DWS

Marketing Material*

ASIA PACIFIC REAL ESTATE STRATEGIC OUTLOOK

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflects our current views only, is subject to change, and is not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). Outside the U.S. for Institutional investors only. In the United States and Canada, for institutional client and registered representative use only. Not for retail distribution. Further distribution of this material is strictly prohibited. In Australia, for professional investors only. *For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda.

Table of Contents

1 / Executive Summary **3**

2 / The Economy **5**

2.1 Regional Economic Outlook 5

2.2 Country Outlook 8

2.3 Risks to the Forecast 9

3 / Strategic Real Estate Outlook **10**

3.1 Real Estate Performance 10

3.2 Strategic Investment Themes 11

3.3 Capital Markets 13

4 / Property Sectors and Returns **19**

4.1 Office 19

4.2 Retail 23

4.3 Industrial 25

4.4 Residential 27

5 / Risk Return Profile (office sector) **30**

6 / Overview of Key Asia Pacific Markets **32**

7 / Environmental, Social, and Governance (ESG) Outlook **38**

Important Information **39**

Research & Strategy—Alternatives **43**

The opinions and forecasts expressed are those of Asia Pacific Real Estate Strategic Outlook and not necessarily those of DWS. All opinions and claims are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

1 / Executive Summary

Macroeconomic conditions in Asia Pacific continued to slow down in the first half of 2019 along with signs of weakening economic indicators which suggest growth is likely to moderate ahead. Meanwhile, unemployment rates either held steady or continued to decline, particularly in Japan and Australia. Monetary policies in Asia remain broadly accommodative underpinned by low inflationary pressures. Nonetheless, risk factors persist ranging from uncertainties surrounding China's growth and economic health to global trade risks, which could adversely impact regional trade and export demand. Barring any shocks or unexpected shifts in the baseline, regional economic growth is expected to decline from 5.3% in 2018 to 5.1% in 2019[1].

Despite the macro headwinds, real estate performance across much of the Asia Pacific region remains healthy on the back of strong capital markets and stable occupier fundamentals. Across the region, key cities in Japan, Hong Kong, Singapore and Australia continued to see healthy office leasing demand in the first half of 2019, while the weight of capital targeting quality assets have contributed to further cap rate compression in core markets. The regional markets in Japan with healthy fundamentals appear increasingly attractive from a risk-return perspective within the context of a core strategy portfolio.

While property returns in recent years have been underpinned by rental growth and cap rate compression, total returns in the coming years are likely to be driven mostly by income yields with capital growth likely capped by yield expansion given increasing prospects of higher interest rates. Nevertheless, in our view, Asia Pacific commercial real estate markets may continue to deliver healthy core unlevered aggregate total returns ranging between 5.5% - 7.6% per annum (by sector) over the next five years with industrial returns outperforming office, retail and residential returns[2].

[1] IMF World Economic Outlook, April 2019.
[2] Source: DWS, as at July 2019. Refer to Exhibit 5 on page 11 for further details.
Note: f = forecast. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

ASIA PACIFIC REAL ESTATE KEY STRATEGIES[3]:

★ (teal) Overweight target market ★ (green) Market-weight target market

Strategy	Target	Theme	Sector	Countries/Cities	Main Rationale
Core Strategy	★ Overweight	Core Locations with Strong Fundamentals	Office	Sydney, Melbourne and Osaka	Further rental upside potential with stable occupier demand outpacing limited supply in the next couple of years.
			High Street Retail	Osaka	Healthy leasing demand for prime retail underpinned by high tourist footfall or local catchment, supporting sales of luxury brands.
	★ Overweight	High Yields Underpinned by Stable Cash Flows	Logistics	Japan, South Korea, Singapore, Australia	High income yields and forecast total returns underpinned by favourable demographic dynamics and rising e-commerce retail trends.
	★ Overweight	Regional Markets	Office	Regional cities in Japan	Rental growth supported by historical low vacancy rate and limited supply. Low borrowing costs underpin high levered returns.
			Office	Brisbane	High entry yields and potential for market-driven returns. Cyclical office rental recovery expected with receding supply to lift vacancy pressures.
	★ Market-weight	Mid-Term Opportunities	Office/Retail	Tokyo, Seoul	Tough competition from J-REITs but opportunities arise in small and mid-sized assets in Tokyo. Subdued office demand in Seoul CBD while fundamentals healthier in GBD and YBD.
			Regional / Suburban Retail	Sydney, Melbourne	Suburban retail catering to local catchment underpinned by demand for staple non-discretionary spending.
	★ Market-weight	Cyclical Uplift in Recovery Markets	Office/ Business Parks	Singapore	Cyclical rental recovery underway as leasing sentiment improves coupled with diminished supply pressures over next few years.

Strategy	Theme	Sector	Countries/Cities	Main Rationale
Core Plus and Value Added Strategy	Active Asset Management	Office	Japan, South Korea, Australia, Shanghai, Beijing	Utilize asset management specialty and local knowledge to enhance asset performance and improve cash flows of older but well-located assets.
		Retail	Japan, South Korea, Australia, Shanghai, Beijing	Improvement of foot traffic and reposition tenant mix for underperforming high street retail and shopping centres.
	Forward Commitments	Office/Retail/ Logistics /Hotel	Japan, South Korea, Australia and China	Gain acess and potential for higher returns compared to investments in core stabilized assets.

[3] See chapter 3 for further discussion on Core Strategy, Core Plus and Value Added Strategy.

All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation. No assurance can be given that investment objectives will be achieved.

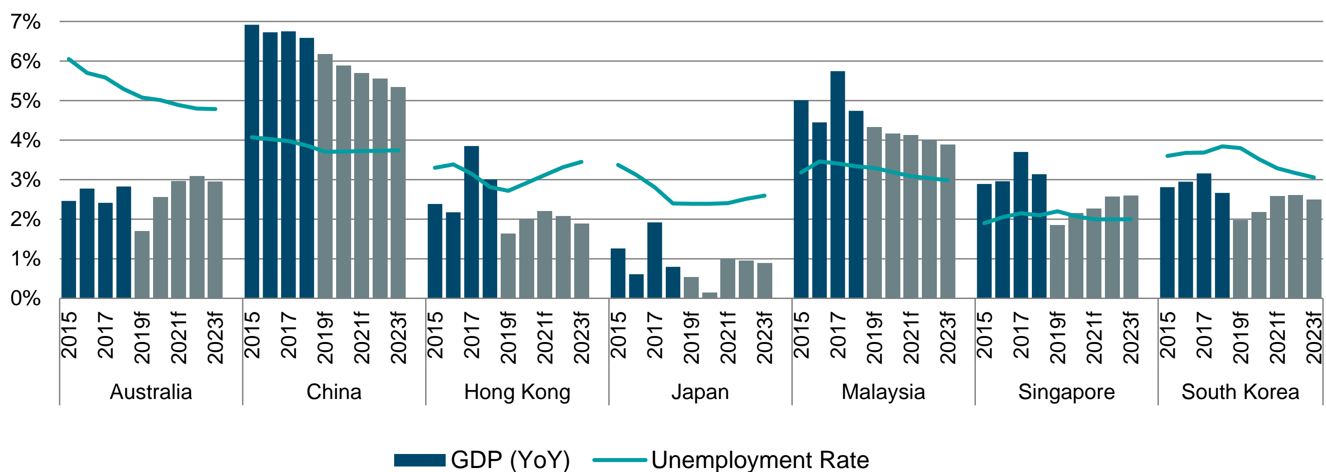
2 / The Economy

2.1 Regional Economic Outlook

Since the second half of 2018, Asia Pacific experienced a slowdown in macroeconomic conditions which continued into 2019 as global trade headwinds increased. In China, industrial output and manufacturing conditions slowed in the first half of 2019 as exports cooled significantly, though retail sales and consumption growth remained relatively strong drivers for the economy. Australia's transition towards a more diversified growth led by the non-mining sectors has continued, particularly in the Eastern states. In Japan and South Korea, business sentiment has turned lower as concerns mount over slowing manufacturing and exports activities, while Singapore's economic growth has slowed significantly in the past couple of quarters as manufacturing growth decelerated sharply. On a positive note, domestic demand has been relatively resilient as labour market conditions stood firm, as evidenced by the declining or stable unemployment rates in most countries with the exception of South Korea.

The region's economic performance remains partially supported by favourable monetary policies where central banks continue to balance between the risks of high asset prices and stimulating domestic demand amidst low inflationary pressures. Nonetheless, downside risks persist from rising anti-globalisation sentiments which could potentially lead to increased protectionism involving higher trade tariffs impeding export demand. On a positive note, trade negotiations have recently stepped up surrounding the China-led Regional Comprehensive Economic Partnership, which include major developed and developing nations in Asia Pacific. Any successful deal conclusion would strengthen intra-regional trade and boost regional growth prospects. Barring any unexpected shocks or shifts in the baseline, Asia Pacific's economic growth is expected to slow slightly from 5.3% in 2018 to 5.1% in 2019[4].

EXHIBIT 1: ASIA PACIFIC REAL GDP GROWTH & UNEMPLOYMENT RATES



Notes: f = forecast. There is no guarantee the forecasts will materialize.
Sources: DWS, Oxford Economics, Bloomberg. As of June 2019

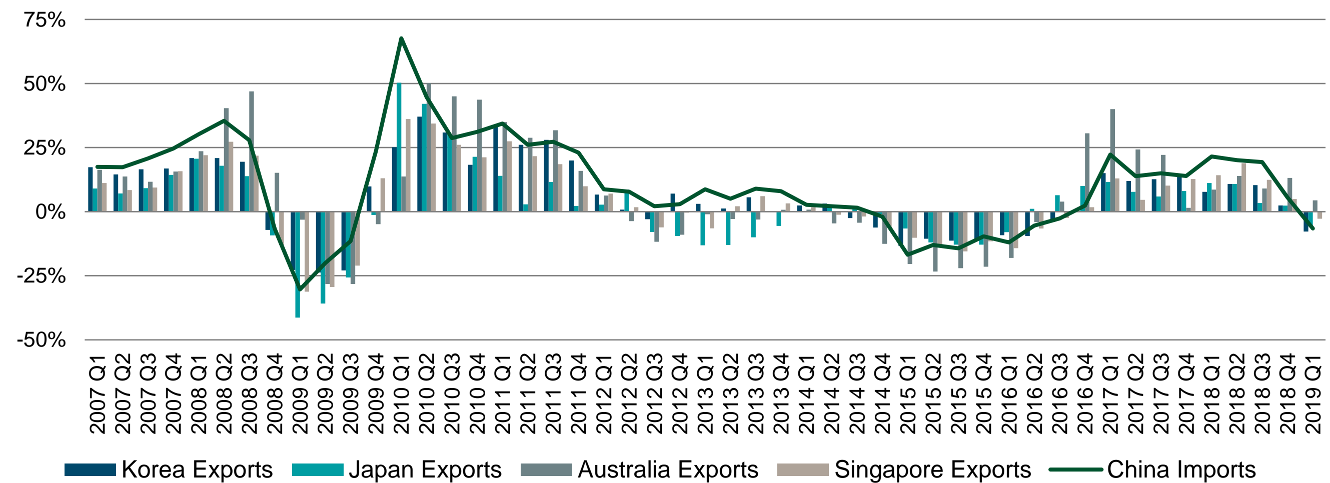
[4] IMF World Economic Outlook, April 2019.

External demand

In the U.S, growth momentum remains supported by consumer spending although recent business indicators suggest moderating manufacturing and investment activity. The Eurozone continued to register weak GDP growth of 0.4% in the first quarter of 2019, just marginally higher than the 0.2% recorded in the preceding quarter. In the Asia Pacific region, regional export and economic growth have decelerated significantly, with weaker PMI readings and export growth falling in negative territory since the beginning of 2019, as China cut back on imports from its trading partners, with imports in USD terms down 3.7% for the first five months of 2019, a sharp reversal of the 15.8% growth in 2018.

Downside risks have clearly increased following rising protectionism and the ongoing global trade tensions. The United States have already imposed tariffs on steel and aluminium imports on its major trading partners, while threatening further tariffs on European and Japanese automakers. More significant are the US$250 billion equivalent of tariffs on imports from China already in place, with the threat of an additional US$300 billion of tariffs. According to recent IMF projections[5], the combined impact of these tariffs on China alone could reduce global GDP growth by up to 0.5% in 2020.

EXHIBIT 2: GROWTH IN ASIA'S EXPORTS AND CHINA'S IMPORTS (Y-O-Y %)



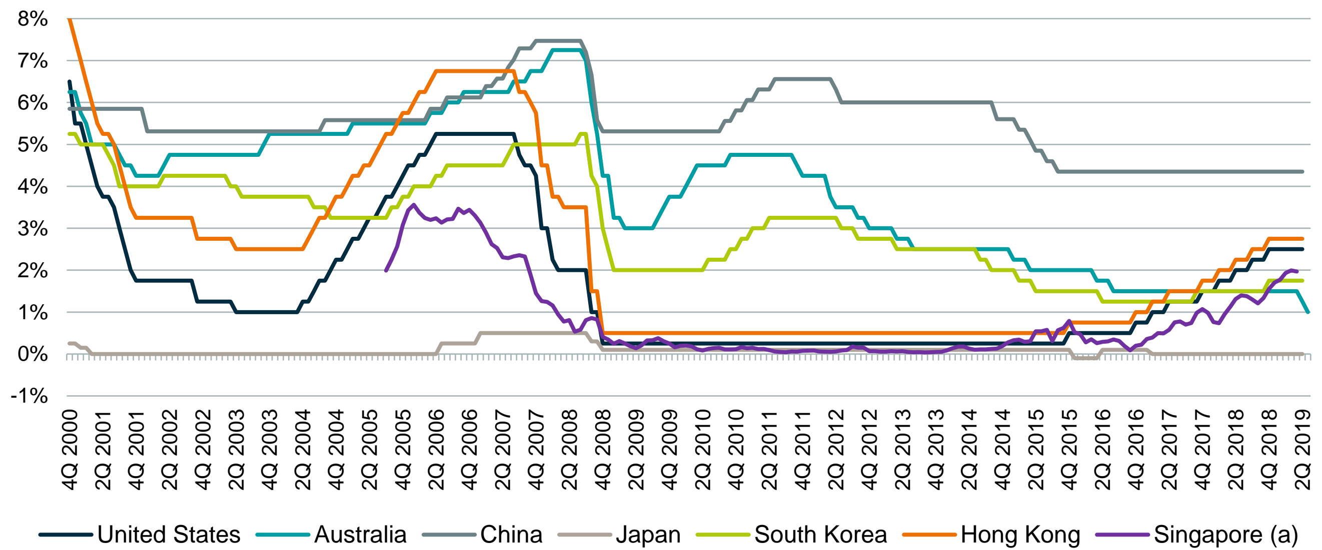
Source: DWS, Oxford Economics. As of June 2019.

Monetary policy

While the year of 2018 saw monetary policy tighten across several Asia Pacific economies in line with the interest rate hikes implemented in the United States, 2019 marked a reversal with Asian central banks shifting towards a more accommodative stance in lieu of ongoing macroeconomic uncertainties. Beginning in May, Malaysia, New Zealand and Australia followed India and Philppines in the easing cycle, with these countries implementing their first rate cuts in three years since 2016, amid rising expectations of futher easing to come. Elsewhere, China had stepped up efforts to increase credit growth by lowering the bank required reserve ratio (RRR) for the sixth time since 2018, while central banks in Japan and Korea continued to maintain domestic policy rates at all-time lows in support of domestic demand. Going forward, central banks in the region are expected to keep monetary policies supportive in favour of growth amidst rising uncertainties over global demand.

[5] IMF G-20 Finance Ministers and Central Bank Governors' Meetings, June 2019

EXHIBIT 3: POLICY RATES IN MAJOR ASIA PACIFIC ECONOMIES

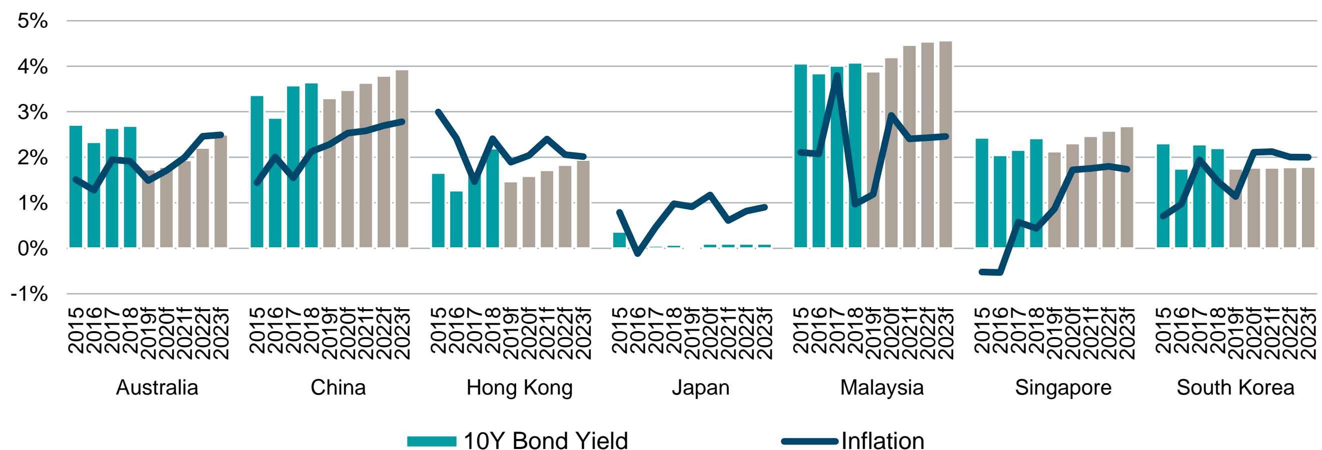


(a) Based on the Singapore domestic interbank overnight rate
Sources: DWS, Oxford Economics, Bloomberg. As of June 2019.

Inflation and Bond Yields

Inflationary pressures across Asia Pacific have remained largely benign on the back of weaker manufacturing activity, stable food inflation and moderating commodity prices. Inflation is expected to pick up gradually on the back of improving demand and consumption, averaging 1.5% - 2.6% over the next five years in the key countries in our coverage (ex Japan). Vis-a-vis current levels, ten year bond yields in key core countries (ex China/HK) are generally expected to rise by 10-90 basis points over the next five years.

EXHIBIT 4: INFLATION AND LONG TERM INTEREST RATES



Note: f = forecast. There is no guarantee the forecasts will materialize.
Sources: DWS, Oxford Economics, Bloomberg. As of June 2019.

2.2 Country Outlook

Japan: Japan's real GDP growth is expected to slow down to 0.5% in 2019[6], as concerns mounted rapidly among export-driven manufacturing industries. Positively, unemployment rate remained tight at a 25-year-low of 2.4%, with core CPI remaining healthy at 0.9% in April 2019[7]. The Bank of Japan stressed its willingness to maintain its long-term bond yield target near 0% at least till 2020, partly in anticipation of the possible downside risks from the planned increase in VAT consumption tax in October 2019.

South Korea: South Korea's real GDP is expected to grow by 2.5% in 2019, slightly lower than 2.7% in 2018[8], with concerns looming over the protracted U.S.-China trade negotiations and further hard-line tariffs by the U.S on Korean exports. Early expectations of base interest rate hikes in 2019 have reversed to the expectation of a potential rate cut in the second half of 2019 due to the uncertain economic outlook and sluggish export growth.

