Alternatives Research Real Estate

September 2021



SOUTH KOREA REAL ESTATE MARKET ANNUAL REPORT

South Korea heads toward growth

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- _ Despite a recent upsurge of COVID-19 infection cases in the country, South Korea has gained a strong foothold on the economic recovery in 2021.
- _ After expanding more than 10 times in just two years, the size of the listed REIT market tripled in 2020, driven by the additional listings of six REITs, with another six REITs planning IPOs in 2021 and beyond. Moreover, Korean REITs are estimated to be some of the best performing globally since 2019.
- _ Transaction cap rates in Seoul have compressed significantly on the back of strong investment demand from domestic investors, with transaction volumes breaking records for the fifth consecutive year.
- _ Owing to the country's success in avoiding a full-scale lockdown, the office leasing market in Seoul showed resilience, when demand in quality logistics space remained strong posting healthy growth.

1 / Country Overview

1.1 Macro Economy

Despite a recent upsurge of COVID-19 infection cases with the more transmissible Delta variant in the country, South Korea has gained a strong foothold on the economic recovery. South Korea's real GDP is forecast to recover 4.5% in 2021 after contracting 0.9% in 2020, buoyed by a rebound in world trade and the upswing in the global electronics cycle. Private consumption posed a drag following tightened regulation to curb the latest COVID resurgence, though a modest recovery in the remainder of the year is expected with rebounding employment and huge fiscal stimulus around 2.5% of GDP in 2021. Nevertheless, concerns remain with the slow vaccination rollout and the renewed economic tensions between the United States and China.

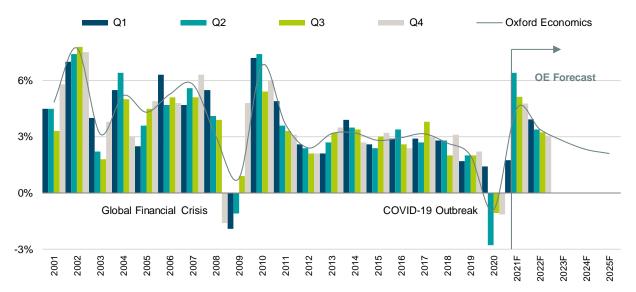
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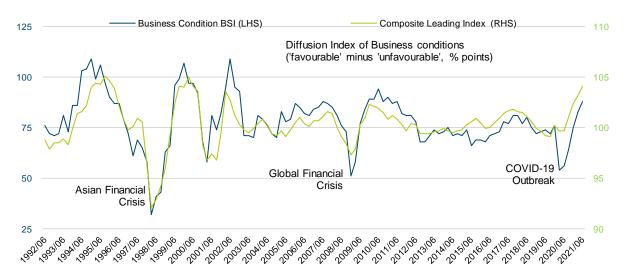


Notes: F = forecast, there is no guarantee forecast growth will materialise. Please refer to Important Notes (see end of report). Past growth is not a reliable indicator of future growth. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

Sources: Bank of Korea, Korea Statistics Information Service, Oxford Economics, DWS. As of August 2021.

The latest result of Business Conditions in the Business Survey Index (BSI) conducted by the Bank of Korea, marked a reading of 88 in June 2021, a big jump from the previous bottom of 51 in April 2020. The business sentiment of manufacturing industries recovered to 98, the highest level in the last eleven years, led by improving sentiment in the machinery, pharmaceutical and electronics industries. Non-manufacturing industries also saw a sound recovery from 50 to 81 in the same period, while tight local regulations related to COVID-19 and higher inflation exerted heavy pressure on the service industry. The broad business condition outlook remains cautiously optimistic, as more progress in the vaccine rollout is expected to accelerate the recovery in the second half of 2021.

EXHIBIT 2: DIFFUSION INDEX OF BUSINESS CONDITIONS

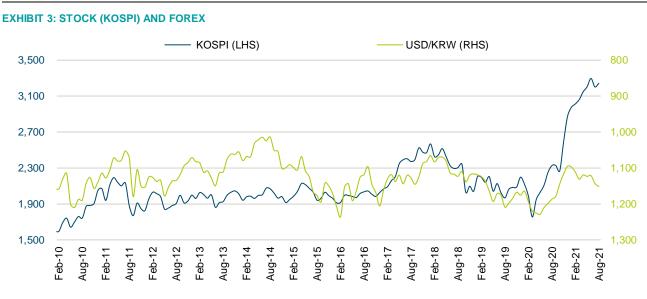


Past performance is not a reliable indicator of future performance. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect. There is no guarantee the estimates shown will materialize.

Sources: Bank of Korea, Korea Statistical Information Service, DWS. As of August 2021.

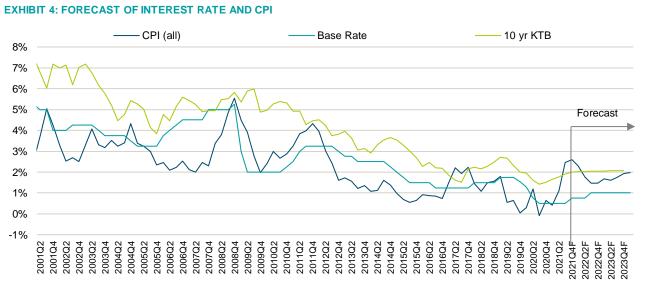


After the historical plunge in March 2020, the benchmark KOSPI stock price recovered quickly and rallied strongly from mid-1,400 in March 2020 to over 3,300 in July 2021, continuously hitting new all-time highs since the start of 2021. The main driving force behind this was enhanced corporate profits especially from the country's active export industries, while investor preference for risky assets increased as fears of COVID-19 disruptions waned. The Korean won traded at 1,152 per U.S. dollar in August 2021, almost flat from a year earlier.



Notes: Past performance is not a reliable indicator of future performance. Sources: Bank of Korea. Bloomberg, DWS. As of August 2021.

South Korea has become the first big Asian economy to raise interest rates since the outbreak of COVID-19, as the Bank of Korea raised its base rate from 0.5% to 0.75% in August 2021 for the first time in the last three years. Concerned about record-breaking household debt and soaring house prices, the bank decided to roll back the excessive liquidity in the market, despite the fears over the potential economic slowdown and the resurgence of the infection cases in the country. Along with the base rate increase, the 10-year Korea Treasury Bond also rose to 1.9% in August 2021 from 1.4% a year prior.



