

Think real estate | March 2021

Roaring or groaning '20s for real estate?



A global pandemic kicked off the 2020s – a decade still feeling the effects of the 2007-2008 Global Financial Crisis with ultra-low interest rates and monetary authorities propping up asset markets. It is also a decade preceded by deep social, environmental and technological change – inequality has increased, extreme political views are more prevalent, climate action is taking center stage for the first time and digital technology is ubiquitous.

We look at the parallels between the 2020s and the heady times of the 1920s – a decade of great upheaval. We consider what made the 1920s roar and explore the significant positive and negative trends that will shape real estate in the 2020s.

How the 1920s roared	2
Roaring 2020s	3
Groaning 2020s	13
Roaring or groaning?	18

How the 1920s roared

The 1920s heralded a dramatic break between the Western world's past and future. Many long-brewing societal and technological trends came to fruition, ushering in an era of prosperity. The use of electrical power exploded, transforming households as well as factories and transportation. New technologies allowed the world to integrate, with commercial flights, radio, film and advertising establishing the modern consumer economy.

The 1920s were not just a decade of technological wonder, they also transformed societies, first and foremost through the liberation of women. Nothing shouts more “roaring '20s” than the dance halls of Berlin, Paris and New York, epitomising the image of a golden decade following the horrors of the First World War and the Spanish flu pandemic, with the latter claiming an estimated 50 million lives in 1918. Having survived such immense disaster, sentiment in the West turned optimistic, often exuberant.

In a similar vein, following the even deeper pit of the Second World War, hopefulness and enthusiasm for a better world powered by new technology laid the foundation for what was to be called the “1950s economic miracle” unfolding in the U.S., Germany, Japan and Italy alike.

Real estate was at the forefront of the economic expansion. The famous vista of skyscrapers in New York is a product of the 1920s and was made possible by new building techniques with the use of steel and elevators. Life became increasingly urban, with department stores revolutionising retail and automobiles and metro lines shuttling people from apartment blocks and new suburban homes to offices and industrial buildings.

In Europe and America, modern architecture was born with Walter Gropius's Bauhaus school in Germany and Le Corbusier in France. It later fully bloomed with Ludwig Mies van der Rohe, Frank Lloyd Wright and others in the U.S.

While at the time Asia was still held back by European colonialism, the 1923 Great Kantō earthquake destroyed much of Tokyo and kickstarted a building and modernisation boom at such speed that by the end of the decade Tokyo rivalled London and New York for the race to become the biggest city in the world.

History does not repeat itself. The Global Financial Crisis of 2007-2008 and the current COVID-19 pandemic are relatively minor events compared to the tragedies of the first half of the 20th century. And thus, it may not seem too farfetched to suggest that the world could be in for an extra dose of optimism and progress in the 2020s. After all, coronavirus and the Global Financial Crisis were almost certainly less devastating than the Spanish flu and the Great Depression because humanity has learned from these and has thus been able to adapt and respond much quicker.

In the following pages we explore how some of the seeds planted over the last two decades might come to fruition. A roaring 2020s is by no means guaranteed, and we will touch on some issues which could instead plunge us into a groaning rather than roaring decade. We have limited our analysis to the most impactful trends, but we should not forget that real estate is shaped by all sorts of technological and societal trends. After all, modern day humans spend most of their lives between home, office, shopping centres and all the other products the real estate industry has on offer.



Roaring 2020s

01. Post-pandemic pent-up demand – relief bounce for retail and travel?

Angela Goodings, Director of Research, Real Estate, Europe

02. The E.U.'s Hamilton moment arrives in time for the U.S. re-engaging with allies

Maria Grubmüller, Senior Research Associate, Real Estate, Europe

Jayanth Ganesan, Research Associate, Real Estate, Americas

03. Mega investment boom in green technologies with the decarbonisation of the global building stock

Jessica Long, Head of Sustainability, Real Estate, Americas

04. A new community spirit, rise of ESG and impact investing

Maria Grubmüller, Senior Research Associate, Real Estate, Europe

05. The rise of real estate alternatives

Dan Manware, Senior Research Associate, Real Estate, Americas

06. A new licence for global trade?

Haoran Wu, Research Associate, Real Estate, Europe

07. Urbanisation: Cities were and remain the future

Stefan Wundrak, Head of European Research, Real Estate

08. Technology and innovation to spur productivity

Andy Schofield, Director of Research, Real Estate, Europe

Jacinda Lofland, Director of Strategy & Innovation, Real Estate, Americas

09. China's coming decade

Harry Tan, Head of Asia Pacific Research, Real Estate



01 Post-pandemic pent-up demand – relief bounce for retail and travel?

Angela Goodings

Global economic output slumped about 5% over the course of 2020. China’s effective management of the pandemic saw its economy expand with real GDP growth expected at c. 2% in 2020. This compares with Europe at -7% and the U.S. at -4%. While economic performance varies between countries and regions, one consistent global trend was the decline in consumer spending. The pandemic closed retail and hospitality venues and restricted consumer movement, initially by law but also by choice. Social distancing measures prevented crowded stores when they could open, and data implied that online shopping did not make up for the loss of spend in physical stores.

Glimmers of pent-up demand began to appear during the summer months, with shopping centres and popular brands reporting large queues and the need for crowd management. This was short lived. Infection cases surged once more, stores had to reclose and lockdown measures resumed.