China: China's GDP growth is projected to slow further to 6 – 6.5% in 2019[6]. Broad economic indicators ranging from manufacturing PMI, industrial production and fixed asset investment growth have turned in weaker performances year-to-date, though resilient retail sales and consumption growth provided some support. Faced with the threat of higher U.S. tariffs on Chinese imports and rising pressures on external trade, the government has stepped in to support the economy through targeted stimulus measures and selective loosening of its monetary policy. Trade tensions and ongoing negotiations with the U.S remain key to determining the near-term economic outlook.

South East Asia: Growth in ASEAN economies is expected to remain relatively resilient. Overall export activities have weakened mainly due to lower electronic imports from China, though partially mitigated by higher exports to the United States as substitutes for Chinese goods. Private investment and consumption remain major drivers of domestic demand supported by long-term structural trends of rising urbanization and household incomes. Latest projections by IMF[9] forecast GDP growth of 5.1% for the leading ASEAN economies in 2019.

Singapore: Singapore's economic recovery has been supported by a manufacturing and exports upturn, while its services industries continue to see healthy growth. Nonetheless, the near-term growth outlook remains challenging with close links to global and regional trade. Domestic interest rates have risen gradually in line with previous U.S. rate hikes, and remain sensitive to the U.S interest rate outlook.

Australia: Australia's economy is expected to expand by 2.7% per annum over the next five years[6], supported by business investment and public infrastructure spending. Notwithstanding, consumer spending has been weighed down by subdued income growth. Since May, the Reserve Bank of Australia (RBA) has lowered the cash rate twice by a total of 50bps to 1% in early July. The lower cash rate should provide support to households via reduced mortgage borrowing rates and through lower borrowing costs for businesses. The RBA is expected to retain an easing bias and a further rate cut is expected to follow in Q3 2019.

[6] Oxford Economics, June 2019
[7] Bank of Japan, April 2019
[8] Bank of Korea Forecast, May 2019
[9] IMF World Economic Outlook, April 2019.

All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

2.3 Risks to the Forecast

Slowdown in China: Risks to the Asia Pacific region center around the outlook for China's growth. Being the largest trading partner for most APAC nations from natural resources in Australia to intermediate electronic and machinery products of export dependent nations such as Singapore and South Korea, a sharper-than-expected slowdown in China's economy would see trade flow and economic growth decline in the region. A deceleration in housing activity amid high home prices could weigh on investment and consumption while the relatively high debt-to-GDP ratio remains a concern.

Rising Trade Conflicts: Despite rising domestic consumption, Asia Pacific's economies remain highly dependent on exports trade. Rising anti-globalisation sentiments, particularly the recent tariff conflicts between the United States and China, if left unchecked, could directly reduce China's demand for industrial exports and adversely impact export and trade volumes, limiting economic growth across the region.

Interest rate volatility: Sudden and unexpected shifts in monetary policies enforced by central banks in response to domestic and global growth conditions could significantly impact the level of interest rates, and in turn borrowing costs in the region. This effect is amplified in key REIT markets which are interest rate sensitive, and affect the broader direct real estate markets in terms of transaction volume, yields and market sentiment. We have factored potential changes in interest rates in our cap rate assumptions although risks remain that cap rates might shift more significantly than anticipated.

Increased Government Debt levels: High levels of foreign debt were a major contributor leading to the Asian financial crisis in 1997-98. Though many countries in Asia Pacific are now on stronger financial footing, debt levels have generally increased across the region over the past decade. As at 2018[10], Japan's public Debt-to-GDP ratio remains high at 215%, compared to other APAC countries such as South Korea (39%), Australia (40%) and China (50%). In China, corporate leverage have risen sharply over time, with corporate debt-to-GDP levels reaching 152% in 2018. High debt levels present a potential long-term risk, limiting the flexibility of governments to either adopt expansionary fiscal policies to stimulate economic growth or tighten monetary policies.

[10] Bank of International Settlements Data, June 2019

3 / Strategic Real Estate Outlook[11]

3.1 Real Estate Performance

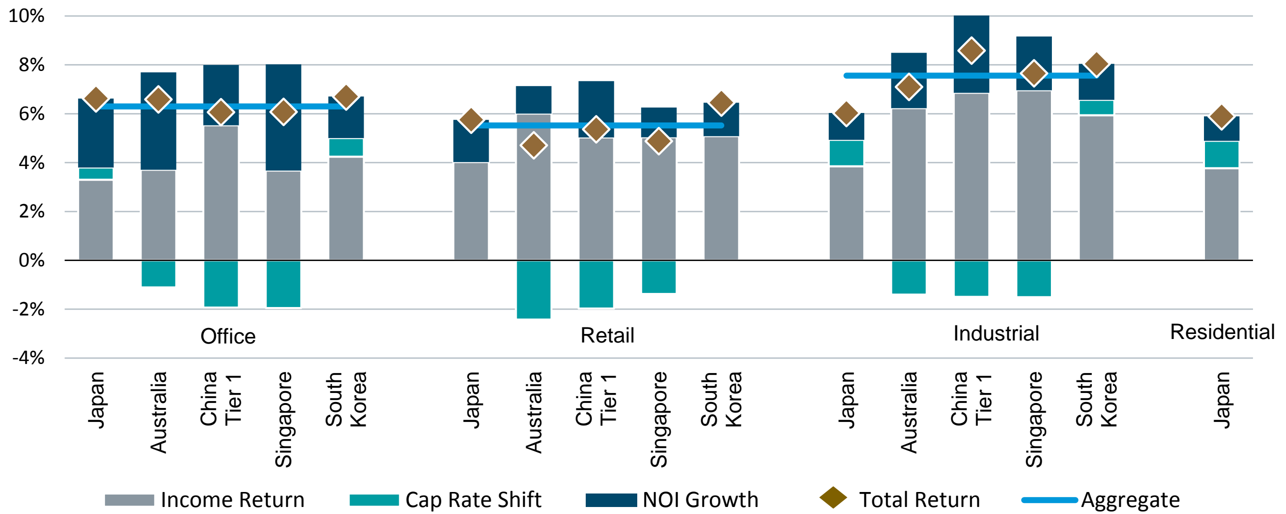
Real estate performance across much of the Asia Pacific region has been relatively resilient on the back of healthy rental growth and sustained albeit marginal cap rate compression in key core markets. The gateway cities of Singapore, Sydney and Melbourne led office rental growth in the region, underpinned by stable occupier demand and limited new supply. Leasing activity also remained healthy in key Tier 1 cities in China, driven by domestic financial services and technology firms. Vacancy rates in Tokyo and regional cities in Japan continued to fall on the back of healthy occupier demand and controlled supply levels. However, performance in other markets including Perth and Seoul remain subdued due to a surge in new supply or weak tenant demand.

Core unlevered aggregate total returns in the region came in strongly at 10% in 2018, compared to 8.4% recorded in 2017 and the three-year average of 9.6% recorded from 2015 to 2017.[12] The weight of capital targeting quality assets in the region has contributed to further cap rate compression (albeit less pronounced compared to the earlier years which led to significant capital gains), especially in Australia and Japan (where regional cities have experienced cap rate compression trends seen in the key gateway cities). The trend was compounded by active investments from sovereign capital, pension funds and insurance firms, which have increased their real estate allocations. As such, much of the capital growth was front loaded and realized in recent years, leading to diminished prospects of further capital growth in the forecast horizon. We anticipate negative impacts from the possible albeit marginal widening of cap rates in most markets in coming years, though mitigated by positive income growth trends, with future returns likely driven mostly by income yields.

Looking ahead, near term investment opportunities are limited in Tokyo given strong competition for good quality assets from domestic institutional investors, while near term returns are capped in Seoul due to elevated vacancy rates and subdued tenant demand. Elsewhere, core Australian cities and regional cities in Japan are projected to yield relatively good returns particularly for office assets. In terms of sector performance, core unlevered aggregate total returns are forecasted to range between 5.5% - 7.6%[13] annually over the next five years with the industrial sector likely to yield higher returns compared to office, retail and residential.

[11] DWS. This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. There can be no certainty that events will turn out as we have opined herein. Past performance is not indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect.
[12] Source: DWS Calculations, June 2019, from Colliers, Miki Shoji, JREI, BAC, CBRE, Mateplus, Cushman & Wakefield, Korea Appraisal Board.
[13] Source: DWS Forecasts, June 2019.
Past performance is not a reliable indicator of future returns.

EXHIBIT 5: PROJECTED ANNUAL TOTAL RETURN BY SECTOR AND COUNTRY IN ASIA PACIFIC, 2019-2023F



Note: f = forecast. Projected returns are based on compounded basis. There is no guarantee the forecast returns shown will materialize.
Source: DWS. As of June 2019.

Country returns are stock-weighted based on city level data[14]. As such, the performance and forecast shown represent hypothetical and simulated performance, which has many inherent limitations. One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading does not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risk in actual trading. No assurance is made that forecast returns will be achieved.

3.2 Strategic Investment Themes

The trend of cap rate compression observed in the past few years continued to persist in Japan and Australia, albeit at a more measured pace for Australia, while cap rates remained broadly stable in China, South Korea and Singapore as interest rates remain at historically low levels. Investors are increasingly finding it challenging to secure good income producing core-type opportunities which fit their target returns in these markets, with some investors opting to move up the risk curve and/or diversify their target sectors. Notably, in spite of cap rate compression trends, spreads to long-term bond yields across some Asia Pacific markets such as Australia and South Korea remain above their historical long-term averages, providing investors some buffer in the event of rising domestic bond yields in the future.

We continue to hold the view that while cap rate compression was in part driven by expectations of rising rental reversions, other structural factors were also at play: (1) geographical diversification needs as evident from the gradual increase in cross-border transactions, and (2) a continuous amount of capital available for real estate investments with an estimated US$33 billion of dry powder available at the end of 2018 through Asia-focused closed-end private real estate funds, an increase of US$6 billion from four years ago.[15]

We favour markets with relatively good yield spreads to mitigate risks arising from the potential widening of cap rates, and healthy leasing fundamentals to provide rental income growth to drive returns going forward. While investors are likely to retain interest in core gateway cities with good fundamentals, elevated asset prices in these locations have enhanced the appeal of quality assets in secondary locations and regional cities. As such we expect to see increasing investment activities into select secondary markets underpinned by healthy fundamentals as investors seek higher-yielding assets to fulfill their returns requirements.

[14] Japan – Tokyo (All sectors), Osaka/Yokohama/Nagoya/Fukuoka (Office); Australia – Sydney/Melbourne/Brisbane/Perth/Adelaide; China Tier 1 – Beijing/Shanghai (All sectors), Guangzhou (Office & Retail); South Korea – Seoul.
[15] Preqin Quarterly Update: Real Estate, Q1 2019.

Core Strategy

Core Locations with Strong Fundamentals: Good income producing assets providing meaningful returns in key gateway cities, i.e. Osaka, Sydney and Melbourne, have continued to attract global capital. Although forward returns are projected to moderate vis-à-vis the strong outperformance achieved in the past two years, this strategy continues to offer investors the potential for further income growth with stable corporate occupier demand outpacing limited supply. In Osaka, prime high street retail assets in major shopping destinations with access to high tourist footfall is underpinned by healthy leasing demand with sales growth of luxury brands accelerated by wealthy local customers.

High Yields Underpinned by Stable Cashflows: For investors looking for higher income returns, attractive opportunities persist in the logistics sector given the steady income stream nature underpinned by favourable demographic dynamics and ongoing proliferation of online retail, and higher yields of logistics properties – typically in excess of 6% (4% for greater Tokyo).[16] Target markets which appear attractive include prime logistics centres in key transportation hubs including Japan, Korea, Singapore and Australia.

Regional Markets with Good Fundamentals and Attractive Excess Returns: In Japan, the ten-year government bond yield remains near zero levels and borrowing costs are extremely cheap. Vacancy rates have declined to historical lows while supply is limited in the next couple of years, which underpins future rental growth. Regional cities in Japan such as Fukuoka could provide some of the best yield spreads in the region. Similarly in Brisbane, higher entry yields combined with improving occupier demand and receding office supply provide the potential for market-driven returns.

Mid-term Opportunities: Monitor progress and look out for optimal entry timing in core investable markets with near-term returns capped by intense competition for assets with domestic REITs i.e. Central Tokyo or facing short-term vacancy issues i.e. Seoul. Despite current weak rental prospects in the latter markets, demand-supply dynamics are expected to improve gradually in favour of landlords as occupier demand recovers, leading to cyclical rental uplifts in later years. In Australia, regional and suburban neighborhood centres catering to local catchment underpinned by stable demand for staple non-discretionary spending remain attractive, although investors need to be mindful of tight prices while accessing stock may often require partnership with an experienced retail operator.

Cyclical Uplift in Recovery Markets: In Singapore, the office and business parks markets are currently experiencing a mid-cycle rental recovery following improved leasing demand from financial and business services occupiers and lower supply pressures, providing oppurtunities for healthy market-driven returns.

Core Plus and Value Added Strategy

Active Asset Management: For investors searching for higher risk-returns, we see opportunities in key cities in mature North Asian and Australian markets by taking on leasing risks for vacant office properties or refurbishment/re-positioning of older but well-located properties. Prime retail and shopping centres are also strong candidates for a value-add proposition including improvements in retail footfall and repositioning of tenant mix. In China, opportunities could arise from repositioning underperforming office assets and improving tenant mix for retail assets in prime locations such as Beijing and Shanghai. Investors should be mindful of the higher leasing risks involved which require asset managers with strong local networks and deep market knowledge to successfully create value enhancement.

Forward Commitments: In certain markets, entering into joint ventures with strong local operating partners for forward commitments provides a viable route to access good real estate assets with the potential for enhanced returns compared to investments in core stabilized assets. We see selective opportunities in commercial sectors including the hotel, office and logistics sectors in Japan, South Korea, Australia and China. Construction risk and lease-up risk are key considerations that can be mitigated through partnerships with reputable local operators and leasing agents.

[16] Source: DWS Forecasts, June 2019.

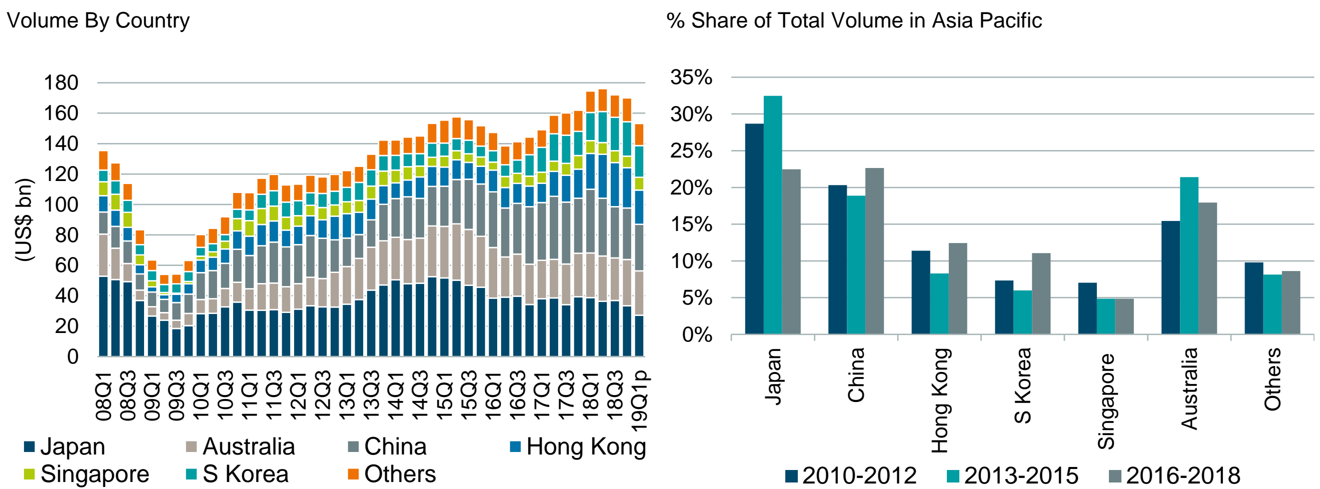
All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.
No assurance is provided that any investment objective will be achieved.

3.3 Capital Markets

Transactions

Across the Asia Pacific region, commercial real estate transaction activities remained robust with a record transaction volume of US$170 billion registered in 2018. This was achieved on the back of tight yields and higher asset prices underpinned by strong investor appetite. Japan, China and Australia remained the top investment destinations, while the recent few years have seen increasing capital inflows into Hong Kong and South Korea as well.

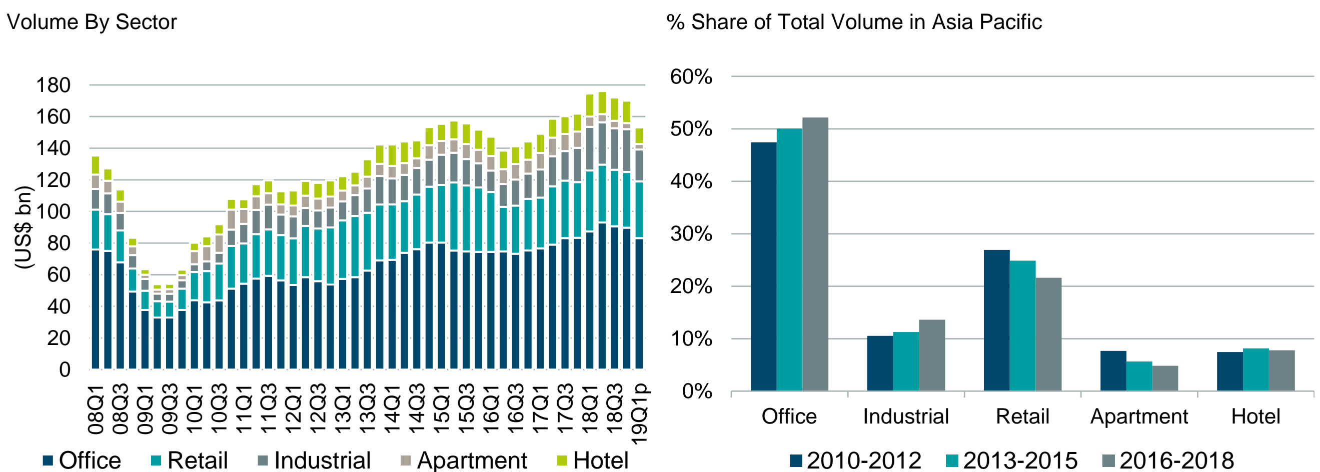
EXHIBIT 6: APAC REAL ESTATE TRANSACTION VOLUME BY COUNTRY



p = preliminary Note: Figures shown based on rolling 12-month period. Exclude land transactions.
Source: DWS, Real Capital Analytics. As of June 2019.

Office transaction volumes have climbed steadily in recent years to a high of US$90 billion in 2018 (53% of total volume), while Industrial transaction volumes rose strongly last year on the back of a Chinese-led consortium's acquisition of Global Logistics Properties. On the other hand, retail volumes have been broadly stable, though declining as a share of total volumes.

