Invesco

Invesco Real Estate House View

H2 2019 Global Market Outlook

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Front cover: The period ahead requires balancing prospects for growth with risks to growth.

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Global real estate investment context – H2 2019

It's a question of balance – structural offense and cyclical defense

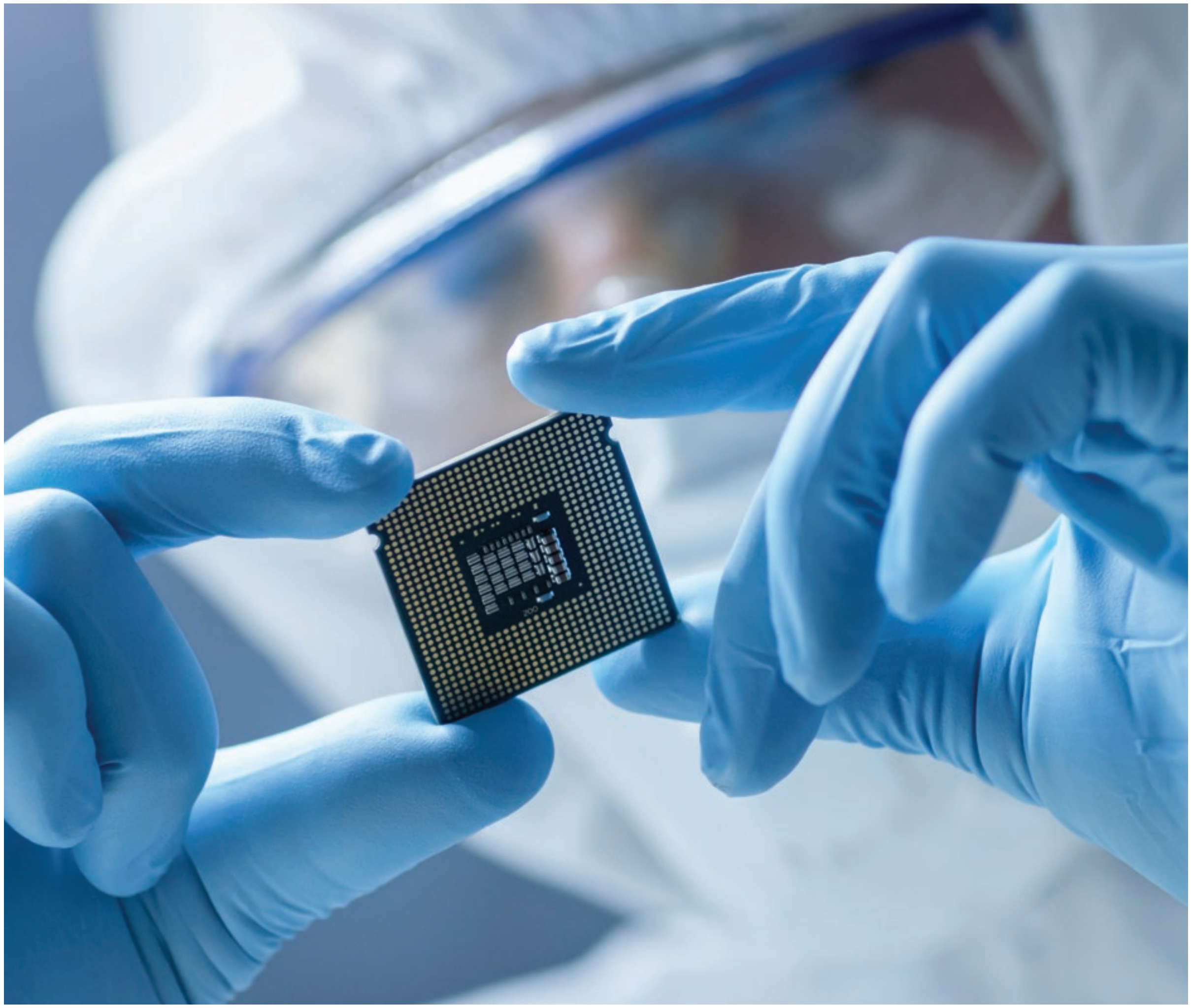


Image: Technology will likely continue to be a key driver of economic growth and consequently of real estate demand going forward.

Macro themes:

- **Moderating:** Globally, economic growth has moderated, as expected, but remains adequate to support real estate demand.
- **Easing:** Many central banks have shelved monetary policy normalization; this may extend the capital cycle further.
- **Pricing:** Real estate yield/cap rate spreads over long-term government bonds again appear relatively attractive.
- **Near-term risks:** Risks to the economic outlook abound; the potential for policy missteps to derail growth is considerable.
- **Long-term trends:** Technology is changing patterns of real estate performance by location, sector and at the asset level.

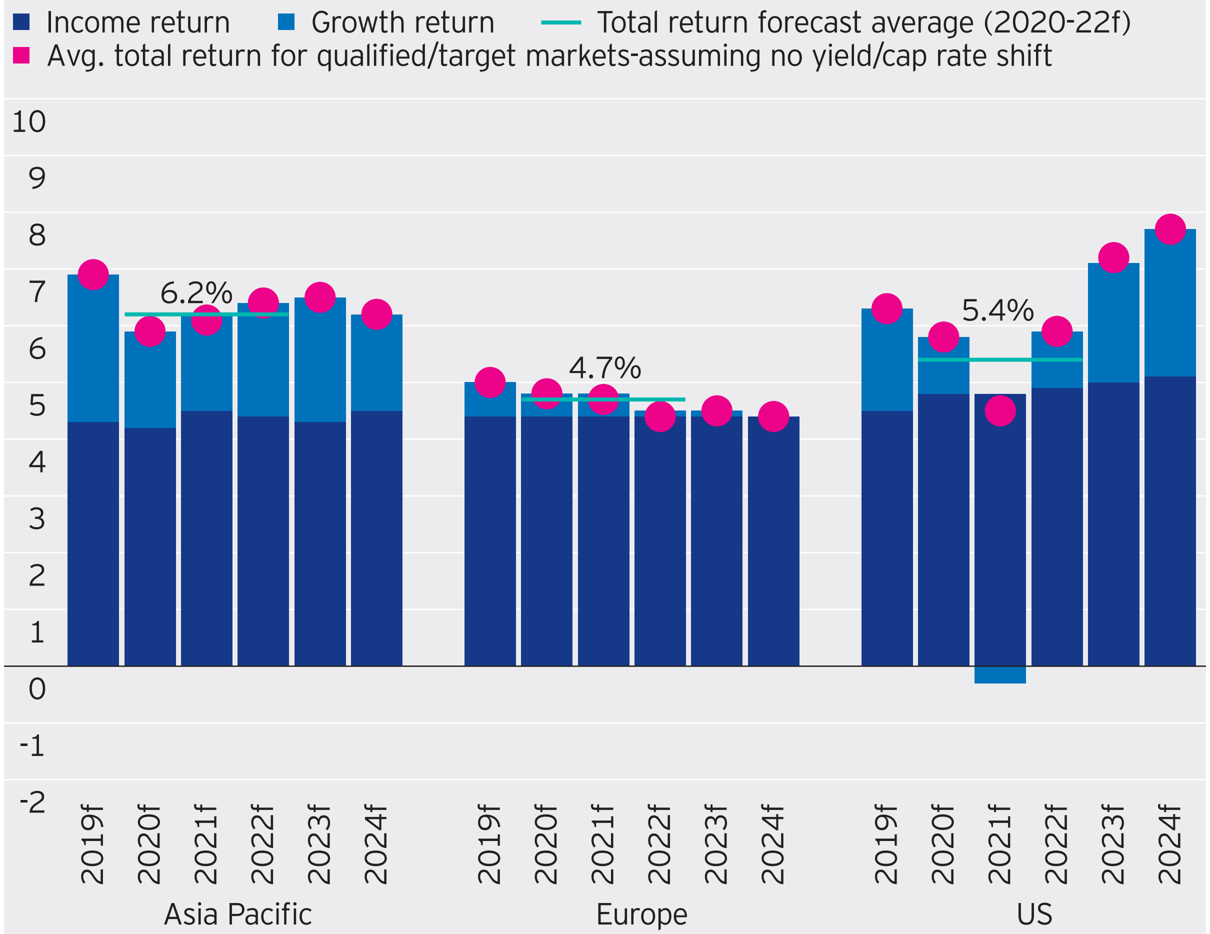
Investment execution response:

- **Balance:** We intend to adopt a defensive posture against near-term cyclical risks, but to be offensive on structural trends.
- **Diversification:** Tactically, we maintain a mild overweight to Asia Pacific and mild underweight to Europe in our global unlisted core portfolios.
- **Narrow focus:** Tech and life science industries seem likely to generate sub-market clusters of growing real estate demand.
- **Broad opportunities:** Sub-sectors such as urban infill logistics, self storage, healthcare or hotels appear broadly dispersed.
- **Asset execution:** We emphasize active bottom-up asset selection and value enhancement real estate execution.

Regional average market return forecasts (2019f-24f)

Our base case for the regional outlook is positive

IRE qualified/target markets unleveraged total return forecasts assuming no yield/cap rate shift 2019f-24f (% per annum)



Note: The total return forecasts encompass qualified/target markets in each region as defined by Invesco Real Estate and reflect an assumption of no yield/cap rate shift. Forecasts may not be a reliable indicator of future performance.
f = forecast
Source: Invesco Real Estate forecast as of September 2019

The outlook for total returns for Invesco Real Estate's qualified/target markets reflects the difference in growth prospects by region.

In Asia Pacific, total returns over the next three years are expected to be stable, averaging 6.2% per annum.

Returns in the US reflect a more cyclical trajectory, moderating in 2021 but average 5.4% over the next three years.

Total returns in Europe are expected to be the lowest, averaging 4.7%.

Yet despite variations in the total return patterns, income returns appear similar in all three regions, at around 4% per year.

Macro risks to the outlook

We are positioned against cyclical risks

The likelihood and severity of impact of risks to the global real estate outlook in 2020

Expected likelihood of happening ↕ / Expected severity of impact ↔	Low	Medium	High
High		- Monetary policy misstep - Climate change impacts - Currency volatility worsens - Oil price volatility worsens	- Sector risk changing faster
Medium	- Geopolitics worsen - Housing market correction	- Disorderly Brexit - Tech sector correction - Stock market correction - Real estate taxes spike	- Trade war escalation - Deflation - US/China recession - Geopolitics improve
Low		- Construction boom - Currency volatility improves - Oil price volatility improves	- Inflation - Bond market correction - No Brexit

Note: Risks in black considered downside risks. Risks in green considered upside risks.
Source: Invesco Real Estate as of September 2019

Some macro risk factors have positive and others negative consequences for real estate.

