As confidence returns to real estate, the industry faces a number of fundamental shifts that will shape its future.

We have looked into the likely changes in the real estate landscape over the coming years and identified the key trends which, we believe, will have profound implications for real estate investment and development.

Real Estate 2020
Building the future

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Part one

Introduction

It's March 2020. Ahmed Naneesh, chief investment officer of a sovereign wealth fund and steward of one of the world's largest real estate portfolios, is chairing a panel at the Singapore World Real Estate Forum, 2020's leading real estate event. The topic for debate is 'Building the Future – Surging Demand for Real Estate Capital'.

In the past few years, demand for private capital for real estate investment and supporting infrastructure has increased enormously. In the emerging economies, the great migration to the cities, growing population and swelling middle class are creating a desperate need for more urban real estate. In the advanced economies, the cities are also growing, although not so rapidly, while technology, demographics and environmental issues are becoming new value drivers. As Ahmed's panellists relate (and the forum organisers broadcast on the Web to watchers worldwide), real estate as an asset class is changing fast. Mega real estate managers are emerging, which are building and investing in real estate on an epic scale; yet, small specialist managers are also playing a significant part. The landscape is becoming more widespread and complex, with a wider range of risk and return than ever, plus new drivers of value.

Looking forward to 2020 and beyond, the real estate investment industry will find itself at the centre of rapid economic and social change, which is transforming the built environment. While most of these trends are already evident, there's a natural tendency to underestimate their implications over the next six years and beyond. By 2020, real estate managers will have a broader range of opportunities, with greater risks and new value drivers. As real estate is a business with long development cycles – from planning to construction takes several years – now is the time to plan for these changes.

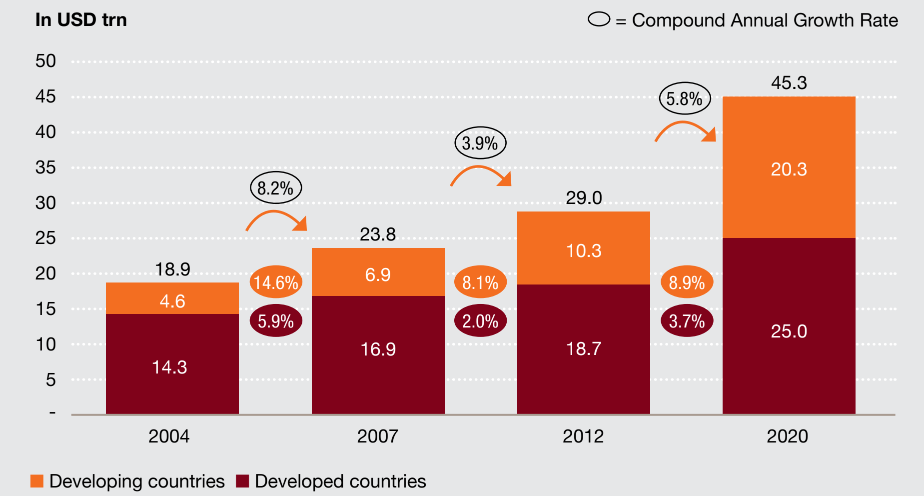
Already, thousands of people migrate from country to city across Asia, the Middle East, Latin America and Africa on a daily basis, attracted by the new wealth of these economies. By 2020, this migration will be firmly established. The cities will swell – and some entirely new ones will spring up. Meanwhile, the growing emerging markets' middle class and ageing global population are increasing demand for specific types of real estate. Subsectors such as agriculture, education, healthcare and retirement will be far bigger by 2020.

High energy prices, climate change and government regulation are already pushing sustainability up the real estate agenda, but by 2020, their impact will be far greater. Technology is already disrupting real estate economics, but by 2020, it will have reshaped entire sectors. And the real estate community will have taken a greater role in the financial ecosystem, in part moving into the space left by banks.

Our fictional forum illustrates some elements of this change. We believe the new era of real estate investment, to 2020 and beyond, is the beginning of a time of unprecedented opportunity for real estate investors and asset managers, although with greater risk. The global stock of institutional-grade real estate will expand by more than 55% from US$29.0 trillion in 2012, to US$45.3 trillion in 2020, according to our calculations. It may then grow further to US$69.0 trillion in 2030 (see page 7 for explanation of methodology). This huge expansion in investable real estate will be greatest in the emerging economies, where economic development will lead to better tenant quality and, in some countries, clearer property rights. And it will play out across housing, commercial real estate and infrastructure. Indeed, as intense competition continues to compress investment yields for core real estate, real estate managers will have every incentive to search for higher yields elsewhere.

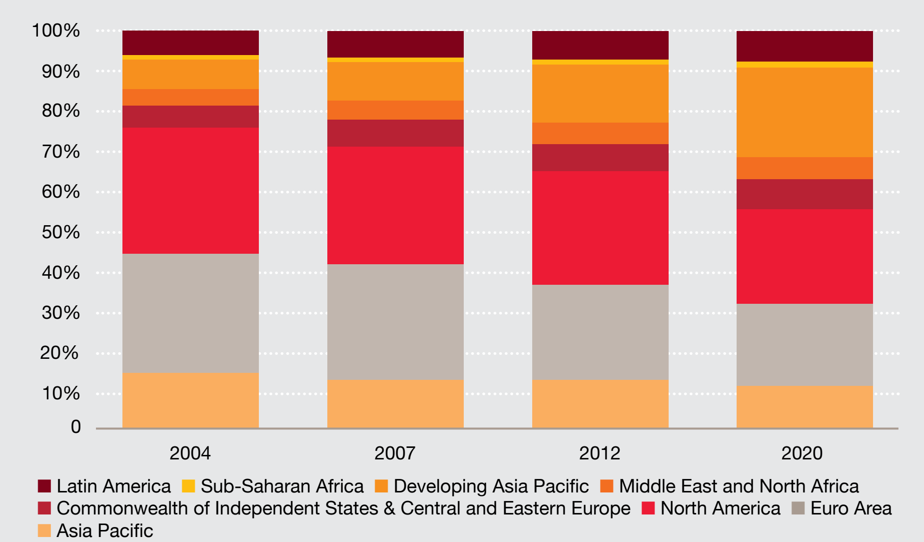
On the next page, we highlight our six predictions about what this means for real estate managers and the investment community. After that, we describe our view about the likely changes in the landscape, their possible implications and how we believe you should prepare for this fast-changing world

Figure 1: Global institutional-grade RE



Source: PwC analysis

Figure 2: Relative size of institutional-grade RE per region



Source: PwC analysis

Six predictions for 2020 and beyond – in brief:

The changing real estate landscape will have substantial implications for the real estate investment community, which we highlight below and describe in more detail in Part three: Implications for real estate strategies.

1. **The global investable real estate universe will expand substantially, leading to a huge expansion in opportunity, especially in emerging economies.** World population growth and increasing GDP per capita will propel this expansion. By 2020, investable real estate will have grown by more than 55% compared to 2012, according to PwC forecasts, and then will expand by a similar proportion in the following decade.

2. **Fast-growing cities will present a wider range of risk and return opportunities.** Cities will present opportunities ranging from low risk/low yield in advanced economy core real estate, to high risk/high reward in emerging economies. The greatest social migration of all time – chiefly in emerging economies – will drive the biggest ever construction surge.

3. **Technology innovation and sustainability will be key drivers for value.** All buildings will need to have 'sustainability' ratings, while new developments will need to be 'sustainable' in the broadest sense, providing their residents with pleasant places to live. Technology will disrupt real estate economics, making some types of real estate obsolete.

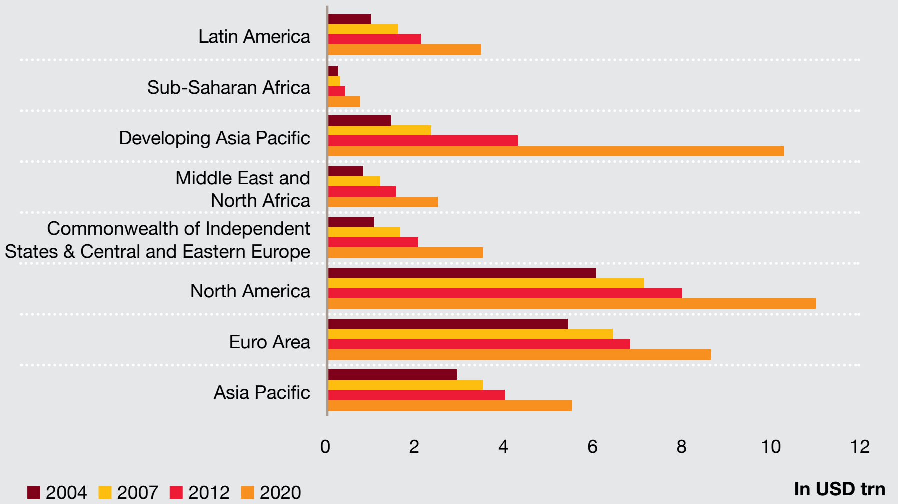
4. **Collaborating with governments will become more important.** Real estate managers, the investment community and developers will need to partner with government to mitigate risks of schemes that might otherwise be uneconomic. In many emerging economies, governments will take the lead in developing urban real estate and infrastructure.