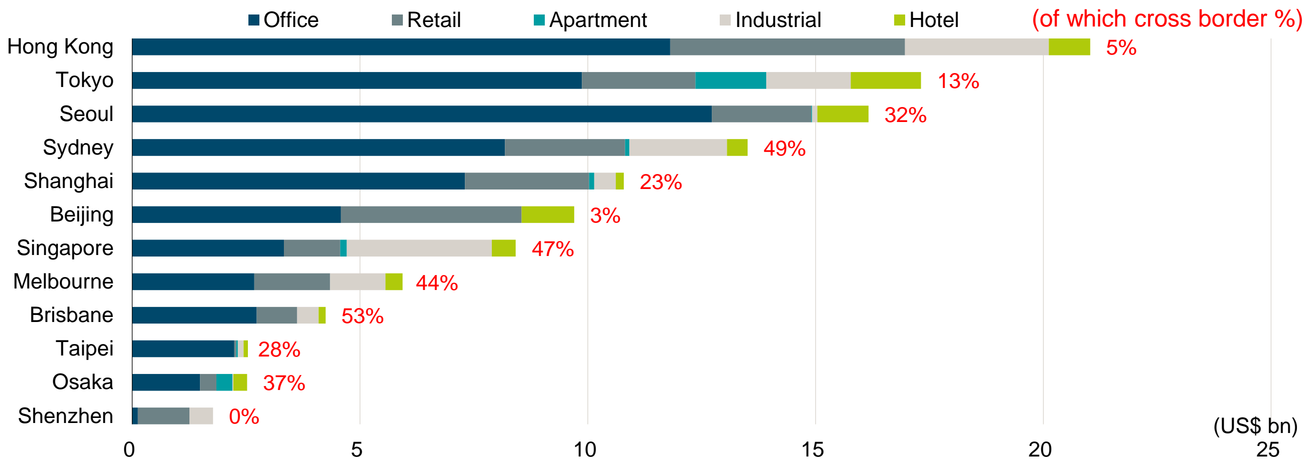
EXHIBIT 7: APAC REAL ESTATE TRANSACTION VOLUME BY SECTOR



p = preliminary Note: Figures shown based on rolling 12-month period. Exclude land transactions.
Source: DWS, Real Capital Analytics. As of June 2019.

At the city level, Hong Kong and Tokyo remain the most active transaction markets, with Seoul and Sydney following close behind. Foreign investors formed a major buyer group accounting for 40% - 55% of recent transaction volumes in Singapore and major Australian cities (Sydney, Melbourne, Brisbane), as well as over 30% for Seoul and Osaka.

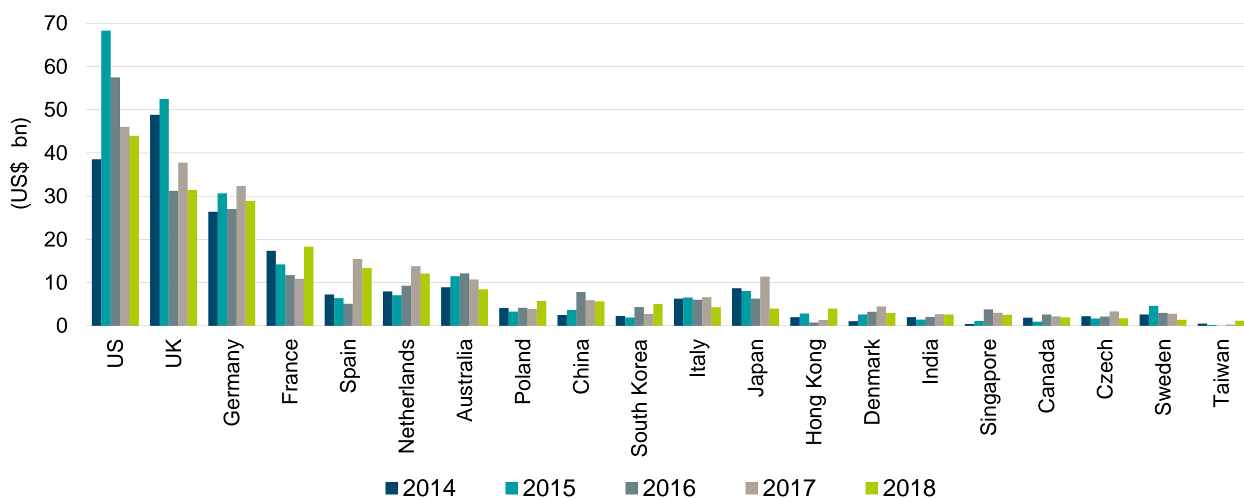
EXHIBIT 8: COMMERCIAL REAL ESTATE TRANSACTION VOLUME BY CITY (AS AT 2019 1Q)



Note: Figures shown based on rolling 12-month period. Exclude land transactions.
Source: DWS, Real Capital Analytics. As of June 2019.

From a global perspective, Australia, China and South Korea ranked among the top ten investment destinations globally for foreign real estate buyers in 2018, just behind the United States and leading European nations.

EXHIBIT 9: CROSS-BORDER REAL ESTATE INVESTMENTS BY DESTINATION

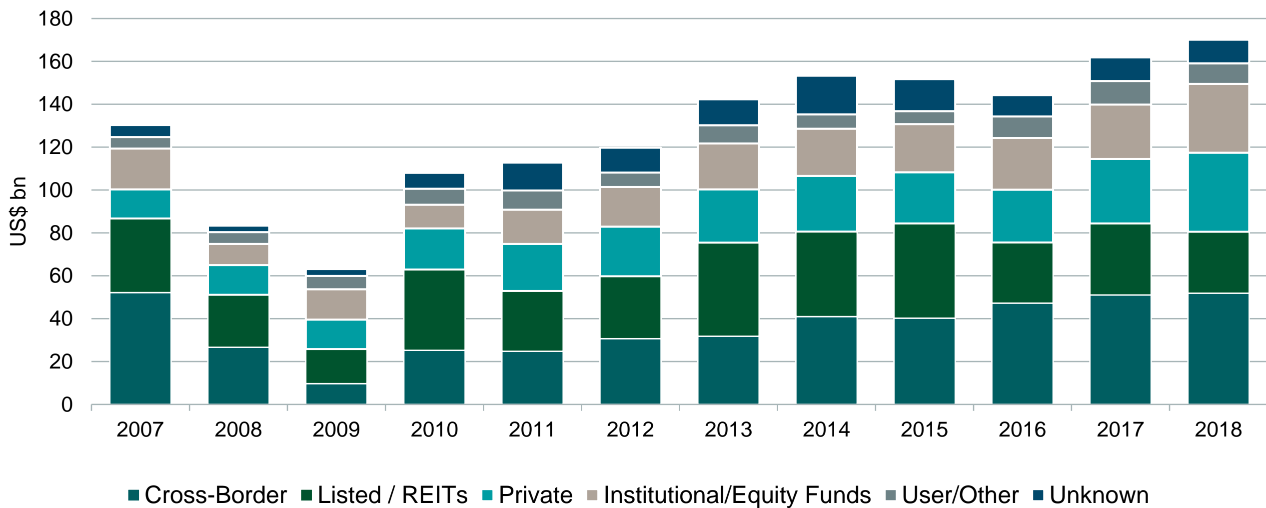


Notes: Commercial real estate transactions exclude non-income producing assets, such as development site transactions.
Source: DWS, Real Capital Analytics. As of June 2019.

Investor Profile:

Cross-border investors remain active in the region, accounting for 30% of transaction volumes in Asia Pacific in 2018. Foreign investors participated in billion dollar deals in Hong Kong and Seoul, while overseas capital accounted for between 30-40% of investments in Sydney, Melbourne and Singapore. Domestic institutional investors and listed funds/REITs form the next largest buyer groups in the region, each accounting for 19% of transaction volumes, followed closely by private investors (17%).

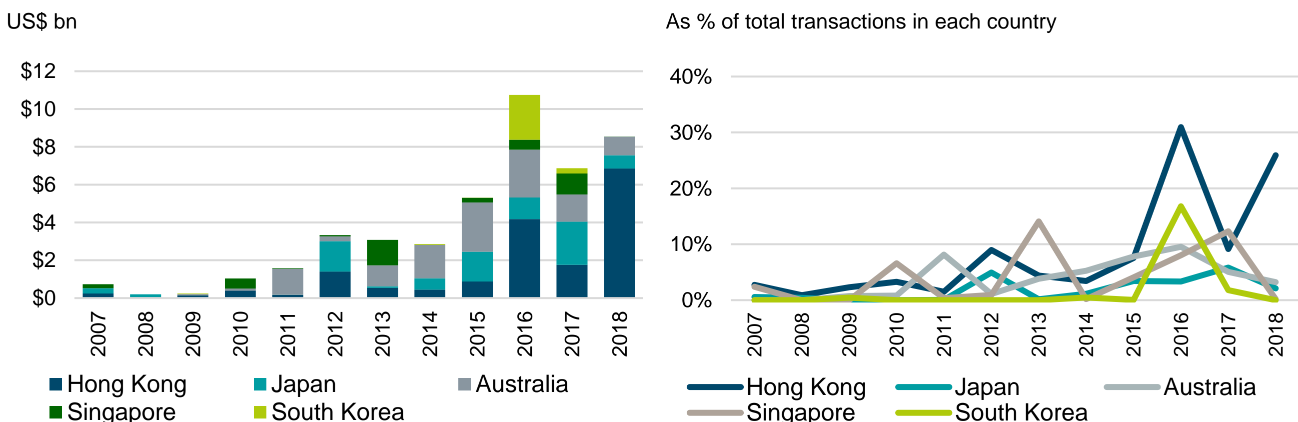
EXHIBIT 10: COMMERCIAL REAL ESTATE TRANSACTION IN APAC (BY INVESTOR TYPE)



Note: Figures shown exclude land transactions.
Source: DWS, Real Capital Analytics. As of May 2019.

In recent times, Chinese investors have emerged as significant buyers in global and Asia Pacific real estate markets. This is especially so in the Hong Kong and Australian markets where Chinese investors accounted for a peak share of 30% and 10% of the respective market transaction volumes in 2016. However, since early 2017 after China tightened restrictions on outbound investments, Chinese investment activity in all markets (except Hong Kong) have slowed significantly. Going forward, we expect to see less participation from this group of investors, though this is unlikely to create any major distortions on transactional activities in the region,

EXHIBIT 11: CHINA OUTBOUND REAL ESTATE INVESTMENTS IN ASIA PACIFIC

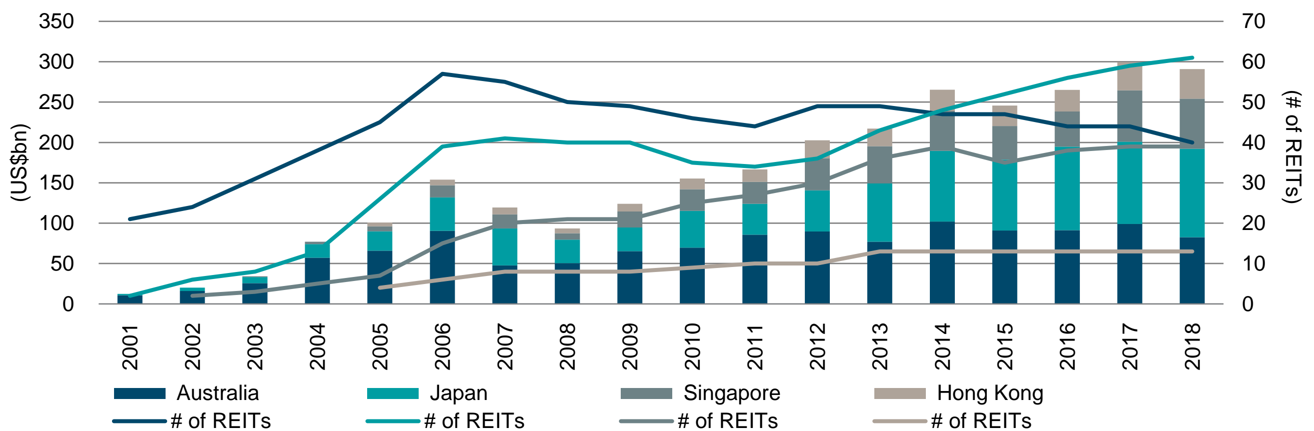


Note: Figures shown exclude land transactions.
Source: DWS, Real Capital Analytics. As of June 2019.

REITs

The REIT market in developed Asia Pacific is gradually approaching maturity since the initial stages of development at the start of the millennium. Year-to-date, Asia Pacific REITs performed well, led by Australian REITs (S&P/ASX 200 A-REIT index) which gained close to 14% in the first five months of 2019. Other major REIT indices in Hong Kong, Singapore and Japan also chalked up healthy gains of 8%-12% in the same period, supported by lower bond yields and rising expectations of dovish interest rate poliices by major central banks.

EXHIBIT 12: MARKET CAPITALIZATION OF LISTED REITS IN ASIA PACIFIC

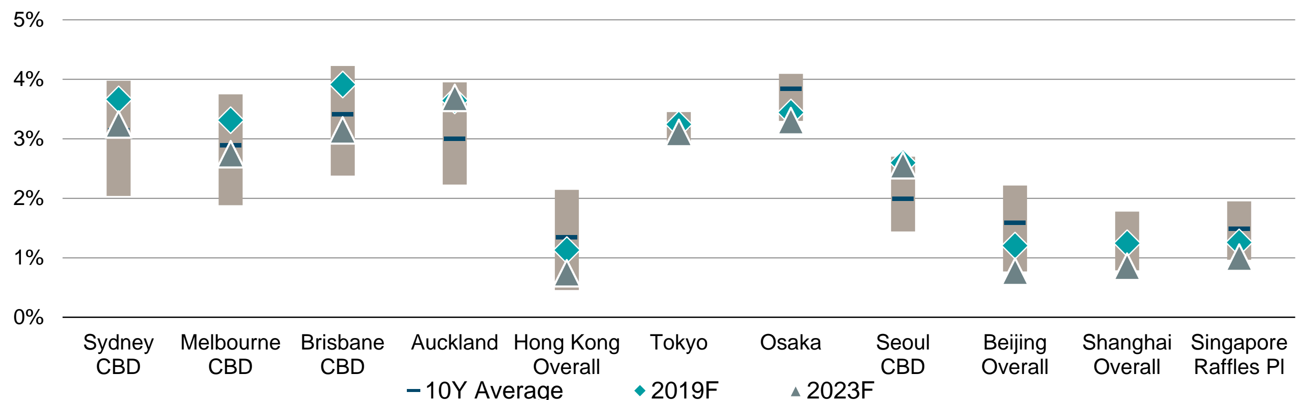


Source: DWS, Bloomberg. As at June 2019.

Office

The trend of global and domestic capital chasing income producing office assets has contributed to cap rate compressions in some countries across the region including Japan and Australia, while cap rates remain broadly flat in other markets such as China, Hong Kong, South Korea and Singapore, in line with interest rate movements. The tight conditions were supported by active investments by sovereign capital, pension funds, and insurance firms and cross border investors chasing large deals. Nonetheless, while continued capital flows are likely to keep cap rates low in the short run, we expect a gradual increase in interest rates to bring forth a marginal expansion in cap rates over the next few years.

EXHIBIT 13: OFFICE SECTOR: CAP RATE SPREADS TO 10Y GOVERNMENT BOND YIELD



Note: f = forecast. There is no guarantee the forecast returns shown will materialize.
Source: DWS, Colliers, Miki Shoji, Oxford Economics, Bloomberg. As of June 2019.

Retail

Sizable institutional grade assets in the retail sector remain tightly held by local developers and REITs in markets such as Singapore and Australia, capping deal volumes. In Hong Kong, while transactions of prime retail centres remain scarce, a portfolio of neighbourhood retail centres have been sold by Link REIT in late 2018. High street retail sales benefited from increasing tourist arrivals in Japan, while private wealth capital is more dominant in transactions in prime high street areas in Hong Kong, Shanghai, Tokyo Ginza and Seoul Gangnam where cap rates remain extremely tight. Institutional investors have been observed to be exploring suburban assets in Japan, Australia and to a lesser degree in South Korea, where investors and REITs have tried to reshuffle existing portfolios. For instance, Australia saw a number of regional and sub-regional assets being traded as REITs look to recycle their capital and reposition their portfolios.

Industrial

Investor interest in the industrial and logistics sector remains strong due to the relatively higher yields and the recent evolution and gradual maturity of the sector, though acquisition opportunities of institutional grade assets remain limited. The supply of modern facilities is catching up to increasing demand with multiple large assets currently in the development pipeline in major metros in Japan, South Korea and China. Further yield compression (albeit marginal) could occur in Japan and South Korea due to the low projected bond yields, while yield spreads in other markets are likely to narrow during the five-year period to 2023F notwithstanding projected marginal expansions in yields.

EXHIBIT 14: RETAIL SECTOR: CAP RATE SPREADS TO 10Y BOND YIELD

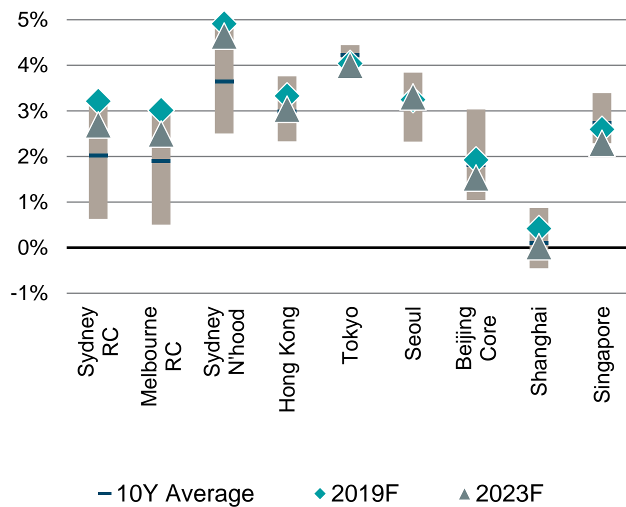
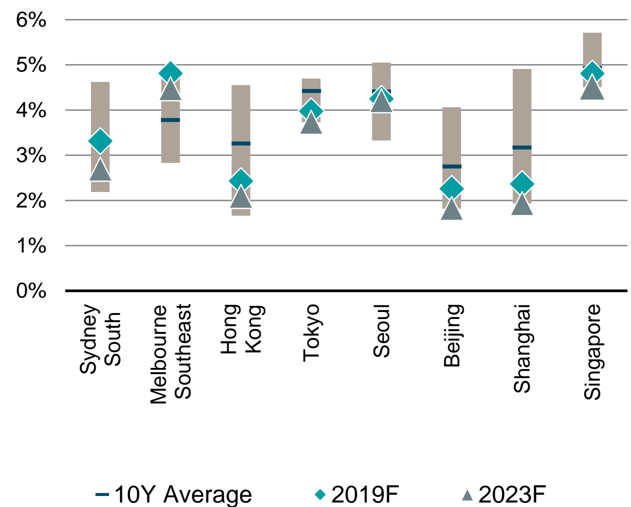


EXHIBIT 15: INDUSTRIAL SECTOR: CAP RATE SPREADS TO 10Y BOND YIELD



Note: f = forecast. There is no guarantee the forecast returns shown will materialize.
Source: DWS, Colliers, JREI, CBRE, Oxford Economics, Bloomberg. As of June 2019.