Our base case for real estate is positive but given the nature and level of risk we believe a cyclically defensive posture to prepare for potentially more turbulent times is prudent.

Longer term, technology appears to be changing the long-established characteristics of real estate sectors; this has implications for portfolio strategy and execution.

Near term, three other risks stand out: Potential for a monetary policy misstep, trade war escalation and Brexit.

Invesco Real Estate Global House View – H2 2019
Balancing prospects for growth and the risks to growth

<table>
<tr><td>Global themes</td><td colspan="3">– Near-term weaker demand should be sufficient to support real estate fundamentals; but there is a risk of further weakness.
– The capital market execution window for our strategies has been extended due to the resumption of monetary policy easing.
– Based on differences in the market-level total return outlook, we intend to maintain our mild overweight to Asia Pacific and mild underweight to Europe.</td></tr>
<tr><td>Regional summaries</td><td>Asia Pacific</td><td>Europe</td><td>United States of America</td></tr>
<tr><td>Outlook</td><td>– Market-level total returns are expected to be the strongest of the three regions.
– Yet trade wars present a material outsized risk to economic growth and in turn occupier demand.
– Given the propensity for greater uncertainty in export-oriented markets and sectors in the near term a sharper focus on domestic demand-driven opportunities seems prudent.</td><td>– Europe has thus far been relatively more insulated from US-led trade war attention, although the region is not immune to future impacts.
– The GDP outlook for the region has weakened; shallow recessions in select countries could become more severe in the event of a disruptive Brexit.
– The near-term outlook for market total returns is the lowest among the three regions.</td><td>– Economic growth is moderating back in line with long-term trend.
– The US position in global trade wars puts it at heightened risk should setbacks to domestic services or consumers materialize.
– Total returns are expected to decelerate in 2020/21 before re-accelerating in the latter half of the forecast period.</td></tr>
<tr><td>Tactical allocation for global unlisted core strategies</td><td>Mild overweight
(From: Mild overweight)</td><td>Mild underweight
(From: Mild underweight)</td><td>Neutral
(From: Neutral)</td></tr>
</table>

Source: Invesco Real Estate as of September 2019

Macro themes

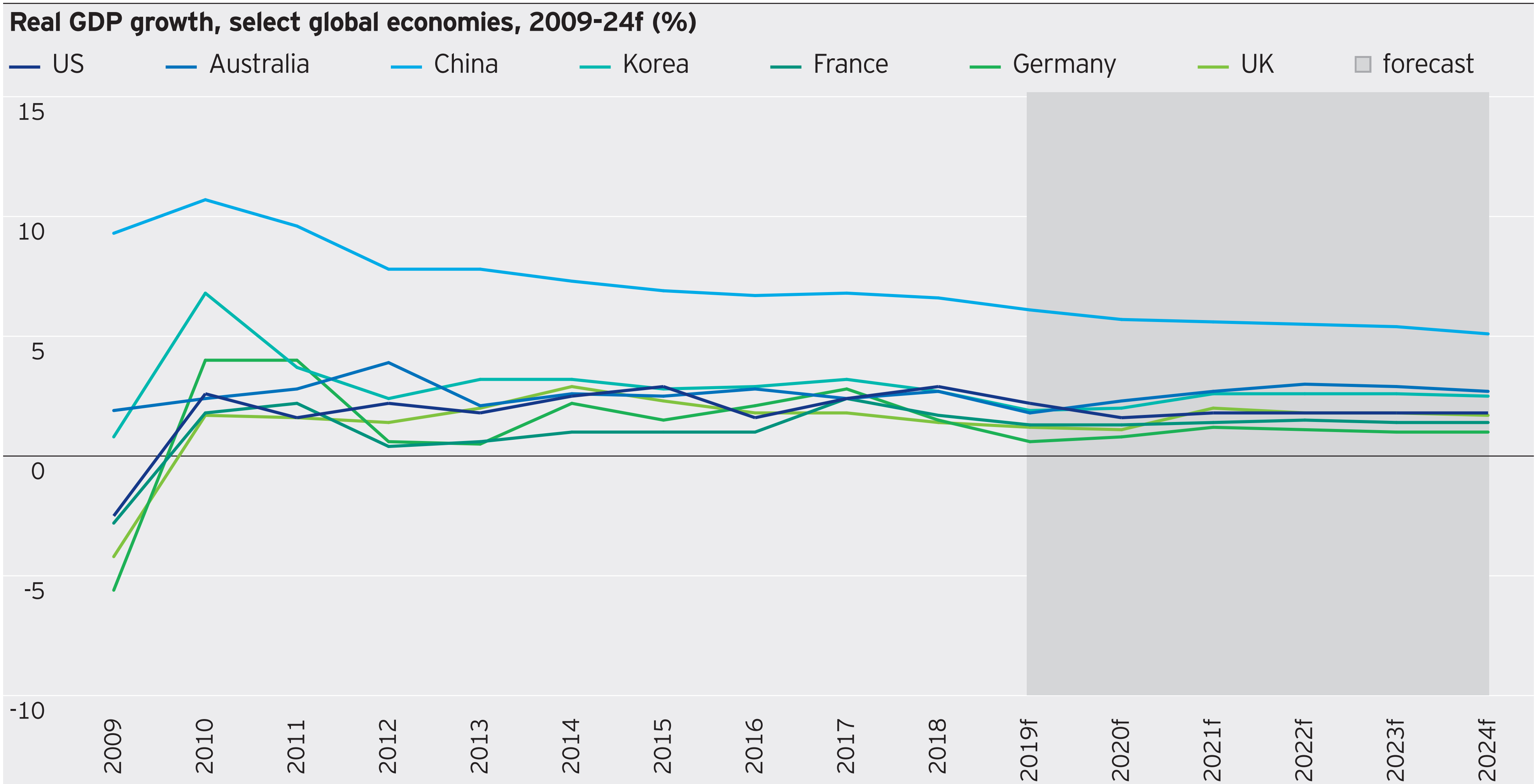
The economic outlook is slowing: Economic growth is moderating but only to long-term trends and potential growth rates; this should be sufficient to support real estate demand.

Trade wars are a potential drag: Trade wars between the US and China and Japan and Korea have begun to impact business confidence with cyclical risks to real estate.

Monetary policy easing: Macro uncertainties have driven investors to government bonds, driving yields into negative territory in some countries; real estate's income again looks relatively attractive.

Economic growth context: Absolute growth

Economic growth in major economies is poised broadly to converge

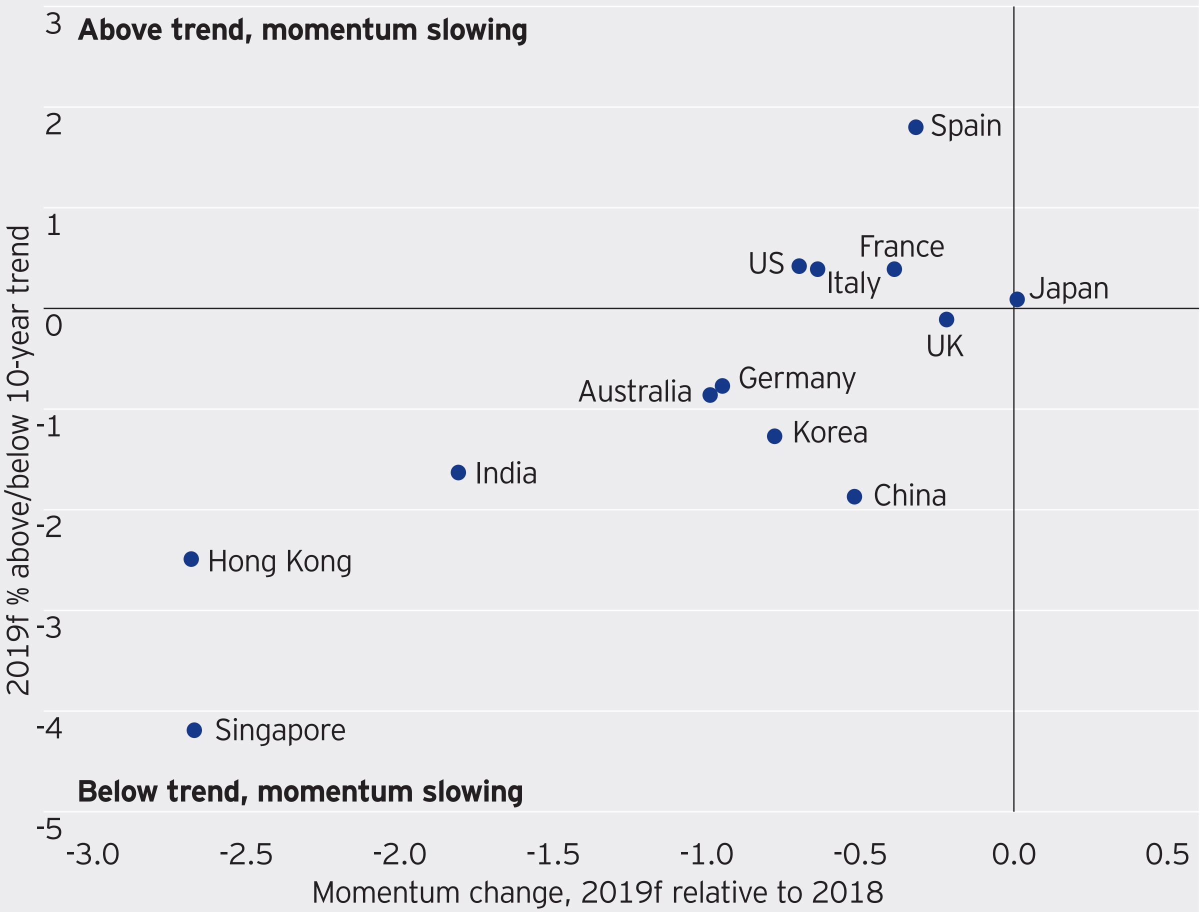


f = forecast
Source: Invesco Real Estate based on data from Oxford Economics as of September 2019

Economic growth: Momentum and long-term trends

Near-term growth is slowing, but only to long-term potential rates

Change in momentum of real GDP growth between 2018 and 2019f and relative to 10-year trend, select global economies (%)



f = forecast
Source: Invesco Real Estate based on data from Oxford Economics as of September 2019

Our real estate outlook is predicated on the expectation of moderating economic growth; this has begun to materialize.

