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Foreword

The urban world is in full swing. The number of people living in cities is increasing by more than the population of the UK, Colombia or South Africa each year, and the present and future performance of cities has never been more important. Cities are now the major sites where challenges around the new economy, sustainability and resilience, equality, infrastructure, leisure and culture are all played out. Five years on from the Global Financial Crisis, the focus is on how cities are navigating new paths towards sustainable growth.

The measurement of city performance is one of the critical ways in which we can assess the complexity of urban change, and judge which approaches are successful or not. This report, prepared by Greg Clark and Tim Moonen, makes a valuable contribution in assembling the widest possible collection of global city indexes, benchmarks and comparative rankings. This 2013 edition has been expanded in scope to encompass over 150 indexes, which together offer a comprehensive bird's-eye view of the state of city watching worldwide.

Cities are inevitably responding differently to the demand for new approaches to internationalisation. Some have moved faster than others, whether in terms of trade links, investment sources, sustainability or integrating urban systems. The benchmarks, reports and indexes presented here provide a unique resource for governments, business leaders and investors to learn about city strengths and weaknesses, and assess the progress of new agendas in a fast-moving global economy.

Rosemary Feenan, Jones Lang LaSalle

1. City Indexes, Benchmarks and Rankings in 2013

The measurement of city performance is one of the critical ways in which we can assess the complexity of urban change and judge which approaches to managing that change are successful or not. This report assembles the widest possible collection of global city indexes, benchmarks and comparative rankings.

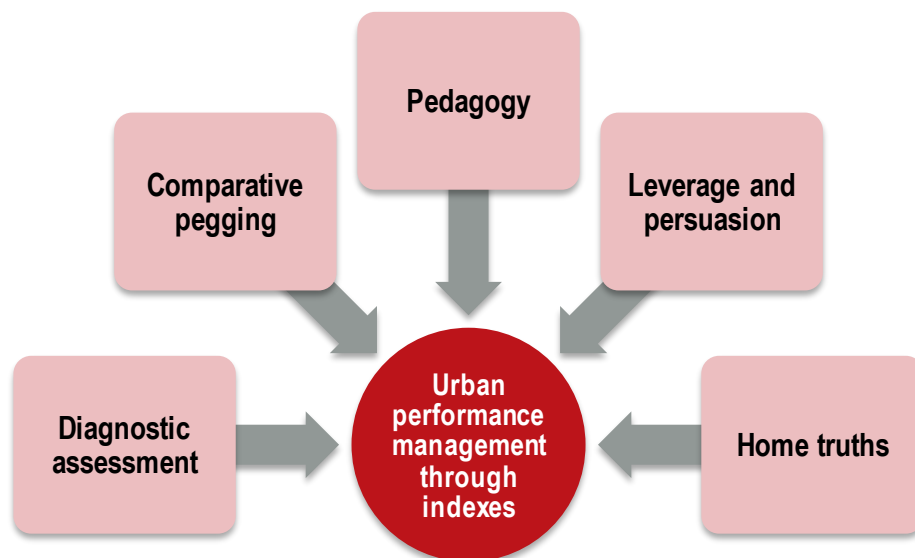
These valuable studies are produced by multi-governmental institutions, business consultancies, research foundations and media outlets at national, regional and global levels. They are one of the most important means of tracking city trends, economic and investment patterns, and the effects of political or regulatory adjustment. They also help to crystallise the ingredients of city success over much longer time frames - five or even 10 business cycles.

New indexes are spread across the full breadth of the city performance spectrum. Many offer new insights into the power of cities' brands and their capacity to attract or build investment, two areas of renewed priority for purposeful city leaders.

Alongside and complementary to this ever-expanding cluster of benchmarks is an important body of new research covering urban strategy and the models of future urban development. The United Nations, European Union, World Bank and the UK's Department for International Development, as well as private firms, including the McKinsey Global Institute and PricewaterhouseCoopers, and research specialists, such as the Brookings Institution, have all produced welcome additions to our understanding of the future landscape of cities. Their insights are also introduced in this report.

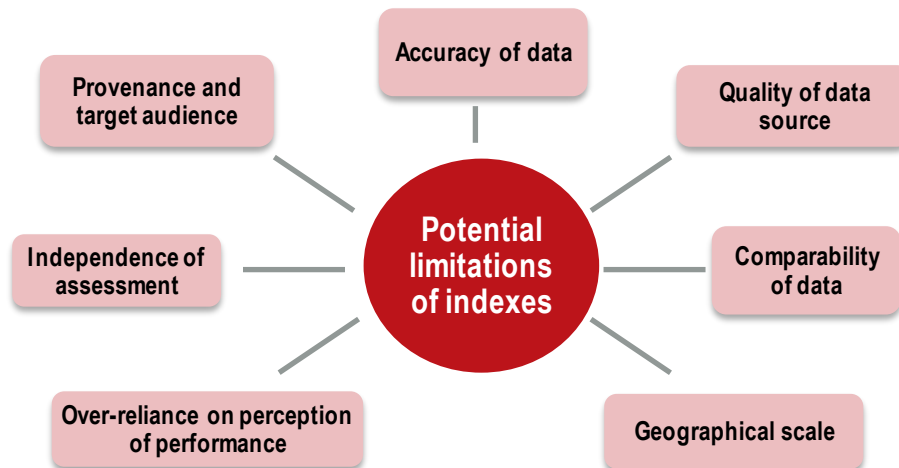
Cities are inevitably coping differently with the accelerated pace of change and the demand for new strategies and approaches to internationalisation. Some are performing better than others, either as engines of trade and innovation, or as exemplars of climate change mitigation and social inequality management. The array of benchmarks, reports and indexes presented here provides particularly useful tools for city governments, business leaders and investors. They offer both opportunities to learn about strengths and deficiencies not previously articulated, and the data to help inform governments or citizens about new agendas. The utility of indexes for stakeholders concerned with urban performance is summarised in Figure 1.

Figure 1. Role of city indexes and benchmarks



The range of research mined by these indexes, both quantitative and perception-based, represents one of the most useful ways to track, measure and inform about urban change and competitiveness. There remains, of course, scope for error and distortion in the indexes' results. Potential problems include data quality, geographic bias, boundary coverage, originality and up-to-date information (Figure 2). These factors must be taken into consideration by any reader, and moderate the findings and conclusions made in this paper.

Figure 2. Pitfalls in city indexes and benchmarks



Many of the best and most established benchmarks are produced by major corporations - consultancies, banks, professional services firms - all with industry expertise and global coverage. They now often combine their resources with public and private research institutions, in order to blend rigour with accessibility. Since 2011 we have also seen the rise of indexes deployed and circulated as marketing and communication tools, sometimes at a cost to data reliability.

For those interested in the science of urban performance, the challenge is to use these new data sources as a gauge of citizen and business sentiment and perception, and as indicators of more fundamental processes taking place at the city level – governance, openness, strategy, vision and investor friendliness. Commercial bodies will continue to be the drivers behind much of the comparative information about world cities. Where the rigour and science is open to question, the factors behind competitiveness and success can still be found for those who interpret carefully. The caveats of city indexes are, of course, cautionary, and when understood in context, the potential pitfalls can be safely navigated.

In the process of assembling an unprecedented number of urban benchmarks in one document, we also explored the combined implications of the results of every study. In the sections below, we examine what these benchmarks reveal about city performance and perception since 2011. Where relevant and appropriate, we have integrated indices of overlapping theme and amalgamated them in order to obtain an aggregate position in given dimensions, such as quality of life and sustainability. These overall rankings are usually used for indicative purposes, and do not represent definitive analysis, not least because of the challenges of data comparability.

The 2011 Business of Cities report: A refresher

The 2011 report was published just after the worst of the recession for advanced urban economies. New York had recovered faster than London and had caught up the British capital in measures of financial services provision and business connectivity, and maintained its lead as the global talent capital. The Anglo-American pair

had, slightly unexpectedly, retained a firm grip as the most important nodes in the global economy. Paris and Tokyo performed noticeably well in terms of sustainability, rail transport and R&D bases, but their commercial openness deficits saw them consistently placed well behind the LON-NY axis.

2011 saw Asian cities other than Tokyo arrive in the global top 20 for the first time. Shanghai stood out for FDI and real estate growth, and was routinely identified as a first-rate global business leader of the near future. But the gap between Asian frontrunners and strugglers became more apparent as large South-East Asian capitals straining with infrastructure deficits showed very little headway in global assessments, despite increased visitor traffic.

Instead, some of the biggest advances were found in more advanced Eastern European cities. Polish cities in particular, led by Warsaw, were conspicuous by their rise up the outsourcing and investor-friendliness rankings, while German and Canadian cities proved to their counterparts in Western Europe and North America the advantages of investing in liveability, school education and steady infrastructure upgrades.

In the aftermath of the global downturn, indexes in 2011 had highlighted the widening gulf between high-performing and vulnerable cities. Just as there was clearly increasing competition at the top of the global urban hierarchy, many liveability studies pointed to a cluster of cities with chronically poor health, security and economic prospects. There were even amplified divisions within nations, as cities such as Detroit and Kolkata fell behind due to their housing and governance concerns.

Success factors in 2011

The 2011 edition of this report identified several correlations between successful performance and city attributes. Firstly and most decisively, cities with large numbers of multinational firms tend to have much more liveable city centres, higher investment rates, more tourism and greater public and commercial recognition. Only a very small number of more closed urban economies succeeded in these areas, and usually only when historic assets and a large domestic population continued to supply a big enough market.

Meanwhile, slightly smaller cities posting success in 2011 often also excelled for environments conducive to creative and entrepreneurial activity. High-tech clusters proved successful instruments of economic success in the 2011 indexes, including for cities such as Seattle, Zurich and Abu Dhabi. Cities boasting diverse research and development (R&D) expertise often achieved favourable results in a variety of sector-specific rankings, as well as in higher education and civic life. Furthermore, we saw the first signs that, as the global balance of growth began to move eastwards, those cities with the largest institutional presences and the widest port and airport links to emerging economies had been the most resilient through the downturn.

Finally, the 2011 report highlighted a new consciousness of the role of autonomous and visionary city government in achieving specific city goals. A number of indexes acknowledged leading cities' capacity to devise and implement strategies to attract and retain educated people, generate economic opportunity, market effectively, and develop as cultural or sustainability pioneers. The outcomes of liveability, diversity and openness began to be recognised by index authors as linked to the quality of management and leadership by city leaders and departments, including in cities such as Portland, Sydney, Dubai and Barcelona.

Index trends

Between 2008 and 2011 we detected a major advance among the leading comprehensive global indexes, which had become increasingly collaborative with universities and think tanks. Standards of rigour were higher than ever before. In the place of straightforward lists came more advanced levels of categorisation, more robust

analytical profiling and more context for cities depending on their circumstances and development level. For the first time, global and regional indexes had emerged from beyond Europe and America, including from Japan, China, India and Chile, often supported by senior urban academics specialising in competitiveness.

In 2011 our study found that ranking assessments had increasingly come to target mobile workers, entrepreneurs and executives making lifestyle location choices. This had led to more emphasis on security, entrepreneurial freedom and liveability, especially in a cluster of new North American reports. But the weightings on terrorism, political stability, crime and private services, popular in studies by consulting firms, had led to a situation where liveability benchmarks had come to penalise those large dynamic cities whose buzz and energy were not captured by the existing framework. This discrepancy was compounded by the fact that rankings had become increasingly mutually referential, as some data on liveability and infrastructure became widely accepted as the standard across several studies.

Finally, in the last report the new future-oriented character of some indexes was analysed. The focus on city futures reflected the prevailing concern among policy and business communities to re-establish new patterns of predictability after the volatility of the previous three years. Many long-term economic, investment and environmental outlook rankings predicted that growth or excellence would become more diffuse geographically and across varying city scales. Some new studies – such as the Global Power City Index – had been created precisely to provide a valuable tool for establishing future urban strategies for individual cities such as Tokyo. Meanwhile, technology firms had begun to circulate limited assessments of ‘smart’ and ‘intelligent’ cities, as the opportunities to use ICT to integrate city systems became more apparent. We noted that these futurist agendas, while valuable, had not yet crystallised into a clear understanding of what long-term city success would really look like.

The 150 city indexes and benchmarking reports

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
1.1 MORI Global Power City Index	6 field all-round city ranking	Global	40		●		●		●		●
1.2 Global Urban Competitiveness Project	Quantitative-led economic focused indicator study	Global	500	●		●		●			
1.3 PricewaterhouseCoopers/Partnership for New York City: Cities of Opportunity	Select city in-depth coverage	Global	27	●		●	●		●		
1.4 AT Kearney Global Cities Index	5 field all-round city ranking	Global	65	●			●		●		
1.5 Knight Frank: Global Cities Survey	4 field all-round city ranking	Global	40		●	●		●		●	
1.6 Economist Intelligence Unit and Citigroup: Hotspots	6 field competitiveness ranking	Global	120					●		●	
1.7 UN-Habitat City Prosperity Index	5 field all-round city ranking	Global	100+						●		

Finance, investment and business environment Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
2.1 Z/Yen Global Financial Centres Index	Executive survey	Global	80	●	●	●	●	●	●	●	●
2.2 Cushman & Wakefield European Cities Monitor	Executive survey	Regional	36	●		●		●			
2.3 Globalization and World Cities Group (GaWC)	Company location survey	Global	500+		●		●				
2.4 fDi Intelligence: Cities of the Future	Data indicators plus expert assessment	Regional	600+	●	●	●	●	●		●	●
2.5 IBM: Global Location Trends	Investment project count	Global	20			●		●		●	
2.6 Global Services and Tholons: Top 100 Emerging Global Outsourcing Cities	Industry survey and secondary research	Global	100			●	●	●		●	
2.7 Toronto Board of Trade Scorecard on Prosperity	Comprehensive data indicators	Global	24		●	●	●	●		●	
2.8 AméricaEconomía Best Cities to Do Business in Latin America	Comprehensive data indicators and survey	Regional	37	●	●	●	●	●			

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
2.9 Centre of Thought on Competitive Strategies (CEPEC) Urban Investment Attraction Index	Data indicators	Regional	48			•	•	•			
2.10 IW Consulting German City Comparison	Comprehensive data indicators	National	100	•	•	•	•	•			
2.11 Capgemini US Metro Wealth Index	Population tracker	National	10	•	•	•	•	•			
2.12 The Business Journals/Portfolio.com: Small Business Vitality Rankings	Six part data formula	National	100			•			•		
2.13 Forbes Indexes on Billionaires	Population tracker	Global	10	•	•	•	•	•	•		
2.14 KPMG Competitive Alternatives 2012	Tax calculation	Global	41			•		•			
2.15 Chinese Academy of Social Sciences' Blue Book of Urban Competitiveness	Quantitative-led economic focused indicator study	National	294					•			
2.16 KPMG: Global Cities Investment Monitor	Investment data indicators/Executive survey	Global	22				•	•	•		
2.17 Menon: Leading Maritime Capitals of the World	Quantitative economic and business indicators/Expert survey	Global	12					•			
2.18 USA Today: Best US cities for Technology Start-ups	Quantitative investment data	National	10					•			
2.19 Top 50 Chinese Cities with Strongest Investment Potential	Quantitative trade and investment data	National	50					•			
2.20 Indian Institute of Competitiveness: Indian City Competitiveness Report	Quantitative trade and investment data	National	50			•	•	•			
2.21 US Federal Spending in Scientific Research	Quantitative investment data	National	50					•			
2.22 Brookings Institution: Export Nation	Quantitative export nation	National	100					•			
2.23 Rigzone: Oil and Gas Cities	Industry specific metric	Global	20						•		
2.24 Hamburg Economic Development Board and Berenberg Bank: 30 German cities of the future	Comprehensive future assessment	National	30						•		
2.25 Perú Económico: Top Cities to Live	8-dimension study	National	24						•		

Macroeconomic performance indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
3.1 Brookings Institution: Global Metro Monitor	Employment and growth Tracker	Global	300				●	●	●		
3.2 PwC: Global Metropolitan GDP	GDP analysis and forecast	Global	151		●						
3.3 McKinsey Urban World Top 25 Hot Spots by 2025	GDP and household income forecast	Global	25				●	●			
3.4 MarketWatch: Best US Cities for Business	Employment and growth Tracker	National	101	●	●	●	●	●	●		
3.5 Brookings US Metro Monitor	Employment and growth Tracker	National	100		●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●		
3.6 Kiplinger Best Cities for the Next Decade	Creative employment, income and growth tracker	National	367			●	●	●	●		
3.7 Milken Institute: Best Performing Cities	Employment and growth Tracker	National	200	●	●	●	●		●		
3.8 Ajilon: Top 10 Cities for Employment											
3.9 Area Development: 100 Leading Locations for 2012 which MSAs Rank Highest for Economic & Job Growth?	Economic and job growth tracker	National	365						●		
3.10 LSE: European Metromonitor Cities and the economic recession since 2008 (Three ways of measuring reliance)	Economic and job growth tracker	Regional	150							●	

Quality of Life Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
4.1 Economist Intelligence Unit – Livability: Liveability Ranking	Comprehensive metrics	Global	140	●	●	●	●	●●			
4.2 Mercer Consulting Human Resources: Quality of Living Survey	Comprehensive metrics	Global	221	●	●	●	●	●			
4.3 IBM: Commuter Pain survey	Key metrics	Global	20			●					
4.4 Monocle Magazine: Quality of Living Index	Editor assessment	Global	25	●	●	●	●	●	●		

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
4.5 Gallup/Healthways Well Being Index	Resident survey	National				●	●	●	●		
4.6 Eurobarometer: Perception Survey on Quality of life	Resident survey	Regional	75		●						
4.7 AskMen Top 29 Cities to Live In	Informal measures	Global	29		●	●					
4.8 CII/IFC Livability Index, India	Metrics	National	50			●	●				
4.9 Symantec: Riskiest Cities for Cybercrime (US)	Data-led	National	50			●	●	●			
4.10 Richard Florida and Charlotta Mellander: Top 25 Cities for College Graduates	Economic and population metrics	National	223			●	●				
4.11 Portfolio.com/The Business Journals: Best Places for Young Americans to Live	Economic metrics	National	67			●					
4.12 NAVTEQ: Europe's most congested cities	Traffic data	Regional	10				●				
4.13 Cycling Plus: Britain's Top 20 Cycling Cities	Key metrics	National	20			●					
4.14 AskMen: World's most bicycle-friendly cities	Informal metrics	Global	10				●				
4.15 Bicycling Magazine: Most Bike-Friendly Cities in America	Informal metrics	National	20			●					
4.16 Forbes: Top 25 Cities for Shopping	Informal metrics	National	25				●				
4.17 portfolio.com/The Business Journals: Top Retirement Metropolitan Areas	Key metrics	National	157				●				
4.18 Farmers Insurance Group of Companies: most secure large cities in the US	Comprehensive metrics	National	379		●	●	●	●	●	●	
4.19 Careerbliss Happiest Cities to Work	Company review analysis	National	50				●				
4.20 Kiplinger Top 10 Cities for Commuting	Key metrics	National	10				●				
4.21 TomTom Congestion Index (Europe and North America)	Traffic congestion analysis	Europe and North America	57	●	●	●	●	●			
4.22 WalkScore Walking and Public Transit Rankings	Public transport and walking data	National	50					●	●		