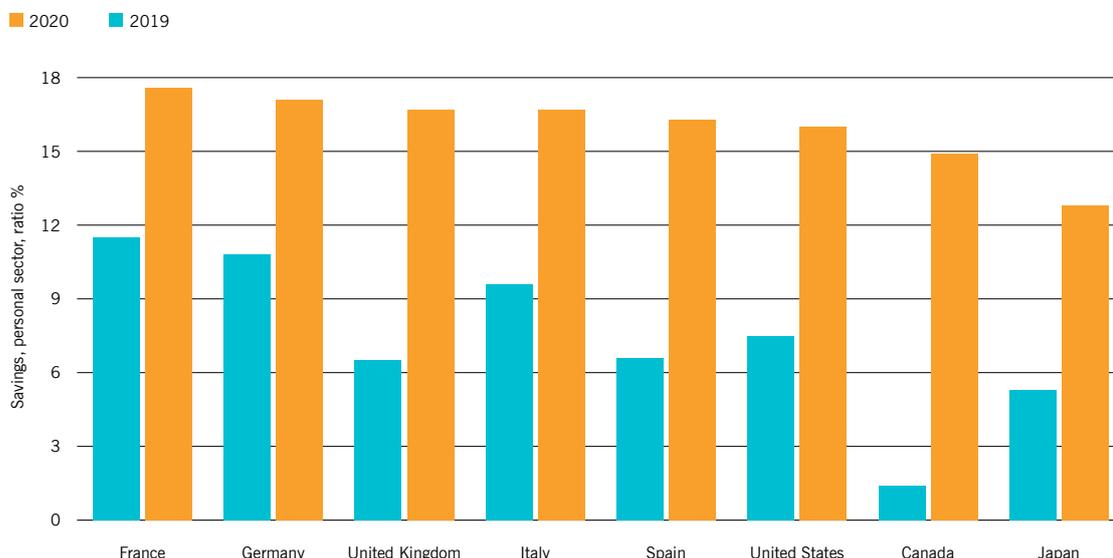
Despite increased inequalities between socio-economic groups in 2020, many consumers felt far better off than previously. Outgoings on commuting costs, leisure activities and annual holidays plummeted. And savings ratios more than doubled in some countries (Fig 1), highlighting a spending pot that can be easily tapped to facilitate pent-up demand when the pandemic is under control by successful vaccination programmes and consumer confidence returns.

Demand for travel is likely to surge after 2020’s postponed and cancelled holidays and business travel, and as families long to reunite. The reopening of hospitality venues in greater numbers and larger audiences should help meet that demand and increase output from the sector.

If the hospitality and retail sectors rise from the ashes it may not look too different from the legendary 1920s parties, but with different music and apparel.

An increase in demand and the reopening of supply, especially within the travel and hospitality industries, will facilitate consumption growth

Figure 1: Coronavirus impact on savings



Source: Macrobond, 2021



02 The E.U.'s Hamilton moment arrives in time for the U.S. re-engaging with allies

Maria Grubmüller and Jayanth Ganesan

The fight against a common enemy has become a shared European experience like nothing else in the past 75 years. The €750 billion Next Generation E.U. recovery plan agreed by E.U. leaders in July 2020 to address the pandemic was unparalleled. For the first time, it allowed the E.U. to issue debt. Some analysts hailed the decision as Europe's Hamilton moment, in reference to U.S. founding father Alexander Hamilton, who federalised the colony's war debt in 1791. Historians have seen this as one of the decisive steps towards creating the American system of government. If it will really transform Europe to such an extent remains to be seen, but it certainly has brought the continent closer to political and financial unity than was previously conceivable, reviving a dream that has all but vanished in the last few years.

The Eurobonds raised from capital markets will help member states address the pandemic's economic and social impact while ensuring their economies undertake green and digital transitions to become more sustainable and resilient. This could have a considerable impact on Europe's real estate sector.

The European Commission recommends that renovating housing be one of the national recovery and resilience plans' priorities.

Such renovations could simultaneously help achieve the two European goals of ecological transition and digitalisation of the economy through smart buildings that are more energy efficient (see section 3).

One immediate consequence of the 2020 U.S. presidential election, and felt by those domestically and abroad, will be that U.S. federal policy and governance will return to predictability. The consensus is that these election results will positively impact both the U.S. economy and the real estate market. U.S. commercial real estate investors should benefit from more consistent political messaging and a greater chance of additional public investments.

Internationally, the new leadership has vowed to re-engage with its allies in Europe and Asia, which are home to other key economies and real estate markets globally. Stronger global cooperation on various economic, trade, and climate change issues should support business sentiment and international investment flows. The invitation of South Korea, Australia and India to the G7 meeting in the U.K. in 2021 is a testament to the realisation among leading democracies that the most pressing issues cannot be solved by any country or bloc in isolation.

03 Mega investment boom in green technologies with the decarbonisation of global building stock

Jessica Long

In the 2020s, we will see a shift in the global response to climate change and swift action to reduce emissions to ward off the worst impacts. This will include deployment of deep retrofits to existing buildings and innovative design and engineering solutions for new construction. This transformation will define the early 2020s. Governments will prioritise low-carbon buildings in pandemic recovery packages since decarbonising the building and construction sector will not only slow climate change but also deliver strong economic recovery benefits.

Decarbonising the building and construction sector will not only slow climate change but also deliver strong economic recovery benefits.



- The Biden administration’s climate plan proposes accelerating and incentivising improvements to energy efficiency in U.S. buildings, deploying clean technology and targeting a reduction in the carbon footprint of the U.S. building stock by 50% by 2035. In a similar vein, the E.U. recovery fund described above has prioritised build-back-greener projects, many with a strong connection to real estate. The adoption of strict building codes and training for builders and inspectors will create opportunities to create jobs through investment in green buildings, enabling stronger, more resilient communities.
- Carbon pricing will boost the return on investment for improvements in energy efficiency, accelerating the adoption of net zero carbon strategies and shifting market preference toward low-carbon buildings. Carbon pricing also further stimulates clean technology and market innovation, fuelling new low-carbon drivers of economic growth.
- During the next decade, cities in emerging markets will be expanding at a fast pace to keep up with high population growth and rapid urbanisation. Green buildings represent a significant low-carbon investment opportunity in emerging markets, estimated by the IFC at \$24.7 trillion by 2030.
- Grid-interactive efficient buildings will become smarter about the amount and timing of energy use through technology. By making equipment more intelligent with next-generation sensors, controls, connectivity and communications, building occupants will have more control in managing comfort and productivity while saving on energy bills and enhancing grid reliability and resilience by helping balance the supply of renewable generation.
- Post-pandemic, occupant experience will be prioritised by landlords, and smart-connected buildings can improve occupant experience by providing transparency on healthy environments. The smart-building trend will be accelerated in the early 2020s as landlords adapt to new normal tenant expectations for environmental performance and for health and safety (see Fig 2).

