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SAVILLS WORLD  
RESEARCH  
H1/2016

# 12 Cities

Investing and occupying world city real estate



## UPSTART CITIES

How people are at the  
heart of real estate

savills



# Here come the upstarts

It's been 10 years since we started collecting residential market data for world-class cities, and seven years for commercial real estate data. The unique method we use in order to make diverse cities comparable has proved so effective that we have since applied it to a total of 20 cities, which are now part of our live/work accommodation cost ranking.

We are always faced with a challenge when narrowing the list of cities down to just 12, and this issue is no exception. We decided to revisit our first report of 2011, which showed significant differences in the performance of real estate in the emerging markets (which we termed the 'new world') and the established markets of the 'old world'.

In 2011 we reported that the new world cities of the BRIC countries including Shanghai, Mumbai and Moscow, along with Hong Kong and Singapore had significantly outperformed London, New York, Paris, Tokyo and Sydney since 2005. Repeating the analysis for the years to 2015, we now find that it has been the turn of the old world cities to outperform. Economic growth and wealth creation having slowed in the new world, it is economic revival that has driven real estate recovery in Europe and, most especially, in the US.

The big story in this issue is not just the shift of real estate growth back from East to West, but also the emergence of new cities into the real estate firmament. It is notable that real estate recovery in the old world has not been universal, but rather concentrated in those cities that are most favoured by occupants and investors in the digital and creative economies. This also means that some relatively small cities are moving with great velocity into the realm of world-class cities and competing with the giants in the new digital age.

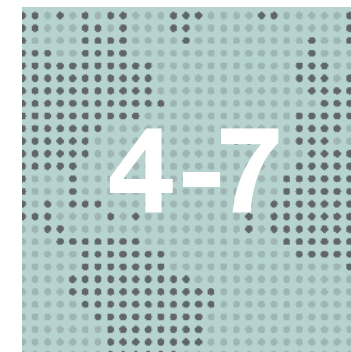
We have added Berlin and Dublin to our list of cities for this reason and dubbed them, along with San Francisco, 'upstart cities' for reasons of size and their sheer economic precociousness on the global stage.

We hope this document will point you in the right direction in the continually changing global real estate market. ■

**'Relatively small cities are moving with great velocity into the realm of world-class cities'**



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**SPECIAL REPORT**  
A review of changing live/work accommodation costs



**WORLD CITIES INDEX**  
How global values have changed in the past decade since Savills began its world cities programme



**RENTAL GROWTH**  
Why diverging rental costs in global markets are signalling new real estate trends



**MARKETS IN FOCUS**  
An in-depth look at the emerging success story of tech-savvy cities Dublin and Berlin

**'The global financial crisis presented an opportunity for real estate in new and emerging markets to rival more established markets'**



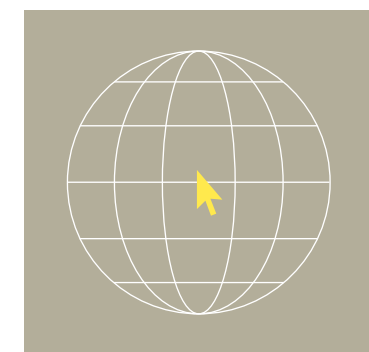
**WORKING SPACE**  
A round-up of key residential and office property data from each of our 12 featured cities



**COMPASS POINTS**  
Four new directions for global real estate markets in the coming year



**SAVILLS GLOBAL PRESENCE**  
An overview of our ever-growing global reach, along with key contacts on our research team



**12 CITIES ONLINE**  
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## RESEARCH METHODOLOGY

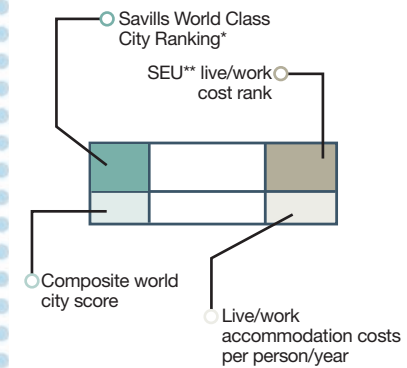
In order truly to compare the cost of residential and commercial real estate across different global cities, we use the Savills Executive Unit (SEU), which measures the cost of housing an identical group of people living and working in different countries.

The people who make up our SEU include one middle-aged expat CEO, one senior expat director, a locally employed director and four locally employed

administrative staff. They each live in different types of household and each member of the group chooses different types of locations and different types of property in which to live.

To measure office costs, we place the same seven people in an office of a small financial services firm and again in a creative start-up – each located in the most appropriate district for their industry type.

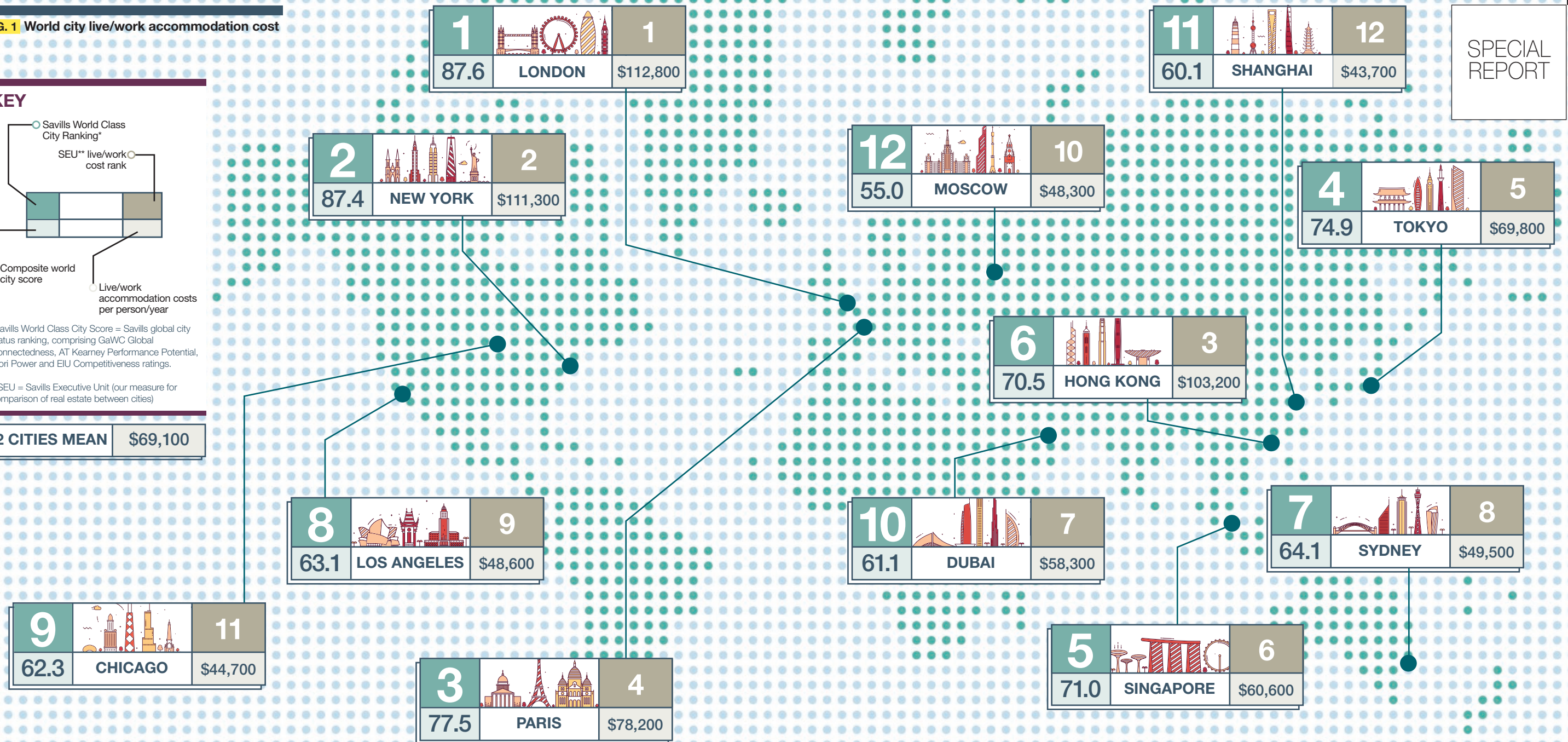


**FIG. 1 World city live/work accommodation cost**
**KEY**


\*Savills World Class City Score = Savills global city status ranking, comprising GaWC Global Connectedness, AT Kearney Performance Potential, Mori Power and EIU Competitiveness ratings.

\*\*SEU = Savills Executive Unit (our measure for comparison of real estate between cities)

**12 CITIES MEAN** \$69,100


**SPECIAL REPORT**

# The price of world city status

Within world cities, creative and digital businesses have flourished in the wake of the global financial crisis. Here, we examine the consequent impact on real estate rents and growth

Being a global city comes at a price – they are the most expensive for occupiers and the most lucrative for investors. But these cities are now being challenged by smaller, ‘upstart cities’.