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
	analysis										
4.23 Reconnecting America: Are We There Yet?	Connectivity metrics	National	366								
4.24 QS Best Student Cities 2012	Aggregations of existing data	Global	50+								
4.25 SportBusiness Group Ultimate Sports Cities	Sport delivery metric	Global	25								
4.26 Copenhagenize Bicycle Friendly Cities	Cycle-friendliness metric	Global	20								
4.27 EIU Best Cities – Spatially Adjusted Liveability Index	Liveability study + spatial environment metric	Global	70								
4.28 Travel and Leisure: Quality of Life and Visitor Experience (USA)	User survey across 12 metrics	National	35								
4.29 Office of Strategic Communications (CGE): Top 10 Cities to Live in Mexico	Telephone survey	National	10								

Knowledge economy, human capital and technology Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
5.1 Buck Consultants: Tech Cities Index	Comprehensive technology competitiveness metrics	Regional	31								
5.2 Robert Huggins Associates: World Knowledge Competitiveness Index	Comprehensive R&D/knowledge economy metrics	Global	145								
5.3 2thinknow Consulting: Innovation Cities	Comprehensive benchmarks	Global	445								
5.4 AON Consulting People Risk	Demographic/ education	Global	138								

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
Index	indicators										
5.5 Ericsson: Networked Cities	ICT data and city performance metrics	Global	25				●	●	●		
5.6 Christian Matthiessen, Annette Schwarz and Søren Find: World Cities of Scientific Knowledge	Bibliometric research data tracker	Global	100			●					
5.7 QS: World University Rankings	Comprehensive university assessment	Global	200+	●	●	●	●		●		
5.8 ShanghaiRanking Consultancy: Academic Ranking of World Universities (ARWU)	Comprehensive university assessment	Global	200+	●	●	●		●	●		
5.9 Financial Times: Business School rankings	Comprehensive business school assessment	Global	50+	●	●	●	●	●	●		
5.10 Centre for Cities: Outlook	Unemployment and knowledge job tracker	National	63	●	●	●	●	●	●		
5.11 Astbury Marsden: Preferred Location Survey	Survey	Global	6					●			
5.12 Wall Street Journal: Innovative City of the Year	Reader nomination	Global	25						●		
5.13 Scientific Reports – Characterising Scientific Production and Consumption in Physics	Single source scientific research quantification.	Global	2,000+						●		

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
5.14 EIU-Bank of Communications: Sea Turtle Index	Multi-metric ROI for foreign students	Global	80								
5.15 CNN Money and Fortune: Best new global cities for start-ups	Informal metrics	Global	7								
5.16 ARC Centre of Excellence for Creative Industries and Innovation: Creative Cities Index	Comprehensive eight-dimension study	Global	6								
5.17 IDC Spanish Smart Cities Index	94 indicator study	National	44								
5.18 UBM Future Cities: Top 10 Internet Cities	Internet and innovation study	Global	10								

Infrastructure and real estate Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
6.1 Mercer Consulting: Infrastructure survey	Comprehensive metrics	Global	220								
6.2 fDi Intelligence: Global Free Zones of the Future	Comprehensive metrics and expert assessment	Global	66								
6.3 Urban Land Institute (ULI) and PwC: Emerging Trends in Real Estate	Investor survey	Global	100+								
6.4 Citi bank and Knight Frank: Wealth	Trend data	Global	60+								
6.5 Cushman & Wakefield: Main Streets Across the World	Trend data	Global	269								
6.6 Cushman & Wakefield: International Investment Atlas Cushman & Wakefield: International Investment Atlas	Trend data	Global	20								

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015		
6.7 Cushman & Wakefield: Office Space Across the World	Trend data	Global	150+				●						
6.8 Cushman & Wakefield: Industrial Space Across the World	Trend data	Global	100+				●						
6.9 LaSalle: European Regional Economic Growth Index	Trend data	Regional	104				●		●				
6.10 CB Richard Ellis: How Global is the Business of Retail?	International retailer survey	Global	100+	●	●	●	●	●	●				
6.11 Akamai: Broadband Cities – The State of the Internet	Trend data	Global	100+			●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●				
6.12 Emporis Skyline Ranking	Trend data	Global	100	Ongoing									
6.13 Real Estate Investment Network: Top Canadian Cities for Investment	Economic metrics	National	10			●	●	●					
6.14 US News: 10 Best Cities for Public Transportation	Spending and ridership figures	National	10				●						
6.15 KPMG: International Infrastructure 100, World Cities Edition	Expert judging panel assessment	Global	c.25					●					
6.16 Jones Lang LaSalle: Global Capital Flows	Real estate transactional data	Global	50			●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●				
6.17 Cushman & Wakefield: Winning Cities	Real estate transactional data	Global	50					●●	●●				
6.18 Savills: World Cities Review	Real estate transactional data	Global	10				●●	●●	●●				
6.19 Knight Frank: Prime Global Cities Index	Luxury property data	Global					●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●				

Environment and Sustainability Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
7.1 Mercer Consulting: Eco-City Index	Infrastructure metrics	Global	220			●					
7.2 Siemens/EIU: European Green City Index	Comprehensive environmental indicators	Regional	80+		●	●	●				

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
7.3 Centre of Regional Science/Delft University of Technology: European Smart Cities	Comprehensive sustainability indicators	Regional (mid-size)	70			●					
7.4 Forbes: World's Smartest Cities	Editor assessment	Global	10		●						
7.5 Ethisphere Institute: 2020 Global Sustainability Centres	Indicators and subjective measures	Global	20	●							
7.6 Business Courier: Green City Index (US)	Semi-comprehensive environmental indicators	National	41			●					
7.7 Forum for the Future: Sustainable UK Cities Index	Environmental indicators and plan assessment	National	20	●	●	●					
7.8 SustainLane: US Sustainability Rankings	Comprehensive environmental indicators, surveys	National	50	●							
7.9 Corporate Knights: North America's Most Sustainable Cities	Comprehensive environmental indicators	National/Regional	20	●	●	●		●	●		
7.10NRDC: Smarter Cities	Environmental indicators, online survey	National	100+	●	●	●					
7.11EPA: Top 25 Cities with most Energy Star Buildings	Building Count	National	25		●	●	●				
7.12Boyd Cohen: Top 10 Smart Cities on the Planet	Author assessment based on secondary benchmarking	Global	10					●			
7.13Coastal City Flood Vulnerability Index	Comprehensive environmental, social and political study.	Global	9					●			
7.14Clean Edge: Metro Clean Technology Index	Clean technology indicators	National	50					●			

Image, brand and destination power Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
8.1 Euromonitor International's Top City Destination	Data tracker	Global	100		●	●	●	●	●		

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
8.2 ECA International: Location Rating Survey for Asian expats	Quality of living analysis	Regional/global	400+	●	●	●	●	●			
8.3 International Congress and Convention Association (ICCA) Rankings	Data tracker	Global	100	●	●	●	●	●	●		
8.4 The Greater Paris Investment Agency Global Attractiveness Survey	Executive survey	Global	25		●						
8.5 Anholt/GfK Roper Brands Index	Resident survey	Global	50		●		●				
8.6 Forbes' World's Happiest Cities	Resident survey	Global	10		●						
8.7 MasterCard Global Destination Cities Index	Quantitative economic indicators	Global	132					●	●		
8.8 Hogg Robinson Group Hotel Survey	Data tracker	Global	50					●			
8.9 Public Affairs: Asia Location Branding	Brand survey	Regional	25					●			
8.10 AMR and the Research Institute: The Global 2012 City Reputation Index	Brand survey	Global	50					●			
8.11 City RepTrak™ Topline Report the world's most reputable cities	City reputation survey	Global	100+					●			
8.12 Condé Nast: The friendliest and unfriendliest cities in the world	Traveller survey	Global	100+						●		

Culture and diversity Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
9.1 Global Language Monitor: Fashion Capitals	Media frequency tracker	Global	40	●	●	●	●	●			
9.2 Forbes' Best Cities to Eat Well	Respondent survey	Global	10		●						
9.3 Forbes/Nerdwallet: Best Cities for Entrepreneurs	Metropolitan statistics	National	52				●		●		
9.4 Flavorwire: Best Cities for Young Artists	Editor assessment	Global	8				●				
9.5 The Art Newspaper: Exhibition and Museum Attendance	Visitor frequency statistics	Global	100+					●			

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
9.6 Europedia: Michelin Guide	Summary of restaurant data	Global	100+					●			
9.7 Monica Skórska and Robert Kloosterman: Global Arts Centers Index	Analysis of arts and finance	Global	50+					●			
9.8 Martin Prosperity Institute: Ranking Global Cities	4-field creative class study	Global	61						●		

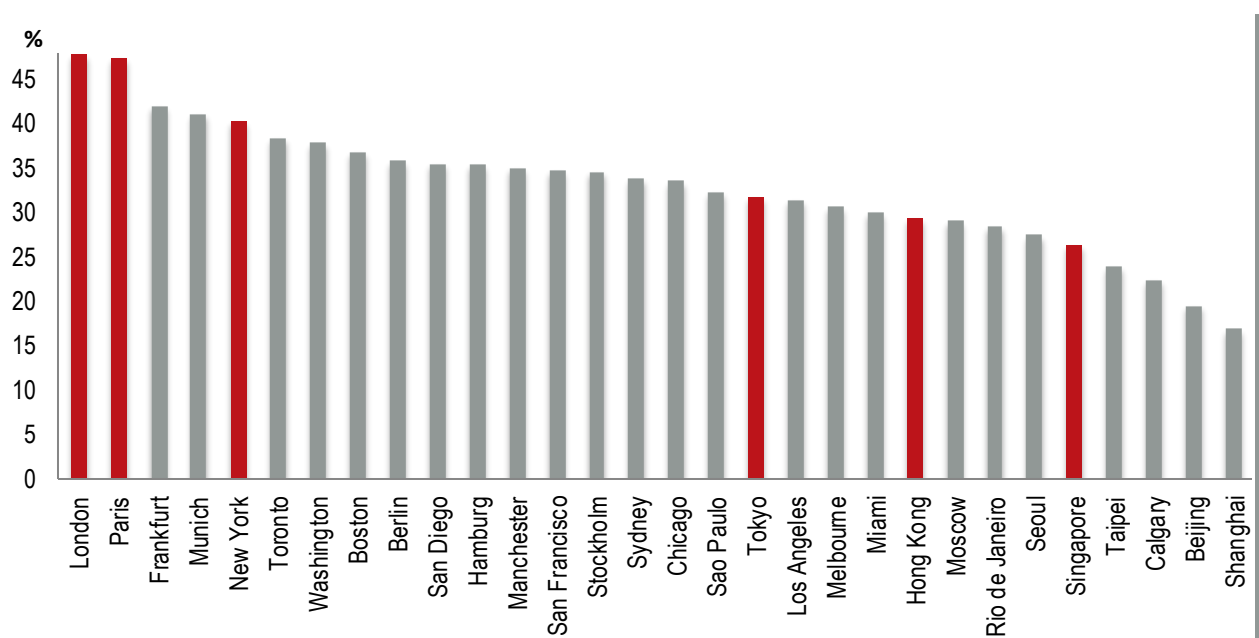
Cost of living and affordability Indexes

Name	Type	Scope	# Cities	2008	2009	2010	2011	2012	2013	2014	2015
10.1 Cost of Living and Affordability	Goods-accommodation price tracker	Global	200+	●	●	●	●	●	●		
10.2 ECA International: most expensive cities worldwide	Goods-accommodation price tracker	Global	390+	●	●	●	●	●	●	●	
10.3 UBS: Prices and Earnings	Wages, prices and rents tracker	Global	73		●		●	●			
10.4 UBS: Big Mac and iPod Nano Indexes	Wage:cost ratio tracker	Global	73		●			●			
10.5 Pricerunner: Most Expensive Cities	Retail price tracker	Global	33			●					
10.6 Demographia: 2010 International Housing Affordability Survey	Trend data	English speaking nations	272			●	●	●	●		
10.7 Price of Travel: European Backpacker Index, Public Transportation and Taxi Prices	Travel and accommodation cost check	Regional/ Global	40-80				●				
10.8 Kiplinger: 10 Best Value Cities for 2011	Cost check	National	100				●				

2. Global leaders: Consolidation of the ‘Big Six’

The 2011 edition of this report noted the arrival of Singapore and Hong Kong into an expanded ‘big six’ top-tier world cities, along with London, New York, Paris and Tokyo. These six luminaries are now set apart from the rest due to raw economic size, per capita income or rate of growth. Where they have outshone all-comers is in coordinating cross-border business services’ exchange. Collectively they have continued to drive transnational service provision as the most popular locations for international offices of financial services, accountancy, management consultancy, legal and advertising firms. Although their finance and business sector size is varied (see chart below), each has been able to achieve unsurpassed rates of commercial investment because of the internationalisation of their core sectors.

Figure 3. Proportion of urban economy derived from financial and business services among top 30 cities for investment¹



Hong Kong and Singapore have consolidated their new position and have recorded exceptional results in studies gauging executive, knowledge worker and tourist sentiment in 2012 and 2013. They continue to move ahead of Paris and Tokyo as indispensable financial centres and, by some measure, have supplanted London for international visitors as the Asian holidaymaker demographic grows.² Investment from Europe, North America and the Middle East continues to flow heavily into these two cities, supporting further development.

Singapore retains advantages over Hong Kong for its research specialisms, superior commuting experience and stronger health and security outcomes, but Hong Kong’s proximity to the Pearl River Delta and wider Chinese economy affords it a unique gateway position. The latter is now part of the big three global financial centres, with a highly-embedded professional and producer services economy, as measured by GaWC. Although doubts were raised about the pair’s capacity to withstand the rise of Chinese, Indian and Gulf cities, thus far both appear to have profited from the increased volume of trade and investment directed eastwards.

¹ Emilia Istrate and Carey Anne Nadeau (2012). ‘Global MetroMonitor’. Brookings Institution. www.brookings.edu/research/interactives/global-metro-monitor-3.
² Euromonitor International (2013). ‘Top 100 Cities Destination Ranking’, <http://blog.euromonitor.com/2013/01/top-100-cities-destination-ranking.html>.

The success of Singapore and Hong Kong has not, however, come at the expense of the historic ‘big four’ – London, New York, Paris and Tokyo. All the established global centres have in fact improved their relative position within national and regional urban hierarchies during the economic slowdowns. Their diverse concentrations of skilled labour have been disproportionately attractive to risk-averse private sector organisations, and their reputations within emerging markets as places to visit and aspires to appear, if anything, enhanced. Paris in particular continues to be perceived as highly important and uniquely vibrant by residents in developing nations (see Figures 4 and 5 below).

Figure 4. Perception of city importance among citizens of five emerging nations³

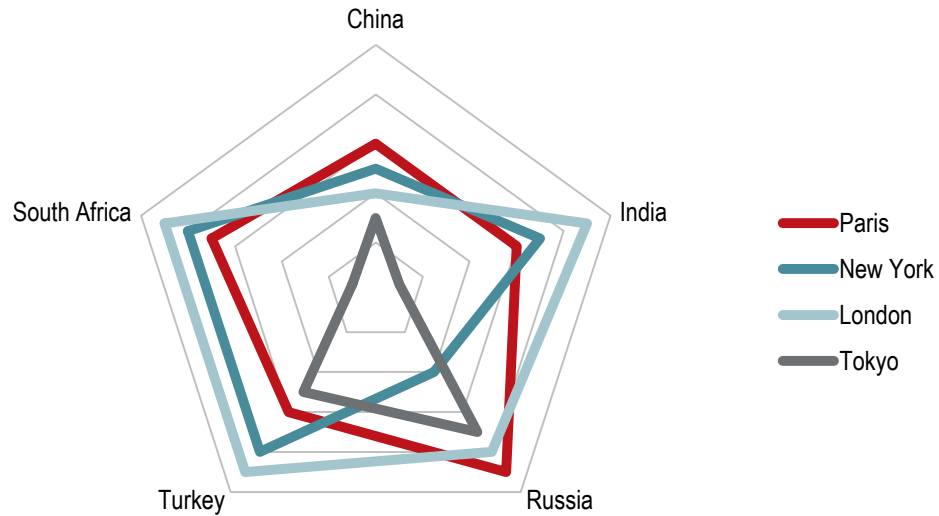
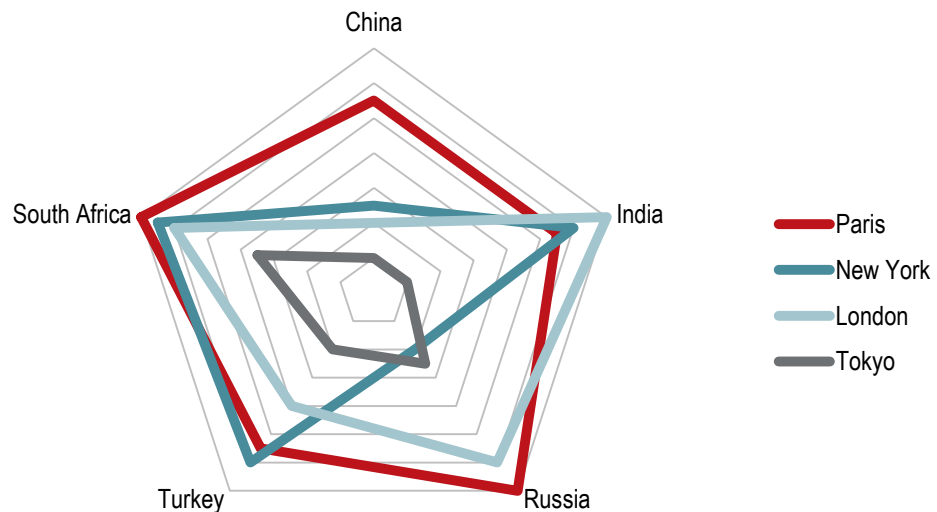


Figure 5. Perception of city vibrancy among citizens of five emerging nations



Assessments of cities’ attraction to institutional investors and high-wealth individuals also point to other factors that drive city success at the top of the global hierarchy.⁴ The foremost global cities have been relatively

³ Simon Anholt (2012), ‘City Brands Index’, www.simonanholt.com/Research/cities-index.aspx.

politically stable given the economic turbulence; their business environments have mostly been predictable; and their acquired cultural resources are deep-rooted in the urban fabric. As a result, commercial real estate has tended to grow in these large safe havens.⁵ Benchmarks testify that the 'big six' maintain a unique combination of scale and quality that others are yet to match.

