

Foreign Institutional Investment in China's Real Estate Market

by

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Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial
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ABSTRACT

The Chinese real estate market has been growing rapidly over the past decade and has become a popular destination for foreign institutional investors (FIIs) including both the public and private entities such as sovereign wealth funds, pension funds, equity funds, banks and insurance firms. An increasing interest from global investors has been observed recently. The total property transaction volume of foreign institutional investment in mainland China set a new yearly record in 2018 and a new quarterly record in the first quarter of 2019.

The main objective of this study is to identify the investor universe and the investment patterns of different types of FIIs in China's real estate market. Thorough analysis of the actual transaction data is performed to understand the investment behaviors and preferences in each major property sector including office, retail, industrial, apartment, hotel and site development. Company profiles and a few selected cases for most active investors in the market are reviewed to analyze the investment strategies.

This research finds that institutions from the United States and Singapore have dominated the foreign investment field. Equity funds and investment managers are the most active players among all types of FIIs. While the office sector is the most popular type, prime retail assets also have a few loyal followers. The development site lost its attractiveness but the industrial and the rental apartment sectors received tremendous attention in recent years. Following their investment guidelines, FIIs demonstrate different risk tolerances by the investor type and also adopt various investment strategies for different property types.

The study also provides analysis of future investment trends in the selected promising sectors and regions. The investment risks are assessed for FIIs who have been or will be in the Chinese real estate market.

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Chapter I Introduction

In contrast to Chinese investors who are busy with offloading their overseas real estate assets, foreign institutional investors (FIIs) are accelerating their expansion into the real estate market in China. In the first quarter of 2019, they completed 9 transactions with an estimated amount of US\$3.96 billion, about 170% increase of the first quarter of 2018.¹ The property market in mainland China is not a new arena for FIIs. As early as in 1999, Singapore Sovereign Wealth Fund GIC acquired The Exchange, an office tower in Beijing. When the calendar turned into the 21st century, other pioneers started their ventures in the real estate investment field. The Amsterdam based bank ING Group became the owner of Somerset Grand, a service apartment property in Shanghai in 2002. Investment bank Goldman Sachs acquired Cross Tower in Shanghai for US\$107 million in 2005, setting the record of the most expensive deal in the city by that time. Impacted by the economic dynamics and the policy directions, the investment activities in China's real estate market by these foreign teams exhibited ebbs and flows in the past 20 years.

Most investment news is delivered on mainstream professional media channels. They cover individual transactions, new fund-raising initiatives and investment trends. However, they are like pieces of the puzzle, lacking a clear picture of the entire landscape of foreign investors in China's real estate market.

This thesis aims to systematically study the investment business in the real estate market of mainland China by FIIs with a focus on equity investment. Chapter II presents the profiles of global investors in real estate. Chapter III discusses the underlying motivation for FIIs to enter the Chinese market by studying the fundamental economics. Chapter IV contains thorough data analysis on the property transactions and official reports to identify the investment behaviors and patterns. Selected cases are studied to discuss the investment strategies by these FIIs. Chapter V analyses the opportunities and risks to provide some insights for investors who have been or will be in the market.

¹ Calculated from Real Capital Analytics database

Chapter II Institutional Investors in Real Estate

i. Definition of Institutional Investors

Institutional investors are viewed as entities with pools of capital to invest in securities, real property or other financial instruments, according to the definition in Wikipedia. Real Capital Analytics (RCA) has divided the institutional investors into 8 categories in its database:

- (1) Equity fund: private equity funds
- (2) Pension fund: public or private pension fund
- (3) Insurance: public or private insurance company
- (4) Bank: public or private bank
- (5) Finance: non-bank finance company (public or private)
- (6) Investment manager: investment manager or advisor
- (7) Sovereign wealth fund: state-owned investment funds
- (8) Open-end fund: investment fund with no limits on number of shares issued

For the purpose of this research, traditional developers and real estate operators are not included.

ii. Motivation of Investing in Real Estate

As an alternative asset class, real estate has three major features that attract investors: strong risk-adjusted return, diversification and inflation hedging.

Nuveen compared the risk-adjusted returns for different asset class mix in a portfolio over a 20-year period (1997-2017). The portfolio risk-adjusted return has been improved by allocating 10% to real estate (either in private sector, or in listed REITs, or a combination of both) as Table 1 shows.²

Table 1: Diversifying Stock and Bond Portfolio with Real Estate³

1997-2017	60% stock/ 40% bond	Adding 10% private real estate	Adding 10% listed REITs	Adding 10% combined*
Total returns (average annual)	7.6%	7.8%	7.9%	7.9%
Volatility (standard deviation)	10.6%	9.9%	10.7%	10.0%
Risk-adjusted returns (Sharpe ratio)	0.58	0.64	0.61	0.63

Source: Nuveen

² Breheny, A., & Reagen, M. (Spring 2018). Global Real Estate: Opportunity for Income and Diversification. Nuveen. Exhibit 5. Retrieved from <https://www.nuveen.com/global-real-estate-opportunity-for-income-and-diversification>.

³ Nuveen noted: 10% combination includes 8% private real estate and 2% listed REITs. Indexes represented: U.S. stocks (S&P 500), U.S. bonds (Bloomberg Barclays U.S. Aggregate Bond), private real estate (NCREIF Fund Index – Open End Diversified Core Equity), listed REITs (FTSE Nareit U.S. Real Estate Index). Data source: MacroBond.

Diversification has been understood by sophisticated investors as a practice to reduce the idiosyncratic risks in portfolio. Some combinations of assets are more valuable than others because of different correlations among them. According to a study of stock and real estate annual returns for a 42-year period (1970-2011), only in 2 occasions that both the stock return and the real estate return went negative. These two asset classes were both positive in 28 years. They moved in opposite directions in 12 years. In a similar study on the annual return of long-term bond, real estate and a combination of both, the combined portfolio showed much less volatility for a 41-year period (1970-2010).⁴

Real estate has also been considered as a tool to hedge inflation. The Nuveen reported that the real estate net operating income has outpaced inflation since 2013⁵. A recent study of real estate CPI elasticities by Wheaton presented a more detailed evaluation of how well real estate has hedged the inflation as showed in Table 2.⁶ In property income comparison, only retail has complete hedge while industrial and apartment have partial hedge. Office has almost no hedge. Property value on all sectors have been performing better than property income. Retail again has full hedging while apartment almost keeps up with CPI. Industrial and office offer provide partial hedges.

Table 2: Real Estate CPI Elasticities, 1978-2016

Property type	Real Estate CPI Elasticities	
	Income	Value
Retail	1.02	1.07
Industrial	.70	.91
Apartment	.56	.98
Office	.18	.74

iii. Motivation of Investing in Foreign Real Estate Markets

While real estate has often been seen as a local business, there are many incentives for institutions to invest in foreign real estate markets such as the opportunities for higher returns and the geographic diversification.

The real estate market performance is driven by the economic health. Mature markets in developed countries are generally more stable and growing at a slower pace than the emerging markets. Sophisticated investors who seek for higher returns can harvest more by investing in the emerging markets if they can manage the associated risks properly. Also, the property market has a cyclical nature, of which the

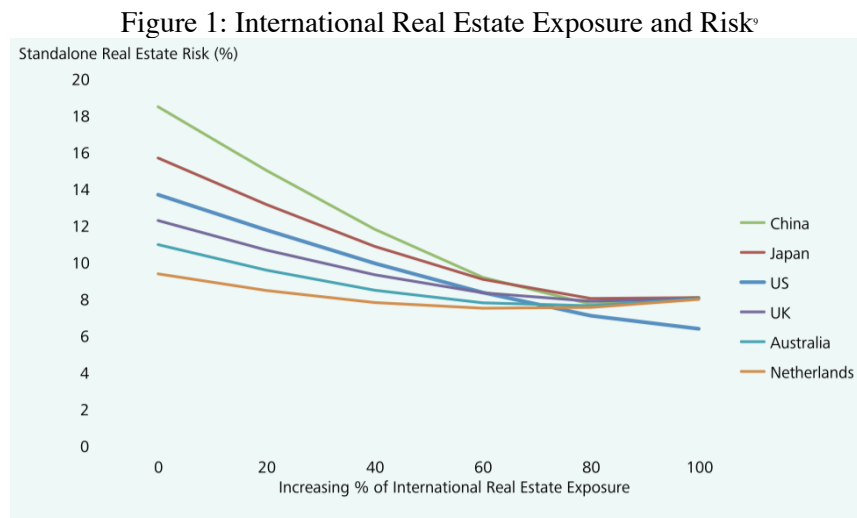
⁴ Geltner, D., Miller, N, Clayton, J., & Eichholtz, P. (2014). *Commercial Real Estate Analysis and Investments* (3rd Edition). OnCourse Learning. Exhibit 21-4A & Exhibit 21-6.

⁵ Breheny, A., & Reagen, M. (Spring 2018). Global Real Estate: Opportunity for Income and Diversification. *Nuveen*. Retrieved from <https://www.nuveen.com/global-real-estate-opportunity-for-income-and-diversification>.

⁶ Wheaton, W. (n.d.). Has Real Estate been A Good Hedge against Inflation? Will it Be in the Future?. *MIT Economics*. Figure 1. Retrieved from <https://economics.mit.edu/files/14673>.

experienced investors can take advantage by divesting properties that are in the peak in one country and reinvest into another country's market that are just turning up from the bottom. Geltner has defined these two situations as the structural return opportunities and the cyclical return opportunities.⁷

Investing in foreign real estate market also offers the benefit of geographic diversification. According to a research by IPD-MSCI, investment risks decrease when the investors increase the exposure to foreign real estate markets as Figure 1 shows.⁸ Investors from China, Japan, the United States and the United Kingdom benefit most from the global exposure while Australia and Netherlands benefit little as their markets are less volatile. It is worth noting that the diversification works best when the portfolio increases to a 60% foreign allocation. A fully international exposed portfolio doesn't mitigate the risk or even slightly increase it after the exposure exceeds 80% except for the United States investors. They can have the least risk portfolio by holding 100% of international real estate assets.



Source: IPD-MSCI

iv. Global Institutional Investors in Real Estate

Annual ranking lists are good resources to identify the market players. This study is mainly focusing on two lists which covers different types of institutional investors. A combination of both can present a more complete overview of the investors' landscape.

⁷ Geltner, D., Miller, N., Clayton, J., & Eichholtz, P. (2014). *Commercial Real Estate Analysis and Investments* (3rd Edition). OnCourse Learning. Page 612.

⁸ Aussant, J., Hobbs, P., Liu, Y., & Shepard, P. (November 2014). The Erosion of the Real Estate Home Bias. MSCI Research. Exhibit 10. Retrieved from <https://www.msci.com/www/research-paper/research-insight-the-erosion-of/0118148353>.

⁹ IPD-MSCI noted: risk estimates based on different international real estate exposures, assuming 20% loan-to-value for domestic exposure and 20% loan-to-value for international exposure.

(1) International Publishers Limited (IPE) Top 100 Real Estate Investors, 2018

(2) Private Equity International (PEI) PERE 50, 2018

IPE Top 100 list captures the large global real estate investors by total value of asset under management. The ranking consists mainly of pension funds, sovereign wealth funds and insurance companies, who are more like long-term investors, with a relative lower risk tolerance. They overall tend to invest in core and core-plus assets over value-added and opportunistic assets. The top 100 institutions on the 2018 release have a total portfolio of US\$1.23 trillion. Abu Dhabi Investment Authority (ADIA) occupied the first place for years and has been actively expanding its real estate portfolio to reach a new high at worth US\$ 62.1 billion. It is worth noting that the world's largest pension fund, the Government pension Investment Fund (GPIF) of Japan, does not present on the list yet. However, it is expected to observe the name on the list in the future as this massive fund has made its move into alternative investment with an allocation to real estate in 2017. Table 3 shows the top 20 on the list and a full ranking can be accessed in Appendix A.

Table 3: Top 20 on IPE Top 100 Real Estate Investors, 2018

Rank	Investor	Country/Region	Real Estate AUM (\$'000s)	Total Assets (\$'000s)
1	Abu Dhabi Investment Authority	UAE	62,100,000	828,000,000
2	APG	Netherlands	48,154,100	568,985,000
3	Allianz	Germany	41,805,400	796,100,000
4	AXA	France	40,128,400	911,969,000
5	Qatar Investment Authority	Qatar	35,000,000	335,000,000
6	Canada Pension Plan Investment Board	Canada	34,094,200	268,531,000
7	CalPERS	US	30,540,000	352,570,000
8	Swiss Life	Switzerland	28,623,300	217,957,000
9	PGGM	Netherlands	27,550,900	261,134,000
10	CDPQ	Canada	27,323,100	237,783,000
11	CalSTRS	US	26,600,000	225,000,000
12	Generali	Italy	26,400,000	542,000,000
13	Government Pension Fund Global	Norway	26,399,900	1,032,640,000
14	GIC	Singapore	25,130,000	359,000,000
15	Temasek	Singapore	23,999,100	197,066,000
16	National Pension Service	South Korea	23,220,700	582,446,000
17	Ontario Teachers' Pension Plan	Canada	22,957,600	189,847,000
18	Prudential	UK	22,256,500	666,388,000
19	China Investment Corporation	China	21,557,750	813,500,000
20	NYSTRS	US	20,500,000	121,000,000

Source: IPE

Published by PEI, PERE 50 ranking is an annual report which lists the top 50 real estate private equity firms, by equity raised over the last five-year period for value-added and opportunistic investment strategies. Investors on this list can be seen as the most active investment managers. Blackstone championed the list with a total fundraising of US\$49.8 billion, US\$20 billion more than the second-place holder Brookfield. The North American-based investment managers dominate the list with 37 from the United States and 1 from Canada while only 12 firms from other parts of the world. The North American group also occupies all spots in the top 20 as Table 4 shows. A full ranking can be accessed in Appendix B.

