JLL | Achieve Ambitions

City Momentum Index 2019

Technology, Transparency and Transformation

JLL Global Research

Asia Pacific cities lead the way

Although momentum in the global economy appears to have peaked, there are still many cities in the world where both real estate and economic momentum continue to be robust.

JLL's City Momentum Index (CMI) is now in its sixth iteration. This year it focuses purely on short-term momentum over a three-year horizon, tracking a range of socio-economic and commercial real estate indicators to identify attributes for success over the near term. It covers 131 major established and emerging business hubs across the globe.

The Momentum Index rankings identify the urban economies and real estate markets which are currently undergoing the most rapid growth. Cities that are growing quickly tend to punch above their weight in attracting companies and people; however, this can often lead to challenges - such as social inequality, congestion and environmental degradation - that must be addressed to ensure short-term growth transitions into longer-term momentum.

East-West growth divide

The latest results highlight the East-West growth divide. Asia Pacific is home to 19 of the Top 20 cities in this year's Index, reflecting the region's continued rapid urbanisation and economic growth. Overall, Indian and Chinese cities dominate the rankings, accounting for three-quarters of the Top 20. Vietnam, the Philippines and Thailand are also represented.

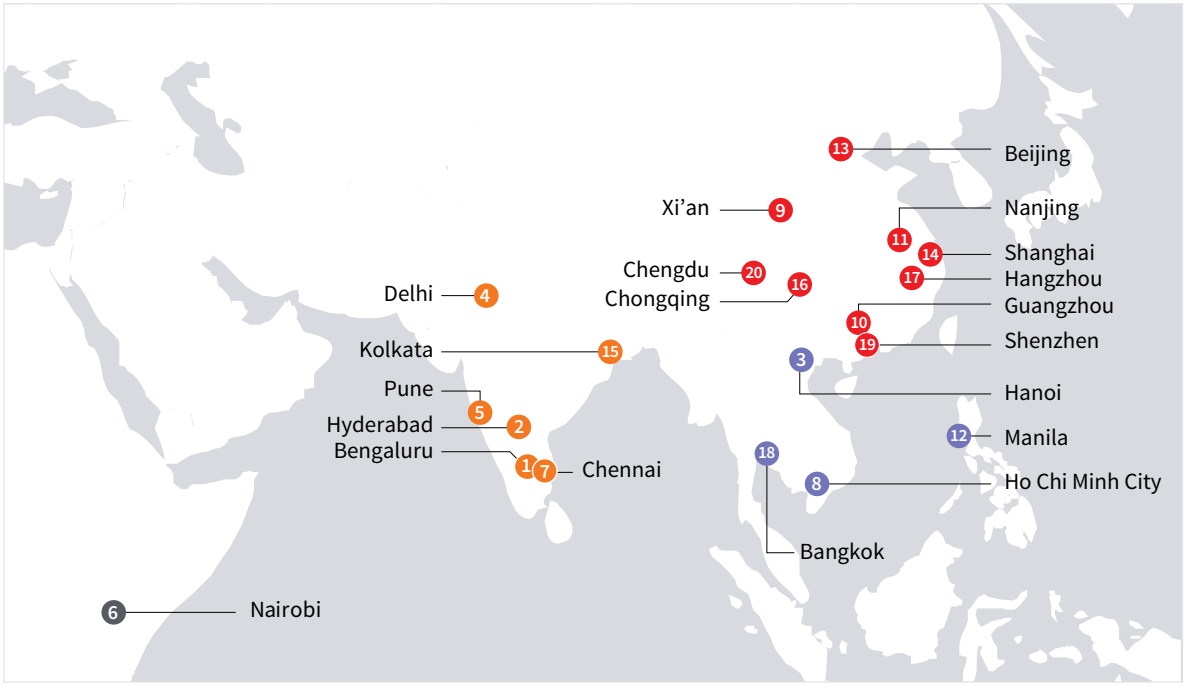
There are no cities in either Europe or the Americas in the Top 20. Only one city outside of Asia Pacific, **Nairobi**, ranks in the 20 most dynamic cities in the globe; and even in Nairobi there is a powerful Asian influence with significant amounts of investment from China focused mainly on infrastructure projects.

