities in India, Indonesia and Vietnam. However, government regulations on retail sector development, particularly in India, limits the potential for organized retail growth.

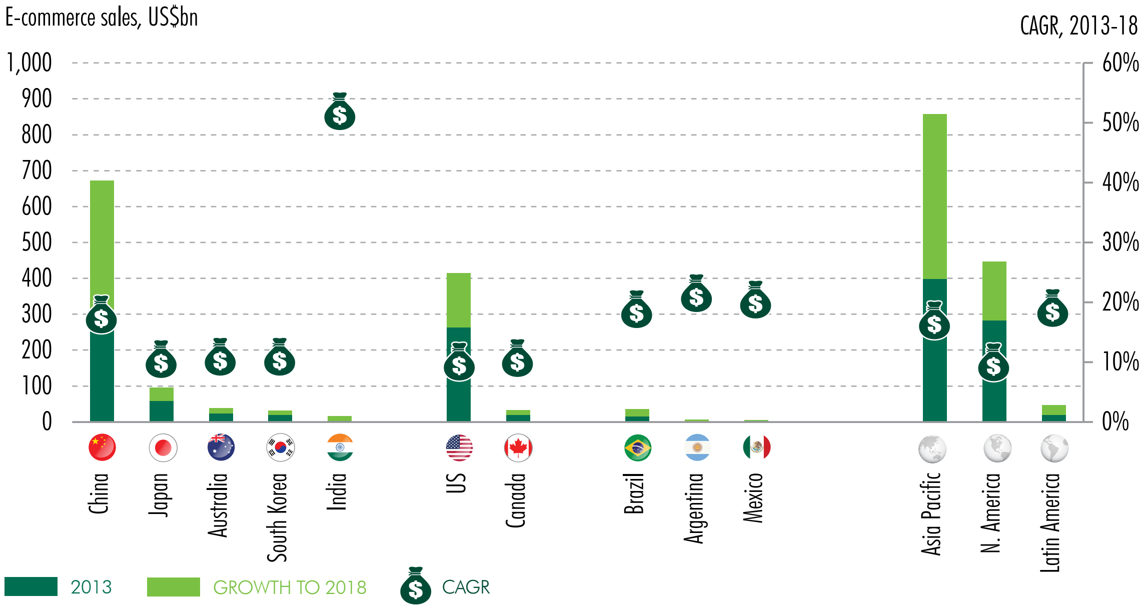
Despite the high maturity in terms of organized shopping malls in Japan, South Korea, and Taiwan, these markets remain attractive, particularly with their relatively affluent consumer base and demand for upgrading their current outdated logistic facilities.

Trend 2: Continued Growth of E-commerce

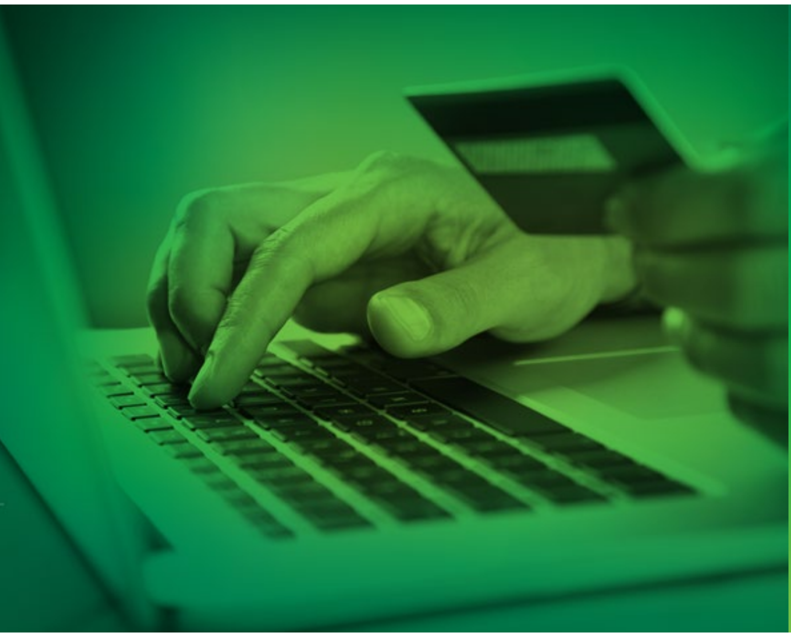
Growth in e-commerce sector revenues across the whole region is largely based on structural factors, including the supply-side expansion of online retail firms and establishment of online payment functions. That said, e-commerce has massive appeal to both consumers and retailers. For consumers, the opportunity to instantly compare prices and quickly receive orders are paramount, while, for retailers, the ability to reach a wide audience without the need to invest in a range of chain stores is a key draw.