Table 4: Top 20 on PERE 50, 2018

Rank	PERE Firm	Headquarters	Fundraising Total (US\$m)
1	Blackstone	New York	49,824.00
2	Brookfield	Toronto	29,064.93
3	Starwood Capital Group	Miami Beach	21,912.40
4	Lone Star Funds	Dallas	18,600.00
5	The Carlyle Group	Washington DC	11,022.18
6	GLP	Chicago	10,672.64
7	Pacific Investment Management Co.	Newport Beach	10,100.00
8	AEW Global	Boston	7,847.78
9	GreenOak Real Estate	New York	7,003.02
10	Tishman Speyer	New York	6,861.42
11	Oaktree Capital Management	Los Angeles	6,428.00
12	CBRE Global Investors	Los Angeles	6,364.10
13	Angelo Gordon	New York	5,941.00
14	Ares Management	Los Angeles	5,817.60
15	Rockpoint Group	Boston	5,611.80
16	CIM Group	Los Angeles	5,392.11
17	Crow Holdings Capital Partners	Dallas	4,980.70
18	Rialto Capital	Miami	4,730.00
19	Cerberus Capital Management	New York	4,662.17
20	Morgan Stanley Real Estate Investing	New York	4,634.25

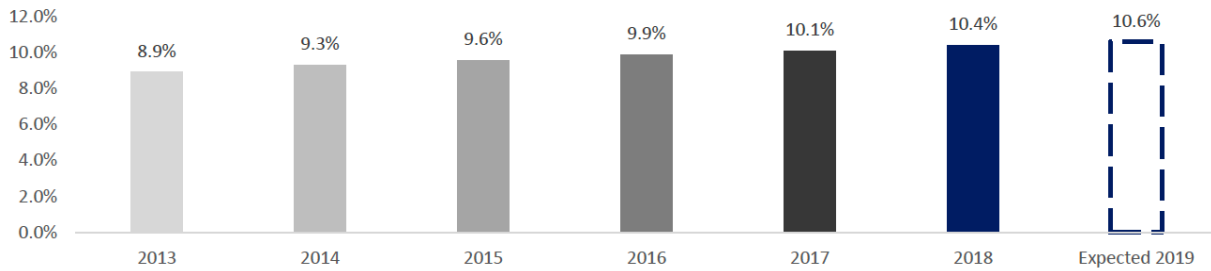
Source: PEI

v. Recent Trends on Real Estate Allocation in Portfolio

With the strong performance on return, real estate assets continue gaining favor in institutional portfolios. Cornell University's Baker Program in Real Estate and Hodes Weill & Associates started the annual survey in 2013 to collect the investment allocation and intentions in real estate from worldwide institutional investors. In the latest release, 208 intuitions in 29 countries with a total US\$1 trillion real estate assets

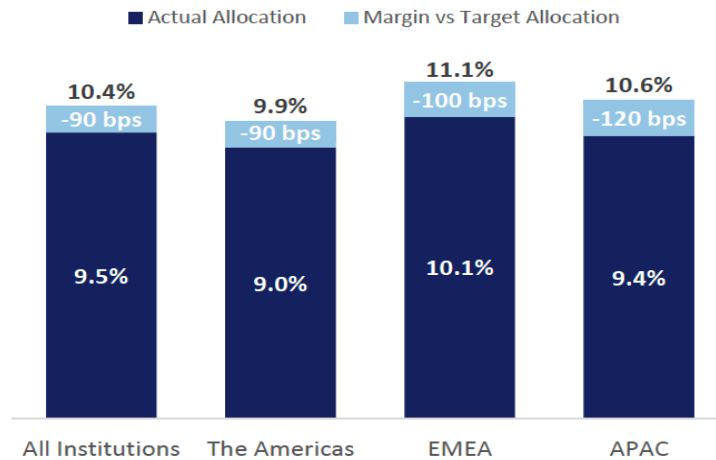
holding responded to the survey. The target allocation to real estate by institutional investors continue climbing and is expected to increase 20 basis points to 10.6% in 2019 from 2018 as Figure 2 demonstrates.¹⁰ Although the actual allocations in real estate increased in 2018, the number has been significantly lower than the target allocation, with an averaged 90 basis points across all regions showing in Figure 3.¹¹

Figure 2: Weighted Average Target Allocation to Real Estate, All Institutions



Source: Cornell University’s Baker Program in Real Estate, Hodes Weill & Associates

Figure 3: Actual vs. Target Allocation, by Location of Institution



Source: Cornell University’s Baker Program in Real Estate, Hodes Weill & Associates

¹⁰ Cornell University’s Baker Program in Real Estate and Hodes Weill & Associates. (2018). 2018 Institutional Real Estate Allocation Monitor. Exhibit 1. Retrieved from <https://www.hodesweill.com/research>.

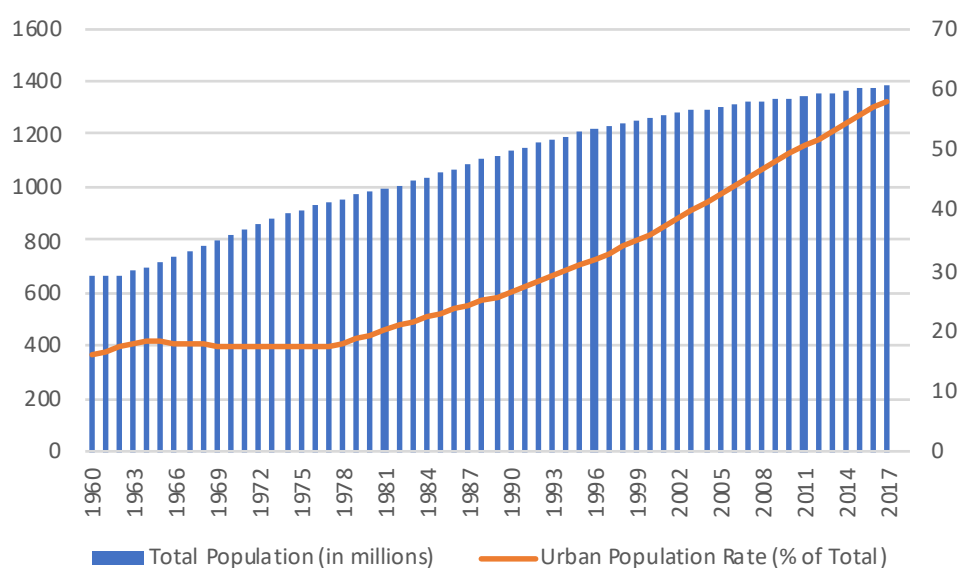
¹¹ Cornell University’s Baker Program in Real Estate and Hodes Weill & Associates. (2018). 2018 Institutional Real Estate Allocation Monitor. Exhibit 8. Retrieved from <https://www.hodesweill.com/research>.

Chapter III China's Real Estate Market Overview

i. Country Overview

China, officially the People's Public of China (PRC), is a country with a population of 1.386 billion.¹² Covering an area of 9.6 million square kilometers are 23 provinces, 5 autonomous regions, 4 direct-controlled municipalities and 2 special administrative regions. China has made steady progress in urbanization as one of the keys to the economic development. World Bank reported a 57.96% urbanization rate in China in 2017.

Figure 4: China Total Population and Urbanization Rate, 1960-2017



Source: World Bank

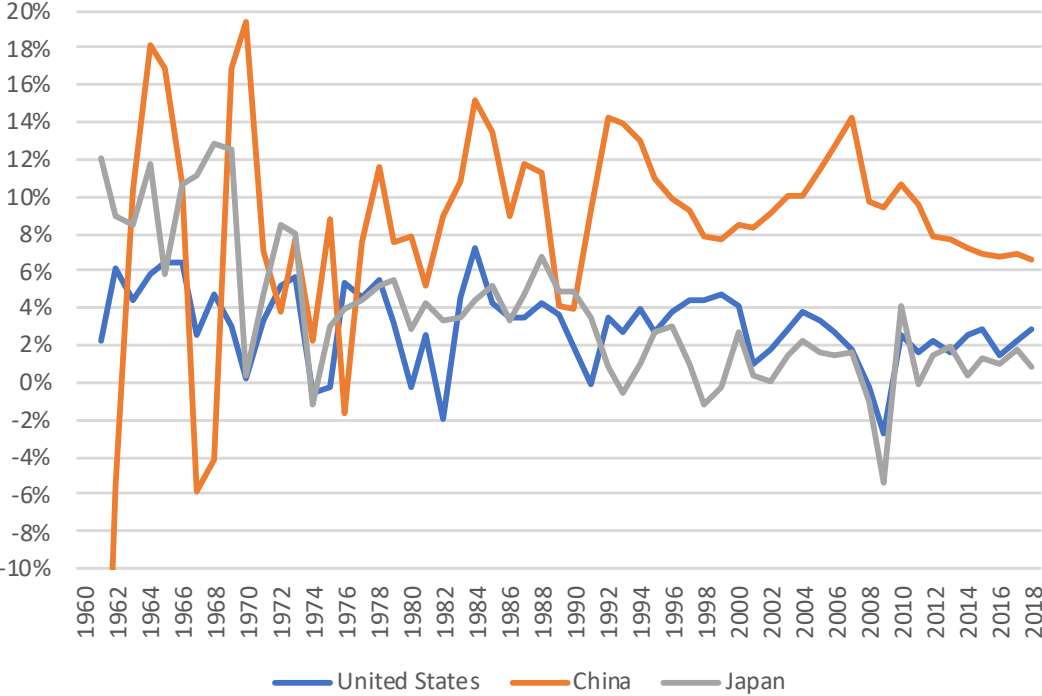
China initiated its economic reform in 1978, with an aim at shifting from a centrally-planned economy to a more market-based economy. Two years later, four Special Economic Zones were established in Shenzhen, Zhuhai, Shantou and Xiamen to encourage foreign investment and to experiment with more flexible market policies. In 1990, the first stock exchange market opened in Shanghai. China allowed the Chinese yuan to be convertible on the current account to enable the free flow of money for imports and exports in 1996. China joined the World Trade Organization in 2001. China became the world's fourth-largest economy in 2006. The International Monetary Fund added Chinese yuan to Special Drawing Rights Basket in 2016. Today, China is the second largest economy in the world¹³.

¹² The World Bank database, 2017 statistics. <https://data.worldbank.org/country/china>

¹³ The World Bank database, 2017 statistics, <https://data.worldbank.org/>

The country’s economy has experienced decades of spectacular growth. China registered an average 9.5% growth rate of GDP over the past 40 years. Figure 5 shows the annual GDP growth of the world top 3 largest economies. Most economies suffered severely from the global financial crisis in 2008, while China performing relatively better. The growth has gradually slowed since 2011 and the latest statistic in 2018 was 6.6%, a historical low after 1991. Further economic slowdown is expected to take place in the coming years as the country focuses on optimizing its economic structure and developing a more sustainable growth.

Figure 5: Annual GDP Growth Rate of the World Top 3 Largest Economies, 1960-2018

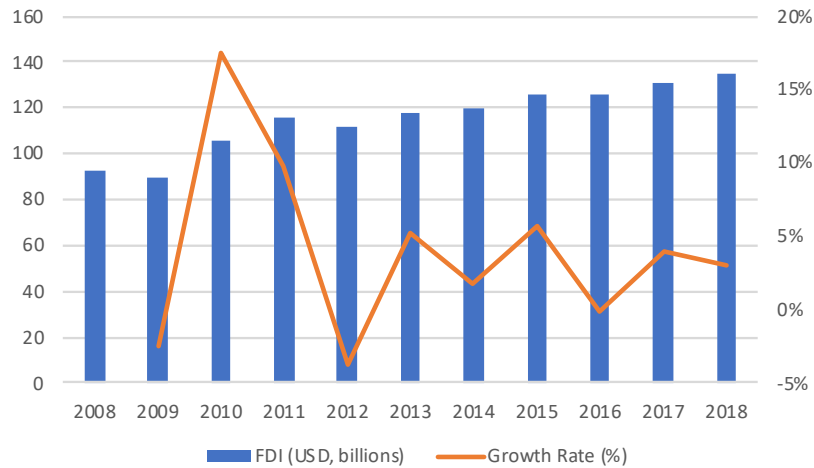


Source: World Bank

China has been a popular destination for overseas capital. Foreign direct investment (FDI) into mainland China rose 3% to reach a new high at US\$134.97 billion in 2018 as Figure 6 shows. United Nations Conference on Trade and Development recorded China as the second largest recipient for FDI inflow on the global map, behind the United States¹⁴.

¹⁴ United Nations Conference on Trade and Development. (2018). Investment and New Industrial Policies 2018. *World Investment Report*. Page 4. Retrieved from https://unctad.org/en/PublicationsLibrary/wir2018_en.pdf

Figure 6: Annual Volume of FDI into China and its Growth Rate, 2008-2018

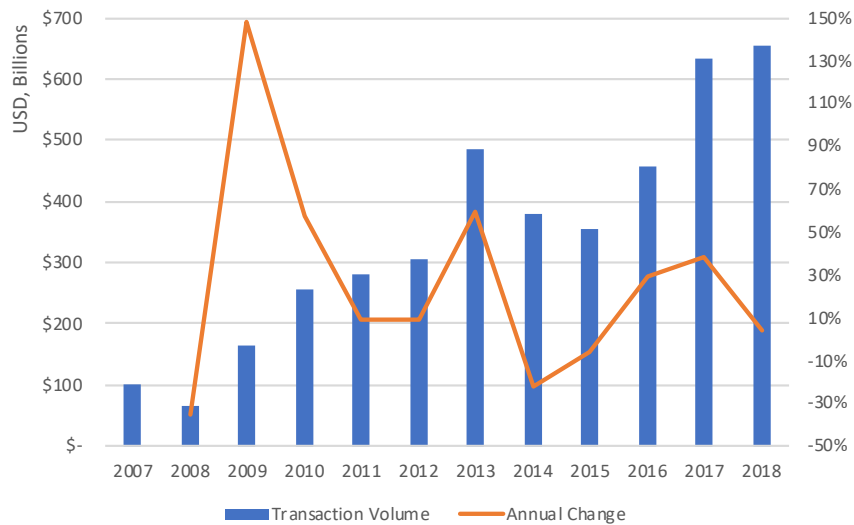


Source: Ministry of Commerce of The People’s Republic of China

ii. China’s Real Estate Market Transaction Volumes and Returns

China has experienced tremendous growth of annual commercial property transaction volumes for the past decade as Figure 7 shows. After being slightly less than the number in 2007, the market started to rise rigorously since 2008 and peaked in 2013. The volumes subdued a few years starting in 2014 and returned to the growth track two years later. The total transaction volume in 2018 set a new record at US\$ 656 billion, ten times more than the 2008 number.

Figure 7: Annual Real Estate Transaction Volume and Growth Change in China, 2007-2018¹⁵

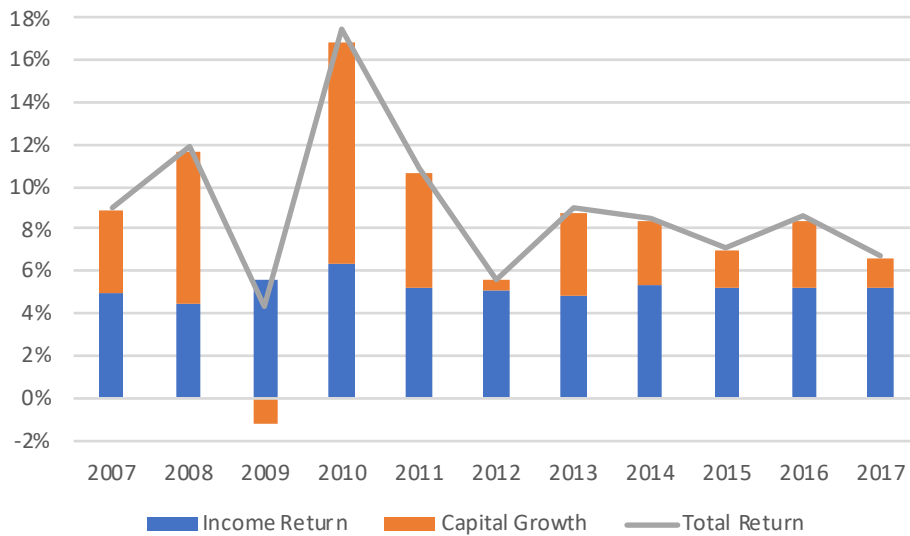


Source: RCA

¹⁵ RCA noted: based on independent reports of properties and portfolios US\$10 million and greater.

China's all-property total return fluctuated widely before 2012 and had relatively mild movements afterwards, largely due to the volatility of capital growth. Income return, on the contrary, has been fairly stable around 5% in the past ten years with minor adjustments.