Our live/work accommodation cost rankings closely reflect the extent to which each city dominates global markets on a variety of measures (see fig.1). There is an 89% correlation between the position of a city on the Savills World Class City Score and its position on the live/work accommodation costs ranking.

The productivity of cities and their value to global businesses clearly has a pronounced effect on demand, and hence

rental costs. The highest-ranking global cities – London and New York – are also the most expensive for businesses and workers to occupy. The average cost of accommodation per worker, per year in our top 12 cities is \$69,100.

The downside for world cities comes when they can't supply new

## \$66,300

The live/work accommodation costs per person/year for ‘upstart city’ San Francisco

accommodation of ‘city quality’ fast enough; they can then become a victim of their own success as rents rise accordingly and the affordability of the city becomes an issue. Many of the world cities we study have been caught out in this way, particularly in the ‘old world’, because until the 1990s most of them were dealing with depopulation and neighbourhood decline, especially in the now popular urban core.

While many of the ‘new world’ cities (eg Shanghai and Dubai) have taken rapid urbanisation in their stride, some Western cities have found the supply response more difficult. Notable exceptions are cities such as Chicago,



where the supply response is more elastic and accommodation costs are low in relation to the city's global status ranking.

The challenge for the top alpha cities is to supply new business quarters and residential neighbourhoods, while capturing the characteristics that made the city an attraction in the first place. Growth without social, economic or environmental loss is one of the biggest challenges facing our world cities today.

While some of the larger and most prominent world-class cities struggle to replicate their most successful city fabric in new places, others are emerging (see fig.2). These would-be challengers for the top city rankings are sometimes very small, such as Berlin (population 4.3 million) or Dublin (1.7 million), or can be emerging giants such as Lagos (13 million and growing fast), Mumbai (20 million), or Rio de Janeiro (12 million).

Some of the small but surprisingly successful cities are scoring high on global city status but low on live/work accommodation costs. Other giants are not yet scoring as highly on global city rankings, but are nevertheless commanding surprisingly high rent levels.

The live/work accommodation costs of Lagos, for example, are more than those of Singapore because the new supply of grade A 'international quality' office stock in the city has not enjoyed sufficient investment levels and build rates to keep pace with demand. The vast majority of workspaces in emerging cities such as Rio, Mumbai and Lagos remain small-scale, informal local buildings. ■

FIG. 2 Upstart cities live/work accommodation costs

	Savills World Class City Score	Population (metro area 2015)	Live/work accommodation costs per person/year
<b>1. San Francisco</b>	<b>55.8</b>	<b>4.6m</b>	<b>\$66,300</b>
<b>2. Berlin</b>	<b>55.4</b>	<b>4.3m</b>	<b>\$27,700</b>
<b>3. Johannesburg</b>	<b>55.3</b>	<b>8.6m</b>	<b>\$20,700</b>
<b>4. Miami</b>	<b>52.4</b>	<b>6.0m</b>	<b>\$49,000</b>
<b>5. Dublin</b>	<b>50.1</b>	<b>1.7m</b>	<b>\$36,500</b>
<b>6. Mumbai</b>	<b>48.3</b>	<b>19.7m</b>	<b>\$28,400</b>
<b>7. Rio de Janeiro</b>	<b>37.5</b>	<b>12.2m</b>	<b>\$16,500</b>
<b>8. Lagos</b>	<b>23.5</b>	<b>13.2m</b>	<b>\$63,000</b>

## What is the Savills World Class City Score?

Cities become globalised and compete on the global stage for a variety of reasons. A huge number of measures are made of their connectedness, economic performance, power and competitiveness by different organisations. We have combined those that seem to best capture the features that make cities powerful and important real estate markets – for both occupiers and investors – to give the Savills World Class City Score.

This index puts London and New York firmly at the top of the tree, but it also highlights the growing strength of some small cities, including our 'upstart cities'.

Rank		Global connectedness (GaWC)	Performance (AT Kearney)	Power (Mori)	Global competitiveness (EIU)	Savills World Class City Score (Savills)
1	London	Alpha ++	60.1	1519.9	73.1	88%
2	New York	Alpha ++	63.1	1384.1	75.7	87%
3	Paris	Alpha +	52.9	1307.9	67	78%
4	Tokyo	Alpha +	46.3	1290.4	68	75%
5	Singapore	Alpha +	37.6	1207.4	71.2	71%
6	Hong Kong	Alpha +	43.1	1084.6	68.1	71%
7	Sydney	Alpha +	31.9	970.1	67.3	64%
8	Los Angeles	Alpha	38.8	962.2	62.7	63%
9	Chicago	Alpha	37.8	886.8	65.6	62%
10	Dubai	Alpha +	26.3		61.3	61%
11	Shanghai	Alpha +	29	943.8	57.3	60%
12	San Francisco	Alpha -	28.5	916.5	62.5	56%
13	Berlin	Beta +	30.9	1072.8	57.7	55%
14	Johannesburg	Alpha -	14.2		50.5	44%
15	Moscow	Alpha	32.4	741.4	52.5	55%
16	Miami	Alpha -	25.5		56.5	52%
17	Dublin	Alpha -	18.1		61.4	50%
18	Mumbai	Alpha	20.9	590.2	54.3	48%
19	Rio de Janeiro	Beta	15.6		47.6	38%
20	Lagos	Beta -	7.2		29	24%





# A decade of change

The tables have turned once again as the 'old world' cities of the West enjoy a revival in fortunes, following more than a decade of growth for 'new world' cities. It's now the turn of those new world cities to take a back seat as falling or stagnating markets have an effect on real estate deals and values

## WORLD-CLASS RESIDENTIAL VALUES

We have been studying our core world cities for 10 years, and what a decade it has been. The roller-coaster ride of the global financial crisis presented an opportunity for real estate in new and emerging markets, particularly Asia, to rival those in the West.

We started reporting on global residential values in our *Insights: World Cities Review* publication after the global financial crisis (GFC) in 2011. At the time, we talked a lot about the strength of the 'new world' markets (Shanghai, Singapore, Hong Kong, Mumbai and Moscow) against the 'old world' markets (Paris, Tokyo, London, Sydney and New York). Among these world-class cities, price growth in the

new and emerging economies had averaged 123% between December 2005 and mid-2011, compared with just 32% in the established cities of the old world.

The real estate wheel of fortune has turned again and we find that the activity and growth enjoyed by Asian markets in the wake of the GFC is now being experienced in the West. The capital value of all residential properties in the same old world markets grew by an average of 35% between 2011 and December 2015, while the new world cities grew by just 6% over the same period.

There is still a price performance gap between old and new world-class cities, but that has narrowed over the past two years as Europe and the US have recovered, while Asia and emerging

markets have fallen or stagnated (see fig.1). Since reporting on our first collection of world cities we have expanded our research to look at other cities that are important – or are becoming important – on the global stage, and which at various times have been added to the original core, world-class cities to inform different *12 Cities* reviews. Listed opposite (see fig.2) is the 10-year capital value growth of the global cities that we monitor. Japan remains a land of very low price growth, while Mumbai tops the table with 184% growth over the whole period.

Ten-year residential capital value growth in all global cities averaged 73% to the end of 2015. The highest growth was seen in Mumbai,

GALLERY STOCK

FIG. 2 Ten-year residential capital value growth

World city	Ten-year residential capital value growth
MUMBAI	184%
SHANGHAI	173%
HONG KONG	167%
SYDNEY	137%
LONDON	121%
SINGAPORE	105%
BERLIN	95%
JOHANNESBURG	80%
NEW YORK	61%
MOSCOW	51%
SAN FRANCISCO	45%
DUBAI	45%
PARIS	37%
TOKYO	30%
MIAMI	7%
LOS ANGELES	7%
CHICAGO	4%
DUBLIN	-26%
<b>AVERAGE</b>	<b>73%</b>

Source: Savills World Research

Shanghai and Hong Kong. The lowest rates of growth were in the high-supply US cities of Miami, LA and Chicago. Dublin's residential values are still 26% below their 2005 levels, although this represents recovery after an incredible fall from their 2006 peak to their 2012 trough of -57%.

It would appear that some of the cities at the bottom of the league table will have the biggest scope for capital value growth in future, enjoying population and occupier demand from burgeoning economies grow. Those nearer the top

**136%**  
growth in  
new world-class  
since 2005

**106%**  
growth in all  
world-class  
cities

may be more fully valued and therefore most exposed to price falls or stagnation, particularly during economic recession.

Our analysis of occupier demands and rental growth across all sectors (residential and commercial) should prove a good guide to the fundamentals of different markets and would seem to point to the best prospects for capital growth lying among the 'upstart cities' at the foot of the table, which are enjoying population growth and occupier demand from burgeoning digital and creative industries.