Credit markets

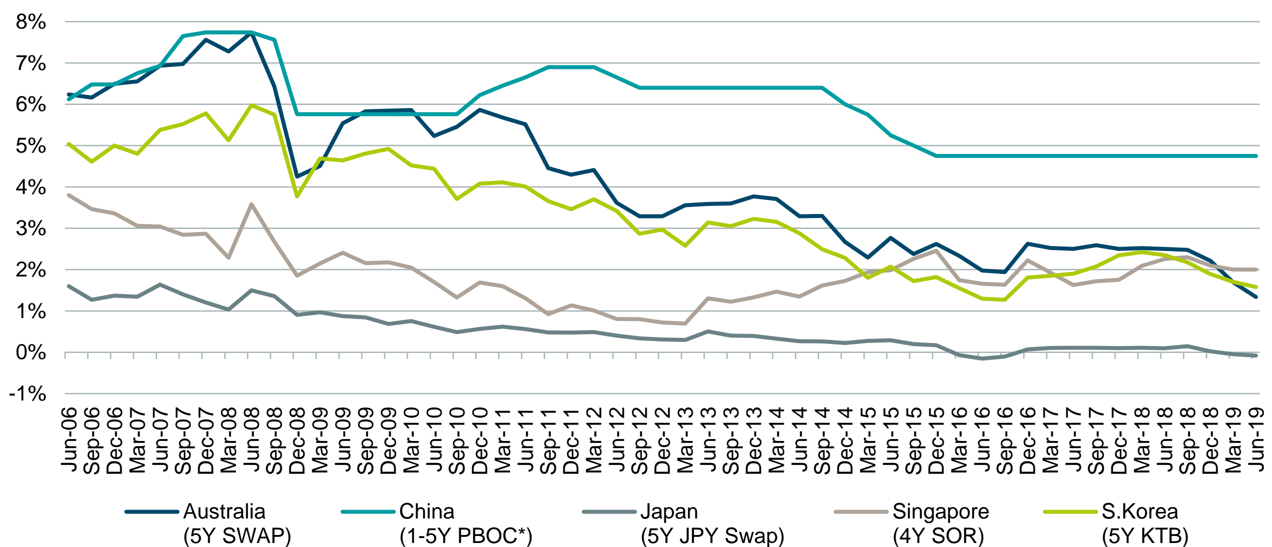
The financing environment remains largely positive due to favorable monetary policies and supportive measures. Compared to six months ago, financing costs have fallen in South Korea and particularly Australia, where base reference rates have declined by up to 90 basis points. With the exception of China and Hong Kong, office cap rate spreads over financing costs remain positive across core markets with the highest positive carry of circa 200-300 basis points in the Australian and Japan markets.

Exhibit 16: Typical commercial lending terms (Up to 5Y Swap)

Market	LTV (%)	Base Reference rate	Spread (bps)	Financing Cost (bps)
Australia	50-55%	5Y Swap Rate : 1.40%	140 - 190	280 – 330
China	50-60%	1-5 year base lending: 4.75%	200 - 500	675 - 975
Japan	50-60%	5Y JPY swap rate + TL spread: 0.2%	40 - 60	60 - 80
Singapore	50-60%	4Y Swap Rate: 2.0%	120 - 180	320 - 380
South Korea	50-60%	5Y KTB: 1.6%	150 - 200	310 - 360

Source: DWS, Bloomberg. As at June 2019.
For illustrative purposes only.

EXHIBIT 17: TYPICAL BASE REFERENCE RATES FOR COMMERCIAL LENDING



Source: DWS, Bloomberg. As at June 2019.
* Figures before Dec 2014 refer to the 1-3 year PBOC rate.

4 / Property Sectors and Returns[17]

4.1 Office

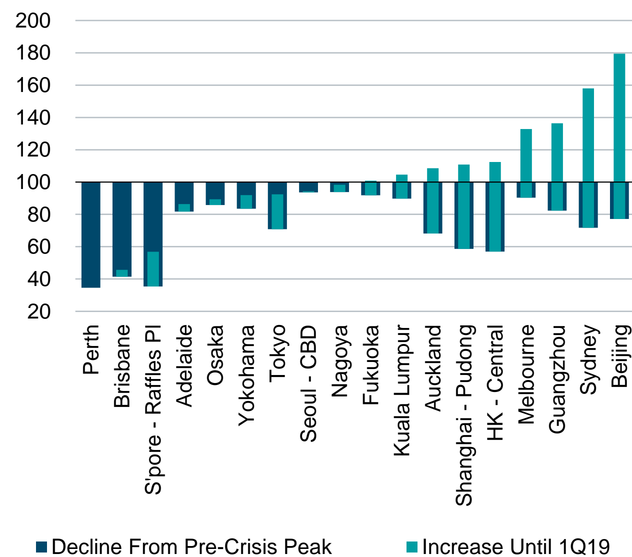
Current Conditions: Office markets in core cities across Asia Pacific continued to perform relatively well, underpinned by steady occupier demand trends. Over the 12-month period to the first quarter of 2019, markets which registered the strongest growth include Singapore, Sydney, Hong Kong and Tokyo with effective rental growth ranging 7-13% per annum, driven by a broad-based recovery in tenant demand led by business services.

Office rents in Singapore are currently in the midst of a cylical recovery underpinned by recovering leasing sentiment and lower supply pipeline. Similarly in Sydney, rents have been on a strong upswing driven by strong demand from business services and limited supply due to significant stock withdrawals. Rents in Hong Kong Central continued to perform well, driven by occupier demand from mainland Chinese financial services firms, and in Tokyo rental growth was supported by extremely tight vacancy levels. Other Australian cities have shown some early signs of stabilization with Brisbane and Adelaide experiencing marginal rental growth amidst a recovery in tenant demand. On the other hand, rents in markets such as Seoul (CBD) and Perth remain flat due to subdued demand and significant supply pressures.

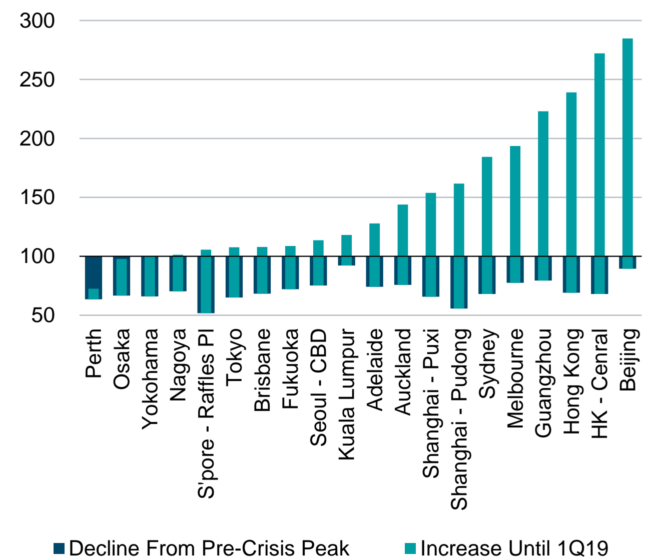
Looking back a decade since the global financial crisis, office rents in most cities across the region have recovered significantly from lows in recent years. Falling interest rates contributed to the ongoing yield compression and growth in asset values which led to the significant outperformance of capital value growth to date compared to rental growth in the past decade.

EXHIBIT 18: OFFICE SECTOR: DECLINE AND RECOVERY IN PRIME RENTS AND CAPITAL VALUES (LAST PEAK = 100)

Changes in prime rents



Changes in prime capital values



Note: Last peak between 2007-2008; Trough between 2008-2018.
Source: DWS, Miki Shoji, Colliers. As at June 2019.

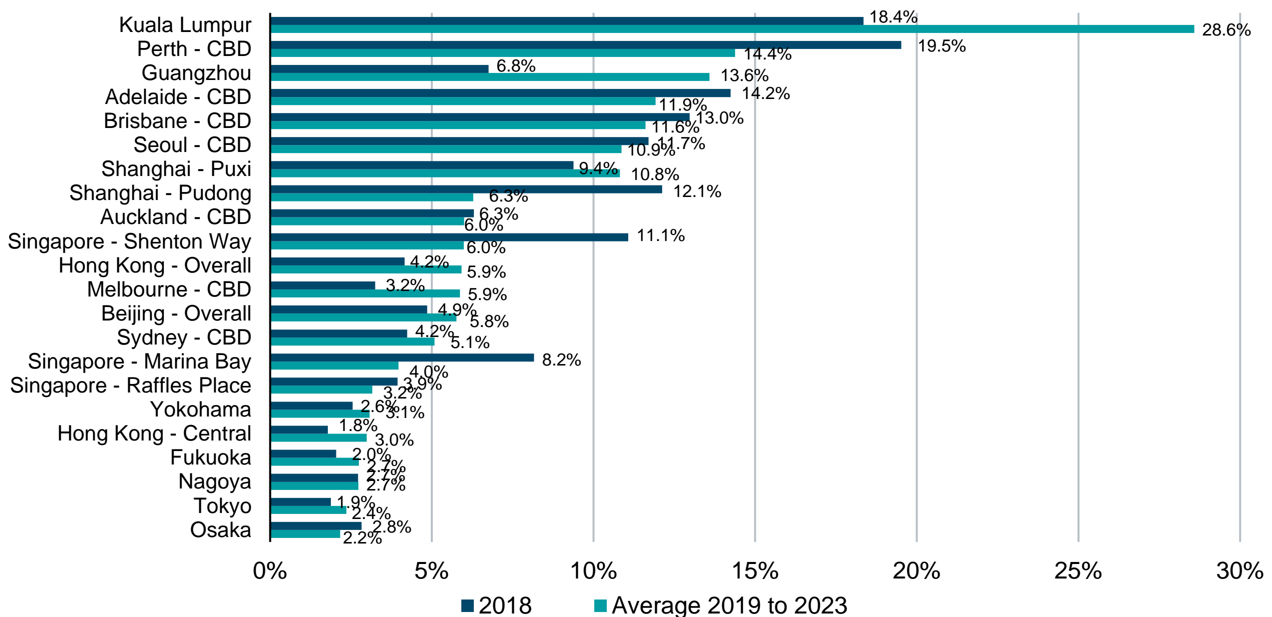
[17] DWS. This information is subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. Past performance is not indicative of future returns. Forecasts are based on assumptions, estimates, opinions and hypothetical models that may prove to be incorrect.

From an occupier perspective, structural shifts in office demand remain underway in the region, underpinned by the increasing usage of technology-related applications, rising number of millennials in the workforce, and the changing conceptualization of the typical workplace environment. Technology firms ranging from big multinational corporations to smaller local technology start-ups have been increasingly taking up office spaces in the CBD, at the same time when major financial institutions are consolidating their office space footprint, except for growing niche sectors such as Fintech and asset / wealth management.

Co-working operators have been expanding rapidly in Asia Pacific, catering to market segments with unfulfilled needs (i.e. start-ups, small business owners and corporations looking at flexible working arrangements), with larger established operators increasingly venturing from secondary locations or lower-grade offices to higher specification offices in core locations. WeWork has significantly increased its footprint from its first office in Asia three years ago to 123 locations in the region by end-2018, while Singapore-based JustCo is reportedly expanding regionally from 40 to 100 outlets within the next twelve months. Major real estate developers and landlords in the region are also increasingly partnering with local co-working operators to bump up their flexibile space footprint in existing buildings. Foreign and local flexible space operators are now among the top tenants for office take-up in many countries across Asia Pacific, and while profitability issues may eventually lead to some degree of consolidation within the sector, the sector is likely to remain as a major driver for office demand in future.

Outlook: The regional outlook for the office sector remains broadly positive with a reacceleration in economic activity and favorable demand-supply dynamics for most key office markets. Over the five year forecast period till 2023, vacancy rates in key office markets in Japan, Australia and Hong Kong are expected to increase only marginally from the current tight levels. On the other hand, while short-term vacancy pressures currently persist in the Australian regional cities of Brisbane, Adelaide and Perth, occupancy levels are forecast to improve gradually on the back of a recovery in occupier demand. Singapore is expected to benefit from a strong cyclical recovery as supply pressures subside significantly. On the other hand, vacancy levels are projected to increase in Kuala Lumpur and Guangzhou where large development pipelines are underway.

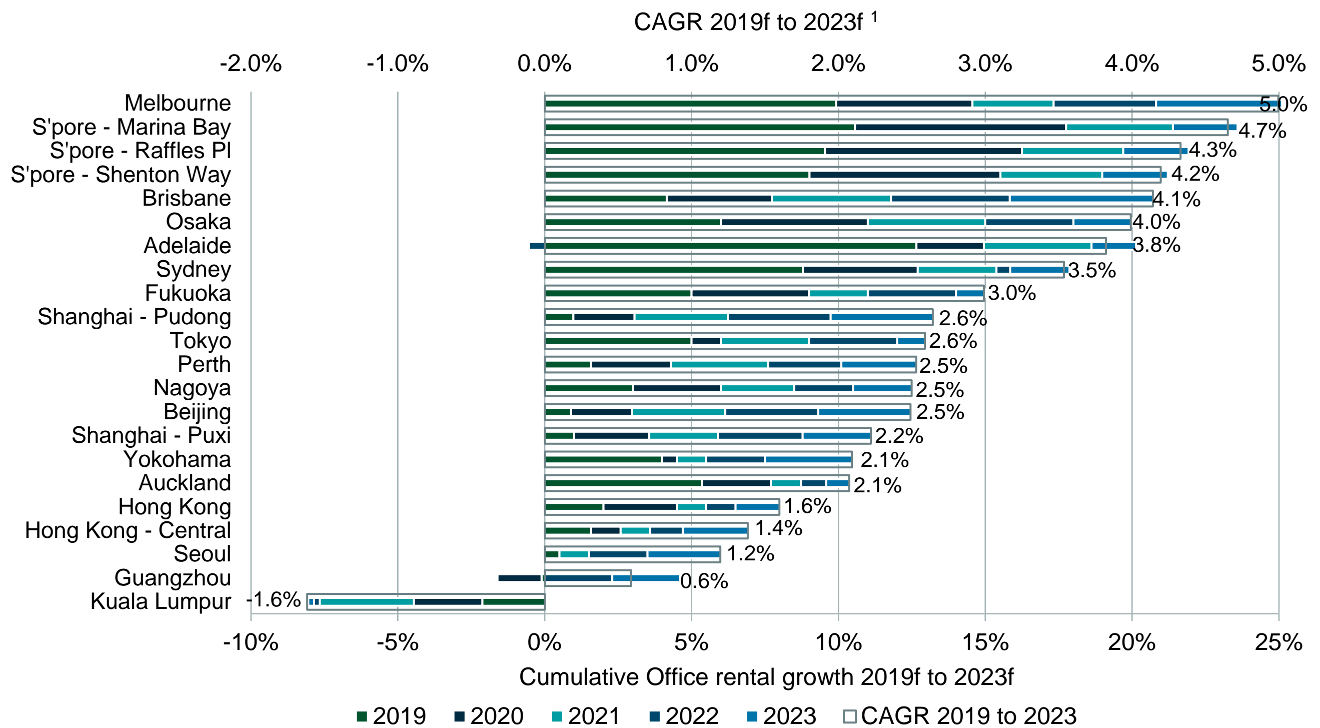
EXHIBIT 19: OFFICE SECTOR: PROJECTED VACANCY RATES IN SELECTED MARKETS (2019F – 2023F)



Note: f = forecast. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation
Past performance is not a reliable indicator of future returns.
Source: DWS, Miki Shoji, Colliers. As of June 2019.

The medium term rental growth outlook remains relatively healthy across the region. We expect to see the high rental growth momentum in Melbourne and Sydney as a result of declining incentives underpinned by stable occupier demand and combined with limited near term supply. Robust growth is also expected in Singapore and other Australian cities on the back of tenant demand recovery, while rental growth in Japan's regional cities is supported by the historically low vacancy rates and strong corporate demand. At the other end, weak demand and unabated incoming supply pressures are likely to cause negative rental reversions in Kuala Lumpur in the same period.

EXHIBIT 20: OFFICE SECTOR: PROJECTED RENTAL GROWTH (2019F – 2023F)

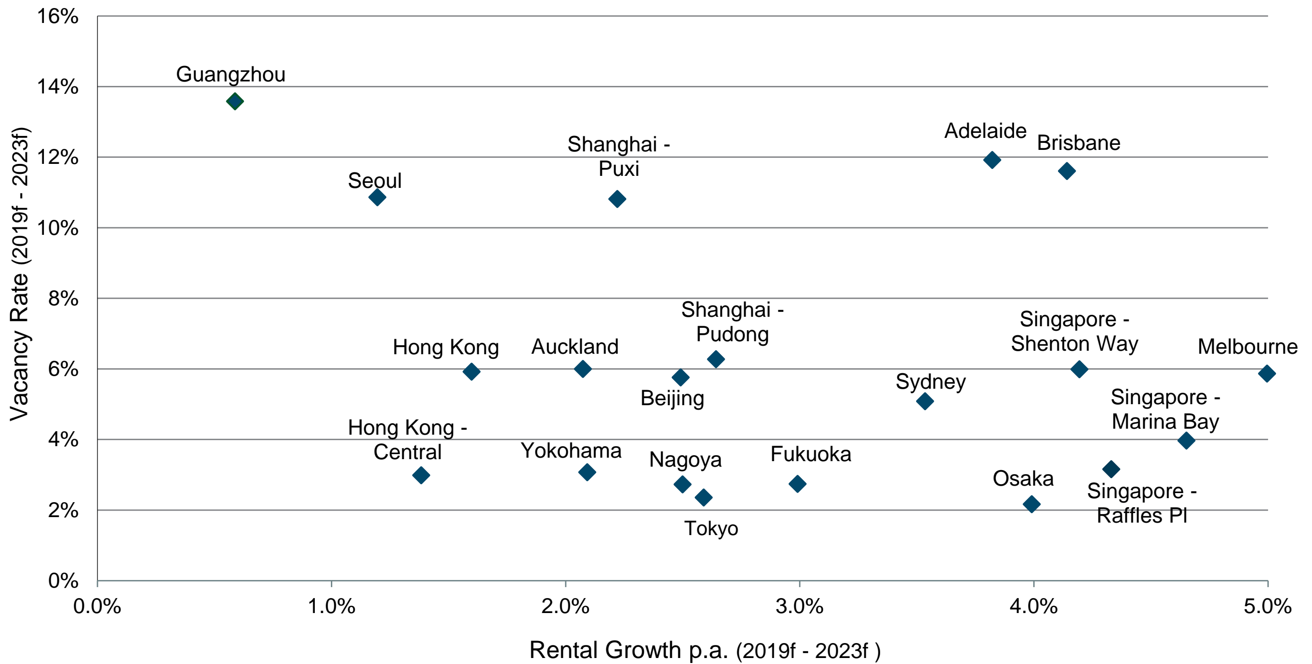


Note: f = forecast. [1] Projected returns are based on compounded basis. There is no guarantee the forecasts will materialize. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.
Past performance is not a reliable indicator of future returns.
Source: DWS. As of June 2019.

Combining our rental growth and vacancy projections, we expect positive occupier trends to underpin moderate to strong rental growth in Australia, China, Singapore, and the regional cities in Japan. Markets with projected high vacancy levels over the five year forecast period, such as Kuala Lumpur and Guangzhou should see subdued rental growth with downside risks should demand pan out to be weaker than expected.