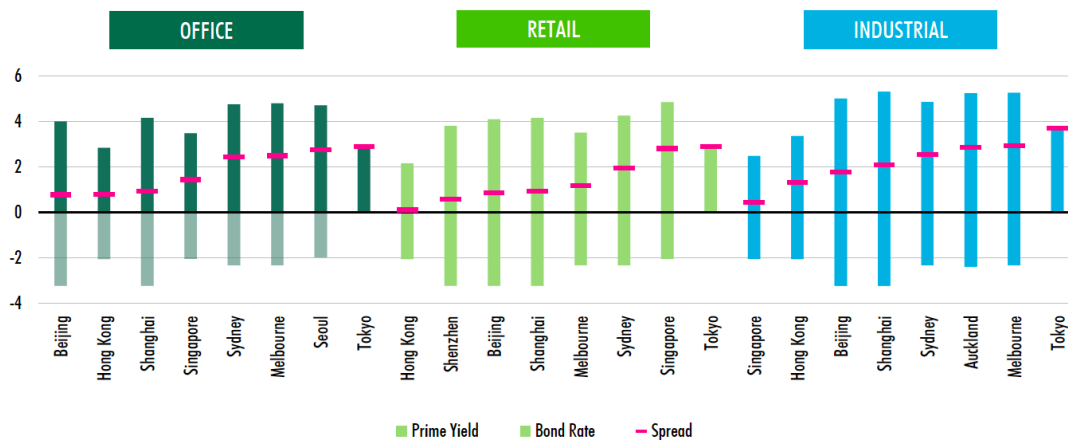
Figure 8: Annualized All-Property Unlevered Return, 2007-2017



Source: MSCI

According to CBRE research, on the real estate spreads over 10-year government bond, the top two cities, Beijing and Shanghai both registered a spread slightly less than 100 basis points for office and retail but an around 200 basis points spread for industrial, as of the last quarter of 2018 showing in Figure 9.¹⁶

Figure 9: Prime Real Estate Yield Spreads



Source: CBRE

¹⁶ CBRE Research. (2018). Real Estate Capital Flows: Global Deck, Q4 2018. Page 14. Retrieved from <https://www.cbre.com/research-and-reports/Real-Estate-Capital-Flows---Global-Deck-Q4-2018>.

iii. Uniqueness of China's Real Estate Market in Diversification

As discussed in Chapter II, investing globally provides diversification benefit. A portfolio of mixed assets from different countries performs better than solely domestic investments. However, not all foreign markets offer the same level of diversification benefits. According to a research by Invesco on the correlations of all-property total returns among 16 sizable real estate markets, China has correlations equal to or less than 0.43 to all other countries and regions as Figure 10 shows¹⁷, providing the most significant diversification and thus decreasing volatility.

Figure 10: Correlations of Annual Country All Property Unlevered Total Returns, 2007-2017¹⁸

	Canada	United States	Australia	China	Hong Kong	Japan	Korea	Singapore	United Kingdom	France	Germany	Italy	Spain	Sweden	Poland	Netherlands
Canada	1.00															
United States	0.83	1.00														
Australia	0.70	0.90	1.00													
China	0.29	0.31	0.07	1.00												
Hong Kong	0.59	0.36	0.27	0.32	1.00											
Japan	0.51	0.79	0.92	-0.10	-0.09	1.00										
Korea	0.50	0.36	0.59	-0.09	0.34	0.55	1.00									
Singapore	0.82	0.70	0.74	0.29	0.41	0.64	0.84	1.00								
United Kingdom	0.19	0.49	0.41	-0.02	0.41	0.28	-0.13	-0.07	1.00							
France	0.75	0.83	0.94	0.23	0.50	0.76	0.72	0.85	0.31	1.00						
Germany	0.08	0.47	0.62	-0.20	-0.26	0.67	-0.03	0.05	0.42	0.40	1.00					
Italy	0.44	0.48	0.68	0.33	0.37	0.54	0.79	0.79	-0.03	0.84	0.23	1.00				
Spain	0.26	0.66	0.85	0.05	-0.07	0.85	0.37	0.43	0.36	0.73	0.83	0.65	1.00			
Sweden	0.52	0.78	0.91	0.03	0.35	0.77	0.45	0.51	0.56	0.87	0.65	0.64	0.85	1.00		
Poland	0.80	0.73	0.71	0.43	0.31	0.61	0.65	0.93	-0.13	0.78	0.16	0.74	0.49	0.48	1.00	
Netherlands	0.15	0.41	0.69	0.02	-0.08	0.67	0.46	0.42	0.03	0.66	0.74	0.76	0.89	0.70	0.47	1.00

Source: Invesco Real Estate

¹⁷ Invesco Real Estate. (2018, September 17). Considerations for Investing in Global Real Estate. Figure 8. Retrieved from <https://apinstitutional.invesco.com/home/our-views-alternative/Considerations-for-investing-in-global-real-estate>.

¹⁸ Invesco noted: research based on NCREIF and IPD as of July 2018. Korea = South Korea.

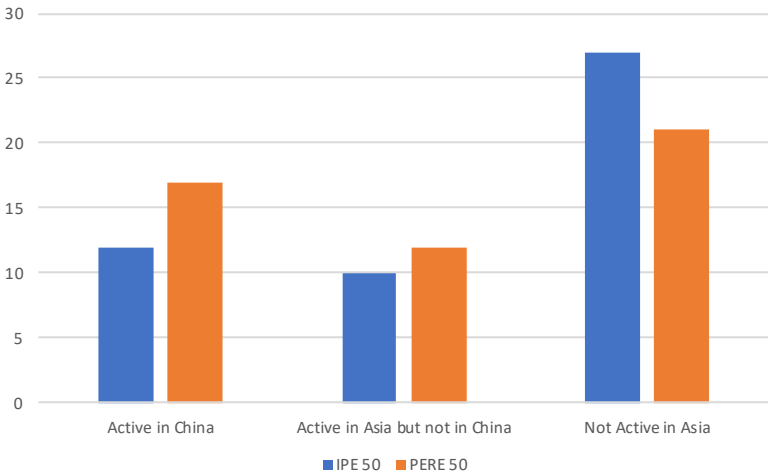
Chapter IV Foreign Institutional Investment in China’s Real Estate Market

i. Foreign Institutional Investors in China’s Real Estate Market

According to the Global Investor Intentions Survey 2019 conducted by CBRE with 908 respondents who are across a range of investors types, China ranked 4th place as the most attractive for making property investment purchase in 2019 by cross-border investors, after the United States, the United Kingdom and Australia, making it the most wanted in the Asia region.

Transaction records for global institutional investors have been carefully reviewed to further understand the geographic preference among the top players in the field. This thesis analyzed acquisition, disposition and holding records in the RCA database for each of the company on the top 50 of the IPE 100 ranking and on the PERE 50 ranking. The findings are summarized in Figure 11. In the top 50 of IPE ranking, only 12 institutions are in the mainland market while another 10 choose Japan, South Korea, Singapore or India as their Asian investment destinies. The other 27 have no capital deployed in Asia. Among the top 50 real estate private equity firms, 17 investors turned out to be active in the Chinese real estate market while another 12 investment managers are active in Asian markets such as Japan and South Korea, but not in China. The remaining 21 names show no interest other than in the United States and/or European markets. Home country bias might be one reason to explain the absence in Asian markets of the 48 investors (27 global investors and 21 private equity firms) as majority of them only invests in the country where they headquartered. Nevertheless, China still has to improve its competitiveness to attract investors who have interests in the property markets in Asia as its neighbors, especially Japan, Singapore and South Korea are more popular.

Figure 11: Count of Institutional Investors by Investment Geographic Preference

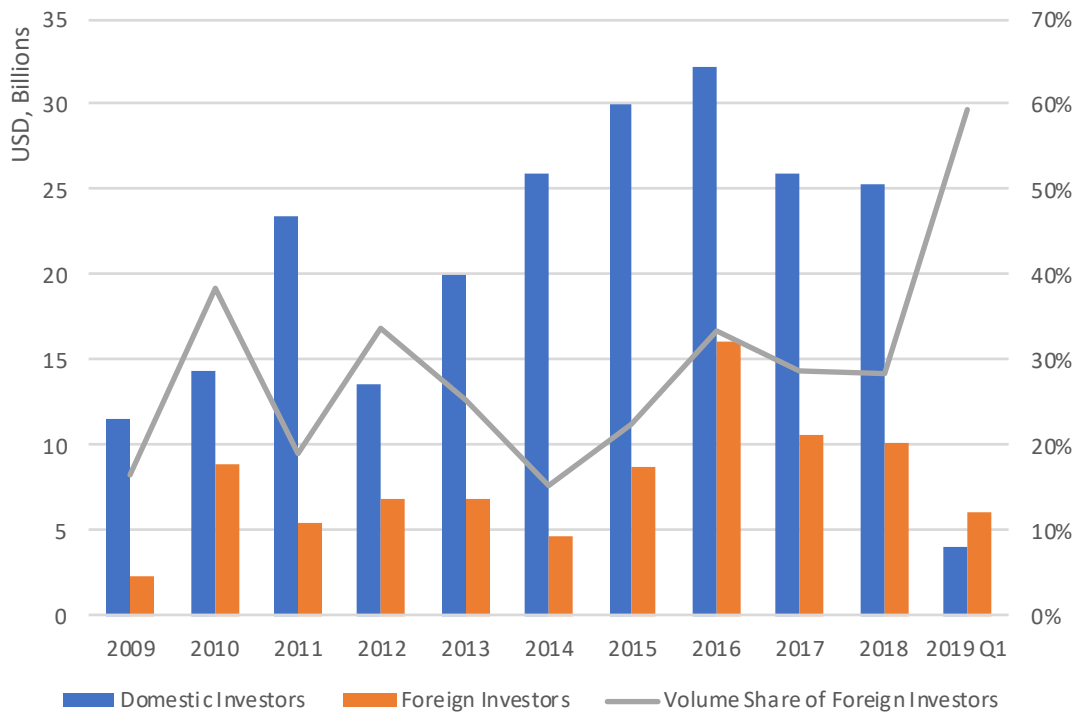


Source: IPE, PEI

ii. Transaction Volume Comparison

Foreign investors (both institutional and non-institutional) generally take up an average of 27.6% of the total transaction volumes in China across the major five property sectors (office, retail, industrial, hotel, apartment) over the past ten years. Development site has been excluded for this comparison as the domestic players have dominated the greenfield projects. 2009 experienced an extremely low cross-border capital flow because of the global financial crisis in 2008. Foreign investors have increased their appetite in Chinese real estate market since 2015 when the government loosened the reins on foreign capital into the mainland real estate market. The latest data has demonstrated further interests as the transaction volume of the first of 2019 has exceeded almost 60% of the total number in the entire 2018. Surprisingly, international players outperformed the Chinese institutions in terms of the total transaction volume for the first time ever in the history in the first quarter.

Figure 12: Annual Transaction Volume in China’s Real Estate Market by Investor Type, 2009-2019 Q1



Source: RCA

iii. Transaction Analysis

Further analysis has been conducted by thoroughly reviewing each transaction deal in the entire history which is available from the RCA database to understand the investment patterns and trends. According to RCA, 338 transaction deals have been recorded from 1999 until March 31st, 2019 with the capital source from cross-border buyers who registered as institutional investors. This study attempts to analyze on a

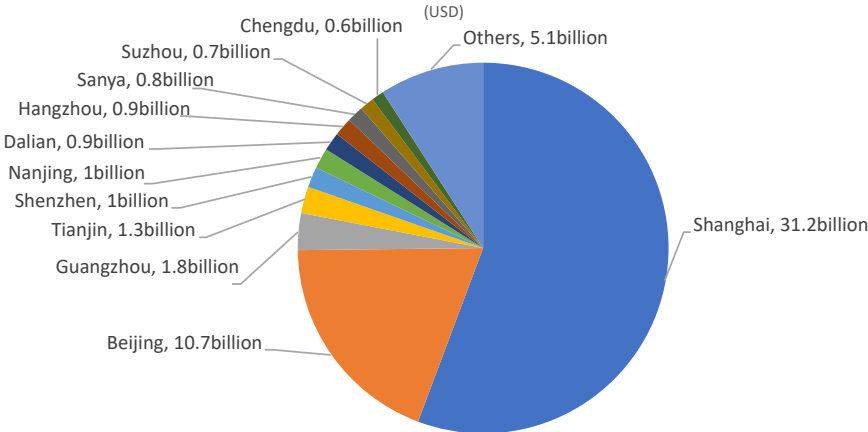
complete transaction database. Best efforts have been made to fill up the missing pieces in the original RCA database. Under a few circumstances, the missing acquisition prices have an impact on the transaction volume, but little impact on understanding the general investment pattern. This section provides a closer look into the investment landscape by geographical breakdown and by property type breakdown. Investment activities that not captured by RCA database are also discussed to paint a more complete picture.

Analysis by Geography

Not all the mainland cities receive the equal attention from international investors. 41 cities in 4 direct-controlled municipalities, 2 autonomous regions and 16 provinces have been recorded at least one acquisition activity in the past. Shanghai, the largest Chinese city by population, attracts most spotlights with an acquisition volume of US\$31.2 billion. The capital city Beijing took second place with US\$10.7 billion transactions. The top two winners consist of 55.6% and 19.1% respectively of the entire transaction value, followed by Guangzhou, Tianjin, Shenzhen, Nanjing, Dalian, Hangzhou, Sanya, Suzhou and Chengdu with transaction value from US\$1.8 billion to US\$0.6 billion and a share from 3.3% to 1.0%, as Figure 13 shows. The remaining 30 cities totaled the transaction at US\$5.1 billion with a share less than 1% individually as summarized in Table 5.

In general, foreign institutional investors focus on the primary real estate markets in the country. However, there are a few names such as Qidong and Huai’an that are not that popular when people talk about real estate. On the other hand, when cross checking this list and the top Chinese city GDP list, a few cities that have rigorous GDP performance are not captured by FIIs. Qingdao, for example, ranked 12th on the 2018 GDP list is absent on the FIIs’ radar.