The rate of growth relative to longer-term trends and future potential growth rates is important.

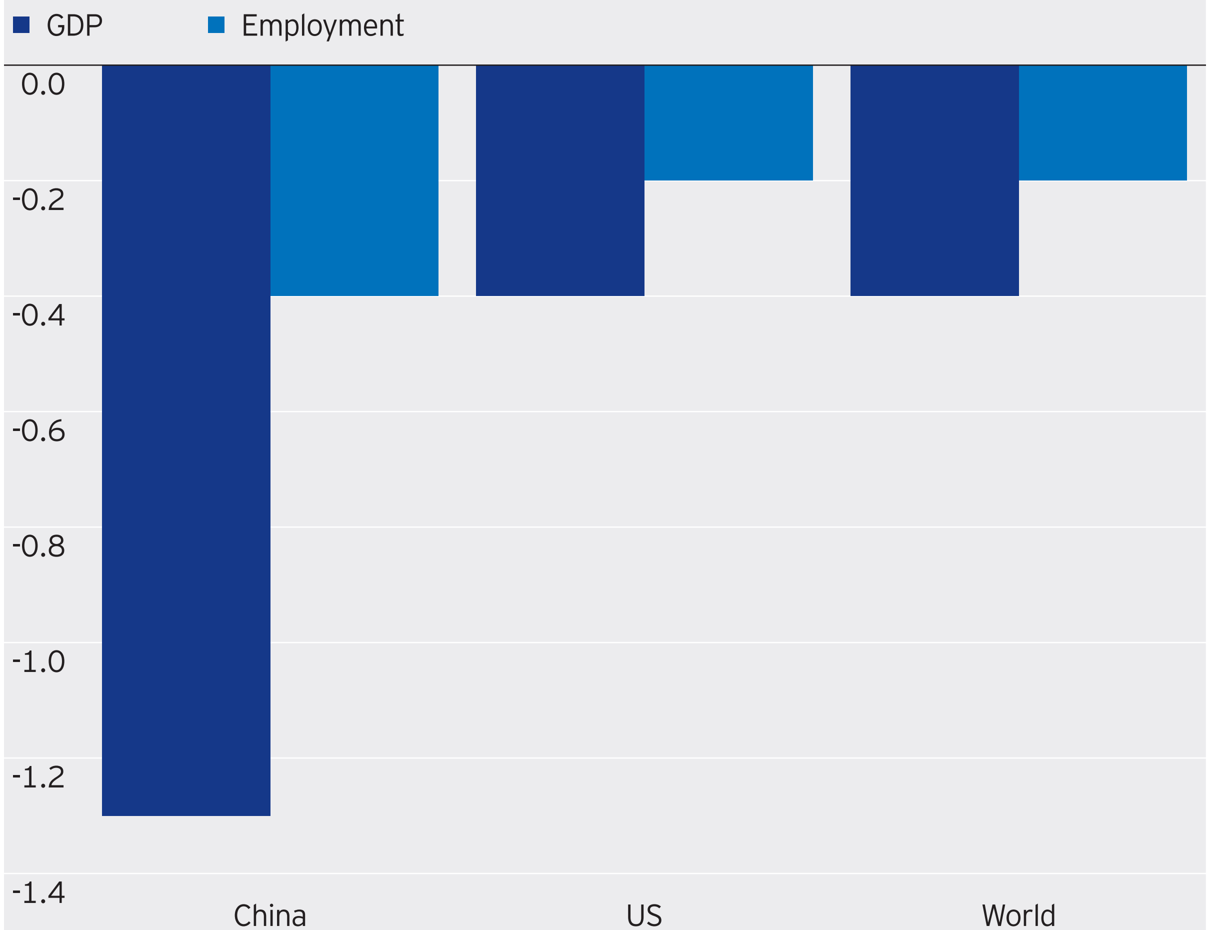
While growth is slowing almost everywhere, Oxford Economics forecasts that the US, France and the UK are only decelerating back to their 10-year average growth rate.

A more meaningful slowing is forecast for Singapore and Hong Kong, which is partly due to the trade wars, but from higher absolute levels.

Trade war risk: The impact on GDP and employment

Rising tariffs could create material impacts to growth in 2020

Cumulative % difference from no-tariff scenario on GDP and employment, select countries and world, 2020



Source: Invesco Real Estate based on data from Oxford Economics as of August 2019

The US-China trade war has been a key risk in our last few House Views.

Oxford Economics predicts that rising tariffs could have a 40-basis point adverse impact on global GDP growth in 2020.

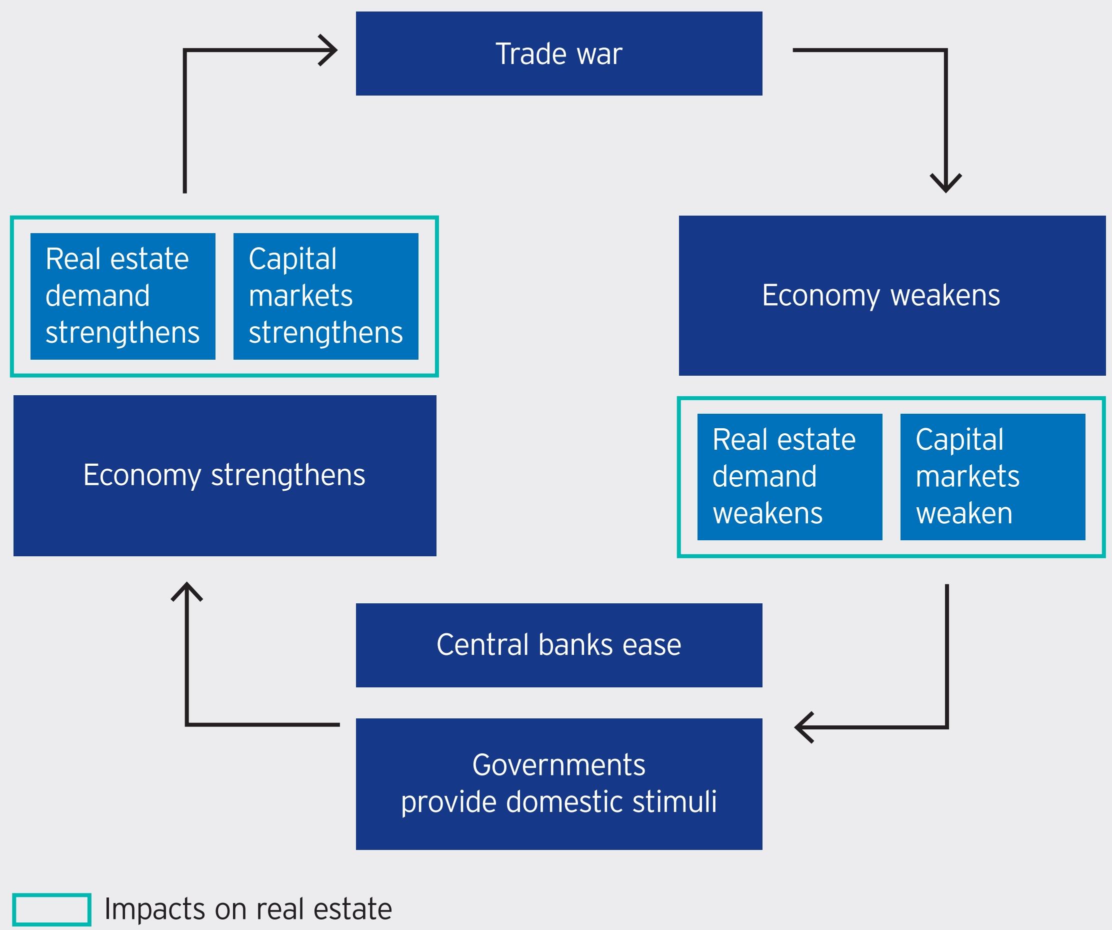
A reversal of the trade war coupled with looser policy in China is an upside, which could support an 80-basis point improvement to global growth next year.

The longer the trade wars last, the more companies are likely to adjust supply chains to mitigate the risk; patterns of real estate demand may change as a result.

Trade war risk: Balancing populist and conventional policies

Trade war impacts have thus far been offset by other policy measures

The trade war cycle



Source: Invesco Real Estate based on data from Bank of America Merrill Lynch as of September 2019

Populist leaders are challenging the long-established post-war global economic order.

Monetary and fiscal policy has been deployed to mitigate the adverse economic effects.