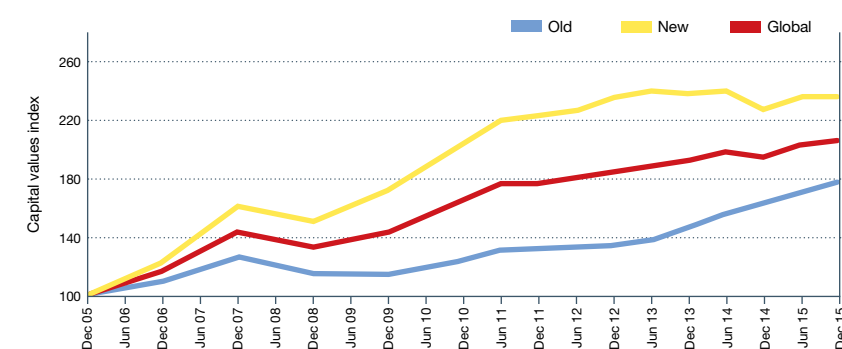
## COMMERCIAL MARKETS TURNOVER

The experience of residential property markets over the past decade has been reflected in other sectors of real estate too. The most notable is the difference in performance between the new world markets of Asia and the old world markets of Europe and North America.

In 2009, after the collapse of Lehman Brothers and before QE had been widely deployed, the big-ticket deals were all taking place in Asian cities, often in regions of China that people in the West had never heard of. Many of them were big, state land deals. Chinese and Asia Pac markets were booming in the wake of very high economic growth and wealth creation in emerging markets. By 2009, 72% of the value of deals in the top 20 cities took place in Asia, mostly China. Only 10% of the biggest global deals took place in the erstwhile powerhouse of North America and overall global volumes were down by 66% on their 2007 peak, allowing the Asian markets to dominate.

In 2015, not only had the overall value of deals that took place in the top 20 cities increased by 187%, but the weight of global real estate money had shifted back from East to West. Investor attention moved away from Asia and is now firmly focused on the US, where 46% of the value of all top 20 city deals took place in 2015 (see fig.3, overleaf).

FIG. 1 SEU residential capital value growth



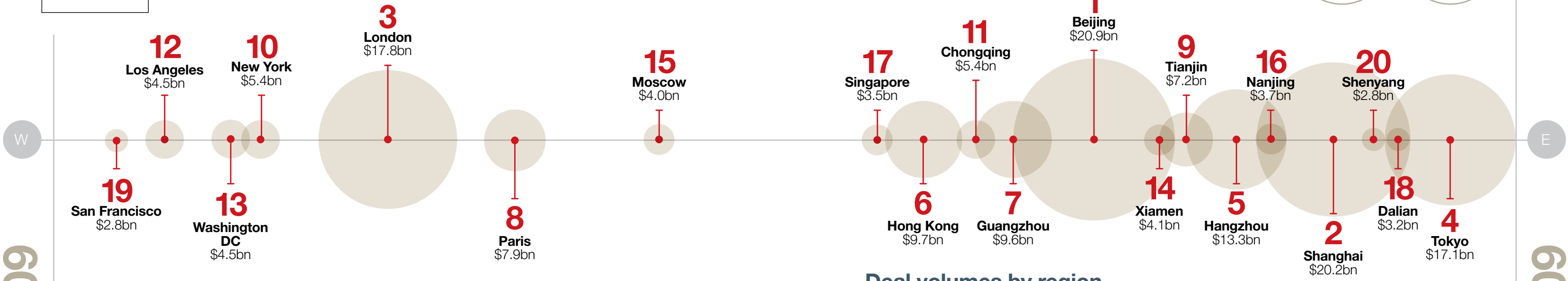
Source: Savills World Research



FIG. 3 Savills world-class cities – top 20 cities by deals volume

● 2009 deals volumes ● 2015 deals volumes

Source: RCA/Savills World Research



Savills top world cities \$90.2bn  
Savills 'upstart cities' \$2.8bn

Deal volumes by region

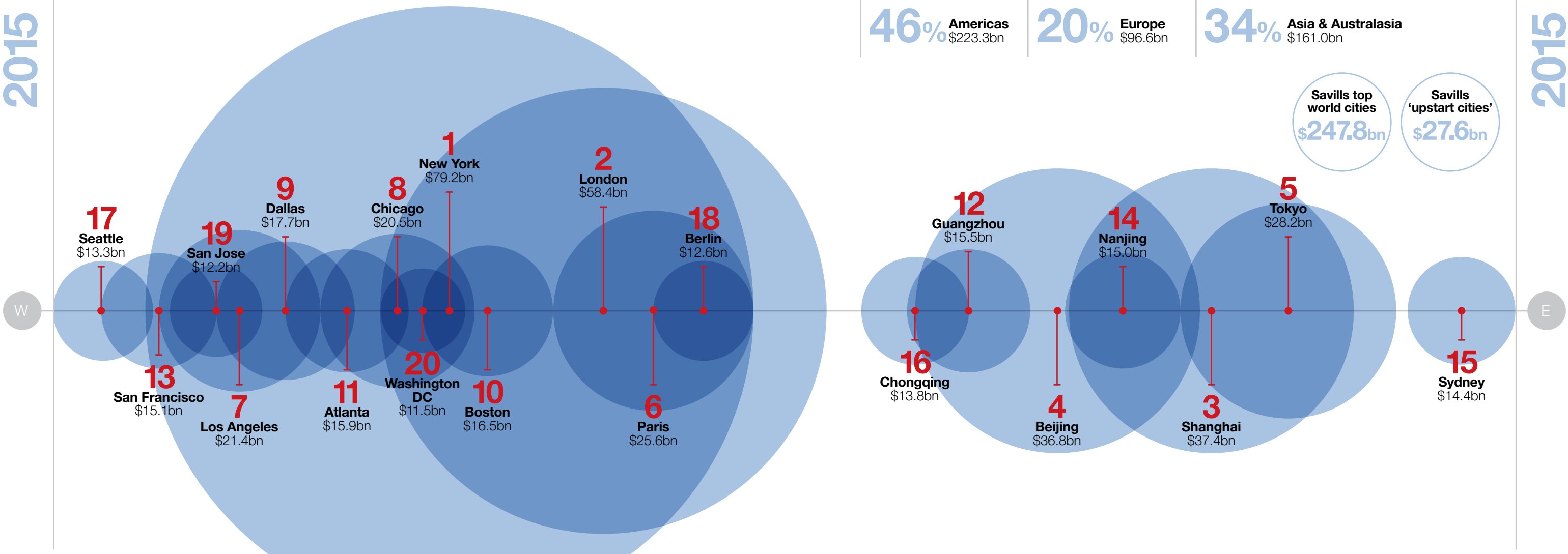
10% Americas \$17.3bn	18% Europe \$29.7bn	72% Asia & Australasia \$120.6bn
46% Americas \$223.3bn	20% Europe \$96.6bn	34% Asia & Australasia \$161.0bn

2009

2009

2015

2015



Savills top world cities \$247.8bn  
Savills 'upstart cities' \$27.6bn



RENTAL GROWTH

# Rental growth rates then and now

## Sharp contrasts in rental rates highlight the changing nature of the world's leading cities

Market rents represent available supply, occupier demand and affordability, unclouded by speculative or investment activity. Our analysis of occupier costs, including rents for both residential and office space, are of direct importance to occupants and would-be occupants, as they influence where and how people will end up living and working in a city – but they should also be the touchstone for any longer term investor.

Rental levels reflect the number of people seeking space, either for living or working in a city, and their ability to generate cash for rental payment. This operates against the supply of the right work/living space that people want.

Average rental growth across our world cities in 2015 (see fig.1) was 2% for office space and 1% for residential – these averages covered a range of different experiences. Residential rents in San Francisco grew by 14%, but they fell by 18% in Moscow. Sydney topped the office rent growth table at 11%, while Dubai's office rents fell by 16%.

Not only do different supply conditions pervade in different cities, demand patterns have also changed significantly. In the

years immediately after 2008, emerging economies were strong. Consequently, demand for workspace was also strong in our 'new world' cities of Shanghai, Singapore, Hong Kong, Mumbai and Moscow. Rental growth during this period varied according to supply conditions but rents have remained significantly higher in some of these cities. Office rents in Hong Kong and residential rents in Mumbai, for example, are still 37% higher than they were in 2008.

However, fortunes have reversed and the new world cities have seen some of the most volatile markets (see fig.2). Office rents in Mumbai are down 32% on 2008 levels, despite robust growth last year, while residential rents in Moscow stand at just over half their previous seven-year level, having fallen 53% since 2008.

