nuveen
REAL ESTATE

Perspectives in today's real estate market

23 June 2020

Nuveen Real Estate Global Research

Global real estate outlook

	Overall	Retail	Industrial/ Logistics	Residential/ Multifamily	Office	RE Debt
U.S.	Neutral	Negative	Neutral	Neutral	Neutral	Neutral
Canada	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
U.K.	Negative	Negative	Positive	Negative	Neutral	Positive
France	Neutral	Negative	Positive	Neutral	Neutral	Positive
Germany	Positive	Negative	Positive	Positive	Neutral	Positive
Spain	Neutral	Negative	Positive	Neutral	Neutral	Neutral
Australia	Neutral	Negative	Positive	Neutral	Positive	Positive
China	Neutral	Negative	Neutral	Neutral	Neutral	Neutral
Japan	Neutral	Neutral	Positive	Positive	Neutral	Neutral
South Korea	Neutral	Neutral	Positive	Neutral	Neutral	Neutral

Negative Neutral Positive

Source: Nuveen Real Estate

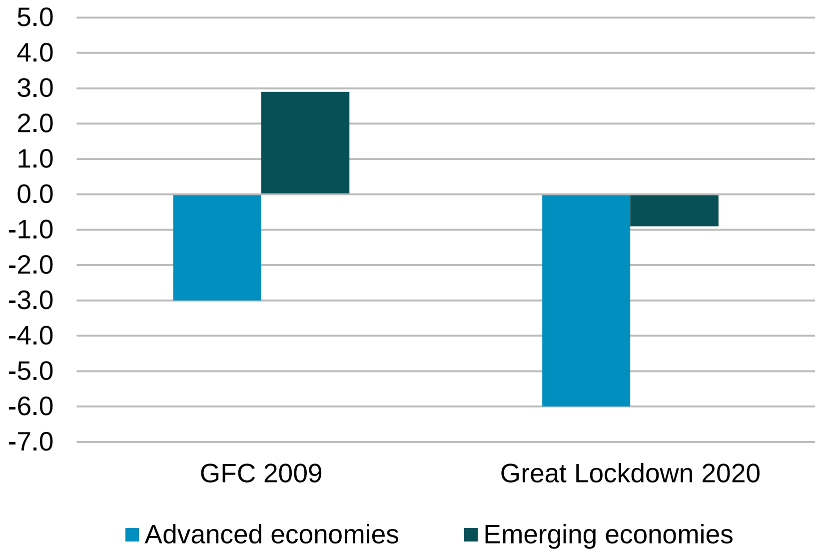
OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

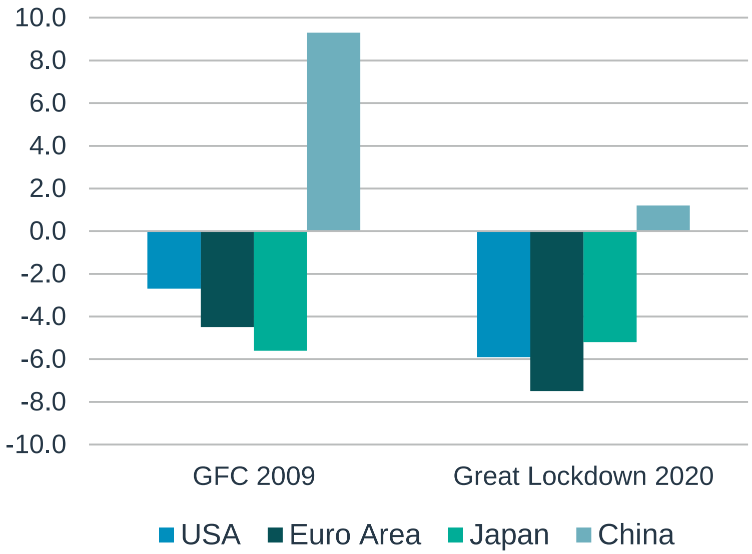
Real estate investing in a post-coronavirus world

Macro backdrop: GFC pales in comparison to the Great Lockdown

- The last 30 years of cap rate compression is likely over given the very low interest rate environment.
- Next decade is likely to be slow growth given high government debt burdens post-coronavirus, favoring property types that rely less on economic growth to generate income.
- More pandemics are likely to occur in the future which means real estate portfolios need to positioned for more resilience from a property type, city, and tenant perspective.

Global GDP base case growth projections GFC pales in comparison to the Great Lockdown