Notes: F = forecast, there is no guarantee rates forecasted will materialise. CPI = Consumer Price Index. KTB = Korea Treasury Bond. Please refer to Important Notes (see end of report) Past performance is not a reliable indicator of future performance. Sources: Bank of Korea, DWS. As of August 2021.

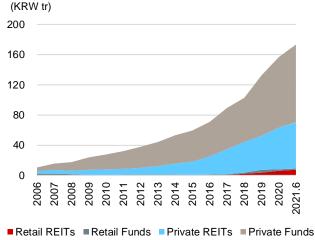


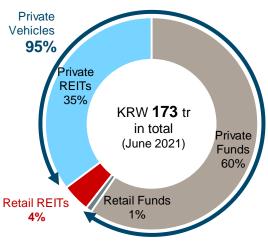
1.2 Fund and REITs

Exhibit 5 shows the aggregate size of real estate assets held by REITs and real estate funds in South Korea. As of June 2021, the level of securitized assets totaled KRW 173 trillion, rising more than five-fold in the last ten years with a 31% increase from end-2019. The rapid development of the real estate securitization sector played a major role in driving the growth of the South Korean real estate market, though the vast majority of these vehicles* remain accessible only to large institutions with a small number of vehicles open to retail investors. More specifically, 95% of these are non-listed, closed-end private vehicles accessible to institutional investors only. Listed REITs account for only 4% of these assets, while retail distribution funds account for the remaining 1%.







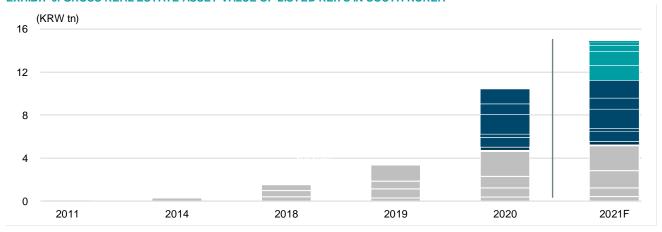


*Private REITs accounts for unlisted closed-end private investment vehicle owned by a handful of institutional investors Notes: Past performance is not a reliable indicator of future performance.

Sources: Korea Financial Investment Association, REITs Information System, DWS. As of August 2021.

With an epoch-making IPO rush of six sizeable REITs between 2018 and 2019, the listed REIT market in South Korea grew more than 10 times in just two years. Moreover, there were six new REIT listings in 2020 alone, tripling the market size further in just a year. The rapid expansion and further institutionalization of the REIT market is expected with an additional six REITs planning their listing in 2021 and beyond.





Past performance is not a reliable indicator of future performance. Sources: Korea REITs Information System, Korean Association of REITs, DWS. As of August 2021.



EXHIBIT 7: NEW IPOS OF REITS IN 2020

	Sponsor	IPO Date	Sector	Market Cap (KRW bn)	GAV (KRW bn)	Remark
IGIS Value Plus	IGIS AM	Jul-20	Office	113	303	1 office in Seoul
IGIS Residential	IGIS AM	Jul-20	Residential	164	884	3,578 condo units in Incheon
Mirae Asset MAPS REIT	Mirae Asset	Jun-20	Retail	104	299	1 shopping mall in Greater Seoul
Meritz-JR REIT	JR AMC / Meritz Securities	Aug-20	Overseas Office	780	1,980	1 office in Belgium
Koramco Energy Plus REIT	Koramco	Aug-20	Gas Station	363	1,063	187 gas stations nationwide
ESR Kendall Square REIT	ESR	Dec-20	Logistics	1,420	1,664	12 logistics nationwide

EXHIBIT 8: IPOS PLANNED

(KRW bn)	Sponsor	Target Date	Sector	Est. Equity (KRW bn)	Est. GAV (KRW bn)	Seed Asset
SK REIT	SK Group	2021	Office, Gas Station	777	1,400	1 office in Seoul, 116 gas stations nationwide
SK D&D Multi Asset REIT	SK D&D / NH Securities	2021	Office, Overseas Logistics	-	690	1 office in Seoul, 1 logistics in Japai
Shinhan Seobu T&D REIT	Seobu T&D	2021	Retail. Hotel	-	600	1 shopping mall and 1 hotel in Greater Seoul
Mirae Asset Global REIT	Mirae Asset	2021	Overseas Logistics	-	450	6 logistics in US
NH All One REIT	NH Financial Group	2021	Office		277	3 offices and 1 logistics in Greater Seoul
Mastern Premier	Mastern Inv.	2021	Overseas Office	-	111	1 office in France

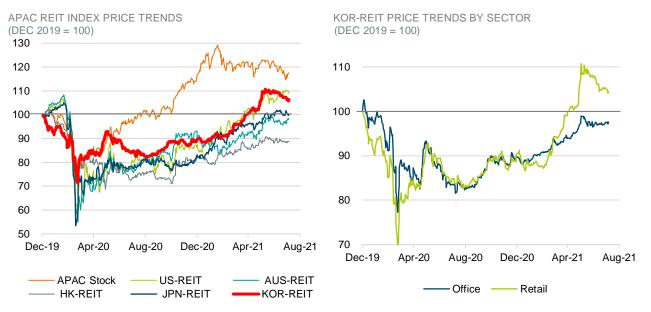
Note: This table is prepared solely for information purposes and not intended to recommend or endorse any specific company's shares or other products. Although information in this document has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness, and it should not be relied upon as such.

Sources: Korea REITs Information System, Korean Association of REITs, DWS. As of August 2021.

One of the biggest distinctions between South Korea and other markets is that South Korea still lacks an established REIT index covering all the listed REITs in the country. In other markets, REIT indices are widely used by individual investors and institutions for benchmarking their portfolio performance. The absence of an index impedes the development of associated financial products such as mutual funds, fund of funds or ETFs specializing in REIT investments, which require appropriate benchmarks to evaluate their performance. Exhibit 9 shows the performance of a synthetic Korea REIT index preliminarily created by DWS, based on the weighted average of stock price change of all the listed REITs in South Korea by August 2021. Even compared to other major REIT indices in the United States and the Asia Pacific region, its performance is estimated to be one of the top performers since the end of 2019, reflecting the relatively smaller impact of the pandemic to the country's real estate leasing market and the resilient investor appetite for this fast growing market.