**no.1**  
San Francisco tops the AT Kearney list of cities with the most 'future potential'

The big growth story of the past seven years has been the 'upstart cities' of San Francisco, Berlin (pictured) and Dublin, which saw rental growth in the last year averaging 6% for workspace and 8% for homes. San Francisco's residential rents grew 14% in 2015 alone, reflecting strong demand from a growing population and a booming creative-digital economy. The city's residential rents are now 72% higher than they were in 2008, while Berlin's are 58% higher for new lettings to our sample group. Office rents are now 30% and 28% higher in the two cities, respectively.

### WORLD CITY INVESTMENT OUTLOOK

Future rents in all our world cities will be determined by the economic success of those cities and their ability to continue scoring high on various performance measures. Maintaining their ranking will indicate that they are likely to continue attracting global tenants. Those cities with high ratings for economic potential will likely see the highest rental growth in the future. Twelve of our world cities are in the AT Kearney top 25 global cities for economic potential, so they would appear to be the ones to watch (see fig.3).

GETTY IMAGES

FIG. 1 Annual rental growth in 2015

Offices	Residential
Sydney 11%	San Francisco 14%
Los Angeles 9%	Los Angeles 10%
San Francisco 8%	Dublin 9%
Chicago 8%	Shanghai 6%
Berlin 8%	Miami 5%
Mumbai 7%	Dubai 3%
London 6%	New York 3%
Hong Kong 6%	Mumbai 3%
Dublin 6%	Berlin 3%
New York 4%	London 3%
Miami 4%	Hong Kong 0%
Paris 3%	Tokyo 0%
Shanghai 1%	Sydney 0%
Toyko 0%	Paris -2%
Singapore -3%	Chicago -4%
Moscow -3%	Singapore -6%
Rio de Janeiro -11%	Rio de Janeiro -8%
Dubai -16%	Moscow -18%

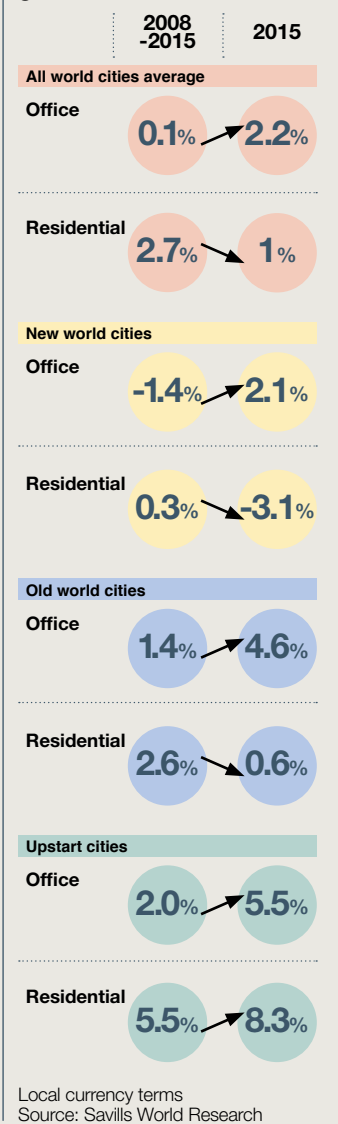
New world cities Upstart cities Old world cities  
Local currency terms  
Source: Savills World Research

FIG. 3 AT Kearney ranking for global city 'future potential'

City	Kearney ranking
San Francisco	1
London	2
New York	4
Sydney	11
Berlin	13
Singapore	14
Chicago	17
Tokyo	18
Paris	19
Los Angeles	21
Dublin	22
Dubai	25

Source: AT Kearney

FIG. 2 Office and residential rental growth rates



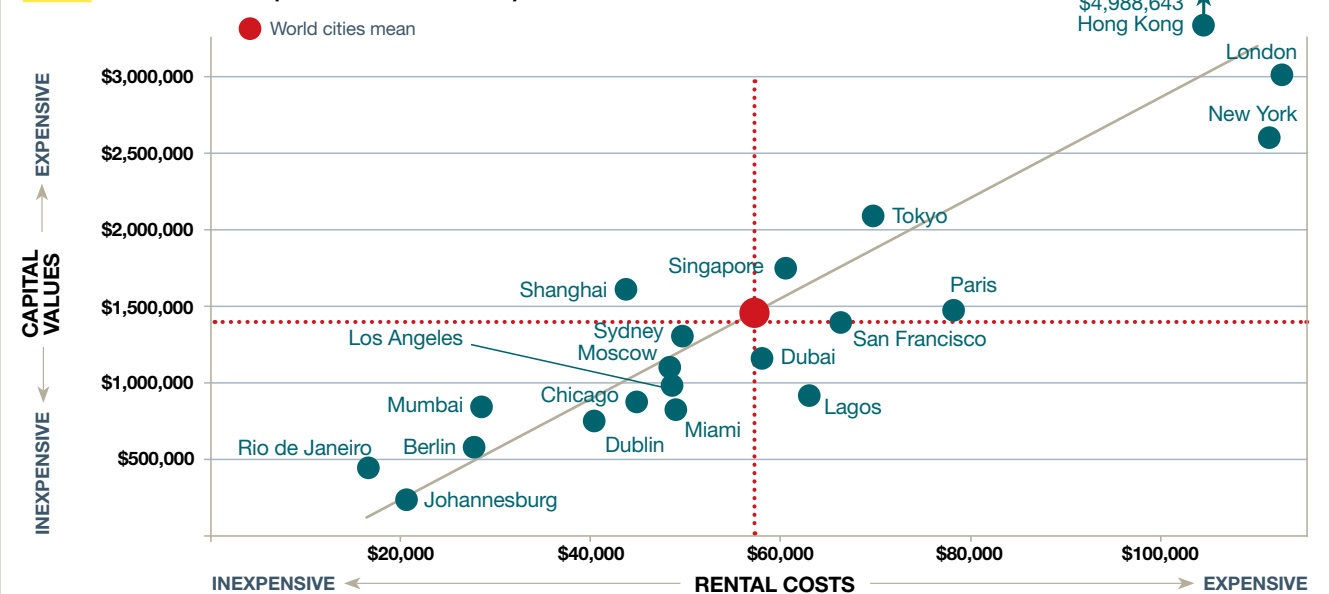
While there has been a significant change in the rates at which income streams are capitalised by investors over the past seven years, it is the actual rents received from occupiers that will ultimately determine the long-term success or failure of real estate investments, as even capital value appreciation will be determined by value assumptions made on rents – even if credit and capital availability change. Investment performance is underscored by rental levels and growth; this is particularly critical at a time when worldwide cap rates are very low and there is fierce competition between a wide range of investors searching for income-producing real estate assets.

The chart below (fig 4) shows the price that investors have to pay for buildings (given current cap rates) and the rental levels they will achieve per occupant. This analysis illustrates how different city markets fall into four quadrants.

The upper left quadrant is where capital values are high in relation to rents and there will either be most pressure to achieve higher occupancy rates and/or where yield compression may have reached its limits. The lower right hand quadrant is where rents are high in relation to capital values so there may be scope for further yield compression if rents are not falling.

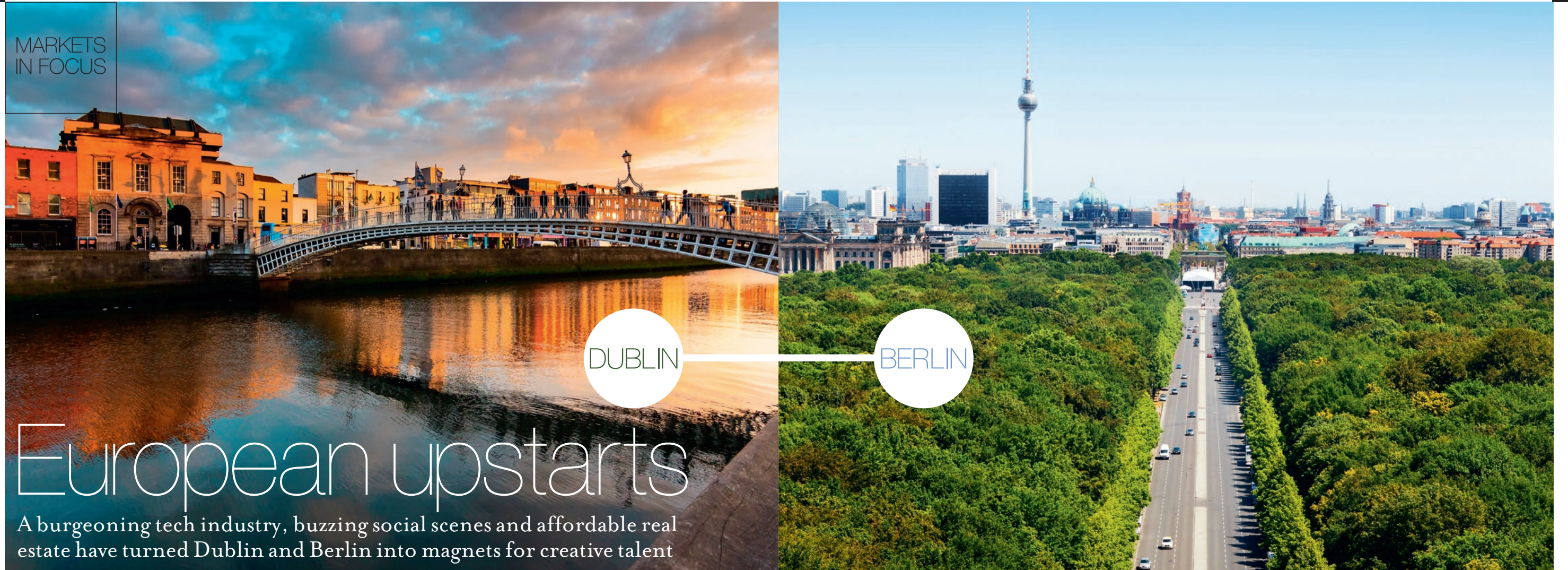
The lower left quadrant illustrates cities with relatively low rents and capital values, with the best-value cities falling below the trend line. The upper right quadrant illustrates where both capital values and rents are high; our most mature and developed global markets sit here. ■