A common theme this year is that many of the top-performing cities have strong links to the technology and innovation sector. The technology sector is a key driver of both real estate and economic momentum, and is propelled not only by the large dominant tech firms but also by a robust start-up culture. **Bengaluru**, **Hyderabad**, **Ho Chi Minh City**, **Shenzhen** and **Nairobi** have all cultivated a thriving start-up culture which has helped to push them up the rankings.

Xi'an

JLL City Momentum Index

The World's Top 20 Most Dynamic Cities



1 Bengaluru	6 Nairobi	11 Nanjing	16 Chongqing
2 Hyderabad	7 Chennai	12 Manila	17 Hangzhou
3 Hanoi	8 Ho Chi Minh City	13 Beijing	18 Bangkok
4 Delhi	9 Xi'an	14 Shanghai	19 Shenzhen
5 Pune	10 Guangzhou	15 Kolkata	20 Chengdu

India China Other Asia Africa

Source: JLL, 2019

The challenges of rapid momentum

Momentum can have both positive and negative aspects. Cities that are growing quickly tend to punch above their weight in attracting capital, companies and people. However, this can create challenges, particularly in the environmental and social impacts of this rapid growth. If these challenges are left unchecked, it is unlikely that this momentum will be sustainable and a city's economy will therefore struggle to mature and move to the next level of development.

The myriad issues created by rapid momentum include pollution, congestion, overcrowding, affordability, inequality and a deficiency of appropriate infrastructure. Different cities will take different paths to growth, therefore no two cities' challenges or solutions will be identical. For example, Indian and Chinese cities are both facing severe environmental impacts but are taking divergent approaches to combatting them.

Real estate is pivotal to sustainable momentum

Real estate plays a pivotal role in helping to address these challenges and setting a city's future development path.

Urban Transformation: Major urban transformation projects can significantly alter a city's trajectory – with new neighbourhoods and mixed-use developments helping to nurture new specialisms, improve lives, change a place's meaning and have knock-on effects on its surroundings. Additionally, large-scale infrastructure plans can play a large part in tackling problems such as congestion and improving the flow of people around a city.

Placemaking: A people-centred approach to urban design typically has real estate projects at its core and helps to improve the urban fabric of the city and how people interact with it.

Transparency: A transparent real estate market plays a key role in city competitiveness, not only as a facilitator of new investment and business activity but also in enabling sound long-term planning, enhancing community well-being and inclusiveness, and safeguarding the environment. [1]

Sustainability: Greener and smarter buildings are part of the solution to environmental challenges, while the densification of real estate contributes to carbon emission reduction goals.

In the world's most rapidly-developing cities with the fastest momentum, real estate is typically associated with bold super-sized projects and impressive skylines; yet the true value of real estate is in providing the infrastructure and environment that facilitates creativity, collaboration, innovation and entrepreneurship.

[1] Global Real Estate Transparency Index: Real Estate Transparency across 158 Cities, JLL and LaSalle Investment Management, 2018

The Cycle of Momentum

Robust growth
- Urbanisation
- Globalisation
- Technology

Momentum

Challenges

Sustainability of growth
- Environmental
- Congestion
- Affordability
- Inequality

Strong governance & planning
- Infrastructure
- Effective planning system
- Innovation
- Improving transparency

Beijing

Innovation ecosystems support Indian cities' performance

India continues to dominate the highest rankings of the Index with **Bengaluru** (1st) and **Hyderabad** (2nd) maintaining their positions at the top of the table. There are another four major Indian cities in the Top 20 - **Delhi** (4th), **Pune** (5th), **Chennai** (7th) and **Kolkata** (15th). Meanwhile, **Mumbai** sits just outside the Top 20 (in 23rd); as a larger and more mature metropolitan economy, it has slightly lower momentum on several metrics compared to its Indian peers, but nonetheless is still impressive on a global scale.

Bengaluru in first place globally has an established reputation worldwide for the design and development of technology and electronics. Along with attracting many international companies, it has a vibrant start-up culture; it is home to five of India's eight Unicorns (companies valued over US$1 billion).

Hyderabad, following closely in second place globally, is also home to many successful start-ups with a specific focus on 'deep tech.' India's largest start-up incubator, 'T-Hub', is located in the city and is a public/private initiative between the city government, three educational institutions and the private sector.

