

Tokyo, the highest-ranked
city in Asia-Pacific

Resilience ranked

A city's ability to evolve is crucial. But which ones are best positioned to succeed? Savills Resilient Cities Index assesses 500 cities based on their economic strength, their knowledge economy and technology, environmental resilience and real estate. We explain how gateway cities such as New York, Tokyo and London maintain their status, and why ESG, investment and education are helping cities such as Stockholm, Seoul and Amsterdam climb our top 20 ranking

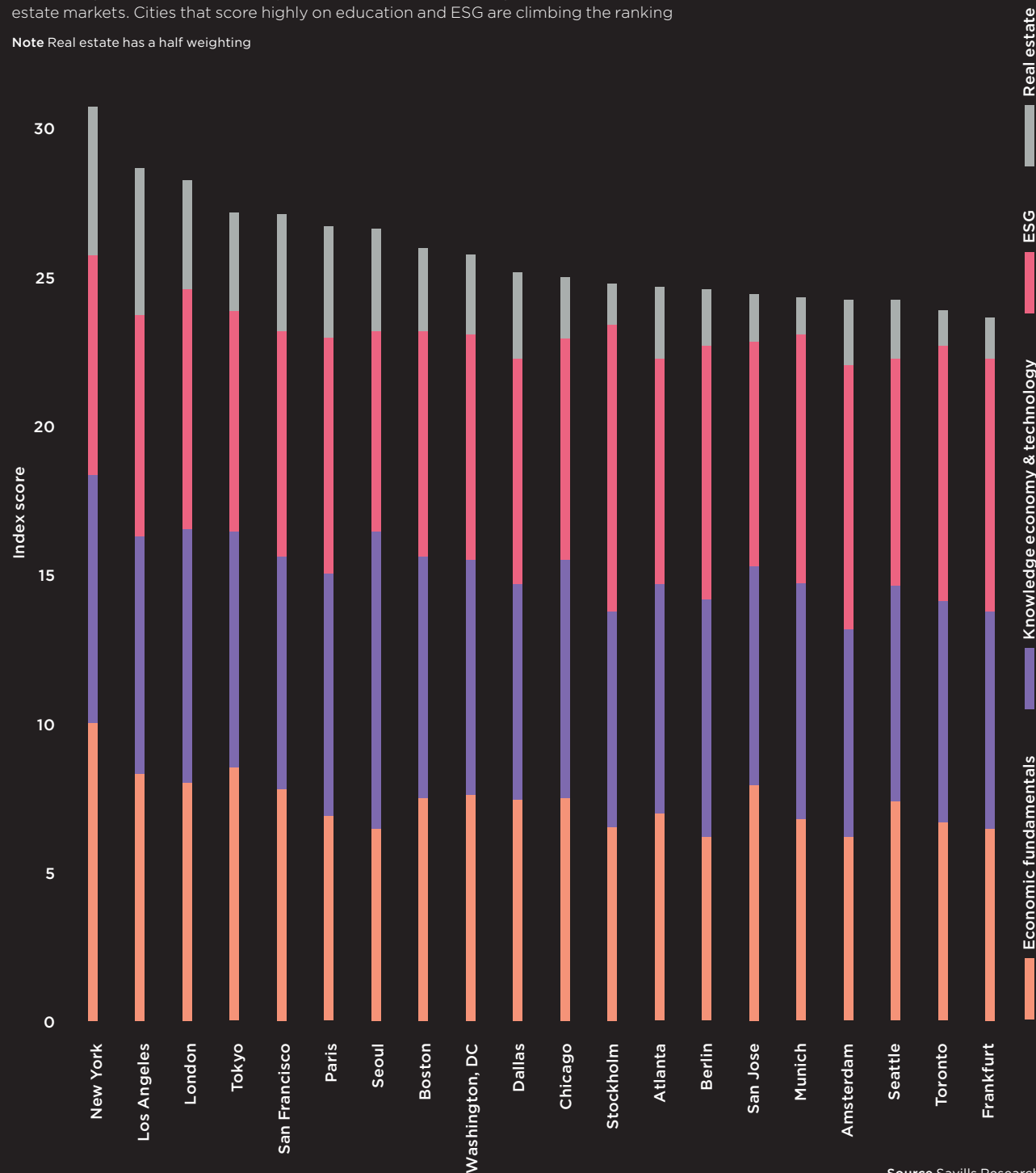
Words Savills World Research



Savills Resilient Cities Index, top 20

Global megacities dominate the top of the index thanks to strong economies and real estate markets. Cities that score highly on education and ESG are climbing the ranking

Note Real estate has a half weighting



Source Savills Research

OUR METRICS FOR WHAT MAKES A RESILIENT CITY

- Economic fundamentals**
An economy of scale, with high personal wealth and strong demographics.
- The knowledge economy and technology**
High value-add employment, quality education and innovation in business.
- ESG**
A society which values sustainable environmental practices, has access to good healthcare, and is inclusive and fair.
- Real estate**
A liquid and readily invested real estate market.