Figure 6. Leading cities across five comprehensive benchmark studies⁶

		AT Kearney	MORI Memorial Foundation	Economist Intelligence Unit	PwC/ Partnership for NYC	Knight Frank	
#	City	Global Cities Index	Global Power City Index	Global City Competitiveness Index	Cities of Opportunity	Global Cities Survey	Total
1	New York	1	2	1	1	1	6
2	London	2	1	2	2	2	9
3	Paris	3	3	4	4	3	17
4	Tokyo	4	4	6	10	4	28
5	Singapore	11	5	3	7	6	32
6	Hong Kong	5	11	4	8	5	33
7=	Sydney	12	13	15	11	7	58
7=	Toronto	16	18	12	3	9	58
9	Seoul	8	6	20	14	13	61
10	Chicago	7	29	9	9	17	71
11=	Los Angeles	6	22	19	13	20	80
11=	San Francisco	17	28	13	6	16	80

Other prominent cities

Washington DC	10	26	8	-	8	52*
Zurich	25	15	7	-	10	57*
Vienna	13	9	25	-	18	65*
Boston	15	31	10	-	14	68*
Beijing	14	14	39	17	15	99

* denotes provisional score due to absence from one or more index

The 'big six' have also effectively nurtured their credentials for private wealth investment and management.⁷ They dominate both financial centre benchmarks, and are held in high regard by executives from all trading

4 Knight Frank Research (2013), 'Wealth Report', www.knightfrankblog.com/wealthreport.

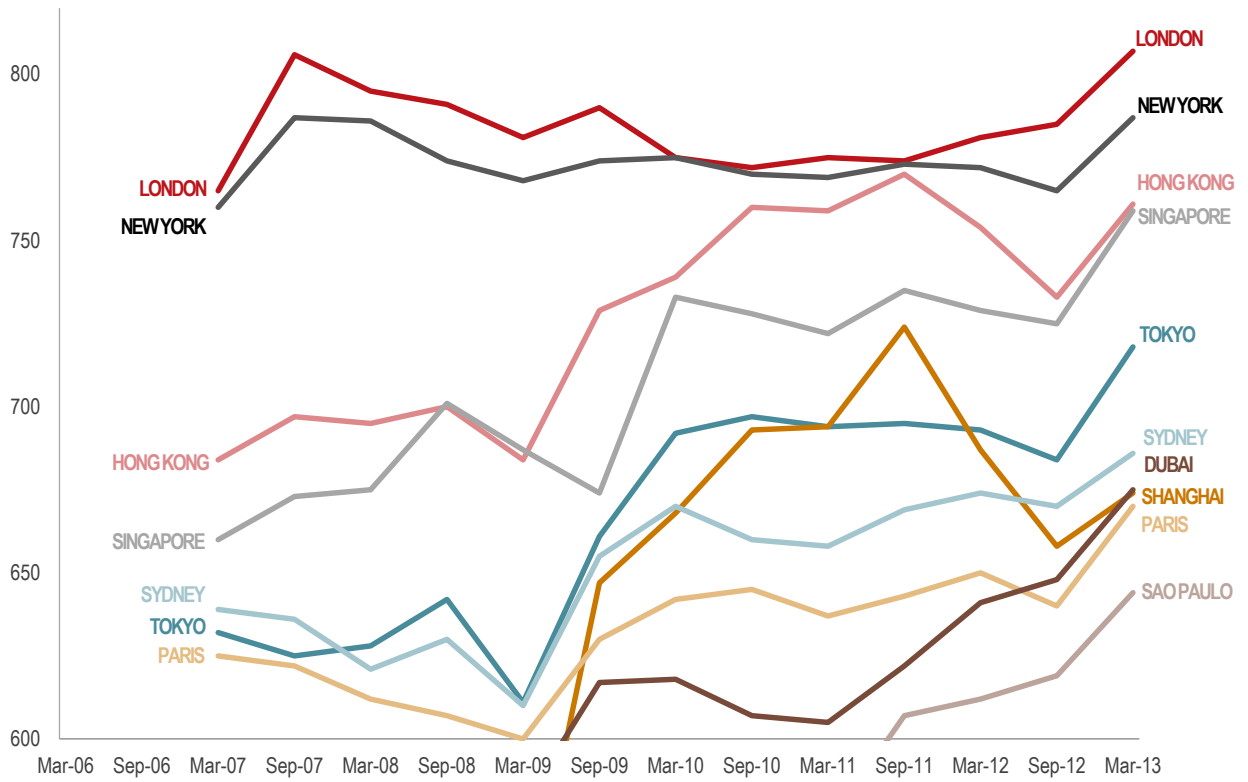
5 Cushman & Wakefield (2013), 'Global Investment Atlas', http://annualreview.cushwake.com/downloads/04_Global_Investment_Atlas.pdf.

6 AT Kearney (2012), '2012 Global Cities Index', www.atkearney.com/en_GB/gbpc/global-cities-index/full-report/-/asset_publisher/Al1OgZpc1DO/content/2012-global-cities-index/10192; Economist Intelligence Unit (2012), 'Hotspots: Benchmarking Global City Competitiveness', www.managementthinking.eiu.com/sites/default/files/downloads/Hot%20Spots.pdf; Knight Frank Research (2013), 'Wealth Report', www.knightfrankblog.com/wealthreport; Hiroo Ichikawa et al. (2013), 'Global Power City Index 2013', available at www.mori-m-foundation.or.jp/research/project/6/pdf/GPCI2013.pdf; PricewaterhouseCoopers and Partnership for New York City (2012), 'Cities of Opportunity', www.pwc.com/us/en/cities-of-opportunity/assets/cities-opp-2012.pdf.

7 Jonathan Beaverstock, Sarah Hall, and Thomas Wainwright (2011), 'The Global Super-Rich, Private Wealth Management and the City of London', www.lboro.ac.uk/gawc/rb/rb389.html.

continents.⁸ The volatility in financial services centre of gravity 2009-2010 has settled, at least for the time being, as experience and talent pools at existing centres prove significant.

Figure 7. Performance in the Z/Yen Global Financial Centres Index, 2007-2013



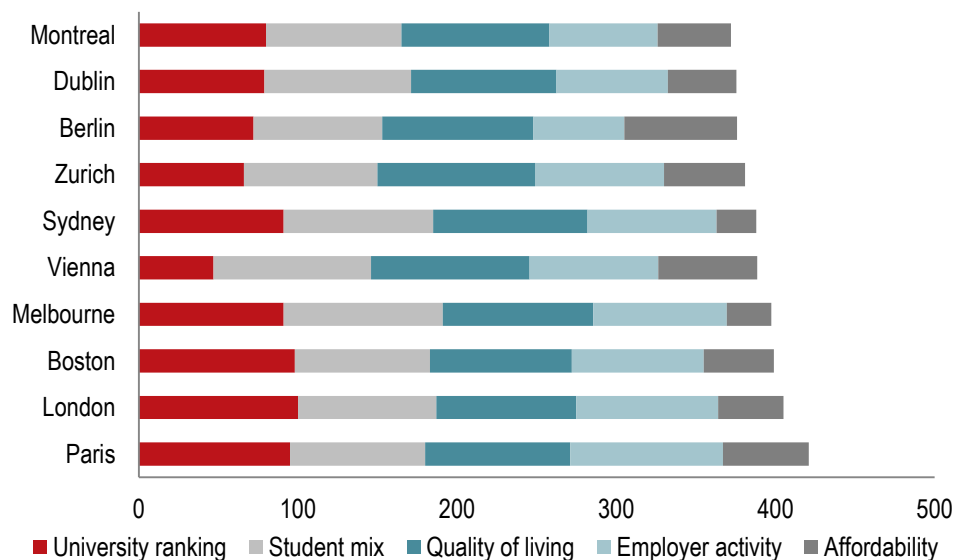
⁸ Z/Yen (2012), 'Global Financial Centres Index 11', p.17.

3. Continental Systems of Cities and Dynamics in 2013

Europe: painful adjustment in train

European cities may have endured a turbulent five years, but as a group they still possess unique assets. Six of the top 10 cities for university students are in Europe, because of the historic university strengths and associated quality of living (see Figure 8). According to one study in 2012, 18 of the 25 most well-regarded cities in the world among residents of advanced industrialised nations are in Europe.⁹ European cities have virtues of tolerance, diversity, openness, culture, history and entertainment that are admired by workers and tourists alike.

Figure 8. Top 10 cities in the QS Best Cities for Students assessment



But despite these positive trends, unprecedented global competition has accelerated a divergence among European cities. Some have flourished, others are stable, and a few appear to be fading. Some of these trends are tied to national economic health. Polish, Turkish, German and Bulgarian cities have tended to generate strong job and income creation, while those in Greece, Latvia, Hungary and Italy have almost invariably struggled. But the range of performance within each nation indicates the extent to which cities are managing national constraints in very different ways.

International benchmarks make clear that since 2011, London has extended its advantage as Europe's most successful major city. The British capital's economic clout is boosted by its growing status for innovation and entrepreneurship, and accompanying reputation for business friendliness. In 2012, London moved to 1st in the Global Power City Index and a close 2nd in the Cities of Opportunity study. After its acclaimed hosting of the Olympics, London has improved its cultural interaction and links with global markets, and is reaping the rewards from a period of sustained investment in commuter rail transport. The sheer scale of its local and international connectivity platform means that, for now at least, the city remains Europe's pre-eminent gateway for investors, firms and visitors. Its global reach has largely offset the macroeconomic challenges and civil discontent which have appeared in recent years.

⁹ Reputation Institute (2012), 'City RepTrak™', www.reputationinstitute.com/frames/events/2012%20City%20RepTrak%20Press%20Release%20Final.pdf

As Western Europe's other major world city, Paris has also performed strongly since 2011 despite its deeper immersion in the Eurozone slump. Although its business environment has long been rated behind London's, the French capital maintains world-class intellectual and technical strengths, which, when combined with its inimitable vibrancy, prompt exceptional demand for conventions and research activity.¹⁰

A number of smaller European cities maintain remarkable all-round advantages. Vienna and Zurich perform well for their distinctive blend of institutional and corporate presence alongside attractive lifestyle and university opportunities. Meanwhile German cities – including Berlin, Düsseldorf, Munich and Frankfurt – are Europe's strongest national group in terms of satisfying residents' economic, educational, and environmental needs. Stockholm continues to punch above its weight because of its excellent performance in higher education, technology roll-out, green infrastructure and research capability. These cities display the credentials that are attractive to institutional investors and fund managers in the current climate, and also to the growing international student community. Vienna, Zurich, Berlin and Paris all ranked in the world's top 10 leading university cities, in a 2012 assessment (Figure 8).

Meanwhile, several Southern European cities have proven unable to leverage their historic prestige, social richness or cultural assets in the post-crisis years. Historic urban centres in Southern Europe, such as Rome, Milan, Athens, Madrid and Barcelona, may still retain a compelling tourist profile, as indicated by the findings of the City Reputation Global 2012 City Reputation Index. But economic fundamentals at the national level have been at the core of a rapid decline in relative investment and financial services performance, especially for the Italian and Greek cities.

Barcelona has in recent years been something of an outlier in Southern Europe, but benchmark results in 2012 appear to show the city is not immune to wider national and regional trends. The city is among the five worst affected in the world since 2007 in terms of income and employment.¹¹ Investment in real estate has fallen while overall provision of infrastructure and employment is slipping behind comparable Northern European centres. The city has undertaken initiatives to become a technology-smart and more entrepreneurial city to add to its dominant tourist brand, but these effects may take time to resonate in inter-urban evaluations.

The cumulative message of index results is that European city leaders and policy contributors need to respond creatively to a new set of roles in the international system.

North America: relative decline but enduring strengths

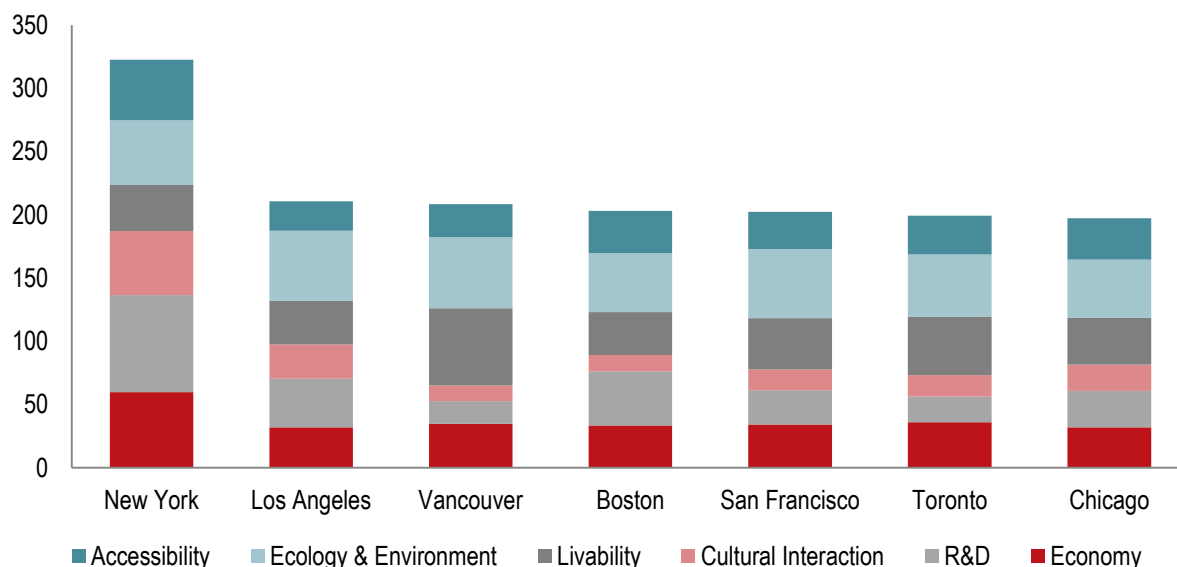
North America's urban economies have struggled recently relative to growth levels sustained in emerging markets. The continent does, however, host several outlying successes, while its leading cities display qualities of openness and vitality that much of the rest of the world still finds hard to match.

New York remains a clear leader in the western hemisphere, and is by far North America's most globalised centre for commerce, talent and investment. The city is not only dominant in terms of economic scale, but also has a highly impressive research base and unparalleled international cultural offer (see Figure 9).

¹⁰ PricewaterhouseCoopers and Partnership for New York City (2012), 'Cities of Opportunity', www.pwc.com/us/en/cities-of-opportunity/assets/cities-app-2012.pdf.

¹¹ Emilia Istrate and Carey Anne Nadeau (2012), 'Global Metro Monitor', Brookings Institution, www.brookings.edu/research/interactives/global-metro-monitor-3.

Figure 9. Top 10 North American cities in the 2012 Global Power City Index



Beyond New York, Portland, Houston, Austin and Boston all stand out for their benchmark successes, which demonstrate the growing importance of human capital, technology sector dynamism and inner-city liveability in North American urban performance.

Boston’s cultural and economic benchmark feats are inextricably linked to the unique provision of higher education and a proven ability to leverage talent for commercial innovation, including in a reinvigorated downtown.¹² Under outgoing Mayor Thomas Menino, the city has maintained its position as the world’s leading city for scientific production and consumption in physics, ahead of Californian cities and Tokyo.¹³ The proximity of world-class universities appears to have not only a direct effect in providing Boston firms with highly-qualified workers, but also promotes a virtuous circle of attainment at all levels from school to advanced research.

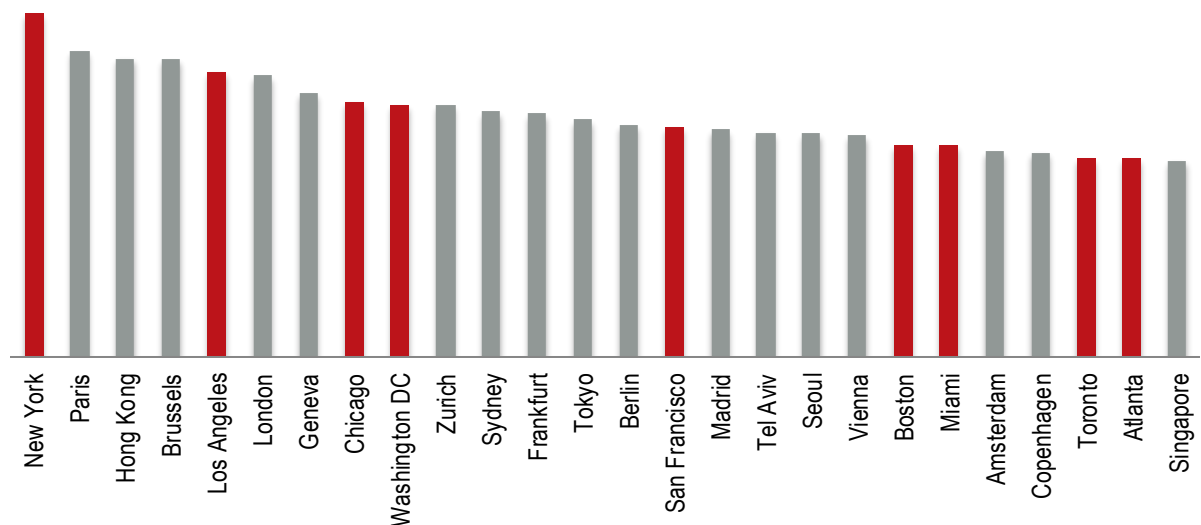
Other high-performing cities are adapting this model for their success. Austin, rated the most dynamic city for small businesses in America, is proving extremely successful in retaining graduates from its major university campuses and attracting talent from elsewhere. In doing so, the state capital has managed to foster a desirable, seaboard-style vibrancy in the heart of Texas. Portland has not only maintained leadership in sustainability benchmarks but has also been ranked the third largest exporter, as a proportion of GDP, in the US. Houston’s economic growth has been underpinned by the fourth highest export value in the US, approaching US\$50bn annually.¹⁴ Washington DC is another regular in the North American top 10 growing metropolitan economies, linked to its attraction of the highest proportion of postgraduate degree holders in the US.¹⁵ These cities demonstrate the continent’s leadership in terms of high-end education, information, media and knowledge (see Figure 10).

12 thinknow Consulting (2012), 'Innovation Cities Top 100 Index 2012-2013: City Rankings', www.innovation-cities.com.

13 Zhang et al. (2013), 'Characterizing scientific production and consumption in Physics', Scientific Reports 3, Article 1640, Nature, www.nature.com/srep/2013/130410/srep01640/full/srep01640.html.

14 Brookings Institution (2012), 'Export Nation', www.brookings.edu/research/interactives/export-nation.

15 Business Courier (2013), '2013 rankings of small-business vitality', www.bizjournals.com/bizjournals/on-numbers/scott-thomas/2013/02/2013-rankings-of-small-business-vitality.html; fDi Intelligence (2013), 'American Cities of the Future 2013/14'.

Figure 10: North American prominence among cities with the highest information exchange¹⁶

A second common theme among successful North American cities is the leverage of high-value technology sectors. Alongside energy – particularly developments associated with the shale gas boom – growth in pharmaceuticals, biotechnology and IT is generating healthy returns for those cities that are investing in the talent and infrastructure to support these sectors. Houston's diversification from oil to new technology sectors, particularly biotech, is a key factor behind its recent success in attracting talent and inward investment. San Francisco and San Jose continue to perform strongly with their globally-competitive IT sectors leading the way, while Washington DC continues to successfully leverage federal spending, particularly in its successful health and pharmaceutical sectors, to its advantage.¹⁷

Population density in North American cities continues to increase. Cities proving successful in the latest metrics are increasingly those that manage their inner cities most successfully. Liveability of inner urban areas has been a core strength of a number of Canadian cities, with Toronto and Vancouver especially prominent.¹⁸ All in all, despite considerable structural challenges, many city and business leaders in North America are making the case for people-friendly city centres capable of attracting talent and investment.