There is no guarantee the forecasts will materialize. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

EXHIBIT 21: OFFICE SECTOR: PROJECTED VACANCY RATE VS RENTAL GROWTH (2019F-2023F)

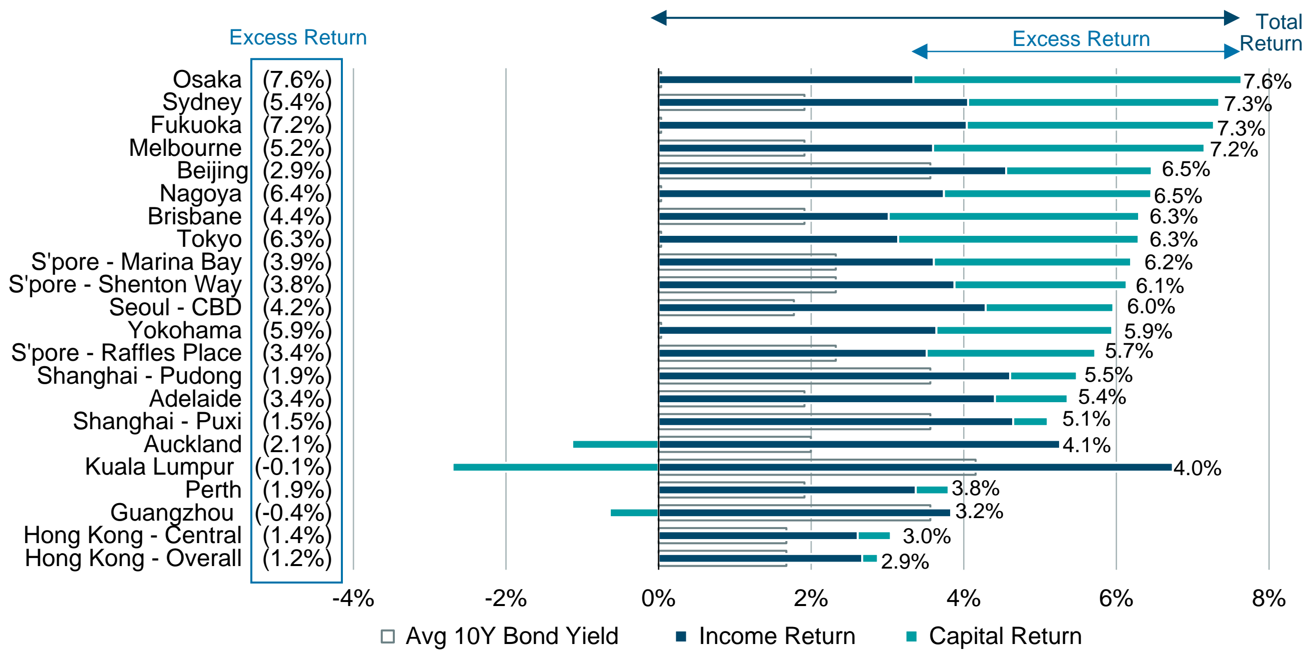


Note: f = forecast. There is no guarantee the forecasts will materialize.
Source: DWS. As of June 2019.

Performance: The APAC office sector is projected to yield annual total returns of 3-8% over the next five years through to 2023[18], on the back of healthy demand and moderate supply. While we continue to expect good returns from the core Australian cities of Sydney and Melbourne, regional cities in Japan such as Osaka, Fukuoka and Nagoya look increasingly attractive providing decent income and capital returns, and in turn some of the highest excess returns over the local risk free rate as well as levered returns with local financing. Office assets in Seoul are projected to yield moderate returns underpinned by decent income yields. On the other hand, the forecast five-year performance in Hong Kong is projected to be relatively weak due to weaker rental growth and potential rise in future cap rates.

[18] DWS Forecasts, June 2019

EXHIBIT 22: OFFICE SECTOR: PROJECTED COMPOUNDED ANNUAL RETURN AND EXCESS RETURN (2019F – 2023F)



Note: f = forecast. Projected returns are based on compounded basis. There is no guarantee the forecast returns shown will materialize. Excess return is calculated from income return plus capital appreciation (net of capex) over the local 10 year sovereign bond rate.
Source: DWS, Oxford Economics, Bloomberg. As of June 2019.

4.2 Retail

Current conditions: The rise in e-commerce remains a major driver in redefining the retail landscape in Asia Pacific. Behind the rising popularilty of e-commerce in Asia Pacific include structural drivers such as high levels of smartphone penetration globally, increasing adoption of digital wallets and improved online shopping experiences such as increased sophistication of purchasing processes and reduced door-to-door delivery times.

Based on data from eMarketer[19], the e-commerce market in Asia Pacific is estimated to have grown strongly by 30% in 2018, far outpacing the 7.1% growth in total retail sales in the region. These trends were most notably observed in China, the largest e-commerce market in the world, which currently accounts for 85% of the online retail sales in Asia Pacific. The share of e-commerce sales as a proportion of total retail sales in China had grown rapidly from approximately 15% in 2015 to over 29% in 2018. Similarly, online retail sales in South Korea have grown strongly, ahead of the United States where e-commerce accounts for only about 10% of retail sales.

As a result, retailers have increasingly shifted towards a multi or omni-channel retailing to complement their physical store offerings. Notwithstanding, anecdotal evidence has also showed that some pure play e-commerce companies are merging their online and high street presence by venturing into bricks and mortar store operations for brand building as well as for showroom display.

The broader retail environment had also been challenging for retailers across the region. A deceleration in retail sales growth has been observed in Australia due to modest wage growth, slower housing sales and consumption, as well as in China and Singapore, while Japan have performed better due to strong growth in high tourist arrivals and expenditure. The softer retail

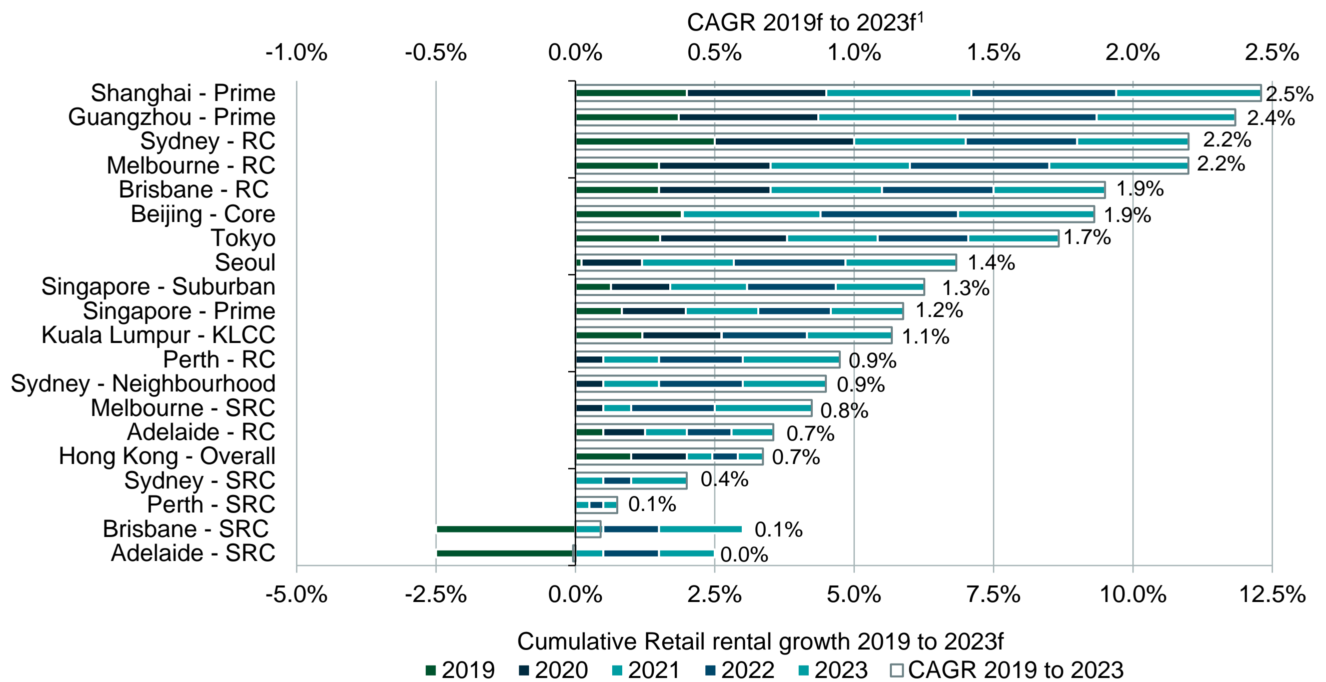
[19] eMarketer – Asia-Pacific Retail and Ecommerce Sales, January 2018.

environment has filtered through the property market where rents have declined in Australia, and remain stagnant in China and Singapore as retailers face margin pressures from weaker retail spending as well as increasing labour costs.

Structural shifts in consumer shopping behavior should continue to exert pressures on retailers to divert resources from traditional bricks-and-mortar sales building up Omni-channel marketing strategies. As a result, the retail environment remains in favour of tenants as landlords are increasingly forced to offer better incentives especially in the discretionary retail space. Vacancy rates could start to inch upwards in decentralized areas on the back of growing supply while occupier demand from retailers is likely to remain stable in the most markets.

Outlook: Over the five-year forecast horizon, we expect to see a moderate rental growth profile for prime retail assets in the region led by China and Australia on the back of recovering consumption, although growth should be modest in sub regional centers (SRC) in Australia, where demand could be adversely affected by e-commerce and slower wage growth. In Seoul and Tokyo, retail rental growth is likely to be modest below 2% per annum, broadly in line with inflation expectations. Near-term rental growth is projected to be minimal in Hong Kong, Singapore and Kuala Lumpur where retailers have to grapple with high occupancy costs and diminished tourist spending.

EXHIBIT 23: RETAIL SECTOR: PROJECTED RENTAL GROWTH (2019F – 2023F)

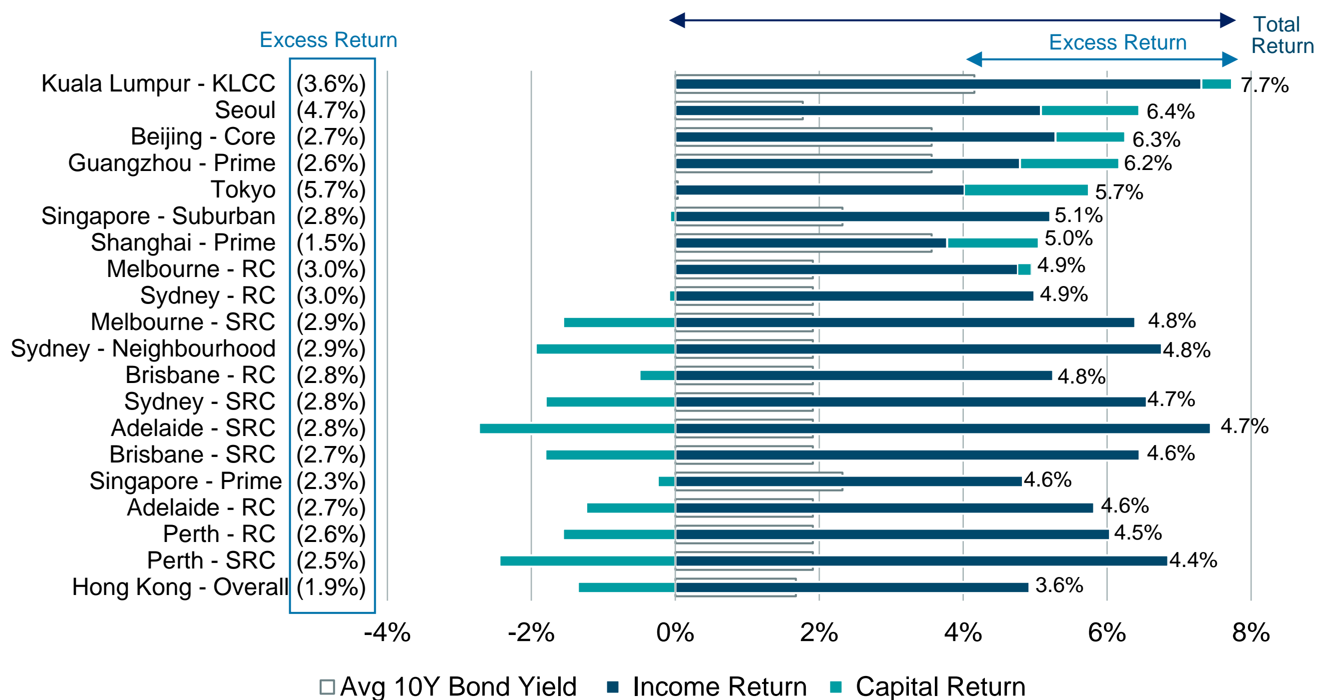


Note: f = forecast. RC= Regional Centres SRC= Sub-regional centres. [1] Projected returns are based on compounded basis. There is no guarantee the forecasts will materialize.
Source: DWS. As of June 2019.

Performance: Given the emergence of online retailing, there is a preference among investors toward long term leases in the retail sector. The impact from online retail is expected to be felt more keenly in the discretionary retail segments such as apparel and electronics, compared to the non-discretionary segments such as staple food and daily necessities. Correspondingly, the divergent trends across different retail assets is likely to intensify with a “winner-takes-all” outcome, as well-located malls with strong positioning and good tenant mix continue to command premium rents while poorly-managed malls with weak or unclear positioning may be forced to reduce rents or explore significant repositioning or exit strategies.

Looking ahead, we expect a more modest return profile for retail assets relative to the office or industrial sectors, with returns led by the Tier 1 Chinese cities, Seoul as well as Tokyo, which appears attractive with the highest projected excess returns (i.e. annual total returns minus bond yields). Notwithstanding, yield spreads in most other key retail markets in the region is projected to remain healthy at circa 2-4%. In Australia, disposal of retail assets may increase given the rising redemption requests among retail focused property funds. More evidence of yield decompression could emerge particularly for the lower quality assets. Investors need to be mindful of the challenges facing the sector, particularly in markets such as China where high technology adoption rate shortens the life cycles on retail assets which requires heavy capital expenditures and intensive asset management.

EXHIBIT 24: RETAIL SECTOR: PROJECTED COMPOUNDED ANNUAL RETURN AND EXCESS RETURN (2019F – 2023F)



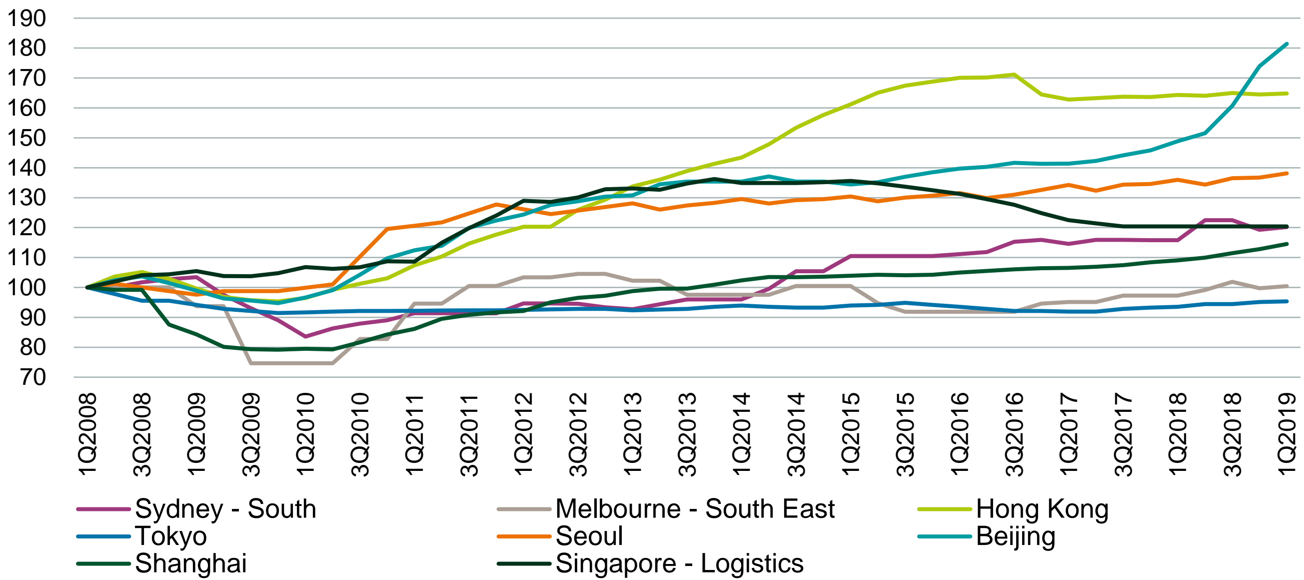
Note: f = forecast. Projected returns are based on compounded basis. RC= Regional Centres SRC= Sub-regional centres. There is no guarantee the forecasts will materialize. Excess return is calculated from income return plus capital appreciation (net of capex) over the local 10 year sovereign bond rate.
Source: DWS, Oxford Economics, Bloomberg. As of June 2019.

4.3 Industrial

Current Conditions: Prime logistics space across the region continues to see healthy take-up driven by e-commerce and third party logistics providers, resulting in positive rental growth trends across the region. The availability of prime development land and quality modern warehousing facilities is critical for logistics markets undergoing modernization changes coupled with rising domestic consumption, particularly for locations such as Seoul and tier-one cities in China.

The rise of e-commerce trends is also gradually taking place in Southeast Asia, driven by the region's rapidly rising middle class population and consumption trends.

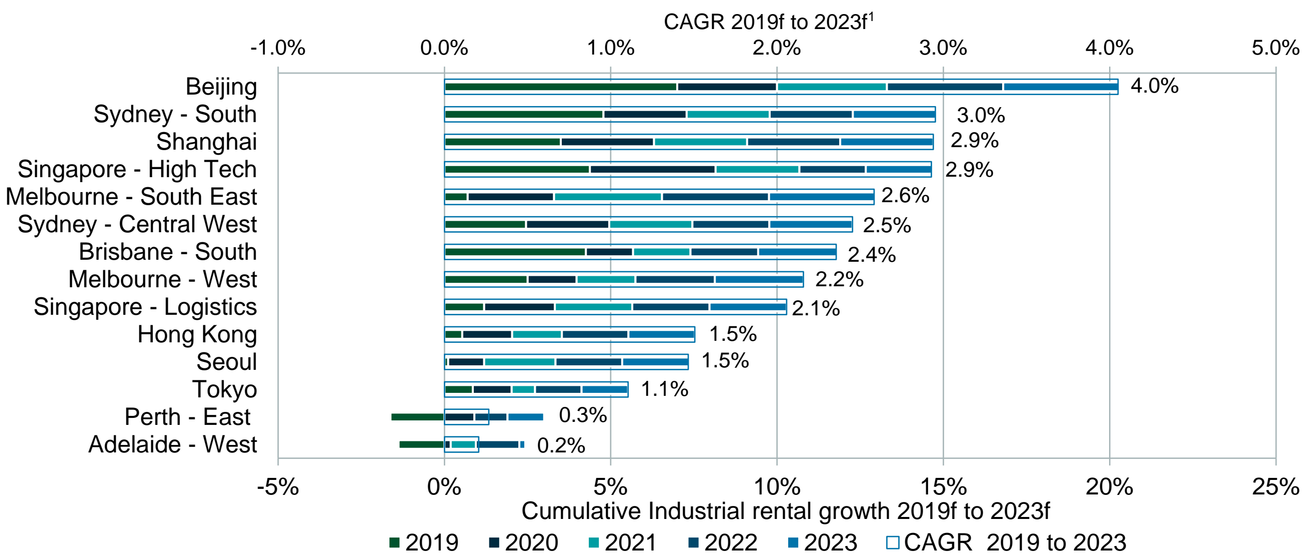
EXHIBIT 25: INDUSTRIAL SECTOR: NET RENT INDEX (BASE YEAR 1Q2008 = 100)



Source: DWS, Ichigo, Colliers. Data as of May 2019.

