Deutsche Asset
& Wealth Management

Research Report

Logistics: Rapid Modernisation Underway in the Asia Pacific Region

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Passion to Perform

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Executive Summary

- **Structural changes** in global distribution are creating regional demand for modern logistics facilities.
- A **competitive, investible market** for industrial property is emerging in the Asia Pacific region.
- In a **yield-seeking environment**, investors have begun to consider logistics investments as a credible alternative to office or retail properties.

Evolution | Until recently, the logistics sector in the Asia Pacific region (APAC) played a minor role among property types. The regional market for industrial properties in general—and logistics properties in particular—lacked an adequate pool of investible assets, which clearly limited asset liquidity. Moreover, problems persisted with transparency and in the depth of experience needed to manage and trade logistics properties. But the upside potential was huge. The Asia Pacific region had become one of the world's most important locations for international trade. The region's national governments recognized trade as an important component for economic growth and were willing to build a modern transport infrastructure to support it. Meanwhile, the region's burgeoning affluence was reflected in the retail purchases of consumers.

Transition | In short, the stage had been set for the logistics sector to take off. It has since become one of the region's most sought-after property choices among yield-seeking investors in the last two years. The trend is also being fuelled as yields in the office and residential sectors have tightened for prime assets in major markets. Structural change in the industrial sector, including advances in technology and supply chain management, have ushered in a transition in the form, function, ownership, management, and occupancy of these assets. From a demand perspective, the rapid increase in online retail sales has reshaped distribution channels and transformed the logistical process of delivering goods. Shippers such as manufacturers and retailers have outsourced their logistical functions to third-party logistics firms (3PLs) in order to better manage their increasingly sophisticated supply chains. These 3PLs are now the primary occupiers in most of the major logistics markets in the APAC region.

Outlook | These rapid changes in the logistics sector have forced investors to re-examine their options. Many investors, including national pensions, sovereign wealth funds, developers, REITs, and private fund managers now compete with each other to purchase quality logistics assets in the APAC region. In 2012, the overall industrial sector, including logistics, accounted for about 12% of the total commercial real estate transactions in the region. ANREV's most recent (2013) investor survey shows that overall interest in the APAC industrial sector has now surpassed both the office and residential sectors. In this report we analyse the scope and significance of these recent structural changes as well as their implications for investors.

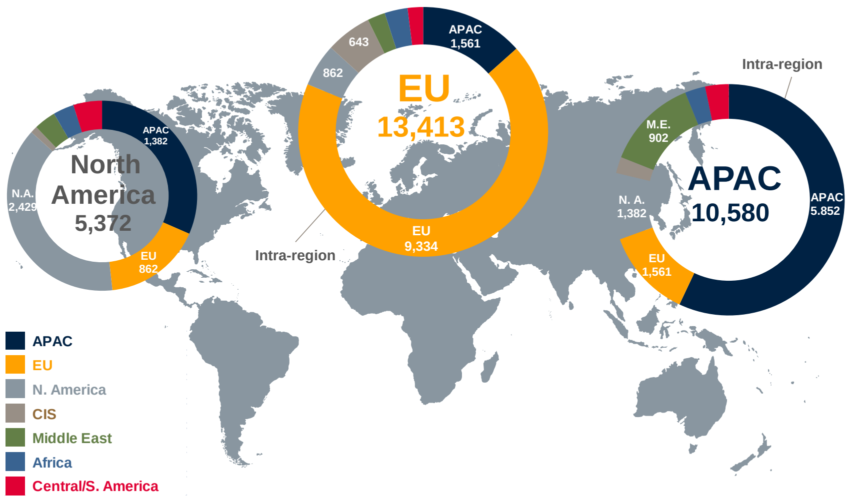
Market Drivers and Context

Trade and the Asia Pacific Economy

The Asia Pacific region (APAC) commands an increasingly important share of world trade. According to the most recent data available from the World Trade Organization, APAC was the second largest region in trade volume after the European Union (EU) in 2011, and APAC's aggregate trade volume is almost double the size of North America. Four APAC countries—China, Japan, South Korea, and Hong Kong—ranked among the top 10 in world trade in 2011. The role of trade can also be seen in the international ranking of container ports, the largest eight of which are all in the Asia Pacific region.

Because trade makes up a significant component of some of the smaller APAC economies, these countries tend to have very high trade–to-GDP ratios. In 2011, this ratio was 389% in Hong Kong and 323% in Singapore. The trade dependency ratio was much lower, however, in larger economies such as China (50%), Japan (26%), and Australia (37%). South Korea and Taiwan, both of which have moderate trade dependency ratios, fall somewhere between these two ends of the regional spectrum.

Regional Trade Flows, National Trade Rankings, and Port Rankings



20 Largest Countries by Trade Volume

Rank	Country	Value ($bn)	% of GDP
1	United States	3,746	25%
2	China	3,642	50%
3	Germany	2,726	76%
4	Japan	1,678	26%
5	France	1,310	47%
6	Netherlands	1,260	151%
7	United Kingdom	1,111	45%
8	Italy	1,081	49%
9	South Korea	1,080	97%
10	Hong Kong	967	389%
11	Belgium	938	183%
12	Canada	915	53%
13	Russia	846	46%
14	Singapore	775	323%
15	India	767	41%
16	Mexico	711	62%
17	Spain	683	46%
18	Taiwan	590	126%
19	Australia	514	37%
20	Saudi Arabia	496	86%

20 Busiest Container Ports

Rank	Port	Country	Traffic (tho TEU)
1	Shanghai	China	31,500
2	Singapore	Singapore	29,937
3	Hong Kong	China	24,404
4	Shenzhen	China	22,569
5	Busan	S. Korea	16,184
6	Ningbo	China	14,686
7	Guangzhou	China	14,400
8	Qingdao	China	13,020
9	Dubai	UAE	13,000
10	Rotterdam	Netherlands	11,900
11	Tianjin	China	11,500
12	Portklang	Malaysia	9,759
13	Kaohsiung	Taiwan	9,636
14	Hamburg	Germany	9,020
15	Antwerp	Belgium	8,664
16	Los Angeles	USA	7,940
17	Tanjung Pelepas	Malaysia	7,500
18	Xiamen	China	6,460
19	Dalian	China	6,400
20	Long Beach	USA	6,061

Sources: World Trade Organization, Containerisation International Yearbook, Deutsche Asset & Wealth Management

As of June 2013

Evolution of the Asia Pacific Industrial Market

Until recently, the industrial sector of the real estate market was less mature in the Asia Pacific region than in many western markets. A number of macro factors, however, have driven the recent evolution of the market. These include a growing middle class, changing consumer habits, and the penetration of online retail and e-commerce in many countries in the region. These factors pushed demand for high quality logistics[1] assets in the region and triggered evolutionary change in the industrial sector as the table below shows.

Characteristics of the Evolving Industrial Market

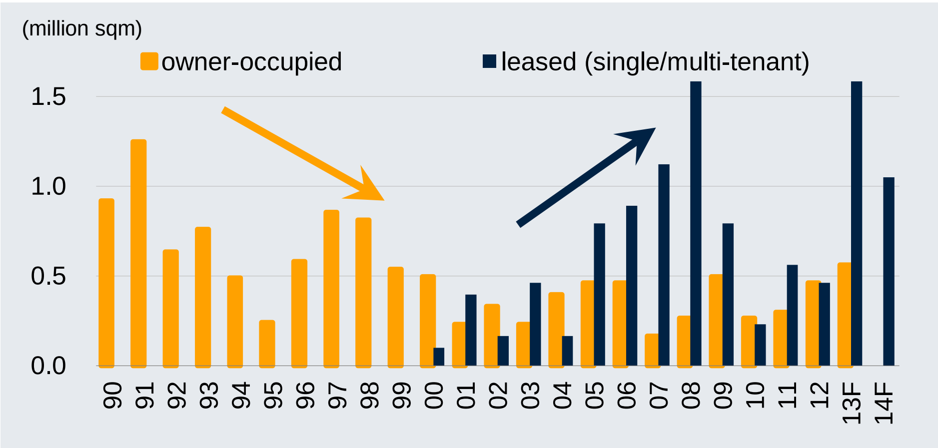
Variable Impacted	Previous Market Characteristics	New Market Characteristics
Asset format	small and/or owner-occupied, traditional properties	large-scale leasable and investible properties
Asset function	traditional warehouses	modern, technologically advanced logistics centres[2]
Asset owners	owner occupancy	new types of asset owners, such as logistics real estate fund managers and industrial REITs
Major tenant	wholesalers and shippers	third-party logistics companies (3PLs[3]) and online retail chains

Sources: Deutsche Asset & Wealth Management
As of June 2013

The greater sophistication of the sector has attracted the interest of institutional investors. As a result, the APAC industrial sector has come to be recognized as a core investment target, along with the office, retail, and residential sectors.