5. **Competition for prime assets will intensify further.** New wealth from the emerging economies will intensify competition for prime assets; the investment community will need to think laterally to earn attractive returns. They might have to develop assets in fast-growing but higher risk emerging economies, or specialise in the fast-growing subsectors, such as agriculture, retirement, etc.

6. **A broader range of risks will emerge. New risks will emerge.** Climate change risk, accelerating behavioural change and political risk will be key.

In order to prepare for these implications, the real estate investment organisations will need to make sure they have the right capabilities and qualities, as described in Part four: Success factors.

Figure 3: Trends in institutitional-grade RE per region



Source: PwC analysis

Forecast methodology notes

The forecast for the value of institutional-grade real estate assets is based on a model that utilises economic activity as measured by GDP, based on 2011 Purchasing Power Parity and the observation that in a fully developed economy, institutional-grade real estate represents about 45% of GDP.[1] In developing economies, the amount of institutional real estate is adjusted downward from the 45% base. The classification developed vs. developing economy is accomplished using a ratio of GDP per capita in the country to a predetermined threshold for each year. The rationale for this adjustment is that in developing economies, less institutional real estate is required to meet the needs of the economy and the quality of a majority of tenants would not satisfy the criteria of RE institutional investors. Although the forecast has not been adjusted for properties' obsolescence, this factor can be noted from the absolute projections for construction, and therefore to be considered by the investment community.

1 Prudential Real Estate Investors: 'A Bird's Eye View of Global Real Estate Markets', 2012 update, February 2012.

Part two

Real estate's changing landscape

Global megatrends will change the real estate landscape considerably in the next six years and beyond. While many of the trends highlighted are already evident, there's a natural tendency to underestimate how much the real estate world will have changed by 2020.

1

Huge expansion in cities, with mixed results

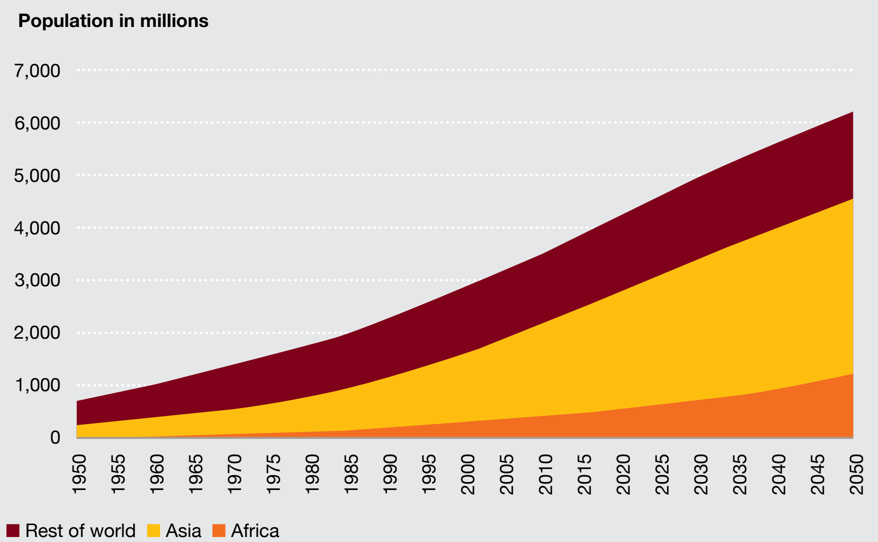
- *By 2050, the urban population will increase by 75% to 6.3 billion, from 3.6 billion in 2010[2]*
- *By 2025, there will be 37 'megacities', up from 23 today, and 12 of these will be in emerging markets[3]*
- *1.5 million residents a month will move to Chinese cities for the rest of this decade[4]*

By 2020, the 21st century's great migration to the cities will be well underway. Cities will be swelling across the fast-growing countries in Asia, Africa, the Middle East and Latin America. Even the developed Western nations will be urbanising, albeit at a slower pace. But not all cities will prosper. While some become great centres of wealth creation in a multipolar world, others are likely to fail.

The volume of building activity will be huge, expanding the world's inventory of institutional-grade real estate. Global construction output is expected to almost double to US$15 trillion by 2025, up from US$8.7 trillion in 2012.[5] Emerging markets in Asia will be the fastest growing region, but sub-Saharan Africa is expected to be the second highest.

Yet the philosophy of 'build it and they will come' won't prove universally successful. Some cities will grow and become creative hubs, generators of economic growth. Others will destroy wealth, with poor infrastructure, slums and rampant crime. Others still will be ghost towns. In some countries, the density of main cities will drive people away, to rural environments or satellite cities.

Figure 4: World urban population from 1950 to 2050



Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision

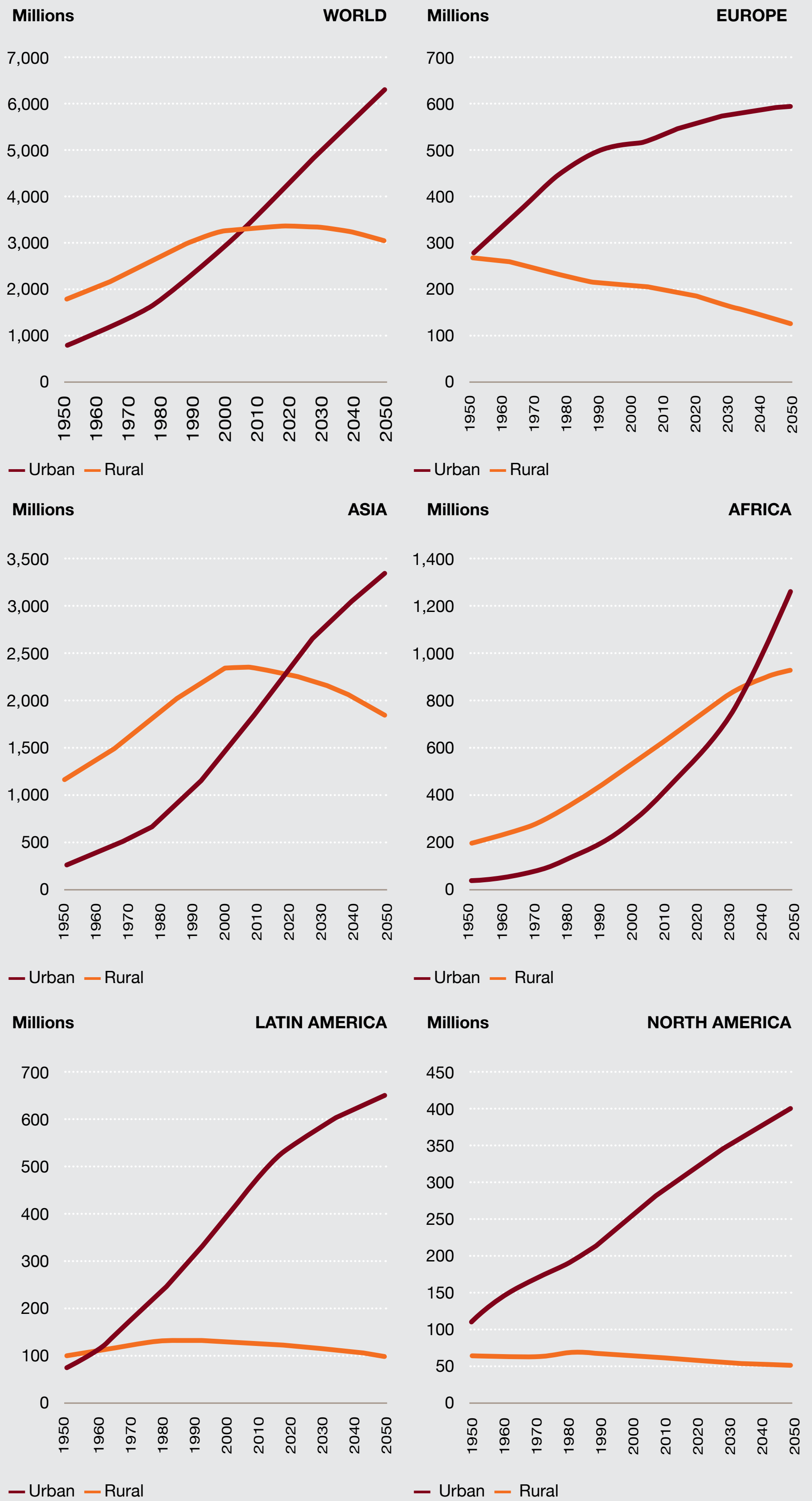
2 Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision.