The impact of the pandemic has caused some commentators to question the value and role of cities themselves. However, while major cities face immediate challenges as a result of Covid-19, they remain the most important locations for human interaction.

In Chinese cities, and other locations around the world, people have returned to working, shopping and socialising as they did before Covid-19. In the long term, cities will continue as centres of collaboration, innovation and prosperity. Urban areas produce more than 80% of global GDP, according to Oxford Economics. By 2030 that share will rise to 90%.

The Savills World Research team has ranked 500 cities on their economic strength, demographics, the knowledge economy and technology, environmental resilience, as well as the depth of their real estate markets. The best cities in the Resilient Cities Index will be well-placed to adapt to the challenges of the post-Covid-19 environment and the future.

Resilience is inherent in cities: Tokyo, London, Shanghai and a host of others have survived and thrived over many hundreds of years. Cities are evolving to meet the changes brought about by the pandemic and becoming greener, more liveable and more affordable. For example, the concept of the 15-minute city, where residents can live car-free, is gaining traction.

Cities are well suited to rise to the challenge of climate change and are already the most environmentally friendly places to live, work and play. Walkability, public transport and efficient land use mean emissions per person are lower for city dwellers.

Real estate investors continue to target cities, rather than countries. Over time, resiliency will be part of a virtuous circle: the most resilient cities will attract the most investment, which will in turn make them more adaptable to future challenges.

The top of the 2021 Savills Resilient Cities Index is dominated by large cities with deep and liquid real estate markets located in a small number of wealthy nations. New York, Los Angeles and London head the rankings, global megacities with populations above 10 million. Tokyo is the highest-ranked Asia-Pacific city. The largest by population, Tokyo has a huge real estate market and is only behind New York in terms of economic strength. Tetsuya Kaneko, Head of Research, Savills Japan, says: "Tokyo's strengths lie in its status as the largest megalopolis in terms of population and economic size, equivalent to or larger than several European countries."

The top five is rounded off by San Francisco, a global tech hub and a large wealthy city. GDP per capita is more than \$110,000, nearly three times the OECD average. However, not all the highest-ranked cities are so large. A number of smaller European cities with populations under three million are among the most resilient. These cities score highly for their ESG credentials, venture capital investment and the knowledge economy.

Stockholm, for example, scores highly for ESG and research expenditure, while Amsterdam is among the top cities for venture capital investment in mainland Europe, and also scores highly for ESG. "Amsterdam is a liveable city. Distances are small and public transport is well organised. This means a lot of nature reserves and

Resilient City Index ranking and metro area population in millions (m)*



- 1 New York, 19.9m
- 2 Los Angeles, 13.2m
- 3 London, 12.3m
- 4 Tokyo, 38.2m
- 5 San Francisco, 4.8m
- 6 Paris, 12.2m
- 7 Seoul, 9.5m
- 8 Boston, 4.9m
- 9 Washington, DC 6.3m
- 10 Dallas, 7.8m
- 11 Chicago, 9.4m
- 12 Stockholm, 2.4m
- 13 Atlanta, 6.1m
- 14 Berlin, 5.4m
- 15 San Jose, 2.0m
- 16 Munich, 2.9m
- 17 Amsterdam, 2.9m
- 18 Seattle, 4.0m
- 19 Toronto, 6.7m
- 20 Frankfurt, 2.7m

the beach are nearby," says Jordy Kleemans, Head of Research & Consultancy, Savills Netherlands. "This makes Amsterdam very appealing for people who want to work or study in the Netherlands, producing a pool of talent that is attractive to VC investors."

The three German cities in the top 20, Berlin (14th), Munich (16th) and Frankfurt (20th), all score well for the knowledge economy and technology. Berlin scores highly for VC investment, while Munich and Frankfurt are strong in financial services.