Figure 13: Total Acquisition Volume by City with A Share More Than 1%, 1999-2019 Q1



Source: RCA

Table 5: List of Cities with Foreign Capital Investment in Real Estate with a Share Less Than 1%

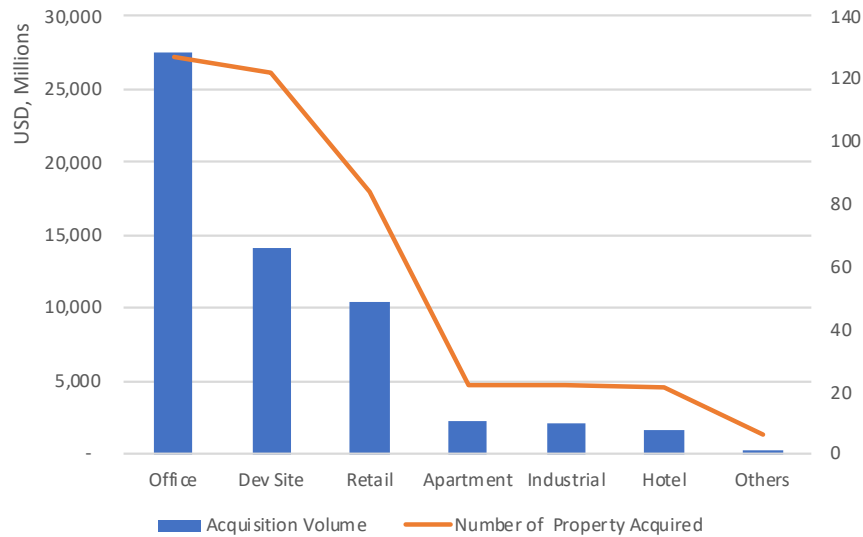
City	Province	Number of Property Acquired	Acquisition Volume (USD)
Qidong	Jiangsu	1	500,000,000
Nantong	Jiangsu	1	481,123,905
Harbin	Heilongjiang	1	457,853,454
Nanning	Guangxi	1	450,000,000
Ningbo	Zhejiang	5	421,490,977
Zhuhai	Guangdong	4	385,204,188
Chongqing	Chongqing	7	376,241,027
Changsha	Hunan	3	352,152,379
Foshan	Guangdong	7	307,040,271
Shenyang	Liaoning	5	305,061,286
Wuxi	Jiangsu	7	240,969,976
Pingxiang	Jiangxi	4	125,838,836
Xiamen	Fujian	3	105,405,591
Baotou	Inner Mongolia	1	99,627,043
Wuhan	Hubei	4	96,500,827
Taizhou	Zhejiang	1	88,957,576
Huizhou	Guangdong	2	61,974,631
Fuzhou	Fujian	1	55,297,489
Kunming	Yunnan	1	49,079,067
Xian	Shanxi	3	41,400,000
Huai'an	Jiangsu	1	27,222,659
Zhengzhou	Henan	2	13,687,762
Weifang	Shandong	1	8,800,000
Hefei	Anhui	1	7,500,000
Zhongshan	Guangdong	1	7,125,000
Maanshan	Anhui	1	6,786,352
Xuzhou	Jiangsu	2	N/A
Yueyang	Hunan	2	N/A
Jiaxing	Zhejiang	1	N/A
Ezhou	Hubei	1	N/A

Source: RCA

Analysis by Sector

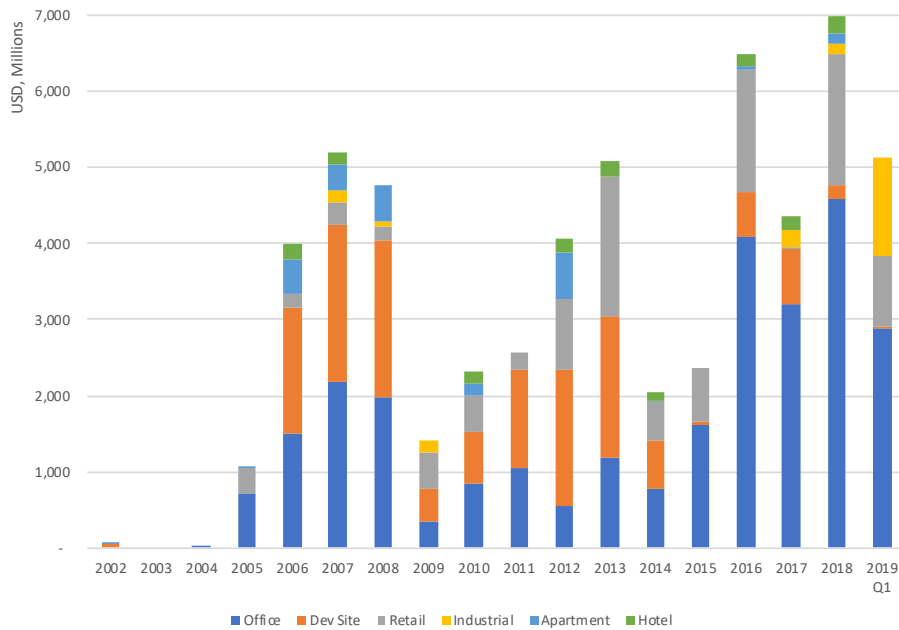
Figure 14 shows the total transaction volume and the total number of properties transacted from 1999 to 2019 first quarter by seven property sectors (office, development site, retail, apartment, industrial, hotel and others). Others include senior housing, hospital and condo deals. Figure 15 represents the yearly change among different sectors.

Figure 14: Total Transaction Volume and Count of Acquisitions by Property Type, 1999-2019 Q1



Source: RCA

Figure 15: Annual Transaction Volume Across Property Sectors, 2002-2019 Q1

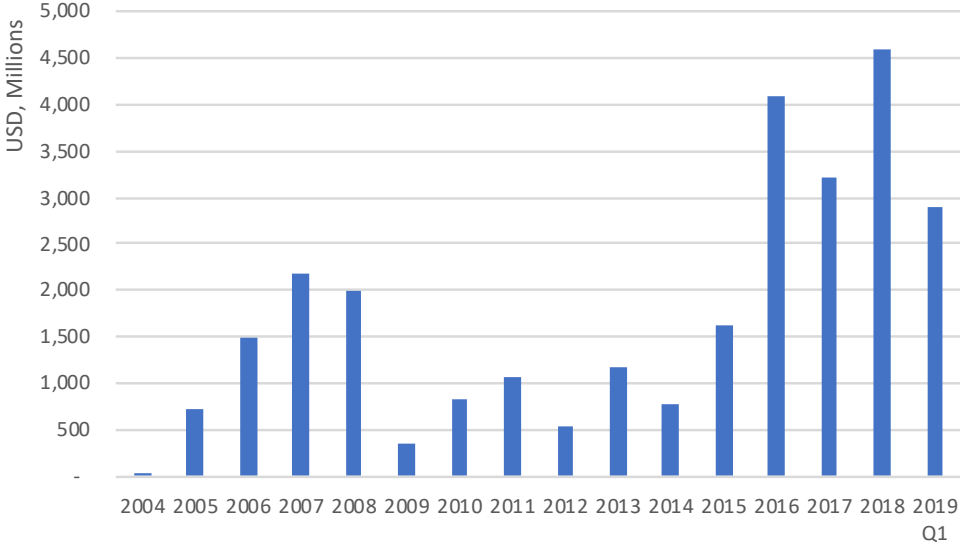


Source: RCA

Being the most favorite property type to FIIs, office sector received the most capital at US\$27.6 billion, nearly doubling that of the second sector, with a total of 127 properties transacted. These trophy assets were located in central business districts (CBD) or other busy office areas in the primary markets with strong preference in Shanghai and Beijing, representing 87% (111 properties) of the entire deals. The remaining portion was shared among 7 cities: Shenzhen, Dalian, Nanjing, Suzhou, Guangzhou, Chongqing and Xiamen.

Investors from abroad diligently explored the office market and seized as many opportunities as they could. The annual transaction volume rocketed in 2016 since the Chinese government eased some of the restrictions on foreign investments in the local real estate market in 2015. 2018 set a new record over US\$4.5 billion while the first quarter of 2019 has exceeded more than half the 2018 record at US\$2.9 billion. Figure 16 captures the yearly transaction volume.

Figure 16: Annual Office Acquisition Volume, 2004-2019 Q1

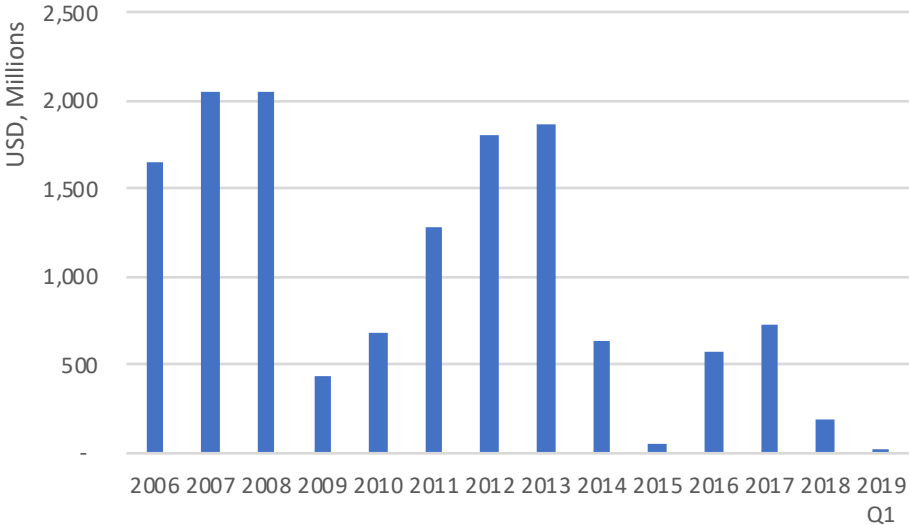


Source: RCA

Development site took the second place with a transaction volume of slightly over US\$14 billion. A total of 128 pieces of land have been acquired, demonstrating the attraction of development strategies. Unlike the case of office sector where Shanghai and Beijing dominated the market, development deals were relatively distributed across the country. Shanghai had 22 land transactions, followed by Guangzhou with 15 transactions and Tianjin with 11 transactions. The top three represented a 39% market share and the remaining 61% was shared with a larger geographic coverage in more than 30 cities.

As the land price kept raising to set new records, seasoned buyers have been more prudent in selecting development opportunities. 2018 experienced a significant decrease to merely US\$190 million from US\$725 million in 2017. The gloomy trend continued in 2019 and the first quarter registered a volume of US\$16 million, less than a tenth of last year's transactions.

Figure 17: Annual Development Site Acquisition Volume, 2006-2019 Q1

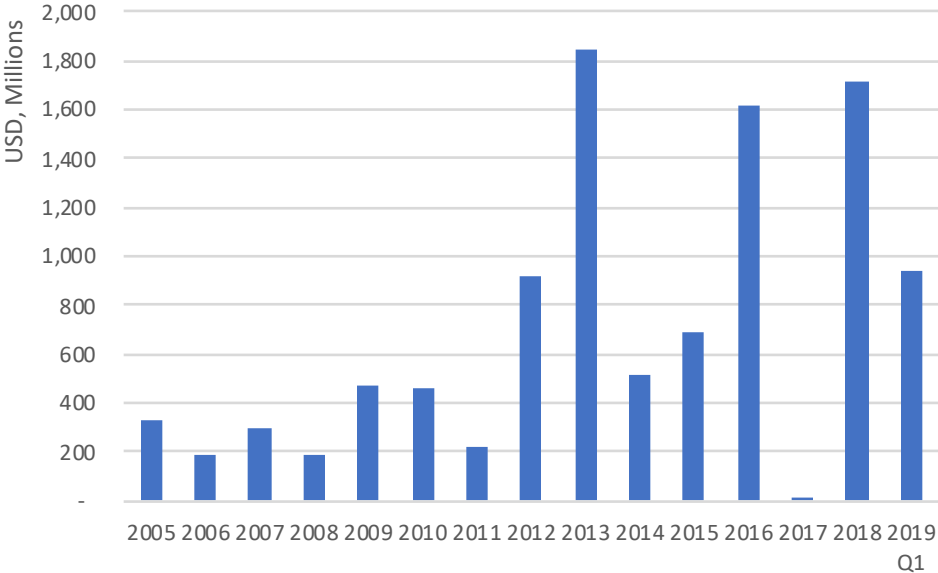


Source: RCA

Similar to the office sector, FIIs purchased most shopping malls and retail centers in Shanghai and Beijing, with roughly 51% of the entire transaction pool, which priced at US\$ 10.4 billion. A total of 22 other cities split the remaining 41%, leading by Hangzhou, Suzhou, Shenzhen and Chengdu.

Figure 18 shows the transaction volume since 2005 until the first quarter of 2019. These experienced overseas investors were not threatened away by the booming e-commerce in China and became the owners of retail stores. While 2017 was a silent year for shopping centers, FIIs picked up the pace in 2018 and continued into 2019. The total transaction volume in the first quarter of 2019 has surpassed half of the total amount in 2018.

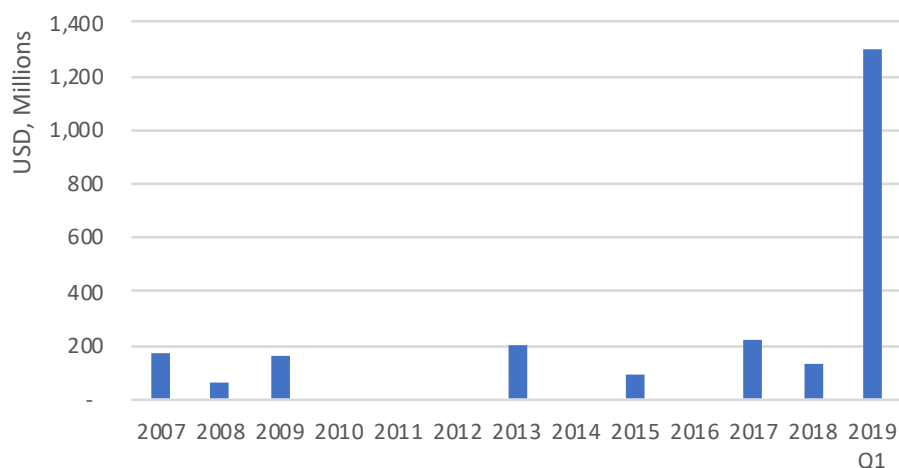
Figure 18: Annual Retail Acquisition Volume, 2005-2019 Q1



Source: RCA

FII's wrote industrial checks of over US\$2.3 billion in more than 9 markets while Shanghai, the city of Pearl of the Orient, once again became the most recipient due to its geographic advantage. It seems the industrial market went completely dark from 2010 to 2012 period and kept on and off until recent years as Figure 18 shows. However, it is worth noting that this sector is dominated by a few local and foreign firms specialized in logistics such as Prologis and Goodman who often enrolled in the business with the land acquisition and then build on their own – more like developers and operators. Lack of enough grade A investible assets in place, FII's chose to partner with these industrial professionals who have the access to land resource and the expertise in developing new logistics spaces, usually through joint venture. There had actually been a handful of partnerships formed even in the ‘silent year’ as summarized in Table 6. Foreign institutions poured US\$6.88 billion over the past ten years.

Figure 19: Annual Industrial Acquisition Volume, 2007-2019 Q1



Source: RCA

Table 6: Select Investment Partnerships in Logistics Sector

Year	Foreign Institutional Investor	Developer/Operator	Value (USD, millions)
2009	CPP Investment Board	Goodman	300
2011	CPP Investment Board	Goodman	200
2012	CPP Investment Board	Goodman	500
2013	CPP Investment Board	Goodman	500
2014	CPP Investment Board	Goodman	500
2015	CPP Investment Board	Goodman	1250
2015	Ivanhoe Cambridge, CBRE Global Investors	LOGOS	400
2016	Ivanhoe Cambridge, CBRE Global Investments Partners	LOGOS	400
2017	Ivanhoe Cambridge, PFA Pension	LOGOS	830
2018	GIC	GLP	2000

Source: Company Newsletters, CPP Investment Board, Ivanhoe Cambridge, GIC

A sum of 22 apartment assets were acquired with a transaction volume of US\$2.3 billion in the entire history database. Shanghai topped the ranking with 16 transactions, followed by Beijing with 3 transactions, and 1 transaction in Guangzhou, Xuzhou and Hefei respectively.

As the Chinese rental housing market is still in the infancy stage, there has been no sufficient investment-grade multifamily apartments available to FIIs in earlier years to conduct transaction on asset levels. Similar to the case in logistics, these overseas institutions set up investment platforms with experienced developers and operators. A few selected cases are summarized in Table 7. A total of US\$3.75 billion has been designated into the long-term rental apartment market within just one year. Unlike the logistics sector where these FIIs often work with foreign background developers and operators, the rental apartment sector is dominated by local players as not many foreign operators are in the market until recently The United States rental housing sector specialist Greystar announced to enter into the Chinese market.