Improving transparency boosts investor interest

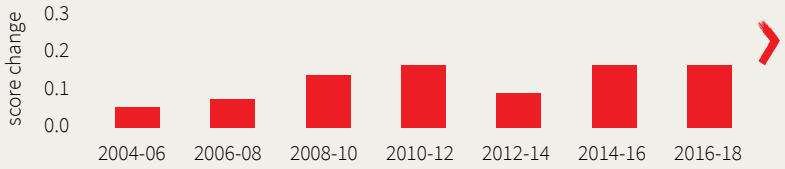
India's top cities have been successful in recent years in drawing high levels of foreign direct investment (FDI), while structural reforms are also encouraging greater interest from foreign real estate investors who are seeking to tap into the country's favourable growth dynamics. Transparency, a key requirement for international investors, is still lacking; however, India's reform-driven government is moving forward with its agenda to improve real estate transparency and reduce corruption. The Real Estate Regulation and Development Act (RERA) is a notable highlight and the recent creation of a single national VAT system will boost the logistics sector and make for a more business-friendly environment. These positive strides bode well for further growth in real estate investment in India's top cities, which is still well below the levels of other major emerging markets.

The challenges of absorbing rapid growth

Strong growth and rapid momentum in many Indian cities however, has gone hand in hand with rising concerns over an increasing lack of appropriate infrastructure, congestion and environmental degradation. Additionally, within the urban population, inequality levels are growing along with fears about affordability. For these cities to turn this momentum into sustainable robust economic growth, they need to concentrate on addressing these issues, and the first steps have already been taken. For example, in Hyderabad there has been a large-scale tree planting programme (TKHH) which aims to improve tree coverage in the state from 24% to 33%. In Pune, a three-line metro system is being developed and is due to open in 2021. This will aid connectivity and considerably increase public transport capacity.

The path to transparency

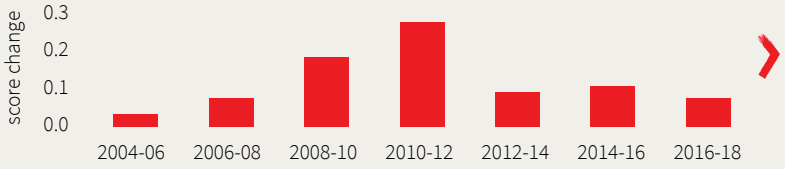
India



Government-Led Reform

Gradual progress towards 'Transparency' as the Modi government implements a range of new reforms - notably The Real Estate Regulation and Development Act.

China



Market-Driven Reform

Improvements driven by 'professionalisation' of real estate sector, even as the regulatory frameworks remain less transparent.

Source: Global Real Estate Transparency Index, JLL and LaSalle Investment Management

Hyderabad

Chinese cities fast-track towards maturity

China continues to be home to many of the world's most dynamic cities, with 9 of its major cities – **Xi'an** (9th), **Guangzhou** (10th), **Nanjing** (11th), **Beijing** (13th), **Shanghai** (14th), **Chongqing** (16th), **Hangzhou** (17th), **Shenzhen** (19th) and **Chengdu** (20th) – featuring in this year's CMI Top 20. In recent years, strong momentum has been underpinned by massive infrastructure investment and real estate development, and its cities continue to benefit from huge ongoing transport infrastructure investment, including expansion of the national high-speed rail network, new urban metro systems and greater airport capacity.

From infrastructure to innovation

Yet the drivers of China's cities are now changing as they tilt increasingly towards becoming more innovation-oriented economies. A new system of Chinese cities is evolving of truly global scale, where momentum is more and more dependent on levels of innovation, entrepreneurship and liveability. They are home to a new breed of energetic tech-savvy firms that are extending their global footprints, facilitated by China's ambitious 'Belt and Road Initiative'.[2]

However, China's cities are certainly not without their challenges, with environmental and transparency issues affecting their global competitiveness, while growing international linkages have increased their vulnerability to global trade tensions. Progress is nonetheless being made on several fronts: pollution is now falling in many cities as China's government introduces radical measures to reduce emissions; and real estate transparency is steadily improving, with its premier cities – Beijing and Shanghai – on the cusp of joining the ranks of the world's 'Transparent' real estate markets.[3]

Of the 13 cities in Greater China covered by the CMI, Xi'an has for the first time emerged in top position nationally (ranked 9th globally). This western China city has traditionally lagged its coastal peers, but it is catching up on the back of its strategic position on the Silk Road and its strengths in innovation and R&D. Struggling with severe air pollution, the city is now seeking innovative solutions such as the installation of a 100-metre-high air-purifying tower to reduce smog.