The volume of the annual completions of new large-scale logistics stock in Greater Tokyo (chart below) reflects the rapid structural transition of this sector in the last decade, from owner occupancy to an investible market of leased assets.

Volume of New Supply of Logistics Assets in Greater Tokyo



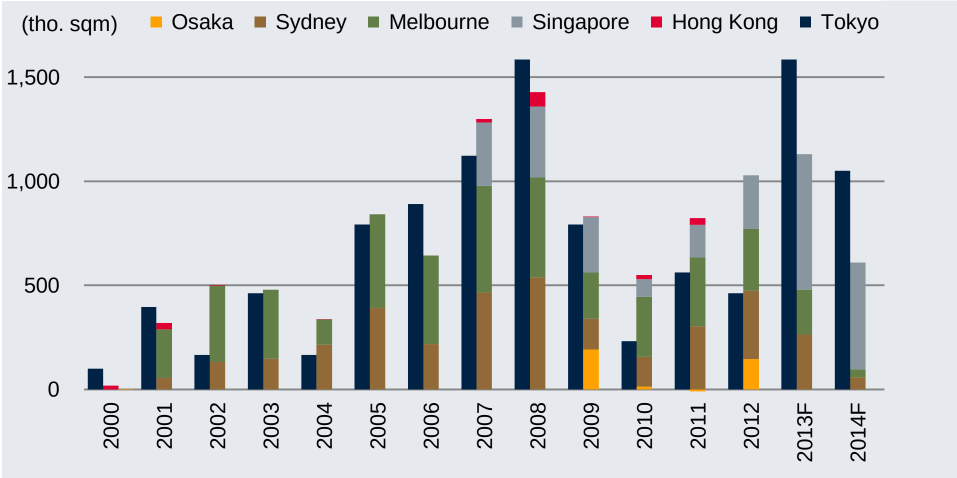
Notes: F = forecast. There is no guarantee that forecast growth will materialise. Please refer to Important Notes (see end of report)
Sources: CBRE, Deutsche Asset & Wealth Management
As of June 2013

The supply of new modern assets has risen in other major markets in the APAC region well beyond Japan. These markets include, for example, Hong Kong, Singapore, and Aus-

[1] Logistics is a subset of industrial property and usually refers to distribution centres with a high-velocity operation rather than traditional static storage warehouses. It does not include manufacturing or R&D facilities either. It tends to be modern and large in scale (e.g. 10,000 square metres or larger) compared to traditional warehouses.
[2] Technologies used in the logistic sector includes, global positioning systems (GPS), barcode systems, electronic data interchange (EDI), radio frequency identification (RFID), automated sorting systems, and electronic ordering systems
[3] 3PLs are also referred to as logistics service providers, or LSPs.

tralia. The recent global credit crisis impacted construction and temporarily muted the volume of new completions, but the trend has since recovered. A significant increase in new supply is expected in 2013, equal to or exceeding the pre-crisis peak completion levels in some markets.

Volume of New Supply of Logistics Assets in Major APAC Markets

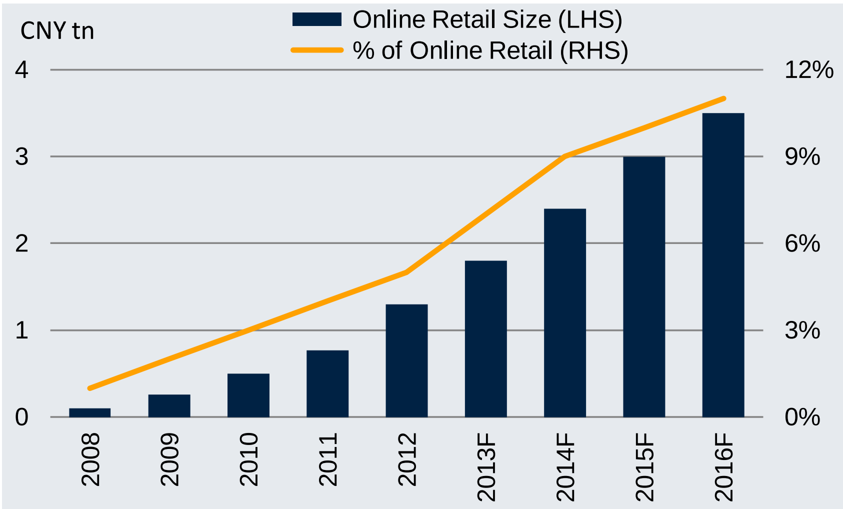


Sources: Jones Lang LaSalle (Australia), Rating and Valuation Department (HK), Urban Redevelopment Authority (Singapore), Nomura Real Estate Asset Management (Japan), Deutsche Asset & Wealth Management

As of June 2013

Supporting buoyant construction volumes, online retail sales are rapidly increasing in the region. According to Forrester, the online share of overall retail sales in 2012 was highest in Australia (over 9%), followed by China, South Korea, and Japan. In terms of sales volume, China is the largest online retail market in the region, closely followed by Japan. The rapid growth of online retail sales is expected to continue over the coming years.

Online Retail Sales in China



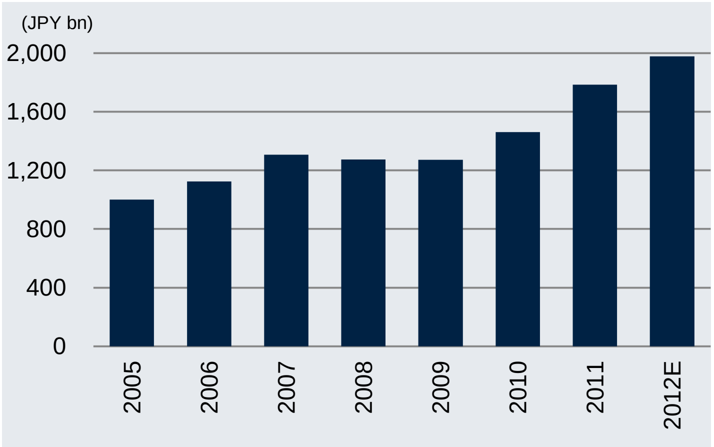
Notes: F = forecast. There is no guarantee that forecast growth will materialise. Please refer to Important Notes (see end of report)

Sources: iResearch, Nikkei, Deutsche Asset & Wealth Management

As of June 2013

Shippers such as manufacturers and smaller retail chains increasingly outsource their logistics functions to 3PLs in order to focus on their core operations while letting experts manage the supply chains. As this trend has grown, 3PLs have become the largest logistics occupiers in most of the markets in the APAC region. In Japan, for example, the 3PL market has rapidly expanded in the last three years even though the overall economy struggled during the same period. 3PL tenants now account for 74% in modern, leased logistics facilities in Japan. 3PLs hold similar market shares across other major markets in the Asia Pacific region.

Size of the Third-Party Logistics (3PL) Market in Japan



Notes: E = preliminary estimate. Please refer to Important Notes (see end of report)
Sources: Logistics Business, Deutsche Asset & Wealth Management
As of June 2013

Listed vehicles are a relatively new trend in the APAC industrial sector. The first listed industrial REIT in the region emerged only a decade ago in 2002 in Singapore. Today, there are about 15 industrial REITs listed in the region, mainly in Singapore, Japan, and Australia. The combined assets of these REITs totalled US$26 billion in May 2013. Meanwhile, similar existing unlisted vehicles are considering a new listing.