Figure 2: Transforming green buildings to smart buildings

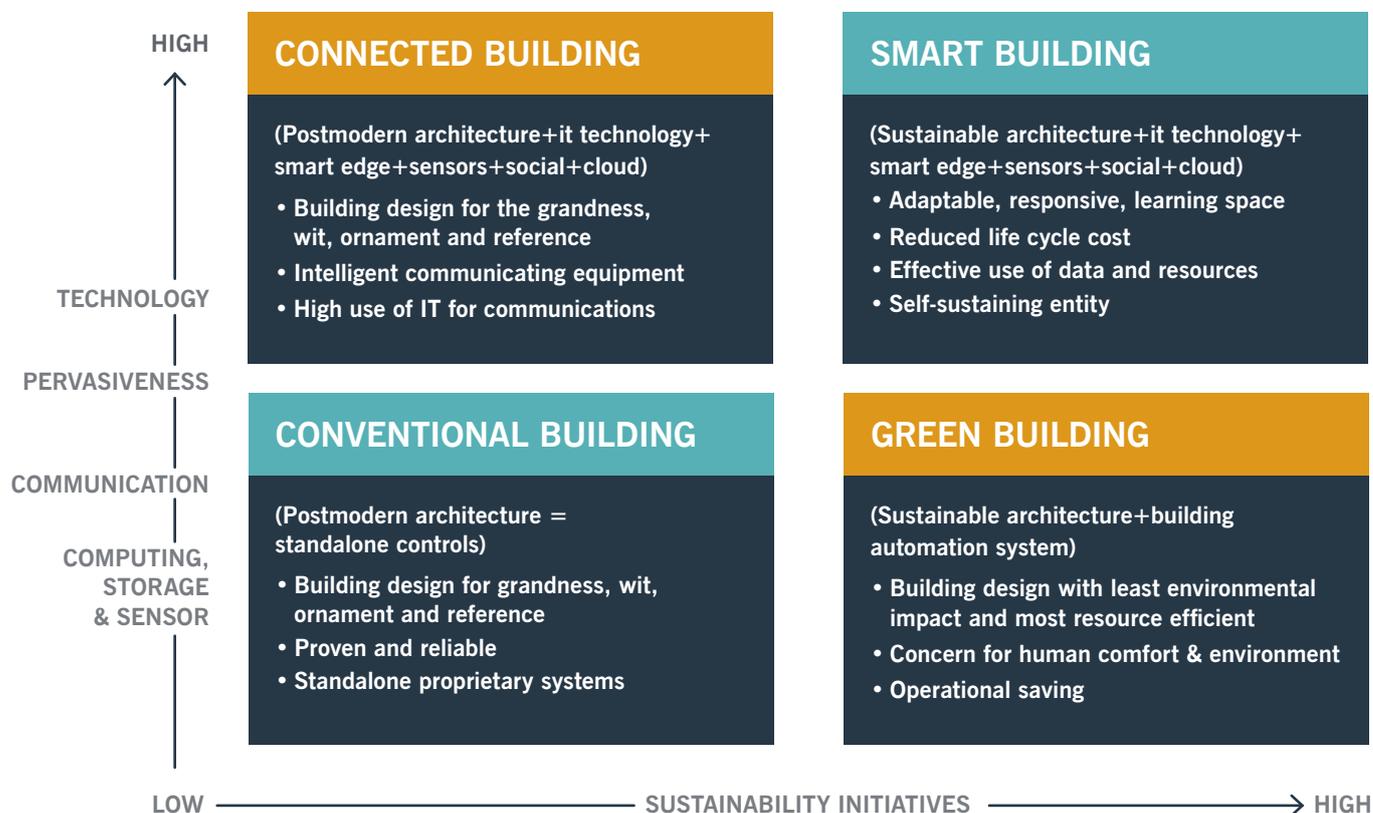


Image Source: Johnson Controls, IoT & Big Data - Transforming Green Buildings into Smart Ones



04 A new community spirit, rise of ESG and impact investing

Maria Grubmüller

The widening gap between the haves and have-nots is an indicator of the social and economic imbalances in our societies which have been evident for some time and which the pandemic has intensified. These include urbanisation and isolation, automation and the low-carbon economy.

People have realised that climate change is not going away and that crises like COVID-19 have a disproportionate impact on lower-income communities.

The social upheaval brought about by COVID-19 has the potential to accelerate the growth and prominence of impact investing in the built environment, with social impact increasingly being considered as part of an overall strategy. The real estate world has begun to evaluate its wider role in society more seriously — from diversity and inclusion in the workplace to a far greater emphasis on the environmental, social and governance agenda.

As a result, coronavirus could spur capital coming into real estate impact investment. The pandemic has highlighted the need for greater investment in social infrastructure — a broad term that includes such assets as modern healthcare facilities, care homes and senior living, affordable housing for key workers and specialist housing for vulnerable groups.

Urbanisation and associated community and environmental issues are central to impact investing. Many teachers, healthcare professionals and emergency workers struggle to find affordable living near their place of work, making many urban areas less inclusive and less resilient.

Before the pandemic, we saw a slow but steady increase in demand for impact products and the pandemic has further put these strategies on the radar of investors. In addition, long-term institutional investors are now focusing on ways to meet their sustainable development goal contribution targets that may soon be a regulatory requirement.

In times of economic pain, issues of people and planet can often take a back seat as businesses focus on balance sheets. But this time, concerns for people and the planet have come to the fore.



05 The rise of real estate alternatives

Dan Manware

In our view, three significant trends – a continued shift towards renting, a transformation of healthcare systems and a rise in the digital economy – will drive long-term outperformance in the alternative housing, healthcare and technology real estate property types.

In the U.S., the market value of institutionally owned alternative real estate grew by 23% year-over-year in Q3 2020 to \$36 billion, according to NCREIF data. Despite this growth, alternative real estate sectors have a minor 12% allocation in most NFI-ODCE investors’ portfolios and less than 5% in Europe’s MSCI-type portfolios.