Marcus Lemli, CEO Savills Germany and Head of Investment Europe, says: "With almost 200,000 students and three globally ranked universities, Berlin houses an outstanding talent pool. Moreover, it has one of the most vibrant start-up ecosystems in Europe. With its diversified economy, Munich is often seen as the safe haven in Germany, while Frankfurt, the nation's banking capital, not only offers a wide range of financial and consultancy services but has a highly diversified and innovative economy."

Despite growing interest from global real estate investors, the twin powerhouses of Asia - China and India - are much further down the index. Lower GDP per capita and poorer ESG performance mean even large cities in these countries underperform their counterparts in the US and Europe. They should rise as they become wealthier and improve their environments.

Indeed, all the cities in the index are resilient and have the potential to improve. For example, smaller, more liveable cities could attract greater investment relative to their size, and compete more evenly with global megacities. Those to watch include Denver, Houston, Phoenix and Philadelphia in the US; Copenhagen, Denmark, Zurich, Switzerland, in Europe; Melbourne and Sydney in Australia and Auckland in New Zealand.

Nonetheless, the world's gateway cities hold their place at the top of the list because of their inherent resilience, which means they are unlikely to be undermined by change. For businesses, agglomeration benefits have not gone away: proximity to competitors and collaborators, and to highly regarded educational institutions remains important.

Source *Population data, Savills Research using Oxford Economics

Below: Paris

REAL ESTATE

Real estate transaction volumes declined dramatically in almost all markets in the year to Q1 2021 compared with the same period the year prior. However, the biggest markets historically remained the largest during this period. All sectors saw a fall in transactions, although industrial and residential proved most resilient, especially with cross-border investors.

In the year to Q1 2021, Los Angeles was the largest real estate market in the world, a status typically held by New York. Volumes in New York fell more over this period than in the other top 10 cities, yet it remained the second-largest metro market.

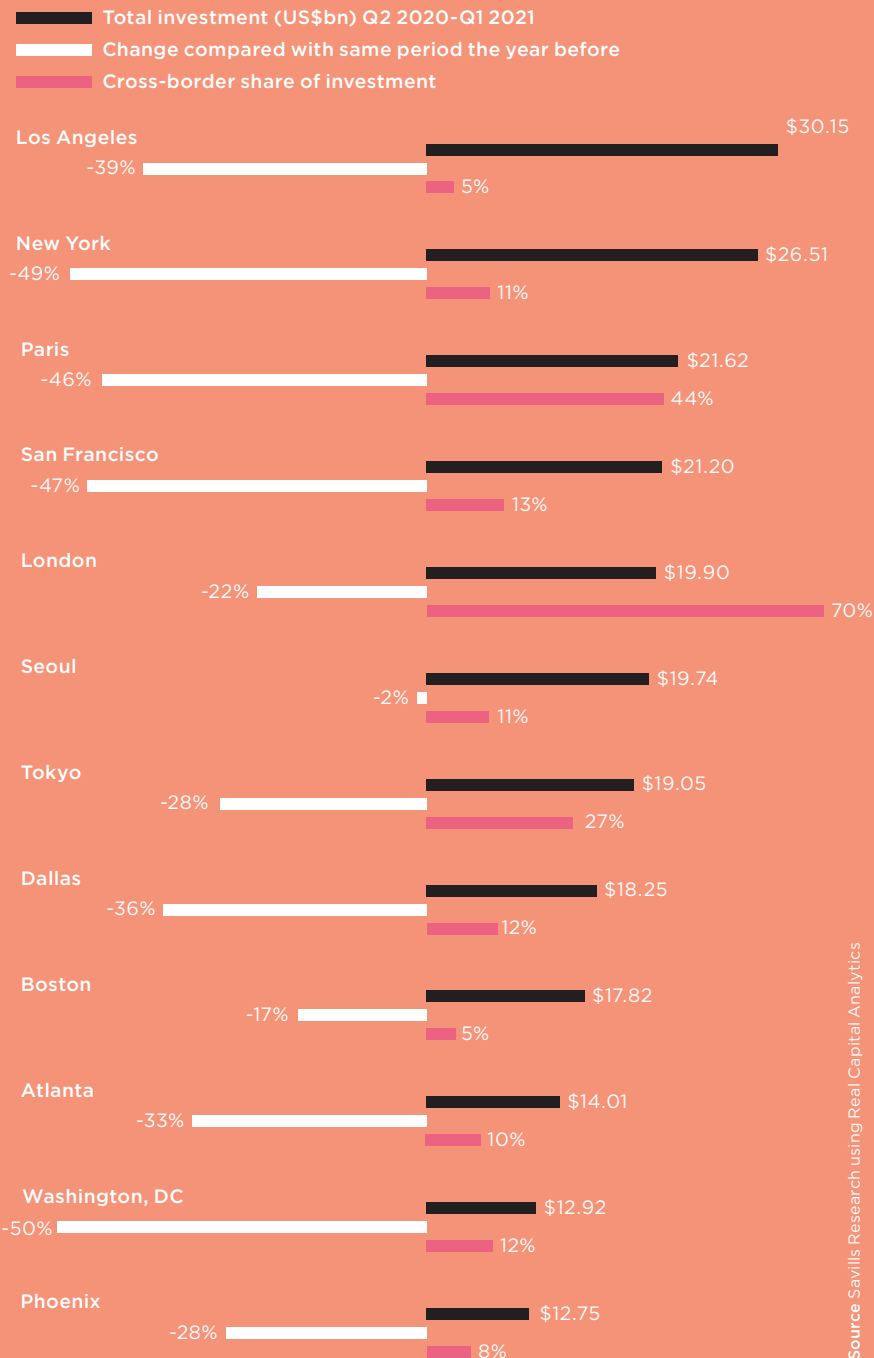
Paris and London are the largest European markets and attract by far the most international investment. Total investment volumes in Paris exceeded those in London for the second year in a row, as the UK market continued to be subdued by Brexit uncertainties. However, London demonstrated its resilience in the face of Covid-19 and Brexit by recording a comparatively small (8%) fall in cross-border investment volumes.