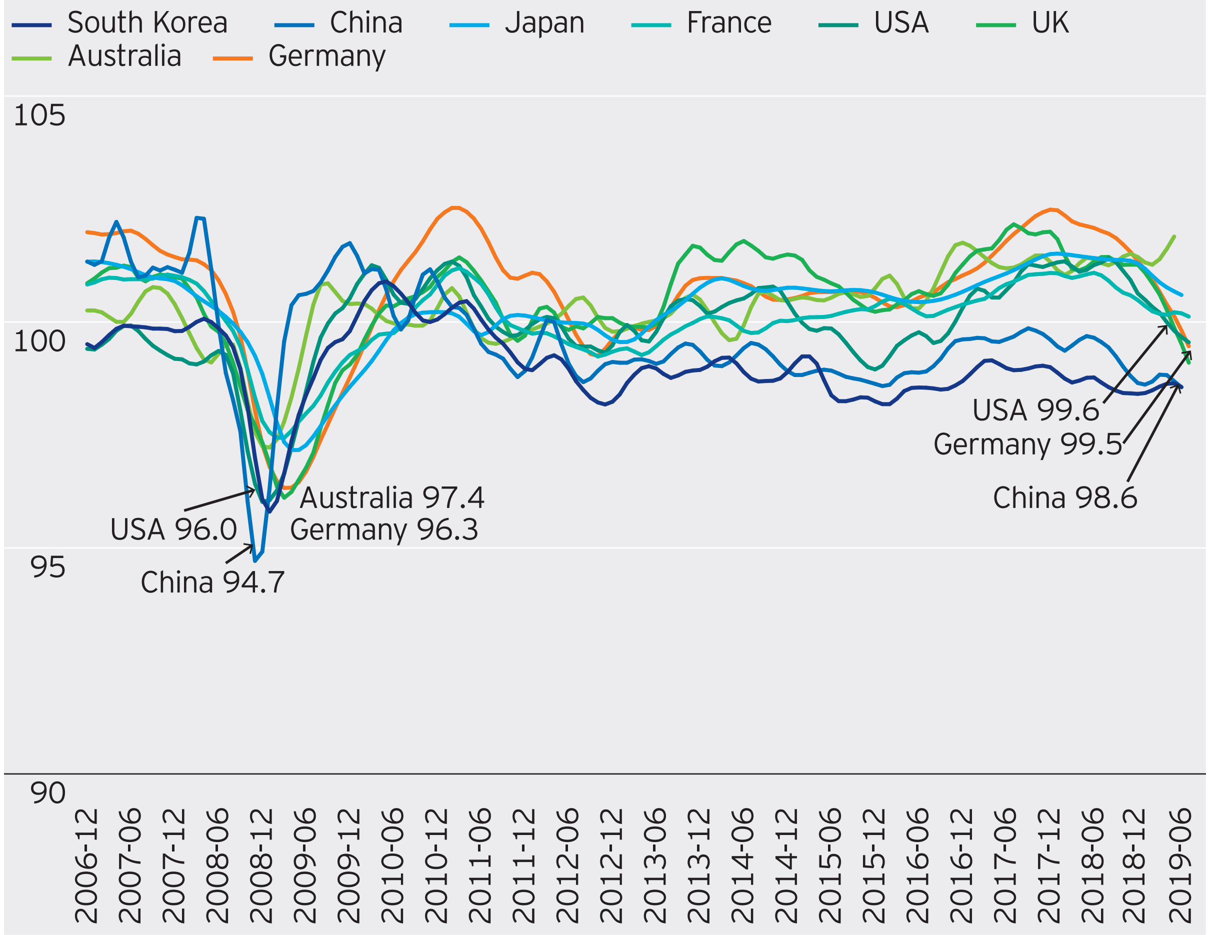
Such measures have helped support and prolong the economic expansion but enabled and emboldened leaders into further escalation.

This is creating a climate of considerable uncertainty and increased risk of a policy misstep.

Growth risk: Business confidence indices

Business confidence has begun to soften amidst macro concerns

Business Confidence Index, select global economies, December 2006-June 2019 (monthly)



Note: The Business Confidence Index (BCI) provides information on future developments based on opinion surveys on developments in Production, orders and stocks of finished goods in the industry sector. It can be used to monitor output growth and to anticipate turning points in economic activity. Numbers above 100 suggest an increased confidence in near-future business performance, and numbers below 100 indicate pessimism towards future performance.
Source: Invesco Real Estate based on data from the OECD as of September 2019

In the background, business confidence is a key driver of occupier demand, as businesses are more willing to commit to capital projects and new leases when optimism is high.

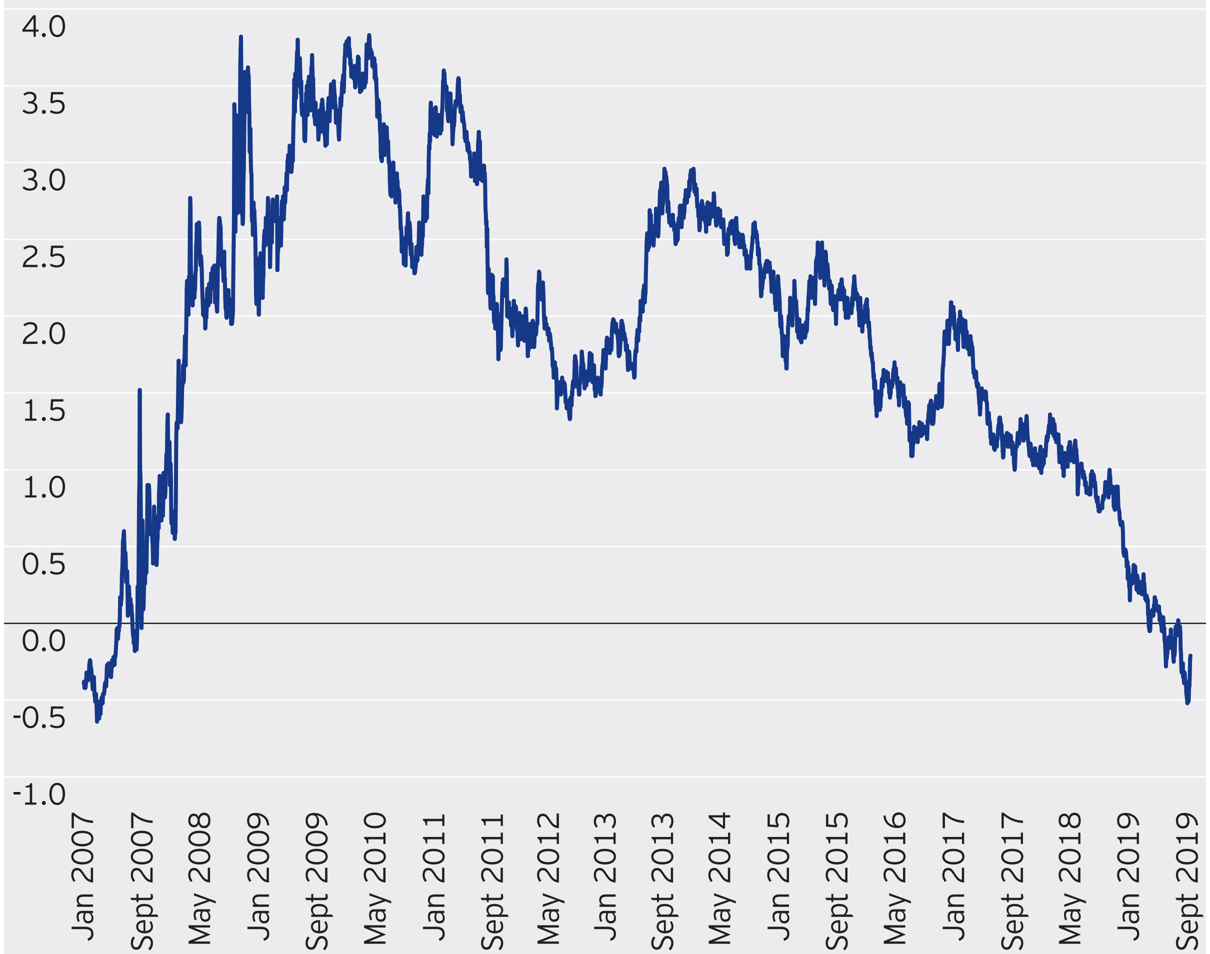
The latest data suggests that business confidence is softening given ongoing macro concerns surrounding the trade war and broader global growth slowdown, but is still within normal bounds.

Given the potential for a protracted period of uncertainty, we expect occupier demand to moderate, but remain generally supportive of fundamentals.

Growth risk: US yield curve considerations

The indicator has been offering an amber warning since late March

US yield curve, 10-year/3-month, percentage points, 2007-19



Source: Invesco Real Estate based on data from Macrobond and National Bureau of Economic Research as of September 2019

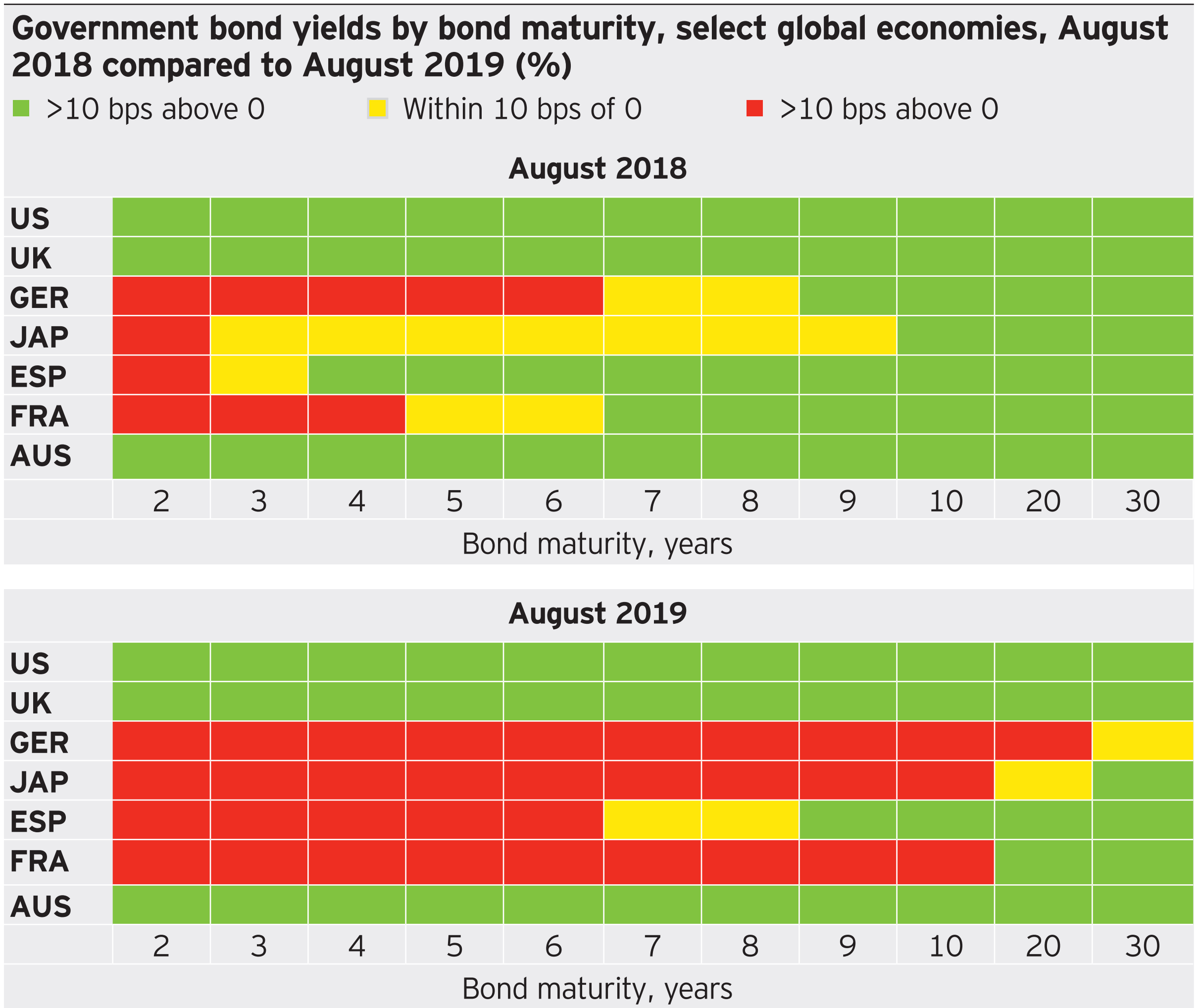
Historically, **sustained** yield curve inversions (where the spread between long-term and short-term government bonds becomes negative) have preceded nine out of the last 10 US recessions.