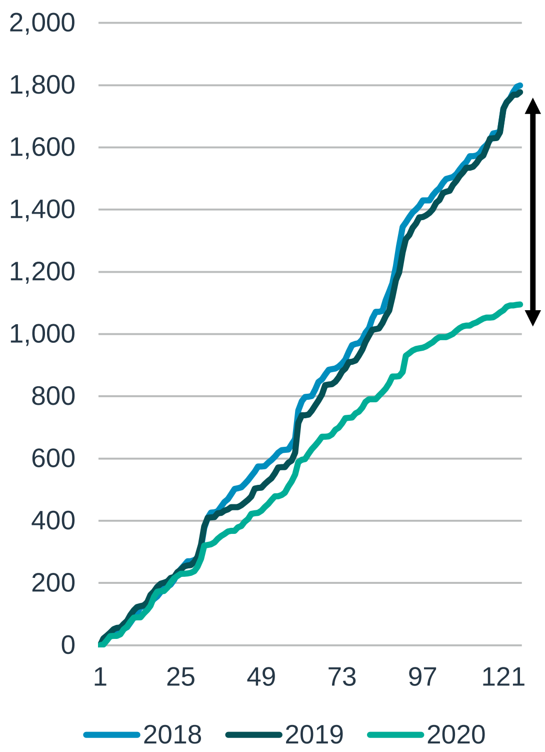


Source: Nuveen Real Estate, IMF

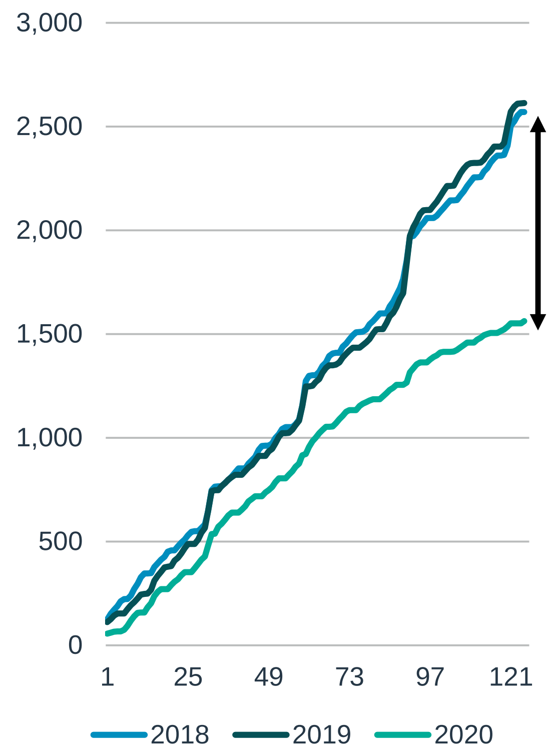
Global slowdown of real estate investment activity

Asia and Europe ahead of the curve (Cumulative daily deal count)