Seoul ranks sixth for real estate, pushing Tokyo into second place in Asia-Pacific. The South Korean capital was the only city in the top 10 to see an increase in investment volumes in 2020 (and a fall of just 2% in the year to Q1 2021), thanks to active domestic investors. South Korea combated the Covid-19 pandemic without a severe lockdown and 2020 GDP fell less than 2%.



Top cities by real estate investment (metro areas)

In the year to Q1 2021, Los Angeles was the largest real estate market in the world, a status typically held by New York



Source Savills Research using Real Capital Analytics

Right: New York, top-ranked for economic strength

ECONOMIC STRENGTH

Big is beautiful when it comes to economic strength. Large populations, high levels of economic activity and consumer spending power boost businesses, as does the attractiveness of a friendly regulatory environment. The top 12 for economic strength is dominated by the US and China, the only exceptions being Tokyo and London. New York, the financial capital of the US, tops this category thanks to its GDP and number of high-income households: there are 1.5 million households earning more than \$250,000 a year.

Top cities for economic strength

1. New York, US
2. Tokyo, Japan
3. Los Angeles, US
4. London, UK
5. San Jose, US
6. Shenzhen, China
7. San Francisco, US
8. Shanghai, China
9. Beijing, China
10. Washington DC, US
11. Chicago, US
12. Boston, US

Source Savills Research

David Heller, Senior Managing Director, capital markets, Savills US, says: “The strength of New York City is driven not only by a diverse and dynamic economy, but its appeal as a global gateway city. Home to some of the world’s leading financial and media institutions, New York City is also the second-largest technology market, fuelled by its ability to attract talent. To put it simply, it is where people wanted to be leading into the pandemic, and it is where they will want to be as we emerge.”

London is the only European city in the top 20 – a global financial powerhouse, with a large city GDP, a friendly business environment, high levels of employment and a substantial number of high-income households. “Despite the challenges of Covid-19, central London has continued to see sustained levels of occupier demand with active requirements for office space standing at 8.3m sq ft at the end of Q1 2021,”



says Victoria Bajela, Associate Director, Commercial Research, Savills, London. “It continues to be a key city for the financial, professional, tech and media sectors.”

The home of Silicon Valley, fifth-ranked San Jose has the world’s highest GDP per capita: \$168,000. Another tech-driven city, Shenzhen ranks sixth. The highest scoring city for demographic factors, it attracts young migrants from all over China.

Joey Yuan, Head of Office, Savills Shenzhen says: “A young high-tech hub with increasingly established infrastructure and ample political and economic support, Shenzhen is a magnet for entrepreneurs and young talent. An increasing number of China’s bellwether companies and many multinationals have located or plan to locate their southern China or Greater Bay Area headquarters in the city.”