In March, the 10-year/3-month inverted, and has generally remained in that position through mid-September.

However, the yield curve has had less predictive power elsewhere in the world; this, coupled with an altered monetary policy landscape, suggests the yield curve may not be the harbinger of a recession that it once was.

Growth risk: Government bond yields by maturity

A flight to "safe-haven" assets have driven down bond yields globally



Source: Invesco Real Estate based on data from Macrobond as of August 2019

Macro uncertainty has prompted a flight to "safe-haven" assets such as government bonds, driving down yields.

Compared to a year ago, more government bond yields are firmly negative (more than 10 basis points below 0).

This is particularly true in Japan and major economies in Continental Europe such as Germany, France and Spain.

Despite Brexit uncertainties, bonds of varying maturities remain positive in the UK.

Bond yields are also positive in the US and Australia.

In this environment of low government bond yields, the yield/cap rate of real estate appears relatively attractive.

Global real estate market outlook

Investor demand for real estate: Demand for multi-regional/global products suggests investors may want to diversify region-specific risks.

Rent growth is expected to continue: Globally in most market-sector combinations rents are expected to rise, albeit more slowly than recently.

Regional total returns are moderating: Total returns appear relatively more attractive in Asia Pacific and the US, but Europe appears to offer lesser volatility.

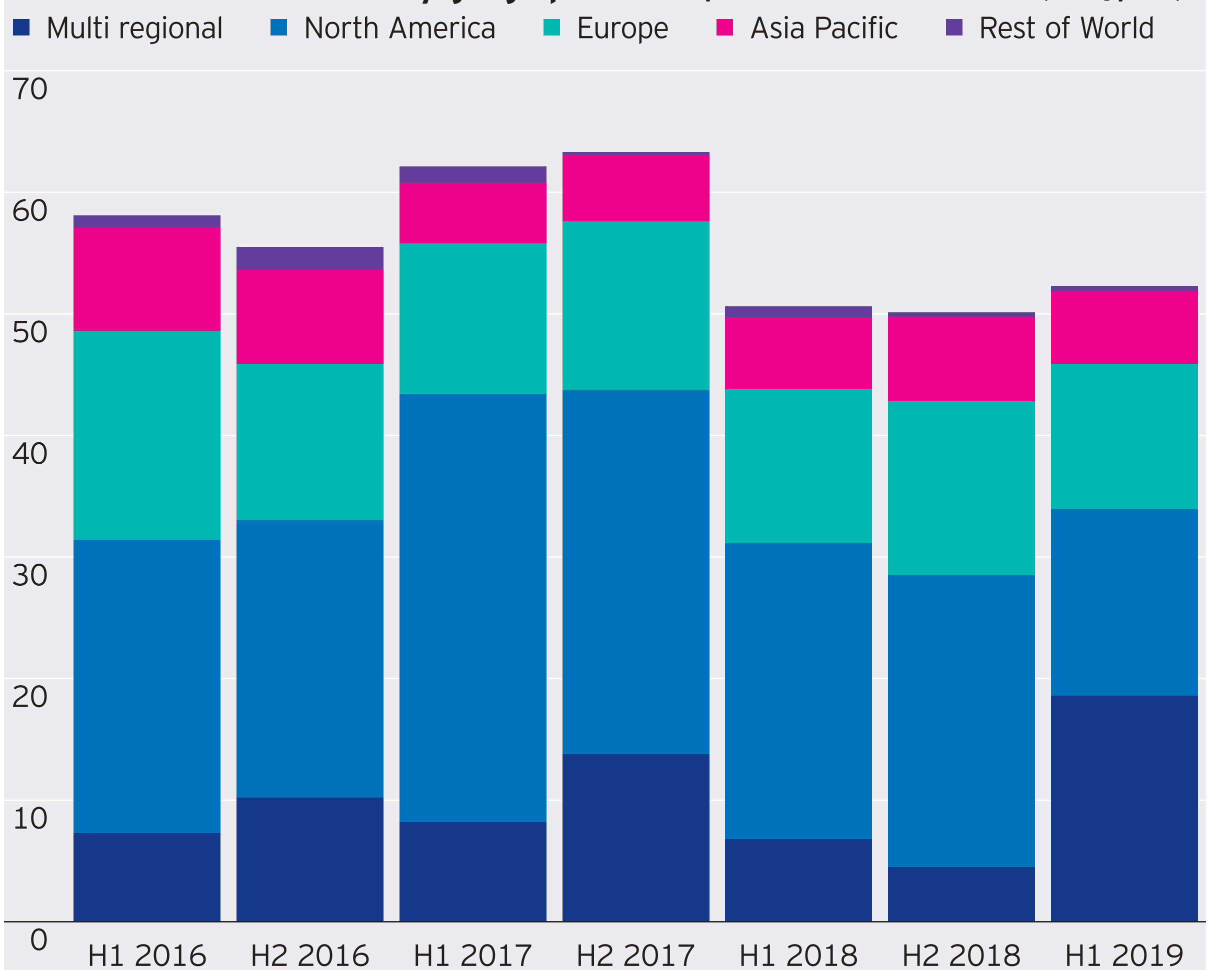
Focusing on income: Income returns are important; historically hotels and logistics have had higher income returns.

Real estate pricing appears attractive: The spread over long-term government bond yields is wider than at the start of the year.

Private real estate fundraising by the numbers

Appetite for cross-regional funds has grown amidst region-specific risks

Private real estate funds by geographic focus, H1 2016 – H1 2019 (US$, bn)



Note: Multi-regional funds are those with a focus on two or more regions. Data excludes mega-funds (those of US$5 billion or more).
Source: Invesco Real Estate based on data from PERE as of September 2019

Some speculate that global capital flows may weaken in response to tenser international relations; there is limited evidence for this so far.

Private real estate fundraising has remained steady over the last year.

The amount of capital raised for region-specific funds declined in H1 2019 compared with the prior six months.

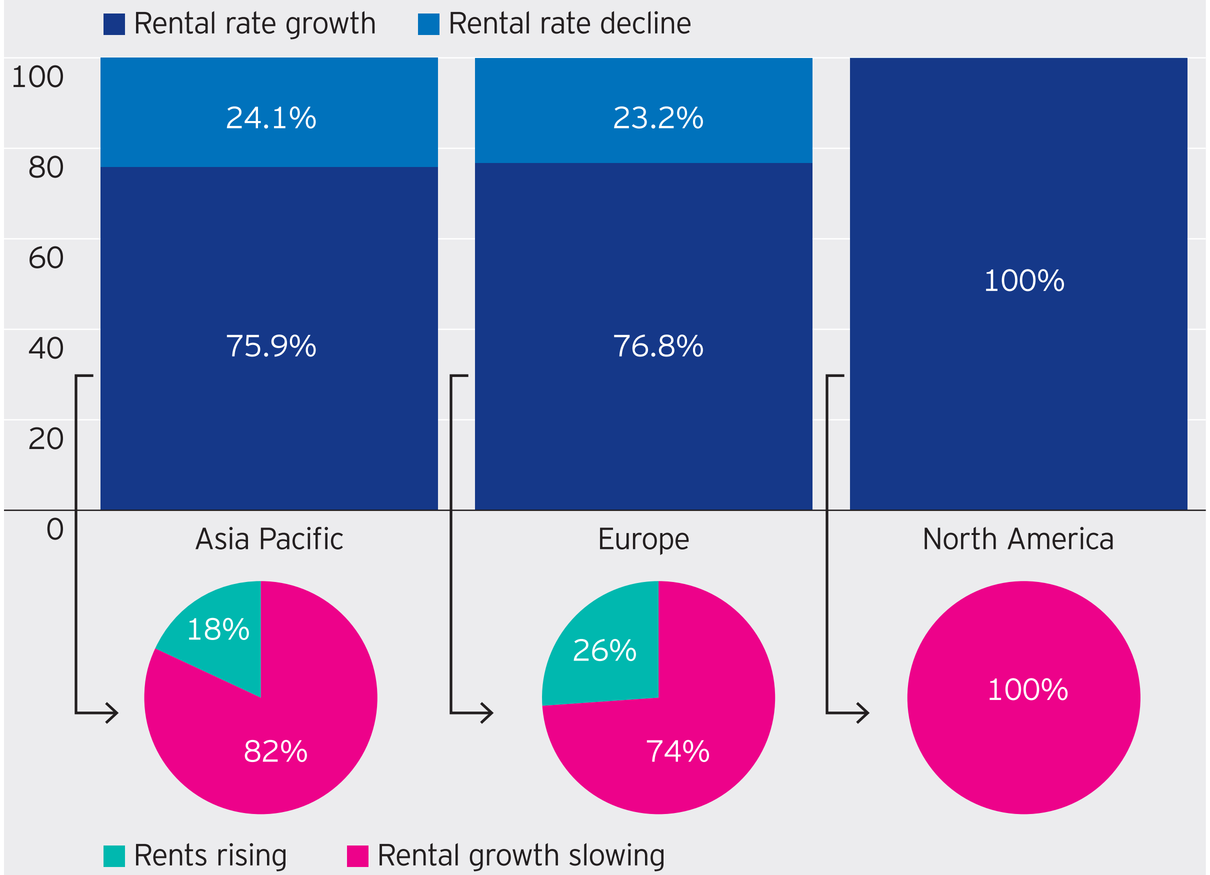
Fundraising volumes have been held up by multi-regional or global funds.

This suggests that investors may be seeking funds that can mitigate region-specific risks through scale and cross-border diversification.