3 Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision. Megacities have populations exceeding 10 million.

4 Harvard Business Review blog (Jan 2013), Euromonitor.

5 Global Construction 2025, July 2013.

Figure 5: Urban and rural population trends



Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision

In China, India and the Middle East, entire new cities will be built, using eco-efficient technologies to reduce their environmental impact. Governments and the investment community may need to work together to fund and build these cities and their infrastructures. Masdar City in Abu Dhabi, Jaypee Sports City in India and Sejong City in South Korea are just a few of the entirely new cities. But it's unlikely that all of the new cities planned will attract the residents forecast, as the high vacancy rates in some of Asia's newest cities already show.

China, the world's most populous nation, will see the biggest migration of all. Millions of people every month will live the new 'Chinese dream', moving to the cities in search of a prosperous middle-class existence. Across Africa, the Middle East and Latin America, too, the cities will swell as people move in search of a better life.

But urbanisation is not just an emerging markets' phenomenon. The developed world's cities are growing at a huge rate as well. London's population, for example, is forecast to rise to 10 million by 2031, up from 8.3 million today.[6] Much of this population rise comes from the overspill of the new wealthy in, and from, emerging markets, seeking a luxury home in Europe. In 2013, some US$35.7 billion of cross-border capital was invested in London, making it the top recipient of capital worldwide.[7] In the US, developments such as New York's Hudson Yards Redevelopment Project will expand the cities.

6 Financial Times, 'London & the World: the future of the city', December 2013.

7 Jones Lang LaSalle, Global Capital Flows Report, Q4 2013.

Connections to road, rail and public transport are proving vital for urban success. Consequently, demand for infrastructure spending and investment is likely to run at US$1 trillion a year for the next 20 years in the 40 most important emerging markets.[8] Private developers and local authorities are working together to make sure they integrate adequate infrastructure, and especially public transport, into cities' urbanisation plans. In the case of entire new cities, public finance is often playing a leading role.

As successful cities attract more and more people, so the cost of prime urban real estate per square metre will continue to rise. Affordability will fall, leading to greater urban density and smaller apartments. Developers will become more innovative about how they design and build commercial and residential real estate, seeking to use space more efficiently. And construction techniques such as prefab and possibly even 3D copying, offer potential for fast, cheap and eco-friendly development.

Come 2020, cities will be competing fiercely with each other. While some cities will develop and thrive, others may fail to provide the jobs needed to support their growing populations. Those that emerge as their region's leading cities are likely to provide opportunities for attractive returns for the investment community.

Singapore forum debate:

***Brazil** has two very different experiences of urbanisation, the mayor of Curitiba, a city in the east of the country tells the forum. For 50 years, his city has carefully implemented an agenda of sustainability, creating large pedestrian areas, green spaces, prioritising public transport and encouraging high-tech industries. By contrast, some of the country's larger cities have become dysfunctional, with high unemployment, poor infrastructure and rampant crime. Curitiba's GDP per capita far exceeds that of Brazil's other cities, and it's held up as a model for urbanisation in Latin America and beyond.*

Affordability will fall, leading to greater urban density and smaller apartments. Developers will become more innovative about how they design and build commercial and residential real estate, seeking to use space more efficiently.

8 The Infrastructure Challenge for Emerging Markets, RBS/Cambridge University, October 2011.

2

Unprecedented shifts in population drive changes in demand for real estate

By 2050:

- *the world population will be 9.3 billion, up more than 50% from 6.1 billion in 2000*[9]
- *the number of people over 60 will exceed the number under 15 for the first time*[10]
- *Spain will have the oldest population, Niger the youngest*[10]

Demographic shifts will affect demand for real estate fundamentally. The burgeoning middle-class urban populations in Asia, Africa and South America will need far more housing. Meanwhile, the advanced economies' ageing populations will demand specialist types of real estate, while their requirements for family homes will moderate.

Although Africa's population will still be growing fast in 2020, Europe's population growth will be stalling. The middle classes are projected to grow by 180% between 2010 and 2040, with the highest proportion of middle-class people set to live in Asia rather than Europe as soon as 2015. And between 2010 and 2020, more than one billion additional middle-class consumers will emerge globally.[11]

Cities will attract the young middle classes, especially in emerging markets. As intense competition for space increases urban density, apartments are likely to shrink. Developers will need to become more innovative about how they use space.

The global population will age at an unprecedented pace. The number of people aged 60 or older will increase by 2.8% per annum from 2025 to 2030.[10] As the world ages, the cost of retirement and healthcare will become critical issues, reaching crisis proportions in some countries, as opposed to the looming concern of today. The speed of change over the next generation is alarming: the old-age dependency ratio for the world is forecast to reach 25.4% in 2050, up from 11.7% in 2010.[12] The developing countries have the youngest populations, but they will also have the fastest pace of population ageing, giving them the least time to adapt in the years following 2020.

The advanced economies' ageing population will limit house price rises. The Bank for International Settlements' analysis of advanced economies estimates that the US will suffer pricing deflation averaging about 80 basis points per annum in real prices over the next 40 years, with the impact greater still in continental Europe and Japan.[13]

9 Source: United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision.

10 World Population Ageing 1950–2050, United Nations.

11 Source: European Environment Agency; OECD Development Centre; PwC analysis.

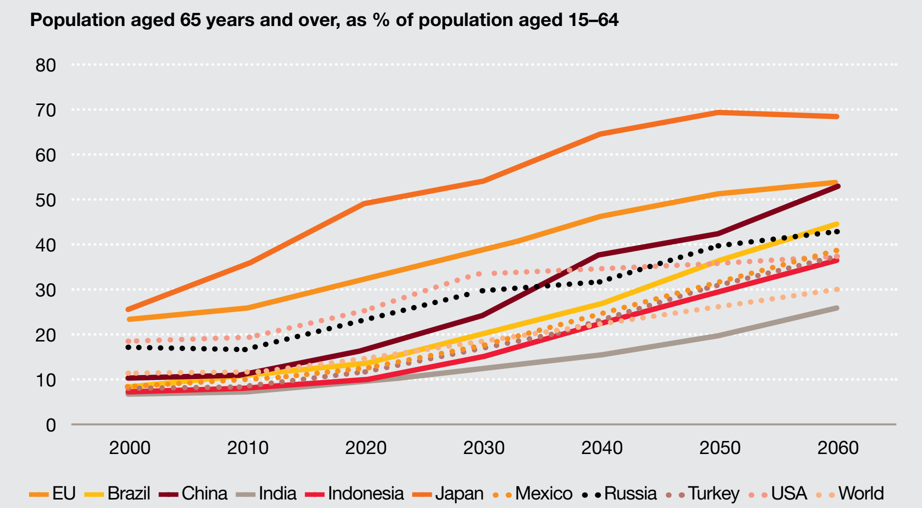
12 Source: 'Old-age dependency ratios', The Economist, 9 May 2009. Measures the number of elderly people (65+) as a share of those of working age (15–64).

13 'Ageing and asset prices', Bank for International Settlements, August 2010.

Population growth and ageing will lead to several real estate subsectors emerging. While office, industrial, retail and residential will remain the main sectors, affordable housing, agriculture, healthcare and retirement will become significant subsectors in their own right. The larger global population's greater food consumption will continue to increase interest in agricultural land, and the older population will need more nursing homes and retirement accommodation.

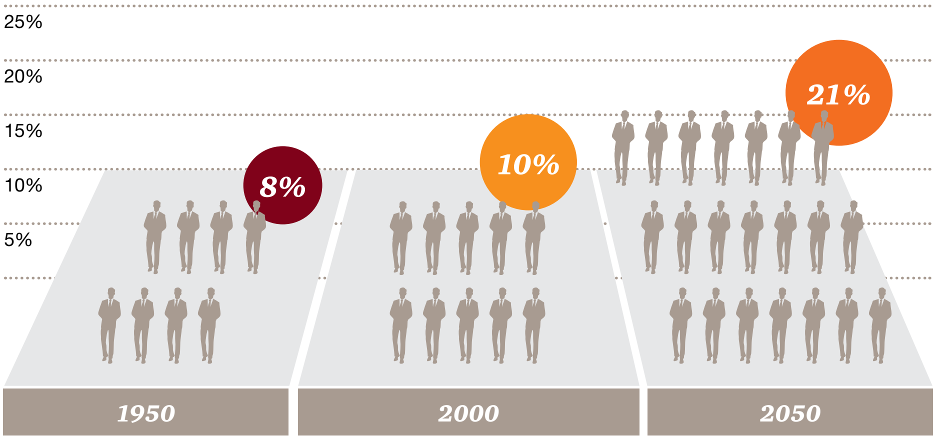
So, shifting demographic trends are likely to create a huge need for new and different real estate by 2020 and beyond. Residential real estate will become more specialised, with local and cultural differences influencing exactly how this evolves. For example, city apartments for young professionals may be smaller, without kitchens or car parks; there's likely to be a range of retirement accommodation for the elderly; and families in some emerging economies might well live in gated communities outside the city centres.