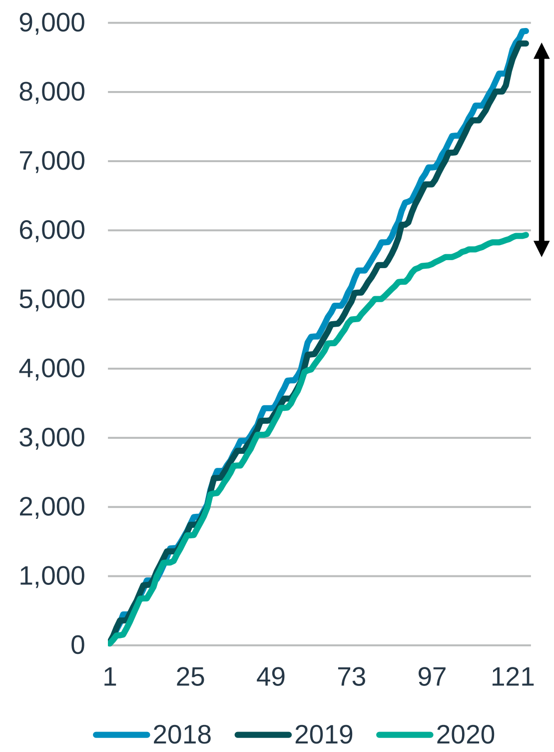
Asia Pacific



EMEA



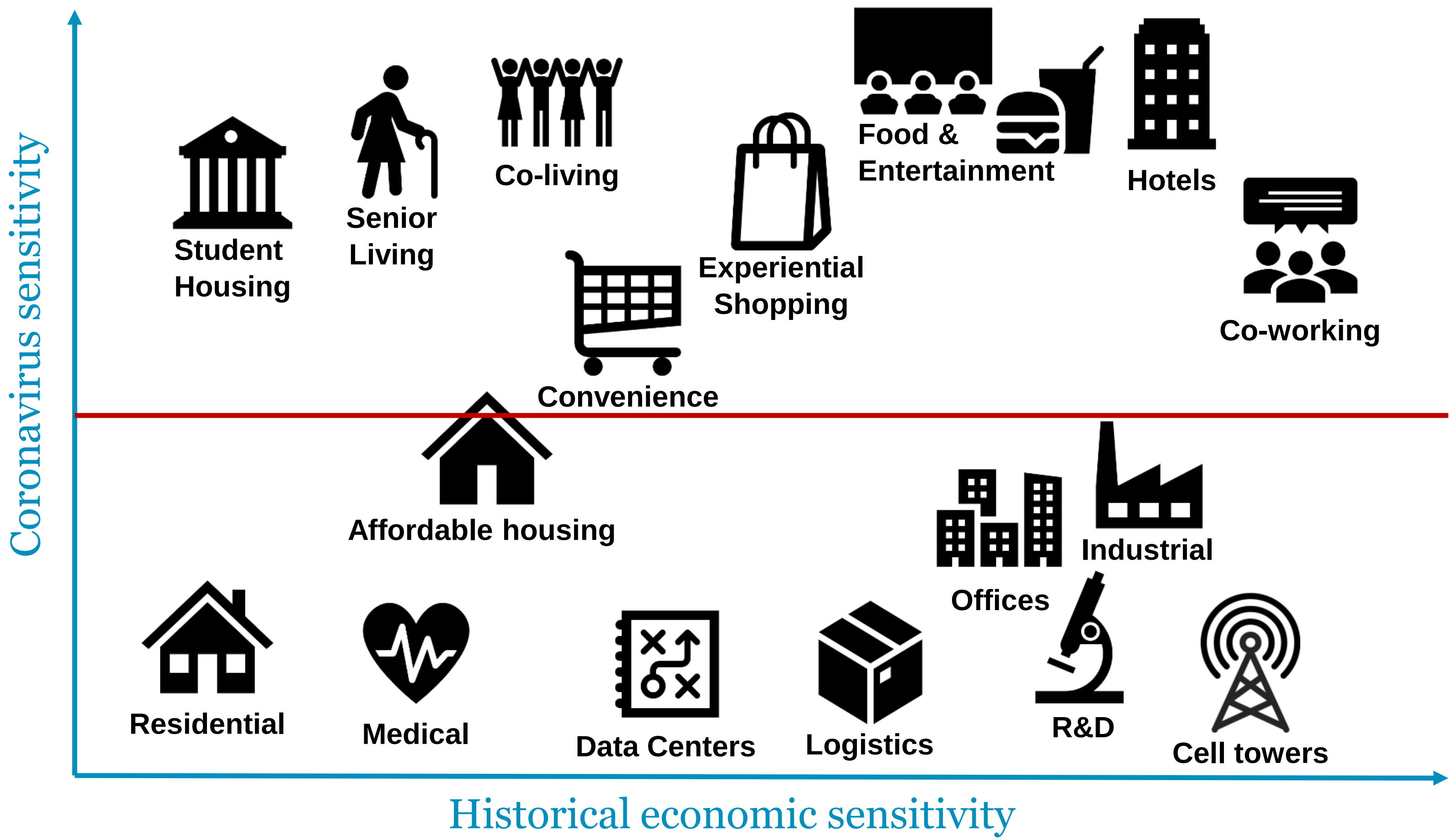
Americas



Source: RCA

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

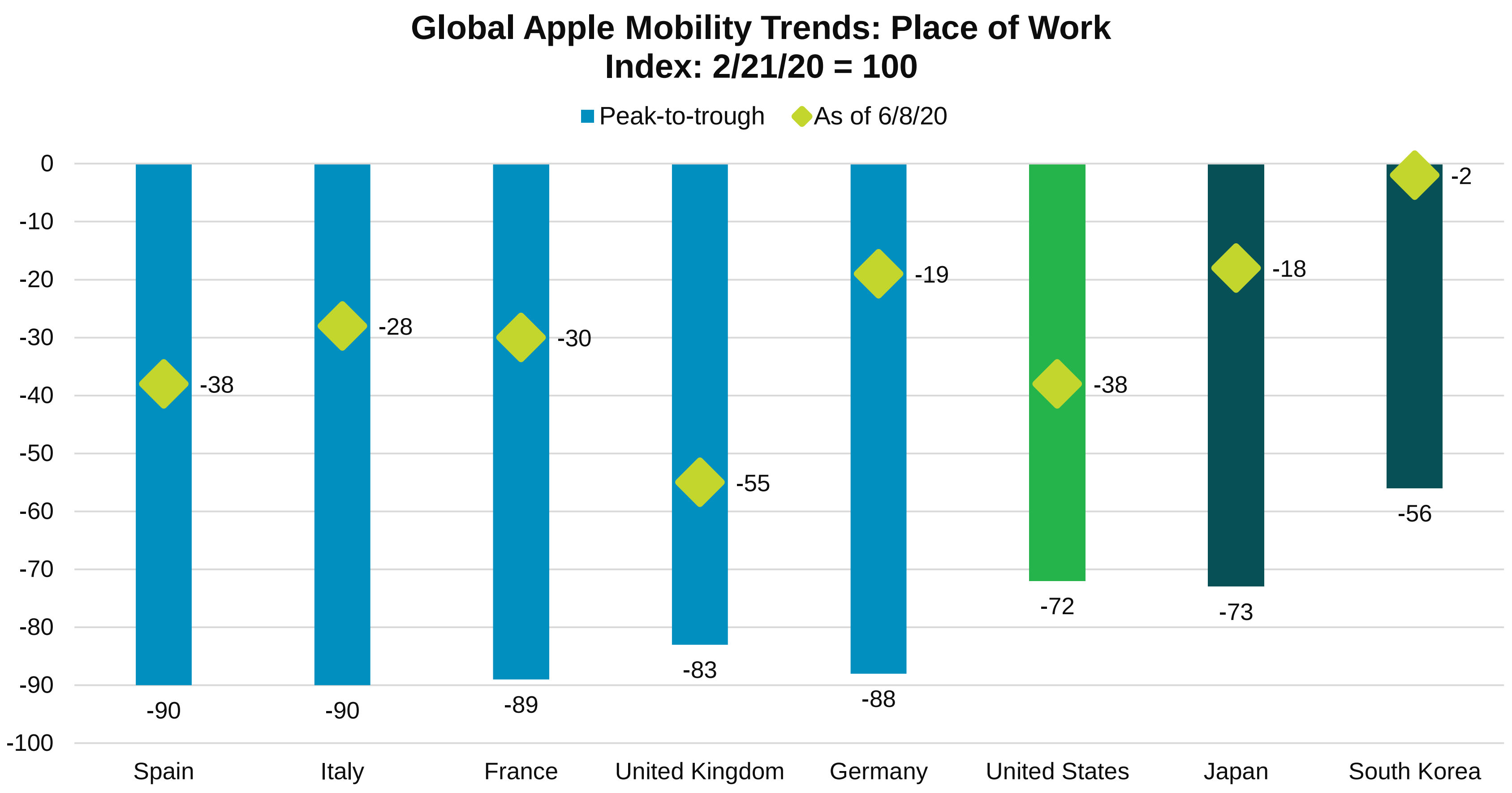
Sector sensitivity differs from previous recessions