Industrial/Logistics REITs in the APAC Region

REIT	Country	Listed	AuM
Ascendas REIT	Singapore	Nov-02	5,607
Mapletree Logistics Trust	Singapore	Jul-05	3,414
Nippon Prologis REIT	Japan	Feb-13	3,055
Mapletree Industrial Trust	Singapore	Oct-10	2,391
GLP J-REIT	Japan	Dec-12	2,314
Nomura Real Estate Master Fund	Japan	Jun-13	2,276
Growthpoint Properties Australia	Australia	Jul-07	1,784
Industrial & Infrastructure Fund	Japan	Oct-07	1,784
Japan Logistics Fund	Japan	May-05	1,759
Daiwa House REIT	Japan	Nov-12	1,383
Cambridge Industrial Trust	Singapore	Jul-06	1,026
Sabana Shari'ah Compliant REIT	Singapore	Nov-10	929
AIMS AMP Capital Industrial REIT	Singapore	Apr-07	851
Cache Logistics Trust	Singapore	Apr-10	877
Mirvac Industrial Trust	Australia	May-05	229
Atrium REIT	Malaysia	Apr-07	73

Sources: Bloomberg, Deutsche Asset & Wealth Management
As of June 2013

As trade activities have grown in importance in the APAC region, many countries have improved the overall efficiency of their logistics and transport infrastructures. The shift has been structural, putting the region’s previously less sophisticated logistical capabilities more on par with major western countries. Some APAC countries, such as Singapore and Japan, now rank among the top 10 in the World Bank's logistics performance index (LPI[4]). Other major markets in the region, such as Hong Kong and Australia, have similar LPI scores to the United States and major European Union nations. There is still room for improvement in efficiency in some APAC countries, such as South Korea and China, where on-time delivery has not yet reached a satisfactory level.

Logistics Performance Index (LPI) for the Top 30 Countries*

Rank	Country	LPI	Customs	Infra-structure	Inter-national shipments	Logistics competence	Tracking & tracing	Timeliness
1	Germany	4.11	4.00	4.34	3.66	4.14	4.18	4.48
2	Singapore	4.09	4.02	4.22	3.86	4.12	4.15	4.23
3	Sweden	4.08	3.88	4.03	3.83	4.22	4.22	4.32
4	Netherlands	4.07	3.98	4.25	3.61	4.15	4.12	4.41
5	Luxembourg	3.98	4.04	4.06	3.67	3.67	3.92	4.58
6	Switzerland	3.97	3.73	4.17	3.32	4.32	4.27	4.20
7	Japan	3.97	3.79	4.19	3.55	4.00	4.13	4.26
8	United Kingdom	3.95	3.74	3.95	3.66	3.92	4.13	4.37
9	Belgium	3.94	3.83	4.01	3.31	4.13	4.22	4.29
10	Norway	3.93	3.86	4.22	3.35	3.85	4.10	4.35
11	Ireland	3.89	3.60	3.76	3.70	3.82	4.02	4.47
12	Finland	3.89	3.86	4.08	3.41	3.92	4.09	4.08
13	Hong Kong	3.88	3.83	4.00	3.67	3.83	3.94	4.04
14	Canada	3.87	3.71	4.03	3.24	3.99	4.01	4.41
15	United States	3.86	3.68	4.15	3.21	3.92	4.17	4.19
16	Denmark	3.85	3.58	3.99	3.46	3.83	3.94	4.38
17	France	3.84	3.63	4.00	3.30	3.87	4.01	4.37
18	Australia	3.84	3.68	3.78	3.78	3.77	3.87	4.16
19	Austria	3.76	3.49	3.68	3.78	3.70	3.83	4.08
20	Taiwan	3.71	3.35	3.62	3.64	3.65	4.04	3.95
21	New Zealand	3.65	3.64	3.54	3.36	3.54	3.67	4.17
22	Italy	3.64	3.38	3.72	3.21	3.74	3.83	4.08
23	South Korea	3.64	3.33	3.62	3.47	3.64	3.83	3.97
24	UAE	3.63	3.49	3.81	3.48	3.53	3.58	3.94
25	Spain	3.63	3.47	3.58	3.11	3.62	3.96	4.12
26	Czech Republic	3.51	3.31	3.25	3.42	3.27	3.60	4.16
27	China	3.49	3.16	3.54	3.31	3.49	3.55	3.91
28	South Africa	3.46	3.22	3.42	3.26	3.59	3.73	3.57
29	Malaysia	3.44	3.11	3.50	3.50	3.34	3.32	3.86
30	Poland	3.44	3.12	2.98	3.22	3.26	3.45	4.52

*Notes: The World Bank's LPI rankings include 155 countries. Only the top 30 are shown here.

Sources: World Bank, Deutsche Asset & Wealth Management

As of June 2013

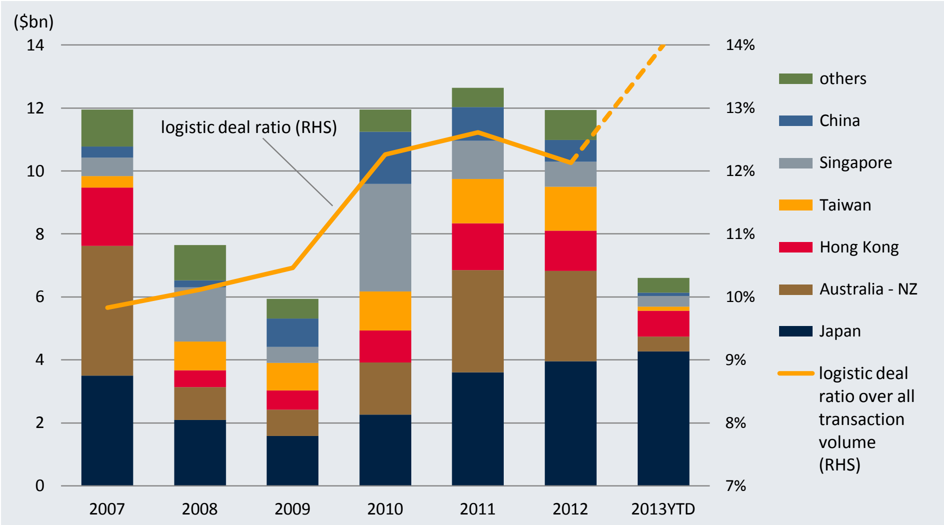
[4] The LPI index weights various factors—including, for example, efficiency in customs operations, transportation infrastructure, and timelines—which do not directly indicate the efficiency of logistics facilities.

Investment and Leasing

Transaction Volumes

The volume of transactions for logistics assets picked up in 2010 in the APAC region following the global financial crisis (GFC). The ratio of logistics deals as a share of total commercial real estate transactions also rose from 9.8% in 2007 to 12.1% in 2012 (and even higher in 2013 to date), reflecting an investor preference for higher yielding assets. Within the APAC region, these types of transactions have been most prevalent in Japan, followed by Australia, Hong Kong, Taiwan, and Singapore.

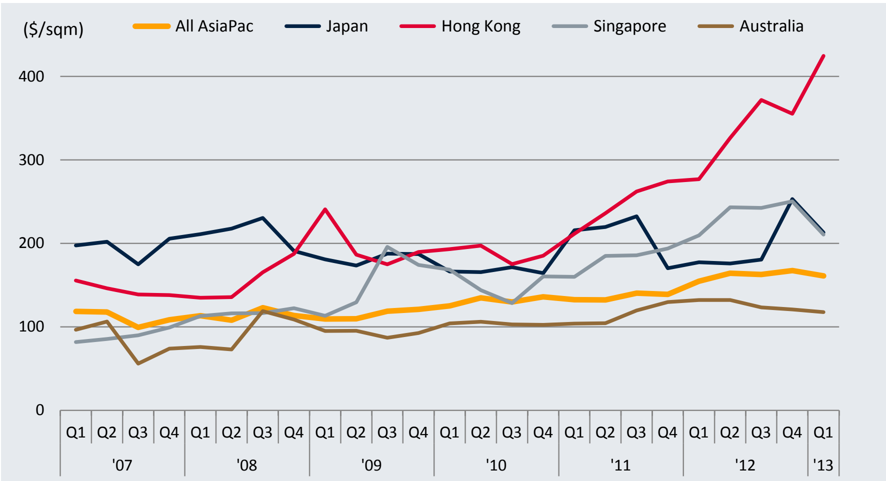
Transaction Volume of Logistics Assets in APAC Markets



Sources: Real Capital Analytics, Deutsche Asset & Wealth Management
As of June 2013

Demand from investors for logistics assets has put pressure on prices, which have been rising since 2009. The average price for logistics transactions in the APAC region rose from about $110 per square metre in the second quarter of 2009 to $161 per square meter in the first quarter of 2013, a 46% increase in four years. We expect a further price increase in most major cities in coming years, although the pace is expected to moderate.