Asia: the drive to quality

Asia boasts the majority of the most striking successes in rankings over the past 12 months. Not only have Hong Kong and Singapore consolidated their positions as part of the global 'big six',¹⁹ but even more impressive growth is being shown by a raft of other large and mid-tier Chinese cities, such as Shenzhen, Tianjin and Guangzhou, which, though lacking the holistic strengths of major global cities, are rapidly gaining comparable economic clout.²⁰ The rise of the Asian middle class has meant that over half of the 15 most visited cities in the world are in Asia (see Figure 11).

¹⁶ AT Kearney (2012), '2012 Global Cities Index'.

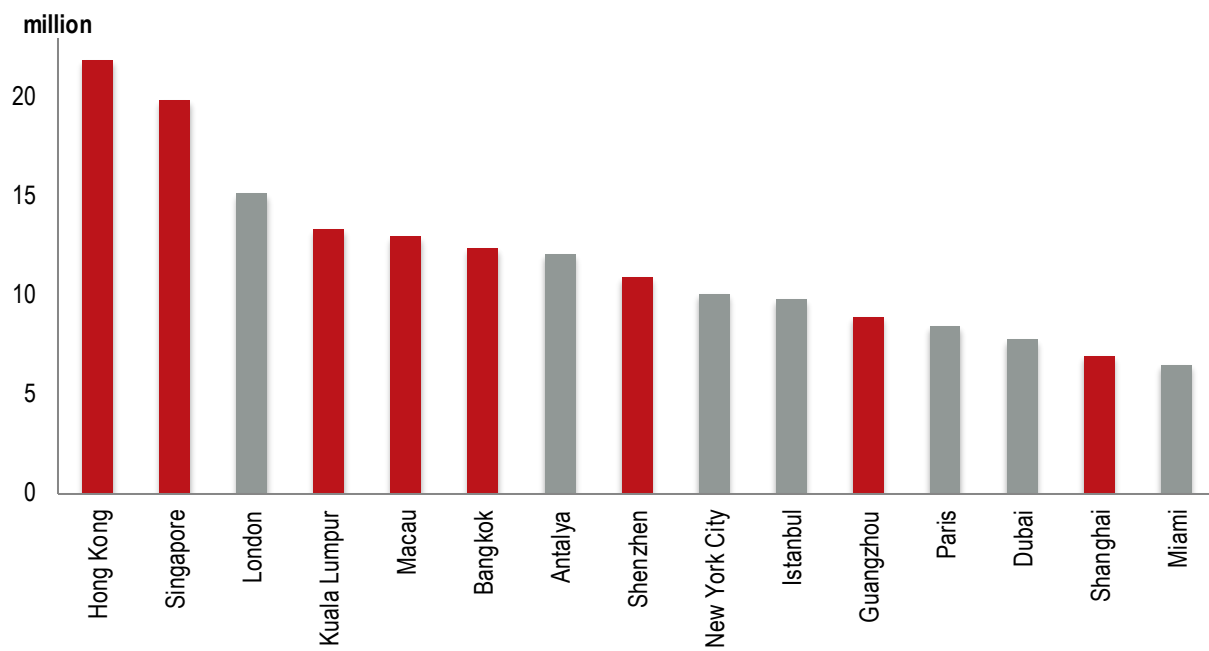
¹⁷ PricewaterhouseCoopers and Partnership for New York City (2012), 'Cities of Opportunity'.

¹⁸ Economist Intelligence Unit (2013), 'Global Liveability Ranking and Report August 2013', www.eiu.com.

¹⁹ E.g. Economist Intelligence Unit (2012), 'Hotspots: Benchmarking Global City Competitiveness'; Z/Yen (2013), 'Global Financial Centres Index 14'.

²⁰ Emilia Istrate and Carey Anne Nadeau (2012), 'Global Metro Monitor'. Brookings Institution. www.brookings.edu/research/interactives/global-metro-monitor-3.

Figure 11. Number of international visitors²¹



As such, the major insight offered by recent benchmarks on Asian cities is the process of differentiation and specialisation in the second tier of Chinese and also Indian cities. These include the major cities of Guangzhou, Bangalore, Shenzhen and Tianjin, which already have established trade links with the West. Chengdu, Dalian and Chennai have also appeared on the radar for the first time, due to strong performances in exporting software, automobiles and petrochemicals. The fastest 10 growing major cities in terms of income and employment are all secondary cities in China, led by Hangzhou, Hefei, Ningbo, Changsha and Wuxi (Figure 12).

Although Chinese urban powerhouses have attracted much attention in the past two years, it is Seoul which is perhaps the closest contender to the ‘big six’ at present. In a host of assessments, Seoul’s performance closely tracks that of Beijing, but the South Korean capital now surpasses both Shanghai and Beijing in most comprehensive studies, due to superior environmental accomplishments and a more established research and technology base. Results also indicate Seoul’s growing appetite for the arts - both domestic and imported – and its effective utilisation of ICT in smart urban development.²² Its success illustrates that Asia’s urban resurgence is also extending to those cities engaged in more regional and specialised circuits.

²¹ Euromonitor International (2013), ‘Top 100 Cities Destination Ranking’, <http://blog.euromonitor.com/2013/01/top-100-cities-destination-ranking.html>.

²² Ericsson (2012), ‘Networked Society City Index: Part III: Triple bottom line benefits for city business’, www.ericsson.com/res/docs/2012/networked-society-city-index-report-part-3.pdf.

Figure 12. Twenty fastest growing city economies by job growth since 2007²³

	City	% growth		City	% growth
1	Hangzhou	60+	11	Xiamen	20 - 30
2	Hefei	50 - 60	12	Bogota	20 - 30
3	Ningbo	40 - 50	13	Riyadh	20 - 30
4	Changsha	40 - 50	14	Fuzhou	20 - 30
5	Shenzhen	30 - 40	15	Jeddah	20 - 30
6	Wuxi	30 - 40	16	Chengdu	20 - 30
7	Nanjing	30 - 40	17	Ankara	20 - 30
8	Tianjin	20 - 30	18	Izmir	20 - 30
9	Zhuhai	20 - 30	19	Zhongshan	20 - 30
10	Delhi	20 - 30	20	Manaus	20 - 30

Results on the Indian subcontinent, by contrast, are mixed. Security and infrastructure deficiencies continue to hamper the emergence of the major cities of Pakistan and Bangladesh, with Karachi and Dhaka, when featured, rating in the lowest percentiles.²⁴ Bangalore, whose outsourcing and technology sectors have made it a shining light of the Indian economy, continues to perform inconsistently due to infrastructural and openness limitations.²⁵ Kolkata, despite its size, has been unable to rid itself of a challenging business environment, widespread poverty and infrastructure deficiencies.²⁶ New Delhi and Mumbai are only just beginning to convert their massive economic potential. The pair lead the South Asian contingent in the indexes, but moderate performances in business and economic metrics, combined with poor ratings for transport, infrastructure and liveability, mean both cities continue to struggle in comprehensive metrics²⁷

Latin America: with stability comes new dynamism

Urban performance in Latin America has struggled to keep pace with rival emerging economies in Asia in recent years, not least due to a comparatively uncompetitive and high-risk business environment. The largest cities and national capitals tend to rank modestly on measures of mobility, housing, land use and sustainable urban density. However, the latest results in city indexes indicate that a clutch of Latin American cities are positioning themselves to make up lost ground on the high-performing cities of East Asia and to challenge their competitiveness.²⁸

In the last two years, Brazil's São Paulo and Rio de Janeiro have begun to succeed on a range of investment and cultural measures. São Paulo, in particular, has become Shanghai's leading BRIC competitor for attracting foreign investment, especially from North American firms, and performs unusually well in the ICT sector as well as traditional industrial and energy industries.²⁹ Shanghai and São Paulo's investment profiles are increasingly coming to resemble each other, and their global reputations are rising accordingly.³⁰

Brazilian cities also outperform their BRIC counterparts on cultural metrics, such as contemporary arts' attendance,³¹ but they are still less secure and cost-effective for business than their Chinese counterparts. GDP

23 Emilia Istrate and Carey Anne Nadeau (2012). 'Global MetroMonitor'. Brookings Institution. www.brookings.edu/research/interactives/global-metro-monitor-3.

24 E.g. Economist Intelligence Unit (2012), 'Hotspots: Benchmarking Global City Competitiveness'; AT Kearney (2012), '2012 Global Cities Index'.

25 AT Kearney (2012), '2012 Global Cities Index'; Economist Intelligence Unit (2012), 'Hotspots'; and Tholons (2013), 'Global Outsourcing Top 100 Destinations'.

26 AT Kearney (2012), '2012 Global Cities Index'.

27 E.g. Economist Intelligence Unit (2012), 'Hotspots'; AT Kearney (2012), '2012 Global Cities Index'; and UN-Habitat (2012), 'State of the World's Cities', www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3387.

28 Economist Intelligence Unit (2013), 'Hotspots 2025: Benchmarking the future competitiveness of cities', www.citiigroup.com/citi/citiforcities/pdfs/hotspots2025.pdf.

29 KPMG and the Greater Paris Investment Agency (2013), 'Global Investment Monitor 2013', available at www.kpmg.com.

30 Reputation Institute (2012), 'City RepTrak™', www.reputationinstitute.com/frames/events/2012%20City%20RepTrak%20Press%20Release%20Final.pdf.

31 The Art Newspaper (2012) 'Exhibition and Museum Attendance Figures 2011', No.234, available at www.theartnewspaper.com/attfig/attfig11.pdf.

per capita and employment has only risen by approximately 10% cumulatively since 2007 in São Paulo and Rio, behind most Indian and Chinese centres. Rio is battling major congestion, pollution and infrastructure deficiencies that are reflected in weak quality of life scores. On going transformations in transport infrastructure in Brazilian cities will take time to produce an impact. Nevertheless, São Paulo has clearly emerged as the continent's major business centre.

Figure 13. Comparative performances of 10 Latin American cities in recent international indexes

	América Economía Best Cities to Do Business	Z/Yen Global Financial Centres Index	EIU Global Appeal	EIU Social and Cultural Character	EIU Human Capital	GaWC, The World According to GaWC	AON People Risk Index	ICCA Association Meetings Market 2011	America Economía Infraestructura and Physical Connectivity	Tholons Top 100 Outsourcing Destinations	Siemens Green City Index	Total
São Paulo	1	1	2	1	7	1	2	3	1	1	1	21
Buenos Aires	4	3	1	3	2	3	4	1	5	3	7	36
Santiago	2	6*	5	4	1	4	1	5	6	2	4	40
Mexico City	3	4	3	7	3	2	6	4	2	6	4	44
Rio de Janeiro	5	2	4	1	8	8	3	2	7	5	1	46
Bogota	7	6*	7	9	6	5	7	6	4	8	1	66
Lima	8	6*	6	5	4	6	8	6	8	9	9	75
Monterrey	10	6*	9	8	5	9	9*	10*	10	7	4	87
Montevideo	9	6*				7	5	9	9	4	7	56**
Panama City	6	5	8	6	9	10		8	3	10*		65**

* Score based on non-appearance in index

** Position based on insufficient data in multiple indexes

Santiago de Chile and Buenos Aires are both making significant headway in their competitiveness agendas. Ranked in the top quartet of business cities on the continent, Santiago is benefiting from a governmental focus on transport infrastructure that is improving internal mobility, and from a plan to double international airport capacity by 2030.³² Buenos Aires is witnessing reasonable economic performance and a surge in young graduates.³³ Both have improved their reputation for business friendliness and have moved ahead of Mexico City in a number of studies.³⁴ For the latter, weak governance, chronic environmental shortcomings, a declining working-age population and corruption are all inhibiting factors reflected in benchmark results.³⁵ These shortcomings, common to many Latin American cities, are the subject of renewed focus on the continent.³⁶

Africa: the new order emerging

African cities may lag behind the rest of the world in the majority of global city indexes, but new studies offer early signs of a new African urban order beginning to emerge. High investment risk and poor infrastructure have so far

32 Economist Intelligence Unit (2013), 'Hotspots 2025: Benchmarking the future competitiveness of cities'; fDI Intelligence (2013), 'American Cities of the Future 2013/14'; AméricaEconomía (2012), 'Best Cities to Do Business in Latin America', <http://rankings.americaeconomia.com/2012/las-mejores-ciudades-para-hacer-negocios-en-america-latina/ranking.php>.

33 AT Kearney (2012), '2012 Global Cities Index'.

34 fDI Intelligence (2013), 'American Cities of the Future 2013/14'; Tholons (2013), 'Global Outsourcing Top 100 Destinations'.

35 Economist Intelligence Unit (2013), 'Hotspots 2025: Benchmarking the future competitiveness of cities'.

36 Gaitan, CC (2012), 'Urban Mobility: What Can Latin America Learn from East Asia?', <http://blog.meritunu.edu/urban-mobility-what-can-latin-america-learn-from-east-asia/>; The Economist (2013), 'Better by Bici', www.economist.com/news/americas/21572823-argentine-scheme-beat-traffic-better-bici.

limited their visibility on the global stage. However, large youthful populations and rapid metropolitan population and institutional growth have made African cities the focus of new attention in urban benchmarks.³⁷

The traditional urban powerhouses in Africa were in the far north and south - Cairo, Casablanca, Cape Town and Johannesburg - but urban growth in East and West Africa is a defining characteristic of the recent phase of economic development. Although per capita expenditure remains highest in Johannesburg and Tripoli, markets in Khartoum, Abuja, Lagos, Accra and Nairobi are all among the top 15 in the continent.³⁸ Indeed, Accra, Lusaka and Luanda were ranked the three cities with the greatest potential for growth over the next decade by MasterCard in 2013.³⁹

Johannesburg and Cape Town nevertheless remain clearly the most competitive cities in Africa. In most studies, the South African pair is not yet closely rivalled by any of Cairo, Nairobi or Lagos.⁴⁰ Many of these latter centres show economic potential, but security, infrastructure and social deficiencies are holding them back in comprehensive benchmarks.⁴¹ Nairobi is now one of Africa's leading outsourcing centres, based particularly on its ability to attract human talent.⁴²

The rise of Australian cities

The Australian economy has been one of the few post-financial crisis success stories, due not least to its resource assets and high commodity prices. Its cities have benefited from the increased flow of federal and state government spending, rising international investment from resource firms and surrounding professional services, and their proximity to a high-growth Asia-Pacific region.

All of Australia's major cities have therefore recorded impressive results in global benchmarks, in quality of life and brand, but also in new fields. In particular, Australian cities have become more regularly acknowledged as safe and secure places in which to do business. Attractive taxation levels, their English legal system, an impartial judiciary and political stability provide a solid environment for business, reflected in their prominence in fDi Intelligence's Asia-Pacific Cities of the Future study.

Sydney continues to lead the pack of Australian business cities. Australia's financial centre is now 15th globally in this sector, and is well evaluated by firms beyond Asia-Pacific, notably the Middle East and Latin America.⁴³ Governance changes and an ambitious metropolitan plan up to 2036 have contributed to strong results pertaining to public realm and congestion. The city is now recognised in the Cities of Opportunity study as the 11th strongest all-round city in the world because of its balance between economic dynamism and comfortable living. Capital values and rental rates continue to rise, fuelled by wealthy local investors⁴⁴, but the city is now seen as a safe place of retreat for foreign funds, given its mature property market and knowledge economy.

Melbourne, Brisbane and Perth have also scored impressively in investment rankings, showing greater proactivity in attracting foreign capital. Their quality of living standards have remained resilient during this period of construction and growth, with education, security, infrastructure and healthcare enduring strengths. Melbourne has gained acclaim for improved transport facilities and a highly cosmopolitan atmosphere, but all of Australia's

37 KPMG Africa (2012), 'The Role of Cities in Africa's Rise', www.kpmg.com/Africa/en/IssuesAndInsights/ArticlesPublications/Documents/The-Role-of-Cities-in-Africas-Rise.pdf.

38 Economist Intelligence Unit (2012), 'Africa Cities Rising', www.eiu.com/public/topical_report.aspx?campaignid=africacities2012.

39 MasterCard (2013), 'MasterCard Study Reveals African Cities Economic Growth Potential', <http://newsroom.mastercard.com/press-releases/mastercard-study-reveals-african-cities-economic-growth-potential>.

40 AT Kearney (2012), '2012 Global Cities Index'; Economist Intelligence Unit (2012), 'Hotspots'.

41 AON (2013), 'People Risk Index'; Economist Intelligence Unit (2013), 'Global Liveability Ranking and Report August 2013'.

42 Tholons (2013), 'Global Outsourcing Top 100 Destinations'; Economist Intelligence Unit (2012), 'Hotspots'.

43 Z/Yen (2012), 'Global Financial Centers Index 12', p.20.

44 Savills (2013), 'World Cities Review', www.savills.co.uk/research_articles/141285/145108-0.

biggest five cities have an international brand presence that begins to match their range of assets.⁴⁵ International student education is therefore a growing sector for these cities, with Melbourne (4th) and Sydney (6th) the leading student cities in the Asia-Pacific region.⁴⁶

Australian cities can therefore be said to have arrived on the global scene. Their openness to investment, visitors, students and workers does however present new challenges associated with costs, planning and inclusion.⁴⁷ City and state governments will need to use the spike in investment wisely in order to manage the pressures of internationalisation and maintain their reputation for achieving balanced urban development.



Brisbane's world city ambitions have been fuelled by collaborative investment in major projects such as the Airport Link⁴⁸



Brisbane: a new world-city

Brisbane's pathway of globalisation has been strikingly rapid, hinged upon its proximity to a commodities-rich region in the wider state of Queensland. A major recent study evaluated Brisbane as the fastest-growing mature metro in the world for foreign investment.⁴⁹ Other reports suggest the city has among the strongest FDI attraction strategies in the whole of Asia-Pacific, matched by improved quality of living and education.⁵⁰ It stands out globally for having leveraged an improved investment scenario to achieve important outcomes at the urban level.

Unprecedented inner-city infrastructure spending and international engineering expertise has accelerated the completion of key liveability projects. These have boosted Brisbane's competitive offer in a new business environment where financial, insurance and professional services are clustered around the mining sector. Although Brisbane faces challenges in relation to its cultural depth, lifestyle brand and external infrastructure, the City Council and state government have cooperated to acknowledge shared problems. They have developed a sustainable economic development plan, based around a monitored investor-friendly climate, an improved endogenous skills base and plugging local firms into international supply chains.

Brisbane has demonstrated the value of productively leveraging existing assets through political organisation. The deployment of specialist teams to attract business events has been especially effective since 2010 in drawing upon existing transnational networks. The state government leadership, now attuned to the needs of the city economy, has devolved significant tourism and planning powers to allow a more autonomous growth agenda, and private sector representatives have been mobilised as ambassadors in Asian corporate and higher education markets. How these complementary agendas will benefit Brisbane's productivity, talent base and destination power will become visible in benchmarks over the rest of the decade.