Source: Green Street Advisors, Nuveen Real Estate

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

Tracking real time movements (country level)



Source: Apple Mobility

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

Economic scenarios and real estate implications

Nuveen Real Estate hypothetical economic scenarios loosely follow IMF global outlook

Scenario 1

- Time limited shock; deep but short-lived recession
- Pandemic comes under control in Q2
- Major policy initiatives limit corporate defaults and job losses
- Bounce-back from Q4; pent up demand stimulus from early 2021

Scenario 2

- Extended lockdowns - epidemic under control late Q3
- Deep recession extends into Q3; slow recovery from Q4; rebound 2021
- Corporate defaults surge as finance conditions tighten; job losses intensify

Scenario 3

- Pandemic extends to 2021 with second round of outbreaks
- Demand and activity collapse beyond the direct impact of the health emergency
- Ballooning public debts and massive bankruptcies leads to financial instability

Real estate implications

Scenario 1

- Prime rents stable (except retail) and occupier markets slow down into 2021 as corporate sector takes stock; rapid recovery from 2022
- Cost of debt leads to short-lived, modest yield rises for core in Q3 and Q4 2020 primarily in riskier cities/sectors
- Good opportunities for Value Add

Scenario 2

- Prime rents contract modestly in 2021, improving from 2022 depending on market and sector
- Core yield begin to rise slowly from Q2 2020 intensifying into 2021; fully re-price in 2022
- Opportunities for core investments and very good for Value Add

Scenario 3

- Prime rents fall rapidly from Q4 2020 to 2022; stable 2023. More volatile markets feel greater pain
- Yields rise sharply from Q4 2020 till 2022 – but not as damaging for core income as in GFC
- Repricing late 2022/early 2023

June — July — August — September — October — November — December

Source: Nuveen Real Estate, IMF

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

Asia Pacific-specific view

Regional: While largely under control across the region, a new (but small) wave of infection in Beijing and the State of Victoria in Australia has led to renewed imposition of physical distancing measures. Singapore has entered Phase 2 of its circuit breaker measures.

China/Hong Kong:
In further signs of improvement in activity sentiment on easing coronavirus concerns, new home prices in May rose MoM across 57 of 70 Chinese cities. Retail sales growth further improved, declining by a narrower -2.8% from a year ago in May, compared to -7.5% in April. In Hong Kong, WeWork has given up its Central CBD space, cutting down its total footprint by 30%.

Market	Risk
Australia	Neutral
China	Neutral
Hong Kong	Unfavorable
Japan	Neutral
New Zealand	Neutral
Singapore	Unfavorable
South Korea	Neutral

- Favorable
- Neutral
- Unfavorable

Investments	Risk
Prime	Favorable
Secondary	Unfavorable
Development	Unfavorable
Debt	Favorable

Japan:
The Bank of Japan (BOJ) kept rates unchanged in its latest policy meeting, increased the estimated scale of the coronavirus special program from JPY75trillion to JPY110trillion and revised down the current growth and inflation outlook. The BOJ importantly indicated that it would be far from raising rates before the Fed, given the lower inflation outlook relative to the Fed's. Accordingly, the BOJ is expected to maintain the current yield target even in 2022, maintaining a dovish stance.

Singapore:
With an ongoing bleak retail outlook, Capitaland Mall Trust expects to provide additional rental relief of up to 1 month of rent or other forms of rental assistance for June to SME tenants that do not qualify for help under a new rental relief law.

Prime: Resilient and fundamentally strong markets and assets to provide most attractive long-term income and returns