Average Price of Closed Logistics Deals in APAC Markets



Sources: Real Capital Analytics, Deutsche Asset & Wealth Management
As of June 2013

The major logistics deals in the region in recent years include large portfolio transactions in Japan, China, and Australia, some of which exceeded US$1 billion. Other high profile transactions for individual assets include CPP's purchase of Interlink (the world's tallest logistics facility, with a height of 24 stories), and a partial sale of ALT (the world's largest logistics facility with net leasable floor area of 552,000 square meters). Both assets are located in Hong Kong. National pensions, sovereign wealth funds, listed REITs, funds, and private equity managers have been among the major investors in these portfolios and individual assets. Five of the seven largest portfolio deals were done by Japanese REITs.

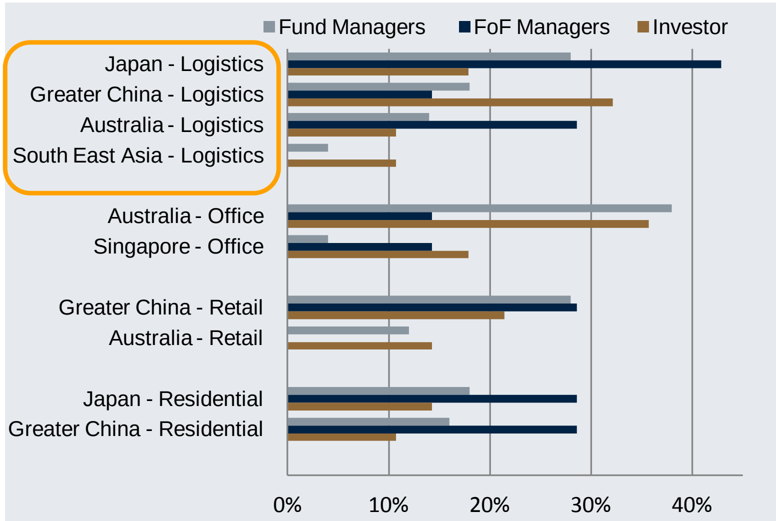
Major Recent Logistics Transactions in APAC Markets

Date	Asset	Location	Price (USD million)	Buyer	Investor origin
Portfolio					
Dec-12	GLP Portfolio (30 properties)	Japan	2,087	GLP REIT (REIT IPO)	Japan
Feb-13	Prologis Park Portfolio (12 properties)	Japan	1,730	Nippon Prologis REIT (REIT IPO)	Japan
Dec-11	LaSalle Investment Portfolio (15 properties)	Japan	1,600	CIC / GLP	Singapore / China
Oct-10	ProLogis China Portfolio	China	1,348	GLP	Singapore
Jun-13	Prologis Park Portfolio (8 properties)	Japan	1,324	Nippon Prologis REIT	Japan
Jun-13	Nomura Real Estate portfolio (18 properties)	Japan	1,220	Nomura Real Estate Master Fund (REIT IPO)	Japan
Oct-12	DREAM Initial Portfolio (3 properties)	Japan	407	Dream Private REIT	Japan
Jun-12	Goodman Portfolio (5 properties)	Australia	387	EPF	Malaysia
Aug-12	50% of DEXUS Portfolio (13 properties)	Australia	378	NPS	S. Korea
Dec-12	Goodman Portfolio (3 properties)	Australia	313	EPF	Malaysia
Individual asset					
Jun-11	Interlink	Hong Kong	589	CPP	Canada
Mar-13	ALT Logistics Centre (25% stake)	Hong Kong	450	Goodman	Australia
Dec-11	Takaragumi Higashiogishima	Japan	425	Fortress	US
Dec-11	234 Gugal-dong	S. Korea	337	Daesung	S. Korea
Oct-12	GLP Park Suzhou	China	312	GLP	Singapore
Sep-11	Hoxton Distribution Park	Australia	208	Aviva	UK
Aug-11	Autumn Building	China	171	Shanghai Gongyao Industrial	China
Jun-11	Bedok	Singapore	146	Mapletree Industrial	Singapore
Feb-13	Metcash Regional Distribution Centre	Australia	131	Charter Hall	Australia

Sources: Real Capital Analytics, Deutsche Asset & Wealth Management
As of June 2013

Logistics assets are expected to retain their recent appeal with investors in the APAC real estate market in 2013 and beyond. The chart below shows real estate investment intentions by sector, by location, and by type of investor. According to this 2013 survey, conducted by ANREV, the logistics sector leads office, retail, and residential in overall preference, and this appears to be true across a range of markets within the APAC region.

Investment Intentions in 2013 by Location and Property Sector



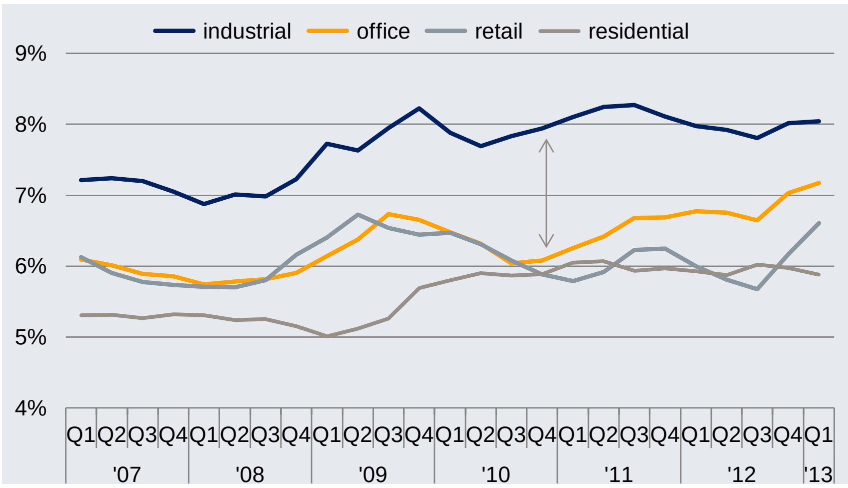
Sources: ANREV Asia Pacific Survey 2013, Deutsche Asset & Wealth Management
As of June 2013

Pricing

Despite improvements in logistics infrastructure in the APAC region, a lack of investible assets is still an issue for investors, as is asset liquidity, transparency, and investment and operational experience. These factors play into the relatively high average cap rate for closed deals in the industrial sector in the APAC region. It was around 7% until 2008 before the global financial crisis, and it has been around 8% in the last three years after the GFC. The region's industrial cap rate is consistently higher than the office, retail, or residential sectors, and it is one of the main reasons for the current popularity of the sector. The yield spread between the office sector and the industrial sector widened in 2009 and 2010 to 200 basis points . It has since narrowed back to 100 basis points, reflecting the recent rise in logistics transactions.

Single tenant, built-to-suit assets tend to attract more interest from investors and this contributes to a lower yield. Multiple tenant assets are also popular in some markets such as Japan.