Outlook: In the industrial sector, e-commerce and third party logistics (3PL) companies are expected to remain major leasing demand drivers in the modern logistic space across the region, underpinned by rising e-commerce trends as described in the retail section. Rental growth is expected to be moderate in the region and broadly in line with inflation trends as tenants, 3PL companies, retailers and consigners remain mindful of logistics costs, particularly in some countries such as Japan and South Korea with significant incoming supply pipeline. However weak rental growth trends are projected in Perth and Adelaide where industrial conditions remain tough due to weaker leasing demand.

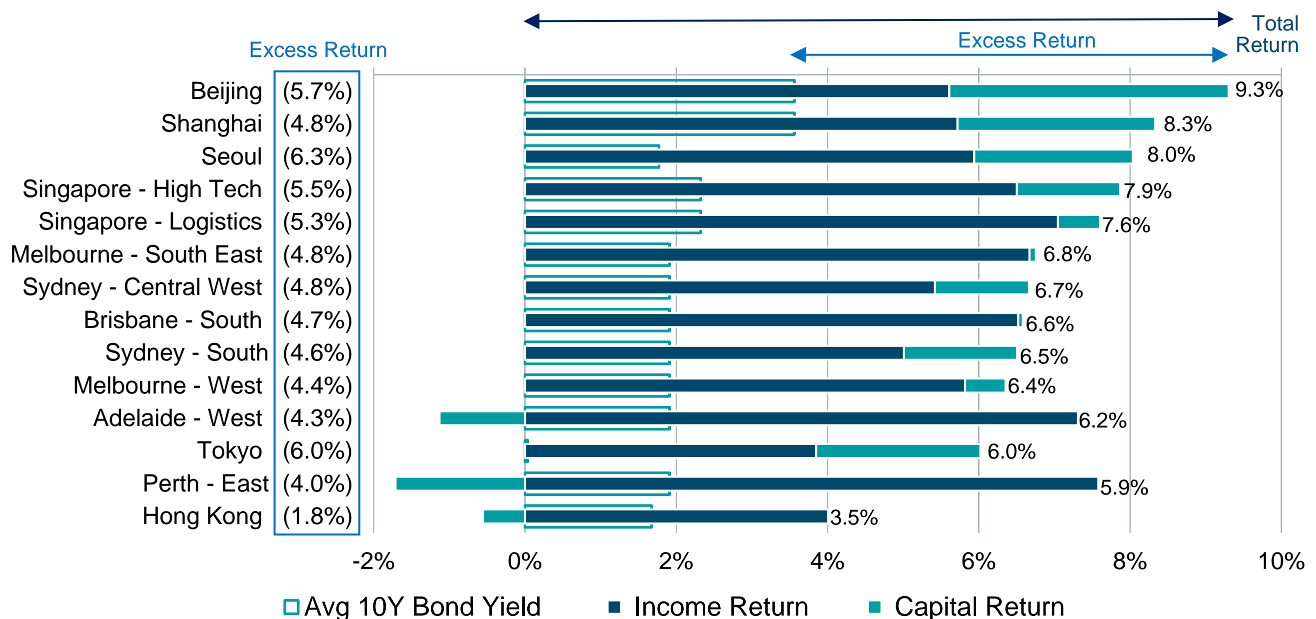
EXHIBIT 26: INDUSTRIAL SECTOR: PROJECTED RENTAL GROWTH (2019F – 2023F)



Note f = forecast. [1] Projected returns are based on compounded basis. There is no guarantee the forecasts will materialize.
Source: DWS. As of June 2019.

Performance: Owing to higher yields, increased transparency and strong underlying occupier demand, the industrial sector has provided consistently higher returns than the office and retail sectors, and may remain attractive in the next five years (see Exhibit 5 on page 11). Five-year return forecasts for key cities in China, Singapore and Seoul appear favourable at high levels in excess of 7%, with Australian cities slightly behind, though investment opportunities could be limited by the scarce availability of high quality completed assets in most of these markets. Investors seeking access through forward funding commitments – often the realistic approach to gain exposure to quality assets in certain markets such as China, and to a lessor extent, South Korea – need to consider the level of development-related risks on top of limited transparency in these markets. While total returns in Tokyo look to be one of the lowest in the comparison group, excess returns could turn out to be the highest on the back of expected low bond yields.

EXHIBIT 27: INDUSTRIAL SECTOR: PROJECTED COMPOUNDED ANNUAL RETURN AND EXCESS RETURN (2019F – 2023F)



Note: f = forecast. Projected returns are based on compounded basis. There is no guarantee the forecast returns will materialize. Excess return is calculated from income return plus capital appreciation (net of capex) over the local 10 year sovereign bond rate.
Source: DWS, Oxford Economics, Bloomberg. As of June 2019.

4.4 Residential

Current conditions: Though more investment spotlights are shed on residential properties as an alternate investment sector across the Asia Pacific region, the institutional residential sector is not yet well-established with major local developers predominantly focusing on for-sale condominiums. The only exception is Japan which possesses a mature, sizable, institutionalized residential market with transaction volumes amounting to around US$5 billion annually, approximately 70% of total residential volume in the region. Transactional liquidity is underpinned by several listed residential J-REITs. As of June 2019, the residential sector accounted for 14.8% of the aggregate asset value of all listed J-REITs, compared to the retail (18.1%) and industrial (15.3%) sectors.

Nationwide, the home ownership rate is 62%, but this figure is significantly lower at 46% in Tokyo where housing prices are expensive. Of the over 1,700 assets held by all listed REITs across Japan, Tokyo 23 wards account for 67% by aggregate value, while greater Tokyo accounts for 77%, followed by greater Osaka (10%) and greater Nagoya (5%). However, capital has recently started to flow into regional cities, and non-Tokyo assets accounted for over 50% of total transaction volumes in the last two years.

EXHIBIT 28: J-REIT AUM BY SECTOR

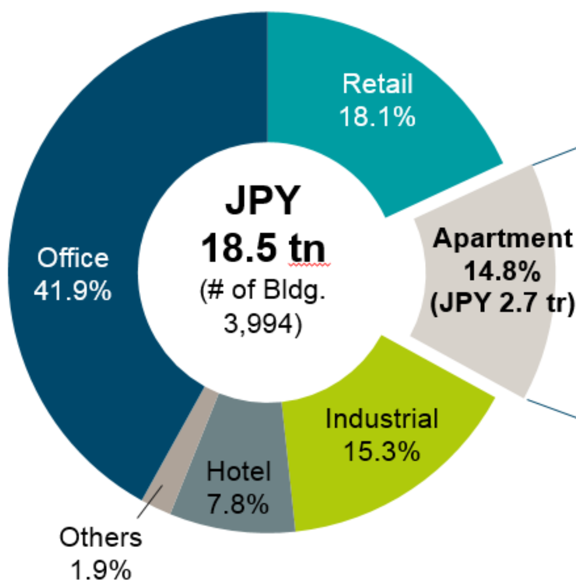
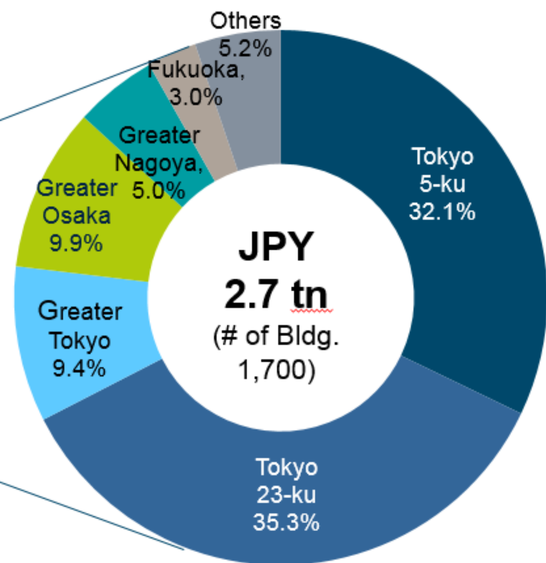


EXHIBIT 29: J-REIT RESIDENTIAL AUM BY REGION



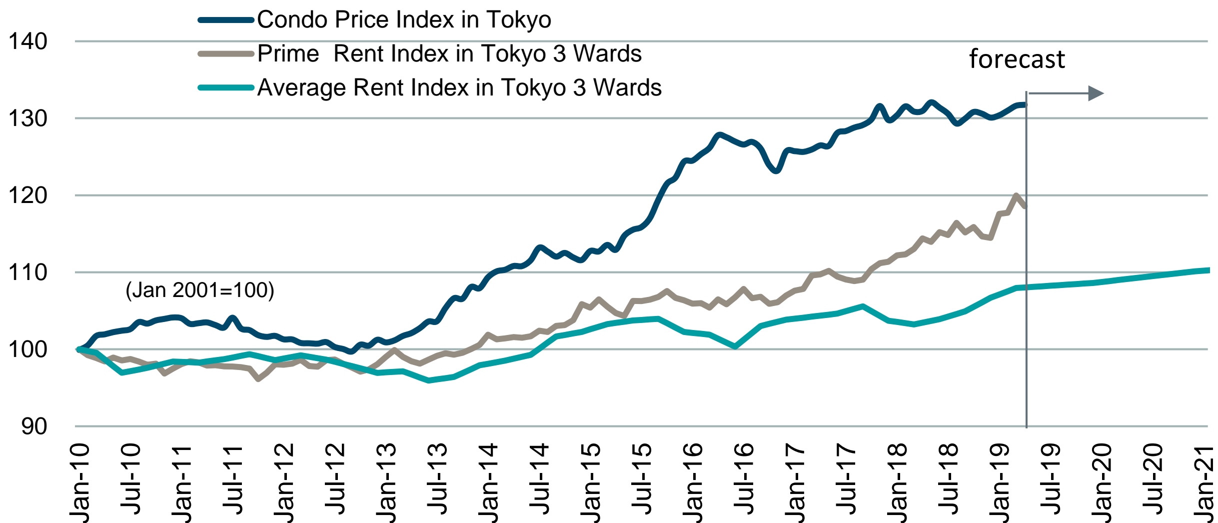
Source: DWS, Association for Real Estate Securitization in Japan. As of June 2019.

The Japanese residential market brings forth an important defensive element into investors' portfolios. It is characterised by a less cyclical occupier demand for housing with lower vacacny risks compared to commercial sectors. Hence it is also typically less exposed to market corrections. The exception is high-end rent houses in Tokyo, the majority of which are let to expatriates or senior executives, and therefore more vulnerable to economic downturns. Nonetheless, the downside protection of the residential market is welcomed by an increasing number of investors as more commercial segments move into a mature cycle. Asset size tends to be relatively small in the residential sector, around JPY 1.6 billion or US$14 million per asset, and even smaller in regional cities, hence larger sized portfolio deals are strongly sought after by institutions, especially global investors. Since the sector requires heavy asset management duties dealing with tens or hundreds of individual tenants with frequent turnovers, many foreign investors form partnerships with local residential operators to outsource operational risks.

Outlook: The condominium unit price in Tokyo remains close to the highest level in two decades and this has helped sustain strong tenant demand in rental houses. The average for-sale condominium price per unit in greater Tokyo is around JPY60 million, or US$500,000, and the majority of potential first time buyers with affordability issues have little choice but to stick to rent houses. As such leasing demand is extremely strong in central locations in Tokyo with good access to public transportation. The vacancy rate in the fourth quarter of 2018 was 3.7% in Tokyo, and 3.2% in Osaka in the same period. Prime rental growth in the Central 3 wards in Tokyo was 3.1% per annum over the last three years; rental growth for average assets in Tokyo was more modest at 1.2%, while being almost flat in other regional cities in Japan.

Given that the trend of rising prices of for-sale condominiums is expected to persist, at least for the foreseeable future, as well as growing popularity of flexible work-life concepts among millennials, demand for quality rent houses should remain strong. On the other hand, soaring construction costs and land prices nationwide in Japan curb the profitability of new residential developments and should mitigate oversupply risks, especially in the areas near city centers. As such, average rents may see healthy growth of around 1.0% per annum in the next five years, slightly above inflation expectations.

EXHIBIT 30: RESIDENTIAL RENT INDEX VS. CONDO PRICE INDEX (2001-2021F, 12 MONTHS ROLLING)



Source: DWS, Real Estate Economic Institute, LMC, Real Estate Information Network System, As of June 2019. Past performance is not a reliable indicator of future returns. There is no guarantee the forecasts will materialize. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

Performance: Over the long run, the performance of the residential sector in Japan has been less volatile than other commercial sectors, while only Central Tokyo has experienced strong income growth to date. Residential total returns in Japan averaged 10% in the last five years. Looking ahead, leasing demand for residential assets in Tokyo looks supported by elevated condominium prices, while room for further cap rate compression seems to be limited. Total returns are forecast to be slightly below 6% per annum in the next five years, predominantly driven by income returns.

5 / Risk Return Profile (office sector)

It is insufficient to compare property-level total returns on a stand-alone basis without factoring the associated risks, especially in the Asia Pacific region where a significant divergence in market maturity and transparency persists. Several factors were considered in the computation of associated risks related to each submarket such as volatility, liquidity, transparency and the effect of obsolescence, along with domestic risk free rates. The associated risks were formulated using a combination of quantitative and qualitative modeling which have been integrated in our House View.

Exhibit 31 highlights the positioning of the various markets in reference to this framework. The total forecast returns on the vertical axis are plotted against associated risks on the horizontal axis for each office market. Returns are based on the same office sector forecasts outlined on Exhibit 22. A Market Neutral zone (shaded) is added to indicate the level of attractiveness of each market from a risk-return perspective (cities above this line are deemed more attractive and vice versa). We categorize the major office markets into the following three groups:

Overweight: Core target markets include major regional cities in Japan and core cities in Australia where total return forecasts look favorable compared to their associated risks. These are among the most established and mature markets in the region and core investors focused on income yields should center their portfolio investments mainly in these markets. This is broadly in line with the Core Strategy in the Strategic Investment Themes outlined on page 12.

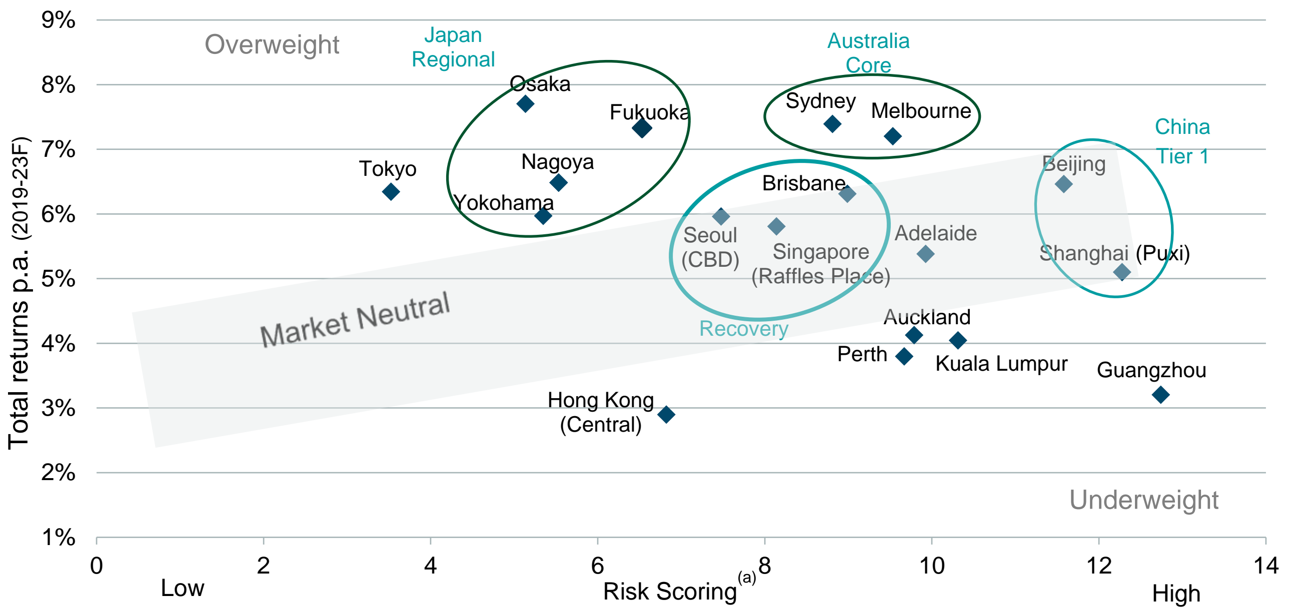
Market Neutral: Markets with a lower but nonetheless favourable risk-return profile. This includes Tokyo where lower returns are balanced with lower associated risks, and other cities currently either in the mid-late cycle downturn or early stages of market rental recovery such as Seoul and Singapore. A cyclical market recovery is expected in the mid-term as demand-supply fundamentals improve. These are similar to the “Mid-Term Opportunities” and “Recovery Markets” in the Strategic Investment Themes outlined on page 12.

On the other hand, investments in China would require a higher hurdle rate due to the increased risks associated with a higher risk free rate as well as lower market transparency and other investment restrictions. These markets should be more suitable for value added strategies in line with “Active Asset Management” in the Strategic Investment Themes on page 12.

Underweight: Markets where forecast returns lag associated risks on the back of low forecast returns, high risks or a combination of both. Returns in Hong Kong are capped by high occupancy costs, low rental growth and tight entry yields, while in Kuala Lumpur, demand-supply fundamentals remain largely in favour of tenants at the expense of office landlords.

Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation. No assurance is provided that any investment objective will be achieved

EXHIBIT 31: RISK RETURN PROFILE OF APAC OFFICE MARKET



Source: DWS, Oxford Economics, Colliers, Jones Lang LaSalle Research, JREI, CBRE, Cushman & Wakefield, Real Capital Analytics. As of June 2019.
Note: F = forecasts. There is no guarantee the forecasts will materialize.
Risk Scoring[a]: A greater risk score indicates higher levels of risks associated with each market. A range of risk factors were considered including the local risk-free rate, historical volatility of returns, level of market liquidity, real estate transparency level and capital expenditure requirements.

Despite favourable performance expectations in some markets there are other challenges and constraints that should be factored for commercial real estate investments which cannot be fully captured in the risk scoring computations, especially for cross border investors.

Currency hedging costs remain relatively expensive in Australia and South Korea for Euro-denominated investors and this can be an impediment for cross border investors when competing with domestic investors, despite favourable returns projections. In Japan, local investors and developers command the upper hand due to extremely cheap borrowing costs in the local debt market, whereas access to cheap capital is limited for foreign investors.

Foreign investors also face additional regulatory and compliance risks compared to domestic investors. In China, onshore holding structures with equity investments from foreign parties require the formation of foreign-invested enterprises (FIEs) or wholly owned foreign enterprises (WOFEs). Conversion of structures is required if the existing holding structure is not in either of these forms and is subjected to regulatory approval, which introduces regulatory uncertainties. Foreign investors also have to deal with the complexities of capital controls and taxation issues which pose considerable challenges to new foreign investors.

Therefore, it is critical for investors to find capable investment managers who have a good foothold in each of these markets when making investments.

6 / Overview of Key Asia Pacific Markets

COUNTRY REAL ESTATE OUTLOOK: JAPAN

Economy: The third largest economy in the world. GDP growth is expected at 0.5% in 2019, with concerns mounted for manufacturing companies. The unemployment rate remains below 3%, the lowest level in decades, while overseas tourist arrivals hit a historical record, more than tripled in the last five years.