Figure 6: Projected old-age dependency ratio



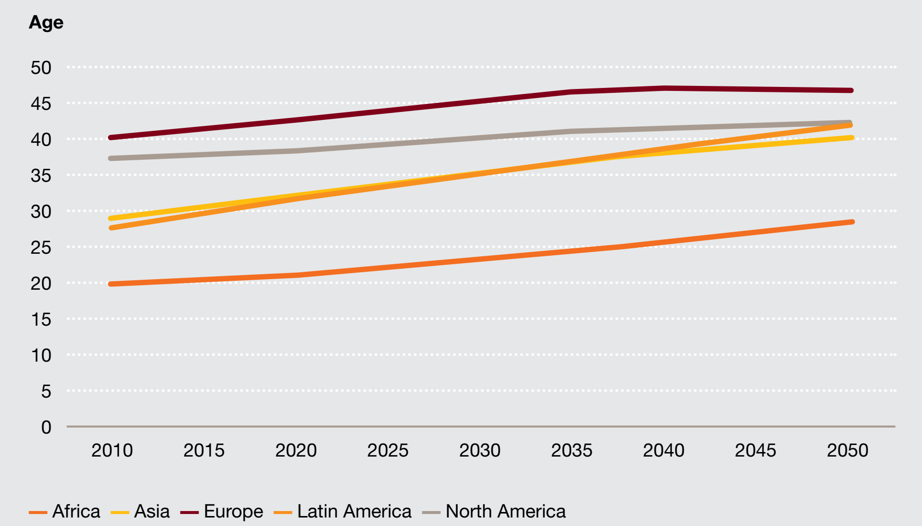
Source: Eurostat and United Nations, Department of Economic and Social Affairs, Population: World Population Prospects, 2010 revision

Figure 7: Proportion of the world population aged 60 years or more



Source: UN report World Population Ageing 1950–2050

Figure 8: Median age by region



Source: United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2012 Revision, New York, 2013.

Singapore forum debate:

Wei Long, a banker from Shanghai, lives in China's most populated city. It has also become Asia's leading service centre, the regional hub for finance and related industries. But professional couples with young families are now migrating out of the city, once they have children, making the lifestyle choice of residing in more rural areas and commuting to work by high-speed rail. What's more, the city's growing cohort of wealthy pensioners is moving to purpose-built retirement villages. Real estate subsectors are emerging with distinct risk-return characteristics.

3

Emerging markets' growth ratchets up competition for assets

- *By 2020, emerging markets will dominate the world's top five economies[14]*
- *By 2025, emerging markets will host 60% of global construction activity[15]*
- *By 2025, Nigeria will need nearly 20 million new homes compared to 2012[15]*

Real estate is an integral part of the emerging markets' growth phenomenon. In India, for example, real estate has played a large part in driving economic growth. Even as growth moderates in many emerging markets, the pace of construction activity remains rapid, increasing investment opportunities. Yet, growth is only part of the story. The rise of emerging economies is also increasing competition among real estate managers and the investment community.

By 2025, over 60% of all construction activity is forecast to take place in emerging markets, up from just 35% in 2005.[15] Looked at another way, the following nations will account for 72% of expected construction activity: China, the US, India, Indonesia, Russia, Canada and Mexico. Emerging Asia is expected to be the fastest growing region for construction between now and 2025, followed by sub-Saharan Africa. Nigeria alone will need almost 20 million new homes compared to 2012.

The growth of emerging countries is rapidly creating powerful new real estate players and new asset managers. As a result, there is both growing competition for real estate assets and growing competition within real estate asset management.

A recent survey by Preqin showed that 54% of all sovereign wealth funds (SWFs) invest in real estate, with most SWFs from the Middle East and North Africa and Asia.[16] SWFs are increasingly competing for prime assets – with the survey showing that 57% of SWFs that invest in real estate have a preference for core real estate. This indicates that competition from SWFs for prime real estate in the world's major cities, already a significant force, might well further intensify as their assets continue to grow.

As emerging markets mature, so new regional and local asset management (AM) companies with real estate arms are forming. With good connections with local developers and links with regional institutional investors, they're in a stronger position than most Western asset managers to take advantage of growth in their home regions. By 2020, it's likely that some of these managers will have become major global players, perhaps partly through acquiring rivals in Europe or North America (in other industries, it has become common for Chinese companies to acquire companies based in the West).

Looking out to 2020, it seems likely that intraregional real estate investment might follow existing high-growth trade routes, further increasing cross-border capital flows. Within emerging economies, for example, there are particularly strong trade flows between Asia and Latin America, and between Africa and the Middle East.

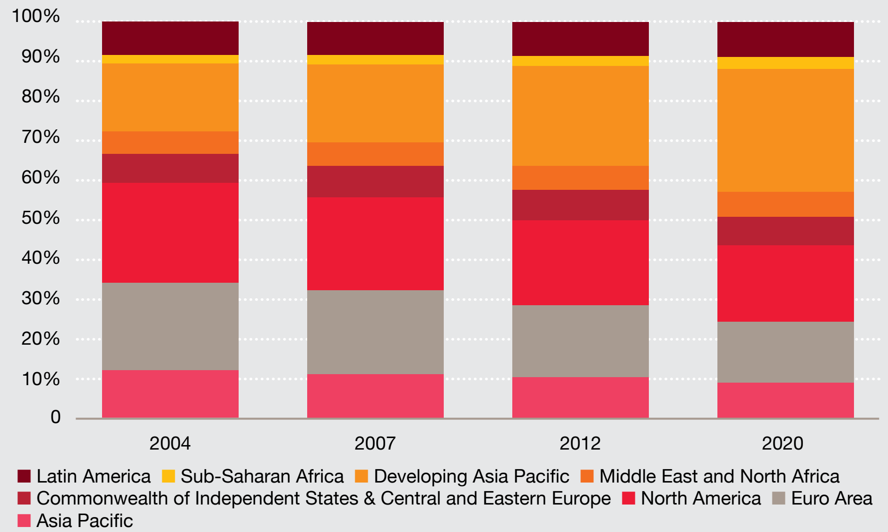
14 Euromonitor International, Forecast: World's Largest Economies in 2020, May, 2013. Using purchasing power parity. (Top economies will be: 1. China; 2. US; 3. India; 4. Japan; 5. Russia).

15 Global Construction 2025, July 2013.

16 2014 Preqin Sovereign Wealth Fund Review.

Emerging Asia is expected to be the fastest growing region for construction between now and 2025, followed by sub-Saharan Africa.

Figure 9: Relative GDP per region



Source: PwC analysis

Figure 10: Annual average housing completions 2012–2025

India	11,507,476
China	9,326,381
Indonesia	1,513,865
US	1,485,966
Nigeria	1,484,362
Brazil	1,389,872
Mexico	742,780
Russia	572,517
UK	220,046
Australia	194,148
Germany	186,499
Saudi Arabia	184,135
Poland	167,560

Source: Global Construction 2025

Singapore forum debate:

*In some of Africa's most fast-expanding cities there's scope to earn high returns, according to Giles, a specialist real estate asset manager based in **Dubai**, which by 2020 has extended its position as the regional financial centre for the Middle East and North Africa to include sub-Saharan Africa. His funds have been financing shopping mall developments, earning excellent returns as sub-Saharan Africa's population expands rapidly – yet there are risks that he doesn't face in developed markets. Last year, he adds, a dispute with a local developer stalled one of his projects. But he's factored such risks into his return projections.*

4

'Sustainability' transforms design of buildings and developments

- *With a fast-growing population, by 2030 we'll need:*
  - *50% more energy*
  - *40% more water*
  - *35% more food*[17]
- *By 2050, there could be 200 million environmental refugees worldwide*[18]

Cities contribute an estimated 70% of the world's energy-related greenhouse gases while occupying just 2% of its land.[18] Their locations – often in low-elevation coastal zones – and large populations make them particularly vulnerable to the impacts of climate change, such as rising sea levels. As the world rapidly urbanises, so the pressures to make buildings more eco-efficient are mounting.