FIG. 4 SEU combined (office and residential)



Source: Savills World Research





# European upstarts

A burgeoning tech industry, buzzing social scenes and affordable real estate have turned Dublin and Berlin into magnets for creative talent

The two cities emerging as big hitters on the global stage – Dublin and Berlin – epitomise what is happening in successful European centres. Located in countries with contrasting economic stories, as cities they have a remarkable amount in common. Vibrant and affordable, they are where footloose, creative global talent wants to live and work.

## TECH AND TALENT

The attractiveness of both cities goes hand in hand with the development of a burgeoning, digitally enabled and creative tech industry. Start-ups, scale-ups and established corporations in the tech space are competing fiercely for skilled employees, and it is in vibrant cities such as Dublin and Berlin where this talent wants to live and work. With the magic formula of high-quality urban environments, favourable regulatory backdrops and low property costs, Berlin and Dublin have emerged as havens for Gen Y creative talent.

Berlin's offer is dominated by online, e-commerce and software-driven tech that has seen success stories such as music cloud storage platform Soundcloud and early-stage incubator Rocket Internet.

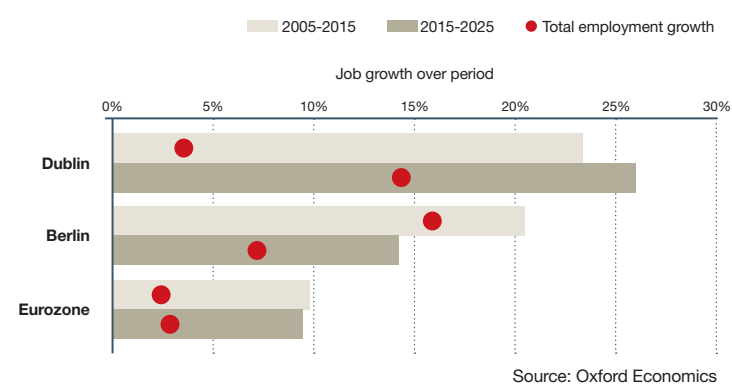
Ireland's corporate tax rate of just 12.5% initially made it attractive to large US tech firms, which have set up their European headquarters in Dublin; Google, Facebook and LinkedIn are among the best-known firms that are now domiciled in the city. These major tech firms, based in either Dublin Docklands or

'Silicon Docks', have been a catalyst for the wider industry, building confidence among local start-ups.

Digital industry has fuelled a growth in jobs in both cities. The number of jobs in the information and communication sector grew by 23.3% in Dublin between 2005 and 2015, at a time when total employment in the city increased by just 3%. Further growth of 25.9% is forecast over the next 10 years.

Berlin saw similar levels of employment growth in the sector – up 20.5% over the past decade – against a eurozone average of 9.8%. The information and communication sector has outperformed across Europe, but it is in cities such as Berlin and Dublin where growth has been most marked (see fig. 1).

FIG. 1 Job growth over period



## QUALITY OF LIFE

What makes these cities attractive to the fast-growing tech industry? We know that human capital is the most important resource for the tech-enabled sector, and although both cities generate graduates through their own universities, they attract skilled migrants too.

People like to visit and live in cities that have history, creativity, tourist attractions, lively mixed-use city centres, a diverse retail offering and leisure activities. Both Dublin and Berlin offer this, and on a smaller footprint than their megacity rivals. The compact nature of Berlin and Dublin equates to short average commute times (by world city standards at least), supporting a positive work/life balance.

Dublin has a lively social scene, with an especially high ratio of bars and restaurants per head of the population, which has proven integral for networking and business development. In central Berlin the 'kaffeekultur' of Kreuzberg and neighbouring Mitte districts, with its high density of both coffee shops and cheap workspace and collaboration spaces, has been one of the catalysts for innovation.

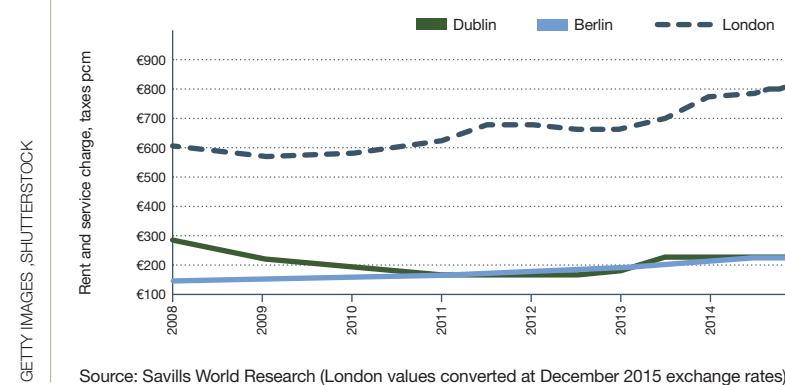
## LOW-COST PROPERTY

Although rising, real estate costs in both cities are very cheap by international standards for both commercial entities and individuals. This gives them an edge over their big-city rivals, equating to affordable office space for young start-ups and freeing up capital that would normally be used to service rent for business development, expansion and paying for talent (see fig. 2).

Dublin saw falls in residential and commercial values in 2006/07 and 2011, making it more competitive in terms of property costs. Office rents of the type occupied by small, growing companies are 20% below 2008 levels. For those looking to buy a home, prices are still 36% below their 2006 peak, at values that are half those in London and two-thirds those of Paris.

In Berlin, residential capital values never fell and have almost doubled in the past decade but are still low by global standards, while rents have remained affordable thanks to tenant-friendly letting laws. The cost of office space of the type occupied by growing tech firms is on a par with that of Dublin. ■

FIG. 2 Rent and costs for creative/tech office space







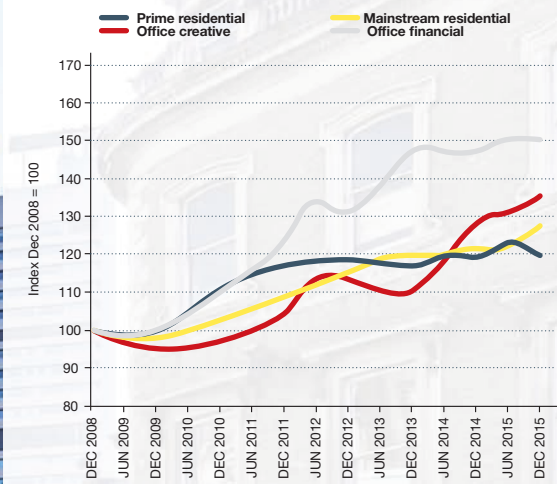
# Working space

All the key facts and figures behind the performance of the real estate markets in each of our 12 cities



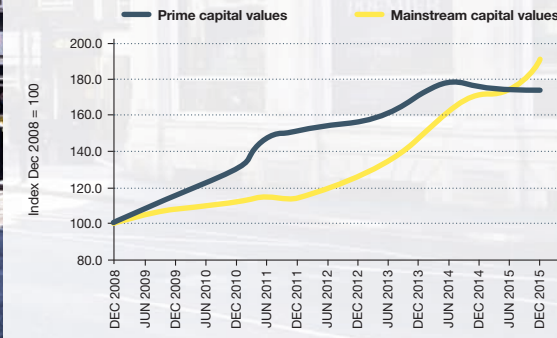
## 1 LONDON

### Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	3.34%	Financial	3.25%
Staff	3.80%	Creative	4.50%
		Grade A effective yield	2.54%