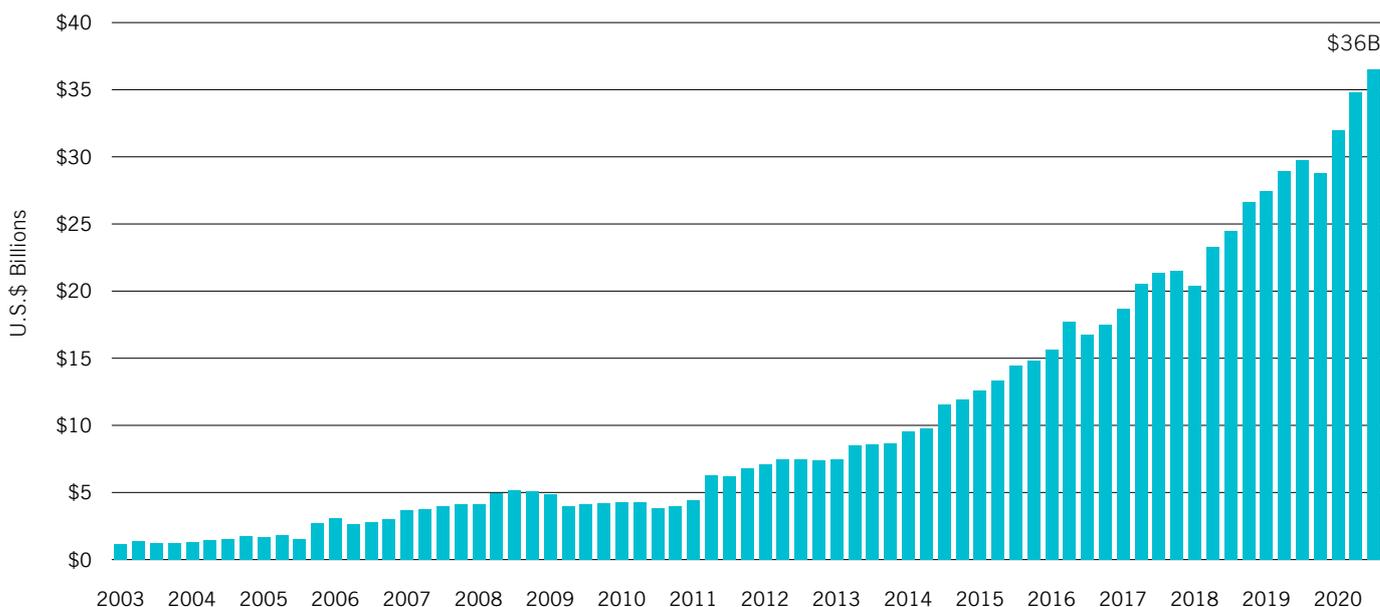
The alternative sectors are likely to become a mainstay in institutional investors’ portfolios during the next decade as investors realise, post-COVID-19, how much they need to increase diversification within their traditional real estate portfolios. During the pandemic, these sectors proved their resilience relative to most of the traditional real estate sectors.

Historically, these property types have outperformed traditional real estate sectors through economic cycles and have the potential to do so for the next decade. Much of the anticipated future outperformance of alternatives is driven by their stronger net operating income growth and lower capital expenditure requirements in alternative housing, healthcare and technology real estate.

In Europe, we expect the stock of these sectors to grow to between 15% and 20% of the total within a decade, which implies that a substantial part of real estate construction activity will be in what is now called alternative real estate sectors, providing a huge investment opportunity.

However, the 2020s are not going to mirror the 1920s skyscraper race. A construction boom is more likely to unfold around data centres, controlled environment agriculture, mobile phone towers, health care, research facilities and many new forms of residential.

Figure 3: Market value of institutionally owned alternative real estate in the U.S.



Note: Alternative sectors held within the NPI Plus database
 Source: NCREIF, Q3 2020



06 A new licence for global trade?

Haoran Wu

World trade entered the 2020s with tottering steps. Rising protectionist measures, sanctions and compliance rules were sending globalisation into reverse, not to mention the heavy toll the health crisis and associated border restrictions took on global supply chains. In its annual trade forecast in April 2020, the World Trade Organisation (WTO) portrayed a depressing story, stating world merchandise trade volume may plunge by up to 32% by the end of 2020.

Eight months later at the beginning of 2021, the tide seems to be turning. While global trade volumes still sit well below pre-crisis levels, some unprecedented cross-state cooperation initiatives during 2020 are set to shape the dynamics for decades to come.

In November 2020, 15 APAC countries signed the Regional Comprehensive Economic Partnership, the largest free trade agreement in history by far, covering roughly 30% of the world's population and GDP. Even if the agreed reduction of tariffs looks shallower than in other megadeals, it is a big step towards a coherent trading zone in Asia, not least because it includes China, the second biggest global economy.

On Christmas Eve, the U.K. and E.U. finally reached a post-Brexit deal after 4.5 years of bitter negotiations. While the dust is yet to settle, the signed agreement confirmed the working relationship between

the U.K. and its closest neighbours and principal economic partners. It provides zero tariffs and quotas on all goods, room for an amicable divorce and leaves the door open to future co-operation.

The U.S., under Biden's administration, is likely to take a more favourable stance towards multilateral institutions compared with the previous inward-looking administration. While the reform of the WTO is likely to be a long way off, the topic is finally being discussed, leaving hopes of repairing relationships between the U.S. and its trade partners, especially key allies.

These were not the only significant advances in cross-border agreements. The North American USMCA, AfCTFA, E.U./China and E.U./Mercosur, to name just a few, were defining chapters for global trade in their own right. The Pacific Trade Partnership and E.U. deals with Japan and South Korea are either under negotiation or beginning to be implemented. The Chinese Belt and Road Initiative, the New Silk Road, is also taking shape.

Ultimately, in practice, all these initiatives will rely on logistics real estate, creating opportunities for real estate at transport hubs in Europe, Asia and North America. The commitment to international trade and the global supply chain's ability to retool despite the headwinds give reason for optimism in the 2020s.

07 Urbanisation: Cities were and remain the future

Stefan Wundrak

In the 1920s, about 50% of the U.S. population lived in cities (urban and suburban), which is about the same level of urbanisation as in China today. U.S. cities reached their peak in population density during that decade, according to U.S. census data. By this measure, that makes the 1920s the most urban decade in U.S. history.

From the 1930s, U.S. city growth became increasingly suburban; the advent of the private car significantly increased the geographic footprint of cities, while most European and Asian cities retained noticeably higher densities. An extreme comparison is Barcelona and

Atlanta, with the latter spreading the same number of inhabitants over a geographic area 28 times larger than the former.

The most important urbanisation lesson for today's COVID-19 pandemic may be that the 1918 global flu pandemic did not disrupt the trend of growing cities: quite the opposite. The Norwegian Institute of Public Health published a study in 2011 on the impact of the Spanish flu across Western countries which found that rural communities suffered disproportionately higher death rates. They hypothesised that better access to health care and some herd