Note: APAC Stock = MSCI AC APAC Index, US-REIT = FTSE EPRA/NAREIT United States, AUS-REIT = S&P/ASX 200 REIT, SIG-REIT = FTSE ST REIT Index, HK-REIT = Hang-Seng REIT Index, JPN-REIT = TSE REIT Index, KOR-REIT = Synthetic Index based on the weighted average of stock price change of all the listed REITs in South Korea

Note: Past performance is not a reliable indicator of future performance.

Source: DWS. As of August 2021.

Sectorial diversification is another measure of the qualitative maturity of each REIT market. Even though the aggregated share of office and retail sectors of the listed REIT market in South Korea decreased to 67% in August 2021 from 98% a year and half ago, the level of diversification is much lower compared to 19%-57% for other major REIT markets.





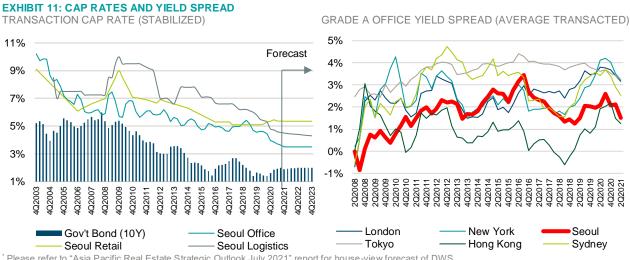
^{*} Diversified REITs are excluded in calculation of the sectorial diversification of Australian REITs. Notes: Past performance is not indicative of future results.

Sources: NAREIT, ARES, ASX, S-REIT, DWS. As of August 2021.



1.3 Cap Rates and Performance

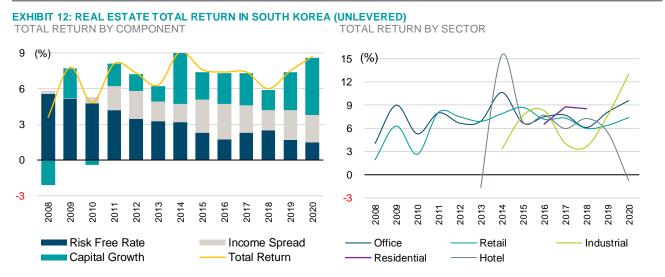
Despite intermittent market disruptions, transaction cap rates in Seoul have compressed significantly since 2019, on the back of strong investment demand from local institutional investors and listed REITs. Among sectors, the market cap rate of Grade A offices declined to 3.7% in the second quarter of 2021 while logistics cap rates compressed to 4.7% in the same period, around 80-120 basis points lower from the end of 2019. On the other hand, retail cap rates sector remained elevated above 5%, with looming concerns over struggling retail tenants and deteriorating lending conditions to the sector. Accordingly, the average office yield spread in Seoul – the difference between cap rates and the 10-year sovereign bond yield – was approximately 150 basis points in the second quarter of 2021, tighter than other global peers except Hong Kong.



* Please refer to "Asia Pacific Real Estate Strategic Outlook July 2021" report for house-view forecast of DWS. Notes: Past performance is not a reliable indicator of future performance.

Sources: Avison Young, Cushman & Wakefield, DTZ, Real Capital Analytics, Bloomberg, DWS. As of August 2021.

The average unlevered total return of commercial real estate investments in the country recorded 8.7% in 2020, a 1.2 point increase from the previous year, driven by capital gain arising from the transaction cap rate compression. Among sectors, the industrial sector delivered the highest return of 13%, followed by the office and retail sectors ranging between 7-10%. In stark contrast, returns in the hotel sector sunk into negative territory at minus 0.8%.



Notes: There is a time lag because of raw data being collected through semi-annual reports. Past performance is not indicative of future results. Sources: MSCI Real Estate - IPD, DWS. As of August 2021.



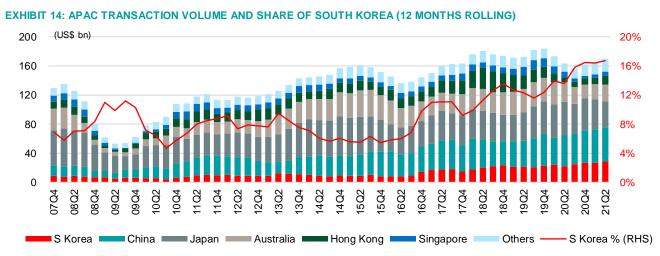
1.4 Lending and Transactions

Commercial real estate lending by major Korean lenders amounted to KRW 262 trillion in the first quarter of 2021, maintaining the pace of double-digit growth for 28 consecutive quarters. Lenders have increasingly depended on commercial real estate lending to secure a stable income source under the low-interest rate circumstances, especially given the recent strong regulatory pressure on residential mortgage lending, another pillar of their lending business. Despite the early warnings of deteriorating tenant performances in the economic crisis, most lenders remain keen to provide favorable lending conditions to stable assets except the retail and hospitality sectors.



*Banks, insurance companies and fire & marine insurance companies, Notes: Past performance is not a reliable indicator of future performance Sources: Bank of Korea, Financial Statistics Information System, DWS. As of August 2021

Although commercial real estate transaction activity slowed down considerably across the Asia Pacific region since the outbreak of pandemic, the 12-month rolling transaction volume finally turned to a modest recovery at 4% on a yearly basis in the second quarter of 2021. Compared to the lower volumes in other APAC countries from pre-COVID-19 levels, South Korea showed the largest increase of 25% from the end of 2019, stepping up to the third largest commercial real estate market in the region after China and Japan. South Korea's regional share increased from 6.1% in 2014 to 16.7% in the second quarter of 2021, the highest level in the last 14 years or so.



Past performance is not a reliable indicator of future performance. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect Sources: Real Capital Analytics, DWS. As of August 2021.