### Residential capital values



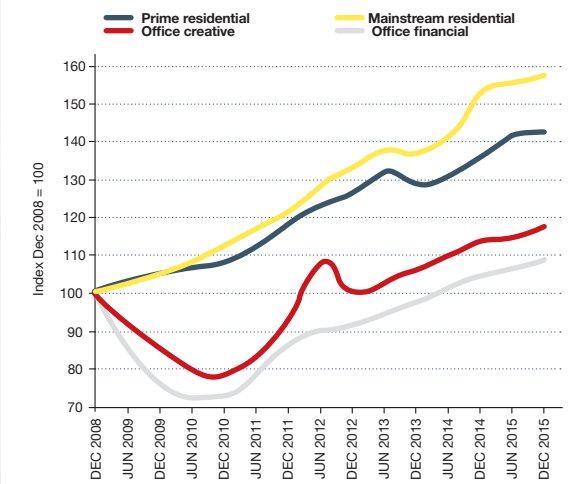
Metro population	14,849,568
Population growth since 2008	9.20%
SEU live/work per person	\$112,785
GDP YoY growth	3.34%
GDP growth since 2008	12.32%
GDP per capita	\$61,962
Average annual disposable household income 2014	\$85,577

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	-0.85%	0.47%
Mainstream	11.51%	4.21%



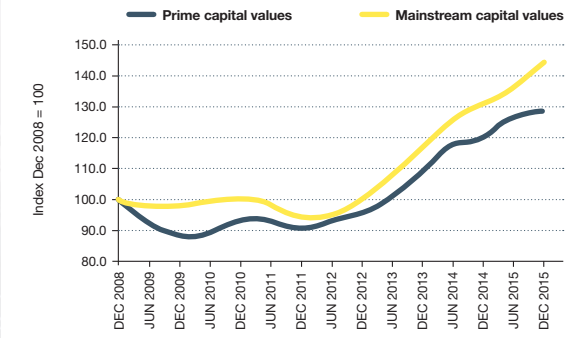
## 2 NEW YORK

### Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	4.18%	Financial	4.10%
Staff	5.22%	Creative	4.20%
		Grade A effective yield	2.67%

### Residential capital values



Metro population	20,192,167
Population growth since 2008	4.38%
SEU live/work per person	\$111,323
GDP YoY growth	2.08%
GDP growth since 2008	14.15%
GDP per capita	\$75,769
Average annual disposable household income 2014	\$145,313

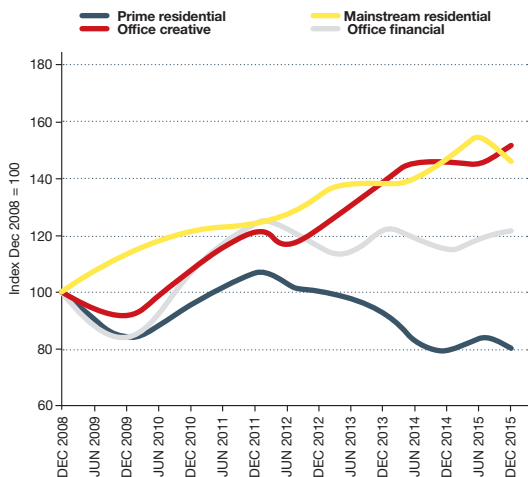
RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	7.31%	4.48%
Mainstream	9.36%	2.40%





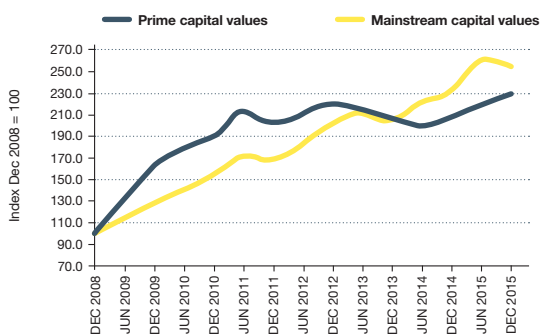
### 3 HONG KONG

#### Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	1.77%	Financial	2.60%
Staff	3.01%	Creative	3.20%
		Grade A effective yield	2.36%

#### Residential capital values



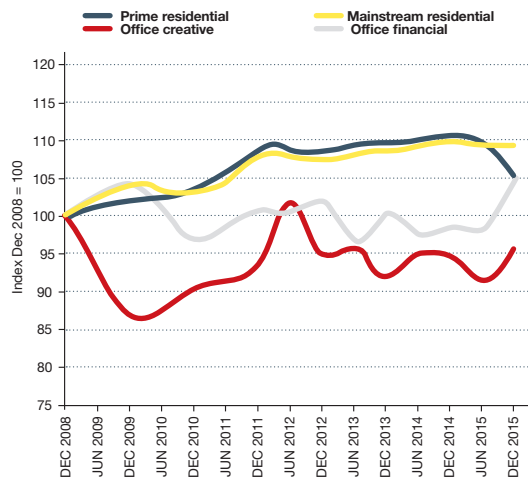
Metro population	7,295,035
Population growth since 2008	5.38%
SEU live/work per person	\$103,171
GDP YoY growth	2.31%
GDP growth since 2008	20.00%
GDP per capita	\$38,914
Average annual disposable household income 2014	\$54,195

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	9.83%	1.79%
Mainstream	10.57%	-1.68%



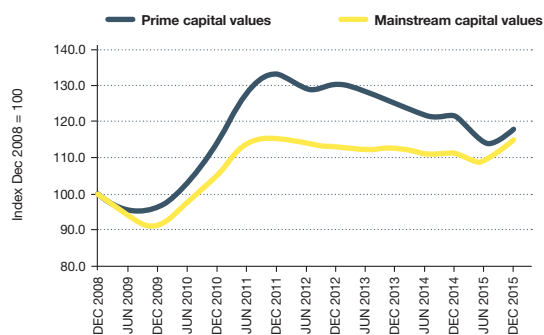
### 4 PARIS

#### Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	4.15%	Financial	4.25%
Staff	5.57%	Creative	4.75%
		Grade A effective yield	3.12%

#### Residential capital values



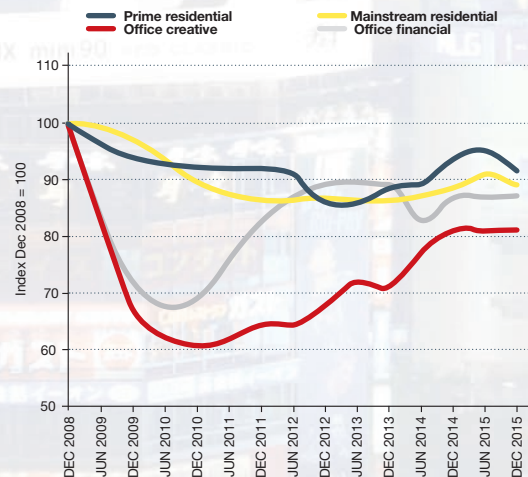
Metro population	12,525,937
Population growth since 2008	3.45%
SEU live/work per person	\$78,176
GDP YoY growth	1.50%
GDP growth since 2008	3.69%
GDP per capita	\$66,458
Average annual disposable household income 2014	\$73,641

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	-3.15%	-4.91%
Mainstream	3.47%	0.20%



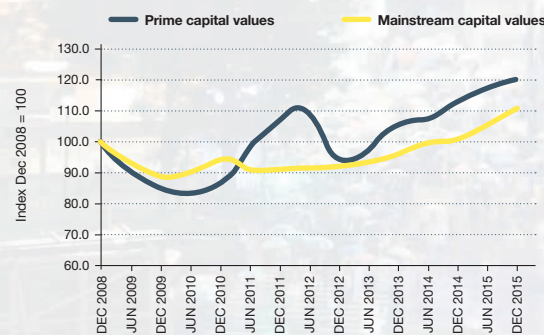
### 5 TOKYO

#### Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	3.57%	Financial	3.20%
Staff	2.65%	Creative	4.00%
		Grade A effective yield	3.30%

#### Residential capital values



Metro population	37,004,327
Population growth since 2008	2.22%
SEU live/work per person	\$69,783
GDP YoY growth	1.21%
GDP growth since 2008	3.52%
GDP per capita	\$55,658
Average annual disposable household income 2014	\$73,030

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	6.16%	-1.75%
Mainstream	9.79%	0.90%