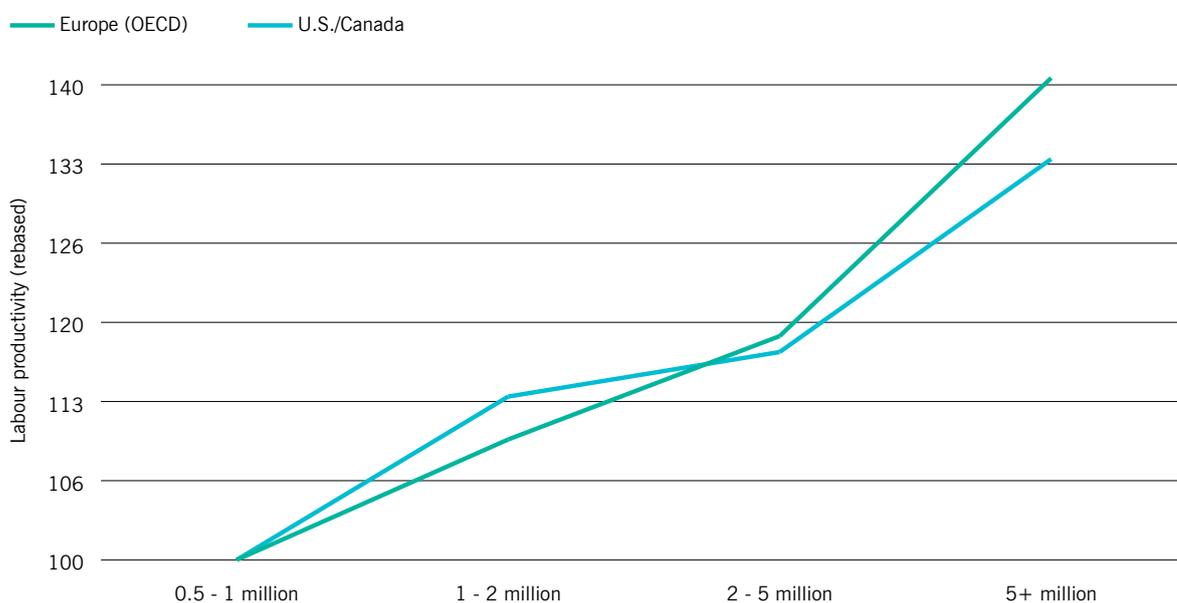


immunity were behind the better outcomes in cities. There was no pandemic-related reason to leave cities in the 1920s and rapid global urbanisation has continued to the present day.

Figure 4 shows that cities are more productive the bigger they get. This powerful pull has driven relentless urban growth over the last 100 years. It is remarkable that the internet, turning the world into a global village over the last 20 years, has not led to decentralisation.

With the internet giving rise to the knowledge economy, it intensified the advantage of cities by efficiently bringing together talent and creativity in the same physical space as well as enhancing the scale effects of transport and services. The Bay Area of San Francisco is a case in point, where population density has been rising since the year 2000, despite the technical possibilities of remote working improving sharply.

Figure 4: Larger cities are more productive



Source: OECD, 2020

Could the pandemic reverse this trend? COVID-19 hit some globally connected, large cities like New York, San Francisco, Madrid, London and Milan especially hard at the beginning of the pandemic. But the virus quickly spread across rural communities in the U.S. and Europe in equal measure. While infection risks can be higher in cities, this is often balanced by better support and health care outcomes in urban areas. Although the technology of remote working has been with us for a while, it has not been used on a large scale. 2020 has been a global experiment in remote working and its success could at least dampen the urbanisation trend for the first time since the industrial revolution. Some second-tier cities might be able to steal a catch from the global mega cities, by offering a better balance between employment opportunities and quality of life.

It is too early for a definitive answer to these questions, but the enormous productivity and creativity advantages of large cities seem unassailable. However, with fewer days to commute between home and work during the week, the trend of suburbanisation might make a comeback, subtly changing the urban fabric rather than leading to the demise of cities. One example is the ongoing “Copenhagenisation” of many European cities, which loosely describes a shift from car and commerce-oriented city planning towards a more community and health-centred approach, supporting walking, cycling and public transport. One of the boldest examples is Barcelona’s Superblocks, creating 24 hectares of pedestrian spaces in the city centre. Some cities will adapt better than others, while some of the high-flying cities of the recent past might become the Bruges and Venice of the future, splendid cities which failed to adapt to a new environment.



08 Technology and innovation to spur productivity

Andy Schofield and Jacinda Lofland

Productivity is likely to be the key driver of our incomes and wellbeing in the coming decades. This will be underpinned by investment in innovation and knowledge-based capital, as the economy continues its transformation to digital.

Sceptics may point out that global growth has disappointed in recent years, despite advances in robotics, cloud computing and artificial intelligence (AI). Weak investment, lacklustre demand, ageing and shrinking populations have arguably all played a role in this, yet new technology offers hope.

AI is a general-purpose technology, currently at an early stage of development but with the potential to boost productivity across many industries. Some economists advance the idea of the productivity J-curve, to reconcile the timeline between the adoption of new technologies and productivity. At first, firms shift their resources to intangibles, such as business processes, giving the impression of a decline in labour and tangible capital productivity. Once the intangible investments pay dividends, however, productivity surges and output accelerates beyond what might be normally expected of labour and tangible capital. We may have to be patient for a while longer, but if these economists are right, we can look forward to a productivity revival.

Real estate has long been a laggard in innovation and technology. In 2020, we have observed the productivity J-curve in the implementation of proptech solutions within our portfolio. Proptech has begun to transform the woeful state of digitalisation in the property industry. It drives both a technological upgrade and a mentality change in the real estate industry. It also redefines the attitudes, movements and transactions of consumers of buildings and urban spaces in general. Proptech innovation is being felt in all aspects of real estate, starting with construction and planning, through tenant engagement and smart buildings to related areas such as fintech. It has the potential to propel productivity gains and revolutionise the industry. Construction is still more a craft than an industry, transactions are as yet sealed on paper and the sustainability status of most properties still has to be assessed manually.

Proptech innovation is being felt in all aspects of real estate. It has the potential to propel productivity gains and revolutionise the industry.



09 China's coming decade

Harry Tan

Pre-pandemic, China's consumer undercurrent – backed by the rise of the middle class and growing wealth – drove the expansion of the world's second largest economy. In particular, the services industry benefitted from rising innovation and technology adoption, driving the growth of national champions such as Alibaba and Tencent. For the Chinese, living in a country that has grown at 10% per annum for 35 years and between 6-8% p.a. over the past decade, rapid change and innovation are a constant in their lives. That, alongside a structured economic roadmap – the country's five-year plan is now in its 14th cycle – has propelled the economy on a path to high-quality growth, away from cheap manufacturing.

The country's strong management of, and rapid turnaround from, the pandemic is a further showcase of its economic, societal and political resilience. While at a near 40-year low, growth of 2.3% last year still positioned China as the only major industrial economy to have expanded in 2020.