Quite how great this pressure becomes between now and 2020 depends on how sensitive the weather proves to be to climate change, and how fast energy prices rise. If extreme weather devastates a major city or destroys an annual food crop then pressure will mount, possibly with substantial new regulations. What's more, if energy price rises continue at the current rate, pressure will increase to improve buildings' energy efficiency, although exploitation of new energy sources could mitigate the pressure somewhat.

By 2020, it's likely that all buildings in advanced economies will need to have sustainability ratings. What's more, the concept of sustainability will have broadened to mean creating 'places' where people enjoy living and working. So, new developments will be designed with green spaces, good air quality, spaces for social gathering and so on.

Already, developers are integrating sustainability criteria into prime office buildings, new cities and individual homes. New eco-cities such as Tianjin in China and Masdar City in Abu Dhabi aim to have zero-waste and zero carbon emissions, while existing cities such as Tokyo in Japan and Malmö in Sweden simply aim for urban revitalisation. Green office buildings incorporate renewable energy technologies, waste reduction and greater use of natural light to improve economic, social and environmental performance.

For real estate asset managers, the move towards greater sustainability in building design presents opportunities and risks. While sale prices do reflect buildings' sustainability credentials to a degree – through a 'green premium' – this is currently limited to certain types of prime real estate in advanced economies. If the pressure to increase buildings' eco-efficiency mounts faster than the market currently anticipates, then many buildings could suffer a large 'brown discount'.

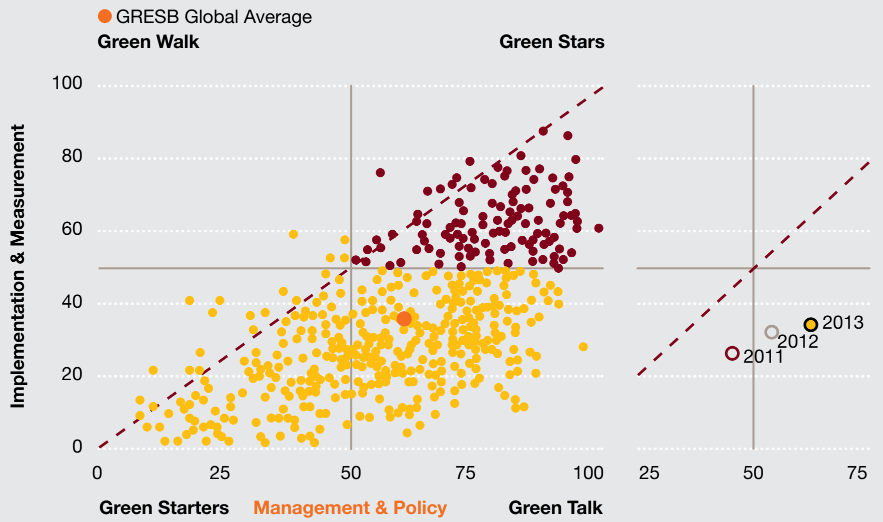
17 PwC/ULI's Emerging Trends 2014 presentation. For Americas, November 2013.

18 UN-HABITAT 'Cities and Climate Change: Global Report on Human Settlements 2011'.

Evidence is emerging of the green premium. In California, for example, single-family homes sold between 2007 and 2012 with green labels from certification agencies Energy Star, LEED or Greenpoint Rated, commanded a price premium of 9%.[19] Anecdotally, poor sustainability characteristics are already undermining values of office buildings in prime districts of some Western European cities, although much depends on the local area.

Looking forward to 2020, retrofitting existing buildings to improve their performance is expensive, but what will happen to their value if this is not done? And will the premium for sustainable buildings continue to rise, or is there a danger of a green bubble? There's likely to be far more emphasis on the whole-life value of an asset.

Figure 11: GRESB quadrant model



Source: 2013 GRESB report

Singapore forum debate:

Bill, a Dallas-based accountant from a leading professional services firm, tells the forum how there's now a strong business case for 'green' buildings in the US. Not only do they significantly lower running costs, but also they help relations with a range of stakeholders, and particularly new employees, such as the brightest MBA students, who want to work in sustainable buildings with high-quality working conditions. As a result, the additional expense of construction is outweighed by future rental value.

19 The Value of Green Labels in the California Housing Market, July 2012.

5

Technology disrupts real estate economics

- *49% of all UK sales of electrical goods will be online by 2018*[20]
- *In 2017, the global social network audience will total 2.55 billion, up more than 70% from 1.47 billion in 2012*[21]

Technology is finally coming to real estate. By 2020, it will have both altered the economics of entire subsectors of the industry, and changed the way that real estate developers and the investment community operate.

Most strikingly, the need for physical space is already shrinking across most real estate subsectors. Entire retail chains are disappearing from the high streets of Western countries in sectors such as video, as their customers move online. Meanwhile, as online shopping delivery times become shorter, so the need for warehousing close to customers is growing.

In retail, we believe that stores will always have a role to play, although in sectors such as books, music and video the majority of goods will be bought online. Sectors such as health and beauty, and homeware are likely to prove more resilient. The secret will be to combine physical and online retail on a single operating platform. For example, shopping centres that mix shopping with restaurants, entertainment and social life are likely to remain appealing.

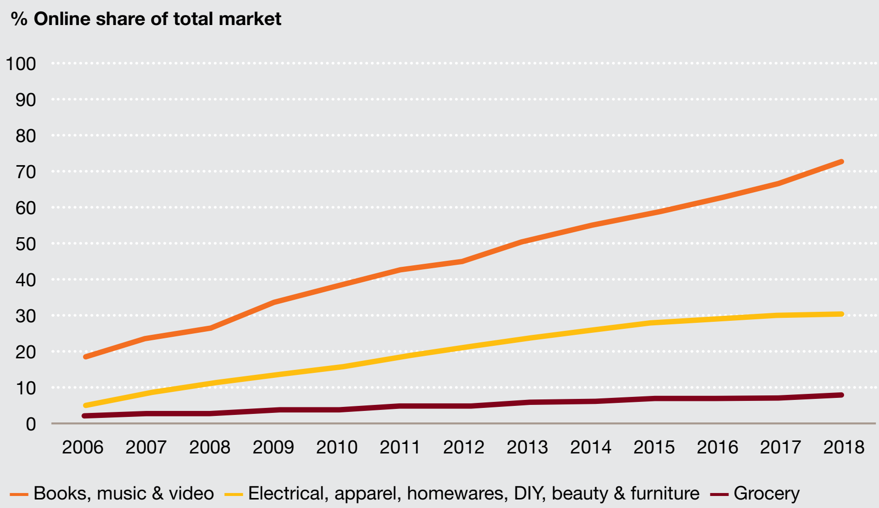
Meanwhile, the requirement for office space is also likely to diminish. Telecommuting is just in its infancy and is likely to grow substantially in the next few years. As office culture becomes more accepting of videoconferencing rather than meetings, and as digital files replace paper, so people may spend more time working from satellite offices and home.

We think these trends are likely to alter real estate economics more than is currently anticipated. Beyond 2020, the generation that has grown up in the digital world will dominate consumer spending and the culture of work. Social networks will help to determine where and how people will want to live, work and recreate. At the same time, shrinking technological barriers will make online shopping still more appealing, perhaps through drone delivery. And telecommuting will become more practical – for example as you can easily access database applications through tablet computers.

20 PwC Total Retail (November, 2013); Verdict Research.

21 eMarketer, 'Worldwide Social Network Users: 2013 Forecast and Comparative Estimates'.

Figure 12: Online market penetration by category, 2006-2018, UK



Source: Retail in Turmoil, PwC 2013

Singapore forum debate:

Grace, a delegate from Sydney, tells how technology is transforming the real estate investment business she works in. Not only has it made certain types of retail real estate obsolete, but now the country's banks have closed down almost all their branches as retail financial services becomes a virtual business, with e-tailers disrupting the sector through their distribution power. Technology has also transformed how her employer uses data to manage its portfolio and judge tenant demand. One of the company's rivals has recently been forced into a merger – an event that she attributes entirely to its falling profitability, following strategic decisions that did not fully appreciate technology's power to change.

For developers, technology advances will make eco-efficient building more practical. The technologies behind smart appliances, smart metres, smart building management systems, integrated distribution management systems and city-wide energy management systems are continually becoming more advanced and affordable.

Technology even has the potential to transform real estate asset managers' own operations. They'll make far more use of 'mobility' technology that facilitates telecommuting, while also embracing data management techniques such as data warehousing. With real estate a business where small numbers of people manage large amounts of data, relating to tenants, buildings, etc., it is natural to expect a significant increase in use of data analytics.