Indian cities top the list for the cheapest cost of living. They also have youthful, growing populations and strong forecasts for growth. Anurag Mathur, CEO Savills India, says: “Major cities are set for strong GDP growth thanks to skilled workforces, urbanisation, and economic reform. According to Oxford Economics, Bengaluru

will be the world’s fastest-growing major city between now and 2035, while half of the top six cities for GDP growth are in India.”

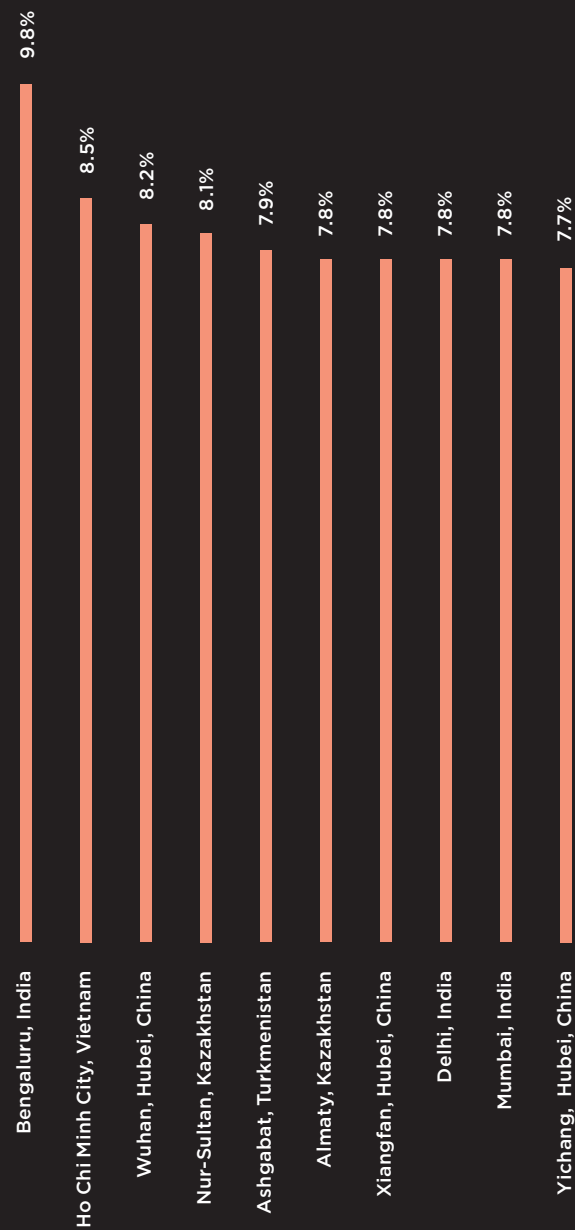
Chinese cities are expected to see strong rises in domestic wealth, coupled with continued GDP growth. Ho Chi Minh City in Vietnam is also expecting rapid GDP growth over the next five years as it develops as a lower-cost manufacturing alternative to China.

Abu Dhabi and Dubai are set to see a boost from migration and an increase in the number of high-income households. Swapnil Pillai, Associate Director, Research, Savills Middle East, says: “The UAE has done relatively well in handling the pandemic and was among the first to open its borders for business and tourism. It has also introduced measures to support and improve the ease of doing business along with making changes to laws allowing long-term residence in the country.”

In five years’ time, the top 10 cities are likely to remain largely unchanged in terms of economic strength. Large, wealthy cities in the US and China, together with London, possess a scale which underpins their attractiveness to investors and occupiers. >

Cities with highest forecast GDP growth (CAGR 2020-2025)

Chinese and Indian cities are expected to see strong economic growth



Note Based on cities in our index with populations over 1 million
Source Savills Research using Oxford Economics

Sustainability is considered to be intrinsically linked with resilience



in renewable energy, with Uruguay and Paraguay getting 100% of their electricity from renewables.

Even before the pandemic, health and wellness was a growing focus for businesses and governments to ensure the wellbeing of their employees and citizens. Responses to Covid-19 have varied across the world: Israel, the UAE and Bahrain were behind Asian nations in containing the virus, but have leading vaccination programmes.

Japan has the longest life expectancy. Tetsuya Kaneko, Head of Research, Savills Japan says: "Japanese health can be attributed to the world-renowned food and cuisine, as well as its universal insurance system and high standards of public health, which have also contributed to controlling the global pandemic."