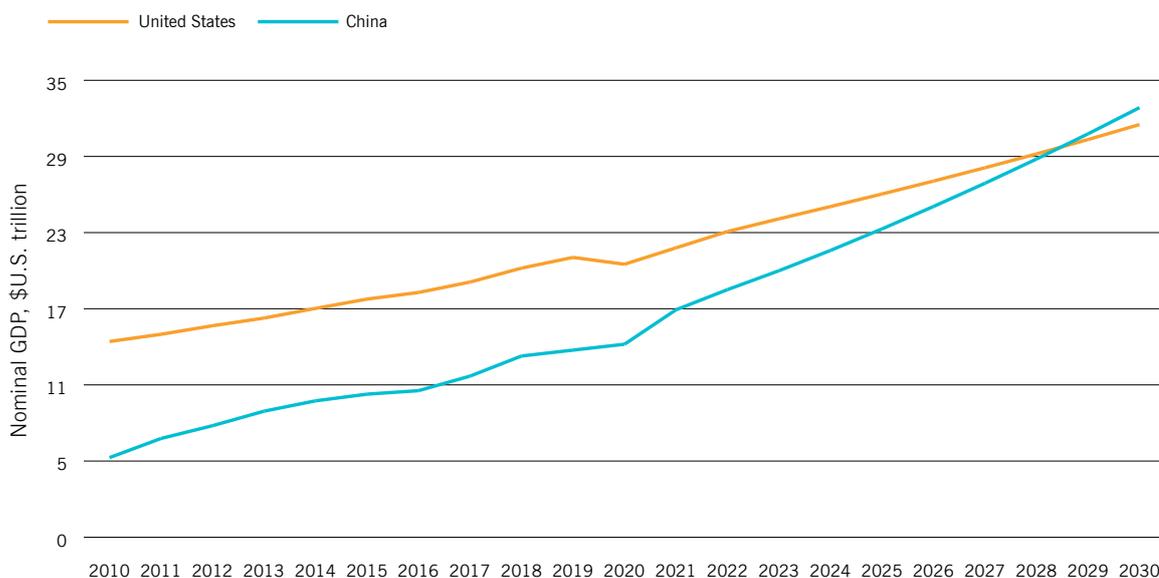
The capacity to grow remains enormous: on top of positive demographic tailwinds, China has proven itself as a formidably

innovative economy, accounting for almost half of all patent filings in the world. Already the biggest trading partner to many global economies, China's influence will continue to expand with the Belt and Road Initiative covering more than 140 countries and 60% of the world's population. Every year for the past decade, China has been the world's growth engine and today, the economy is more than twice as big as it was in 2010. It is now projected that China will overtake the U.S. as the world's biggest economy by 2029.

It is not too late for investors to tap into China's standout growth story. From consumer-goods-driven retail trade to manufacturing and e-commerce-anchored logistics and data centres, as well as rising life sciences demand driven by an ageing but wealthier population, the opportunities for real estate investors are deep and broad. The last decade belonged to China. So will this one.

While such growth and prosperity in the world's most populous country is a reason for celebration, it makes people in the West uneasy due to China's increasing global influence. China's rise is therefore a fitting segue from the roars to the groans of this paper.

Figure 5: China's economy to overtake the U.S. by 2029



Source: Macrobond, 2021



Groaning 2020s

01. [Low interest rates, capital misallocation, asset overvaluation](#)

Michael Keogh, Director of Research, Real Estate, Europe

02. [Debt piles and a risk of tax increases](#)

Darren Rawcliffe, Director of Research, Real Estate, Europe

03. [Inequality and political divisions](#)

Stefan Wundrak, Head of European Research, Real Estate

04. [Dead malls, ghost hotels and deserted offices](#)

Jayanth Ganesan, Research Associate, Real Estate, Americas

05. [Pricing in climate change](#)

Jessica Long, Head of Sustainability, Real Estate, Americas

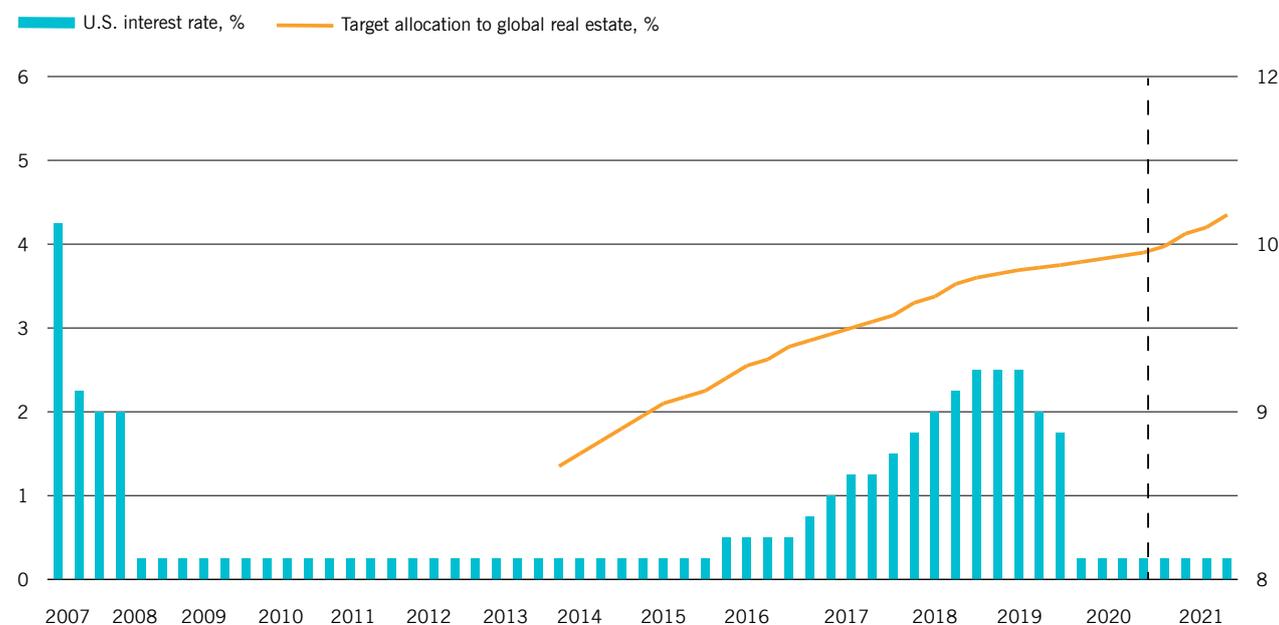


01 Low interest rates, capital misallocation, asset overvaluation

Michael Keogh

We have been living in a world of ‘temporary emergency’ interest rates for over a decade. And with a quarter of the world’s bonds still trading in negative territory, monetary conditions look set to remain loose for an extended period. Any normalisation in borrowing rates is some years away (although not indefinite unless you believe in the Japanification of Western economies).