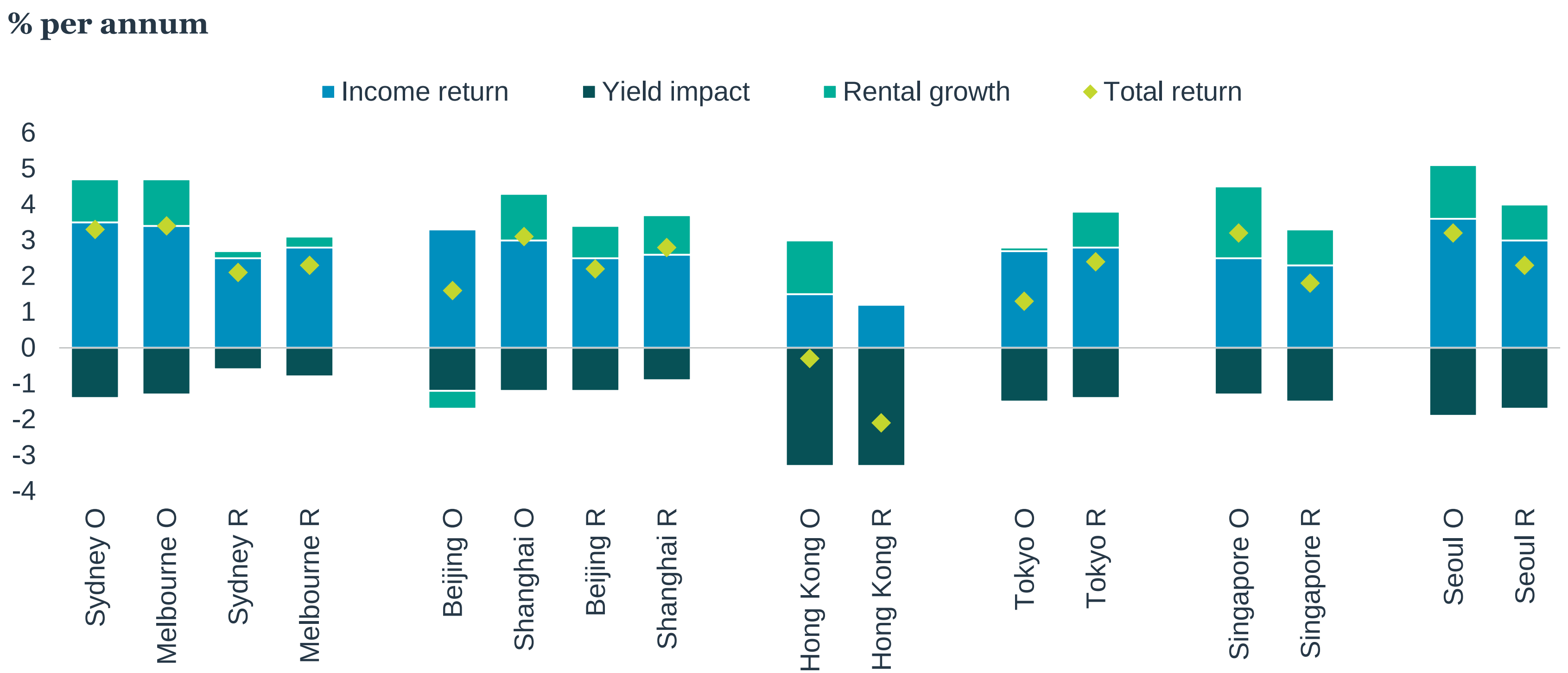
Secondary: Pricing and income security under pressure as financially weak tenants are most vulnerable under current setting

Development: Uncertainty heightened in terms of construction period and leasing discussions

Debt: Flight to safety assets and increased banking stress provide opportunities for lenders

Lower for longer

5-year average returns for office



Source: Nuveen Real Estate

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

Overall state of the pandemic by mid June 2020

Daily cases hover around current numbers in all major European economies

Country	Total infections per million population*	Deaths per million population**	Total new cases 21 June (5 day average)	Score 1-4 (risk/quality of response***)	Assessment****
Austria	1.918	76	35	3.56	Very good
Belgium	5,219	837	90	2.11	Poor
Denmark	2,131	104	45	3.44	Very good
France	2,431	454	400	3.11	Good
Germany	2.269	107	360	3.56	Very good
Italy	3,939	571	290	2.22	Poor
Netherlands	2.878	355	120	2.44	Fair
Spain	6,253	580	370	2.22	Poor
Sweden	5,550	500	1200	2.56	Fair
U.K.	4,427	623	1300	2.22	Poor