Regional rent outlook, 2020f

Most market-sector combinations will continue to see rents grow

Share of market-sector combinations with rental growth or decline forecast by region, and the split of growth between accelerating and decelerating momentum, 2020f (%)



f = forecast
Source: Invesco Real Estate as of September 2019

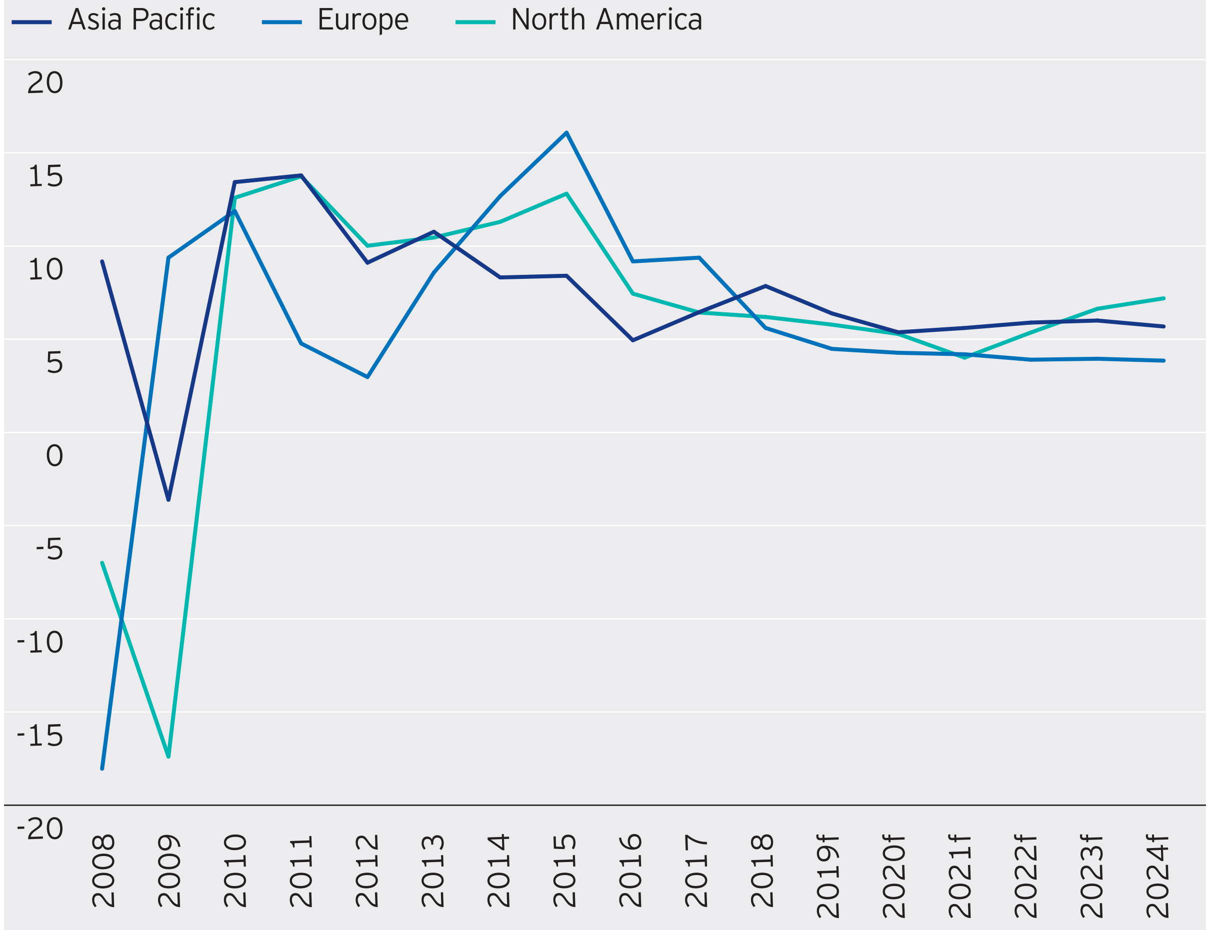
The outlook for rental rates suggest most market-sector combinations will see rents continue to grow in 2020.

Invesco Real Estate forecasts reflect an expectation of all qualified market-sector combinations in the US to see rent growth, but at a decelerating pace.

In both Asia Pacific and Europe, three-quarters of the qualified market-sector combinations are forecast to experience rental growth, with rental growth expected to accelerate in 26% of those in Europe and 18% in Asia Pacific.

Regional market-level total return outlook
Regional total returns appear to be converging in the near term

Invesco Real Estate qualified/target markets unleveraged total return forecasts 2008-24f (% per annum)



Note: The total return forecasts encompass qualified/target markets in each region as defined by Invesco Real Estate and reflect an assumption of no yield/cap rate shift. Forecasts may not be a reliable indicator of future performance. f=forecast
Source: Invesco Real Estate based on data from NCREIF and MSCI as of September 2019

The trajectory of returns globally suggests total returns are likely to moderate in 2019 and 2020 relative to 2018.

Forecasts suggest a convergence across the globe, with modest variations in the regional pattern; Asia Pacific appears the strongest in the near term, averaging 6.2% between 2020 and 2022.

US returns are forecast to be the strongest in the later years (2023/24) after easing in 2021.

European returns are expected to be the lowest, albeit the most stable of the three regions, averaging 4.7% over the next three years.

Patterns in income returns by sector

Income is a key component of real estate's stable returns

Ranking of global sector income returns by year in the MSCI Global Property Index, 2001-18 (%)

Industrial · Residential · Retail · Office · Hotel · GPI - All

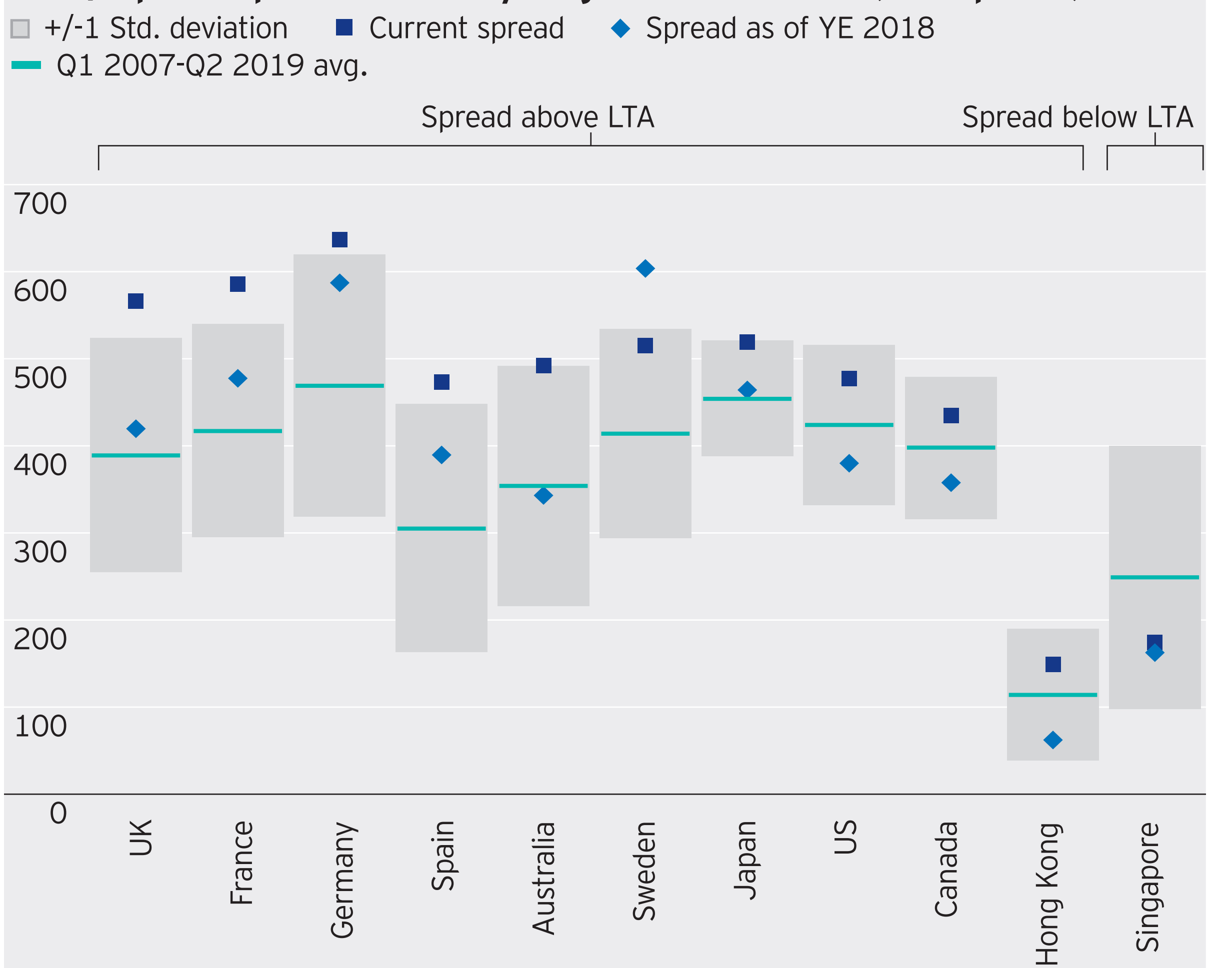
'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
8.8	8.7	8.3	7.9	8.8	8.1	7.3	6.7	7.2	7.2	6.8	6.6	6.7	6.7	6.5	6.3	5.8	5.3
8.0	8.2	8.2	7.7	7.2	6.4	6.1	6.1	6.3	6.3	6.4	6.6	6.5	6.1	5.7	5.5	5.3	5.0
7.8	7.8	7.4	6.8	6.4	5.8	5.3	5.6	6.1	6.2	6.1	6.0	5.8	5.6	5.2	5.1	4.9	4.8
7.8	7.6	7.1	6.8	6.3	5.7	5.3	5.3	6.1	6.1	5.8	5.7	5.6	5.4	5.0	4.8	4.7	4.5
6.9	7.5	7.0	6.7	6.3	5.7	5.3	5.3	5.8	6.0	5.7	5.5	5.4	5.2	4.9	4.6	4.5	4.4
6.7	6.0	5.4	5.2	5.0	4.8	4.3	4.2	4.9	5.2	5.0	4.9	4.7	4.6	4.4	4.3	4.1	3.9

- Yield/cap rate compression has been a driver of total returns in recent years, but the effect appears to be moderating.
- This means that a focus on income returns will likely take precedence for investors in the near- to medium-term.
- From 2001-18, the industrial or hotel sectors consistently had the strongest income returns; residential was a laggard.
- Office has also been a consistent below-average performer during the current cycle.
- This suggests that leaning into industrial or hotel assets may be a prudent measure.