Figure 6: Interest rates and real estate allocations



Source: Hodes Weill, 2020 Survey, figures after dotted line indicate forecasts

But longer term, we need to remember that this period of ultra-low interest rates is also being driven by adverse global demographics, and not just by the lower global growth outlook. Against this backdrop, the hunt for yield will persist, as evident in the Hodes Weill 2020 survey of 212 institutions with \$12.6 trillion in assets under management. It reports a target allocation to real estate rising for a seventh consecutive year to 10.6% in 2020, up 170 basis points from 2013. Clearly, 2020 has proven a challenging year for the majority of asset classes. But with the survey projecting allocations to rise to 10.9% in 2021, this would equate to an additional c. \$300 billion to be deployed to real estate in coming years.

While this may be a temporary boom for real estate, there is a darker side to ultra-loose monetary policy. The longer it lasts the more likely real estate values may become divorced from fundamentals and prone

to forming bubbles; if normalisation of interest rates ever occurs, these values would be unsustainable.

There is a more contrarian view that believes that the pandemic (via disruptions to labour and supply chains) plus massive government action (through fiscal and monetary policy) could lead to a spike in inflation, which has a 1920s parallel in Germany’s 1923 hyperinflation. From an economic point of view, asset price inflation can lead to capital misallocation; money flows to increase the price of existing assets instead of supporting the creation of new (real estate) assets. More and more capital is then stuck in unproductive assets, missing the opportunity to propel the economy forward. The financial structure of the 1920s is not comparable to today, but it is rather ominous that the decade ended with the Black Friday stock market crash of 1929.



02 Debt piles and a risk of tax increases

Darren Rawcliffe

The consequence of concerted government action to support the economy during the pandemic has been an extremely sharp rise in public deficits around the world that is being funded by additional debt. Debt levels were already above target in most leading economies, having not fully recovered from the debt surge during the Global Financial Crisis, and are now at unprecedented levels.

This debt overhang may reduce economic performance going forward as governments cut spending programmes and keep taxes higher to reduce the debt, particularly in a low-inflation world where governments cannot rely on nominal price growth to inflate the debt away. Nor would central bankers be too keen to experiment with high inflation as the German episode of hyperinflation between 1921 and 1923 is very well remembered among monetary economists.

Increased levels of public sector debt-raising also risk crowding out some corporate borrowers from the bond market, reducing private sector liquidity and further dampening economic growth.

The debt overhang may reduce economic performance as governments cut spending and keep taxes high.

03 Inequality and political divisions

Stefan Wundrak

Some proponents of the relatively new field of cliodynamics, which strives to explain history with data models, predict that the 2020s will be a decade of conflict and unrest within countries, in particular in the United States. The innovative, but controversial, cliodynamics researcher Peter Turchin forecasts that the West will face a dark triad of social maladies: a bloated elite class, with too few elite jobs to go around; declining living standards among the general population and governments that cannot cover their financial positions. The French economist Thomas Piketty, best known for his bestseller *Capital in the 21st Century*, is one of the most prominent social scientists insisting that rising inequality is behind the general discord afflicting democracies in Europe and North America over the last decade and that it will get worse. Populist political movements are thought to feed on economic injustice and emotionalise these with culture wars, decrying rapid changes of social norms.

This is a parallel to the 1920s, when large parts of society did not welcome the rapid cultural shifts. In Europe, inequality was the key ingredient supporting the rise of fascism and communism, culminating in the Second World War and the Cold War. While even the most radical populists of today look rather moderate in comparison to their counterparts of the first half of the 20th century, they gathered sufficient support to break the U.K. away from the E.U., got Donald Trump elected, govern in some Eastern European countries and are a force to reckon with in almost every country in Europe. Without a resolution to the equality question and a new consensus around social norms, politics may yet bring forth many reasons to groan in the 2020s.



04 Dead malls, ghost hotels and deserted offices

Jayanth Ganesan

The coronavirus pandemic has caused significant disruptions to commercial real estate sectors dependent on social interaction, such as retail, office and hospitality. Some property sub-types within these sectors, for example, leisure hotels, lifestyle centres and mixed-use office properties, will see their demand recover as the global economy reopens. Other property sub-types, such as malls, traditional offices and business hotels, will see permanently lower demand due to oversupply, cost or obsolescence. The widespread adoption of digital alternatives to brick-and-mortar retail, office and lodging, such as e-commerce and video conferencing, could cause many properties in these sectors to close permanently. Property owners will salvage value from these properties if they can be redeveloped and repurposed, but this will not be possible in all circumstances.

Malls, particularly regional malls, will be the hardest to redevelop. The United States has historically had an oversupply of malls (c. 5,000), with estimates that 20% to 25% of these malls could close within the next five years. However, regional malls located in suburban areas outside of primary markets could be repurposed into last-mile distribution and fulfilment centres. For example, Amazon now occupies warehouses in North Randall and Akron, Ohio, built from repurposed malls. In Europe, single-story retail parks make for attractive warehousing redevelopment sites as they are typically near major highways and close to many city residents.

Office buildings in expensive urban areas will be the most likely to come under pressure. Many tenants may be less willing to pay the same premiums as in the past as many companies start to institute flexible work-from-home policies. However, these buildings are in a city's most sought-after locations for any usage, most notably for housing. High-density urban areas, such as New York City, Hong Kong, Paris, Tokyo and San Francisco, have historically lacked affordable housing due to minimal available land.

While these redevelopments could provide good opportunities for landlords, regional and local governments would need to demonstrate flexibility with planning laws and give grants to high-density cities that are experiencing negative net migration and declining rents during the pandemic. These redevelopment pressures are likely to be much more pronounced in the U.S. and the U.K. than in most of Europe or Asia due to the latter's lower enthusiasm for remote working.

Demand for most hotels, particularly resort hotels used for leisure, will most likely recover as economies reopen as there are no digital alternatives to leisure travel. However, hotels that attract business demand could see a considerable decline in traffic as

video conferencing can be a feasible alternative to most in-person conferencing. There are several avenues landlords could take to repurpose closed hotels. One is to repurpose the hotels as hostels given that low-cost urban lodging could attract young travellers. Another option is to repurpose hotels as serviced or short-term housing. This type of accommodation would be popular among the growing number of self-employed professionals and gig-workers, who can carry out their work in any location, and students who may need such housing for temporary work or internships.