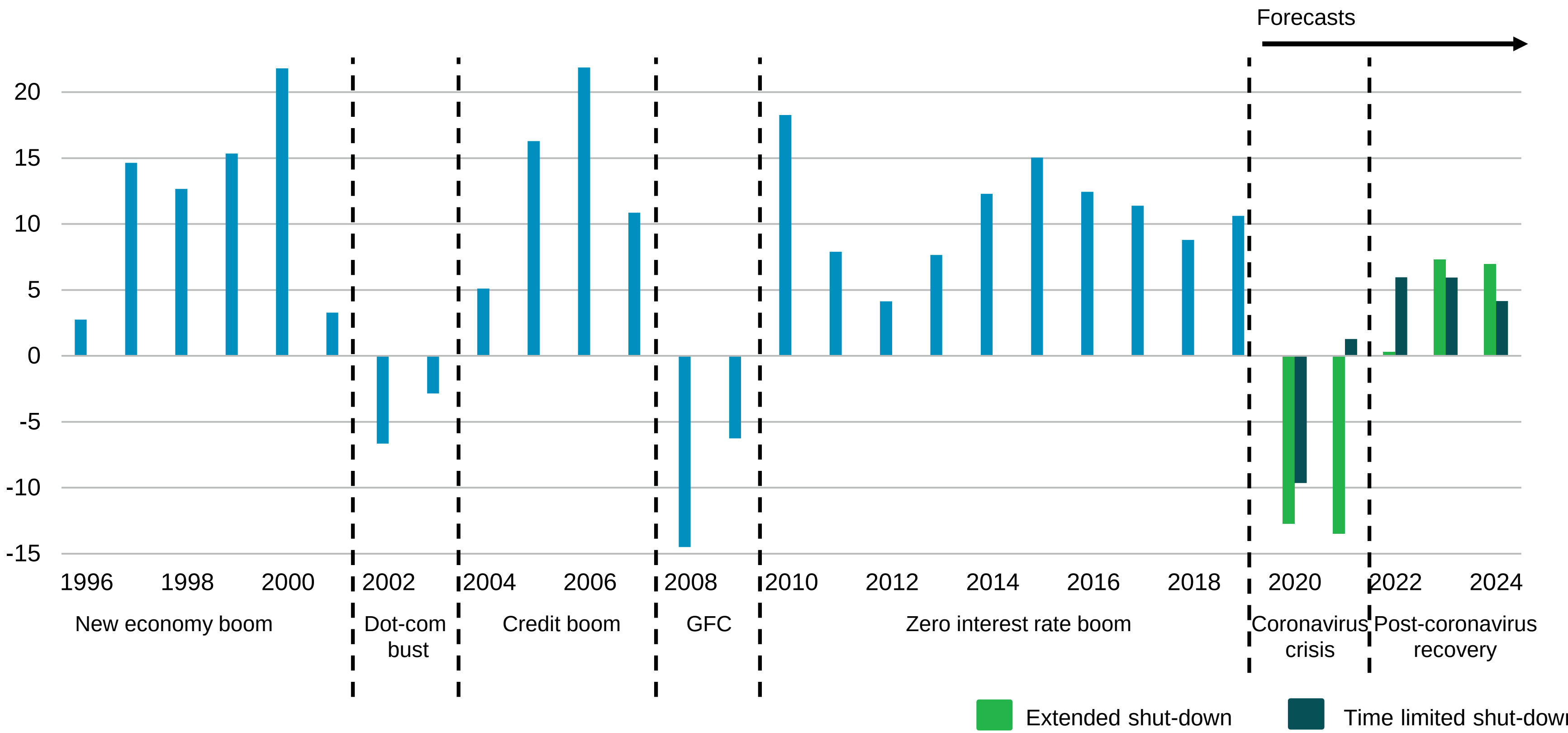
- While the pandemic is largely under control, local outbreaks (e.g. family functions, crammed worker accommodations), despite the fact that in summer public life has moved largely outdoors, are a stark reminder that the currently achieved return to normal will be hard to continue in colder seasons.
- Most national worker furlough schemes will come to an end in the coming months and economists warn that it will push many workers into unemployment, kicking off a serious recession.
- With the opening up of most parts of the economy, including international travel, except big events, all eyes are on government stimulus packages and how costly, generous and impactful different measures such as temporarily lowering VAT could be.
- The extent of economic scaring will not become fully evident until autumn at the earliest as well as to which degree consumers have an appetite for travel, dining out, restaurants, gyms and other gatherings of people in closed spaces.

Source: *Worldometers (may be distorted by testing regime), ** Worldometer (probably underestimated due to testing), ***Economist score and assessment, ****Our world in data

Total return trajectory for European office

Similar magnitude of decline as in previous recessions to be expected

All European office prime total cumulative return in %



Source: PMA *PMA models less GDP decline, but more drawn out negative impact compared to the IMF

U.S.-specific view

Regional: With all U.S. states re-opening to varying degrees, the number of coronavirus cases jumped to a 7-week high on Friday, June, 19th. At the same time, Apple announced it would close 11 stores across Arizona, Florida and the Carolinas as these states have seen large spikes in coronavirus cases since their re-opening. Daily indicators such as mobility, energy consumption and air passenger traffic all suggest the U.S. economy has bottomed out and a recovery is underway. Further, the U.S. stock market is pricing in a strong recovery. The St. Louis Fed Financial Stress Index, which measures both fixed income and equity market volatility, is near its long term average, suggesting financial market volatility has declined precipitously since its March 2020 highs. Financial markets are betting that the Federal Reserve and Congress have provided and will continue to provide fiscal stimulus.

While real-time data sets and the financial markets suggest a recovery is underway, the strength and speed of the U.S. economy's recovery remains highly uncertain. Initial jobless claims remain near historical highs, topping 1.5 million for the week ending June 13. Weekly initial jobless claims peaked at 7 million in late March. While weekly initial jobless claims are declining, the reopening of U.S. states has not been a panacea for the U.S. labor market or economy. According to the American Bankruptcy Institute, there have been 2,994 bankruptcies filed between January-May 2020, the highest since 2012. The number of bankruptcies is expected to rise in the next 30-90 days as the real effects of coronavirus are felt. During Q1 2020, U.S. GDP fell at annualized rate of 4.8% and is expected to fall at anywhere between 30%-40% in Q2 2020. The U.S. economy is on track to shrink nearly 6% this year, more than twice that seen during the GFC.

According to Green Street's Commercial Property Price Index, aggregate U.S. real estate values were down 11% in the first five months of 2020. Property values began to fall in April and May 2020 as the full effects of coronavirus were felt. Malls and lodging properties have seen values fall 25% in the last three months while student housing and strip retail values have fallen around 15%. Meanwhile industrial, manufactured homes, and life science values fell a mere 5% during April and May 2020.