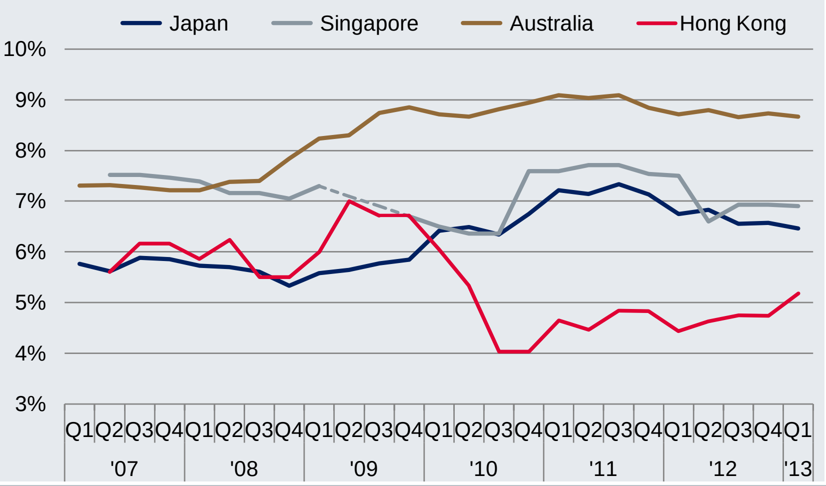
Average Cap Rates on Closed Deals in the APAC Region by Property Sector



Sources: Real Capital Analytics, Deutsche Asset & Wealth Management
As of June 2013

The average cap rate on closed transactions compressed substantially, by almost 300 basis points to 4-5% in Hong Kong in 2010. In the first quarter of 2013, Hong Kong's logistics market still continued to experience the lowest cap rate in the region. In the same period, the logistics cap rate held at about 6.5% to 7.0% in Japan and Singapore. It was highest in Australia, about 8.5% to 9% in the same period. Newer products with longer leases (in excess of 10 years) and strong tenant covenants tend to fall in the lower range. Cap rates have compressed modestly in Japan, Singapore, and Australia in the last four quarters, reflecting investors' zeal for the sector.

Average Cap Rates on Closed Logistics Deals in Major APAC Markets

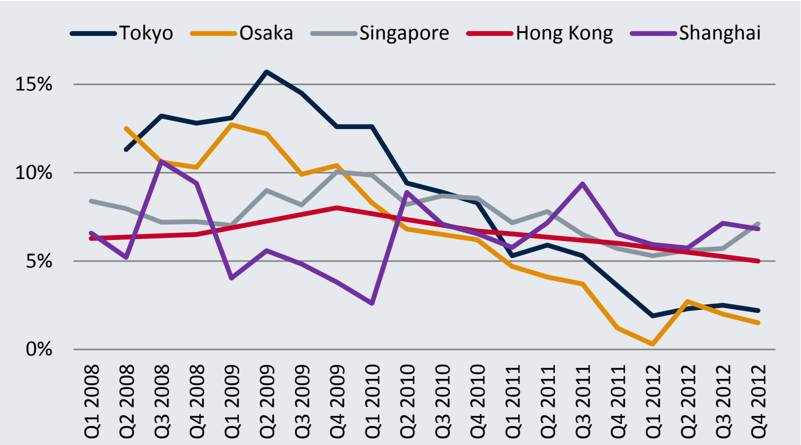


Sources: Real Capital Analytics, Deutsche Asset & Wealth Management
As of June 2013

Leasing

Strong demand from tenants for quality logistics space has pulled down vacancy rates for modern assets in most major cities in the region over the past three years. The vacancy rate stood at 7.1% in Singapore, 6.8% in Shanghai and 5.0% in Hong Kong as at the end of 2012, largely in line with the historical average in those cities. In Japan, it stood at 2.2% in Tokyo and 1.5% in Osaka, well below the historical average.

Average Vacancy Rates in Major APAC Logistics Markets



Sources: Jones Lang LaSalle (Shanghai), Rating and Valuation Department (HK), Urban Redevelopment Authority (Singapore), Ichigo Real Estate Service (Japan), Deutsche Asset & Wealth Management
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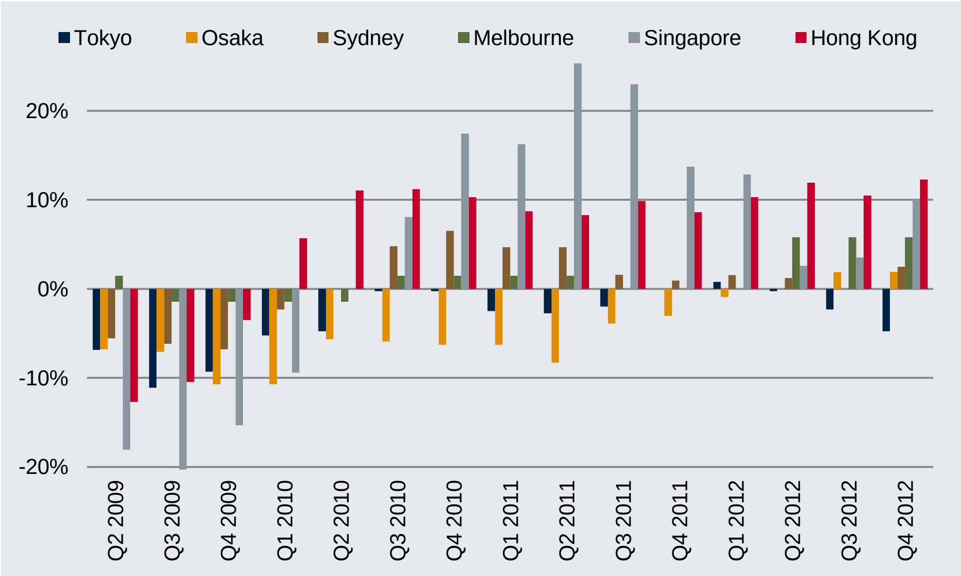
A favourable combination of macroeconomic factors—i.e., healthy demand and limited supply—has produced a general uptick in logistics rents across the region. Logistics rents grew more than 10% year-over-year in both Hong Kong and Singapore in the fourth quarter of 2012. Rents rose more moderately in other cities, including Melbourne, Sydney, and Osaka, at a pace that was in line with respective national inflation rates.

Average Rental Growth in Major APAC Logistics Markets



Sources: Jones Lang LaSalle (Australia), Rating and Valuation Department (HK), Urban Redevelopment Authority (Singapore), Nomura Real Estate Asset Management (Japan), Deutsche Asset & Wealth Management

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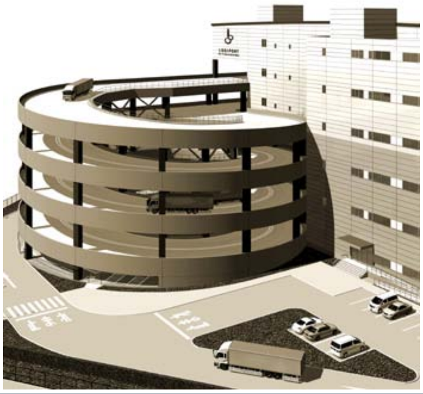
Regional Overview

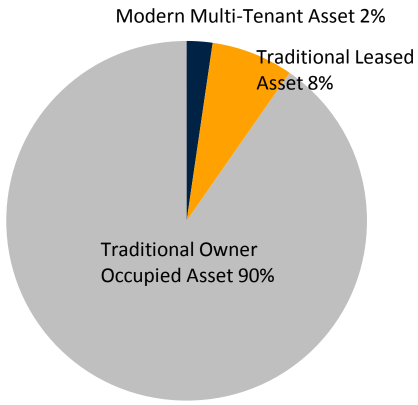
Japan

It was only a decade ago that Prologis introduced a completely new asset format in Japan—large floor spaces arranged in multiple stories with spiral ramps through which trucks could directly access each floor[5]. Before Prologis arrived, the market was dominated by owner-occupied warehouses and a handful of listed warehousing companies[6]. The market has since experienced dramatic structural changes. Japan now has the largest volume of transactions for logistics facilities in the Asia Pacific region. Yet there is still room for further advancement. Traditional owner occupancy still accounts for about 90% of the total industrial stock while modern, high-quality multi-tenant leased assets are just over 2% of the combined industrial floor space, thus leaving substantial room for further growth.

Spiral Ramp Access



Share of Logistic Stock by Type



Sources: LaSalle Investment, Deutsche Asset & Wealth Management
As of June 2013

As this sector has gradually matured, logistics assets in Japan have come to be regarded as core investment targets. Investor interest burgeoned in the last two years as vacancy rates stood at low single digits in both Tokyo and Osaka amid strong leasing fundamentals. Joint ventures are a common investment vehicle for those investors who lack specialised in-house expertise in the sector. CPPIB, for example, recently partnered with GLP. Abu Dhabi Investment Council partnered with Goodman. And Mitsubishi Estate tied up with LaSalle Investment when they entered the sector.

J-REITs are also becoming a common investment vehicle. There are presently eight listed J-REITs now covering this market, including four new ones that have listed since November 2012. The value of assets held by these REITs quadrupled in the eight months through June 2013, with a total volume of JPY 992 billion (about US$10 billion) combined. As much as 90% of all the logistics transactions in 2013 (as of June) in Japan were acquired by J-REITs, compared to 24% in 2012.