The commercial real estate transaction volume of South Korea amounted to KRW 27.5 trillion in 2020, breaking record levels for five consecutive years since 2016. Domestic institutional investors have been increasingly keen on investment opportunities in the domestic market which were less affected by COVID-19 compared to foreign markets, while newly listed REITs were also actively expanding their portfolio into various sectors. Among sectors, office investments occupied the largest share at 59% followed by retail (27%), industrial (10%) and hotel (4%) with only a few recorded transactions in the residential sector. With property sales to materialize investment gains running out, the semi-annual transaction volume in the first half of 2021 is estimated to decrease 19% year-on-year, though expected to recover in the remainder of the year buoyed by persistent investment demand.



Notes: Past performance is not indicative of future results. Sources: Real Capital Analytics, DWS. As of August 2021.

In 2020, the United States remained the largest investment destination for cross-border investment amounting to US\$ 34 billion, followed by the United Kingdom and Germany. South Korea ranked 15th globally with US\$ 3.2 billion of inbound investment, gradually stepping down from 12th position in 2018.

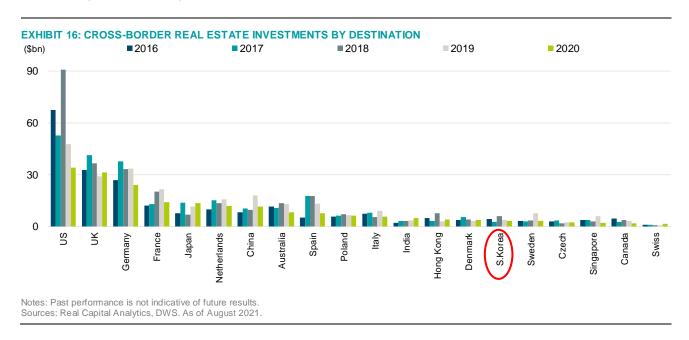




Exhibit 17 shows major real estate transactions announced in 2020 and the first half of 2021. The largest deal was the acquisition of Parc One Tower 2 for KRW 950 billion by ARA AMC on behalf of NH investment & securities, followed by SG Tower purchased by Pine Tree AMC for KRW 939 billion and Doosan Tower purchased by Koramco for KRW 800 billion. Prime and Grade A office properties in key office districts have seen active transaction activity throughout the period driven by strong investment demand of local institutional investors and REIT listing candidates. It is also noteworthy that the number of large transactions in Pangyo/BBD area was second to Seoul CBD, representing its enhanced presence as another core submarket.