Sector	Risk
Office	Neutral
Retail	Unfavorable
Industrial	Neutral
Housing	Neutral

Neutral
Unfavorable

Office: CBRE-EA expects U.S. office rents to fall 6.4% in 2020 with vacancy rates rising more than 200 basis points this year. The biggest unknown for the office market is whether office tenants will demand more or less office space in a post-coronavirus world.

Retail: Woes likely to be exacerbated and to accelerate retailer bankruptcy filings. Major retailers to file bankruptcy thus far include J.C. Penney, J. Crew, Neiman Marcus, True Religion, 24 Hour Fitness, Tuesday Morning and Modell's Sporting Goods. Debtors are considering closing Neiman's flagship store in Hudson Yards in New York City.

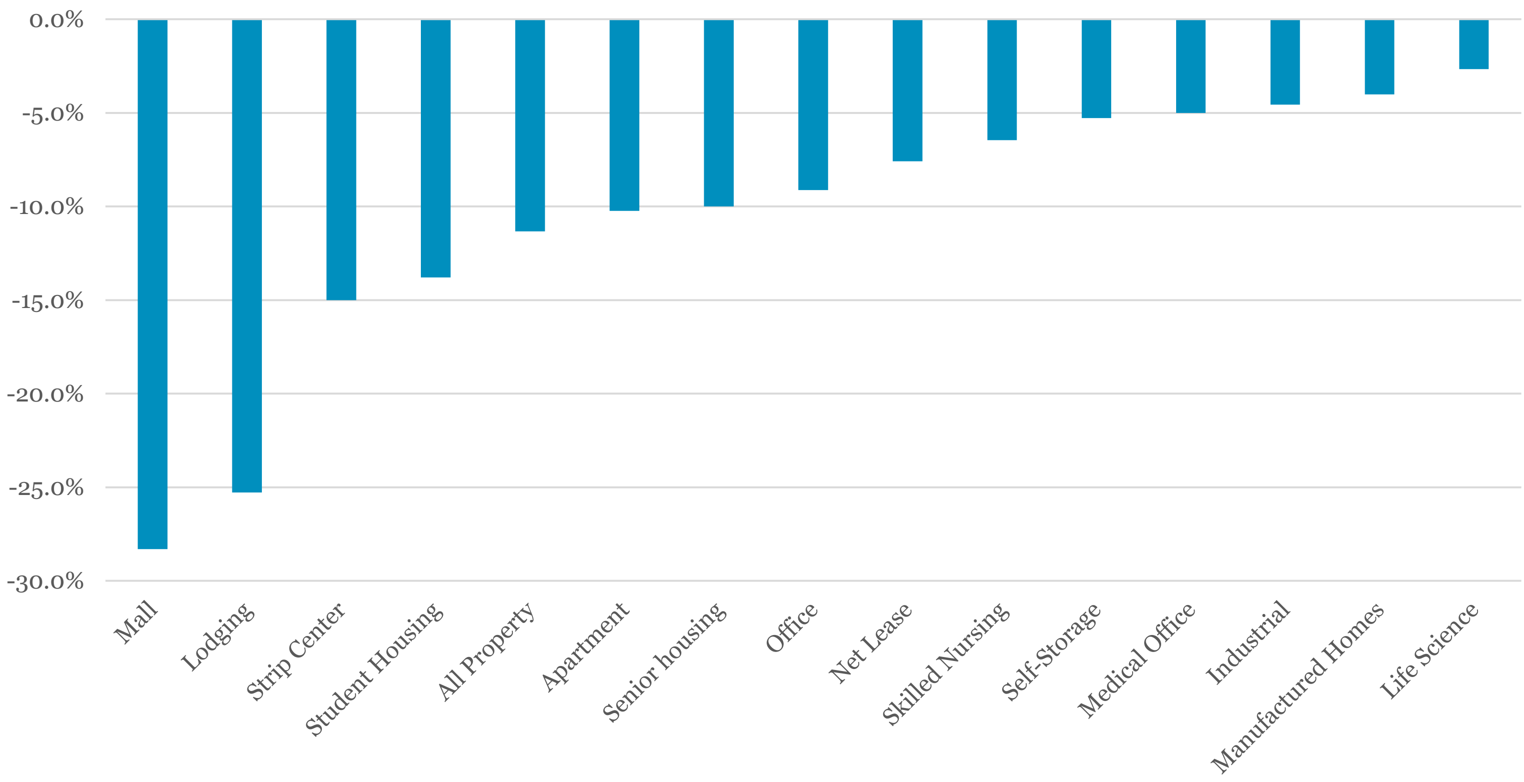
Industrial: Expected to see only a modest fall in values, rents and occupancy rates. CBRE-EA expect rents to fall 1.5% in 2020 with vacancy rates rising just over 200 basis points. Warehouses that have exposure to high yield and small businesses will likely see rents fall more than 1.5% this year. De-globalization and falling imports remains a key risk.

Housing: According to RealPage, occupancy rates dropped 80 bps in May to 95.2% and effective rents fell 0.5% for the year ending May 2020. Apartment rents are falling yoy ~10% in San Francisco and New York.