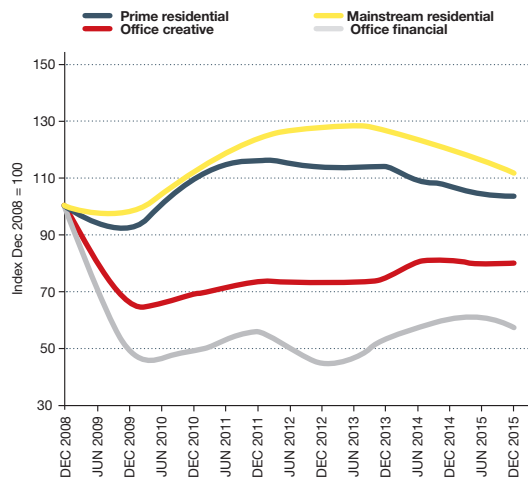






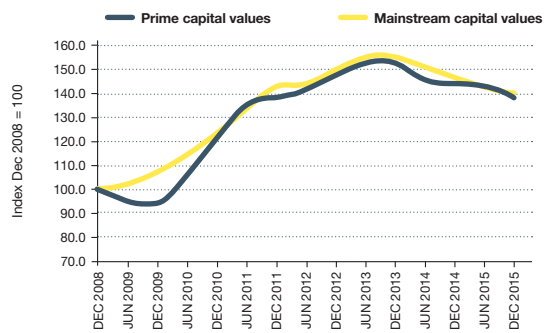
# 6 SINGAPORE

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	3.02%	Financial	4.27%
Staff	5.93%	Creative	3.50%
		Grade A effective yield	4.27%

## Residential capital values



Metro population	5,546,100
Population growth since 2008	14.60%
SEU live/work per person	\$60,574
GDP YoY growth	2.13%
GDP growth since 2008	38.11%
GDP per capita	\$57,389
Average annual disposable household income 2014	\$87,435

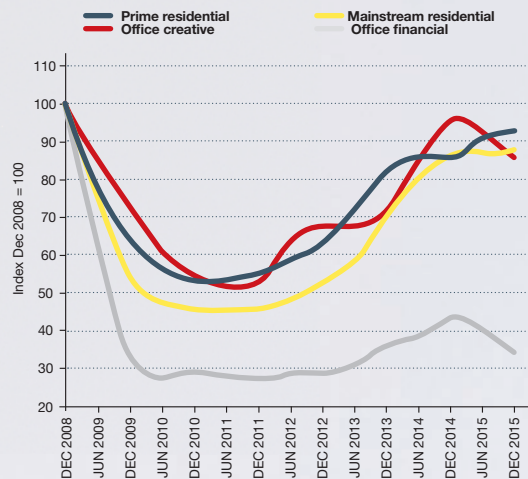
RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	-3.59%	-4.69%
Mainstream	-4.15%	-6.36%

# WORLD CITIES INDEX



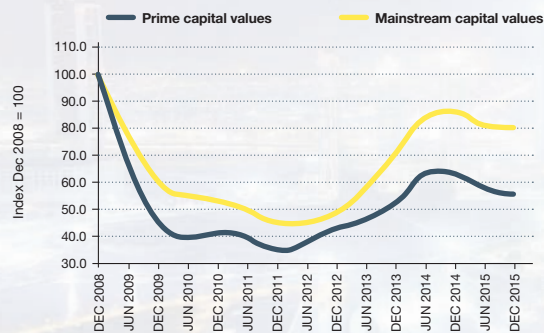
# 7 DUBAI

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	4.59%	Financial	4.50%
Staff	8.82%	Creative	4.50%
		Grade A effective yield	N/A

## Residential capital values



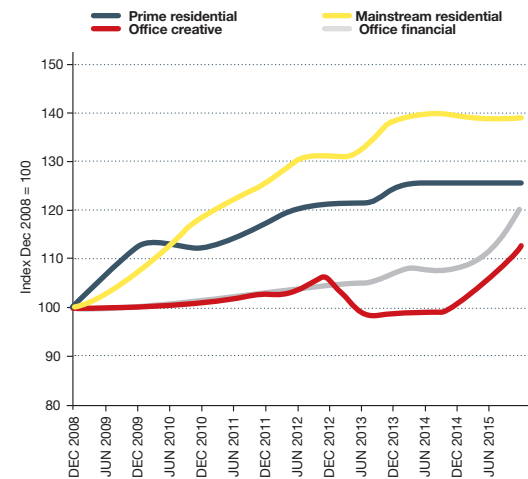
Metro population	2,414,591
Population growth since 2008	53.42%
SEU live/work per person	\$58,268
GDP YoY growth	4.15%
GDP growth since 2008	22.79%
GDP per capita	\$45,078
Average annual disposable household income 2014	\$128,257

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	-10.78%	8.10%
Mainstream	-6.81%	-0.01%



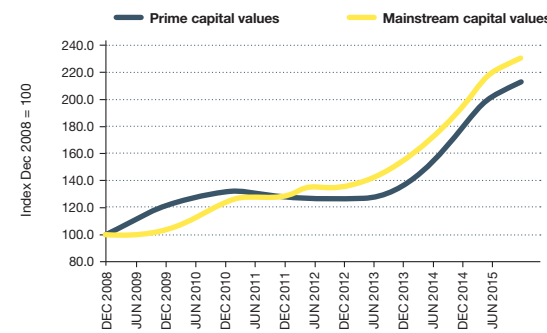
# 8 SYDNEY

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	3.63%	Financial	6.00%
Staff	3.89%	Creative	7.75%
		Grade A effective yield	3.80%

## Residential capital values



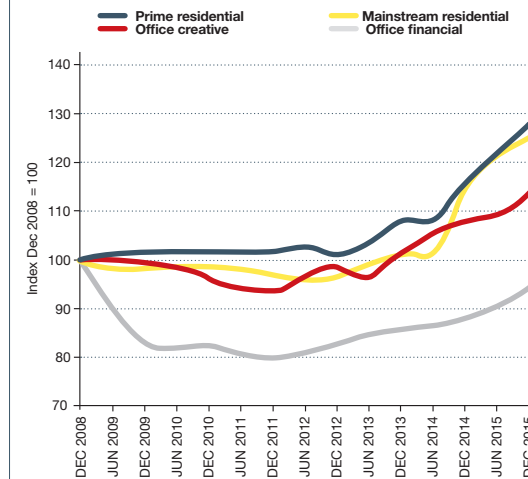
Metro population	4,941,435
Population growth since 2008	11.81%
SEU live/work per person	\$49,519
GDP YoY growth	2.95%
GDP growth since 2008	17.17%
GDP per capita	\$73,763
Average annual disposable household income 2014	\$136,751

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	18.88%	0.00%
Mainstream	17.99%	-0.61%



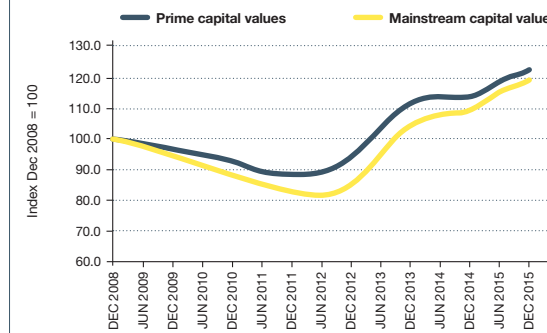
# 9 LOS ANGELES

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	5.01%	Financial	4.70%
Staff	5.32%	Creative	5.90%
		Grade A effective yield	3.29%

## Residential capital values



Metro population	13,316,881
Population growth since 2008	5.16%
SEU live/work per person	\$48,606
GDP YoY growth	3.36%
GDP growth since 2008	3.72%
GDP per capita	\$65,035
Average annual disposable household income 2014	\$133,865

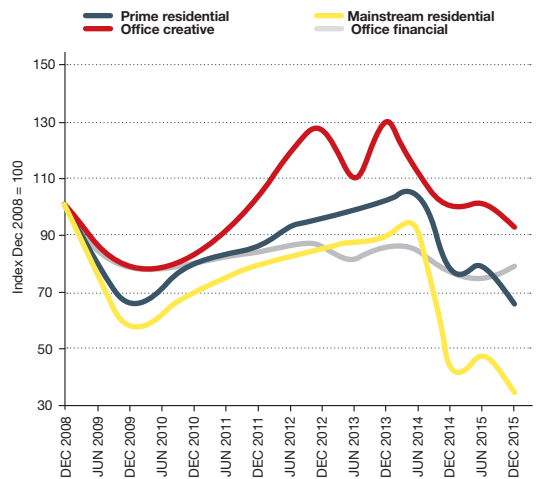
RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	7.15%	10.02%
Mainstream	9.09%	10.48%





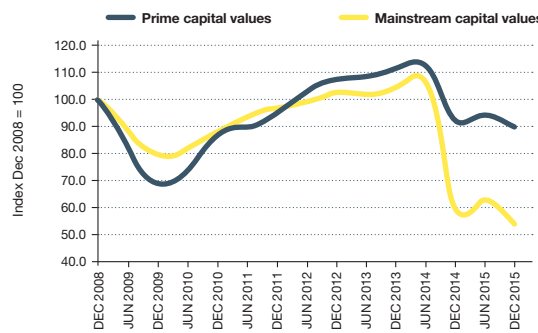
# 10 MOSCOW

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	3.30%	Financial	10.00%
Staff	5.34%	Creative	11.50%
		Grade A effective yield	N/A