Looking at fundamentals, online user bases are expected to increase drastically in the coming years, with an estimated 346 million extra online users in the APAC region by 2020. Between 2013 and 2020, the largest percentage increases in user bases are expected in India (59.4% or 101 million new users) and Indonesia (56.3% or 22.3 million), while China is expected to add 156 million new users in the same time period.

Chart 5: CAGR growth in online retail sales (%), 2013-2018 (Forecast)



Source: Forrester Research, 2013.



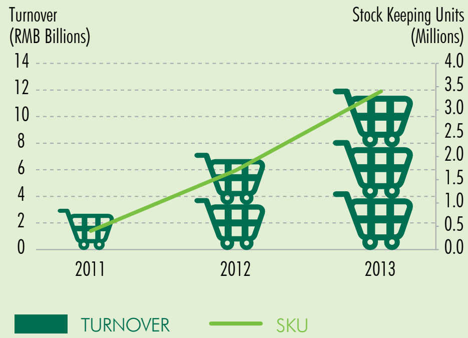
Internet users: there will be 346 million extra internet users in the APAC region by 2020, roughly the same population as the United States.

E-commerce has been a relatively recent success story and future forecasts are uniformly positive: Forrester Research estimates that total online retail sales in Asia Pacific's five largest markets (China, Japan, South Korea, India and Australia) will grow to US$826.8 billion in 2018, an increase of $429.5 billion from the US$397.3 billion estimated in 2013. Headline revenue trends suggest that rapid growth will translate into steady demand for warehouse space.

Case Study 2: Yihaodian

Well-located and equipped warehouses are absolutely crucial for online retailers, particularly since sector operators increasingly compete on delivery speed and, such as in the case of the Chinese online grocer Yihaodian, require significant spaces as they ramp up their product offerings. Our tracking across the APAC region suggests that sector growth is translating into leasing activity, with major leases signed by sector occupiers such as Amazon, Sunning and Flipkart in China and India during Q1 2014.

Chart 6: Yihaodian's turnover & product capacity, 2011-2013



Source: Yihaodian Press Releases, 2011-2013.

Despite the optimistic growth numbers, operating conditions vary quite distinctly across APAC, which may affect the impact on warehouse markets from e-commerce sector occupiers. AT Kearney rates markets like India, Malaysia and Indonesia as having seemingly high growth potential on the basis of growing urban populations and incomes but, in reality, being limited by a lack of appropriate infrastructure, such as internet and communications services and online payment functions.

In contrast, relatively well-established and well supported markets such as Japan, South Korea, Australia, and, increasingly, China, look better options for sector growth, since to varying degrees they feature large internet-savvy user bases, existing infrastructure for payment and delivery, plus relatively affluent consumer bases.

Given the real supply constraints facing e-commerce occupiers and the growth potential for the sector, we expect demand from this industry to be a key theme supporting occupier demand. However, given regional variation in market quality and infrastructure, it is by no means a region-wide trend. Countries with superior operating environments, such as Japan, South Korea, Singapore, Australia and China, will likely see the greatest demand from occupiers.

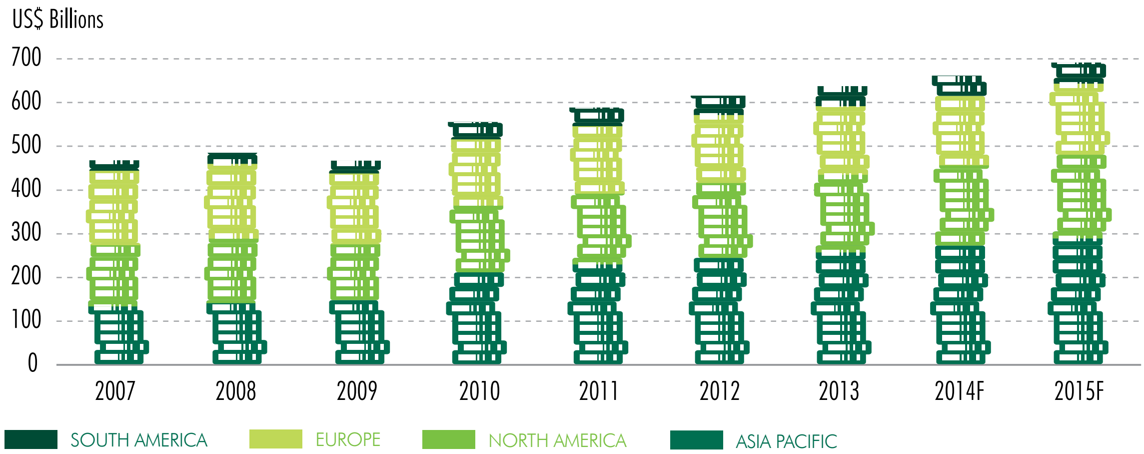
Trend 3: Expansion of Third-Party Logistics (3PL)