[5] Takaragumi, a local private warehouse company, is considered the pioneer of spiral ramp access for multi-story logistics buildings in Japan, but it was not until Prologis adapted the concept to their new assets that it became a standardised format for large logistics properties.

[6] These listed warehousing companies are unique to Japan. They provide integrated services in on-site distribution processing at warehouses, including assembly, labelling, sorting, shaping, re-packaging, packing, selecting samples, and weighing. They charge fees for the services, instead of charging rents.

Major Logistics Players in Japan

New Investors and JVs

Date	Type	Company	Investment Size (JPY billion)	Remarks
Aug-11	JV	GLP, CPPIB	220	Raised the asset size to JPY220bn in Feb 2013. Already invested in four logistic assets in Japan.
Jul-12	JV	Mitsubishi Estate, LaSalle Investment	-	Developed two logistics assets in Kanagawa, Japan.
Sep-12	JV	Goodman, Abu Dhabi Investment Council	100	Invest more than US$1bn to logistics assets in Tokyo and Osaka.
Jan-13	Development	Mitsui Fudosan	200	Invest JPY200bn to develop logistics assets by 2017.

J-REITs

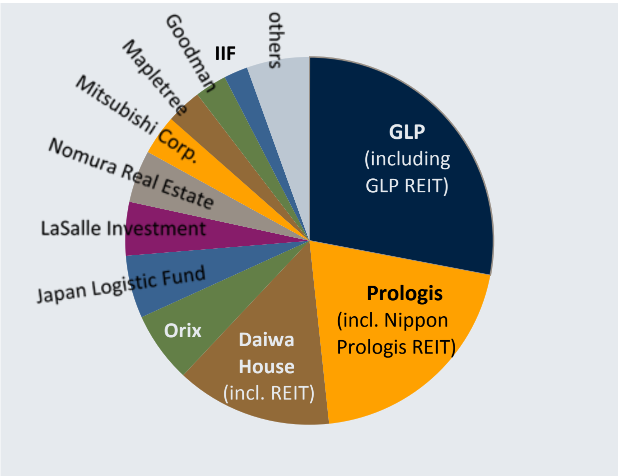
Listed	Type	REIT Name	REIT's Asset Size* (JPY billion)	of which Logistic Asset Size* (JPY billion)	% of Logistic Assets	# of Logistic Assets	Leasable Area (tho. sqm)	Ave. Unit price (JPY tho. /sqm)	Sponsor
Jun-02	Diversified	ORIX REIT	383.1	30.8	8%	4	156	198	ORIX
Dec-03	Diversified	United Urban	466.3	2.1	0.4%	1	9	221	Marubeni
May-05	Logistics	Japan Logistics Fund	165.1	165.1	100%	32	811	204	MITSUI & CO.
Oct-07	Logistcis / Infrastructure	Industrial & Infrastructure Fund (IIF)	165.4	56.7	34%	17	335	169	Mitsubishi Corp / UBS
Nov-12	Logistics / Retail	Daiwa House REIT	117.1	89.0	76%	19	441	202	Daiwa House Industry
Dec-12	Logistics	GLP REIT	221.3	221.3	100%	33	1,178	188	GLP
Feb-13	Logistics	Nippon Prologis REIT	305.0	305.0	100%	12	890	343	Prologis
Jun-13	Logistics / Retail	Nomura Real Estate Master Fund	227.6	122.0	54%	18	-	-	Nomura Real Estate
		J-REIT Total (Logistic)		992.0	-	136	3,821	-	

* Purchase price

Sources: Company's data, Deutsche Asset & Wealth Management
As of June 2013

Among the major logistics players in Japan, GLP has the largest market share with over 80 properties across the country, including 33 assets transferred to its sponsored J-REIT. Next in market share are Prologis, Daiwa House, and Orix, each of which sponsors a J-REIT. LaSalle Investment and Goodman have also been among the leading developers since the early formation of the sector in Japan, and they still maintain a presence in the market even though they sold large portfolios of existing properties to GLP/CIC and Mapletree, respectively, in 2012.

Modern Logistics Market Shares in Japan*



*Note: Market shares based on gross floor areas as of March 2013.
Sources: Company's Data, Deutsche Asset & Wealth Management

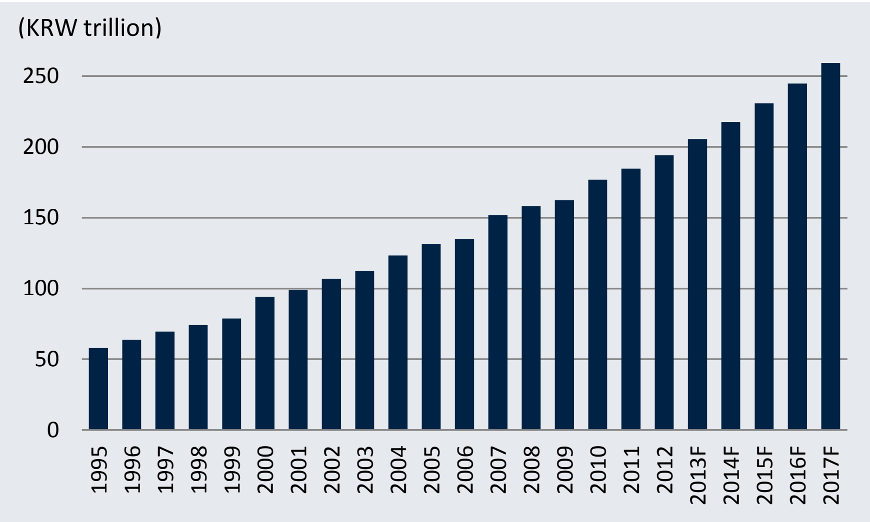
Japan's logistics sector is not without its own set of risks. Fuelled by continuous capital inflows, the supply of new assets is likely to increase in the next two years, at least in Greater Tokyo, if not elsewhere. Rising supply levels are expected to push up the vacancy rate moderately to the high single digits. Logistics rents, therefore, are not likely to rebound strongly during this period, despite continuous, healthy demand for quality spaces from major tenants. Speculative development in other regional cities, including Osaka, is not expected to be significant.

South Korea

There are currently no publicly-listed REITs nor listed developers focusing on the logistics sector in South Korea. Zoning codes are strict, and assembling fragmented land plots in good locations can pose challenges to developing large-sized high-quality facilities with highway access. So far, these obstacles have deterred global logistics developers, such as Prologis[7]. Only a few global logistics developers are currently active in the market, including Mapletree. Instead, local companies dominate the market.

Due to the absence of listed vehicles, the Korean market is still in the process of evolution, and transparency is relatively low compared to other major economies in the Asia Pacific region. On the other hand, logistics demand itself is healthy with an annualised growth rate of 4.3% for the decade ended in 2010.

Value* of the Logistics Market in South Korea

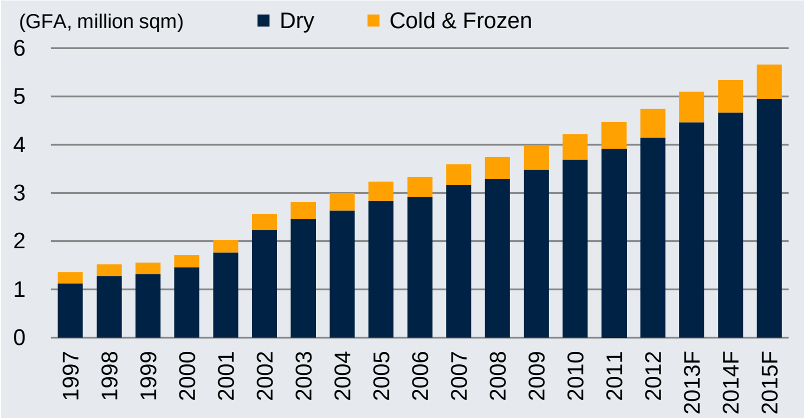


*Note: Values calculated on a cost basis
Sources: Korea International Trade Association, Deutsche Asset & Wealth Management
As of June 2013

The size of the logistics stock in South Korea is about 5 million square meters. It is expected to continuously increase by around 300,000 square meters annually, or about 6% of the total stock, through 2015, in order to meet strong demand for quality spaces.