Table 7: Select Investment Partnerships in Rental Housing Sector

Year	Foreign Institutional Investor	Developer/Operator	Value (USD, millions)
2018	CPP Investment Board	Longfor	817
2018	GIC	NOVA	675
2018	Gaw Capital	Harbour Apartments	1000
2018	Gaw Capital	China SCE	800
2019	APG, Bouwinvest Real Estate Investors, MIRA Real Estate	Greystar	450

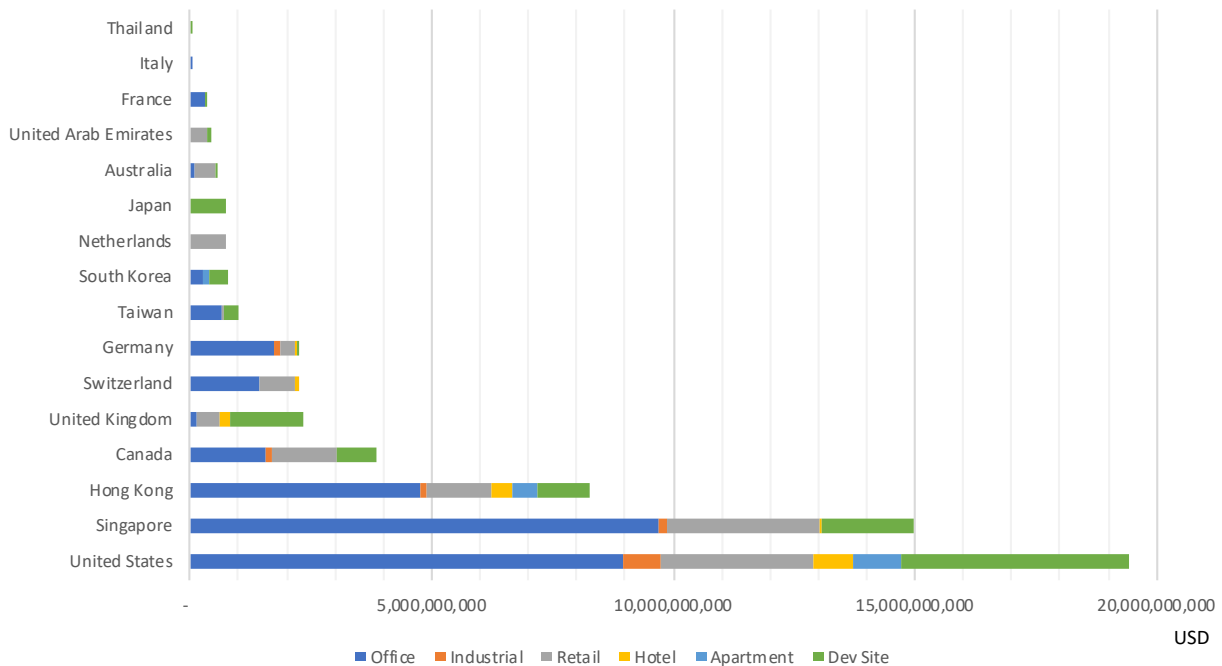
Source: Company Newsletters, CPP Investment Board, GIC, Gaw Capital, Greystar, Mingtiandi

The hotel sector has been regarded as an operating business that requires extensive expertise of the daily operation by most real estate investors. FIIs have been very selective in this sector and completed 13 deals in Shanghai, 5 in Beijing, 1 in Tianjin, Hangzhou and Yueyang respectively, totaling a 1.6 billion transaction price. A sum of 9 assets are located in the CBD areas. It is also worth noting that not all 21 assets categorized in the section are traditional hotels. In fact, 11 are high-end serviced apartments while 10 are hotels, among which 3 would be converted to long-term rental housing.

iv. Profile Analysis and Case Studies

Foreign institutional investors who have been active in the past ten years are categorized by their country/region and ranked by the total acquisition volume in office, industrial, retail, hotel, apartment and development site as Figure 20 shows. Investors from the United States championed the ranking with a capital influx of US\$19.4 billion. Singapore players committed US\$15.2 billion with the presence of almost all major players from the country. Hong Kong SAR institutions invested about US\$8.5 billion. The top tiers tend to have a more diverse portfolio than the lower-tier players. The United States and Hong Kong SAR invested in all six sectors while Singapore and Germany shared same strategies of locking out the apartment sector. Canada showed little interest in hotel and apartment markets and the United Kingdom held no industrial and apartment assets in their portfolios. Other countries opt to have fewer types of properties.

Figure 20: Total Acquisition Volume in Six Sectors by Investor's Country/ Region



Source: RCA

A total of 89 overseas investors have been recorded to have invested at least one property in the Chinese real estate market. Table 8 ranks the top 20 FIIs by the total acquisition volume in the past ten years. The list consists of a variety of investor types. This section studies the profiles of selected firms including sovereign wealth fund, pension fund, equity fund, investment manager and insurance company from different parts of the globe. Cases of their investment activities are discussed as well.

Table 8: Top 20 Foreign Institutional Investors in China's Real Estate Market

Rank	Company	Country/Region	Investor Type	Acquisition Volume (USD)
1	ARA Asset Management	Singapore	Investment Manager	5,401,070,723
2	GIC	Singapore	Sovereign Wealth Fund	4,617,387,103
3	Blackstone	United States	Equity Fund	3,896,551,632
4	Gaw Capital	Hong Kong	Equity Fund	3,668,732,772
5	Carlyle Group	United States	Equity Fund	2,955,983,373
6	Warburg Pincus	United States	Equity Fund	2,394,493,608
7	Partners Group	Switzerland	Investment Manager	2,274,753,583
8	Allianz	Germany	Insurance	2,016,096,790
9	Keppel Capital	Singapore	Investment Manager	1,884,448,162
10	AEW Global	United States	Investment Manager	1,530,196,374
11	Mapletree Investments	Singapore	Investment Manager	1,493,349,263
12	SDP Investments	Canada	Investment Manager	1,340,000,357
13	The Family Office	United States	Investment Manager	1,340,000,357
14	PGIM Real Estate	United States	Insurance	1,174,099,158
15	CPP Investment Board	Canada	Pension Fund	1,157,372,308
16	PAG (ASIA)	Hong Kong	Equity Fund	1,110,368,891
17	Morgan Stanley	United States	Bank	1,060,486,512
18	HSBC	United Kingdom	Bank	996,531,548
19	CDPQ	Canada	Investment Manager	946,470,771
20	Tishman Speyer	United States	Equity Fund	926,472,789

Source: RCA

GIC

GIC was established in 1981 to manage Singapore's foreign reserves and achieve good long-term returns above global inflation. The firm has invested over US\$100 billion in assets in over 40 countries worldwide. The rolling 20-year real rate of return registered an annualized return of 3.4% and a portfolio volatility at 9.0% by March 31, 2018.¹⁹ GIC has been one of the most active real estate sovereign wealth fund (SWF) investors and it now has 7% allocation into real estate sector in its asset mix. According to IPE, it ranked 14th worldwide by the total real estate AUM in 2018 statistics. The real estate investments include traditional private brick and mortar assets, public equities, real estate investment trusts (REITs), and real estate-related debt instruments.

As one of the early pioneers to step into the Chinese real estate market, GIC made its first purchase in Beijing office market in 1999, and hasn't left the country since then. The Singapore SWF diligently committed US\$4.6 billion in trophy assets for the past ten years. GIC has offices in Beijing and Shanghai.

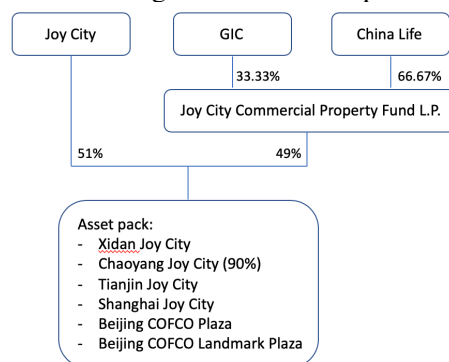
¹⁹ <https://www.gic.com.sg/about-gic/>

GIC has particular interests in the industrial sector. The firm bought a portfolio of 54 development sites for US\$1.3 billion in 2009 from the logistic giant Prologis, when the latter needed cash to pay back debt after the global financial crisis. The acquired unit became today's Global Logistic Properties (GLP), largest owner of logistics facilities in China.²⁰ Ten years later, GIC with the second largest Chinese e-commerce firm JD, established JD Logistics Properties Core Fund. The fund will acquire logistic facilities developed by JD and JD will then lease back these spaces for operational purposes. With 80% commitment in the fund, GIC is expected to invest around US\$1.3 billion for this investment. The investment committee will oversee the key operations of the fund while the JD property management group will serve as the asset manager.²¹

GIC also explored opportunities with star assets that provide stable cash flows from office and retail sector. In 2016, GIC teamed up with mainland insurer China Life to acquire 49% stake in a portfolio of 6 prime commercial properties in China from Joy City Property, a Hong Kong-listed Chinese real estate developer. The portfolio included four Joy City shopping malls in Beijing, Shanghai and Tianjin, and two offices in Beijing.²² Most recently in late April 2019, the two partners received regulatory permission for a pilot program of REIT, the first ever publicly traded REIT in China.²³

As SWF, GIC tends to be more prudent in the Chinese real estate market and relies on its local partners. Rather than wholly owning properties in interests, GIC usually holds partial shares. A holding structure in the Joy City deal is illustrated by Deutsche Bank in Figure 21.²⁴ GIC held a minor stake (33.33%) in the newly established fund and the fund held a minor stake (49%) of the interests in the acquired assets. With a roughly 16.33% holding of the 6 assets, GIC wouldn't have much control over the asset management.

Figure 21: Holding Structure of Acquired Assets



Source: Deutsche Bank

²⁰ <https://asia.nikkei.com/Asia300/Chinese-investors-offer-11.5bn-for-Singapore-s-GLP>

²¹ <https://ir.jd.com/news-releases/news-release-details/jdcom-announces-fourth-quarter-and-full-year-2018-results>

²² <https://insideretail.hk/2016/08/22/joy-city-sells-stake-in-retail-projects/>

²³ <https://www.dealstreetasia.com/stories/singapores-gic-grandjoy-to-pilot-china-reit-131787/>

²⁴ Deutsche Bank. (2017, July 27). Joy City Property. *Market Research*. Figure 1. Retrieved from [www.hysec.com/f/tsnr/\[D2017\]/2017-07/TSNR100/28/RR_3003753745.pdf](http://www.hysec.com/f/tsnr/[D2017]/2017-07/TSNR100/28/RR_3003753745.pdf).

Blackstone

Blackstone was founded in 1985. The New York based company has become one of the world's leading investment firms. The investments are designed to preserve and grow its partners' capital, provide financial security for millions of retirees, SWF, and other institutional and individual investors and contribute to overall economic growth. Blackstone has a US\$512 billion asset under management including real estate, private equity, hedge fund solutions and credit as of March 31, 2019.²⁵ The real estate sector has US\$140 billion asset under management. The real estate platform encompasses investments across the risk spectrum from opportunistic to core plus to debt. As third-party investment manager, Blackstone follows its "Buy it, fix it and sell it" approach in the opportunistic fund – acquire high-quality, income producing assets at discounts to replacement cost, unlock value by proactively addressing any physical or operating issues through aggressive asset management and sell the investments once assets are stabilized to long term real estate holders and return capital to investors. In the core plus strategy, the firm targets stabilized assets with a focus on global gateway cities and tends to hold longer periods to unlock additional value post acquisition.²⁶

Blackstone entered the Chinese real estate market with the purchase of Changshou Commercial Plaza, a 442,289 square feet retail center that was under construction in Shanghai in 2008²⁷, and has committed US\$3.9 billion in equity investment since then. Blackstone runs main offices in Beijing and Shanghai.

Retail has been Blackstone's favorite property sector in the mainland market and contributed more than 50% of the total transaction volume. Back in 2013, Blackstone acquired a portfolio of 15 shopping malls through entity level transaction with 40% stake in SZITIC Commercial Property Group.²⁸ The majority of the stakes were sold to Chinese developer giant China Vanke in 2016. In February 2019, the firm agreed on a deal to buy 50% stakes in three Asia-based shopping centers from Taubman. Two of them were located in China: one in Xi'an and one in Zhengzhou.²⁹

The investment manager has been quite busy in the first quarter of 2019. One month after the Taubman deal, Bloomberg reported in March that Blackstone was considering an acquisition of Chamtime Plaza, a

²⁵ <https://www.blackstone.com/the-firm/about-us>

²⁶ <https://www.blackstone.com/the-firm/asset-management/real-estate>

²⁷ <https://www.scmp.com/article/640599/blackstone-buys-shanghai-project-first-mainland-deal>

²⁸ <https://www.mingtiandi.com/real-estate/china-real-estate-m-and-a/blackstone-spends-us400-mil-for-40-of-china-mall-developer/>

²⁹ <http://investors.taubman.com/news/press-releases/press-release-details/2019/Taubman-to-Sell-50-Percent-of-its-Interests-in-its-Three-Asia-Shopping-Centers-to-Blackstone/default.aspx>

mixed-use property in Shanghai with a potential price of US\$1.5 billion. The asset is located around the city's tech hub and includes a shopping mall and 5 office towers.³⁰

Gaw Capital Partners

Found in 2005, Gaw Capital Partners (GCP) is a Hong Kong-based private equity fund management company that focuses on global real estate markets. The manager has raised equity of US\$11 billion since its inception and commanded US\$18 billion asset under management as of Q4 2018. The young yet aggressive firm has won many accolades and recognition from Global PERE Awards, REIW Asia and other institutions, and started to be listed in PERE 50 (50 largest private equity real estate firms in the world) since 2014. The firm specialized in adding strategic value to under-utilized real estate through redesign and repositioning.³¹ The mainland offices are in Beijing, Shanghai.

The Hong Kong manager completed its first deal in mainland China immediately after the firm was established. Plaza 353, a distressed mall near Shanghai Bund, was purchased for upgrade. The price tripled when the property was sold 7 years later.

GCP drew much attention in 2014 when the firm teamed up with Zug-based investment manager Partners Group to acquire Pacific Century Place in Beijing for US\$928 million. It was the biggest single asset transaction by a foreign real estate private equity fund in China by that time. The property was a 1.8 million square foot mixed-use property with 2 office towers and 2 serviced apartment towers, beneath which was a shopping mall that had been empty for seven years. After 3 years of redesign and renovation of the retail and office spaces, the building won a gold award for best refurbished building at the MIPIM Asia conference in 2017 and the retail space has been fully leased. GCP disposed the asset to a local fund in 2018 for US\$1.53 billion.³²

The firm has been accelerating its office collection in primary real estate markets since 2017. Four assets have been acquired into the portfolio and summarized in Table 9.