45 Reputation Institute (2012), 'City RepTrak™', www.reputationinstitute.com/frames/events/2012%20City%20RepTrak%20Press%20Release%20Final.pdf; Monode (2013), 'Global Quality of Life Survey 2013', <http://monode.com/film/affairs/quality-of-life-survey-2013>.

46 QS (2012), 'Best Student Cities', www.topuniversities.com/best-student-cities.

47 KPMG (2012), 'Competitive Alternatives', www.competitivealternatives.com/.

48 Advanstra (2012), available on Wikimedia Commons, http://en.wikipedia.org/wiki/File:12-07-15_Airportlink_-_Southern_Portal_-_Northbound.jpg

49 Jones Lang LaSalle (2012), 'A New World of Cities', www.joneslanglasalle.co.uk/ResearchLevel1/JLL-A-New-World-of-Cities.pdf.

50 fDi Magazine (2012), 'Asia-Pacific Cities of the Future 2011/12', www.fdiintelligence.com/Rankings/Asia-Pacific-Cities-of-the-Future-2011-12.

4. Emerging World Cities: A New Paradigm?

While Hong Kong and Singapore have almost succeeded in bridging the gap from emerging world city to established world city, questions persist about whether any of the emerging megacities are likely to make the jump to the current leaders.

The global urban hierarchy is presently undergoing flux that has opened the door for over a dozen 'emerging world cities' to become more established. Over the past two to five years, this group has begun to grasp the necessary credentials of urban success, and is pursuing these credentials in different ways. Many are now routinely among the largest hosts of greenfield foreign investment in the world. Leaders and commentators in these centres have become much more affirmative about their cities' capacity to attract and retain target groups, whether investors, SMEs, entrepreneurs, scientists, researchers or tourists. Some have made extraordinary progress in a very short space of time. Others risk falling irreversibly behind.

The all-round competitiveness of emerging world cities is subject to closer scrutiny than ever before as more studies extend their scope to this domain for the first time.⁵¹ There does remain a slant in international studies towards measuring cities with clout in the financial markets - which prioritises Shanghai and Mumbai over Chongqing and New Delhi – but the overall trend is one of closer and more even-handed analysis.

Leading the charge of candidates for new world-city status is indisputably Shanghai. The Chinese financial and cultural capital is clearly the emerging world city whose benchmark performance is most consistent, especially in areas of business climate, education, security and technology. The city is also set to become the 3rd wealthiest globally in terms of total GDP by 2025, overtaking Los Angeles, London and Paris.

The mainland Chinese pair of Shanghai and Beijing remains some way ahead of other BRIC centres. All indications suggest that both are now to be taken seriously at the top end of the global urban hierarchy because of their economic scale and excellent links to global and domestic markets. Figures from the Global Cities Index, Cities of Opportunity and Global Power City Indices indicate that business activity in the two cities has reached critical mass, such that they are now permanent participants in the new balance of global networks.

However, the rise of Shanghai and Beijing is now beginning to focus attention on these cities' shortcomings as much as their strengths. Studies of global finance indicate concern around stringent Chinese currency controls and the lack of market-driven real estate rental growth, especially in Beijing.⁵² There have been no significant breakthroughs in benchmarks of human capital, higher education institutions or research capability, while limitations continue to be raised around air quality, cultural breadth and general health and education access.⁵³ Chinese GDP growth has also fallen beneath 8% in 2013. This provides the first test in the recent cycle of growth about the overall competitiveness of China's major cities as their economic proposition evolves. As the resource-intensive, manufacturing investment-led phase is replaced by a higher-value services growth path, challenges of liveability and land-use, familiar to Western cities since the 1970s, have now surfaced.⁵⁴

Shanghai and Beijing are just two of potentially 11 cities to enter the global top 30 for GDP in the next two decades. All 11 face considerable policy and strategic challenges. City leaders in Moscow – Russia's only candidate world city at present – are coming to terms with considerable business climate and liveability obstacles. Mumbai and Delhi continue to face critical infrastructure weaknesses, and tend to excel only in terms of their

51 KPMG (2012), 'Competitive Alternatives', www.competitivealternatives.com/.

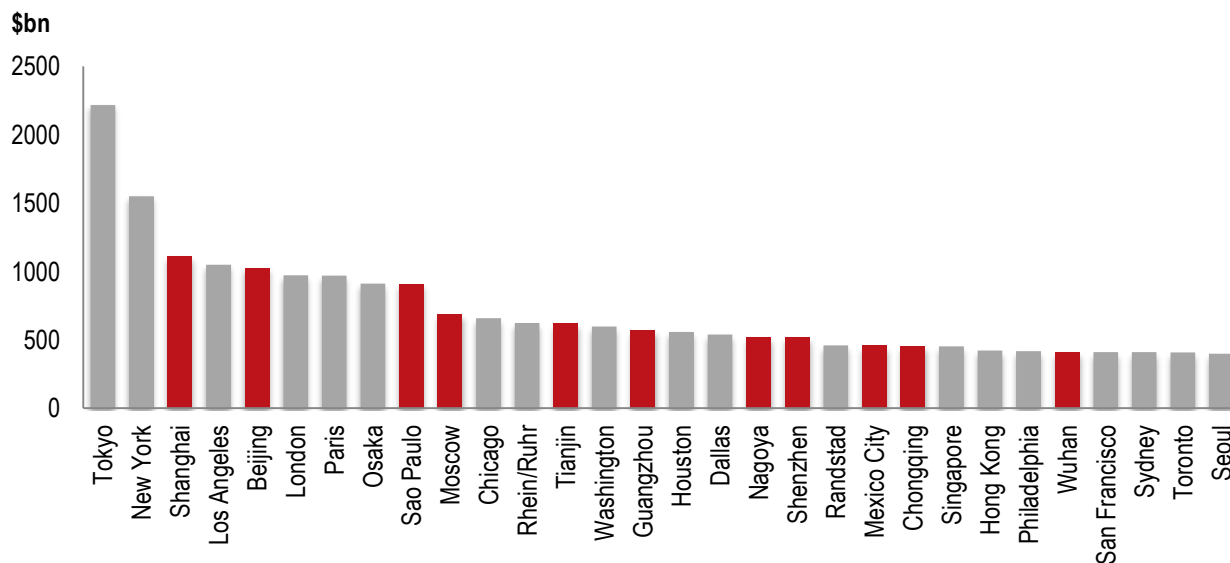
52 ULI (2013), 'Emerging Trends in Real Estate: Asia-Pacific', p.43-44.

53 ECA (2012), 'International's Location Rating Survey for Asian Expats'; Public Affairs Asia (2012), 'Location Branding', www.publicaffairsasia.net/location_branding2012.pdf; The Art Newspaper (2012) 'Exhibition and Museum Attendance Figures 2011'.

54 The Economist (2013), 'Welcome to the post-BRIC world', May 6, www.economist.com/blogs/freeexchange/2013/05/global-economy.

outsourcing functions because of their lower cost base for employing young graduates. As attention homes in on BRIC economic capitals, there is a growing correlation between urban performance and their international reputation, which could be hard to shake off.⁵⁵ Meanwhile, other smaller emerging cities, such as Santiago and Riyadh, have also demonstrated the growth potential and benchmark performance that indicates future world city status.

Figure 14. Top 30 cities by GDP in 2025⁵⁶



Emerging world cities exist in different political cultures. This reality has affected the quality and legitimacy of governments in comparison to private and civic sectors. Emerging cities, where power and legitimacy are nested firmly within centralised government, and where federal government has played an active guiding role, have proven more effective at building the core infrastructure provision in the initial phases of pursuing world-city status. By contrast, cities with a more diffuse model of power distribution, and with a more engrained culture of dissensus and civic expression (e.g. Rio de Janeiro, Mexico City), have typically struggled to achieve the planning tools and investment for necessary development.

⁵⁵ Reputation Institute (2012), 'City RepTrak™', www.reputationinstitute.com/frames/events/2012%20City%20RepTrak%20Press%20Release%20Final.pdf.
⁵⁶ McKinsey Global Institute (2012), 'Urban world: Cities and the rise of the consuming class', www.mckinsey.com/insights/urbanization/urban_world_cities_and_the_rise_of_the_consuming_class.

Figure 15. Benchmark positions of 27 emerging world cities

		ATK Global Cities Index, 2012	EIU Hotspots, 2012	Global Financial Centres Index, 2013	Global Globalization and World Cities, 2010	Global Urban Competitive- ness Project, 2011	Aggregate index score*
No. of cities in benchmark	66	120	77	298	500		
1.	Shanghai	21	43	24	7	37	1.08
2.	Dubai	29	40	23	9	55	1.20
3.	Beijing	14	39	58	12	59	1.43
4.	Taipei	40	37	36	43	38	1.59
5.	Moscow	19	58	65	18	64	1.78
6.	Buenos Aires	22	60	53	22	105	1.79
7.	Kuala Lumpur	49	45	21	23	197	1.85
8.	São Paulo	33	62	44	14	147	1.91
9.	Istanbul	37	74	57	35	122	2.26
10.	Bangkok	43	61	59	42	115	2.28
11.	Shenzhen	65	52	38	106	71	2.40
12.	Mexico City	34	71	55	20	324	2.52
13.	Mumbai	45	70	66	16	205	2.56
14.	Rio de Janeiro	53	76	48	86	227	2.79
15.	Johannesburg	52	67	62	47	255	2.80
16.	Jakarta	54	81	69	26	210	2.87
17.	Delhi	48	68	-	33	239	2.88
18.	Guangzhou	60	64	-	67	120	2.91
19.	Santiago	-	68	-	44	142	3.00
20.	Cape Town	-	73	-	79	73	3.02
21.	Manila	51	85	69	54	266	3.11
22.	Bogota	55	89	-	62	213	3.22
23.	Bangalore	58	79	-	59	276	3.30
24.	Cairo	50	113	-	61	244	3.40
25.	Tianjin	-	75	-	188	165	3.61
26.	Lagos	59	119	-	104	329	3.91
27.	Chongqing	66	87	-	298	303	4.34

* Score calculated by measuring comparative performance in each benchmark against the total number of cities. Where a city was absent, the maximum score (1) was allocated for that benchmark

It is far too soon, however, to derive conclusions as to whether one model is inherently more proficient than another, given the different kinds of challenges that emerge at separate phases of the urban development cycle. Cities that have used centralised mechanisms of power and investment to achieve hardware upgrades are beginning to encounter challenges of openness and adaptability as their economic and demographic composition changes. There are signs that more pluralistic emerging cities, which have had unfavourable fiscal, administrative and geographic alignments, maybe overcoming these limitations of strategic direction. Thus the distinction to be made is not between cities' different inherited models, but rather how effectively each inheritance is being modified given the particular competitive framework emerging cities now face.

5. The Race for Investment in Cities

Securing capital investment has been a critical task for cities negotiating the financial crisis over the past five years. Investment remains a critical driver of job creation, land use adjustment, infrastructure upgrades, and skills development. As banks have reduced their role in financing local development projects, new financial offerings from institutions, multilateral organisations and sovereign funds have produced a new map of potential local investment tools. Cities have sought to achieve project victories in the centralised redistribution of tax revenues, to retain a greater proportion of revenues locally, and to incentivise private investment to grow important sectors (e.g. healthcare, digital). Benchmarks are increasingly tracking cities' investor friendliness in specific areas.

Cities in the Eurozone and North America are recognising the need to address the environment they offer to business, in tandem with liveability provision, in order to compete.

Emerging cities have become more aware of the urgency to turn purchasing power into a more strategic advantage through their business and investment platforms. This implies an acknowledgement of the impact of openness, transparency and efficiency in complementing the current growth surge.

All cities are therefore trying to achieve three things in this area:

- reduce the direct and indirect costs of doing business
- improve the efficiency of local frameworks while lobbying for improvements in national frameworks
- design effective regulation changes that can also be properly implemented and enforced.

The fact that cities can take tangible and productive steps to be more business-friendly is gradually gaining recognition in city benchmark studies. Here, business friendliness is not seen, to the extent it ever was, as simply synonymous with deregulation. On the one hand it remains closely tied to reduced barriers to business investment and growth, and a positive environment for entrepreneurial risk taking. But a business-friendly city is also linked to a variety of other factors.

The Global Power City Index explores further the demands of managers and executives when evaluating a city. In addition to opportunities for business growth, this demographic also seeks a wide pool of properly qualified human capital and a suitable cultural and educational life.

Investment flows in business services and ICT sectors have come to orbit around large population centres with stable political and economic frameworks. London is still the global leader in attracting investment, attracting record numbers of projects for strategic functions, corporate headquarters and research centres. The British capital has developed a compelling investment image among Latin American and Middle Eastern firms, excelling for its educational offer and improved quality of living. Familiar world cities such as New York, Paris and Hong Kong also offer compelling market size, skilled pools of labour and infrastructures appealing to investors. It is notable that Berlin has begun to feature in the upper echelons of investment benchmarks for the first time, while Tokyo is now slipping back despite its stability.

An increasing number of benchmarks feature some element of business friendliness and supportive environment for investment. Some of these dimensions can be seen in Figure 16. Singapore and Hong Kong receive excellent evaluations on account of their comparative fiscal autonomy and government efficiency. By contrast, Paris and Tokyo have among the highest total tax rates and business occupancy costs.⁵⁷ Nevertheless, their pluralistic political cultures, advanced legal systems and effective modes of city management mean neither city is

⁵⁷ PricewaterhouseCoopers and Partnership for New York City (2012), 'Cities of Opportunity'.

prohibitive to international firms and investment. Meanwhile, New York's success suggests that while core taxation and regulatory standards are indispensable, they cannot achieve overnight the compelling working environment and critical mass of firms and talent capable of generating world-class investment levels.

Figure 16. Governance, regulation and business friendliness (aggregate scores are indicative) of the 'big six'

		Global Financial Centres Index	Cities of Opportunity	Global City Competitiveness Index	fDi Cities of the Future (Continental ranking)	AON People Risk Index	Total score
		Business environment	Ease of Doing Business	Institutional effectiveness	Business Friendliness		
1	New York	2	3	10=	1	1	17
2	Singapore	4	2	6	3	3	18
3	London	1	4	24=	1	5	35
4	Hong Kong	3	1	22	4	9=	39
5	Tokyo	7	12	31=	11+	34	95
6	Paris	11+	15	44=	6	37	113

Traditional wealth centres with deep and resilient economies have also attracted a disproportionate slice of the real estate investment pie.⁵⁸ London is again the most attractive cross-border real estate proposition, ahead of Paris, New York and Washington DC. Guaranteed government employment and an established presence of high-value clusters are important drivers of capital investment. Major real estate losers since 2011 include European capitals - including Athens, Lisbon and Madrid - because of their weak fundamentals and precarious skills base.

International high-technology investment flows have been circulating as fast as ever. New indexes indicate that Californian cities remain the yardstick for innovation and investment because of their existing R&D clusters and culture of business friendliness. San Jose hosts a unique concentration of clean-tech venture capital⁵⁹, and the San Francisco metro is unsurprisingly the world's most dynamic for start-ups.⁶⁰ Smaller European cities - including Zurich, Stockholm, Oulu and Tel Aviv - are also developing impressive cultures of innovation and creativity. Middleweight cities have been able to flourish when they have found the right tax and quality of life equilibrium to retain high-skill populations.

New growth and investment strategies

The new business cycle brings with it new challenges for policymakers seeking robust models of sustainable growth and investment. Low tax receipts, widespread fiscal austerity at state level and risk-averse recapitalisation of financial institutions are combining to place a squeeze on city capital expenditure. Yet the demand for growth and the need for investment are as urgent as ever. Growth and attracting investment remain key metrics in many of the comprehensive and economic indexes and provide a central challenge to policymakers and the private sector.

With the economic climate uncertain, greater stress is being placed on the establishment of a stable and predictable business environment to give private enterprise the confidence to invest. Political and legislative volatility can serve only to unnerve business, and policymakers must quickly embed a business environment

58 Urban Land Institute (ULI) and PwC (2013), 'Emerging Trends in Real Estate 2013', www.pwc.com/en_US/us/asset-management/real-estate/assets/pwc-emerging-trends-in-real-estate-2013.pdf.

59 Clean Edge (2012), 'U.S. Metro Clean Tech Index', www.cleantech.com/research/metro-index.

60 Startup Genome (2012), 'Best US Cities for Technology Start-ups', available at <http://blog.startupcompass.co/>.

devoid of unnecessary bureaucracy, uncompetitive taxation levels and additional costs to business. It is of note that the latest indexes continue to show that in the last turbulent business cycle, established and stable cities like London, New York and Paris led the way in terms of foreign direct investment (FDI) and real estate investment – seen by investors and businesses as safe havens.⁶¹

Cooperation between city, regional and national government is required to rationalise policy behind a unified vision of the medium-term business environment.⁶² Policymakers require a greater recognition of the new economic geographies of cities at state level. In particular, the need for city authorities to wield greater political influence over their economic hinterlands is increasingly seen as a priority to facilitate sustainable growth. While decision-making power is concentrated at state government level, it is less likely that evidence-based, targeted, investment strategies will be successfully employed.⁶³

With the majority of cities currently lacking the fiscal autonomy and capability to embark upon major infrastructure projects independently, securing state investment for such projects will be a crucial element in the successful growth of major cities. Transport – particularly congestion-reducing solutions and high-speed rail links – and citywide superfast broadband are common priority projects among leading cities. Key benefits will include increased mobility of workforce, reduction in congestion and logistical costs, and the development of regional and national intercity networks aiding the incorporation of wider regions into a city's sphere of influence. The challenge for cities is to impress upon state governments of the need for such major capital expenditure.⁶⁴ The Indian government's estimated US\$100bn investment in the Delhi-Mumbai Industrial Corridor, the Greater Kuala Lumpur/Klang Valley and high-speed rail schemes in London and Oslo are some of the ambitious state-backed infrastructure projects in the global pipeline.⁶⁵

In addition to a decisive public-sector framework, the post-GFC climate demands greater cooperation between public and private sectors, and the attraction of private investment will continue to be a central pillar of city economies. Housing is one area where private investment is increasingly sought. The attraction of private institutional investors into the private rented housing sector is seen as a key investment strategy for many cities with a shortage of quality affordable housing.⁶⁶

Tightening of consumer credit will see the need for an adjustment in urban redevelopment that must target productive investment rather than place continued reliance on retail and leisure to spur redevelopment. International Greenfield Investment – those investments that see international business creating new job opportunities in a city – are seen as pivotal. Recent metrics show that the stable business environments of London and New York continue to attract the lion's share of such investment.⁶⁷

61 KPMG and the Greater Paris Investment Agency (2013), 'Global Investment Monitor 2013', available at www.kpmg.com.

62 OECD (2013), 'Delivering Local Development: new growth and investment strategies', www.oecd.org/cfe/leed/ngis.htm.

63 Ibid.

64 Ibid.

65 The Economic Times (2013), 'Industrial Cities under DMIC may attract up to \$100bn of investment', May 8, http://articles.economicstimes.indiatimes.com/2013-05-08/news/39116711_1_mega-industrial-infrastructure-dmic-project-delhi-mumbai-industrial-corridor; Elaine Deng (2012), 'City transforms itself to attract investment', South China Morning Post, Sep 7, www.scmp.com/article/1046175/city-transforms-itself-attract-investment.