Looking forward to 2020, real estate players really need to understand how technology is effecting their sector.

6

Real estate capital takes financial centre stage

- *The global stock of institutional-grade real estate will expand by more than 55% from 2012 to 2020[22]*
- *Asset management assets to rise almost 60% to US$101.7 trillion by 2020[23]*
- *Alternative asset allocation expected to grow 30% by 2020[23]*

Private capital will play a critical role in funding the growing and changing need for real estate and its supporting infrastructure. Just as asset managers, real estate funds and Sovereign Wealth Funds find the assets under their control swell, so governments will have increasing needs for capital to finance urbanisation. Private real estate capital will become an important partner of governments.

PwC estimates that the broad AM sector will see assets under management (AuM) swell to US$101.7 trillion by 2020, up from US$63.9 trillion today. The global growth in AuM will come from three different sources: the shift towards individual retirement plans, the surge in high-net-worth individuals (HNWI) in emerging markets and growth in SWF assets. PwC anticipates that, across the entire AM sector, retirement assets will grow from US$33.9 trillion in 2012 to US$56.5 trillion in 2020; the HNWI sector will expand from US$52.4 trillion to US$76.9 trillion; the SWF sector from US$5.2 trillion to US$8.9 trillion.

This compares with our calculation that the stock of institutional investment grade real estate will expand by more than 55% from US$29.0 trillion in 2012, to US$45.3 trillion in 2020, according to our calculations. It may then grow further to US$69.0 trillion in 2030.

Private capital will step in to fill the gap left by banks and insurers as a result of regulations that require reduction in their exposure to real assets. The international Basel III bank capital guidelines and US Dodd-Frank regulations have increased the

Figure 13: Client AuM USD Trillion

Clients	2004	2007	2012	2020
Pension funds	21.3	29.4	33.9	56.5
Insurance companies	17.7	21.2	24.1	35.1
SWF	1.4	3.3	5.2	8.9
HNWI	37.9	50.1	52.4	76.9
Mass affluent	42.1	55.8	59.5	100.4

Source: PwC analysis. Past data based on Credit Suisse Global Wealth Data Book, SWF Institute, The City UK, OECD and Insurance Europe.
Note: Differences in sums are due to rounding. The sum of AuM by clients does not equal the sum of AuM by products shown above due to double counting.
The sum of the assets of all clients will also include double counting as a part of the assets of Mass affluent and HNWI will be invested with insurance companies and pension funds.

22 PwC Real Estate 2020 research, February 2014.

23 PwC Asset Management 2020, February 2014.

size the capital buffer lenders have to hold as protection against possible future losses and require that banks better match the duration of their own funding to their loans. So while banks' willingness to fund prime real estate may be strong, their appetite could diminish if lending becomes higher risk or longer term. Meanwhile, the EU Solvency II Directive has reduced the ability of European insurers to invest, although Asian insurers are likely to remain highly active.

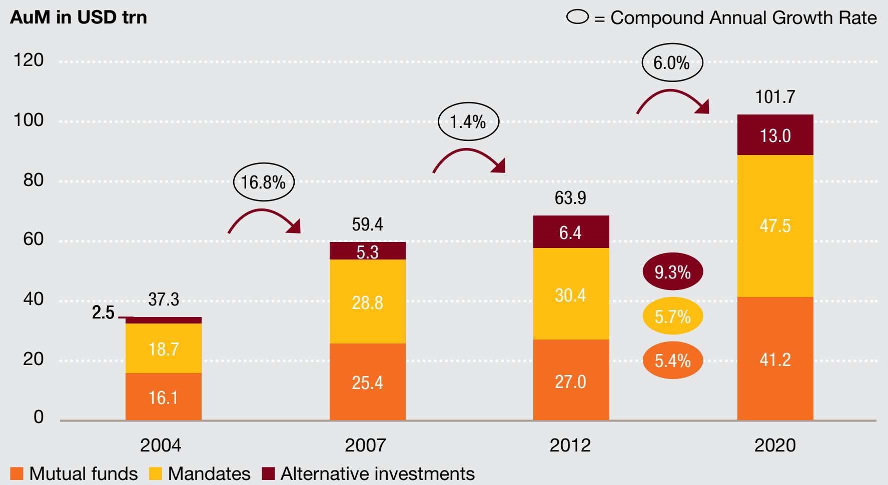
Studies show that institutional investors are raising allocations to real assets. In a survey of institutional investors managing US$1.9 trillion, 72% said they would be more likely to invest in real estate than any other asset class in 2013.[24] For example, Norway's US$810 billion oil fund, the world's largest SWF, has targeted raising its property allocation already significantly by 2015, compared to 2013.

As the balance of wealth shifts south and east to the developing nations, so the sources of assets are changing, influencing where real estate asset managers distribute and market their funds. The emergence of growing new institutional investors such as Asian SWFs and pension funds will change worldwide capital flows. Many invest mainly in their home countries, but over the next six years they're likely to look increasingly to international markets.

Already, real estate asset managers are beginning to take a more central place in the financial ecosystem. Since the financial crisis, real estate asset managers stepped into the funding gap left by banks in some countries. By 2020, they're also likely to have developed new investment fund structures that address the shortcomings that the financial crisis exposed in both closed-end and open-end funds, related to transparency and liquidity.

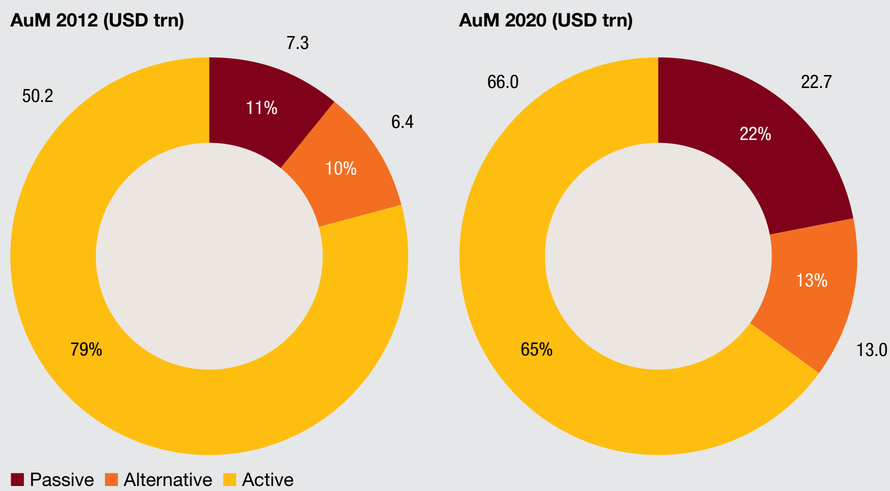
But there will be challenges. A consistent campaign of anti-tax avoidance measures, driven by the OECD since the Base Erosion and Profit Shifting (BEPS) report in 2013 will see asset managers operating in a world where country-by-country reporting of profits, tax paid and employee numbers is the norm. Fiscal pressure may mount due to bankrupt local and state governments' cross-border capital flow restrictions and tax reforms.

Figure 14: Global AuM projection for 2020



Source: PwC analysis. Past data based on Hedge Fund Research, ICI, Preqin, Towers Watson, and The City UK data.

Figure 15: Share of active, alternative and passive within Global AuM



Source: PwC analysis. Past data based on ICI, Lipper, Hedge Fund Research, Preqin, The City UK and Towers Watson.

Singapore forum debate:

*From **Nairobi**, Mark, a veteran African real estate investor, describes the specialist African agriculture, urban development and retail centre funds that are being introduced by local real estate managers. But he predicts a wide spectrum of success and failure – while some might garner 20% per annum returns, difficulties with unreliable local developers, planning and poor urban planning are likely to lead to poor returns from others.*

24 AMP Capital Institutional Investor Report, Q1 2013.

Part three

Implications for real estate strategies

The changing landscape will have major implications for real estate investment and development. It will increase the size of the asset pool, yet change the nature of investment opportunities. Real estate organisations will need to adapt early to survive and prosper.

Figure 16: Implications for real estate strategies

Expansion and globalisation of real estate will lead to greater opportunity

Fast-growing cities will present a wider range of risk and reward

Technology and sustainability will be key drivers of value

Working in partnership with governments will be more important

Intense competition for core assets will force asset managers and the investment community to focus on where they have competitive advantage

Increased opportunity will be accompanied by greater and more diverse risks

1

Think globally

Expansion and globalisation of real estate will lead to greater opportunity

The real estate market will become far bigger and more global. As mentioned earlier in this paper, we forecast that institutional-grade real estate will expand by more than 55% from US$29.0 trillion in 2012, to US$45.3 trillion in 2020, according to our calculations. It may then grow further to US$69.0 trillion in 2030. For the real estate investment community, this expansion will lead to a much greater range of opportunities.