³⁰ <https://www.bloomberg.com/news/articles/2019-03-06/blackstone-said-to-mull-deal-for-1-5-billion-shanghai-complex>

³¹ <https://www.gawcapital.com/en/aboutus/gaw-capital-partners>

³² <https://www.mingtiandi.com/real-estate/finance-real-estate/gaw-said-selling-beijings-pacific-century-place-to-lianjia-unit/>

Table 9: Recent Office Acquisitions, Gaw Capital Partners

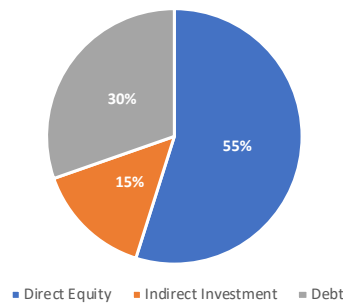
Year	Property	City	Investment Partner
2019 Q1	Shanghai MixC (Block A-D)	Shanghai	None
2018	Shanghai Ocean Tower	Shanghai	QuadReal Property
2017	Sky SOHO Project	Shanghai	Allianz RE Germany
2017	Guangzhou Damazhan Commercial Center	Guangzhou	None

Source: RCA

Allianz

Founded in 1890, the Allianz Group is one of the world’s leading insurers and asset managers with more than 92 million retail and corporate customers, offering a broad range of personal and corporate insurance services³³. The real estate investment management business is conducted through Allianz Real Estate (ARE). Aligned with its investors’ objective, ARE targets properties in core markets that offer unlevered returns of 4-6% with a low to moderate risk profile. The majority of the investment (55%) lies in direct equity into core and core plus office, retail and residential properties in Europe, the United States and the Asia-Pacific region together with direct value-added across Europe. The debt business focusing on Europe and the United States accounts for 30% of the portfolio while another 15% has been invested through funds and co-investments for areas that are beyond the firm’s main expertise, such as China, logistic or with opportunistic strategies.³⁴

Figure 22: Allianz’s AUM Share by Investment Strategy



Source: Allianz Real Estate

AUM under this real estate platform was US\$71 billion as of the end of 2018, positioning the firm as the third largest real estate investor in the world according to IPE Global Investors Ranking 2018. The total allocation in real estate was around 5.25%, far below the average 10% real estate share target among global investors, according to the Cornell survey. However, the global executive of ARE indicated a plan of

³³ <https://www.allianz.com/en/about-us/who-we-are/what-we-do.html>

³⁴ <https://www.allianz-realestate.com/en/strategy>

growing the business by 25% by 2020 in an interview with PERE in 2017³⁵ and the Asia Pacific head revealed that the regional allocation target will increase from 5% to 10% in a correspondence with IPE Real Asset³⁶. The asia real estate market is expected to receive US\$895 million more capital in the following years if the firm keeps the current regional allocation share.

The Munich and Paris-headquartered entity did not come to the mainland real estate market until 2017 but has been quite active since then. Strictly following the investment strategy, ARE didn't complete many acquisitions through direct investment in expanding its footprint in the Chinese market. The German insurer's real estate arm has acquired 4 office buildings in Beijing and Shanghai. Excepted in the Beijing office deal where Allianz invested directly, the other three Shanghai office buildings were acquired through co-investments. ARE also made its foray into retail and logistic sectors through acquiring partial interests in a core-plus, closed-ended fund focusing on premier outlet malls in China set up by TH and a Gaw-Vailog China Logistics Platform focusing on tier-1-city-centric logistic space with nationwide expansion³⁷. These transactions are summarized in Table 10.

Table 10: Acquisition Summary, Allianz Real Estate

Year	Property	Sector	City	Investment Partner	% of Equity Share Holding
2018	Vailog JV Gaw China Logistics Portfolio 2018				
	Vailog Shenyang Yuhong Logistics Park	Industrial	Shenyang		50%
	Vailog Shanghai Xinzhuang Logistics Park	Industrial	Shanghai		50%
	Vailog Zhejiang Jiaxing Logistics Park	Industrial	Jiaxing		50%
	Vailog Foshan Datang Logistics Park	Industrial	Foshan		50%
	Vailog Wuhan Gedian Logistics Park	Industrial	Ezhou		50%
2018	Bay Valley C6	Office	Shanghai	Keppel Capital	41.50%
2018	KaiLong ZLink	Office	Beijing		98%
2018	Gaw JV TH RE China Retail Portfolio 2018				
	Florentia Village Wuqing	Retail	Tianjin		30%
	Florentia Village Shanghai	Retail	Shanghai		30%
2017	Sky SOHO Project	Office	Shanghai	Gaw Capital	23%
2017	Soho Hongkou	Office	Shanghai	Alpha Investment Partners, Keppel Land	30%

Source: RCA, Allianz Real Estate

CPPIB

Established in 1997, CPPIB, officially Canadian Pension Plan Investment Board, is a professional investment management organization which is governed and managed independently from Canadian Pension Plan (CPP) but invest in the best interests of CPP contributors and beneficiaries. The investment strategy balances prospective risk and reward to ensure long-term sustainability of the CPP Fund, aligning with CPP's financial obligation to pay benefits. The fund recorded US\$273.4 billion as of December 31,

³⁵ PEI. (2017). The 2017 Macquarie Capital Global Investor 50. (December 2017). *PEI Alternative Insight*. Page 13.

³⁶ <https://realassets.ipe.com/news/allianz-grows-asia-pacific-logistics-portfolio-with-deals-in-india-and-china/10028113.article>

³⁷ <https://www.gawcapital.com/en/op/logistics-platform->

2018.³⁸ CPPIB has been actively diversifying its overall portfolio and real estate has an allocation of 12.9% according to 2018 annual report. The real estate portfolio registered with a 9.4% return (before CPPIB operating expenses) in fiscal year 2018.³⁹

CPPIB made its debut in Chinese real estate market in 2014 when the institution formed a joint venture with the Chinese developer Longfor Property for a mixed-use development project in Suzhou.⁴⁰ The partnership continued in another three direct investments in development in Chongqing, Shanghai, Chengdu respectively. The only exception was the deal in Dalian where the manager acquired a retail mall on its own with partial interests in the property.⁴¹ The institution has no office on the mainland yet but plans to set up one in Beijing in 2020.⁴²

CPPIB has been actively broadening its exposure to other emerging sectors as well. Through the partnership with Longfor, CPPIB has stepped into the residential business with a joint investment targeting around US\$817 million. A new program has been launched in 2018 to focus on Chinese rental housing, primarily in tier I and core tier II cities.⁴³ As another booming sector, logistics has not been missed by the pension fund manager. CPPIB teamed up with the logistic giant Goodman to form a China logistic platform on an 80:20 equity basis back in 2009. The partnership continued to grow with follow up investments up to US\$5 billion as of late 2018.⁴⁴ According to Goodman's report on its official website, the portfolio consists of 30 properties with the average occupancy of 98% in as of 2017-year end.⁴⁵

Unlike many pension funds which invest through the third-party investment manager, CPPIB invests in commercial real estate via direct joint ventures with operating partners. This structure allows CPPIB to have more control and the ability to hold a long investment horizon without being forced to exit in a close-end fund managed by third-party managers and save the investment management fee as well.

³⁸ <http://www.cppib.com/en/who-we-are/our-mandate/>

³⁹ CPP Investment Board. (2018). *2018 Annual Report*. Page 3 & 46.

⁴⁰ <http://www.cppib.com/en/public-media/headlines/2015/cppib-longfor-joint-venture/>

⁴¹ <http://www.cppib.com/en/public-media/headlines/2016/cppib-paviliodalion2016/>

⁴² <https://business.financialpost.com/news/fp-street/canadas-biggest-pension-fund-considers-opening-its-first-office-in-china>

⁴³ <http://www.cppib.com/en/public-media/headlines/2018/cppib-and-longfor-group-holdings-limited-form-new-cooperation-invest-rental-housing-programs-china/>

⁴⁴ <http://www.cppib.com/en/public-media/headlines/2018/goodman-and-cppib-increase-china-equity-commitment-us5-billion/>

⁴⁵ <https://www.goodman.com/investment-management/gclp>

v. Summary of Analysis

The above analysis showcases the dynamic characteristic of different types of foreign institutional investors and their investment patterns. The office market has long been the most favorite sector that received most capital influx. A few investors have strong preference on retail, against the current of brick-and-mortar shops crisis. As the land price continues surging in most areas, the development site transactions were limited in recent years. On the contrary, the industrial and the rental apartment sectors have become more popular with many investment platforms set up jointly by FIIs and developers.

The capital source of these FIIs, to some degree, determines the fundamental principle of the investment strategy and regulates the risk spectrum, which further defines the transaction structure and the asset mix. Pension funds and sovereign wealth funds heavily rely on domestic partners and tend to play the role of money partners. These two groups are usually focusing on prime assets with a lower risk spectrum. They also invest in risky development projects if the market is proved to be secure in certain cases, such as new logistics facilities in hub areas. Insurance companies are relatively flexible in terms of the transaction structure. Investment through fund, co-investments and direct purchases are options they consider. Equity fund managers behave more aggressively, leveraging their expertise in active asset management to target higher returns from riskier investments, sometimes even into the field of distressed assets.

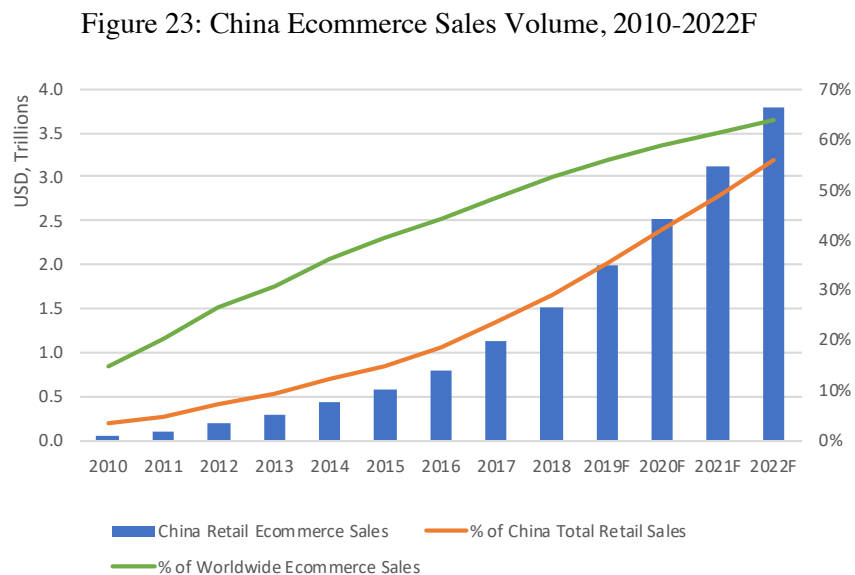
Chapter V Opportunities and Risks

i. Opportunities

This section discusses the investment opportunities in selected sectors and regions. As two increasingly popular property sectors, the logistics and the rental apartment markets are evaluated respectively on their supply and demand. Current investment strategies and future trends are analyzed as well. Three urban clusters and twelve cities are highlighted as the recommended investment destinations. Opportunities in debt investment are also discussed briefly.

Logistics Sector

The logistics sector has been powered by many institutional investors in recent years. However, there is no sign of curbing the enthusiasm. The space demand is mainly driven by e-commerce and third-party logistics (3PLs). The online retail sales in China have grown massively over the past decade. According to eMarketer, 2018 recorded a total volume of US\$1.5 trillion, 21 times the number in 2010. The e-commerce's share of China's retail sales increased from 3% in 2010 to 29% in 2018, and is anticipated to continue rising as only 51.5% of the total population were digital buyers by 2018.⁴⁶ The rigorous growth also made China the largest contributor to the worldwide online retail sales, accounting for over 60% of the global volume in 2022 by forecast as shown in Figure 23.



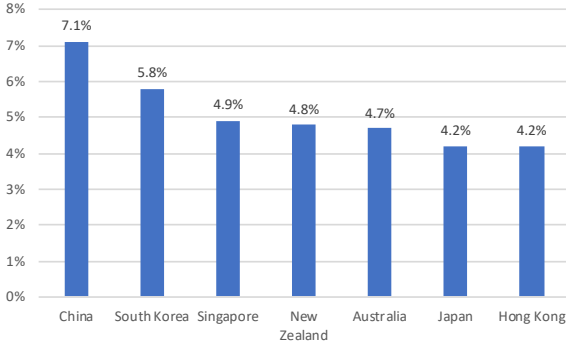
Source: eMarketer

⁴⁶ <https://forecasts-na1.emarketer.com/5a57bb9cd8690c0dfc42e716/5a57b4b8d8690c0dfc42e6bc>

While the demand for high quality logistics space keeps increasing, the supply has been relatively insufficient. According to the statistics by JLL in 2015, China had only 29 million square meters grade-a stock versus 155 million square meters in the United States, a disproportionate lag considering the economic scales of the two countries.⁴⁷ Even though many local governments have realized the value of logistics and introduced more supportive policies, officials in top-tiered cities further limit the land supply for logistics. In 2018, Beijing issued the land use guideline regulating that no other land use could be altered to logistics and warehouse uses in almost all core and suburban areas of the city. Satellite cities are becoming more popular for warehouses and distribution centers as they have easy access to the top-tiered cities and relatively inexpensive land price with sufficient land supply. There has also been a trend observed by JLL that regional logistics centers are preferred to warehouses that only serve a single urban center. Kunshan, Taicang, Jiaxing, Langfang, Dongguan and Foshan are on the watch list.⁴⁸

According to the forecast by CBRE Global Investors, the annual industrial portfolio total return in China would be 7.1% for the five-year period from 2019 to 2023. The outlook for selected regions in Asia Pacific is demonstrated in Figure 24.⁴⁹ As the logistics credentials have been appreciated by investors, the yields for prime industrial are at record lows. Besides, the insufficient pool of investable assets could only push the price to a further high. Therefore, developing new logistics space could be a better option in terms of the return performance if the risks can be managed properly, rather than buying the expensive stock of core assets. The value-added approach could also be considered especially in cities where land supply or rezoning for logistics is limited. Acquiring an obsolete industrial facility located in a prime location and enhancing the value through renovation and reconfiguration provides an alternative channel to own prime logistics space. A few FIIs have adopted various strategies together with their development partners and more FIIs are expected to follow suit.

Figure 24: Five-Year Industrial Total Return Outlook by Region, 2019-2023, p.a.



Source: CBRE Global Investors

⁴⁷ JLL Cities Research Center. (2015). China 60: From Fast Growth to Smart Growth. Page 38.

⁴⁸ JLL. (June 2017). China Logistics Demand..

⁴⁹ CBRE Global Investors. (December 2018). APAC Industrial Strategy. Figure 21.

Rental Apartment Sector

Compared to mature multi-family markets in the United States and Japan, the Chinese rental housing sector is young but has a promising outlook largely driven by the demographic changes and the unaffordability of home ownership. There has been a trend of delaying the age of getting married and having the first child, which is usually considered as a big motivation to purchase an apartment. The soaring housing prices and the relatively high willingness of relocations among cities for career development also push the 400 million Chinese millennials to the rental housing market. The prevailing supply of the rental market has been dominated by individual landlords. Homeowners often lease their extra houses to renters directly or through leasing agents. Since these rental units often consist of more than one bedroom, the tenants may share an apartment for budget reasons. As these millennials need better living space and more legal protection in the rental market, a B2C model is in demand. JLL estimated that a total of 750,000 rental apartment units will be available by 2022 in the six major cities that attract the most millennials, as Figure 25 shows. However, the market stock in China is still considered relatively small even with the incoming pipeline when compared to mature markets. For example, the United States has 20 million units with 74.5 million millennials.⁵⁰

Figure 25: Current Stock and Future Supply in Six Cities⁵¹



Source: JLL

The central government demonstrated a strong commitment to expanding the rental housing market in the 19th National Party Congress in late 2017 and released a series of measures afterwards to support the sector development. Schemes on utilizing collective land for rental housing have been piloted in 13 cities to increase the land supply. Financing policy has also been published to stimulate the capital supply required for the development, such as allowing the deep-pocket insurance companies to enter this market. Incentive

⁵⁰ JLL. (2018, December 11). China's Rental Housing Market. Figure 6 & 8. Retrieved from <https://www.joneslanglasalle.com.cn/en/newsroom/china-rental-housing-market>.

⁵¹ JLL noted: future supply refers to projects planned to complete and launch by 2022.

for renters has also been promoted in the new tax code, effective from January 2019, in which a certain amount of rents can be deducted from the personal income tax base.