EXHIBIT 17: MAJOR REAL ESTATE TRANSACTIONS ANNOUNCED SINCE 2020

Price (KRW br) CGAp py* or rate* Location Month Investor Month Investor									
Farc 1 - Office Tower 2 950 19.4 CBD Nov-20 NH Invt & Securities, Korea	Туре	Asset		/GFA py* or	Cap	Location	Month		
Doosan Tower		Parc 1 - Office Tower 2	950	19.4		CBD	Nov-20		Korea
50% of AlphaDom City Office		Grand Central Tower	939	24.8		CBD	Jul-20	Pine Tree AMC	Korea
Center Point Donuimun 657 25.2 4.0% CBD Jul-20 Mastern, Daelim Korea		Doosan Tower	800	21.6	5.4%	CBD	Sep-20	Mastern, Koramco	Korea
Pine Avenue Tower B 620 31.9 CBD Mar-21 Samsung SRA Korea		50% of AlphaDom City Office	665	27.0			Nov-20	ктси	Korea
CJ CheilJedang Center 584 24.0 CBD Aug-20 IGIS Korea		Center Point Donuimun	657	25.2	4.0%	CBD	Jul-20	Mastern, Daelim	Korea
Young City 546 18.8 4.4% Seoul Others May-20 NH Invt & Securities, Korea		Pine Avenue Tower B	620	31.9		CBD	Mar-21	Samsung SRA	Korea
Pine Avenue Tower A 522 26.2 CBD Sep-20 Shinhan Financial Group Korea	Office	CJ CheilJedang Center	584	24.0		CBD	Aug-20	IGIS	Korea
Pine Avenue Tower A 522 26.2 CBD Sep-20 Group Korea Namsan Square 505 22.2 CBD Jan-20 SK D&D, IGIS, KKR US/Korea 69% of Doosan Bundang Center 426 15.9 2.7% Pangyo /BBD Jan-21 Hyundai Investments, Korea KORAMCO 35% of SK Seorin Building 349 39.6 3.3% CBD Jul-21 SK Group Korea H Square N Building 695 32.7 1.6% Pangyo /BBD Jun-21 KOREIT Korea E-Mart Gayang 682 42.5 - Seoul. Jun-21 Hyundai E&C Korea Galleria Department Store Gwanggyo 653 18.3 - Greater Seoul Mar-21 Koramco Korea Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 KB AMC Korea Sheraton Seoul Palace 350 1.036/key Shinagaw Oct-20 Land Group/ Korea		Young City	546	18.8	4.4%		May-20		Korea
69% of Doosan Bundang Center 426 15.9 2.7% Pangyo //BBD Jan-21 Hyundai Investments, Korea KORAMCO 35% of SK Seorin Building 349 39.6 3.3% CBD Jul-21 SK Group Korea H Square N Building 695 32.7 1.6% Pangyo //BBD Jun-21 KOREIT Korea E-Mart Gayang 682 42.5 - Seoul Jun-21 Hyundai E&C Korea Galleria Department Store Gwanggyo 653 18.3 - Greater Gwanggyo 653 18.3 - Greater Seoul Feb-20 Blackstone Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 KB AMC Korea Order Sheraton Seoul Palace 350 1.026/key Shinagaw Oct-20 Land Group/ Korea		Pine Avenue Tower A	522	26.2		CBD	Sep-20		Korea
Center 426 15.9 2.7% Pangyo Jan-21 Hyundai Investments, Korea S5% of SK Seorin Building 349 39.6 3.3% CBD Jul-21 SK Group Korea H Square N Building 695 32.7 1.6% Pangyo Jun-21 KOREIT Korea E-Mart Gayang 682 42.5 - Seoul Jun-21 Hyundai E&C Korea Galleria Department Store Gwanggyo 653 18.3 - Greater Seoul Mar-21 Koramco Korea Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 Mapletree Singapore Ogistics Ansan Greybox 267 8.0 4.3% Greater Seoul May-21 KB AMC Korea Sheraton Seoul Palace 350 1.026/key - Shinagaw Oct-20 Land Group/ Korea		Namsan Square	505	22.2		CBD	Jan-20	SK D&D, IGIS, KKR	US/Korea
H Square N Building 695 32.7 1.6% Pangyo /BBD Jun-21 KOREIT Korea E-Mart Gayang 682 42.5 - Seoul. Jun-21 Hyundai E&C Korea Galleria Department Store Gwanggyo 653 18.3 - Greater Seoul Mar-21 Koramco Korea Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 Mapletree Singapore (5 props) Greater Seoul Mar-21 KB AMC Korea Sheraton Seoul Palace 350 1026/kmy - Shinagaw Oct-20 Land Group/ Korea		· ·	426	15.9	2.7%		Jan-21	Hyundai Investments,	Korea
E-Mart Gayang 682 42.5 - Seoul. Jun-21 Hyundai E&C Korea E-Mart Gayang 682 42.5 - Seoul. Jun-21 Hyundai E&C Korea Galleria Department Store Gwanggyo 653 18.3 - Greater Seoul Mar-21 Koramco Korea Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 Mapletree Singapore (5 props) 32.7 - 32.6 May-21 KB AMC Korea Option Sheraton Seoul Palace 350 1.036/key - Shinagaw Opt-20 Land Group/ Korea		35% of SK Seorin Building	349	39.6	3.3%	CBD	Jul-21	SK Group	Korea
Galleria Department Store Gwanggyo 653 18.3 - Greater Seoul Mar-21 Koramco Korea	Retail	H Square N Building	695	32.7	1.6%		Jun-21	KOREIT	Korea
Starfield Hanam 359 43.8 - Greater Seoul Mar-21 Koramco Korea Starfield Hanam 359 43.8 - Greater Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 Mapletree Singapore Seoul Mar-21 KB AMC Korea Ansan Greybox 267 8.0 4.3% Greater Seoul May-21 KB AMC Korea		E-Mart Gayang	682	42.5	-	Seoul.	Jun-21	Hyundai E&C	Korea
Starfield Hanam 359 43.8 - Seoul Feb-20 Blackstone US Blackstone logistics portfolio (5 props) 280 6.2 4.5% Greater Seoul Mar-21 Mapletree Singapore Ansan Greybox 267 8.0 4.3% Greater Seoul May-21 KB AMC Korea Sheraton Seoul Palace 350 1.036/key - Shinagaw Oct-20 Land Group/			653	18.3	-		Mar-21	Koramco	Korea
ogistics (5 props) 280 6.2 4.5% Seoul Mar-21 Wapierree Singapore Ansan Greybox 267 8.0 4.3% Greater Seoul May-21 KB AMC Korea Sheraton Seoul Palace 350 1.036/key Shinagaw Oct-20 Land Group/		Starfield Hanam	359	43.8	-		Feb-20	Blackstone	US
Ansan Greybox 267 8.0 4.3% Greater Seoul May-21 KB AMC Korea Sheraton Seoul Palace 350 1.036/key Shinagaw Oct-20 Land Group/	Logistics	ŭ .	280	6.2	4.5%		Mar-21	Mapletree	Singapore
		Ansan Greybox	267	8.0	4.3%		May-21	KB AMC	Korea
	Hotel		350	1,026/key	-		Oct-20		Korea

py* (=Pyeong) is a Korean unit of area. It is equivalent to 3.3 square metres (35.6 square feet).

Estimated cap rate*: Even though all the cap rates are based on an estimated basis and obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness, and it should not be relied upon as such.

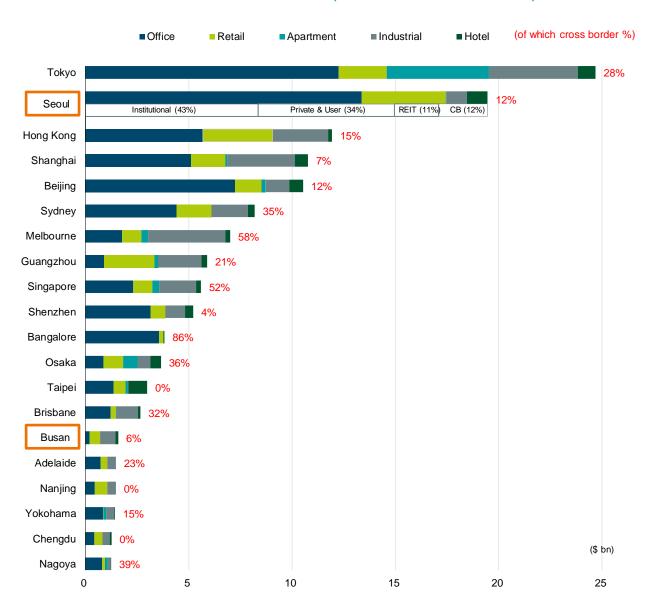
Notes: Acquisitions by foreign managers are highlighted in grey and listed REIT-related acquisitions in Green This table is prepared solely for information purposes and not intended to recommend or endorse any specific company's shares or other products.

Source: Avison Young, Real Capital Analytics, DWS. As of August 2021.



Seoul's preliminary commercial real estate transaction volume for the 12 rolling months ended in June 2021 increased 39% year-on-year to US\$ 19.4 billion. It ranked second amongst Asia Pacific cities after Tokyo and was followed by Hong Kong and Shanghai. The acquisition activity of cross-border investors remained weak with a 12% share in the total volume in Seoul, compared to the historical average of 19% in the last fifteen years, while listed REITs increased their share to 11% from almost nil in 2019. Busan ranked 15th with transaction volume of US\$ 1.6 billion in the same period, comparable to second-tier cities in Asia Pacific such as Brisbane and Adelaide, emerging as another institutional investment market in South Korea.