[7] Prologis used to own 8 assets in South Korea but sold the whole portfolio in 2011.

Logistics Stock in South Korea



Notes: GFA = gross floor area. Sqm = square metres.
Sources: Korea International Trade Association (KITA), Deutsche Asset & Wealth Management
As of June 2013

Gyeonggi province, which surrounds the more densely developed administrative areas of Seoul and Incheon, forms the suburban and exurban fringe of the metropolitan region. Gyeonggi is the most sought after location for logistics assets in South Korea. More than 61% of Korea's logistics assets are located in this metropolitan area that includes Gyeonggi province and the administrative areas for Seoul and Incheon. The next largest concentration of assets is located in Busan, which has 18% of the national total. Busan is home to Korea's largest port complex, and the freight rail corridor connecting it directly to Seoul is a heavily utilized trunk line of the country's distribution system.

Characterised by limited transparency and limited transaction volume, the Korean logistics sector is still evolving, yet tenant demand for quality spaces is strong and the sector has ample room for further growth. In fact, the logistics sector is increasingly attracting yield-seeking investors, and the transaction flow is poised to grow. Currently core investors tend to prefer single-tenant assets and/or assets with good leasing covenants which can provide a predictable cash flow.

Singapore

Singapore is a major logistics hub in the Asia-Pacific region. It is one of the world's busiest seaports in terms of container throughput and is the world's busiest transhipment port, handling half of the world's annual supply of crude oil. The city-state is also an internationally respected and renowned aviation hub in the Asia Pacific region. Its strategic location, as well as its connectivity via an extensive network of air and sea links, makes it an attractive market for leading international 3PLs which, in turn, generate healthy demand for logistics properties.

The Singaporean government views the logistics industry as a critically important one and has taken several initiatives that help maintain the country's leadership position as a global hub and leading supply chain management centre. Examples of some key government initiatives are shown in the table below. Due in part to these initiatives, Singapore has become one of the most efficient logistics markets in the world, ranking second out of 155 countries in the World Bank's LPI league tables (see page 6).

Infrastructure Logistics Initiatives of the Singapore Government

Scheme	Initially introduced	Remarks
Approved International Shipping Enterprise Scheme	Jan-91	Encourages international ship-owning and ship-operating companies to establish operations in Singapore
Air Hub Development Fund	Jan-03	Provides incentives to attract new and existing airlines to expand their operations at Changi International Airport
Approved Shipping and Logistics Scheme	Jan-03	Offers established ship agencies and international logistics operators incentives to use Singapore as a base for providing freight and logistics services
Zero GST Warehouse Scheme	Jan-06	Allows approved warehouse operators to bypass the Goods and Services Tax

Sources: Deutsche Asset & Wealth Management
As of June 2013

In addition, the government has for the first time stepped into the commercial market to offset escalations in pricing. There has been increasing speculation in industrial properties, with prices doubling over the past four years (see pages 9-10) and outpacing the rise in rents. The uptick in speculative activity—including a rising share of resale transactions for multi-tenant factory space carried out within three years of purchase—led the government to introduce a Seller's Stamp Duty to discourage short-term speculative activity that could distort underlying prices of industrial properties and raise costs for businesses.

The government has also introduced supply-side measures to contain rising prices. An average of 588,000 square meters per annum of new industrial supply is expected to be completed from 2013-2014, according to data from Singapore's Urban Redevelopment Authority (URA), the government agency responsible for land use planning. This is higher than the average annual supply of 237,000 square meters delivered over the past six years (see page 4). It is feasible that demand could meet this higher supply given the lack of modern facilities in the city-state and the government's aim of keeping rising costs in check..

Singapore has seven listed REITs in the industrial/logistics property sector with a few more pending possible listings over the next 12 months. Meanwhile, the S-REITs GLP and Mapletree Logistics have expanded their respective footprints to include Japan, China, Korea, and Vietnam. GLP now has a significant market share in China and Japan.

Australia

The institutionalisation of the Australian industrial sector began only after 2000. Prior to that, the majority of industrial development was undertaken by owner occupiers. Higher yields and the prospect of stable rental growth have gradually attracted investors to the sector, including leading Australian REITs and domestic and foreign institutional investors. The top six groups in the sector include Dexus, Stockland, Australand, GPT Group, Goodman Group, and Mirvac, most of which have tried to expand their portfolios substantially.

Similar to Japan, joint venture partnerships with local firms offer a popular path for foreign investors to enter the local market, while the local counterparts can also recycle the capital for new investments. Singapore's GIC tied up with Australand in 2011. Aviva formed a strategic relationship with Mirvac in 2012. Employees Provident Fund (EPF) from Malaysia tied up with Goodman and purchased US$700 million of assets. And Korea's National Pension Fund (NPS) partnered with Dexus and acquired about US$378 million also in 2012 (see page 8).

Major Joint Ventures in the Industrial Sector in Australia

Major Joint Ventures in the Logistic Sector in Australia

Year	Foreign Investor (Country)	Local Partner	Initial Mandate (A$m)	Remarks
2011	GIC (Singapore)	Australand	450	A$450m JV with GIC holding 80.1% and Australand holding 19.9%.
2012	Aviva (UK)	Mirvac	400	$261m invested. Expected to increase to A$1bn.
2012	EPF (Malaysia)	Goodman	400	Initially an A$400m project. Now A$700m invested.
2012	NPS (Korea)	Dexus	360	A$360m joint venture with an expectation to increase to A$800m.

Sources: Company data, Deutsche Asset & Wealth Management
As of June 2013

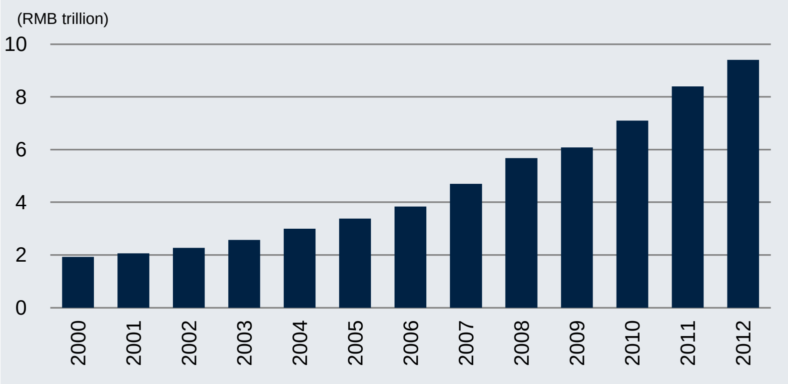
The high value of the Australian dollar has helped drive the expansion of online sales from abroad. It has also, to a certain extent, spurred demand for logistics real estate. According to Roy Morgan Research in its June 2013 State of the Nation report, it examined the social trends of 50,000 consumers over the past 10 years and found that online retail had grown by 12% in the past year. It also found that in the most recent three-month period, some 50.3% of Australians had shopped online, with the most popular purchases occurring in leisure and travel, followed by fashion. Australians spend about A$258 billion annually on retail, and Roy Morgan estimates 9% of that is spent online, a figure that is similar to a Forester estimate (see page 4).

In 2013, Australia's highest prime grade rents were in Sydney and Melbourne. Brisbane and Perth have both gained ground in the past three years, propelled in part by the boom in commodities and the resulting demand for mining equipment and construction materials. Australia's disciplined and strict lending environment is likely to curtail marginal speculative developments. At the same time, there are very limited vacant spaces in prime grade industrial facilities in the key markets as of the first half of 2013. As a result, over the next two years, we expect Australian prime grade industrial assets to continue to support a stable investment environment with strong yields in the range of 7.5%-9.5% (newer products with longer leases tend to fall in the lower range), moderate rental growth, and the opportunity for capital value appreciation.

China

An efficient infrastructure, including the logistics network, is recognised as the backbone for China's economic growth and continued modernisation. Several factors—China's role as a manufacturing and trading hub, the rapid growth of the organised retail sector, and the emergence of e-commerce as a force in retailing—point to strong growth potential for the logistics sector in China. The size of the logistics market in China, which includes transportation and storage, grew at a compounded annual growth rate of 16% from 2005 to 2012, according to China's National Development and Reform Commission.