With the strong demand and policy support, state-owned enterprises, developers, operators and investors rushed into this market to fill the inadequate supply. Besides those overseas institutional investors who have already formed local partnerships, more FIIs are expected to sign up for the surging build-to-rent model. Partnering with experienced operators is of the same importance as developing the assets in the right locations for the success of the business model. Whereas the available prime locations to build apartments are scarce, hotels might be good targets to acquire and then transform to rental apartments since hotels are usually built in CBD areas or other busy locations with convenient access to transportation. In terms of the return performance, there is not adequate data to perform analysis. According to JLL's survey on 30 major domestic and foreign institutional investors, about 31% of respondents required a yield on cost more than 5.5%, and 48% of investors for 4.5%-5.5% while another 7% institutions were satisfied with 4.0%-4.5% yield with the remaining 14% indicating no specific return requirement at the moment.

Geographic Highlights

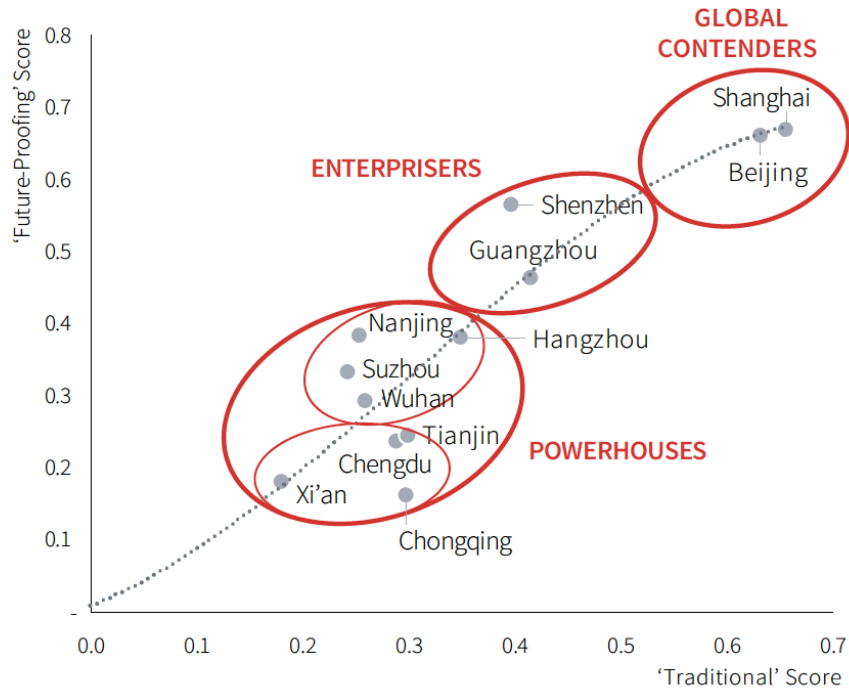
As real estate has been generally considered a local business and the performance is largely driven by the economic momentum, navigating on the map to find the right market to deploy the capital is extremely important, particularly for FIIs.

China has been constantly optimizing its economic structure. Applying conventional methods for real estate investment decisions might no longer be adequate. According to JLL, cities should be assessed on their future-proofing characteristics including variables in 9 categories (education, talent, innovation, next generation corporate activity, livability, environment, infrastructure, regional clustering and real estate transparency), as well as the traditional metrics including variables in 6 categories (size, wealth, growth, connectivity, traditional corporate activity, investment and openness). A sum of 12 cities have been identified as leading cities in the country as Figure 26 shows.⁵²

⁵² JLL Global Research. (April 2018). China 12: China's Cities Go Global. Figure on Page 14. Retrieved from <https://www.joneslanglasalle.com.cn/en/trends-and-insights/research/china-12-china-cities-go-global>.

Figure 26: 12 Leading Cities in Mainland China

China12: A New Evolution Curve



Source: JLL

These cities are reviewed on the ranking of foreign investment volume by city (Figure 12 and Table 5 of this thesis). Most leading cities have gained the amount of investment from relatively consistent with their positions on the evolution curve except for Wuhan and Xi'an. These two cities didn't make it into the top 25 on the ranking as FIIs spent only 0.2% and 0.1% respectively, of the total capital deployment in China.

A pattern between the geographic location and the score has been observed here. Cities above the evolution curve are performing relatively better in the future-proofing features and located in the south or east coast part of China, such as Shenzhen, Nanjing, Suzhou and Wuhan. Cities below the evolution curve are stronger under the traditional metrics and are located in the north part of or towards inland China, such as Tianjin, Chengdu and Chongqing. Cities with better performance in future-proofing scores are expected to have more balanced scores in both metrics faster than the other group because of their attractiveness to talents, which is the fundamental key to the growth of everything.

The border between cities has started to fade out as the modern infrastructure for transportation increase the mobility of people and business. Therefore, these cities should be assessed in the context of a larger geographic coverage rather than a standalone perspective when making strategic investment decisions. The

city cluster concept emerged a few years ago and the central government has promoted three urban clusters in its economic development plan: Jing-Jin-Ji, Yangtze River Delta and Greater Bay Area. Basic demographic and economic indicators of these clusters are summarized in Table 11⁵³.

Table 11 Key Indicators in Three Major Urban Clusters, 2017

Parameter	Jing-Jin-Jin	Yangtze River Delta	Greater Bay Area
Key Cities	13	26	11
Land Area (square meter)	146000	211000	56000
Population (millions)	112	128	70
GDP (USD, trillions)	1.3	2.6	1.6
GDP per Capita (USD)	11000	13000	23000
Urbanization Rate (%)	48.7	69	70.3
Tertiary Industry Proportion (%)	58.6	54.4	64.9

Source: CBRE

Jing-Jin-Ji stands for Beijing-Tianjin-Hebei where Beijing has been positioned as China's national political center, culture center, international communication center and science & technology innovation center, Tianjin is transitioning to a R&D center for manufacturing and a pilot area for financial innovation and reform while Hebei is upgrading from heavy polluting industries and taking over some business sectors from Beijing. Located 120km southwest to Beijing, the newly launched Xiong'an New Area in Hebei province, is the northern version of the Special Economic Zone in Shenzhen and the Pudong New Area in Shanghai. It is expected to accelerate the integration plan of Jing-Jin-Ji.

Yangtze River Delta (YRD) consists of 26 cities including Shanghai and 25 cities in Jiangsu, Zhejiang and Anhui provinces. Shanghai has been positioned as China's international economic center, international financial center, international trade center and international shipping center. It is the hub that continues driving the growth of the surrounding cities. Five metropolitan clusters within YRD are led by Nanjing, Hangzhou, Hefei, Suzhou-Wuxi-Changzhou, and Ningbo with different development strategies in shaping the clusters into advanced manufacturing bases, high technology innovation hubs, regional logistics centers and shipping service centers.

Comprised of 9 cities and 2 special administrative regions in south China, the Greater Bay Area (GBA) has been plotted to transition into a global technology innovation and advanced manufacturing hub, and a modern services industrial leader. The integration of GBA will be led by Hong Kong, Macau, Guangzhou and Shenzhen, with focuses on different industrials including international finance, trade, law service, travel and leisure, transportation, technology and manufacturing.

⁵³ CBRE Research. (2018, August 30). Greater Bay Area: China's Pioneer Urban Cluster, Future Top World Bay Region. Page 8.

Debt Investment

While this research mainly focuses on equity investment through asset transactions or joint venture structures, the real estate debt market presents unique opportunities for foreign institutional investors at this special moment. As China's deleveraging campaign continues, it becomes more difficult for Chinese developers to borrow money and they are willing to pay a premium in exchange for urgently needed financing. Foreign investors can become the lenders and offer mezzanine lending.

As of the end of 2018, China's commercial banks reported US\$298 billion of non-performing loans (NPLs) on their balance sheets. Purchasing property-backed NPLs provides another channel for FIIs to participate in the Chinese real estate market. Investors with extensive experience can achieve ownership of the target assets through the loan to own strategy. However, this is not suitable for all FIIs. The understanding of local legal structure and market momentum, are paramount to generate positive returns.

ii. Risks

With all the benefits discussed in chapter II and the opportunities presented in the last section from investing globally, FIIs should not ignore the additional risks that are associated with overseas real estate investment. Geltner identified that transaction cost, information cost, political risk, economic risk, currency risk and liquidity concerns are the main obstacles for international real estate investment.⁵⁴ This section discusses specific risks for FIIs to bear in mind when they enter the Chinese real estate market.

Economic Risk

The ongoing trade tension between the top two world powerhouses has casted doubts on the growth of the Chinese economy. However, the impact on the Chinese real estate market varies by sector. According to CBRE, around 20% of space in China's grade A office market is occupied by United States and Chinese companies operating in sectors that are subject to tariffs. The industrial sector has suffered the most as low-cost labor-intensive manufactures accelerate their plan of relocating production outside of China. The logistics sector is likely to remain less vulnerable as roughly 80% of the logistics leasing in the first half of 2018 was by domestic e-commerce and 3PL firms.⁵⁵

China has issued multiple measures to alleviate the trade war's impact on its economic growth including legal support and financial stimulus. The central government has approved a Foreign Investment Law (FIL) in its March conference 2019. Taking effect on January 1, 2020, FIL is designed as a framework to further build a fair and transparent business environment for all individual foreign investors and foreign-invested enterprises. The articles have established policy measures and protective measures for promoting foreign investment. The law confirms "pre-establishment national treatment and negative list" as the basic statutory scheme. Foreign investment will be treated no less favorably than domestic investment during the investment access stage, except for the investment into areas that specified in the Special Administrative Measures for the Access of Foreign Investment (Negative List). The negative list sets out restrictions in different industries with the total number of measures over 100 at peak time and gradually declining to 48 in the latest release to demonstrate China's continuous commitment to the opening up policy. The service sector has been liberalized most while the manufacturing industry has achieved basic liberalization and the access to agriculture and energy resources has been widened.⁵⁶ A few examples are summarized as follows:

⁵⁴ Geltner, D., Miller, N, Clayton, J., & Eichholtz, P. (2014). *Commercial Real Estate Analysis and Investments* (3rd Edition). OnCourse Learning.

⁵⁵ CBRE Research. (2018, October 9). *The U.S.-China Trade Conflict Drags On: The Latest Implications for Real Estate*. CBRE Asia Pacific Marketflash.

⁵⁶ LehmanBrown International Accountants. (2018). Analysis on "The Negative List": Special Administrative Measures on Access to Foreign Investment 2018. Retrieved from https://www.lehmanbrown.com/wp-content/uploads/2018/08/pdf_Analysis-on-“The-Negative-List”-2.pdf.

- The restriction on the proportion of foreign share in commercial banks has been removed. It was no more than 20% for single shareholding and no more than 25% for total shareholding.
- The allowed proportion of foreign share in securities companies, futures companies and insurance companies have been changed from 50% to 51%. The 51% restrictions will be removed completely in 2021.
- The restrictions on the proportion of foreign share in special vehicle and new energy vehicle manufacturing have been removed. The restrictions on the proportion of foreign share in commercial vehicle manufacturing and in passenger vehicle manufacturing will be removed in 2020 and 2022 respectively.

This revision provides foreign investors the opportunity to obtain controlling positions in the joint venture company and even operate a wholly-owned subsidiary in the future. With the business environment becoming more flexible, it is anticipated that more foreign firms, especially the financial institutions, will enter into the Chinese market or expand the business footprints in the country, a movement that would offset some of the demand lost as a result of the trade conflicts.

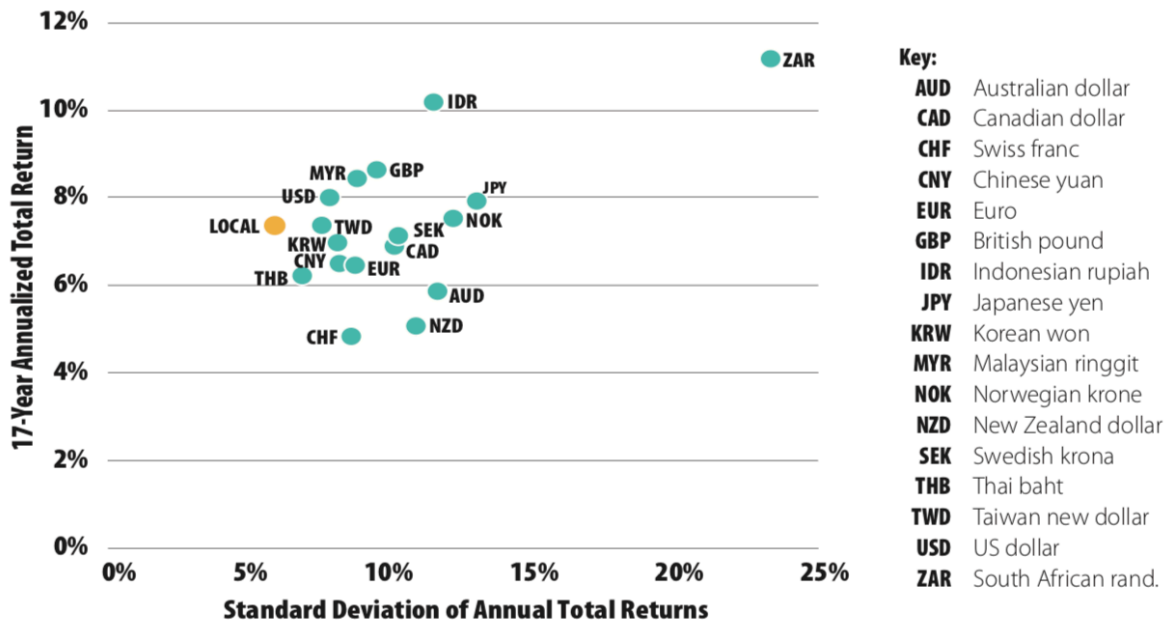
A series of financial stimulus have been promoted as well. The reserve requirement ratio for most domestic banks has been reduced by 100 basis points to facilitate local liquidity and lower financing cost to support the business growth of enterprises. Tax cuts on personal income have also been implemented to increase the household disposable income, potentially boosting domestic consumption.

Currency Risk

According to MSCI's research on the 17-year history (2001-2017) of the MSCI IPD Global Annual Property Index, the performance could be quite distinct for investors in different countries as Figure 27 shows.⁵⁷ Local stands for a fully hedged calculation. The index performs better from the perspective of a US dollar-denominated investor compared to a Chinese yuan-denominated investor as total returns increased by more than 100 basis points while the standard deviation slightly decreased. Certain financial tools are necessary to hedge the risk of foreign currency exchange rate especially in the volatile markets.

⁵⁷ PREA. (Summer 2018). The Increasing Importance of Currency Risk in Real Estate. PREA Quarterly. Retrieved from <https://docs.prea.org/pub/9ac89025-fe46-72d3-1412-f1c33ac64b48>.