EXHIBIT 18: REAL ESTATE TRANSACTION VOLUME BY CITY (12 MONTHS ROLLING TILL JUNE 2021)



Notes: Commercial real estate transactions exclude non-income producing assets, such as development site transactions. Past performance is not indicative of future results.

Sources: Real Capital Analytics, DWS. As of August 2021.

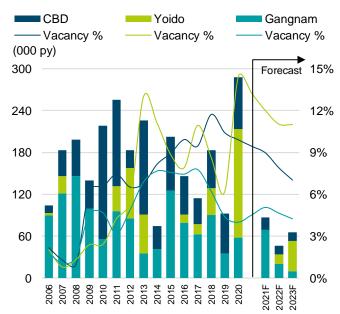


2 / Real Estate Market Fundamentals

2.1 Office

Owing to the country's success in keeping office attendance high even at the peak of local pandemic, the overall office leasing market in Seoul remained resilient with limited shifts towards work-from-home arrangements. Average office vacancy rates in CBD and Gangnam remained stable at 9.1% and 4.9% respectively in the second quarter of 2021, although Yoido saw a rapid increase to 10.2% in the same period from 5.3% a year ago following the completion of the huge mixed-use project, Parc One (equivalent to approximately 10% of entire submarket stock). Given the limited future office supply and healthy expansion of IT and tech office tenants, the office vacancy rates in key office districts are expected to compress modestly in line with the economic recovery through 2023.

EXHIBIT 19: OFFICE VACANCY RATES IN SEOUL BY SUBMARKET



Major Supply Planned in Seoul							
Area	Building	Date	GFA (py)				
GBD	Center Field West	1Q21	20,126				
GBD	Center Field East	1Q21	31,062				
GBD	Sinsa Square	3Q21	10,573				
CBD	K-Square City	3Q21	12,594				
YBD	MBC Redevelopment	4Q22	13,853				
CBD	Bongrae District	4Q22	12,224				
YBD	Teachers' Pension Bldg.	2Q23	42,980				
GBD	Yeoksam Office	2Q23	14,948				

¹ py (=pyeong) is a Korean unit of area. It is equivalent to 3.3 square metres (35.6 square feet).

Notes: GFA = gross floor area. sqm = square metres. Past performance is not indicative of future results. There is no guarantee the supply pipeline will materialize. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

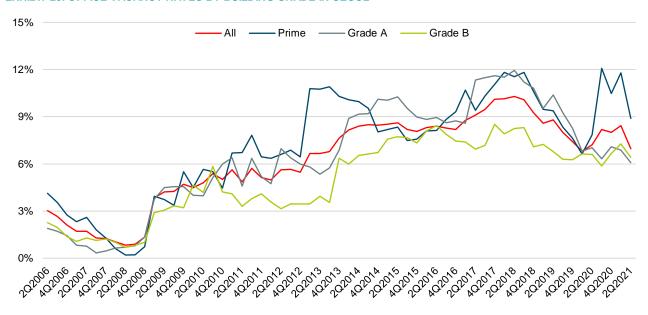
Sources: Avison Young, DWS. As of August 2021.

Although the average office vacancy rate in Seoul stayed stable below 9% since 2019, trends were notably diverging by grade. Propelled by the record supply of prime offices to the major office districts, the prime office vacancy rate surged from 6.6% in the first quarter of 2020 to 12.1% in the third quarter before trending down to 8.9% in the second quarter of 2021. On the contrary, the vacancy rates of Grade A and Grade B office stayed at tight levels as domestic companies – the main office tenants – tended to retain their current locations amidst the prolonged market uncertainties.

² Please refer to "Asia Pacific Real Estate Strategic Outlook July 2021" report for house-view forecast of DWS.



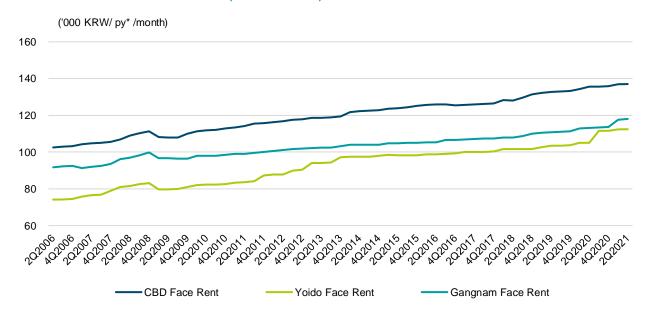




Notes: Past performance is not indicative of future results. Sources: Avison Young, DWS. As of August 2021.

In Seoul, face office rents have grown by 1-3% per annum over the last ten years, despite fluctuations in the vacancy rates. Average monthly gross rent in CBD rose to KRW 137,000 per pyeong in the second quarter of 2021, a 1.1% increase on a year-on-year basis, followed by KRW 118,000 in GBD and KRW 112,400 in YBD.

EXHIBIT 21: OFFICE FACE RENT IN SEOUL (INCLUDING CAM)

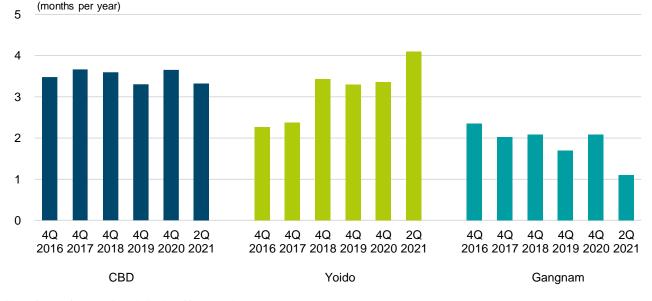


py* (=pyeong) is a Korean unit of area. It is equivalent to 3.3 square metres (35.6 square feet). Notes: Past performance is not indicative of future results. Sources: Avison Young, DWS. As of August 2021.



In contrast to the steady growth of office face rents, the effective rental growth has been limited along with expanding concessions since 2008. The average rent-free period granted to tenants in CBD in the second quarter of 2021 were almost flat at around 3.3 months per year, while it increased to 4.1 months per year in Yoido owing to increasingly generous offers from the landlords of newly completed prime offices. On the contrary, Gangnam saw a robust decrease to 1.1 months per year with dwindling vacant space in the submarket.