Real Estate Market: One of the largest real estate markets in the region. Good transparency with a well-established REIT market. Relatively healthy yield spreads attracting more cross-border investors, despite domestic investors remaining dominant due to the extremely low capital cost. Main Target Markets: Tokyo, Osaka, Nagoya, Fukuoka

Risks: Slowdown in global trade and appreciation of Japanese Yen affecting exports

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Positive	- Historical-low vacancy rates with limited office supply in all major cities in Japan. - Attractive real estate spreads over government bond yield. - Transaction cap rates expected to remain tight in the mid-term with steady monetary easing policy.
Retail	Neutral	- An increasing number of overseas tourists to Japan but retail sales growth in high streets and suburban shopping centers moderating along with the growth of e-commerce retail sales. - Opportunities in assets with exposure to non-discretionary spending.
Industrial	Positive	- Vacancy rates remain modest in Tokyo despite the unprecedented supply in 2019, except some sub markets such as Ken-o-do area where supplies are concentrated.
Residential	Neutral	- Comparably large transaction volume, diverse investor profile and affluent market data provide enough depth, liquidity and transparency, while the average asset size tend to be smaller.

EXHIBIT 32: ECONOMIC INDICATORS (YEAR 2010 = 100)

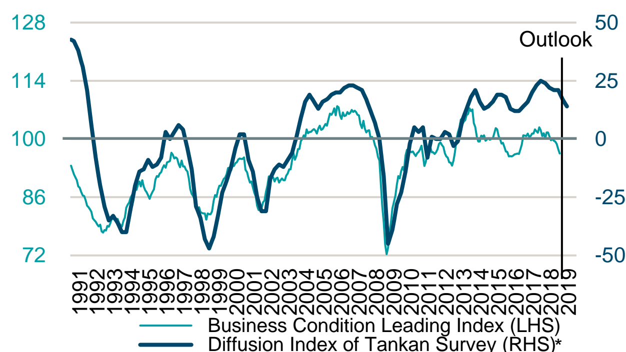
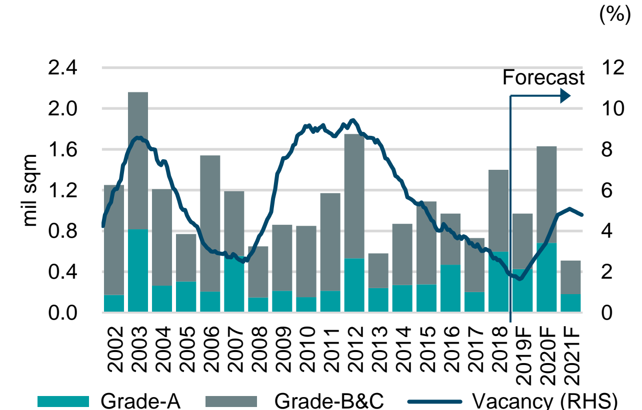


EXHIBIT 33: TOKYO OFFICE SUPPLY AND VACANCY RATE



Note: F = forecast. There is no guarantee the forecasts will materialize. *Percentage share of enterprises responding 'favourable' minus percentage share of enterprises responding 'unfavourable' over business conditions.
Source: DWS, World Bank, Bank of Japan, Miki Shoji, Mori Building, Oxford Economics. As of June 2019. Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

COUNTRY REAL ESTATE OUTLOOK: SOUTH KOREA

Economy: The fourth largest economy in the region (after China, Japan and India). GDP growth is expected to moderate to 2.5% in 2019. Concerns are looming over the slowdown of export activities along with the escalation of the United States-China trade conflict. Expectations for increases in the base interest rate in 2019 has retreated significantly due to the uncertain economic outlook.

Real Estate Market: The market has recently been upgraded from “semi-transparent” to “transparent” amid the ongoing modernization and institutionalization. The office sector is relatively mature and more established, while other sectors have yet to be fully institutionalized. Main Target Market: Seoul.

Risks: High export dependency, Slowdown in global trade affecting exports and geopolitical risks over the denuclearization of North Korea

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Neutral	- Vacancy rate remains relatively high at 10% in Seoul CBD due to weaker office demand. - Effective rents pressured by elevated tenant incentives, though a gradual recovery is expected in the medium term.
Retail	Neutral	- High street retail sales still remain soft given the slow recovery of the employment market and tourism industry. - Investment opportunities are limited compared to other sectors, as the dominant big retailers prefer to hold on to their own properties.
Industrial	Positive	- Despite rapid institutionalization and modernization, there remains a shortage of good quality assets to meet the strong demand from e-commerce and 3PL industries. - Assets with strong leasing covenants are highly sought after by investors, notwithstanding the record new supply in 2018 and 2019.

EXHIBIT 34: ECONOMIC INDICATORS (YEAR 2010 = 100)

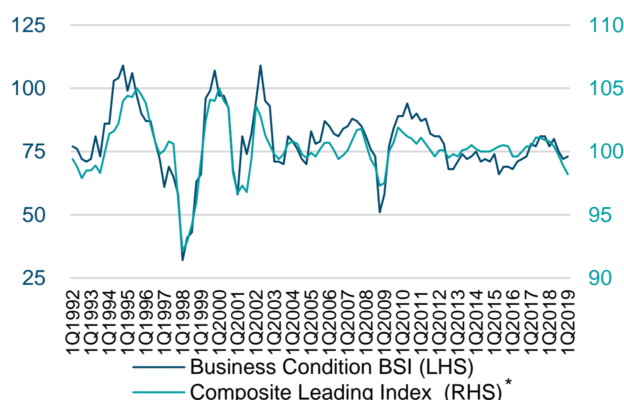
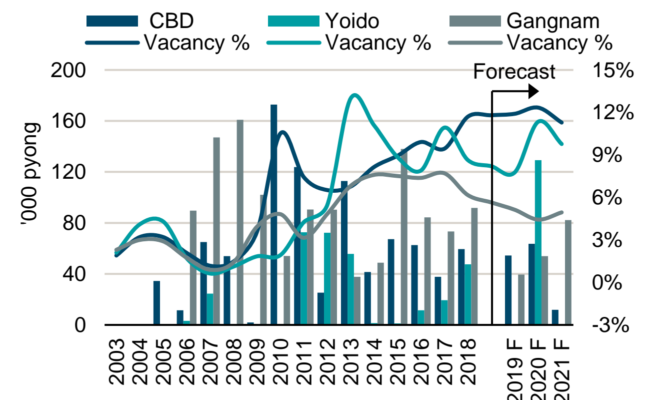


EXHIBIT 35: SEOUL OFFICE SUPPLY AND VACANCY RATE



F = forecast. There is no guarantee the forecasts shown will materialize. Sources: DWS, World Bank, Bank of Korea, Mateplus, Oxford Economics. As of June 2019. There can be no certainty that events will turn out as we have opined herein.
*Percentage share of enterprises responding ‘favourable’ minus percentage share of enterprises responding ‘unfavourable’ over business conditions.

Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

COUNTRY REAL ESTATE OUTLOOK: CHINA

Economy: China's GDP growth is projected to slow further to 6 - 6.5% in 2019. Broad economic indicators ranging from manufacturing PMI, industrial production and fixed asset investment have weakened year-to-date, though retails sales and consumption growth remain resilient. Trade tensions and negotiations with the United States remain key to determining the near-term economic outlook.

Real Estate Market: China constitutes the largest real estate market in Asia though affected by modest albeit improving transparency levels. Domestic capital remains the predominant source of funds; foreign investor participation is limited to topTier-1 cities due to challenges from limited transparency, cash repatriation and taxation issues.

Risks: Export dependency risks to global demand, worsening of foreign relations with trade partners and buildup of excessive corporate leverage.

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Neutral	- Leasing demand remains relatively robust, mainly from domestic finance and professional firms. - New supply completions have peaked in Shanghai, supporting occupancy levels, though Beijing should see near-term vacancy rise from significant supply in 2019.
Retail	Negative	- Prime retail remains driven by demand from new retail entrants, expansion and high income growth, though competition arising from growing e-commerce sales and rising supply in decentralized areas. - Currently one of the world's most advanced e-commerce markets with leading online retail sales exceeding US$ 1 trillion in 2017.
Industrial	Positive	- Stable cashflows underpinned by growing occupier demand catering to domestic demand and high industrial yields in excess of 6%. Opportunities for foreign investors limited by small pool of investable core assets.

EXHIBIT 36: ECONOMIC INDICATORS

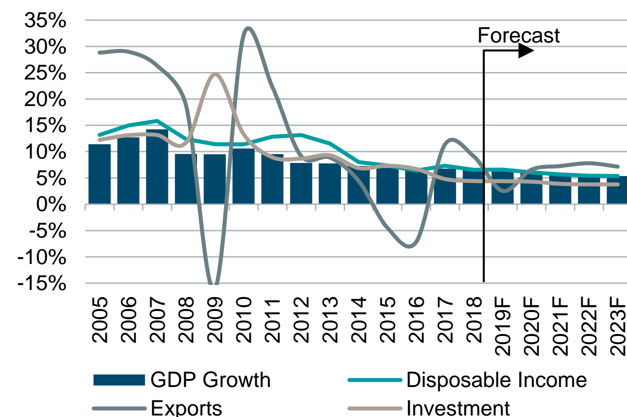
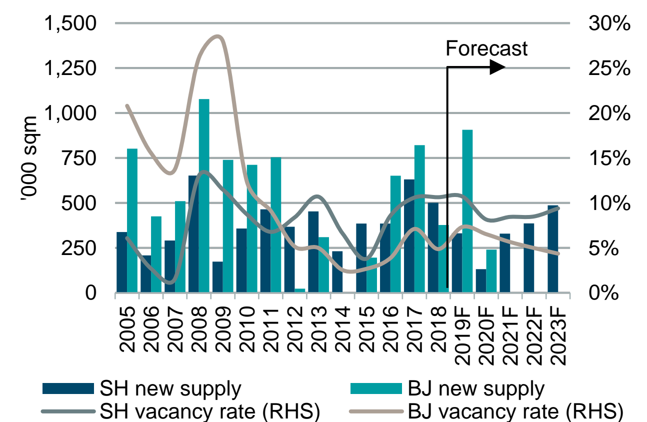


EXHIBIT 37: OFFICE SUPPLY IN BEIJING AND SHANGHAI



F = forecast. There is no guarantee the forecasts shown will materialize.
There can be no certainty that events will turn out as we have opined herein.
Source: DWS, Oxford Economics. As at June 2019. Past performance is not a reliable indicator of future returns.
All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

COUNTRY REAL ESTATE OUTLOOK: HONG KONG

Economy: Growth momentum is expected to slow further amidst escalating United States -China trade tensions. Despite the tight labour market, macroeconomic headwinds are expected to weigh on exports and domestic demand. Notwithstanding, increased government spending will likely provide some support to growth.

Real Estate Market: Strong transparency levels but lack of investment opportunities as institutional grade assets are tightly held by local developers and REITs.

Risks: Slowing demand from mainland China will affect Hong Kong via trade and tourism.

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Negative	- Increasing economic uncertainty could see leasing demand soften particularly from Chinese companies while the tenant decentralisation trend is expected to continue. - Office investment remains predominantly driven by end-users.
Retail	Negative	- The leasing market is likely to be supported by mid-to-mass market tenants and F&B operators. - Rising external headwinds may limit transactions although investors remain keen on neighbourhood retail assets.
Industrial	Negative	- Leasing volumes are expected to remain subdued with occupiers adopting a wait-and-see approach given the weaker economic outlook. - The re-launch of revatilisation policies should attract investment interest in industrial buildings with refurbishment and redevelopment potential.

EXHIBIT 38: ECONOMIC INDICATORS

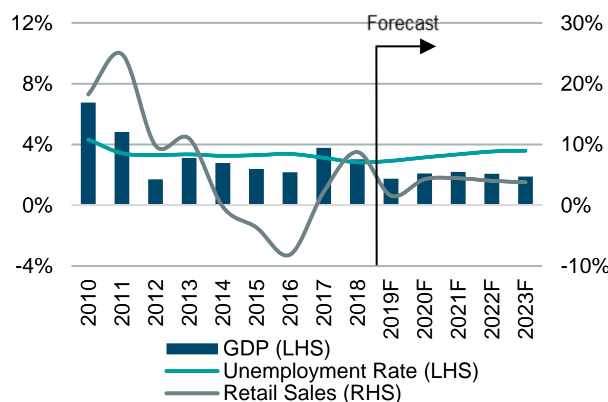
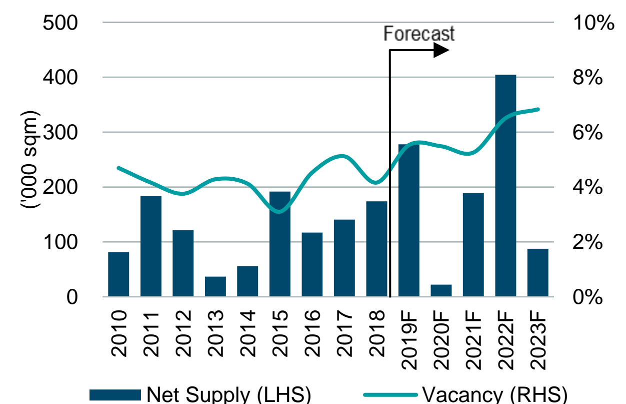


EXHIBIT 39: HONG KONG OFFICE SUPPLY AND VACANCY RATE



F = forecast. There is no guarantee the forecasts shown will materialize.
There can be no certainty that events will turn out as we have opined herein. Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.
Sources: DWS, Hong Kong Rating and Valuation Dept, Oxford Economics. As of June 2019.

COUNTRY REAL ESTATE OUTLOOK: SINGAPORE

Economy: Projected GDP growth averaging 2.5% per annum over the next few years. Near-term growth outlook remains challenging with close links to global and regional trade. Growth industries include wealth management, insurance and healthcare sectors. Technology, fintech and co-working constitute other major office demand drivers.

Real Estate Market: Strong transparency levels, highly liquid market. One of the largest REIT markets after Japan and Australia. High levels of foreign investor participation.

Risks: High export dependency risks to global demand and interest rate volatility from movements in global rates.

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Positive	- Office leasing conditions underpinned by improving occupier sentiment and significantly lower completions over the next few years till 2022. - Moderate rental recovery expected led by higher quality offices.
Retail	Neutral	- Prime retail continues to face challenges from competition posed by suburban retail and weaker tenant sales. - Suburban retail with excellent resident catchments provides better cushion against fluctuations in discretionary spending.
Industrial	Positive	- Turnaround in industrial rents expected with significantly lower supply pipeline. High industrial yields in excess of 6%. - Focus on logistics warehouses with underlying exposure to non-discretionary spending (refrigerated) or growing regional consumption.

EXHIBIT 40: ECONOMIC INDICATORS

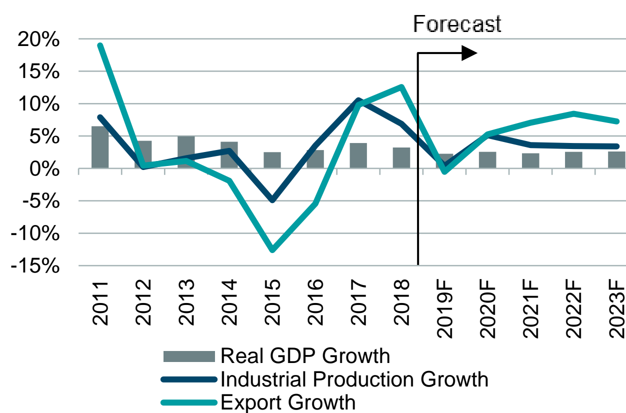
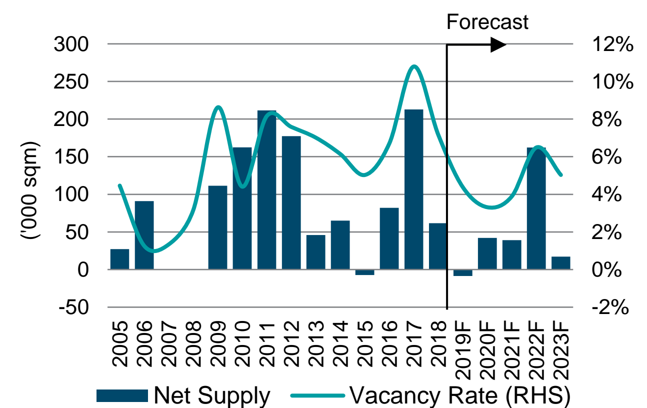


EXHIBIT 41: SINGAPORE OFFICE SUPPLY AND VACANCY



F = forecast. There is no guarantee the forecasts shown will materialize.
There can be no certainty that events will turn out as we have opined herein.
Source: DWS, Oxford Economics, Urban Redevelopment Authority of Singapore. As at June 2019.
Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

COUNTRY REAL ESTATE OUTLOOK: AUSTRALIA

Economy: GDP is expected to expand by 2.7% per annum over the next five years, supported by business investment and public infrastructure spending. The labour market conditions remain healthy although the pace of job creation is expected to moderate to 1.6% per annum from 2019-2023.

Real Estate Market: Strong transparency levels, highly liquid with a mature Australian REIT market. High levels of foreign investor participation.

Main Target Markets: Sydney, Melbourne, Brisbane

Risks: Subdued wage growth, persistently low inflation and weak housing market conditions may weigh on consumer sentiments and constrain household spending.

Real Estate Performance Outlook 2019-2023f

Sector	Outlook	Summary View
Office	Positive	- Healthy employment growth to support demand across major office markets. - Rental growth in Sydney and Melbourne to remain healthy albeit at a more measured pace. The flattening of the yield curve is expected to push out the decompression cycle to the latter part of 2021.
Retail	Neutral	- Prime quality retail centres which are food, entertainment and services oriented continue to be sought after, although gaining access to stock may often require partnership with an experienced retail specialist. Given the divergence in the performance within each retail sub-sector, asset selection will be necessary.
Industrial	Positive	- Strong demand in Sydney and Melbourne underpinned by population growth and infrastructure investment. Rising e-commerce to support demand over the medium to long term. - Industrial assets remained keenly sought after with increasing trends towards capital partnering and joint ventures.

EXHIBIT 42: ECONOMIC INDICATORS

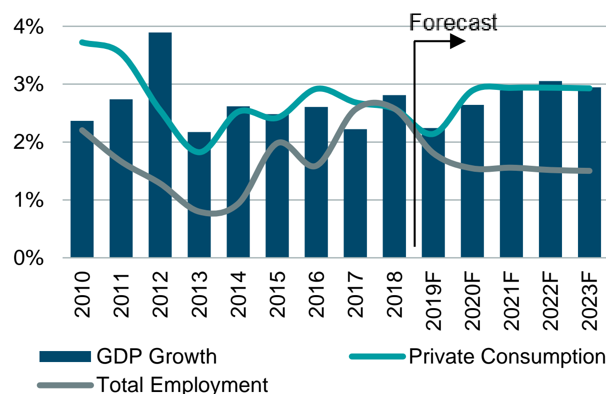
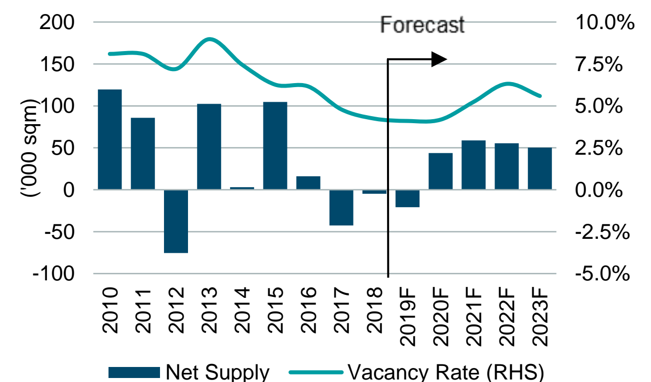


EXHIBIT 43: SYDNEY OFFICE SUPPLY AND VACANCY



F = forecast. There is no guarantee the forecasts shown will materialize.
There can be no certainty that events will turn out as we have opined herein.
Sources: DWS, Colliers, Oxford Economics. As of June 2019.
Past performance is not a reliable indicator of future returns. All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.