Guangzhou (in 10th position globally) fares well on several socio-economic measures and currently has stronger real estate momentum than its national peers. Having lost some ground in recent years to neighbouring Shenzhen, the city is regaining momentum as it prioritises R&D, biotech and IT, as well as financial services and advanced manufacturing. Guangzhou is geographically well placed to benefit from agglomeration benefits of the Greater Bay Area, one of the world's most dynamic mega-regions. Large-scale infrastructure projects are transforming the Greater Bay Area, including the completion of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. Work has also started on an additional six metro lines in Guangzhou.

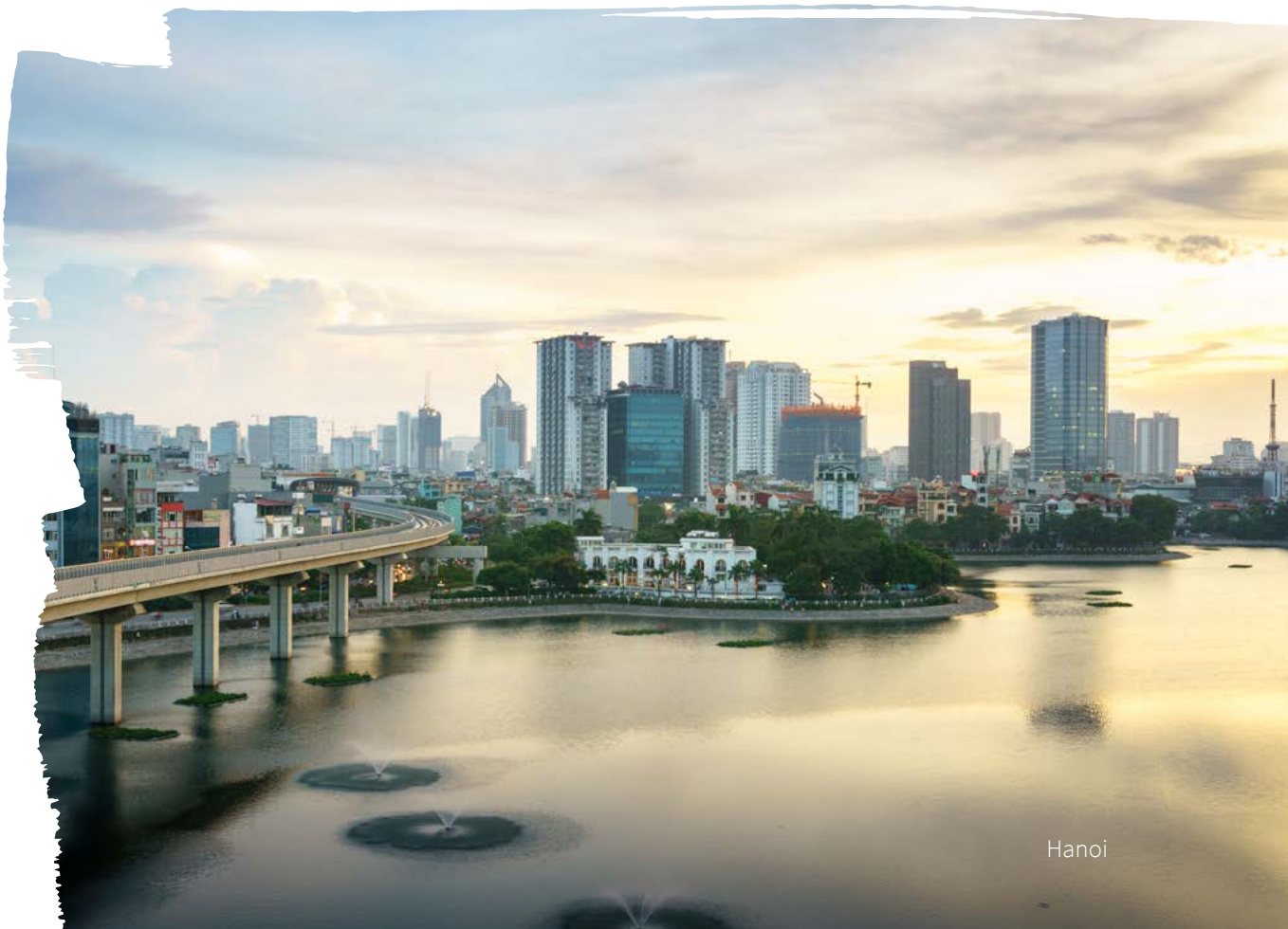
[2] China12: China's Cities Go Global, JLL 2018
[3] Global Real Estate Transparency Index: Real Estate Transparency across 158 Cities, JLL and LaSalle Investment Management, 2018