EXHIBIT 22: TYPICAL OFFICE RENT FREE PERIOD BY SUBMARKET IN SEOUL



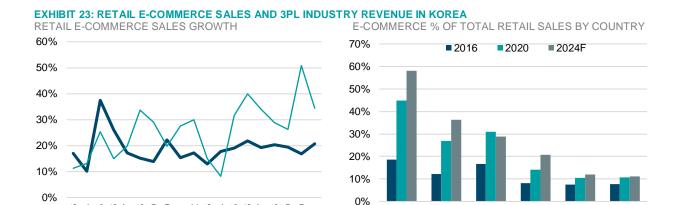
Notes: Past performance is not indicative of future results. Sources: Avison Young, DWS. As of August 2021.



Germany Japan

2.2 Industrial

The COVID-19 pandemic accelerated the structural shift of consumer behavior from offline to online, providing a tailwind to retail e-commerce sales as the main growth driver of modern logistics space. Retail e-commerce sales grew by 21% compared to the same period of the previous year in the first half of 2021, continuing its double-digit growth in the last 18 years. Amidst the ongoing e-commerce evolution to heighten customer experience and diversify products, e-commerce retail sales in South Korea is expected to maintain strong momentum in the foreseeable future, with its share of total retail sales projected to rise to 34% in 2024.



Notes: Past performance is not indicative of future results. Sources: Korea Statistical Information Service, eMarketer, DWS. As of August 2021.

Online Food Sales

2009 2010 2011 2012 2013 2014

E-Commerce

The average vacancy rate of modern logistics assets in Greater Seoul softened from 4.7% in 2019 to 7.5% in the second quarter of 2021, in line with the continuous large amount of new supply since 2018. Vacancy is expected to rise to near 10% with another record supply planned in 2022, before falling back from 2023 and beyond. With the deteriorating leasing market fundamentals, the average rental growth for modern logistics assets remained marginal at 0.5% in 2020 and is expected to remain muted by 2022 as the competition to secure credible tenants should intensify among landlords.

China

South

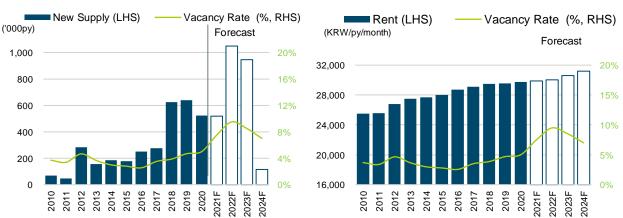
Korea

UK

US







*py(=Pyeong) is a Korean unit of area. It is equivalent to 3.3 square metres (35.6 square feet).

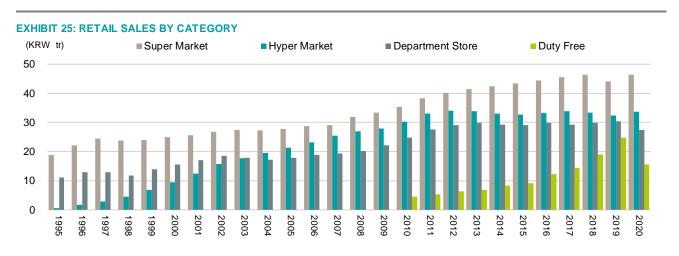
Notes: Past performance is not indicative of future results. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

Sources: DTZ, CBRE, WeFunding, DWS. As of August 2021.



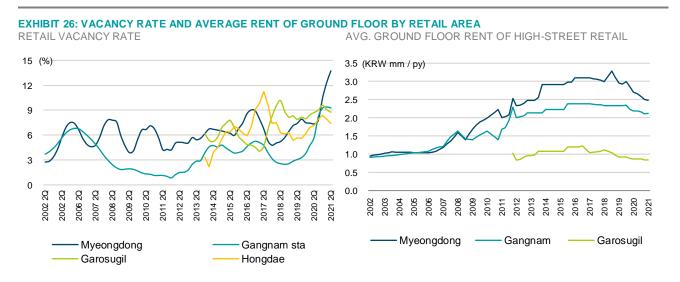
2.3 Retail

In contrast to the continuous healthy growth of e-commerce retail sales in South Korea, retail sales in brick-and-mortar retail stores contracted 4.4% in 2020. Even though the sales of grocery-anchored retail stores such as supermarkets (+5.2%) and hypermarkets (+4.2%) showed resilience throughout the year, the sales of discretionary retail stores such as department stores (-9.9%) and duty-free stores (-37.6%) saw a steep decline along with a huge drop of overseas tourist consumption and sluggish domestic consumption. Even though so-called "revenge spending" has driven the sales recovery in the first half of 2021, the uncertainties for retailers surrounding COVID-19 pandemic persist.



Notes: Past performance is not indicative of future results. Source: Korea Statistical Information Service, DWS, As of August 2021.

During the COVID-19 pandemic period, average retail vacancy rates softened in major high street retail areas of Seoul. The retail vacancy rates in Myeongdong, the top high street retail areas in the country, soared to 13.7% in the second quarter of 2021, the highest level recorded in the last 20 years, while Gangnam and Garosugil also increased to 9.3% and 8.8% in the same period. Hongdae remained relatively steady at 7.4%, as the most popular street shopping destination for youths. As a result, the average retail ground floor rents were pushed down to KRW 2.5 million per pyeong in Myeongdong and KRW 2.1 million per pyeong in Gangnam in the second quarter of 2021, a decline of 17.2% and 9.7% from the end of 2019.



*py (=Pyeong) is a Korean unit of area. It is equivalent to 3.3 square metres (35.6 square feet). Notes: Past performance is not indicative of future results.