Source: Invesco Real Estate based on data from MSCI as of September 2019

Real estate pricing relative to government bond rates
Relative to bonds, real estate appears more favorably priced today

Yield/cap rate spreads over 10-year government bonds (basis points)



Note: Current spread is calculated as the spread between the Q2 2019 cap rate and the August 08, 2019 10-yr bond rate. Countries are ordered from left to right by the distance between the current spread value and Long-Term Average (LTA). Spreads at LTA are within +/-25 bps of LTA.
Source: Invesco Real Estate based on data from Real Capital Analytics and Macrobond as of August 2019

The yield/cap rate spread over long-term government bonds is a commonly used metric to judge real estate prices relative to other asset classes.

Lower bond yields globally have recently had the effect of making real estate again appear more attractively priced.

With the exception of Sweden, yield/cap rate spreads to 10-year government bond rates are wider than they were at the start of the year.

Pricing appears most favorable in Europe, but this is counter-balanced by the lower expectations of growth.

Asia Pacific real estate market outlook – H2 2019
Despite heightened risk, little else has changed


Image: Technology disruption is a key investment theme.

Macro environment:
- Economic backdrop: Low/no inflation amidst moderating economic growth is likely to anchor the period ahead.
- Occupier fundamentals: Softer demand but limited supply could support rents in most market-sector combinations.
- Capital markets: An extended capital value cycle appears likely amidst renewed global monetary easing.

Investment execution response:
- Position portfolios to be defensive against cyclical headwinds, but take advantage of structural opportunities.
- Domestic demand-driven segments across all property sectors are likely to outperform.
- Affordability challenges and changing housing demand are stimulating opportunities to create rental housing.
- Changing demand for logistics is an opportunity, especially to create domestically-oriented facilities.
- Focus on manage-to-core and value-add execution.

European real estate investment context – H2 2019

The macro-economic outlook has shifted to even-lower-for-even-longer

Image: Rotterdam, an example of the increasing trend of office, industrial, logistics and residential real estate being in close proximity.

Macro environment:

- The European interest rate environment has shifted significantly lower during H1 2019.
- This results in part from declines in the European GDP growth outlook.
- Demographic trends support demand for residential and some specialty real estate.
- Shorter-term pressures on pricing, including populist politics, offer acquisition opportunities.

Investment execution response:

- Low interest rates support real estate yields; low economic growth constrains rental uplifts.
- Market level real estate returns will be limited; focus on asset-specific opportunities.
- Reversionary assets offer potential for uplift as leases renew or on refurbishment.
- Logistics returns are tightening; care is needed in location and asset selection.
- Institutional-grade housing and hotels have structural demand and limited supply.
- Exposure to retail needs to be very selective due to disruption from e-commerce.

US real estate investment context – H2 2019
Play offense on structural tailwinds; play defense on headwinds

Note: "Overweight" relative to composition weights in the NCREIF Property Index.
Image: Downtown San Jose, an emerging location for clustering of innovation activities as more established submarkets within the San Jose metro approach full capacity.

Macro environment:

- Fundamentals remain sturdy: High occupancy rates and good tenant demand.
- Risks to growth have increased: Tariff threats, tight labor market, converging yield spreads.
- Independent of the economic cycle, structural shifts continue to drive strength in some market segments and weakness in others.

Investment execution response:

- Play offense on structural tailwinds: Tech innovation and life science; aging and life-stage change.
- Overweight industrial, office innovation and life science hubs, medical office, low-supply locations for apartment and self-storage.
- Play defense on structural and cyclical headwinds: Limit exposure to shrinking structural demand and currently over-supplied locations.

Global real estate strategy and execution

Portfolio composition is changing: Office and retail have historically comprised the lion's share of real estate portfolios.

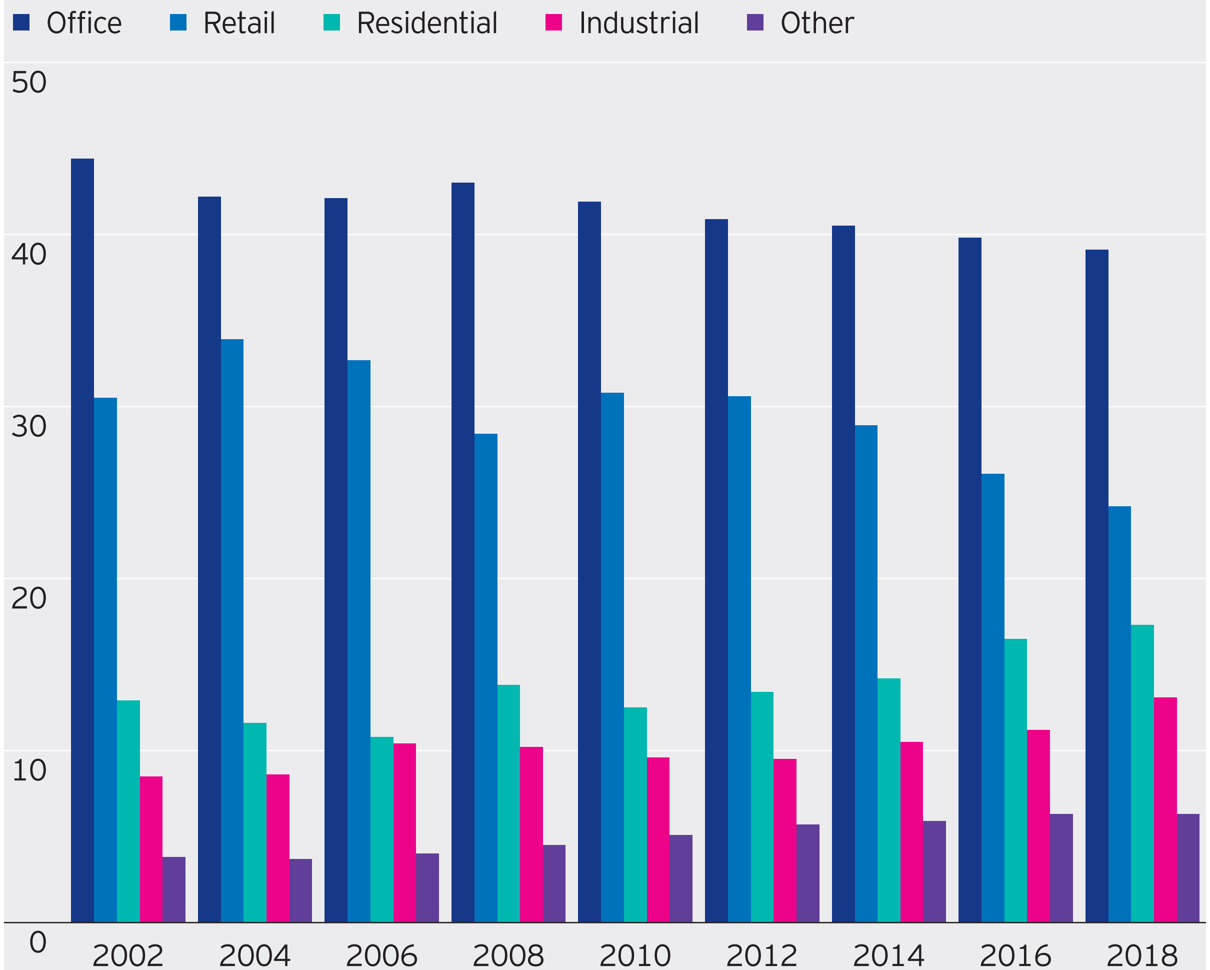
Technology may be changing sector risk: It has already happened in the industrial and retail sectors; the office sector appears vulnerable to a similar disruption in future.

Innovation hub locations have outperformed: The 30 top innovation cities outperformed other cities by 148 basis points from 2001-18.

Breadth or depth: Increasingly it is important to differentiate within sectors and to understand for each whether it is better to focus on a particular type of sub market location or to diversify broadly across multiple types of submarkets.

Sector weightings
Portfolio composition is changing, albeit slowly

Sector weights in the MSCI Global Annual Property Index, 2002-18 (%)



Note: Other includes hotels.
Source: Invesco Real Estate based on data from MSCI as of September 2019

Constructing a well-diversified portfolio is key to ensuring stable returns and lowering volatility; one way is through sector selection.

Historically, office and retail investments accounted for the bulk of typical real estate portfolios – while their share has gone down, collectively they are still more than 60% of the MSCI Global Property Index.

Technology has already changed the nature of risk in the industrial and retail sectors; the office sector appears vulnerable to a similar disruption in future.

Changing places: Best-performing sectors over time

Industrial has replaced retail as the best-performing sector

Ranking of global sector total returns by year in the MSCI Global Property Index, 2001-18 (%)

■ Industrial ■ Residential ■ Retail ■ Office ■ Hotel ■ GPI - All

'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
9.4	12.1	14.3	15.8	17.5	17.5	14.1	-3.2	-3.2	11.2	11.0	8.6	11.3	13.5	13.7	10.1	12.6	13.4
8.5	7.5	9.6	12.5	16.0	15.3	13.4	-4.6	-6.9	10.7	10.9	8.5	9.0	11.3	13.6	9.7	8.2	7.6
8.4	7.5	8.2	10.8	16.0	15.1	10.5	-5.2	-7.4	8.9	9.1	7.2	8.3	10.0	10.7	7.4	7.9	7.4
7.1	7.0	7.3	10.0	15.3	14.8	9.3	-5.5	-8.2	8.8	8.9	7.0	8.1	9.9	10.5	7.3	7.6	7.1
5.7	6.5	7.1	9.7	15.0	14.5	9.0	-6.6	-10.3	8.7	8.7	6.3	7.3	9.5	10.1	6.9	7.2	6.9
-0.0	3.7	5.1	8.1	13.4	11.1	6.9	-6.9	-10.4	7.1	7.7	6.0	5.6	8.5	9.7	6.8	6.4	3.6

- Structural forces have historically created new winners and losers in real estate.
- This is evident in the bifurcation of industrial and retail performance in recent years amidst the impact of e-commerce. The industrial sector has been the best-performing sector worldwide in five of the last six years. Retail has been the weakest sector for the last three.
- Office sector returns have been cyclical; but have generally underperformed (the worst sector in seven of the last 18 years).
- We believe a portfolio positioned to weather near-term cyclicality but benefit from structural tailwinds should do well.