66 OECD (2013), 'Delivering Local Development: new growth and investment strategies'.

67 KPMG and the Greater Paris Investment Agency (2013), 'Global Investment Monitor 2013', available at www.kpmg.com.

6. The Future of Cities: From Smartness to Resilience and Flexibility

In 2011, we reported on the growing number of benchmark studies into urban sustainability and, more specifically, smartness. Smart city assessments focused on how cities could efficiently apply technology to fields such as transport, security, telecommunications, banking and energy management.

Smartness has given us an important conceptual tool with which to consider the interoperability of city services and the integration of systems to help customers negotiate the governance maze. This notion of smartness is understood either as a political and governance task or as a technological and engineering challenge. It is embodied by studies such as Ericsson's Networked Society City Index, and Smart Cities On the Planet.

Across several different indexes that measure cities' uptake of technology to achieve productivity and liveability outcomes, some cities appear repeatedly as exemplars. While there is no overall measure of the 'smartest', below we name four cities whose benchmark results indicate strong progress in this dimension.

Figure 17: Prominent cities in the smart cities field

	Example benchmark performance	Smart attributes
Seoul	3 rd , Networked Society City Index (Citizens)	ICT-rich public transport system
Singapore	1 st , Networked Society City Index	Online health initiatives, traffic-congestion management
Aarhus	2 nd , European Smart Cities	High-value ICT economy and talent
Vienna	1 st , Smartest Cities on the Planet	Energy Vision 2050, Roadmap 2020

But the enthusiasm for measuring urban smartness has also begun to translate into a broader conception of how cities can manage and respond to change. To be smart means not just to embed technology into the urban fabric. It also means to implant the capacity to adapt quickly to economic and physical shocks, at the right level and with access to necessary resources. It also means a closer look at what the future of urbanisation and economic competitiveness will look like.

Future urban scenarios have come under the attention of major consultancies:

- McKinsey Global Institute's Urban world: Cities and the rise of the consuming class has found that 600 cities will drive global growth over the next 15 years, with 440 cities in emerging economies soon accounting for half of overall growth. An extra one billion people joining the global consuming class by 2025 means challenges for cities to capture their spending and skills.
- PwC and the Partnership for New York City's Cities of Opportunity study now considers the impact of growth scenarios on global cities' growth and employment. The 2012 report made several important remarks. First, emerging cities such as Shanghai, Beijing and Mumbai will need to invest in excess of 40% of their growth over the next generation to maintain adequate infrastructure and assets, compared to less than 20% for developed cities such as London and Stockholm. Second, only Shanghai among emerging cities is forecast to attain the productivity of advanced cities. Third, higher productivity is likely to limit job growth in major world cities unless world trade connections become much deeper.
- The Brookings Institution's Global Cities Initiative is a highly innovative research programme that emphasises the attributes metropolitan areas need in order to trade, compete and succeed in a competitive, globalised world. Brookings has described the goal for cities as the acquisition of global fluency: "the level of global understanding, competence, practice, and reach that a metro area exhibits to facilitate progress

towards its desired economic future". The Initiative has identified the roles that outward engagement, export capability, a compelling identity, robust connectivity, and knowledge assets play among 10 "traits" of globally-fluent cities from recent history. This new outlook on pathways to global success opens a new horizon for those metropolitan areas on the cusp of entering (or expanding their presence in) global markets.

One major shared conclusion of these future-oriented studies is that cities need to ensure they can withstand the 'shocks' of protectionism, technological change, and lifestyle preferences. Smart cities are therefore also about self-governing cities. Smart governance has at least three dimensions:

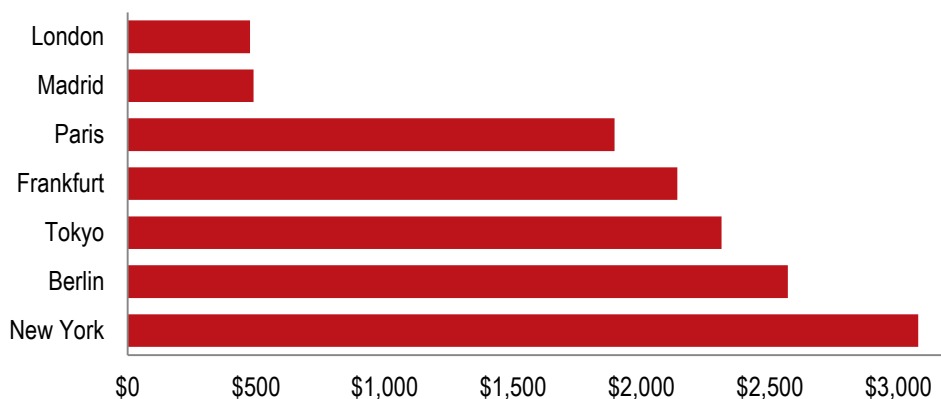
1. **Span of control.** Cities have different ranges in terms of the departments, services and fields over which they have influence. Some cities have decisive influence over a metropolitan transport authority, others have some economic development autonomy, while others still have control over health and education departments. Hong Kong and Singapore are known for their exceptionally broad span of powers, while cities in centralised polities, such as London and Paris, have more limited remits
2. **Financial and fiscal capability.** Cities do not all have the same access to locally-generated tax revenues. Some cities maintain a local corporation tax alongside sales taxes and other residential taxes, while others possess only property taxes. Cities also have a varied capacity to raise money from their own balance sheet, different degree of control over land and assets, and reliance on transfer payments from state and central governments.
3. **Relationships and arrangements with higher tiers of government.** Some cities possess highly flexible and mutually reinforcing relationships with state and national governments. In these cases, cities can be assured of a rational and favourable allocation of resources and attention, and of clear mechanisms for raising awareness of upcoming challenges or conflicts. Others, however, operate in a historic state of tension with higher tiers of government and lack effective lobbying power or influence to 'win' investment or gain backing for new initiatives or events

Benchmark studies have begun to make important initial strides into comparative research on these three dimensions of metropolitan government: span of control, fiscal strength and vertical relationships. Since 2012, we have detected an increased focus on local financial and investment powers. Two recent studies have sought to compare cities' fiscal flexibility, using data from annual city budgets and other financial statements.

7. Self-Government and the Fiscal Capacity of Cities.

In 2013, Enid Slack at the University of Toronto undertook a comparison of seven world cities - London, Paris, Berlin, Frankfurt, Madrid, New York and Tokyo. The comparison of municipal operating expenditures per capita found that New York and Berlin spent the most on their population, at almost US\$5,000 per head, around 50% more than London or Tokyo. In terms of municipal taxes, London and Madrid were shown to generate far less money from local and shared taxes (US\$500 per head) than the most empowered tax-raising cities, namely New York (US\$3,100), Berlin (US\$2,600) and Tokyo (US\$2,300). The report therefore concluded that London has very limited fiscal autonomy compared to rival cities, relying much more on central government transfers, and with minimal leverage from its taxes and user fees.⁶⁸

Figure 18. Municipal taxes in seven leading world cities



Meanwhile, a study by Greg Clark in 2012 examined a different set of world cities' fiscal empowerment, including Hong Kong and Singapore. It found that Tokyo and New York have the largest city government budgets, around US\$70bn annually, which is spent across a full range of responsibilities including education, infrastructure and children. Hong Kong and Singapore also have impressive budgets (given their population size) exceeding US\$40bn, a sizeable proportion of which is spent directly on urban development and regeneration. Singapore has the highest proportion of its budget accrued through city-level taxes (90%), while Hong Kong, New York and Tokyo all raise approximately two-thirds of their revenues through local taxes. London and Paris, by contrast, are clearly the most constrained cities of the 'big six'.⁶⁹

Credit ratings

The on-going refinements of the municipal credit rating methodologies are another important tool for measuring the fiscal empowerment of cities, regions and key city institutions. Direct comparison will always have limitations stemming from the range of cities permitted to issue debt and the nature of the debt issued. For example, while most British cities, including London, lack access to the capital markets, major US cities may have hundreds of products being traded on the primary and secondary markets at any time. That said, a representative sample of like-for-like (long-term foreign currency debt) issues from major world cities and regions provides some insight into market trends.

⁶⁸ Enid Slack (2013), 'International Comparison of Global City Financing: A Report to the London Finance Commission.' http://munkschool.utoronto.ca/imfg/uploads/236/fc_international_comparisons.pdf.

⁶⁹ Greg Clark (2012), 'Evidence: London Finance Commission.' www.london.gov.uk/sites/default/files/Greg%20Clark.pdf.

The poorest credit ratings are most common in Southern European eurozone cities. Milan, Madrid, Barcelona and Naples are all rated at various levels of 'B' and, moreover, all find themselves on 'negative watch' according to their respective credit rating agencies. Athens ranks as the least creditworthy city in this small sample, with a Caa3 rating from Moody's.

Latin American cities also struggle to achieve top ratings. Many of the largest cities have achieved strong revenue growth as they diversified and improved their fiscal and tax management. But Bogota, Buenos Aires, Rio de Janeiro and the Greater Mexico City area all currently fall short of obtaining an 'A' rating of any type, though all are deemed stable prospects with typical 'B' ratings.

Hong Kong and Singapore stand out for their consistent record of excellence. Singapore has been an AAA city economy for almost 20 years straight, longer than almost any other city. Both Singapore and Hong Kong have very sound fundamental government financial strengths, a clear vision to become innovation-driven economies, and a low susceptibility to external risks.

In Europe and North America, a handful of leaders possess top ratings while most have second or third-class ratings. Vienna, the Canton of Zurich, Stockholm and Munich's state of Bavaria are among the top performers in Europe, boasting coveted AAA ratings. In the US, top performers include Austin, Boston and St Louis, all of which outperform New York, Los Angeles, Chicago and San Francisco. In Australia, while Sydney's state, New South Wales, has maintained its AAA rating and boasts a stable outlook, neighbouring Queensland, home to Brisbane, has lost its AAA rating and remains on a 'negative outlook'.

There is, overall, a clear link between credit ratings and general index performance. Cities with wide economic bases, productive populations, stable governance, clear channels of revenue generation, and positive relations with higher tiers of government, tend not only to gain strong credit ratings. They also are able to invest regularly in important items of physical and social infrastructure that enable them to adapt to changing economic and political circumstances. In this respect these cities show another dimension of smartness, namely resilience and adaptability to prevent sclerosis and failure.

Although there remain concerns of precise data comparability due to categorisation and time differences, there nevertheless has been progress in this field. The next stage needs to make much broader benchmark comparisons on fiscal empowerment, the 'fit' of political boundaries onto the economic region, and the relations with provincial and central governments as well as smaller sub-units.

8. Indexes: 10 Cities to Watch

New wave of global city strategies

The twenty-first-century global landscape presents a very different set of challenges for cities than those of the last century. While the world's leading global cities have never wielded such economic might, the barriers to entry for small and mid-sized cities to achieve global status have never been lower. Recent research suggests that the pathways towards growth and a global footprint, for the current crop of aspiring cities, look very different to those taken by the cities already established on a global level.⁷⁰

Historically, only an elite band of major trading hubs were able to establish themselves as global cities. This group expanded in the latter half of the twentieth century, as successive generations of policymakers took the conscious steps to gather the traits necessary to project their cities onto the global stage.

Communication and connectivity mean international trade now plays a larger part in global GDP than ever before. Any enterprise, no matter how small or remotely located, is in a position to compete for a share of the market. Add to this the explosive growth of the global consumer class in emerging markets, and demand for services and goods has never been higher and access to markets never simpler. The final game-changing factor is the rapid urbanisation that condenses economic activity into metropolitan areas at a rate never before seen.

Inherited traits, geography and economic heritage, among them are less important than ever. Hundreds, if not thousands of cities are capable, with the right strategy, to emerge onto a global level. Opportunity and competition abound. Never have the strategic decisions of so many city leaders been so important to the urban landscape.

To give an indication of the new wave of cities making strides towards becoming comfortably 'global', we earmark 10 cities that have excelled or have begun to show signs of promise since the last assessment of urban indexes.

Austin

Austin is perhaps the most successful post-financial crisis North American metro. Its large, young and highly-skilled population, competitive business environment and low costs have generated rapid job creation in high-tech sectors. This has resulted in impressive technology rankings for the Texan city, including a 43rd place in global commercial innovation, as well as a top spot nationally for small business vitality. Austin has benefited from public-sector resilience to economic shocks in industry, and has achieved recognition for its cultural vibrancy.

Brisbane

Brisbane's mining and energy boom has made it one of the fastest-growing economies and population centres in the developed world. The capital of Queensland has achieved clear lifestyle and investment improvements, enabling it to emerge from the shadows of more illustrious national rivals. Indeed a ranking of 22nd in an assessment of global student cities, ahead of Seoul and Stockholm, indicates that the city is heading in the right direction.⁷¹ A new 2012 Economic Development Plan incorporates a thorough outreach agenda to Asian resource firms that should trigger more diversified investments. With infrastructure spending at an all-time high, there is a

⁷⁰ Brad McDearman, Greg Clark and Joseph Parilla (2013), 'The 10 Traits of Globally Fluent Metro Areas', Brookings Institution, www.brookings.edu/~media/research/files/reports/2013/06/26%20global%20metro%20traits/the_10_traits_of_globally_fluent_metro_areas.pdf
⁷¹ QS (2012), 'Best Student Cities'.

window of opportunity to become a more visible destination for visitors, students and services firms, and to forge a distinctive urban identity in the Asia-Pacific region.

Calgary

Calgary, like Brisbane, has been at the centre of a natural resources boom that has generated thousands of new highly-paid engineering and services jobs. In 2013 the city moved up to second of 26 cities in the Toronto Board of Trade Scorecard of Prosperity, because of its improved transport infrastructure and labour attractiveness. 'Plan It Calgary' embodies the long-term vision for spatial management and population growth as the city adjusts to its new position.

Colombo

The new business cycle has coincided with an ambitious investment and growth strategy for Colombo. A US\$230m World Bank-financed development initiative commenced in 2012 with high-reaching growth targets for trade and reinvigoration of the city's image as the 'Garden City of the East'. The world's 20th leading outsourcing services city is witnessing increased investor confidence amid the international oversight of its new strategy.

Nairobi

Kenya's capital is poised to establish itself as the commercial gateway to East and Central Africa. Its more stable business environment relative to Lagos, Cairo and Addis Ababa, is reinforced by its increased capacity to attract and retain talent, as evidenced by a recent top 50 ranking for human capital. An increasingly engaged national government has established a Ministry of Metropolitan Development to harness Nairobi's regional potential as a liveable and resilient African metropolis.

Nanjing

The Jiangsu provincial capital, 200 miles from Shanghai, is an emerging middleweight city with a reputation for technical skills and good governance. Nanjing University, one of Asia's top universities, is at the heart of the natural sciences and R&D sectors. The government's '321 Talent Plan' is targeting a new generation of experienced and creative IT and finance professionals. Historical and cultural assets have seen the city become a global top 100 visitor destination for the first time.

Riyadh

The largest city on the Arabian peninsula, Riyadh is recording unprecedented business services' performance, having overtaken Milan and São Paulo in some measures of corporate relocation confidence. The Riyadh High Commission for Development is overseeing over US\$70bn of investment into a city economy that is showing signs of increased diversification, particularly into financial services. The new Canary Wharf-sized King Abdullah Financial District may offer an important platform for a more internationalised urban economy.

Santiago de Chile

Santiago has emerged as one of Latin America's leading business locations since the global financial crisis. The Chilean capital now ranks as the second most attractive destination for investment on the continent, after São Paulo, in at least one major study, boosted by its strong social and political framework, academic depth and brand power. Foreign investment has soared, and city policymakers are now seeking to improve the city's untapped tourist assets.

Shenzhen

Hong Kong's mainland neighbour has established itself as a global player in the finance sector and as one of East Asia's most competitive outsourcing centres. Achieving a remarkable top 10 position for economic dynamism, the process of deindustrialisation and the attraction of high-value service jobs is already underway as the city government seeks to implement its 'Quality Shenzhen' strategy. The new Qianhai Zone is a major opportunity to attract Hong Kong banks, health and education services to the mainland, and is showing signs of success.

Tel Aviv

Tel Aviv is establishing a reputation as one of the world's premier ecosystems for technology innovation. The city achieved more than one 'top five' benchmark position for its start-up culture, while business risk is now competitive with Western European cities for the first time. The Tel Aviv 'Global City' initiative has fostered the city's unique architecture and atmosphere to attain improved outcomes in tourism, higher education and real estate investment, as well as attracting the capital to sustain more life sciences businesses.

9. Full Review

1 Comprehensive Studies

1.1 MORI Global Power City Index

Launched in late 2013, the 6th Global Power City Index (GPCI) is one of the most comprehensive examinations of the leading edge of the urban hierarchy. First devised by the Japan's Institute for Urban Strategies and the Mori Memorial Foundation in 2008, GPCI looks to explore the power of cities to 'attract creative people and excellent companies from around the world', based on a comprehensive set of indicators. Senior urban academics and analysts – including Saskia Sassen, Allen Scott and Sir Peter Hall – have contributed to refining the index in tandem with a Japan-based working group.

GPCI's purpose is to highlight the strengths and weaknesses of cities, and to provide a valuable tool for establishing future-oriented urban strategies. What is notable about this index is its scenario analysis for Tokyo, which simulates future rankings based on potential new urban agendas in the city.

Since 2009 the index has incorporated new factors – most significantly an environment theme in recognition of its increased role. A total of 69 indicators comprise the overall index. The index is highly global in scope, considering 35 world cities based on six main functions:

*Economy
R&D
Cultural Interaction
Liveability
Ecology and Natural Environment
Accessibility*

The index distinctively assesses these strengths for four types of global actor – managers, researchers, artists and visitors, as well as local residents, to consider which demographics are being well served or not.

Statements of success and failure

Because of the equal weightings, it is cities with overall provision that tend to perform well, while many large urban economies with modest scores elsewhere tend to rank poorly.

Cities highlighted by the report

The traditional 'big four' - **New York, London, Paris, and Tokyo** – have occupied the top four positions in each edition of this index, and in 2013 possess a surprisingly big gap over 5th-ranked **Singapore**. Despite a weaker R&D output, London became the 'number one' city in 2012, overtaking New York on account of its unsurpassed cultural interaction, improved liveability and rail transport. It retained and extended this lead in 2013. Paris remains highly competitive in 3rd place because of its impressive accessibility and high living standards. Tokyo has remained 4th, with overall provision matching that of Singapore and Seoul, while also maintaining a much larger economic scale. Contrary to some reports, the city is found to maintain a strong appeal to managers and artists.

Seoul is among Asia's most improved cities in recent years, and remains ahead of Shanghai and Beijing overall. The South Korean capital excels for R&D production and local and external transport. Its cultural interaction is also much improved, indicating that the city is becoming a regional tourism centre.

Central European cities perform very strongly in terms of satisfying resident needs. **Frankfurt, Berlin, Zurich** and **Vienna** occupy top 10 positions in this category, on account of high health and secondary education standards and strong indicators associated with crime and environment. Berlin also rates highly overall at 8th, thanks to exceptional cultural interaction scores and improved research and economic figures.