Figure 27: Global Annual Property Index in Different Currencies, 2001-2017



Source: MSCI

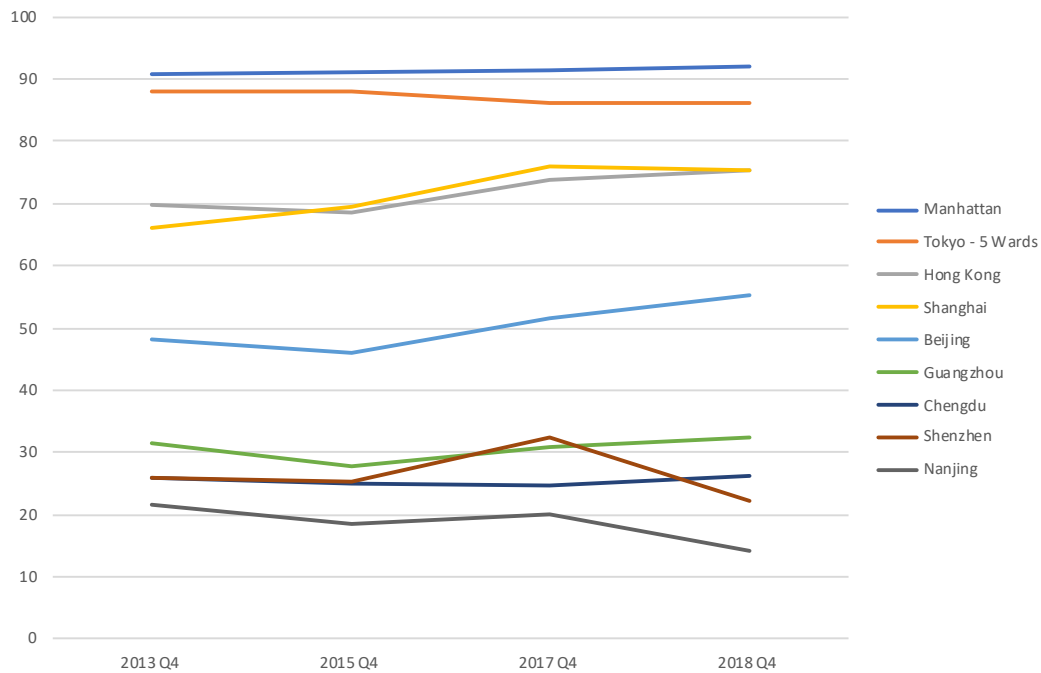
Liquidity Concern

Liquidity has always been a concern to investors in the private real estate market. It raises even more issues to private equity firms who usually invest real estate through a closed-end fund which has a finite fund life. All assets held in such vehicles would be divested when the term expires. Therefore, whether the firm could sell its assets to other investors at satisfactory prices is the key to determine the return performance. The more active, the higher level of liquidity of a market is.

According to the latest RCA Capital Liquidity Scores⁵⁸ that measure six parameters including market volume, unique buyers, percentage of institutional investment, percentage of global cross-border capital, percentage of global market maker and percentage of zone market maker, most Chinese mainland cities are way behind Manhattan, the most active real estate market in the world, and Tokyo (5 wards), the most active market in Asia Pacific. Shanghai leads the country liquidity ranking with a score of 75.3, followed by Beijing (55.4), Guangzhou (32.2), Chengdu (26.3), Shenzhen (22.2) and Nanjing (21.6). While other markets continue improving the liquidity over the past few years, Shenzhen and Nanjing become less liquid than 5 years ago.

⁵⁸ Real Capital Analytics. (2018). *Capital Liquidity Scores Year-End 2018*.

Figure 28: RCA Capital Liquidity Scores



Source: RCA

Some of these risks and concerns could be mitigated through the improvement of market transparency. According to the Global Real Estate Transparency Index published jointly by JLL and LaSalle Investment Management⁵⁹, China has made slow but firm progress in improving property market transparency. In 2004, China was in the low transparent tier, one tier lower than the semi-transparent. According to the latest issue in 2018, the country is ranked 33rd, just one step away from semi-transparent to transparent. However, it is still far behind the countries in the high transparent group as Table 12 presents. The investment performance, regulatory and legal, and sustainability are areas where most improvement is needed.

Table 12: Transparency Ranking of Property Markets in Asian Regions, 2010 & 2018

Transparency Tier	Region	2010	2018
High Transparent	Australia	1	2
	New Zealand	4	7
Transparent	Singapore	16	12
	Hong Kong	18	13
	Japan	26	14
	South Korea	42	31
Semi-Transparent	China	45	33
	India	49	35

Source: JLL

⁵⁹ JLL. Global Real Estate Transparency Index 2006, 2010 & 2018.

Chapter VI Conclusion

At the beginning of foreign institutional investment in the Chinese real estate sector, investors used to invest in the assets through their opportunistic strategy as they considered the market risky for many reasons such as the economic uncertainties, legal and policy barriers for foreign investments, and the low transparent real estate market. Additionally, no scalable assets at the investible grade were available to FIIs. As market transparency improved and the pool of investable real estate increased, more institutions started to feel comfortable holding prime assets through their core or core plus investment vehicles. With the increasing knowledge and experience about the local market, many FIIs adopted a more active strategy via value-add investment. Some investors behaved more aggressively by targeting distressed assets and seeking for higher returns with their expertise and confidence in the market.

Despite concerns arising from the trade war and the slowing growth of Chinese economy, the series of financial stimulus and policy support released by the government potentially offset some of the impact from the trade war and promote an organic growth of the economy. The fact needs to be acknowledged that China is transforming into a more balanced economy, driven by technology innovation and domestic consumption. Huge real estate investment opportunities are presented in the leading urban clusters and megacities to both the domestic and the foreign investors.

From the long-term perspective, new foreign institutions will come to the Chinese real estate market and the existing investors will expand their investment plans to share the growth of the property business as the sector continues evolving towards a transparent and mature market. The investment pattern is expected to be more dynamic in different property types across the risk spectrum by a more diverse pool of institutional investors.

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Appendix

Appendix A-1: Top 100 Real Estate Investors, 2018, 1-50

Rank	Investor	Country/Region	Real Estate AUM (\$'000s)	Total Assets (\$'000s)
1	Abu Dhabi Investment Authority	UAE	62,100,000	828,000,000
2	APG	Netherlands	48,154,100	568,985,000
3	Allianz	Germany	41,805,400	796,100,000
4	AXA	France	40,128,400	911,969,000
5	Qatar Investment Authority	Qatar	35,000,000	335,000,000
6	Canada Pension Plan Investment Board	Canada	34,094,200	268,531,000
7	CalPERS	US	30,540,000	352,570,000
8	Swiss Life	Switzerland	28,623,300	217,957,000
9	PGGM	Netherlands	27,550,900	261,134,000
10	CDPQ	Canada	27,323,100	237,783,000
11	CalSTRS	US	26,600,000	225,000,000
12	Generali	Italy	26,400,000	542,000,000
13	Government Pension Fund Global	Norway	26,399,900	1,032,640,000
14	GIC	Singapore	25,130,000	359,000,000
15	Temasek	Singapore	23,999,100	197,066,000
16	National Pension Service	South Korea	23,220,700	582,446,000
17	Ontario Teachers' Pension Plan	Canada	22,957,600	189,847,000
18	Prudential	UK	22,256,500	666,388,000
19	China Investment Corporation	China	21,557,750	813,500,000
20	NYSTRS	US	20,500,000	121,000,000
21	British Columbia Investment Corp	Canada	19,005,300	102,861,000
22	Bayerische Versorgungskammer	Germany	17,968,000	86,315,700
23	Teacher Retirement System of Texas	US	17,500,000	146,000,000
24	Washington State Investment Board	US	16,200,000	104,000,000
25	The Crown Estate	UK	15,911,100	18,524,700
26	PSP Investments	Canada	15,458,300	99,503,200
27	Aviva	UK	14,566,500	597,237,000
28	Florida State Board of Administration	US	14,200,000	211,000,000
29	Cathay Life	Taiwan	14,100,600	171,814,000
30	AIMCo	Canada	14,000,000	101,000,000
31	MetLife	US	13,900,000	898,764,000
32	NYSCRF	US	13,500,000	209,100,000
33	Healthcare of Ontario Pension Plan	Canada	13,400,000	77,400,000
34	MEAG Munich ERGO	Germany	13,176,500	302,461,000
35	Standard Life Aberdeen	UK	13,152,600	267,276,000
36	MN	Netherlands	12,577,600	153,327,000
37	OMERS	Canada	12,347,200	78,810,900
38	Zurich Insurance Group	Switzerland	12,000,000	207,261,000
39	Manulife	Canada	11,948,900	266,221,000
40	AMF	Sweden	11,395,300	72,522,500
41	BpfBouw	Netherlands	10,181,800	67,918,900
42	Ohio STRS	US	9,800,000	78,800,000
43	Legal & General	UK	9,592,270	682,491,000
44	PFA	Denmark	8,797,550	98,931,000
45	Hong Kong Monetary Authority	Hong Kong	8,381,620	466,624,000
46	North Carolina Retirement Systems	US	8,300,000	98,200,000
47	Alecta Pensionsförsäkring	Sweden	7,883,990	99,288,900
48	AustralianSuper	Australia	7,804,880	130,000,000
49	Ohio PERS	US	7,600,000	86,700,000
50	Oregon PERF	US	7,600,000	77,300,000

Source: IPE. <https://realassets.ipe.com/top-100-and-surveys/the-top-100-real-estate-investors-2018/10024573.article>

Appendix A-2: Top 100 Real Estate Investors, 2018, 51-100

Rank	Investor	Country/Region	Real Estate AUM (\$'000s)	Total Assets (\$'000s)
51	Migros	Switzerland	7,350,420	24,580,500
52	Virginia Retirement System	US	7,300,000	78,300,000
52	ATP	Denmark	7,300,000	128,167,000
54	BT Group	UK	7,222,970	62,391,500
55	New Jersey Division of Investment	US	7,200,000	77,500,000
56	Ilmarinen	Finland	7,127,290	54,892,100
57	Alaska Permanent Fund Corporation	US	7,086,800	64,481,000
58	Illinois Teachers Retirement System	US	7,000,000	49,900,000
59	Michigan Retirement System	US	6,960,000	69,900,000
60	State of Wisconsin Investment Board	US	6,400,000	100,300,000
61	LACERA	US	6,200,000	55,600,000
62	Future Fund	Australia	6,130,160	102,297,000
63	AMP Superannuation	Australia	6,106,020	130,389,000
64	Mass PRIM	US	6,100,000	71,700,000
65	Pennsylvania SERS	US	5,723,000	55,257,000
66	Korea Investment Corporation	South Korea	5,700,000	110,800,000
67	Samsung	South Korea	5,681,920	219,372,000
68	Pennsylvania PSERS	US	5,550,000	55,900,000
69	Kanton Zürich	Switzerland	5,304,580	29,859,200
70	AP1	Sweden	5,200,000	40,300,000
71	Employees Provident Fund	Malaysia	5,168,250	178,511,000
72	Enpam	Italy	5,162,440	18,964,100
73	Danica Pension	Denmark	4,825,510	68,683,100
74	AP2	Sweden	4,623,920	42,089,800
75	Qsuper	Australia	4,561,610	72,978,000
76	AP3	Sweden	4,538,740	42,004,600
77	Varma	Finland	4,314,700	54,393,800
78	NN Group	Netherlands	4,290,750	271,989,000
79	Maryland SRPS	US	4,255,200	51,875,300
80	Swiss RE	Switzerland	4,090,000	11,580,000
81	TCRS	US	4,049,446	46,238,788
82	Colorado PERA	US	3,922,626	43,649,362
83	General Motors	US	3,634,000	61,622,000
84	ASGA Pensionkasse	Switzerland	3,518,240	16,291,500
85	AP4	Sweden	3,516,610	43,391,800
86	Alberta HSTF	Canada	3,508,190	14,940,100
87	PKA	Denmark	3,458,280	44,233,900
88	Arizona State Retirement System	US	3,411,336	38,389,061
89	Elo	Finland	3,368,390	27,614,300
90	Coal Pension Trustees	UK	3,362,420	25,903,100
91	BVV	Germany	3,319,280	37,385,300
92	Ontario Pension Board	Canada	3,248,380	18,077,100
93	Sunsuper	Australia	3,222,930	35,748,000
94	Cbus	Australia	3,218,330	30,768,700
95	Hanwha Life	South Korea	3,168,000	128,151,000
96	Missouri PSRS/PEERS	US	3,157,690	41,957,562
97	Royal Bank of Scotland	UK	3,132,670	60,241,100
98	Hostplus	Australia	3,123,080	24,260,500
99	Pension Benefit Guaranty Corporation	US	3,114,000	108,458,000
100	Wellcome Trust	UK	3,006,570	34,513,900

Source: IPE. <https://realassets.ipe.com/top-100-and-surveys/the-top-100-real-estate-investors-2018/10024573.article>

Appendix B: PERE 50, 2018

Rank	Change	Firm	Headquarters	Fundraising Total (\$m)
1	■	Blackstone	New York	49,824.00
2	▲ 1	Brookfield	Toronto	29,064.93
3	▲ 1	Starwood Capital Group	Miami Beach	21,912.40
4	▼ 2	Lone Star Funds	Dallas	18,600.00
5	▲ 8	The Carlyle Group	Washington DC	11,022.18
6	▼ 1	GLP	Chicago	10,672.64
7	◆	Pacific Investment Management Co.	Newport Beach	10,100.00
8	▲ 25	AEW Global	Boston	7,847.78
9	▲ 3	GreenOak Real Estate	New York	7,003.02
10	▼ 4	Tishman Speyer	New York	6,861.42
11	▼ 4	Oaktree Capital Management	Los Angeles	6,428.00
12	▼ 3	CBRE Global Investors	Los Angeles	6,364.10
13	▲ 8	Angelo Gordon	New York	5,941.00
14	▲ 1	Ares Management	Los Angeles	5,817.60
15	▼ 5	Rockpoint Group	Boston	5,611.80
16	▲ 1	CIM Group	Los Angeles	5,392.11
17	▲ 3	Crow Holdings Capital Partners	Dallas	4,980.70
18	▲ 8	Rialto Capital	Miami	4,730.00
19	▲ 10	Cerberus Capital Management	New York	4,662.17
20	▲ 2	Morgan Stanley Real Estate Investing	New York	4,634.25
21	▼ 5	LaSalle Investment Management	Chicago	4,554.80
22	▼ 14	Westbrook Partners	New York	4,402.00
23	▼ 4	Gaw Capital Partners	Hong Kong	4,319.60
24	▲ 11	Harrison Street Real Estate Capital	Chicago	4,262.73
25	■	Walton Street Capital	Chicago	4,073.70
26	▲ 19	KKR	New York	4,054.00
27	▲ 10	Bridge Investment Group	Salt Lake City	3,975.00
28	▼ 10	Colony Northstar	Los Angeles	3,966.04
29	▲ 111	ESR	Hong Kong	3,935.69
30	▼ 3	Meyer Bergman	London	3,883.46
31	▲ 1	Kildare Partners	London	3,860.00
32	▼ 9	Invesco Real Estate	Dallas	3,777.00
33	▲ 10	Partners Group	Zug	3,686.00
34	▲ 2	KSL Capital Partners	Denver	3,552.48
35	▲ 11	Exeter Property Group	Conshohocken	3,531.27
36	▼ 5	Orion Capital Managers	London	3,529.95
37	▼ 26	PGIM Real Estate	Madison	3,511.69
38	▼ 10	DRA Advisors	New York	3,421.00
39	▲ 11	Keppel Capital*	Singapore	3,410.00
40	▲ 4	Aermont Capital	London	3,403.73
41	▲ 16	DivcoWest	San Francisco	3,361.00
42	▼ 12	PAG	Hong Kong	3,355.00
43	▲ 6	Kayne Anderson Capital Advisors	Boca Raton	3,280.00
44	◆	Patrizia**	Augsburg	3,003.15
45	▼ 5	Tristan Capital Partners	London	2,897.18
46	▼ 12	GTIS Partners	New York	2,842.80
47	▼ 5	Almanac Realty Investors	New York	2,669.61
48	▼ 34	Fortress Investment Group	New York	2,613.48
49	▲ 11	BlackRock Real Estate	New York	2,578.79
50	▼ 12	Northwood Investors	Denver	2,566.25
TOTAL RAISED				333,747.51

Source: PEI. <https://www.perenews.com/pere-50>.