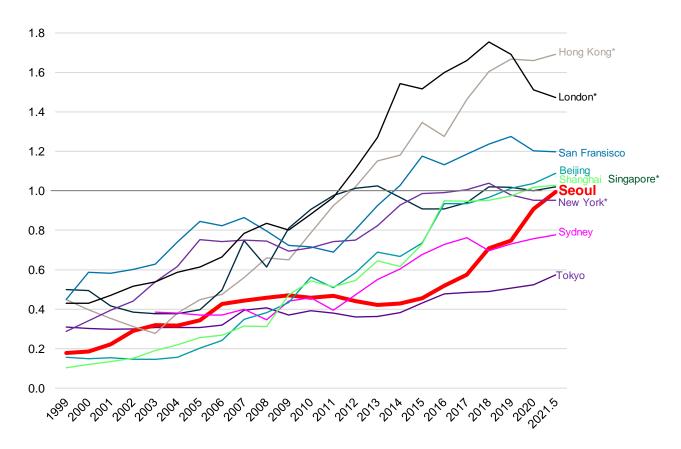
Sources: Korea Appraisal Board, Cushman & Wakefield, DWS. As of August 2021.



2.4 Residential

Over the last 20 years, the average for-sale condominium price per unit in Seoul has increased by approximately 4.5 times to USD 1.0 million in May 2021, slightly lower than Shanghai and Singapore but higher than New York and Sydney. The house price boom in Seoul has maintained strong momentum so far, on the back of speculative investment demand and a lack of large-scale residential supply in the city. With increasing frustrations among first-time home buyers in Seoul, the Korean government tries to cool down overheated housing prices by limiting financing leverage, increasing taxes and even hiking the interest rates, but has yet to see any meaningful turnaround of the run-up in housing prices.

EXHIBIT 27: AVERAGE FOR-SALE CONDO PRICE IN GLOBAL CITIES (USD m)



^{*}Average price of central residential areas in the city

Notes: Past performance is not indicative of future results.

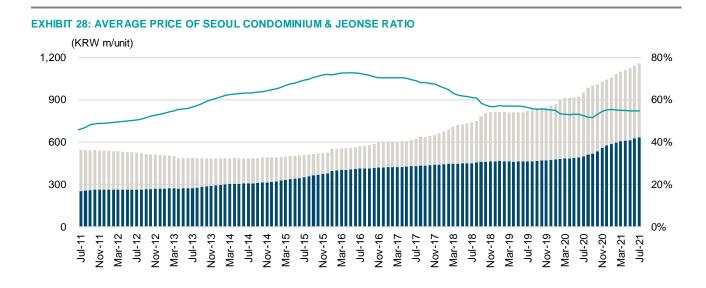
Sources: Australian Bureau of Statistics, Case-Shiller, Nationwide, Rating and Valuation, URA, IPD-Recruit, KB Kookmin Bank, DWS. As of August 2021

Due to a lack of established institutional rental house businesses in the country, South Koreans invented their own way of running rental houses, namely "Jeonse," or deposit-only contract. These unique Korean leasing contracts require tenants to place the lump sum of returnable deposits amounting to 40~80% of the house value, instead of paying monthly rents, giving landlords the flexibility of using it as leverage or take the interest revenue with it.

Exhibit 28 shows the average condominium price in Seoul and Jeonse ratio to the entire purchase price. The Jeonse ratio peaked out at 73% in May 2016 to 55% in July 2021, raising the required down payment ratio from 27% to 45%. In the meantime, the average condo price has grown by 87% in total, much larger than 48% of the Jeonse price growth in the same period.



Jeonse % to Apartment Price (RHS)



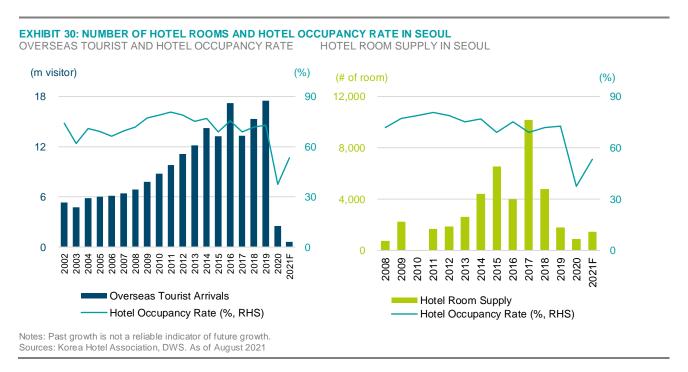
Seoul Ave.Apartment Price

Notes: Past performance is not indicative of future results. Sources: KB Kookmin Bank, DWS. As of August 2021

Seoul Ave. Jeonse Price

2.5 Hotel

With a huge drop of overseas tourist arrivals since the outbreak of the pandemic, the average hotel occupancy rate in Seoul plummeted from 73% in 2019 to the unprecedented level of 19% in the first quarter of 2020 and 38% in the full year of 2020. Suffering from both dwindling revenues and soaring costs for hygiene, many hotel operators have desperately tried to adjust to changing market circumstances by cutting fixed costs and appealing to domestic travelers. Even though a modest recovery was observed in the summer vacation season in 2021, a full recovery may be hard to expect before the normalization of overseas air travel.





3 / Conclusion

Notwithstanding the recent upsurge of COVID-19 infection cases, the economic recovery in South Korea remains underway supported by further vaccine roll-out, a rebound in employment and improving sentiment across various business sectors.

After expanding more than 10 times between 2018 and 2019, the size of the listed REIT market in South Korea tripled in 2020, driven by the additional listings of six REITs. Underpinned by strong investment demand from listed REITs and domestic capital sources, commercial real estate transaction volume of South Korea rose to KRW 27.5 trillion in 2020, breaking the record volume for five consecutive years since 2016. Consequently, transaction cap rates for the office and logistics sectors in Seoul have compressed significantly by 80-120 basis points from 2019 and are expected to remain tight in the foreseeable future.

Despite the COVID-19 related disruptions, the overall office leasing market showed resilience with a high attendance rate of office workers, while demand for logistics space remained strong on the back of fast-growing e-commerce and 3PL industries. On the contrary, the recovery of retail and hospitality sectors remain subdued and remain exposed to ongoing market uncertainties related to the COVID-19 pandemic.

Over the medium to long term, the rapid expansion of the listed REIT market and stable leasing demand should contribute to keep the investment returns of real estate attractive relative to other asset classes. The logistics and office sectors are expected to lead the recovery path, while counter-cyclical investors could begin to consider retail and hospitality sectors selectively. In addition, investors may increasingly consider active investment themes or new regional markets such as Busan and Daegu in order to achieve required returns.



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