Cities making progress

Asia Pacific cities continue to improve and, in some cases, displace their European and North American counterparts in the 2010 index. The big improver in the upper echelons of the overall rankings is Seoul, which has risen six places in recent years to an impressive 6th. The South Korean capital has improved its liveability while maintaining world-class R&D provision (6th). **Shanghai** has recovered from a blip in recent years, due to more consistent scores in R&D and liveability. 2012's high performers **Sydney** and **Osaka** however fell back in 2013.

1.2 Global Urban Competitiveness Project

The Global Urban Competitiveness Report (GUCP) has represented a major new contribution to comparative city benchmarking. First released in July 2008, with follow-ups in 2010 and 2011, the report represents a unique collaborative effort between universities in China, the United States and elsewhere that emerged from an international academic forum on urban competitiveness in 2004. In particular, the report and its subsequent agenda are led by contributors from the Chinese Academy of Social Sciences and Bucknell University, Pennsylvania, as well as from universities in the UK, Canada, Mexico, South Korea, Italy, the Netherlands and Japan.

In assessing an unprecedented 500 cities, the GUCP not only analyses competitiveness across the world's urban regions and promotes better communication among researchers; it facilitates the creation of more effective economic strategic planning in cities worldwide. It is aiming to create a critical mass of research in the field and executive training and research programmes for urban government. The vast amount of data is diligently collected by more than 100 Chinese graduate students over the course of a year.

The report's conception of urban competitiveness was first defined as a city's ability to create wealth, relative to other cities in the world. The 2007-2008 report measured the competitiveness of 500 cities around the world across nine indicators. These were:

- GDP
- Per Capita GDP
- Per unit area GDP (density)
- Labour productivity
- Number of multinational firms
- Number of patent applications
- Price advantage

- Economic growth rate (%)
- Employment rate

The first report used a total of 103 indexes to measure a range of different aspects surrounding urban competitiveness, including enterprise competitiveness, industrial structure, human resources, hard business environment, living environment, and global connectivity.

By 2010, the theme of the report had changed to focus on 'innovation', reducing data to six indices more heavily targeted at the knowledge economy and creativity – including Green Economic GDP per capita.

Statements of success and failure

The GUCP concluded in 2010 that the best-performing regions were then North America and Europe, but that Asian cities are becoming more and more competitive, especially those in China. It argued that 'the gap between the good performers and poor performers is widening.'⁷² By 2011 the report stated that 'the pattern of urban competitiveness in the world is changing rapidly.' It acknowledges the American and European dominance of the urban system, but argues that newly-industrialised countries' key metropolitan centres are growing very rapidly and indicate 'huge development potential', such that they may soon catch up with the top level cities.

The report is informative in that it found that good performers in the world are making a series of efforts in order to win the fierce competition with global rivals:

- Establishing development strategies and providing guidance in planning
- Improving business environment and supporting SMEs
- Upgrading industrial infrastructure and achieving city promotion
- Offering life-long education to citizens and attracting talents from worldwide
- Pursuing sustainable development
- Establishing city brand and marketing
- Implementing an enterprise management model in city management
- Fostering its special characteristics and cultivating diversified cultures.

The report urges central government to attach greater importance to sustainable development, the promotion of urban competitiveness and the construction of cities as quality hosts for an increasingly urbanised world. To achieve that goal, it proposes 10 clear tasks for government officials:

- Delegating larger autonomy to local government
- Creating a better business environment, encouraging business-led management in the city
- Maintaining local heritage while expanding global communication
- Providing lifelong education targeted towards industrial upgrade and innovation
- Encouraging entrepreneurialism and immigrant integration
- Balanced development between economy and society
- Promote city-regional integration, based on suitable blend of competition and cooperation

⁷² Institute of Finance and Trade Economics, Chinese Academy of Social Sciences (2008), Global Urban Competitiveness Report GUCP(2007-2008).
www.gucp.org/en/report.asp?bigclassid=2&smallclassid=20

- Centre-oriented development strategy, based on wide economic base
- Preserving history and culture while promoting sustainable development
- Joint business-liveability priorities to ‘create a paradise for business and living’.⁷³

Cities highlighted by the report

Since 2010 the report has displayed a noticeable shift in tone, as the authors state with renewed confidence that cities in China, Mexico, India and Brazil are set to challenge the global elite in the medium-term future. In terms of economic scale, five of the top 10 are not in the West, with **Tokyo, Seoul, Hong Kong, Osaka** and, notably, **Mexico City** all among the largest economic agglomerations. Six of the global top 10 for international influence are also in Asia, with three Chinese cities, Hong Kong (5th), **Beijing** (6th) and **Shanghai** (8th) featuring.

Overall, the familiar world cities have remained present in the first editions of the index. **New York** and **London** are the top two cities, after a brief rise to 2nd for **Tokyo**, indicating the Anglo-American pair’s continued capability to generate wealth opportunities. New York is rated as a world leader for its economic density and decision-making capability. The ‘big four’ world cities are said to have challenges related to maintenance of their hi-tech innovation capacity and spread of their international influence. But overall they are identified as having the best combination of scale and quality, with new Eastern centres needing to improve aspects of quality. Tokyo is noted for leading the index of economic scale, having also performed well previously for industrial structure and hard business environment. **Paris** is rated 1st worldwide for ‘local elements’ relating to science and education, 2nd for economic scale and 3rd for enterprise quality.

Chicago is ranked at a high 5th, the first city after the ‘big four’, while **Singapore, Seoul**, and **Hong Kong** have all established themselves in the top 10. **Washington DC** has fallen out of the top five cities and is now only 11th.

Top 10 cities for comprehensive urban competitiveness⁷⁴

	2010	2011
1	New York	New York
2	Tokyo	London
3	London	Tokyo
4	Paris	Paris
5	Los Angeles	Chicago
6	San Francisco	San Francisco
7	Chicago	Los Angeles
8	Washington DC	Singapore
9	Singapore	Seoul
10	Seoul	Hong Kong

North American cities remain dominant overall, despite the ongoing disruptions to the urban hierarchy. Twenty of the top 50 cities, and more than a third of the top 100 are in North America. American cities dominate the top of the patent applications and ‘development level’ rankings.

⁷³ Institute of Finance and Trade Economics, Chinese Academy of Social Sciences (2008), ‘Global Urban Competitiveness Report GUCP(2007-2008)’.
⁷⁴ Ni Pengfei (2012), ‘The Global Urban Competitiveness Report 2011’, Edward Elgar Publishing, p.1

Cities making progress

The 2011 GUCR points to Beijing and Shanghai as being on a fierce growth path set to rapidly alter the top of the global urban hierarchy. Yet only three mainland Chinese cities were among the top 100 competitive cities in the world. Hong Kong, ranked 10th, is rated considerably more competitive than Shanghai, which rose from 46th in 2010 to 37th in 2011. Beijing has risen at a greater pace, improving to 59th from 66th, moving well ahead of regional hub **Shenzhen**.

Notable smaller high-performing cities include **Seattle**, which ranked 13th worldwide for comprehensive competitiveness. In 2010 the city ranked 1st for enterprise competitiveness and in the top 10 for hard and soft business environments, and in 2011 it made the top 10 for patent applications. **San Jose** has also made a notable entry into the top 20 overall, due to an outstanding score in the 'development level' metric. **Houston** also rose from 18th to 12th in the list, indicating its renewed economic and manufacturing power. Others to improve by over five places include **Yokohama**, **Amsterdam** and **Portland**.

1.3 PricewaterhouseCoopers/Partnership for New York City: Cities of Opportunity

The 2012 Cities of Opportunity study is the 5th edition of this important publication, which began in 2007. It is the result of a decade-long collaboration between PricewaterhouseCoopers and the Partnership for New York City, which has sought to identify how cities can remain vibrant, resilient hubs of economic growth. Unlike some studies, which consider all major world cities in their rankings, Cities of Opportunity 2012 examines 27 of the world's current leading business, finance and culture hubs (up from 11 in the 1st edition and 21 in 2010). Santiago and Stockholm were newcomers to the 2010 study and, in 2011, Abu Dhabi, San Francisco, Madrid, Moscow and Istanbul were all included, as Frankfurt and Dubai dropped out. This year, Houston and Santiago have dropped out of the study, and have been replaced by Milan, Buenos Aires and Kuala Lumpur. The Cities of Opportunity study has expanded quickly since its inception, now incorporating 60 variables (down from 66 in 2011) across the full range of city attributes, almost double its original number. These variables are strictly filtered to ensure quality control and data equalisation.

Three main data sources are used to accumulate data:

- Global multilateral development organisations: e.g. World Bank, IMF
- National statistics organisations: e.g. the ONS in the UK, and the Census Bureau in the US
- Commercial data providers

Data from commercial suppliers was collected during the latter half of 2011 and the first quarter of 2012.

The report's authors have dramatically revised the variables included in the 2012 report. On top of the nine indicators used in the 2011 report, this year's edition includes a tenth indicator, City Gateway, which rates a city's connectivity. The variables used to underpin the 10 indicators have also been revamped in 2012 with only the variables behind the Technological Readiness and Health, Safety and Security indicators remaining unchanged from 2011. The Transportation and Infrastructure indicator received a particularly extensive revamp with six variables being removed to be replaced with three new criteria. Significant changes were also made to the data utilised in the Economic Clout and Sustainability indicators.

Originally the choice of the featured cities was heavily driven by their status as capital market centres. Report authors argued that 'compelling' cities such as Bangalore and Zurich were excluded because neither is a 'true financial capital.' But from 2011 this requirement was relaxed to include important cities that are not major finance

hubs— including Berlin and San Francisco. This trend continued in 2012 with the inclusion of Milan and Buenos Aires.

The 2012 index also contains a new future-oriented section entitled 'The City Tomorrow'. Utilising the Cities of Opportunity methodology and results and combining it with research from Oxford Economics' regional and world models, PwC has produced a model which gives a 2025 economic baseline projection for each of the 27 cities.

From that 2025 baseline, the authors modelled five "what if" scenarios, which simulate the potential effects of five macro socio-economic visions of global urbanity in 2025:

- An educated, connected world
- Trade booms in an educated, connected world
- Technological job loss and slow growth
- Protectionism spreads to counter hard times
- Quality of life spurs city growth

Statements of success and failure

Cities of Opportunity is first and foremost concerned with what key ingredients cities need to perform well in the long term in the twenty-first-century global economy. It identifies best practice and learning opportunities. Cities of Opportunity makes a strong claim that balanced city economies are vital to city success and failure. It argues that Dubai has represented failure in this regard, growing too quickly to create the resilient economic base required to withstand the economic crisis. It states in 2012 that:

'[our] thesis remains that a city's healthy growth and long-term resilience depends on "positive reinforcement in the network of economic and social development".'

Pointing to the 2012 report's new section on Cities of the Future, the authors go on to note that:

'looking at 2012 results and ahead toward the possibilities in 2025, we seek to provide a realistic framework for thought and action beginning with 27 of the world's most significant cities—on one hand, the engine of the modern global economy and on the other, the heart of much of our shared culture'.

Cities highlighted by the report

Taking firstly Cities of Opportunity's current findings, the initial trend of note is the relatively stable picture of performance of cities within their respective status bands. This being said, there is some movement of note within the index. At the top, whereas in 2011 the upper echelons of the table were conspicuously populated with 'second cities', which performed resiliently through the recession, traditional major players have now regained primacy.

Paris and London both advance four spots from 2011 with London claiming 2nd place overall behind New York and Paris moving up to 4th. Toronto and Sydney both retain their top five positions but San Francisco drops down the rankings out of the world elite. The resurgence of Paris and London indicates that 'despite the Eurozone's continuing economic instability, the long-term investment that builds a great urban centre also lends resilience to weather the storms'.

New York finishes top overall despite not topping any individual indicator. The city ranks in the top five for Economic Clout and Ease of Business, City Gateway and Innovation Capital, and exemplifies the depth required for a city to establish itself and to remain a leading global city. Like London, however, poor transportation links from New York's airports to the central business district is one area in which the city performs poorly. Dropping two places on its 2011 world-leading performance, New York still performs well in Readiness for Technology, while finishing 2nd in the Digital Economy variable and no lower than 8th in the world in any of the other three sub-criteria.

London, a close 2nd to the 'Big Apple', was again a consistent performer and ranked top in the new City Gateway criteria. Receiving more air passengers and tourists than any other city and being rated in the 'top five' in four of the five other variables within this category, London's success in 2012 is attributed, in part, to its excellent connectivity. Ranking 8th in the Transport and Infrastructure indicator, London's public transport system ranked joint top with Toronto. Commenting on the development of infrastructure in the UK, Arup's Peter Chamley commented:

'[In the UK], there's a fairly large degree of politics, but the planning process grinds on. You end up with a very good result, but it just takes time to get there. In Singapore, which is much smaller, you've got one level of government, decisions are made, stuff happens quickly.'

Strong performances in the Economic Clout, Innovation Capital and Ease of Doing Business indicators also contributed to London's generally strong performance, albeit mitigated by weak scores in Sustainability and Cost of Living.

Toronto completes the top three. Like New York, the city shows strength in depth across the board without leading any of the individual indicators. The city boasts solid rankings in the economic criteria, which former mayor David Miller suggests were boosted by private sector initiatives - including the establishment of the biotechnology incubator MaRS (Medical and Related Sciences) beside the University of Toronto.

These rankings are enhanced by excellent scores in the Security, Liveability and Transport and Infrastructure ratings. The Canadian city's weaknesses in this year's report lie in poor international connectivity owing to low flight numbers.

Stockholm continues to punch above its weight and is singled out for very strong performance across the full range of variables - especially higher education, e-readiness, greenness and air quality, and R&D spending per capita. Stockholm is rated the city with the highest liveability, based on excellent quality of life, strong health indicators and a diverse population with advanced education, all alongside an increasingly solid economic base.

The top 10 ranked cities in 2012 are described as having very strong, mostly unsurpassed depth in terms of economic intensity, commercial regulation, and educational/cultural infrastructure. These cities appear as having a holistic collective intelligence, through which citizens have a social and economic identity.

The 2012 Cities of Opportunities also includes its Cities of Tomorrow analysis. In this analysis each of the 27 cities' 2025 socio-economic condition is modelled against a baseline - business as usual - scenario and also against five additional potential growth macro-growth patterns which produce fascinating alternative futures for the 27 subject cities.

In three of the five models of urban growth, London would be the world's main city beneficiary. In each scenario: an educated, connected world; trade booms in an educated, connected world; and quality of life spurs city growth, the UK capital produces the greatest gains in population above 2025 benchmark.

Cities making progress

Shanghai and **Beijing** both move into the top five in Economic Clout and City Gateway categories – joining with New York, London and Paris. The Chinese duo do not, as yet, perform as well across a broad enough range of social and economic indicators in order to compete with the traditional Western centres in a holistic sense and, as such, both cities remain largely unchanged on their 2011 rankings. Shanghai and Beijing's progress in the City Gateway indicator does, however, hint that global attractiveness and accessibility in the Chinese duo are improving.

Asian cities are making progress in other areas. Four of the five leaders in inner-city transportation and infrastructure are in Asia - Singapore, Seoul, Tokyo, and Hong Kong - whereas in 2011 all five leaders were in America or Europe.

1.4 AT Kearney Global Cities Index

In late 2008, Foreign Policy magazine, AT Kearney and The Chicago Council on Global Affairs published the inaugural Global Cities Index as a supplement to the esteemed country-focused Globalization Index, which has operated since 2001. It has been one of the most widely publicised and authoritative indexes in policy and business circles. The second Global Cities Index was published in August 2010 and, after another two-year gap, 2012 saw the publication of the 3rd edition of this index.

The index is a fairly comprehensive ranking of over 60 leading world cities, focusing on their position within the global economy. In particular, it was created to track city actions as urban populations grow, while the world continues to shrink.

With the addition of Melbourne (ranked 32nd) in 2012, the index now ranks 66 cities from 40 countries across five dimensions and 24 metrics. The five dimensions have remained the same from the inaugural index and are:

- **Business activity** – Fortune Global 500 headquarters and Top 40 business service firms, size of stock and commodities markets, flow of goods, industry conferences
- **Human capital** – universities, international students, inhabitants with university degrees, size of foreign-born population, primary and secondary international schools
- **Information exchange** – bureaus of global publications, coverage of international news, broadband penetration
- **Cultural experience** – international visitors, performing arts venues, international shows and sporting events, diversity and quality of culinary scene
- **Political engagement** – embassies, consulates, international organisations, think tanks, international policy conferences, sister-city arrangements, investment promotion agencies and NGOs

The updated 2012 index also includes a special feature containing analysis of the outlook for emerging cities based on their relative strengths and vulnerabilities.

Statements of success and failure

The index focus on cities is derived from accelerating urbanisation, the rise of 'megacities' and the different challenges facing urban policy leaders. As in previous years, the 2012 edition maintains that cross-border influence, rather than sheer scale, has emerged as the decisive indicator of success – '[a] city's very raison d'être

is its link to the world economy.⁷⁵ The index nevertheless shows that global cities have a lot in common moving forward and that successful cities everywhere will need to attract and retain educated people, generate economic opportunity, market themselves effectively, and become cultural, policy, or business hubs. Emphasis is placed upon 'relational city thinking' and 'urban vectors' - the development of international city networks - which will form the infrastructure for economic growth. Commenting on the index, Saskia Sassen states that the 'future is partly shaped by the firm-to-firm aspects of our global economy that thrives on the specialized differences of global cities... there is no perfect global city because different companies prefer different networks of cities.'⁷⁶

Cities highlighted by the report

New York tops the list of global cities in 2012, having also been ranked 1st in 2008 and 2010. It is rated highly for business activity and human capital and is the only of the 'big four' to improve upon its overall score in 2010. Despite scoring marginally lower than in 2010, **London** is the other most consistent performer scoring especially highly for cultural experience. Elsewhere, **Tokyo** and **Paris** have once again swapped places in the report with the French capital retaking 3rd spot and Tokyo 4th, completing the usual 'big four' in comprehensive indexes, with each recording strong performance in business activity and information exchange respectively.

The 2012 index is notable for Chinese cities continuing to record improvement. In the overall standings **Beijing** and **Shanghai** record unspectacular results, consolidating their respective 2010 positions, with Beijing rising one place to 14th and Shanghai remaining in 21st position. However, both Sino-giants have performed strongly in business activity, ranking in the top 10. Indeed, the report's new feature, the Emerging Cities Outlook, suggests that the major Asian centres are here to stay. Of the 12 emerging cities marked by the report as having 'high potential', five are Chinese, with **Guangzhou**, **Chongqing** and **Shenzhen** ranking behind Shanghai and Beijing as the most likely cities to move up in future rankings.

The report's summary also references the progress that leading BRIC cities are making in the business activity category. Although the overall performance of BRIC cities is mixed, cities in these nations are performing consistently well in the business activity criteria. Indian cities highlighted as having particular potential to grow in global influence include **Kolkata**, and **Bangalore** and **Mumbai**, which has jumped 11 places to 19th in the business activity category, the biggest improvement in the top 35 cities.