7 / Environmental, Social, and Governance (ESG) Outlook

The trend of environmental, social and governance investing has been increasingly relevant not just in the global context, but in Asia Pacific as well. Asian real estate corporations and portfolio managers have been notably raising their attention to sustainability performances and putting in-place execution strategies, as government pension funds, sovereign wealth funds and institutional investors increasingly commit to intregating ESG practices in their investment processes.

Based on the Global Real Estate Sustability Benchmark (GRESB) survey, the regional average GRESB score for Asia improved from 63 in 2017 to 66 in 2018[20], highlighting the increasing commitments by real estate companies and funds to sustainability. Australia and New Zealand continue to lead the region with the highest performing score for the 8th consecutive year, with increasing focus on social sustainability such as tenant well-being and environmental sustainability particularly on achieving zero carbon emissions.

Since 2010, Australia had made mandatory rating disclosures of NABERS ratings and Building Energy Efficiency Certificates for large office spaces exceeding 1,000 square metres, with over 1,768 certified buildings as of 2018[21]. In Japan, 817 buildings (national-level) and 23,501 (prefecture-level) have been certified by CASBEE[22], while in Singapore, about 3,000 buildings or a third of the current stock have undergone Green Mark Certification, while the government has targeted 80% of all buildings to be certified by 2030.[23]

From a financing perspective, banks have also started exploring sustainable financing initiatives. In late 2018, DBS successfully committed to provide Asia' first real estate sustainability-linked loan to CapitaLand with the interest rate on the S$300 million facility linked to a series of ESG performance metrics[24].

Sustainability considerations are becoming an increasingly important and integral component of commercial real estate investment decisions. Investors should pay more attention to ESG investing, particularly in countries with higher proliferation of sustainability initiatives, for example Australia where office buildings with certified sustainability initiatives are the norm rather than differentiating factor.

[20] GRESB Global Real Estate Sustainability Benchmark 2018
[21] NABERS Annual Report 2017/2018
[22] CASBEE website, June 2019
[23] Building and Construction Authority Singapore, June 2019
[24] DBS Newsroom, 4 Oct 2018

All opinions and forecasts are based upon data at the time of publication of this article (July 2019) and may not come to pass. This information is subject to change at any time, based upon economic, market and other conditions and should not be construed as a recommendation.
No assurance is provided that any investment objective will be achieved.

Important Information

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

DWS represents the asset management activities conducted by DWS Group GmbH & Co. KGaA or any of its subsidiaries. In the U.S., DWS relates to the asset management activities of RREEF America L.L.C.; in Germany: DWS Grundbesitz GmbH, DWS Real Estate GmbH, and DWS Alternatives GmbH ; in Australia: DWS Investments Australia Limited (ABN 52 074 599 401) an Australian financial services incense holder; in Japan: DWS Investments Japan Limited; in Hong Kong: Deutsche Bank Aktiengesellschaft, Hong Kong Branch (for direct real estate business), and DWS Investments Hong Kong Limited (for real estate securities business); in Singapore: DWS Investments Singapore Limited (Company Reg. No. 198701485N); in the United Kingdom: Deutsche Alternative Asset Management (UK) Limited, DWS Alternatives Global Limited and DWS Investments UK Limited; and in Denmark, Finland, Norway and Sweden: DWS Investments UK Limited and DWS Alternatives Global Limited; in addition to other regional entities in the Deutsche Bank Group. Key DWS research personnel are voting members of various investment committees. Members of the investment committees vote with respect to underlying investments and/or transactions and certain other matters subjected to a vote of such investment committee. The views expressed in this document have been approved by the responsible portfolio management team and real estate committee and may not necessarily be the views of any other division within DWS.

This material was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. It is intended for informational purposes only. It does not constitute investment advice, a recommendation, an offer, solicitation, the basis for any contract to purchase or sell any security or other instrument, or for DWS or its affiliates to enter into or arrange any type of transaction as a consequence of any information contained herein. Neither DWS nor any of its affiliates gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Except insofar as liability under any statute cannot be excluded, no member of the DWS, the Issuer or any office, employee or associate of them accepts any liability (whether arising in contract, in tort or negligence or otherwise) for any error or omission in this document or for any resulting loss or damage whether direct, indirect, consequential or otherwise suffered by the recipient of this document or any other person.

The views expressed in this document constitute DWS Group’s judgment at the time of issue and are subject to change. This document is only for professional investors. This document was prepared without regard to the specific objectives, financial situation or needs of any particular person who may receive it. No further distribution is allowed without prior written consent of the Issuer.

Investments are subject to risk, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time.

Investment in real estate may be or become nonperforming after acquisition for a wide variety of reasons. Non performing real estate investment may require substantial workout negotiations and/ or restructuring. Environmental liabilities may pose a risk such that the owner or operator of real property may become liable for the costs of removal or remediation of certain hazardous substances released on, about, under, or in its property. Additionally, to the extent real estate investments are made in foreign countries, such countries may prove to be politically or economically unstable. Finally, exposure to fluctuations in currency exchange rates may affect the value of a real estate investment.

Investments in Real Estate are subject to various risks, including but not limited to the following:

- Adverse changes in economic conditions including changes in the financial conditions of tenants, buyer and sellers, changes in the availability of debt financing, changes in interest rates, real estate tax rates and other operating expenses;
- Adverse changes in law and regulation including environmental laws and regulations, zoning laws and other governmental rules and fiscal policies;
- Environmental claims arising in respect of real estate acquired with undisclosed or unknown environmental problems or as to which inadequate reserves have been established;
- Changes in the relative popularity of property types and locations;
- Risks and operating problems arising out of the presence of certain construction materials; and
- Currency / exchange rate risks where the investments are denominated in a currency other than the investor’s home currency.

An investment in real estate involves a high degree of risk, including possible loss of principal amount invested, and is suitable only for sophisticated investors who can bear such losses. The value of shares/ units and their derived income may fall or rise.

Any forecasts provided herein are based upon DWS's opinion of the market at this date and are subject to change dependent on the market. Past performance or any prediction, projection or forecast on the economy or markets is not indicative of future performance.

In Australia: Issued by DWS Investments Australia Limited (ABN 52 074 599 401), holder of an Australian Financial Services License (AFSL 499 640). This information is only available to persons who are professional, sophisticated, or wholesale investors as defined under section 761 G of the Corporations Act 2001 (Cth). The information provided is not to be construed as investment, legal or tax advice and any recipient should take their own investment, legal and tax advice before investing. DWS Investments Australia Limited is an asset management subsidiary of DWS Group GmbH & CO. KGaA ("DWS Group"). The capital value of and performance of an investment is not in any way guaranteed by DWS Group, DWS Investments Australia Limited or any other member of the DWS Group. Any forecasts provided herein are based upon our opinion of the market as at this date and are subject to change, dependent on future changes in the market. Any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets is not necessarily indicative of the future or likely performance. Investments are subject to investment risk, including possible delays in repayment and loss of income and principal invested. DWS Investments Australia Limited is not an Authorised Deposit-taking Institution under the Banking Act 1959 nor regulated by APRA.

Notice to prospective Investors in Japan: This document is distributed in Japan by DWS Investments Japan Limited. Please contact the responsible employee of DWS Investments Japan Limited in case you have any question on this document because DWS Investments Japan Limited serves as contacts for the product or service described in this document. This document is for distribution to Professional Investors only under the Financial Instruments and Exchange Law.

Dubai International Financial Centre: Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may only undertake the financial services activities that fall within the scope of its existing DFSA license. Principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

Kingdom of Saudi Arabia: Deutsche Securities Saudi Arabia LLC Company, (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may only undertake the financial services activities that fall within the scope of its existing CMA license. Principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.

For Investors in Switzerland: This material is intended for information purposes only and does not constitute investment advice or a personal recommendation. This document should not be construed as an offer to sell any investment or service. Furthermore, this document does not constitute the solicitation of an offer to purchase or subscribe for any investment or service in any jurisdiction where, or from any person in respect of whom, such a solicitation of an offer is unlawful. Neither DWS CH AG nor any of its affiliates, gives any warranty as to the accuracy, reliability or completeness of information which is contained in this document. Past performance or any prediction or forecast is not indicative of future results.

The views expressed in this document constitute DWS Group's judgment at the time of issue and are subject to change. DWS Group has no obligation to update, modify or amend this letter or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate, or if research on the subject company is withdrawn. Prices and availability of financial instruments also are subject to change without notice.

The information provided in this document is addressed solely to Qualified Investors pursuant to Article 10 paragraph 3 of the Swiss Federal Act on Collective Investment Schemes (CISA) and Article 6 of the Ordinance on Collective Investment Schemes. This document is not a prospectus within the meaning of Articles 1156 and 652a of the Swiss Code of Obligations and may not comply with the information standards required thereunder. This document may not be copied, reproduced, distributed or passed on to others without the prior written consent of DWS CH AG or its affiliates.

For investors in the United Kingdom: FOR PROFESSIONAL CLIENTS ONLY

Issued and approved by DWS Investments UK Limited of Winchester House, 1 Great Winchester Street, London EC2N 2DB, authorised and regulated by the Financial Conduct Authority (“FCA”).

This document is a “non-retail communication” within the meaning of the FCA's Rules and is directed only at persons satisfying the FCA’s client categorisation criteria for an eligible counterparty or a professional client. This document is not intended for and should not be relied upon by a retail client. This document may not be reproduced or circulated without written consent of the issuer.

This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group GmbH & Co. KGaA and/or its affiliates (“DWS”). Without limitation, this document does not constitute investment advice or a recommendation or an offer or solicitation and is not the basis for any contract to purchase or sell any security or other instrument, or for DWS to enter into or arrange any type of transaction as a consequence of any information contained herein. The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Past performance is not a guarantee of future results. Any forecasts provided herein are based upon our opinion of the market as at this date and are subject to change, dependent on future changes in the market. Any prediction, projection or forecast on the economy, stock market, bond market or the economic trends of the markets is not necessarily indicative of the future or likely performance. Investments are subject to risks, including possible loss of principal amount invested.

When making an investment decision, potential investors should rely solely on the final documentation relating to the investment or service and not the information contained herein. The investments or services mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. For general information regarding the nature and risks of the proposed transaction and types of financial instruments please go to https://www.db.com/company/en/risk-disclosures.htm. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with us you do so in reliance on your own judgment.

Any opinions expressed herein may differ from the opinions expressed by Deutsche Bank AG and/or any other of its affiliates (“DB”). DB may engage in transactions in a manner inconsistent with the views discussed herein. DB trades or may trade as principal in the instruments (or related derivatives), and may have proprietary positions in the instruments (or related derivatives) discussed herein. DB may make a market in the instruments (or related derivatives) discussed herein. You may not distribute this document, in whole or in part, without our express written permission.

DWS SPECIFICALLY DISCLAIMS ALL LIABILITY FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL OR OTHER LOSSES OR DAMAGES INCLUDING LOSS OF PROFITS INCURRED BY YOU OR ANY THIRD PARTY THAT MAY ARISE FROM ANY RELIANCE ON THIS DOCUMENT OR FOR THE RELIABILITY, ACCURACY, COMPLETENESS OR TIMELINESS THEREOF.

Any reference to “DWS”, “Deutsche Asset Management” or “Deutsche AM” shall, unless otherwise required by the context, be understood as a reference to asset management activities conducted by DWS Group GmbH & Co. KGaA and/or any of its affiliates. Clients will be provided DWS products or services by one or more legal entities that will be identified to clients pursuant to the contracts, agreements, offering materials or other documentation relevant to such products or services. DWS’s infrastructure investment business is part of the Alternatives platform. In the U.S., DWS relates to the asset management activities of RREEF America L.L.C.; in Germany: DWS Grundbesitz GmbH, DWS Real Estate GmbH, and DWS Alternatives GmbH; in Japan: DWS Investments Japan Limited; in Hong Kong: Deutsche Bank Aktiengesellschaft, Hong Kong Branch (for direct real estate business), and DWS investments Hong Kong Limited (for real estate securities business); in Singapore: DWS Investments Singapore Limited (Company Reg. No. 198701485N); in the United Kingdom: Deutsche Alternative Asset Management (UK) Limited, DWS Alternatives Global Limited and DWS Investments UK Limited; and in Denmark, Finland, Norway and Sweden: Deutsche Bank AG; in Australia: DWS Investments Australia Limited (ABN 52 074 599 401) an Australian financial services license holder.

© 2019. All rights reserved.

For investors in Nordics: Deutsche Bank AG is authorised under German Banking Law (competent authority: European Central Bank and the BaFin, Germany’s Federal Financial Supervisory Authority). Deutsche Bank AG Stockholm branch ("DBS", Bolagsverket nr. 516401-9985) is authorised by BaFin and regulated by Finansinspektionen for the conduct of licensed activities in Sweden, Denmark, Norway and Finland. Deutsche Bank branches operate within the EEA on the back of the legal entity (Deutsche Bank AG) EU Passports within the European Economic Area (“EEA”). Reference is made to

European Union Regulatory Background and Corporate and Regulatory Disclosures at https://www.db.com/en/content/eu_disclosures_uk.htm. Details about the extent of our authorisation and regulation by BaFin and respective Nordic Region Financial Supervisory Authority are available from us on request.

Without limitation, this document and any attachment does not constitute an offer or a recommendation to enter into any transaction with DBS. This material and attachments is for information purposes only and is not intended to be an offer or an advice or recommendation or solicitation, or the basis for any contract to purchase or sell any security, or other instrument, or for DBS to enter into or arrange any type of transaction as a consequence of any information contained herein. The implicit or explicit views and recommendations expressed in marketing or other financial presentation material as well as any financial proposals are solely those of the issuer of such material, and forwarded to you on behalf of the contracting party.

The views set out in this presentation are those of the author and may not necessarily the views of any other division within Deutsche Bank, including the Sales and Trading functions of the Corporate and Investment Bank or the Global Client Group of Deutsche Asset Management and Private Wealth Management: all services provided by these the Sales and Trading functions of the Corporate and Investment Bank are purely on a non-advised, execution-only basis. DB may engage in transactions in a manner inconsistent with the views discussed herein. DB trades or may trade as principal in the instruments (or related derivatives), and may have proprietary positions in the instruments (or related derivatives) discussed herein. DB may make a market in the instruments (or related derivatives) discussed herein. Sales and Trading personnel are compensated in part based on the volume of transactions effected by them. You may not distribute this document, in whole or in part, without our express written permission.

DBS is solely acting for and on behalf of Deutsche Bank AG and/or any of its affiliates. Potential investors should be aware that if they decide to enter into a transaction with Deutsche Bank AG or any of its affiliates acting in their capacity as principal to the transaction ("contracting party"), any and all agreements will be entered into with that contracting party (unless re-negotiated) and pursuant to the financial laws and regulations of the country where the contracting party is licensed.

Unless DBS is entering into a separate and explicit contractual relationship with you for the provision of investment services, it is neither obliged to categorise you in accordance with MiFID nor perform MiFID suitability and/or appropriateness assessment (as enacted into Swedish laws and regulations). The investments or services mentioned in this material or an attachment thereto may not be appropriate for all investors and before entering into a transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with a contracting party you do so in reliance on your own judgment. For general information regarding the nature and risks and types of financial instruments please go to www.globalmarkets.db.com/riskdisclosures.

DB SPECIFICALLY DISCLAIMS ALL LIABILITY FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL OR OTHER LOSSES OR DAMAGES INCLUDING LOSS OF PROFITS INCURRED BY YOU OR ANY THIRD PARTY THAT MAY ARISE FROM ANY RELIANCE ON THIS DOCUMENT OR FOR THE RELIABILITY, ACCURACY, COMPLETENESS OR TIMELINESS THEREOF.

For Investors in Belgium: The information contained herein is only intended for and must only be distributed to institutional and/or professional investors (as defined in the Royal Decree dated 19 December 2017 implementing MiFID directive). In reviewing this presentation you confirm that you are such an institutional or professional investor. When making an investment decision, potential investors should rely solely on the final documentation (including the prospectus) relating to the investment or service and not the information contained herein. The investments or services mentioned herein may not be adequate or appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the suitability or appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with us you do so in reliance on your own judgment.

For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

© 2019 DWS Group GmbH & Co. KGaA. All rights reserved. 068940-1.0 (07/2019)

Research & Strategy—Alternatives

OFFICE LOCATIONS:

Chicago
222 South Riverside Plaza
34th Floor
Chicago
IL 60606-1901
United States
Tel: +1 312 537 7000

Frankfurt
Taunusanlage 12
60325 Frankfurt am Main
Germany
Tel: +49 69 71909 0

London
Winchester House
1 Great Winchester Street
London EC2N 2DB
United Kingdom
Tel: +44 20 754 58000

New York
345 Park Avenue
26th Floor
New York
NY 10154-0102
United States
Tel: +1 212 454 6260

San Francisco
101 California Street
24th Floor
San Francisco
CA 94111
United States
Tel: +1 415 781 3300

Singapore
One Raffles Quay
South Tower
20th Floor
Singapore 048583
Tel: +65 6538 7011

Tokyo
Sanno Park Tower
2-11-1 Nagata-cho
Chiyoda-Ku
18th Floor
Tokyo
Japan
Tel: +81 3 5156 6000

TEAM:

Global

Mark Roberts, CFA
Head of Research & Strategy
mark-g.roberts@dws.com

Jessica Elengical
Head of ESG Strategy
jessica.elengical@dws.com

Gianluca Minella
Infrastructure Research
gianluca.minella@dws.com

Yasmine Kamaruddin
Global Strategy
yasmine.kamaruddin@dws.com

Americas

Kevin White, CFA
Head of Strategy, Americas
kevin.white@dws.com

Brooks Wells
Head of Research, Americas
brooks.wells@dws.com

Ross Adams
Industrial Research
ross.adams@dws.com

Liliana Diaconu, CFA
Office Research
liliana.diaconu@dws.com

Ana Leon
Retail Research
ana.leon@dws.com

Ryan DeFeo
Property Market Research
ryan-c.defeo@dws.com

Joseph Pecora, CFA
Apartment Research
joseph.pecora@dws.com

Europe

Matthias Naumann
CIO & Head of Strategy, Europe
matthias.naumann@dws.com

Simon Wallace
Head of Research, Europe
simon.wallace@dws.com

Tom Francis
Property Market Research
tom.francis@dws.com

Martin Lippmann
Property Market Research
martin.lippmann@dws.com

Farhaz Miah
Property Market Research
farhaz.miah@dws.com

Aizhan Meldebek
Infrastructure Research
aizhan.meldebek@dws.com

Siena Carver
Property Market Research
siena.carver@dws.com

Asia Pacific

Koichiro Obu
Head of Research & Strategy, Asia Pacific
koichiro-a.obu@dws.com

Natasha Lee
Property Market Research
natasha-j.lee@dws.com

Seng-Hong Teng
Property Market Research
seng-hong.teng@dws.com

Hyunwoo Kim
Property Market Research
hyunwoo.kim@dws.com