Source: Invesco Real Estate based on data from MSCI as of September 2019. **Past performance is not a guide to future returns.**

Technological change may be a headwind for office demand

A myriad of disruptors is poised to alter the role of office in a portfolio

Disruptors	Possible impacts
Co-working	Less demand/shorter terms for traditional leases
5G	Heightened pace of building obsolescence
Smart Buildings	Development impacts Pace of obsolescence increases
Automation	Less office-based employment
Self-driving cars	Locational preferences may shift Changing use of parking lots Need for loading/unloading zones

Source: Invesco Real Estate based on data from CBRE, NAIOP, CNET and MSCI as of September 2019

As evidenced by the dramatic effect of e-commerce on the retail sector, the true extent of technological disruption can be difficult to predict.

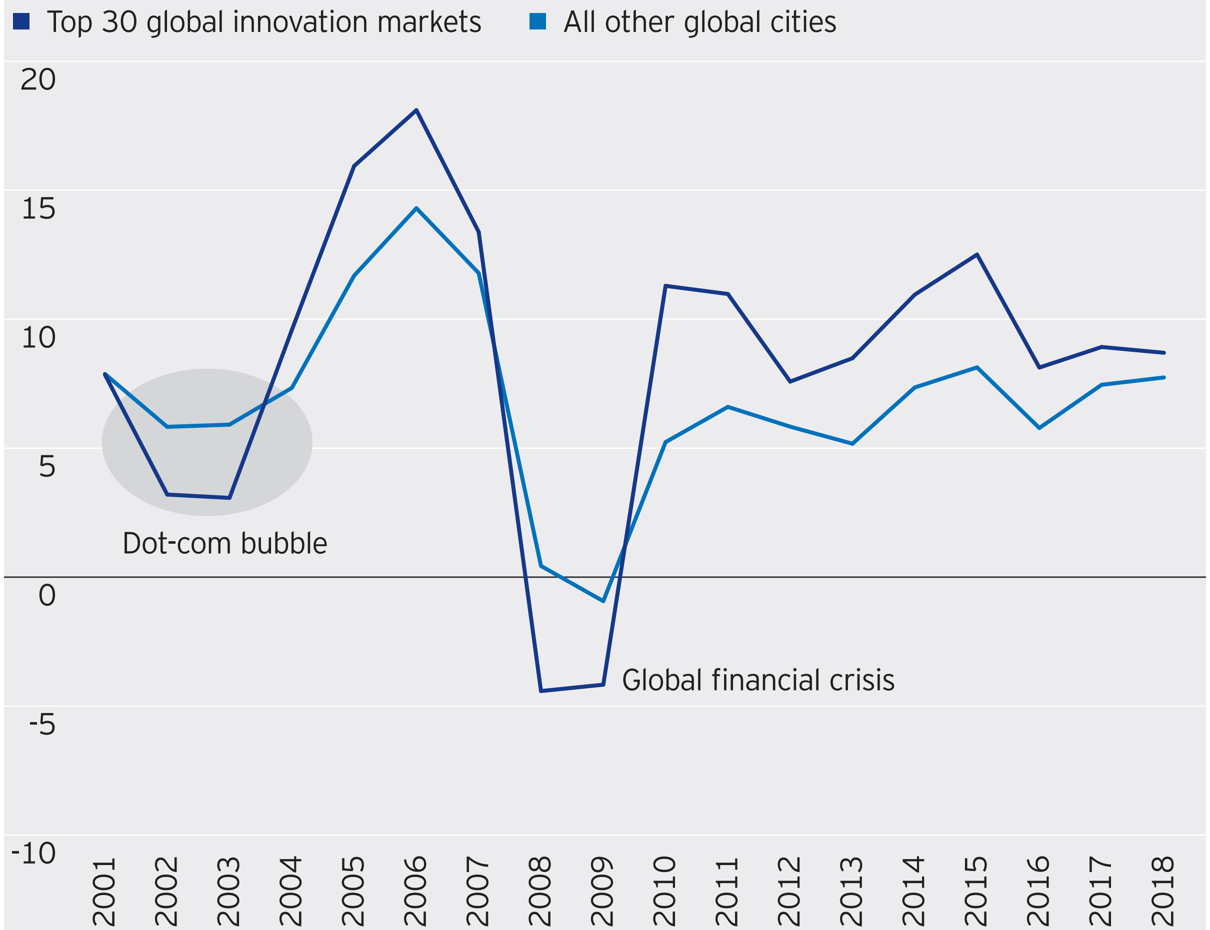
We believe there are several emergent trends that have the potential fundamentally to alter traditional patterns of office demand and performance – these include current disruptors such as co-working as well as future disruption from automation or 5G.

This will generate winners and losers in the office sector. Flexible office buildings in innovation hubs and life sciences clusters are likely to be in strong demand from tenants; commodity buildings in commodity locations less so.

Targeting innovation-driven office markets

The top innovation hubs around the world have outperformed

Office total returns of Top 30 global innovation cities compared to 56 other global cities, 2001-18 (%, capital value weighted in US$)



Note: The top 30 global innovation cities were chosen based on the results of the 2018 2thinknow Innovation Cities. The top 30 markets as of 2018 were: Tokyo, London, San Francisco/San Jose, New York, Los Angeles, Singapore, Boston, Toronto, Paris, Sydney, Chicago, Seoul, Dallas, Berlin, Seattle, Melbourne, Houston, Amsterdam, Vienna, Atlanta, Munich, Montreal, San Diego, Washington DC, Vancouver, Miami, Hong Kong, Stockholm, Austin and Barcelona.
Source: Invesco Real Estate based on data from 2thinknow Innovation Cities Index and MSCI as of September 2019

Given the significant role offices play in portfolios, and the myriad disruptors the sector faces, choosing the best markets and assets has become even more important.

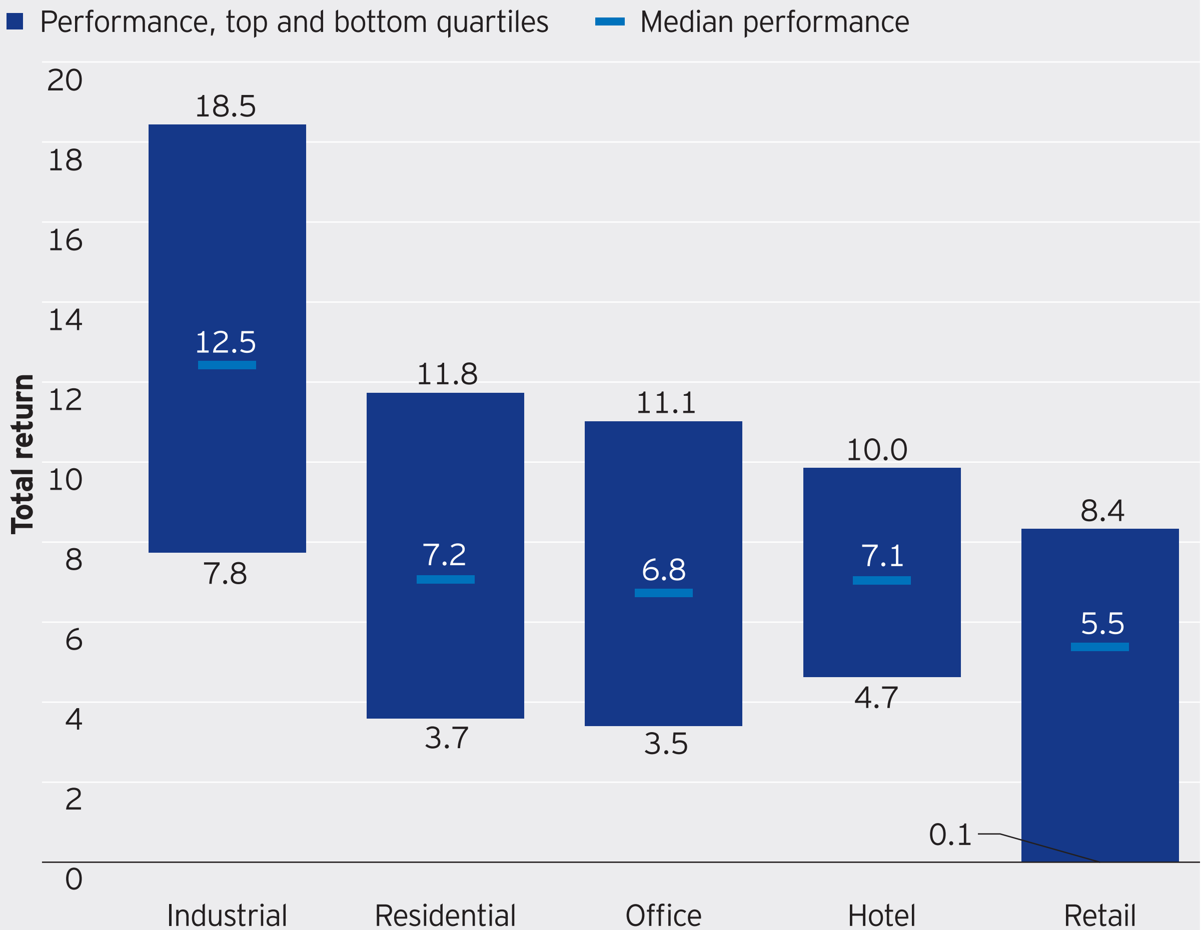
The chart at the left compares the weighted total returns of the top 30 most innovative office markets globally with the weighted total return of 56 other global office markets.

These top cities outperformed by an average of 148 basis points per year between 2001-18, and by more than 300 basis points since the GFC, although had a correspondingly higher level of volatility.

Demonstrating the value of active asset selection

Balancing when to go wide and when to go deep

Spread of asset-level total return performance by quartile and sector, 2018 (%)



Note: Analysis based on same-store investments in the MSCI Global Annual Property Index.
Source: Invesco Real Estate based on data from MSCI as of September 2019

- Choosing the right asset within a sector is perhaps just as important as identifying which sectors will outperform.
- One way to look at this is considering the distribution of performance within and across sectors.
- An investor with a bottom-quartile industrial property in 2018 would have achieved greater returns than a median asset in every other sector.
- This suggests that sectors have fallen into two categories: Those where a deep focus on only the best assets should prevail (office, retail and residential) and those where widening the net should be considered (industrial, hotel).

Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. Property and land can be difficult to sell, so investors may not be able to sell such investments when they want to. The value of the property is generally a matter of an independent valuer's opinion.

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