U.S. property values are down ~ 11% since March

Retail and lodging have been among the hardest hit

Green Street Commercial Property Price Index March 2020 versus May 2020



Source: Green Street Advisors

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES

Real estate investing in a post-coronavirus world

Key takeaways

Macro backdrop

- The last 30 years of cap rate compression is likely over given the very low interest rate environment across developed markets
- The next decade is likely to be slow growth given high government debt burdens post-coronavirus, favoring property types that rely less on economic growth to generate income
- More pandemics are likely to occur in the future which means real estate portfolios need to positioned for more resilience from a property type, city and tenant perspective

Thematics

- Coronavirus has not caused a paradigm shift for real estate, rather it has accelerated already-present underlying trends such as:
  - A further push towards online shopping
  - The restructuring of retail real estate – retailers with strong balance sheet to survive and take more market share as weak retailers file bankruptcy
  - A rise of the digital economy
  - De-globalization, re-routing of supply chains
  - Movement towards the suburbs and the sunbelt cities
  - Destruction of wealth during this crisis leads to more demand for all forms of rental housing

Sectors

- Highest long term conviction around the alternative property types in housing, industrial/logistics, technology and healthcare
- Definitions of core and alternative sectors will likely need to be re-visited in a post-coronavirus world
- Getting the sectors and city calls 'right' generates the majority of real estate's alpha

Cities

- Large expensive cities such as New York City, London or Singapore to see near term rental and value declines but in the longer term will survive and thrive as rents and values get reset
- Movement towards the suburbs and the sunbelt cities in the U.S. and lower cost, high quality of life cities in Europe

Source: Nuveen Real Estate

Nuveen Real Estate Global research

Alice Breheny (London)
Global Head of Research

Stefan Wundrak (London)
Head of European Research

Angela Goodings (London)
Director,
European Research

Michael Keogh (London)
Director,
European Research

Andy Schofield (London)
Director,
European Research

Maria Grubmueller (London)
Associate,
European Research

Haoran Wu (London)
Analyst,
European Research

Melissa Reagen (New York)
Head of Americas Research

David Segall (New York)
Director,
Americas Research

Jacinda Lofland (Charlotte)
Director,
Innovation & Strategy

Daniel Manware (New York)
Senior Associate,
Americas Research

Elina Samandyk (New York)
Analyst,
Americas Research

Christian Mera (Newport Beach)
Analyst,
Data Science

Jayanth Ganesan (New York)
Analyst,
Americas Research

Harry Tan (Hong Kong)
Head of Asia Pacific Research

Important information

All information is sourced by Nuveen Real Estate. This material is provided for informational or educational purposes only and does not constitute a solicitation of any securities in any jurisdiction in which such solicitation is unlawful or to any person to whom it is unlawful. Moreover, it neither constitutes an offer to enter into an investment agreement with the recipient of this document nor an invitation to respond to it by making an offer to enter into an investment agreement.

This material may contain "forward-looking" information that is not purely historical in nature. Such information may include projections, forecasts, estimates of yields or returns, and proposed or expected portfolio composition. Moreover, certain historical performance information of other investment vehicles or composite accounts managed by Nuveen may be included in this material and such performance information is presented by way of example only. No representation is made that the performance presented will be achieved, or that every assumption made in achieving, calculating or presenting either the forward-looking information or the historical performance information herein has been considered or stated in preparing this material. Any changes to assumptions that may have been made in preparing this material could have a material impact on the investment returns that are presented herein by way of example.

This material is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy. The information and opinions contained in this material are derived from proprietary and non-proprietary sources deemed by Nuveen to be reliable, and not necessarily all-inclusive and are not guaranteed as to accuracy. There is no guarantee that any forecasts made will come to pass. Company name is only for explanatory purposes and does not constitute as investment advice and is subject to change. Any investments named within this material may not necessarily be held in any funds/accounts managed by Nuveen. Reliance upon information in this material is at the sole discretion of the reader. Views of the author may not necessarily reflect the view s of Nuveen as a whole or any part thereof.

Past performance is not a guide to future performance. Investment involves risk, including loss of principal. The value of investments and the income from them can fall as well as rise and is not guaranteed. Changes in the rates of exchange between currencies may cause the value of investments to fluctuate.

This information does not constitute investment research as defined under MiFID.

Issued by Nuveen Real Estate Management Limited (reg. no. 2137726), (incorporated and registered in England and Wales with registered office at 201 Bishopsgate, London EC2M 3BN) which is authorised and regulated by the Financial Conduct Authority to provide investment products and services. Telephone calls may be recorded and monitored. The value of an investment and the income from it can fall as well as rise and you may not get back the amount originally invested. YOUR CAPITAL IS AT RISK.

Real estate investments are subject to various risks, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability. Please consider all risks carefully prior to investing in any particular strategy. A portfolio's concentration in the real estate sector makes it subject to greater risk and volatility than other portfolios that are more diversified and its value may be substantially affected by economic events in the real estate industry. International investing involves risks, including risks related to foreign currency, limited liquidity particularly where the underlying asset comprises real estate, less government regulation in some jurisdictions, and the possibility of substantial volatility due to adverse political, economic or other developments. Any assumptions made or opinions expressed herein are as of the dates specified or if none at the document date and may change as subsequent conditions vary. In particular, this document has been prepared by reference to current tax and legal considerations that may alter in the future. This document may contain "forward-looking" information or estimates that are not purely historical in nature. Such information may include, among other things, illustrative projections and forecasts. There is no guarantee that any projections or forecasts made will come to pass.

GPP-1222923CR-Q0620X