Manufacturing drives Vietnamese growth

Vietnam has a strong presence in the rankings with both **Hanoi** (3rd) and **Ho Chi Minh City** (8th) in the CMI Top 10. Both cities perform very well for socio-economic momentum with fast-growing populations and economies. Ho Chi Minh City is generally viewed as the more business-friendly destination attracting more overseas investment along with a higher corporate presence, whereas Hanoi has lagged commercially but is a city that is swiftly evolving.

Manufacturing is one of the key sources of economic growth in Vietnam, driven in part by robust demand from China. Vietnam is often seen as a lower-cost alternative to China, and FDI has grown on the back of this; while escalation of the trade dispute between China and the U.S. may benefit Vietnam's economy in the longer term. Ho Chi Minh City and Hanoi are both pulling in expanding levels of investment from large multinational technology firms, including Microsoft, LG, Intel and most notably Samsung. Infrastructure plans, such as the official opening of Hanoi's first metro line, should also help to ease the congestion caused by the rapidly-growing population.

As yet, Vietnam has a small real estate investment market struggling with issues such as low transparency and a limited volume of investment grade stock. However, headway is being made to improve transparency, such as enhancements in access to the land registry, better valuation practices and the increasing application of green building certification system such as LOTUS and LEED.



Hanoi

Nairobi: an app development centre

Nairobi (6th) is projected to be one of fastest-growing cities in the world in terms of population over the next five years, and this is matched by very robust economic growth. Innovation is becoming a key part of the economy and Nairobi has developed a specialism in app development.

Absorbing this pace of migration is creating some issues. Nairobi frequently ranks near the top of indices that address congestion; a heavy reliance on cars and buses ensures that traffic jams are a daily problem. There are plans to improve this through the implementation of the 'Missing Link Roads' project along with the creation of three non-motorised traffic routes to ensure inclusivity in infrastructure development.

An infrastructure boom in Manila

Manila (12th) is one of the most densely populated cities in the world and its population continues to expand. In facing the related challenges, the government has committed to a very extensive infrastructure building programme, 'Build Build Build', which involves over 2,000 projects including 75 flagship schemes. These are expected to improve congestion, increase power reliability, reduce the impact of climate change and redevelop areas of the urban fabric. Manila is well known for its business process outsourcing (BPO) and foreign companies continue to be attracted by the skilled workforce, English language skills and tax incentives. Once seen as lagging other South East Asian cities, Manila appears to be thriving and boosting growth for the longer term.

Momentum in Bangkok tempered by political uncertainty

Momentum in the **Bangkok** (18th) economy has been gradually increasing over the past couple of years. As a key hub of South East Asia, the number of visitors to the city has risen dramatically over the past decade. In 2016, 'Thailand 4.0' was launched, aimed at attracting new investment to transform the economy. The three stated aims of this initiative are to elevate Thailand to the status of a high-income nation; to reduce inequality; and to promote environmentally sustainable growth and development. FDI rebounded sharply in 2017 with many foreign investors now successfully joining with local partners. At the same time, infrastructure improvements are now underway with four new mass rapid transit (MRT) lines in development along with two extensions to existing lines; this should help to reduce congestion. However, political uncertainty has the potential to derail this momentum with an election due in February 2019 which could impact business investment decisions and tourism inflows.