Traditionally, companies across a wide variety of sectors handled their product logistics in-house, preferring to own their own warehouses and keep control of their delivery and coordination functions. As business process outsourcing has taken hold in recent years, companies have looked to 3PL companies to provide logistics and delivery services, thus allowing them to concentrate on their core business functions and free up capital by divesting their warehouse investments.

3PLs cater to a wide variety of businesses and industry sectors, offering delivery, inventory management, freight forwarding and import and export management processes. CBRE sees this occupier group as being prominent in APAC markets in 2014 because it is directly affected by cyclical trends, such as growing trade volumes and consumer demand, plus structural drivers, including ongoing commercial relocation to APAC and increased outsourcing of logistics functions to service providers as companies focus on efficiencies and move in-house logistics functions to outside providers.

Recent surveys of 3PL operators confirm a relatively optimistic outlook for the sector: managers in the APAC region surveyed by the Council of Supply Chain Professionals anticipate that the solid macroeconomic outlook, the region's attraction as a manufacturing hub and business base will drive revenue growth of 11.6% y-o-y between 2014 and 2016, continuing a growth trajectory that will see the APAC region emerge as the dominant market for 3PL operators, taking a 41.8% share of world 3PL revenues by 2015, compared with 28.6% in 2007, according to Armstrong & Associates.

Chart 7: Regional comparison of 3PL revenues, 2007-2015 (Forecast)



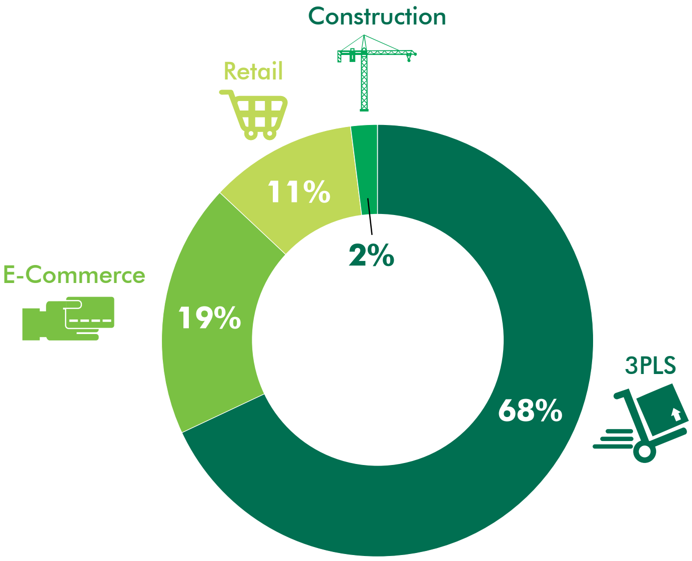
Source: Armstrong & Associates: 3PL Market Report, 2013.

Our tracking of deals in indicate that 3PL companies have been extremely active in 2014, accounting for the majority of enquiry in Hong Kong, Singapore, Tokyo and Sydney. Major deals signed in Q1 2014 include 15,000 sq.m. of space for two 3PL companies in Hong Kong and 30,000 sq.m. of space to a major 3PLs in Sydney.

One particular example of expansion includes Best Logistics' recent leasing of 143,000 square meters from Global Logistics Properties as a means to develop a national network of warehouse facilities across China. 3PL operators such as Best Logistics are looking for nationwide warehouse coverage as manufacturing relocations and the growth of lower-tier cities makes demand ever more geographically diverse.

Confirming the prominence of 3PL companies, CBRE tracked high levels of leasing activity in public announcements from major warehouse developers. Looking at the 861,952 sq.m. of lease agreements reported by GLP, Goodman and Prologis in China and Japan between January and April, 68% (586,127 sq.m.) were signed with 3PL companies, 19% (161,880 sq.m.) with e-commerce companies and 11% (97,000 sq.m.) with retailers.

Chart 8: 3PLs Dominate in China and Japan



Source: GLP, Goodman and Prologis News Releases, Jan-Apr 2014.

Looking forward, we expect rigid demand for space from 3PL companies in key trade hubs and gateway markets such as Singapore, Hong Kong, Shanghai, Sydney and Guangzhou, which we base on expectations of trade growth, industrial upgrading and ongoing corporate relocation.