Size of Logistics Market in China



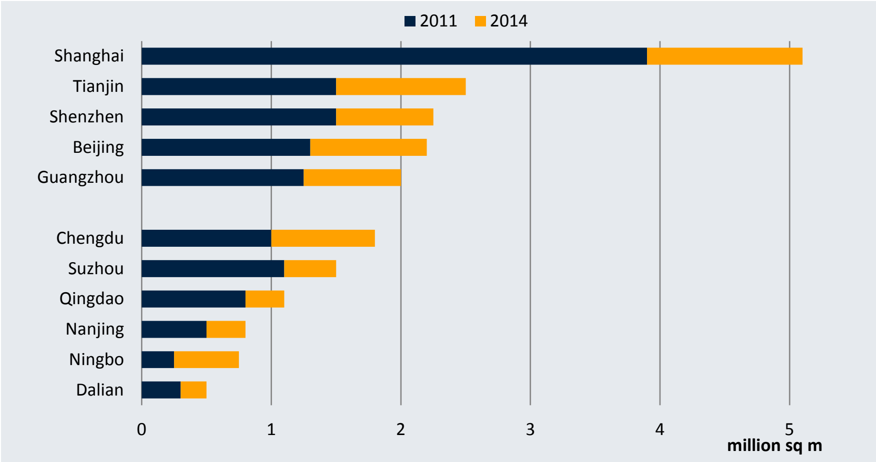
Sources: China Federation of Logistics and Purchasing, Deutsche Asset & Wealth Management
As of June 2013

China emerged in 2011 as the largest online retail market in the region, surpassing Japan for the first time. Online retail sales accounted for about 5% of China's overall retail market in 2012 according to Forrester, and this is expected to increase to 10% by 2015. This trend underpins current and future demand growth for modern logistics facilities.

Despite recent developments and huge growth potential, logistics facilities in China continue to be undersupplied, thus constraining the pace of the market's modernisation process. China's existing stock of international grade logistics assets totals only 13.4 million square meters, or less than 2% of China's total industrial market, the balance of which is dominated by local owner-occupiers. By the middle of the decade, China's total international grade logistics stock is expected to rise to 20 million square meters, though it is unclear if this anticipated construction will be adequately matched to market demand. It is feasible that some areas in north, south and west of China could remain undersupplied with quality facilities.

China's existing modern logistics stock is concentrated in the country's three primary urbanised regions along the eastern coastline. More than 70% of the logistics stock is concentrated in these three regions, which also support the country's densest and most developed transportation infrastructure. The three regions include the centrally located Yangtze River Delta (Shanghai, Suzhou), the northern Bohai Region (Beijing, Tianjin), and the southern Pearl River Delta (Guangzhou, Shenzhen).

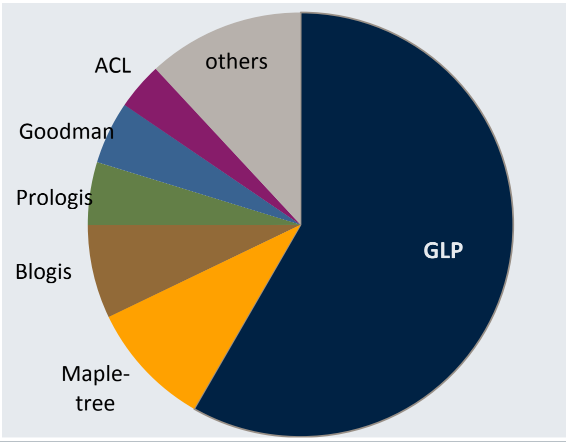
Modern Logistics Stock by City in China



Sources: Jones Lang LaSalle, Deutsche Asset & Wealth Management
As of June 2013

China's logistics market is currently dominated by a single player. GLP controls most the country's modern logistics facilities and commands a market share of more than 50%. The next largest players in this market—Mapletree, Blogis, Prologis, and Goodman—hold market shares that are overshadowed by GLP's presence.

Modern Logistics Market Shares in China



Sources: Jones Lang LaSalle, Company Data, Deutsche Asset & Wealth Management
As of June 2013

The Chinese government has promoted China's interior west as an investment destination for years with its "Go West" policy. The combination of China's rapid wage inflation and general business cost-cutting prompted by the global recession has pushed many labour-intensive manufacturers to re-evaluate their location choices and to consider a possible move inland to reduce costs of labour, real estate, and utilities[8.] Government effort[s] to tighten environmental standards to limit supplies of developable land and to be more selective approving projects have also factored into relocation and expansion decisions by businesses.

[8]Some of the major players that have recently moved west include Foxconn, Intel, and ACON.

Hong Kong

Hong Kong is the world's second busiest international air cargo centre and the third busiest container port, according to World Trade Organization (see page 2). The city's infrastructure forms a major international transport and logistics hub, as well as an important gateway to Mainland China.

Hong Kong's physical constraints literally shape the stock of industrial assets. Limited space in Hong Kong has pushed industrial buildings to heights of 15-20 stories. The government maintains a vigorous program of infrastructure development to support the growth of the trade and logistics sectors, as well as to enhance connectivity to Mainland China, but the pipeline of large new developments of facilities is limited due to scarcity of land. As a result, the majority of the assets are more than 10 years old. The gradual take-up of distribution space with little replenishment has meant that availability is currently tight and vacancy is often relegated to older stock of lesser quality.

Other factors also constrain the market. As older distribution facilities become obsolete, the highest and best use can sometimes shift to other property types. When this occurs, existing owners (or new buyers) have chosen to convert their industrial properties to office or retail space, further reducing supply of industrial space. As tenant demand outstrips new supply, quality logistics space is highly sought by investors looking for rising rents and capital values. The highest average prices for closed transactions in the APAC logistics sector can be found in Hong Kong, where the sale price per square meter surpassed both Japan and Singapore in the last three years (see page 7).

Risk Considerations and Conclusions

Risks

Despite great potential, a number of risks to logistics investments must be underscored:

- **Sector maturity differs across markets.** Maturity is highest in Singapore, Japan, and Australia where there are multiple listed vehicles with healthy deal flow. Maturity is still evolving in South Korea and China, where there are limited opportunities to invest in high quality assets.
- **Standards and regulations differ across markets.** Each market is unique. Standards in asset format, size, and specifications differ by market. There are also many complicated local regulations[9] which must be closely understood.
- **Timing matters.** Modern stock can be limited, even in mature markets. Room exists for further growth in the longer term. In the shorter term, however, oversupply looms in some markets, like Japan and Singapore. Development duration for logistics assets is significantly shorter than that for offices.
- **Lease structure matters.** Built-to-suit, single tenant assets with longer leases offer a more stable fit for core investors, especially in evolving or less transparent markets.
- **Local market dynamics vary.** Even with low vacancy rates, rents can be stubborn in some markets like Tokyo, where tenants such as 3PLs and retailers face strong price pressure.
- **Asset liquidity is still limited,** compared to the office, residential, and retail sectors. This creates exit risks for investors.
- **Operational risks exist.** Leasing and capex are especially important for multiple tenant assets. Higher cap rates reflect of these risks.
- **Market consolidation is ongoing.** There are dominant players in the APAC region, especially GLP. Others such as Prologis and Goodman benefit from close, ongoing relationships with cross-border, multi-market clients who trust their operational expertise.

Conclusions

The underlying drivers of the Asia Pacific economy—manufactured exports and an increasingly affluent middle class of consumers—bode well for future logistics demand. Structural change in distribution and supply chain management has rendered many older properties obsolete, leaving Asia with an undersupplied market at a time when tenant demand is growing. Structural change has also helped to transform the reputation of the logistics sector into a core investment option in the Asia Pacific region that is capable of attracting many types of investors, including sovereign wealth funds, pension funds, and REITs. The emerging investability of the logistics market in Asia underscores the transformation of the sector from an investor's perspective. But, as noted above, such investments are not without substantial risks which must be weighed against return potential. At this time, we believe that a long-term return/risk analysis generally favours logistics properties in the APAC region. Still, timing and selection across individual markets will vary substantially and as always investors should weigh all risk and return factors in each unique market with great care.

[9] These include, for example, Port Rules applied in five major harbour districts in Japan and a Third Party Facility Subletting Rule enacted in 2010 in Singapore.

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