Bangkok

The rise of Japan's secondary cities

Secondary cities in Japan, including **Osaka** and **Fukuoka**, have recently emerged in importance as investment destinations as investors priced out of Tokyo look to other established cities. Although these cities have traditionally been domestically-oriented, a structural shift now means that they are drawing the attention of international investors, with Osaka the most advanced.

Underlying fundamentals are robust, with strong rental growth anticipated over the next few years driven by solid demand and constrained supply. Testimony to their real estate dynamism, Osaka tops the Real Estate Momentum sub-index, with Fukuoka not far behind in fourth place globally.

Osaka is expected to receive a boost in infrastructure and redevelopment following the announcement that it will be the host of World Expo 2025, while the 2019 G20 summit will also be held in the city. Meanwhile, Fukuoka is revitalising its core area through the 'Tenjin Big Bang' redevelopment project. With a heavy focus on the innovation economy, it is on track to join the elite group of mid-sized tech-rich cities with high liveability platforms - like Seattle, Stockholm and Munich - that play an outsized role in the global innovation economy.

Commercial Real Estate Momentum:

Global Top 5

*Based on variables relating to recent and projected percentage changes in office net absorption, office rents, retail rents and hotel rooms. Also includes international retailer presence, and recent changes in direct commercial real estate investment volumes and real estate transparency.

Where are the North American and European Cities?

There is a noticeable lack of any U.S. cities in this year's CMI Top 20, largely reflecting the late-cycle position of the U.S. economy and real estate markets. Leading U.S. performers - **Austin** and **Charlotte** - sit just outside the Top 20 in 22nd and 24th position. These medium-sized Sun Belt cities are attracting considerable inward migration, particularly from the younger age groups, and have experienced among the strongest growth in the digital economy in recent years.

European cities are similarly lacking from the top rankings, although there are a few notable exceptions that are experiencing significant real estate momentum:

- A decade on from the Greek sovereign debt crisis, **Athens** is making a comeback. The hospitality sector has been at the forefront of the revival with a sharp increase in tourists pushing demand for hotels and leading to renovation in the city centre to accommodate the surge in demand.
- **Amsterdam** and **Madrid** are cyclically well-placed with robust rental growth forecasts along with continued investor demand. The momentum in the Amsterdam market has seen the city become one of the top European destinations for capital over the past two years with yields now at historic lows. Corporate demand has matched this strength, which has been boosted by the city's vibrant innovation economy.

The path to sustainable momentum

Cities undergoing strong growth perform well in attracting companies, people and capital which in turn supports future economic and social development; however, it also creates challenges that cities must address to ensure this short-term growth transitions into longer-term sustainable momentum.

Different cities take diverse development paths and real estate can play a significant role in ensuring long-term, sustainable growth. Urban transformation, placemaking, increased transparency and sustainability are all key factors in real estate's contribution to this transition.

Regeneration projects can dramatically transform the trajectory of a rapidly-growing city. New mixed-use developments can help nurture new businesses and improve lives. In parallel, large-scale infrastructure projects can combat problems such as congestion, while smart technology embedded within a city's infrastructure can improve the flow of people.

Transparency is vital in securing the long-term investment that leads to sustainable growth. By working with city governments, the private sector can play a major role in driving this change and bring benefits not only to the real estate market but also to the wider commerciality of a city.

For a city to successfully transition from short-term momentum to long-term growth it must plan for a sustainable and inclusive future.

Shanghai

City Momentum Index: *Technical Note*

The City Momentum Index presents a weighted overall score for the sub-scores of 20 variables. For each variable the model calculates a score based on the city's performance relative to the distribution of all 131 city regions, scaled from zero to one. Thus the top-scoring city for each variable has a value of one, while the lowest-scoring city receives a value of zero. The variables used in the model are summarised in the chart below, combining variables of short-term socio-economic and commercial real estate momentum.