Subsector themes will emerge which can be exploited on a global basis. Specialists are already emerging in areas such as agriculture, education, retirement villages, high-end shopping centres and new urban development. In future, these themes will become far more established. What's more, the real estate investment community will be able to match them to their own specific needs – for example for funds with shorter maturities and differing return profiles.

Economies of scale will become more important. Some of today's large global managers will become mega-managers, with a foot in all geographies and channels. Some of these mega-managers will expand inorganically through acquiring smaller managers with specific market or specialist property expertise.

But real estate is a business where local knowledge is key. So there will always be a place for local and niche players. And those mega-managers that lose sight of the importance of local knowledge will suffer.

In future, real estate players will need a higher degree of specialist expertise in their chosen areas and locations of activity, plus greater foresight to identify investment trends at an early stage within each market.

2

Understand the underlying economics of cities

Fast-growing cities will present a wider range of risk and reward

New institutional-grade real estate locations will emerge as the world becomes multipolar. In countries such as China, India and the Gulf states, entire new cities are being built, while in countries such as Brazil, Mexico, Nigeria, South Africa and Turkey, existing cities are developing fast.

These cities are competing with each other to become dominant regional service centres. Cities that win these competitive battles and emerge as generators of wealth will provide attractive new prime investment opportunities.

The real estate investment community can deploy urbanisation strategies ranging from higher risk opportunistic development, to lower risk prime investment. But no matter which approach they choose, they'll need a clear strategic view of why a city will be successful.

3

Factor technology and sustainability into asset valuations

Technology and sustainability will be key drivers of value

Rapid changes in the application of digital technology will continue to reduce demand for retail and office space, while increasing demand for new types of warehousing, close to the customer. What's more, the investment community will learn to make use of smart data to add value. By monitoring tenant information, real estate owners will be able to judge demand and make better investment decisions.

The advance and commoditisation of technologies will also accelerate the 'greening' of buildings. As the cost of improving buildings' environmental performance falls in line with the lower costs of technological innovations such as solar panels and efficient heating systems, so occupiers will demand these enhancements and be willing to pay a premium for them. Similarly, they'll require office and residential buildings designed with ample natural light and good air quality. Prime office and residential buildings with poor sustainability performance in advanced economies will suffer a 'brown discount', sometimes leading to a shorter operational life.

From an operational perspective, real estate management has a relatively low-tech infrastructure. Illustrating this point, only 40% of asset managers are actively involved in social media, other than hosting a website.[25] By 2020, technology will have become mission-critical. It will drive customer engagement, data mining for information on clients and potential clients, operational efficiency, and regulatory and tax reporting. What's more, customers' demands for seamless, integrated and tailored solutions will only be met through better use of technology.

If real estate players don't understand these new value drivers they'll be at a competitive disadvantage.

As the costs of improving buildings' environmental performance falls in line with the lower costs of technological innovations such as solar panels and efficient heating systems, so occupiers will demand these enhancements and be willing to pay a premium for them.

25 Source: PwC. #Social Media Studies asset management in the social era, June 2013.

4

Collaborate with governments to enable economic and social progress

Working in partnership with governments will be more important

As real estate capital helps to fund and plan the 21st century's new cities, so it will need to work more closely than ever with central and local government. Only by working with government will it be possible to mitigate some of the risks of these giant projects.

The form that partnering with government takes will vary from project to project. Developers might seek support in the form of local infrastructure and public transport/services to support a project's economics. Or they might structure more formal public–private partnerships.

What's more, developers will need to monitor and understand governments' development ambitions.

Developers of urban schemes will need to have closer relationships with governments, even advising and influencing them as well as being experts in creative ways of structuring collaboration on a case-by-case basis.

5

Decide where and how to compete

Intense competition for core assets will force asset managers and the investment community to focus on where they have competitive advantage

The rise of the southern hemisphere economies will lead to far greater competition for assets – both in the fast-growing developing economies and in the advanced economies.

Not only are the SWFs emerging as competitive bidders for prime real estate in many of the world's leading cities, but also home-grown professional real estate investors will grow fast in the southern hemisphere. Staffed by local people – many of whom have trained at international business schools and are well-connected in their local markets – they will be difficult to compete with. What's more, they'll continue to bid up prices in leading Western cities.

In order to compete, real estate organisations will need to focus on the markets they really understand, while concentrating more than ever on the basics of local knowledge and tenant demand. They'll also need to innovate by creating investment vehicles that reflect the needs of the investment community for shorter maturities and greater liquidity or developing funding models that can take on new types of risk, often with longer term investment horizons.

Not only are the SWFs emerging as competitive bidders for prime real estate in many of the world's leading cities, but also home-grown professional real estate investors will grow fast in the southern hemisphere.

6

Assess opportunities to reflect a broader range of risks

Increased opportunity will be accompanied by greater and more diverse risks

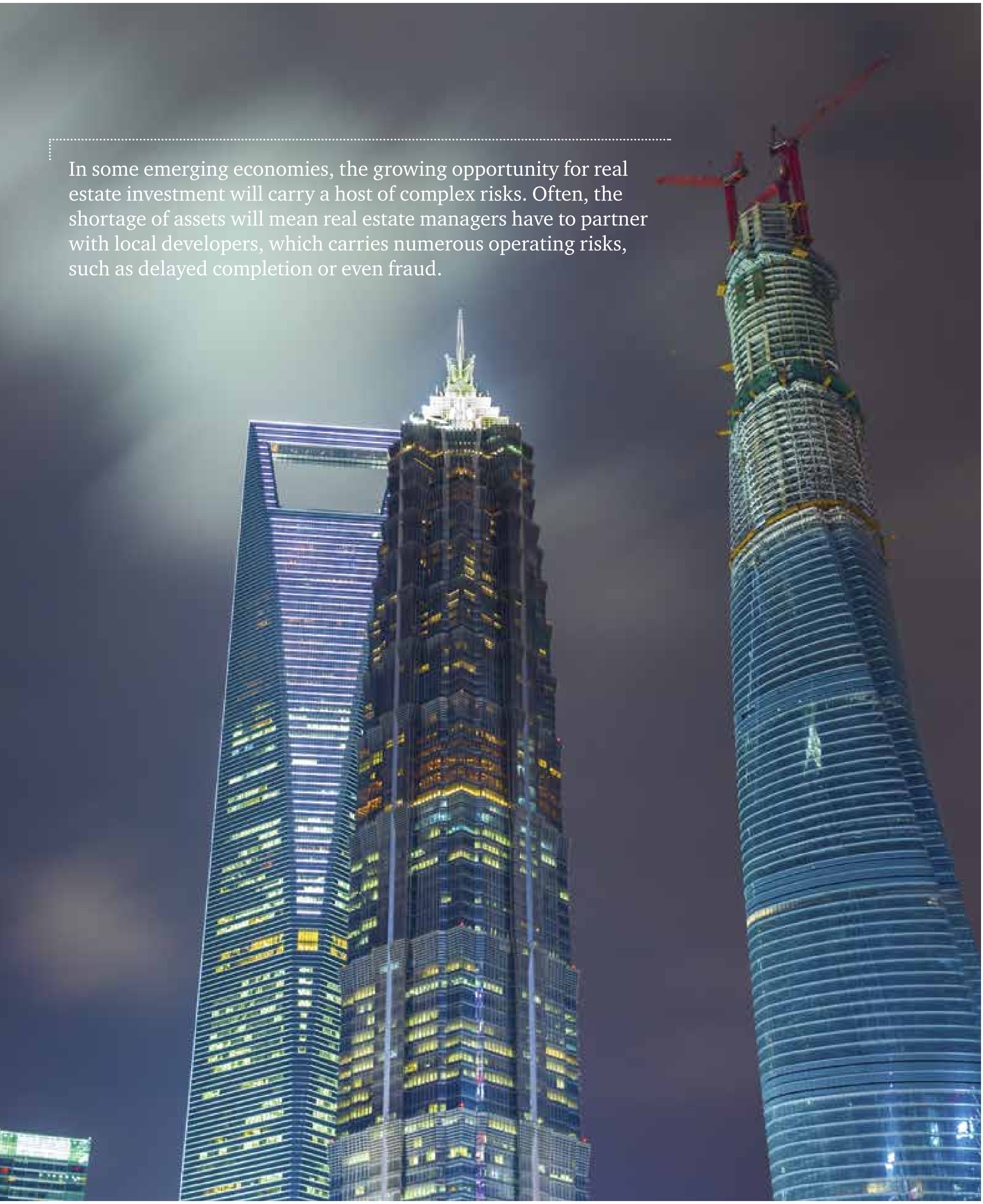
As the real estate business globalises, so the range of risks it takes will become broader. At the top of the list will be country or city risk including political risk and the danger that assets might simply be confiscated. Alternatively, if countries are socially or politically unstable, there might be a danger of physical damage to property.