Health and wellness is increasingly part of sustainability, as the measures taken to improve one tend to affect the other. Cities such as Barcelona and Paris have pledged to pedestrianise parts of the city, which will help meet environmental goals and also improve citizens' health through improved air quality and walkability.

For real estate investors, ESG has moved front and centre of due diligence. Sustainability is considered to be intrinsically linked with resilience. This favours smaller prosperous cities, such as those in the Nordics, which have received significant investment relative to their size. However, larger countries are investing heavily in sustainability: the US has pledged \$2 trillion in renewable energy investment. Cities most at risk from climate change, such as those exposed to rising sea levels, could see their real estate discounted.

More and more nations have committed to become carbon neutral, including China, which set itself a 2060 net-zero target in 2020. More action on sustainability is being taken at the city level, such as Copenhagen's pledge to become the first carbon-neutral capital or Vancouver's intent to use 100% renewable energy by 2050.

Number of top 400 universities in each city*



THE KNOWLEDGE ECONOMY AND TECHNOLOGY

Technology companies have become a major driver of wealth generation. High-value jobs require an educated workforce shaped by a good education system. Seoul tops scores for the knowledge economy and technology. Not only is it home to giants such as Samsung, it leads the world in patents filed per capita. Daejeon, home of Korea's Silicon Valley, is sixth.

Crystal Lee, Country Head, Savills Korea, says: "South Korea's largest conglomerates, which are involved in everything from technology to financial services, are headquartered in Seoul, which means there is a tremendous breadth and depth of knowledge. The Korean education system is very highly rated among OECD nations and technology is integrated with learning."

Top cities for the knowledge economy and technology

- 1) Seoul, South Korea
- 2) London, UK
- 3) New York, US
- 4) Boston, US
- 5) Paris, France
- 6) Daejeon, South Korea
- 7) Berlin, Germany
- 8) Washington, DC, US
- 9) San Francisco, US
- 10) Los Angeles, US
- 11) Tokyo, Japan
- 12) Chicago, US

Source Savills Research

London is second, home to 10 top 400 universities and two in the top 10. It is also accessible to Oxford and Cambridge and forms a golden triangle for the life sciences sector. New York is the highest-ranked city in North America, just ahead of biotech hub Boston, home to two of the world's five best universities. Quality universities and abundant capital mean US cities score highly for VC investment as well as financial and business services employment. In Europe, Paris and Berlin are well placed thanks to strong national indicators: France has

the most broadband subscriptions per person while German citizens have the most years of education.

Chinese cities fare less well than their Western counterparts on education but score highly for VC investment, for which Beijing ranks second and Shanghai ranks sixth, thanks to homegrown tech giants.

China accounted for 21% of all global VC funding in 2019. Beijing alone netted \$83 billion of investment in the three years to September 2020. This investment is set to be a precursor to investment in people and real estate. The growth of China and other Asian nations as major tech players will not just benefit home cities, but major world metropolises. Just as US firms, such as Amazon and Google, have become major occupiers outside the US, so Asian tech firms are set to expand internationally.

The race to develop Covid-19 vaccines brought the life sciences into the headlines, and pharmaceutical and biotech companies are expanding outside their heartlands in the US and UK to other countries including the Netherlands, Germany and India.

Whether their business is biotech or telecoms, firms in the knowledge economy are in a continual war for talent, so cities with strong educational credentials and the presence of major tech firms will continue to top the rankings. Yet cities with affordable living and relaxed lifestyles are emerging as competitors. These include Raleigh, Atlanta, Charlotte and Austin in the US, Cambridge in the UK and Dublin in Ireland.

ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG)

The index rates ESG factors on a national level, as data at the city level is scarce. This puts Nordic nations at the top, scoring highly for use of renewables, food and water security, natural resources and electric vehicles. New Zealand and Canada, the only non-European nations in the top 10, also score well for these factors.

Top countries for ESG

1. Norway
2. Sweden
3. Denmark
4. Finland
5. Iceland
6. Switzerland
7. Netherlands
8. New Zealand
9. Canada
10. Germany

Source Savills Research

European nations perform highly for social and governance factors, such as democracy and transparency. China scores poorly in terms of emissions, hence its 65th place in the ESG rankings. The US scrapes into the top 20, scoring poorly for income inequality and CO2 emissions per capita. However, European nations are not the only ones leading in sustainability. Latin America is the leader

Source *University data, Savills Research using QS University Rankings 2021

Images: Getty