The widespread adoption of digital alternatives to brick-and-mortar retail, office and lodging, such as e-commerce and video conferencing, could cause many properties in these sectors to close permanently.



05 Pricing in climate change

Jessica Long

Since the industrial revolution, the world has experienced approximately 1.0°C of global warming, and climate scientists have high confidence that global average temperatures will reach 1.5°C above pre-industrial levels sometime after 2030. In the 2020s, some areas of the world will begin to experience changes in climate which will impact everyday life for people living and working in those locations. Financial markets will have data readily available to price in climate change as the financial impacts of extreme weather events are disclosed by companies and municipalities, and as populations begin to migrate away from affected areas.

GDP will be impacted in locations where heat waves exceed the survivability threshold for a healthy human, known as wet-bulb temperatures (95°F/34°C). This will reduce the effective number of hours that can be worked outdoors. McKinsey estimates the average number of lost daylight working hours in India could increase to the point where between 2.5% and 4.5% of GDP could be at risk annually.

Lenders and insurers will price in future flood risk as the number of people expected to be impacted by floods:

- doubles near rivers and in coastal regions;
- triples for urban properties damaged from riverine floods; and
- increases tenfold from coastal storm surge and sea level rise.

The worst flooding will occur in South and Southeast Asia where populations are the most vulnerable, while the U.S., China and Indonesia have the most value to lose from urban coastal flooding.

Mass migration will be triggered as increasing temperatures cause water to evaporate more quickly, increasing the risk of drought and/or prolonging periods of drought which will threaten people's livelihoods and increase the risk of disease and death. Many locations will need to anticipate an influx of climate refugees and expand housing supply and public resources with as many as 700 million people at risk of being displaced as a result of drought by 2030.

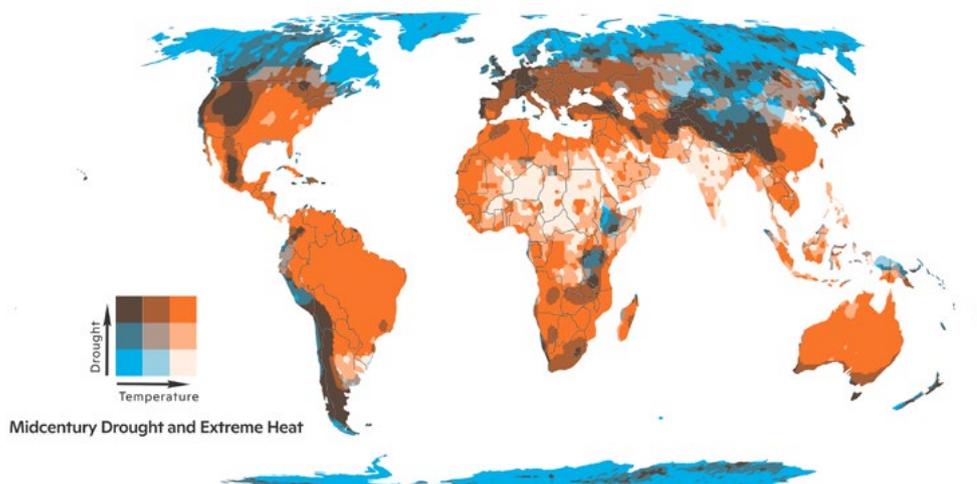


Image source: Woodwell Climate Research Center | Greg Fiske



Using the 1920s as a metaphor for the coming decade of the 2020s should not be taken too far. The world from 100 years ago is very different in terms of technology, the environment, politics and society.

Roaring or groaning?

The 2020s will not resemble the 1920s. But that should not stop us from examining past trends and looking for clues for the future.

Periods of relative stability are followed by years of conflict; debt sprees are followed by hangovers, and innovation arrives in unpredictable waves.

The real estate industry in particular is acutely aware of the waxing and waning of fortunes. Property has prospered as a result of cheap borrowing since the Global Financial Crisis, but the last decade has been very conventional in the property world, nothing like the blooming of town planning, the architectural revolution or the technology breakthroughs of the 1920s. However, we believe that a number of ingredients are in place to make the 2020s roar in a 1920s spirit.



Authors



Angela Goodings
*Director of Research,
Real Estate, Europe*



Maria Grubmüller
*Senior Research Associate,
Real Estate, Europe*



Jayanth Ganesan
*Research Associate,
Real Estate, Americas*



Jessica Long
*Head of Sustainability,
Real Estate, Americas*



Dan Manware
*Senior Research Associate,
Real Estate, Americas*



Haoran Wu
*Research Associate,
Real Estate, Europe*



Stefan Wundrak
*Head of European Research,
Real Estate*



Andy Schofield
*Director of Research,
Real Estate, Europe*



Jacinda Lofland
*Director of Strategy & Innovation,
Real Estate, Americas*



Harry Tan
*Head of Asia Pacific Research,
Real Estate*



Michael Keogh
*Director of Research,
Real Estate, Europe*



Darren Rawcliffe
*Director of Research,
Real Estate, Europe*



For more information, please visit nuveen.com.

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances and in consultation with his or her advisors.

The views and opinions expressed are for informational and educational purposes only as of the date of production/writing and may change without notice at any time based on numerous factors, such as market or other conditions, legal and regulatory developments, additional risks and uncertainties and may not come to pass. This material may contain "forward-looking" information that is not purely historical in nature.

Such information may include, among other things, projections, forecasts, estimates of market returns, and proposed or expected portfolio composition. Any changes to assumptions that may have been made in preparing this material could have a material impact on the information presented herein by way of example. **Past performance is no guarantee of future results.** Investing involves risk; principal loss is possible.

All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such.

A word on risk

Investing involves risk; principal loss is possible. Debt or fixed income securities are subject to market risk, credit risk, interest rate risk, call risk, derivatives risk, dollar roll transaction risk and income risk. As interest rates rise, bond prices fall. Below investment grade or high yield debt securities are subject to liquidity risk and heightened credit risk. Foreign investments involve additional risks, including currency fluctuation, political and economic instability, lack of liquidity and differing legal and accounting standards. Please note investments in private debt, including leveraged loans, middle market loans, and mezzanine debt, are subject to various risk factors, including credit risk, liquidity risk and interest rate risk.

This information represents the opinion of Nuveen, LLC and its investment specialists and is not intended to be a forecast of future events and or guarantee of any future result. Information was obtained from third party sources which we believe to be reliable but are not guaranteed as to their accuracy or completeness. There is no assurance that an investment will provide positive performance over any period of time.

Nuveen, LLC provides investment advisory services through its investment specialists.

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