Short-Term Momentum

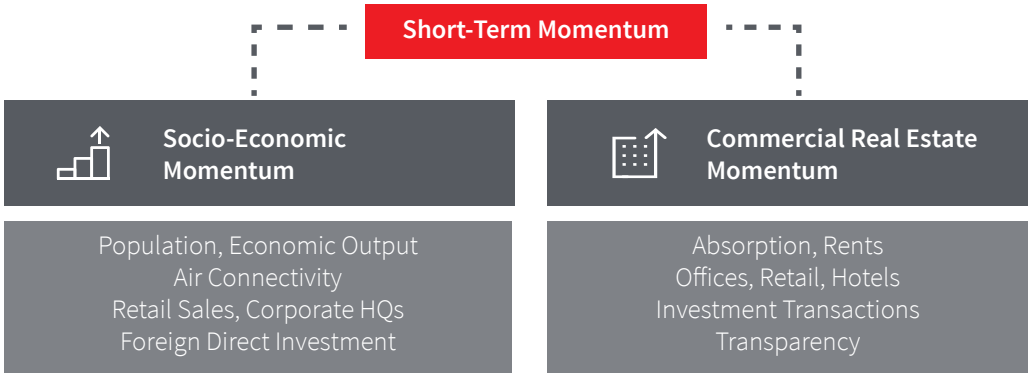
Socio-economic momentum (accounting for 50% of the model) includes variables relating to the recent percentage changes in city GDP, population, air passengers and corporate headquarters presence; projected percentage changes in GDP, population and retail sales; and recent levels of and changes in foreign direct investment (as a proportion of a city's economy).

Commercial real estate momentum (accounting for 50% of the model) includes variables relating to recent and projected percentage changes in office net absorption, office rents, retail rents and hotel rooms. This sub-index also includes international retailer presence, and recent changes in direct commercial real estate investment volumes and real estate transparency.

Data sources: All real estate data for the City Momentum Index is sourced to JLL. The non-real estate data is drawn from a wide range of sources that includes Oxford Economics, United Nations, ACI, GaWC and fDi Markets. The Index also sources data from many national statistical offices.

Data comparability and accuracy: The CMI model is based upon data which we believe to be reliable. While every effort has been made to ensure the accuracy and completeness of the data used, we cannot offer any warranty that factual errors may not occur.

How is the City Momentum Index constructed?
20 variables are combined to assess momentum



Source: JLL, 2019

Coverage

The 131 cities covered by the City Momentum Index have been shortlisted from a combination of a weighted index of population, GDP, corporate presence, air connectivity, real estate investment activity and commercial real estate stock. Each city is defined as its metropolitan region as delineated by national statistical offices or by international organisations (e.g., United Nations).

North America

34

Atlanta
Austin
Baltimore
Boston
Calgary
Charlotte
Chicago
Columbus
Dallas
Denver
Detroit
Houston
Kansas City
Las Vegas
Los Angeles
Miami
Minneapolis
Montreal
New York
Orlando
Philadelphia
Phoenix
Pittsburgh
Portland, Oregon
St Louis
Salt Lake City
San Diego
San Francisco
Seattle
Silicon Valley
Tampa
Toronto
Vancouver
Washington DC

Latin America

8

Bogota
Buenos Aires
Lima
Mexico City
Monterrey
Rio de Janeiro
Santiago
Sao Paulo

EMEA

51

Abu Dhabi
Amsterdam
Antwerp
Athens
Barcelona
Berlin
Birmingham
Brussels
Bucharest
Budapest
Cairo
Cape Town
Casablanca
Cologne
Copenhagen
Doha
Dubai
Dublin
Dusseldorf
Edinburgh
Frankfurt
Geneva
Glasgow
Hamburg
Helsinki
Istanbul
Jeddah
Johannesburg
Kiev
Lagos
Lisbon
London
Lyon
Madrid
Manchester
Milan
Moscow
Munich
Nairobi
Oslo
Paris
Prague
Riyadh
Rome
St Petersburg
Stockholm
Stuttgart
Tel Aviv
Vienna
Warsaw
Zurich

Asia Pacific

38

Adelaide
Auckland
Bangkok
Beijing
Bengaluru
Brisbane
Chengdu
Chennai
Chongqing
Delhi
Fukuoka
Guangzhou
Hangzhou
Hanoi
Ho Chi Minh City
Hong Kong
Hyderabad
Jakarta
Kolkata
Kuala Lumpur
Manila
Melbourne
Mumbai
Nagoya
Nanjing
Osaka
Perth
Pune
Seoul
Shanghai
Shenzhen
Singapore
Sydney
Taipei
Tianjin
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Xi'an

Source: JLL, 2019

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