In some emerging economies, the growing opportunity for real estate investment will carry a host of complex risks. Often, the shortage of assets will mean real estate managers have to partner with local developers, which carries numerous operating risks, such as delayed completion or even fraud. What's more, less developed law and order sometimes means there's a danger of damage or destruction of real estate.

In the advanced economies, society's changing lifestyles and habits will increase the danger that real estate becomes obsolete. For example, as banking moves to a virtual world, physical bank branches might become superfluous. Similarly, certain types of retail real estate will become uneconomic. And office buildings that don't have competitive 'green' credentials will find their lives shortened.

Finally, the more locations a real estate investor operates in, the more complex the web of tax and regulatory risk will become. The investment community will have to monitor changes to international and national tax structures. It's possible the real estate industry will become more regulated – especially if regulations such as the European Alternative Investment Fund Managers Directive (AIFMD) are copied elsewhere.

Real estate players will have to further develop and formalise their approach to risk.



In some emerging economies, the growing opportunity for real estate investment will carry a host of complex risks. Often, the shortage of assets will mean real estate managers have to partner with local developers, which carries numerous operating risks, such as delayed completion or even fraud.

Part four

Success factors

In order to prosper in real estate's new world, leading industry players, such as managers, developers and the investment community need to make sure they have the right capabilities and qualities.

Figure 17: Success factors

A global network with local knowledge and good government relations

Specialist expertise and innovation

Cost management and scale

The right people

1

A global network with local knowledge and good government relations

Local knowledge has always been essential for success in real estate, but it will become even more crucial as the investment community looks for value in international markets in an increasingly global market.

Many of the higher growth markets will also have more complex real estate environments. Not only will the investment community need in-depth knowledge of local economies, but also they'll need to navigate opaque planning laws, to work in partnership with government and to make sure their strategy is aligned with government policy.

Additionally, they'll need in-depth insights into local real estate development practices and possible development partners. Developing economies often have little in the way of investment property, so the investment community needs to partner more with developers.

Managers might need to access local markets through joint ventures, mergers or acquisitions. If so, they must have the skills to assess possible partners or acquisition targets – in particular, judging alignment of interest.

2

Specialist expertise and innovation

Making the most of the opportunities unfolding in the fast-changing real estate world will require specialist skills and an entrepreneurial spirit.

The skills needed would depend on the investment approach but could include:

- **Subsector specialisations.** As urban development, retirement homes, agriculture, etc. become subsectors in their own right, so real estate managers will need to be specialists in these areas in order to profit. What's more, as with any fast-changing environment, entrepreneurialism will be rewarded by higher returns. The pioneers of these subsectors – especially in emerging economies – will earn higher returns.
- **Urban economic analysis.** With cities becoming the economic engine of many domestic economies, real estate managers will need the skills to differentiate cities that will be long-term winners in the global economy and those that will not. The quality of this insight will be a competitive edge going forward.
- **Deal structuring.** Real estate managers will need deal structuring expertise in order to work with local developers and government. Partnering with local developers generally requires rigorous structures in order to make sure that everyone involved abides by agreed targets. When working with government, especially to develop infrastructure, there might need to be new public/private sector models.
- **Asset value management.** Historically, it may have been sufficient to acquire real estate assets and maintain them. In future, sustainable buildings will drive higher rental rates and conversely erode values if technology adaptation does not keep pace. Asset managers will need to have the skills to continuously improve the value of the buildings, or risk asset value destruction.
- **Product development.** As real estate managers fill the gaps left by banks in capital structures, so there'll be rewards for those that make the best use of entrepreneurial structures – for example pre-purchasing development assets or creating innovative mezzanine finance type structures. What's more, asset managers need to offer more liquid structures that don't tie their investors in for specific time frames. Increasingly, investors will require customised separate accounts/joint venture arrangements, which threaten manager profitability by reducing economies of scale from standardised funds.

Alignment with the business needs to be improved and fully integrated with its expanding activities. Regulatory compliance and reporting will become more important as regulation increases. In particular, the real estate AM sector will become more heavily regulated.

- **Risk and reporting.** Asset managers and real estate funds will need to provide controls, transparency reporting and liquidity that meet the needs of the most demanding institutional investors if they are to compete for assets. Controls will need to be first class and independently certified, while transparency reporting must improve from today's levels.
- **Regulation and tax.** As real estate portfolios become more complex, and regulation increases, so the demands placed on tax, legal and regulatory compliance functions will intensify. Real estate managers need to transform these functions to strike the right balance between insight, efficiency and compliance and control.

Additionally, these functions need to be future-proofed by moving them from support functions to true business partners. Alignment with the business needs to be improved and fully integrated with its expanding activities. Regulatory compliance and reporting will become more important as regulation increases. In particular, the real estate AM sector will become more heavily regulated. Europe's AIFMD and the US Dodd-Frank legislation have already forced asset managers to register with regulators in these countries, and similar regulations are likely to come into force in other regions/countries in the next six years.

3

Cost management and scale

The real estate business has become less profitable in most of the world over the past five years since the bursting of the asset price bubble, leading to a need to improve cost management through creating leaner organisations.

At the same time, regulation has led to new regulatory requirements for asset managers and real estate fund managers, due to the AIFMD in Europe and the Securities and Exchange Commission (SEC) registration in the US. Looking to the future, as real estate becomes more globalised, some real estate businesses will experience upward pressure on operating costs from the expense of maintaining an overseas presence.

Having local partners in local markets will help to mitigate cost, as will acquiring local specialist investors and developers. Additionally, outsourcing of non-core functions can help to build scale. In both instances, real estate businesses will need to review partners and service providers carefully in order to judge the quality of their offerings.

Greater automation through technology will also play an important part in containing cost. As real estate is such an information-intensive business, there is great potential for cost-saving through automation.

In particular, mastering the use of the latest digital technology will foster better cost management and scale, allowing real estate managers to improve data analytics, communication with investors and regulatory reporting.

Having local partners in local markets will help to mitigate cost, as will acquiring local specialist investors and developers. Additionally, outsourcing of non-core functions can help to build scale.

4

The right people

As the real estate sector grows, the war for talent will intensify. Local knowledge will become even more sought after than it is now; yet, it is generally the case that relatively few people have the kind of expert knowledge required.

Organisations will need to make incentives in the broadest sense as competitive as possible, while also bringing them into line with changing strategies. It's also going to be important to make sure the structure and level of pay reflects people's changing motivations, while helping to encourage the behaviour and financial returns needed.

Tax rules and regulatory restrictions on pay structures are likely to mean that organisations look into the relative attractions of different territories when deciding where to employ people – and where the owners will be based. The playing field is, and will continue to be, uneven.

What's more, there will be a need for more specialist roles. Depending on their areas of activity, real estate investors might have a need for specialists in sustainability, government relations, social networks, retirement village development and SWF relations.

Although there will be greater linkages at a regulatory level between many countries and regions, due to increasing pressure to harmonise regulations across a wide variety of sectors, it's unlikely that regulatory regimes will be completely aligned. The types of employees required by asset managers for these roles may be different from those currently operating in foreign jurisdictions. The soft skills of diplomacy and cultural knowledge and understanding will be as important as traditional functional skills.

Managers in the avant-garde of the new breed will have to attract and develop talent at the forefront of their efforts to retain and enhance their competitive position. The most forward-thinking firms have already started to recruit local teams in the key emerging markets – building and integrating them into the organisation before potentially redeploying them in their original territories. Remuneration models will be more aligned with investor needs; and non-financial performance will be increasingly important. Firms will evaluate and incentivise employees in pursuit of customer satisfaction, quality of service and innovative thinking.

Part five

Conclusion

And now back to the Singapore 2020 real estate forum…

As we return to the forum, Ahmed is wrapping up, anticipating that the growth in institutional-grade real estate will continue to be strong, creating an even greater range of risks and opportunities for real estate investors.

It's an exciting time for the real estate sector. Private capital is in huge demand for development and investment, yet competition for prime assets is intense. Never before has local knowledge, specialist expertise and good government relations been more important.

Looking forward to 2020, it's the real estate managers and investors with the vision to anticipate emerging trends in the medium term and to prepare for them, which will be most successful. The winning managers of 2020 will have already started to shape their responses to some or all of the fast-evolving trends described in this paper.

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