Aside from key trade hubs, the prominence of 3PL companies is a region-wide trend, not only related to export volumes but also to internal trade volumes that will be fired by growing consumer markets in the APAC region and the ongoing fragmentation of manufacturing production across a wider geographic catchment area.

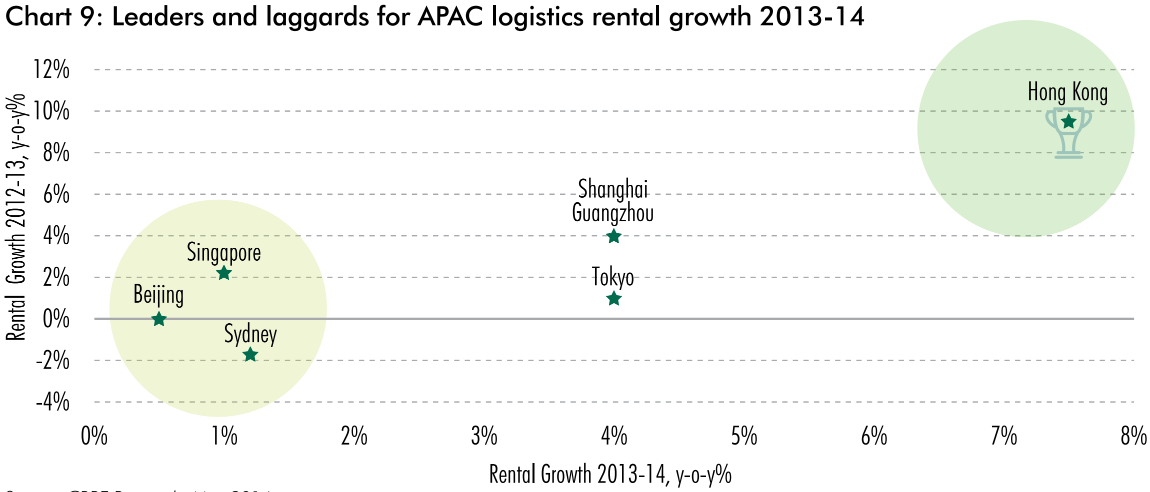
Particular areas with new opportunity include Malaysia and South Korea, where recent policy changes, such as removing restrictions on foreign operators and limiting the power of domestic players, will present more opportunities to 3PL companies. Other areas expected to see liberalization include Vietnam and Indonesia, since liberalization of logistics sectors is a core part of ongoing negotiations around Trans-Pacific Partnership (TPP) and other bilateral trade deals.

3PL: APAC will account for US$300 billion (c.45%) in global 3PL industry revenues by 2015, up from US$121 billion (c.20%) in 2007.

Conclusion

Logistics warehouse markets sit atop fundamental and far-reaching structural trends, such as rapidly urbanizing cities, emerging consumer bases and evolving trade hubs that are shaping the economies of the APAC region. Against the backdrop of an improving macro outlook, these fundamental trends will emerge in the form of expansion of organized retail, growth of e-commerce and the increasing prominence of 3PL companies, forming a solid demand outlook for the APAC region.

Chart 9: Leaders and laggards for APAC logistics rental growth 2013-14



Source: CBRE Research, May 2014.

Hong Kong is the clear leader for logistics market in APAC, with rents expected to grow at 7-8% y-o-y on the back of acute space shortage and growing demand from retail and auto sectors. The supply shortage is further exacerbated by the shrinking warehouse supply, due to revitalization initiatives by the government to convert older industrial space for office, retail, and residential use.

Tokyo, Shanghai, and Guangzhou will see solid rental growth of 3-5% y-o-y in 2014. For Tokyo, strong upgrading and expansion demand from 3PLs and online retailing continues to drive demand for more modern logistics facilities and is expected to more than offset the large new supply pipeline (600,000 sq.m.) planned for 2014. In developing cities of Shanghai and Guangzhou, rental growth will be supported by the continuing trend of urbanization, rising organized retail and growing 3PL businesses.

The laggard markets of Beijing, Singapore, and Sydney will all face supply-demand imbalance in 2014. New supply in out-of-town areas will place increasing pressure on traditional logistics hubs within Beijing, as landlord will be more cautious on increasing rents. As such, logistics rental growth is expected to be flat this year. With new development in Singapore expected to almost triple in 2014 (vs. 2013), rental growth will be suppressed to around 0-2%. In Sydney, whilst demand improvement from the transport, logistics, and storage industries is expected, the 2014 supply pipeline of 727,000 sq.m. will suppress rental growth to around 1% for 2014.

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