## Residential capital values



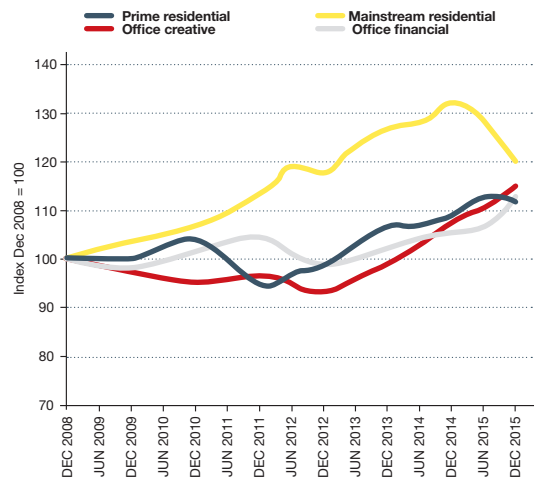
Metro population	12,229,586
Population growth since 2008	5.88%
SEU live/work per person	\$48,339
GDP YoY growth	-4.07%
GDP growth since 2008	-9.33%
GDP per capita	\$34,208
Average annual disposable household income 2014	\$40,698

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	-2.89%	-13.91%
Mainstream	-8.62%	-21.95%



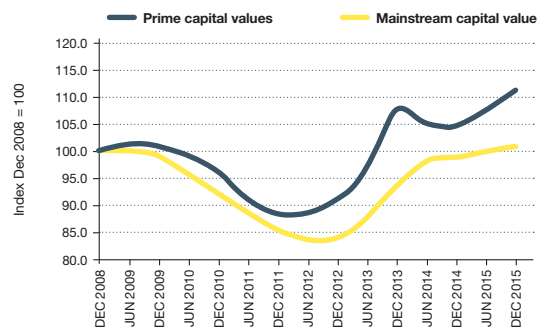
# 11 CHICAGO

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	4.28%	Financial	5.70%
Staff	5.98%	Creative	6.00%
		Grade A effective yield	3.49%

## Residential capital values



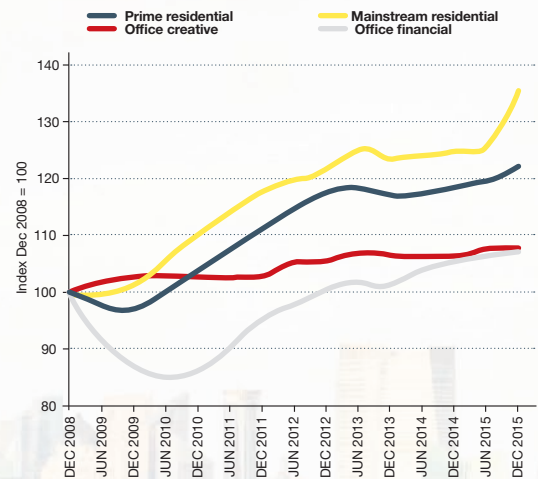
Metro population	9,589,575
Population growth since 2008	2.31%
SEU live/work per person	\$44,665
GDP YoY growth	1.63%
GDP growth since 2008	4.99%
GDP per capita	\$62,641
Average annual disposable household income 2014	\$121,123

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	6.00%	2.60%
Mainstream	2.34%	-9.22%



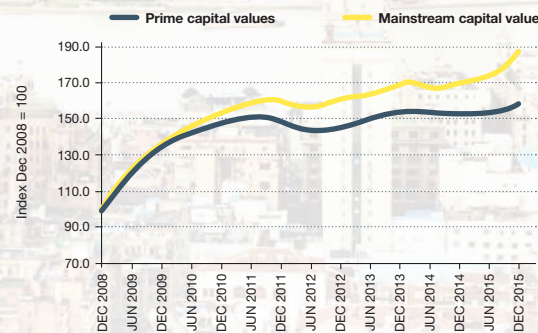
# 12 SHANGHAI

## Rents



SEU RESIDENTIAL YIELDS		OFFICE YIELDS	
CEO and directors	2.22%	Financial	5.30%
Staff	2.36%	Creative	5.70%
		Grade A effective yield	4.36%

## Residential capital values



Metro population	24,756,770
Population growth since 2008	15.43%
SEU live/work per person	\$43,695
GDP YoY growth	5.59%
GDP growth since 2008	68.91%
GDP per capita	\$16,839
Average annual disposable household income 2014	\$20,481

RESIDENTIAL YoY GROWTH DEC 2015	CAPITAL VALUES	RENTS
Prime	3.06%	2.67%
Mainstream	10.04%	8.32%

CORBIS, GALLERY STOCK, GETTY IMAGES, PANOS PICTURES, SHUTTERSTOCK



OUTLOOK

**↑** **HEADING NORTH – CITY RANKING AND POTENTIAL**

Our city ranking analysis (*see p4*) highlights two things: first, that rent levels and growth are dependent on cities achieving – and then maintaining or growing – their competitive edge against other global cities. Currently, New York and London dominate the ranking of our core 12 cities, Dubai and Singapore are rising, while Hong Kong and Moscow have moved down the rankings.

Second, small cities such as San Francisco, Berlin and Dublin are climbing the ranks and becoming more competitive, as well as costing less in rent than the larger global cities' average. These compass points show the way for investors; countries that rank higher on accommodation costs than on city quality and competitiveness (Hong Kong, Dubai

and Moscow) are likely to experience less rental growth in future than those that rank lower. Meanwhile, the highest rental growth is likely to be seen in the cheapest real estate rental markets that have the highest potential for growth and development as global cities. Both Berlin and Dublin stand out in this regard.

**'Small cities are climbing the ranks and becoming more competitive'**

**N**



**→** **HEADING EAST – CHINESE DEBT**

Real estate debt in China is a metric for which there are no reliable figures, although McKinsey Global Institute estimated that, as of Q214, Chinese debt exposure to real estate (less mortgage household

**'Not all Chinese developers are indebted and their performance varies'**

**E**

debt) totalled \$6-7.7 trillion. Not all Chinese developers are deeply indebted and their financial performance varies accordingly, but they are a group that has seen some significant refinancing of late.

Where these are state owned or part state owned, bailouts may have been facilitated by some of the \$245 billion sell-off by the Chinese of US treasuries since March 2014, although most went toward reducing foreign reserves, maintaining the US currency peg and stemming capital outflow. While stock markets decline, real estate has still proved to be the best investment and is an important store of personal wealth in the People's Republic. The government will not want to see real estate contagion, which is why continued support of the industry is likely.

Compass points

Here, we take some headings from current market conditions and suggest the direction of travel for different aspects of global real estate

**←** **WESTERN INSTITUTIONS – SHARE PRICES AND STOCK ALLOCATION**

The fact that there is no direct link between the price of shares on the Shanghai Stock Exchange and the rent on an office building in downtown Denver gives real estate an important place in any diversified investment portfolio. But, as global share prices fall and the consequent value of equity portfolios decrease, so the proportion of funds now allocated to real estate must,

de facto, rise. This presents a problem for funds, which limit their exposure to real estate by reference to the proportion of the value of all funds under management. Even without any new investment, real estate fund allocation will reach or exceed the upper bounds set by institutional fund managers in 2015.

If buy orders are withdrawn, there will be contagion from equity markets to real estate. If demand eases and yields soften, this could present buying opportunities for non-institutional investors unfettered by asset allocation limits.

**W**

**'Real estate fund allocations will reach the upper bounds set in 2015'**

**S**

**'Some sovereign wealth funds are starting to liquidate overseas assets'**

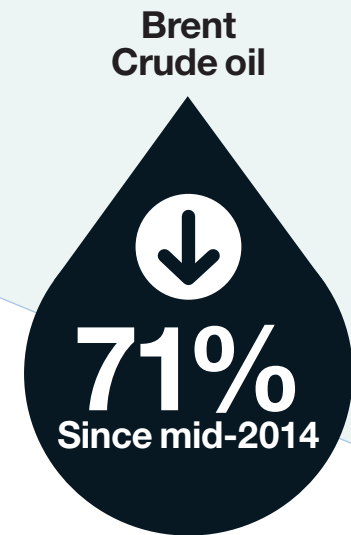
**↓** **HEADING SOUTH – OIL PRICES**

The 71% fall in the price of Brent Crude since June 2014 has had a profound effect on some real estate markets. Moscow's price falls are perhaps the most pronounced among our global cities, while Dubai, although not directly dependent on oil, has nevertheless seen a distinct cooling.

The effects of low oil prices are asymmetric, with some non oil-producing markets in Europe and the US

potentially benefiting from improved consumer spending and a flight of (usually private) funds from oil-producing regions into real estate and other assets.

In the meantime, some sovereign wealth funds – and others that are dependent on oil revenues – are liquidating overseas assets to repatriate funds, or will need to do so if the oil price remains low. This may offer some core prime buying opportunities in a world where they would have been otherwise scarce.





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