Like a number of historic and politically-influential cities within and beyond Europe, **Moscow** suffered from a drop in ranking in the 2010 edition of the index - falling by six places to 25th - but has rebounded back to 19th with improved business activity a key factor in this resurgence.

Cities making progress

The Global Cities Index has shown that the established top-ranking cities are facing increasingly robust competition from emerging cities in Eastern Europe and, in particular, East Asia. **Beijing**, **Moscow**, **Shanghai**, and **Seoul** are all cited here. The report authors argue that these cities are adjusting rapidly to new conditions of openness and are grasping the dynamics of globalisation and urbanisation.

Chicago and **Los Angeles** have cemented their places just below the 'big four', exchanging 6th and 7th places. Indeed, North American cities in this index continue to perform well, with **Washington DC** rising three places to become the 4th US city in the top 10, while **San Francisco** (17th), **Boston** (15th) and **Toronto** (16th) also hold their positions within the top 20.

⁷⁵ AT Kearney (2012), '2012 Global Cities Index'.

1.5 Knight Frank: Global Cities Survey

Since 2008, Knight Frank has produced a composite index of world cities to complement its annual assessment of the global real estate market. The survey seeks to create a rounded assessment of locations based on what affects decisions made by the wealthy and influential property elite. This therefore entails considering more than finance and economic activity, and also assessing political influence, intellectual activity and liveability. Forty cities are examined, based on widely available data, and ranked for each of the four categories, with aggregate rank determining the final position in the survey.⁷⁷

In addition to the overall performance study, the survey has introduced a sentiment element that draws on the insight of Citi Private Bank's wealth advisors and luxury property specialists in Knight Frank's global network. This considers the current and future importance of global cities to high net worth individuals (HNWIs) based on investment potential, economic openness and liveability.

Statements of success and failure

Cities capable of hosting a sustainable high-growth property market must, according to this report, be capable of strength across political, economic, cultural and quality of life attributes. Lacking world-class provision in any one area is considered a critical barrier to becoming a stable hub for hosting property portfolios for high net worth individuals. As it stated in 2010, 'to matter as a world city you need to score well on all measures; you need a broad base of appeal... [a location] where the ideas and values that define the global agenda and shape the world are settled.'⁷⁸ In light of the geopolitical turmoil of 2011, high-end property investors in 2012 most valued personal safety and security, economic openness and social stability.

Cities highlighted by the report

In 2012, **London** regained top spot after two years where **New York** had been the leading city. London's slip in 2010 and 2011 was primarily attributed to concerns about London's future tax environment, but, as this has improved in 2012, London's strengths in terms of quality of life for wealthy individuals has come to the fore. London has also been praised for its infrastructural investment, which impacts positively on property values.⁷⁹ Remarkably, London has even been rated the 'number one' city among respondents in the Asia-Pacific region. It is also significant that London and New York are anticipated to remain the top two cities in the world in 10 years, according to the opinions of wealth specialists interviewed. **Paris** and **Tokyo** are some way further back, with the Japanese capital in particular well down in terms of medium-term reputation among wealthy investors.

In 2012, **Miami** was highlighted for its outstanding reputation among Latin American investors, second only to New York. The city rated an impressive 6th overall, thanks to a prime property value rise of 19% in 2011, itself linked to a capital flight from Latin American wealth funds.

Cities making progress

Several of the East Asian centres are identified as future world leaders for property investment and all-round urban power. **Beijing** is forecast to be the 3rd city in the world by 2022, up from 9th today. **Shanghai** is forecast to overtake **Singapore** and become the 4th city in the world for importance to property clients, while **São Paulo** is the other big improver in the medium term, potentially set to match Paris in a decade's time. Other cities which are predicted to remain attractive and resilient, include **Berlin**, **Dubai**, despite recent struggles, and Mumbai, which

⁷⁷ Citi Bank and Knight Frank (2010), Wealth Report 2010, p.36; Knight Frank (2011) <http://www.knightfrank.com/wealthreport/2011/global-cities-survey/>

⁷⁸ Citi Bank and Knight Frank (2010), Wealth Report 2010, p.35-37

⁷⁹ Liam Bailey (2010), 'Tales of the Cities', <http://www.knightfrank.com/wealthreport/2011/global-cities-survey/>

ranks 18th for future prospects. At a slightly lower level, solid prospects are also forecast for **Rio de Janeiro**, **New Delhi**, and **Istanbul**. These likely success stories are set to be at the expense of more established financial capitals, such as Frankfurt and Madrid, both of which are set to fall out of the top 20 most important cities in the near future.

Elsewhere, the second-tier Chinese cities of **Dalian** and **Chongqing** are earmarked as potential future world-class cities, given the investment and population growth experienced currently in both.

1.6 Economist Intelligence Unit and Citigroup: Hotspots

In spring 2012, the Economist Intelligence Unit (EIU) research group was commissioned by Citigroup to draw up the most comprehensive study yet on the competitiveness of 120 cities worldwide. As part of this study is the Global City Competitiveness Index. These cities were ranked in eight overall categories relating to business attraction and overall assets, each of which was informed by three to six sub-measures. The index also combines in-depth interviews with 10 prominent city experts, mayors and corporate executives, including representatives of McKinsey and the OECD.

Statements of success and failure

With over half of the world's population living in urban areas and 80% of the world's GDP being generated in those cities, the competitiveness of the world's major cities will have a key impact upon the trajectory of the world. This index utilises a range of quantitative and qualitative data to provide an in-depth projection of the competitiveness of world cities in 2025.

Cities highlighted by the report

Despite the enormous progress of many major cities in emerging economies, it is cities in North America and Europe that remain the world's most competitive. The familiar Anglo-American dyad of New York and London lead the way in this respect, grabbing 1st and 2nd respectively, and are joined in a top 30 by 19 other cities from Europe and North America.

While their holistic offering may not match rivals in Europe and North America, by 2025 it is the major Asian cities that are set to dominate in terms of financial clout, with New Delhi and Tianjin 1st and 2nd respectively at the top of that metric. London in 19th, Doha in 16th and New York in 3rd are the only three non-Asian cities to rank in the top 20 in this list. Indian cities, including Mumbai (7th) and Chennai (10th), will capitalise upon the large rural population that will follow the mass migration in China.

The survey identifies a strong correlation between the physical attractiveness category and overall competitiveness. Transport and communication infrastructure is a major weakness of Asian cities as far ahead as 2025, with only Beijing and Shanghai making the top 20 in this category, which is dominated by mature and well-established Western cities.

Cities making progress

São Paulo is the index's most improved city from previous editions. The Brazilian city moves up to 36th in the 2025 rankings with improving infrastructure and financial clout among its successes. Its major container port is considered a key asset in the city's development, along with its young workforce and relatively developed physical capital.

Making similarly impressive progress is the Korean city of **Incheon**. Again, the city's port is highlighted as a key factor in South Korea's third city's development, as is the successful implementation of the Incheon Free Economic Zone. Strong institutional organisation and, again, physical capital are among the city's strengths.

Of the Indian cities, **Mumbai** makes the most progress and is the third most improved performance overall, on the verge of the global top 50. Its enormous economic mass and cultural vibrancy are the key factors behind the city's improvement. Unlike Rio and Incheon however, Mumbai's progress is impeded by the deficiencies in its physical capital, instructional character, environment and human character.

1.7 UN-Habitat City Prosperity Index

UN-Habitat's City Prosperity Index (CPI) provides a statistic comparison of the relative prosperity of major world cities with the aim of enabling decision-makers to identify opportunities and potential strategies for increasing prosperity levels across the world.

Based on the UN-Habitat concept of prosperity, the CPI is based on five principles, or spokes, which form the framework of the prosperity wheel. Each of the five spokes is further subdivided into variables and sub-indices, taking into account a range of indicators.

The UN's spokes are:

- **Productivity** - measured through the city product, which is composed of variables such as capital investment, formal/informal employment, inflation, trade, savings, exports/imports and household income/consumption.
- **Quality of life** - which includes three sub-indices: education, health sub-index and public space.
- **Infrastructure development** - encompassing two sub-indices: infrastructure and housing.
- **Environmental sustainability** - comprising three sub-indices: air quality, CO₂ emissions and indoor pollution.
- **Equity and social inclusion** – utilising the Gini coefficient and inequality of access to services and infrastructure.

The index provides a great deal of analysis in its 152 pages. The summary here is limited to its core findings in relation to cities.

Statements of success and failure

In prosperous cities, the UN's five spokes are mature and there are very few statistical variations between them. Urban, civic and governmental structures, such as governance, planning, law, regulations and administrative frameworks are embedded and restrain prosperous elements in society, preventing the aggregation and control of wealth to the detriment of the remainder of the society. These prosperous cities have high levels of trade and sophisticated services sectors amid resilient, diversified economies that boast high productivity. Healthcare, education standards and personal safety levels are high and infrastructure is well developed.

Cities highlighted by the report

Vienna is ranked as the top city with particularly high scores for productivity, environment and infrastructure. Social inclusion is also highlighted as a key factor for success in the Austrian capital where *'an elaborate action*

plan involves systems for non-discrimination at all levels, improved political and social participation of all minority groups including migrants, and measurable monitoring of social diversity and integration'.⁸⁰

In a closely competed index, **New York** comes in joint 2nd with **Toronto**, **London** and **Stockholm**. New York scores consistently well across all indicators, and is particularly strongly in the productivity category. Toronto and London's relative strength is infrastructure, and Stockholm comes out as the top scorer in terms of quality of life.

Tokyo in 10th is the top-performing Asian city in the index followed by **Seoul** in 23rd. **São Paulo** is the highest ranked city in Latin America coming in at 25th, ahead of Johannesburg, the highest ranked city in Africa in 38th. The bottom 10 positions are all filled by African cities, with **Monrovia**, **Conakry** and **Antananarivo** the least prosperous cities under consideration.

Cities making progress

As this is the first edition of this index, no comparisons can be made.

⁸⁰ UN Habitat (2012), 'UN State of the World's Cities 2012/2013'.

2 Finance, Investment and Business Environment Indexes

2.1 Z/Yen Global Financial Centres Index

In March 2013, Z/Yen published its 13th Global Financial Centres Index, a series that has been a major addition to comparative city indices since 2007. First commissioned by the City of London as a policy aid and now taken on by the Qatar Financial Centre Authority, the index – released every six months - has been based on ongoing assessments of financial market practitioners and regulators, who are surveyed online on matters of finance centre attractiveness. There has been an increased volume of respondents and data availability in each successive report, providing a rich tapestry of finance opinion and knowledge. Data from 23,043 financial centre assessments, completed by 2,379 financial services professionals, was compiled to produce the 12th edition of this survey.

The index also accounts for instrumental factors (external indices), such as office rental rates, airport satisfaction and transport. These are grouped into six thematic ‘areas of competitiveness’ – People, Business, Environment, Infrastructure, Market Access and General Competitiveness. A total of 96 factors were used in the 13th edition.

As in previous editions, the March 2013 update provides ratings of competitiveness based on global finance connectivity, financial services diversity and factors of speciality. The connectivity measure examines a centre’s reputation and number of survey references, subsequently categorising centres as ‘Global’, ‘Transnational’ and ‘Local’. The diversity, quality and depth of centres’ industry sectors – such as asset management, investment banking and insurance, results in a table of ‘Leaders’, ‘Diversified’, ‘Specialists’ and ‘Contenders’ within each bracket of Global, Transnational and Local. Thus, London is rated a ‘Global Leader’, while Mumbai is rated a ‘Transnational Specialist’ and Buenos Aires a ‘Local Evolving Centre’.

Financial services’ providers perceived as having ‘global’ scope

	Broad & Deep	Relatively Broad	Relatively Deep	Emerging
	GLOBAL LEADERS	GLOBAL DIVERSIFIED	GLOBAL SPECIALISTS	GLOBAL CONTENDERS
Global	Boston	Amsterdam	Brussels	Moscow
	Frankfurt	Dublin	Geneva	Beijing
	Hong Kong	Seoul	Luxembourg	Dubai
	London			
	New York			
	Paris			
	Singapore			
	Sydney			
	Tokyo			
	Toronto			
	Zurich			

Statements of success and failure

The index reported improvement in respondents’ optimism in 2011 and the first half of 2012, with confidence relatively stable among practitioners that the highest-ranking centres will maintain their stability and respond appropriately to ongoing challenges.

Cities highlighted by the report

London has been the 'number one' city in the rankings for each of the first 13 reports and, despite tying with New York in early 2010, re-established its slight lead in 2011 - a lead which it extended in the 12th report and maintains in this 13th edition. In a positive six months, almost all of the featured cities improved their scores, with Beijing the most striking of the handful of cities to drop points and slip 15 places.

Beijing's experience is, however, not indicative of Asia-Pacific cities in general. Kuala Lumpur, Singapore and Tokyo have posted some of the most impressive gains and the report's authors are bullish in their long-term prognosis for the region, with Singapore (4th) closing ground on 3rd place Hong Kong.

New York (2nd) completes the top four cities with the most multidimensional financial services offering, praised for its outstanding institutional and global communication linkages, and its mutual cooperation in tackling important challenges. The report notes the symbiotic relationship of that triad, stating that *'[the] top three centres control a large proportion of financial transactions and are likely to remain powerful financial centres for the foreseeable future'*.⁸¹

Since 2009, Hong Kong has emerged not only as the frontrunner of the chasing pack, but, as now part of the 'big three', is gaining rapidly on New York and is only marginally behind. In the 10th survey, Hong Kong closed the gap on New York and London, ranking just one and four points behind the market leaders, respectively. Surveys 11 and 12 saw Hong Kong slip back on this progress but in the 13th edition, it began to make inroads on the leading duo.

Eleven cities are rated as 'Global Leaders' in finance. In addition to London, New York, Hong Kong and Singapore, the cities of Boston, Frankfurt, Toronto, Tokyo, Sydney, Zurich and Paris are credited with the top status, although perceptions on Paris's financial services vitality continue to be largely adverse.

Cities making progress

A strong year for Boston sees it move up 31 points and three places into the top 10 and from a Transnational Diversified city straight to a Global Leader. The Swiss pair of Geneva and Zurich continues to make gains. Zurich consolidates its position in 5th place overall, while Geneva gains a couple of places to rank 7th.

Other European cities bucking the recent trend of eurozone cities struggling in this index are Milan and Rome, which both move from Local Established players to Transnational Diversified providers, as does Vienna. Those three cities post some of the most impressive annual gains: Rome jumping 22 places, Milan 14 and, further up the rankings, Vienna moving up 16 places to enter the global top 20.

Despite dropping from a Local Established city to a Local Diversified centre, São Paulo made significant gains (25 points), as did Rio de Janeiro, up 31 points and upgraded to a Transnational Contender. The Brazilian duo were, however, outperformed by Buenos Aires which gained 15 places and 55 points and is now ranked 53rd.

But it is Riyadh that is the financial centre showing the greatest progression in 2013. The Saudi capital jumps 72 points and 32 places this year – by a distance the most impressive gains.

Beijing meanwhile continues a decline that started in the 10th edition of the report. With most cities posting gains, Beijing's loss of four points sees it plummet a further 15 places.

81 Ibid.

Despite the lull in growth of many Asian cities in that region, East Asian centres continue to be viewed as the most likely to become significant up to 2015. Respondents to the survey agreed that Singapore was the city most likely to become more significant and the most likely city in which they would open a new office. Of the major Asian cities, it is **Seoul** which has produced some of the best results in this 12th edition of the report, building upon the 11th edition by gaining seven points and two places in the rankings and moving up into 6th place. The largest gain at the elite end of the index is that made by Geneva, gaining five places and entering the top 10.

The significant progress made by **Frankfurt** in the 11th edition of the index has subsequently stalled. Similarly, **Vienna** has dropped three places – a trend indicative of the majority of cities in the eurozone that continue to struggle on economic criteria. The declining fortunes of **Madrid**, **Dublin** and **Lisbon** continued, with each of those cities once again losing ground in the index.

2.2 Cushman & Wakefield European Cities Monitor

In 2010, Cushman & Wakefield released the 21st edition of its prestigious survey of Europe's major business cities, the European Cities Monitor. In operation since 1990, the survey offers a significant overview of the perceptions of European cities among corporate firms. Recently increasing its scope to 34 cities, it provides a useful assessment of the strength of the emergence of Central and Eastern European cities over the past two decades

For the survey over the past few years, a changing sample of approximately 500 senior executives from leading European companies have provided their views, collated independently for Cushman & Wakefield by TNS BMRB.

While identifying trends within cities, the report does not identify the reasons behind these. The cities remain inanimate objects dependent on business responses and are denied space for their own agency. There is a small concern on methodology too; over time the senior executives surveyed move to new posts, retire or are unavailable. This changing subjectivity of respondents should be noted.

Statements of success and failure

The survey questions in the European Cities Monitor are suggestive of what is perceived to make a successful business city in the European context. Participants are asked impressions on a series of measures assessing business and market environment, digital and transport infrastructure, quality and availability of staff and office space, quality of life and environment. The top cities need to perform at an average of 6th or higher in most measures in order to be rated highly.

It is clear from survey respondents that the most important factors currently for considering business location in Europe are easy access to markets (60% of participants cite this factor), availability of qualified staff (57%), the quality of telecommunications (54%) and the breadth and depth of transport links (51%). Other factors are somewhat less significant according to interviewees, with environmental factors the least important (17%)

Cities highlighted by the report

The European Cities Monitor is a highly stable index, with positional changes fairly infrequent. **London**, **Paris** and **Frankfurt** have been the top three cities in the index since 1990. London retained its top spot in 2010, maintaining its considerable advantage over Paris, which itself is a clear 2nd. London is the top-rated city in half of the 12 major rankings, including easy access to markets, external transport links, qualified and multilingual staff, and

quality of telecommunications. There do not appear to be any factors disturbing the position of these three cities at the summit of the rankings in the medium-term future.

Barcelona is a major improver in this index over the past two decades, climbing from 11th place in 1990 to a close 5th in 2010. Barcelona's biggest achievements in this index are retaining a decisive top spot in quality of life for employees - a clear margin over **Munich** – and being perceived as one of the cities doing most to improve itself as a business city. While sometimes overlooked in terms of ranking progress, **Madrid** in 8th has also made rapid progress from 17th in 1990. Apart from **Düsseldorf**, German cities – including Munich, **Berlin** and **Hamburg** - have also all improved their placing since 1990, indicative of the business confidence they have inspired over the past two decades. Cities that have lost out, as the strongest cities from Germany and Spain improve, include **Milan**, **Zurich** and **Glasgow**.

Cities making progress

Medium-sized cities such as **Birmingham**, **Vienna** and **Stockholm** have all made progress since 2008. Vienna makes the biggest position gain overall, up six places to 22nd. **Birmingham** made a considerable improvement in the 2009 monitor, superseding seven cities to reach 14th place, mostly due to excellent value for office space and staff, a desirable factor during tough economic circumstances. The Eastern European charge is headed by **Warsaw** and **Istanbul**, both of which are making steady but unspectacular progress outside. **Moscow**, Warsaw and Istanbul have moved ahead of Prague and Budapest as the three cities most likely to be places of future expansion for the majority of the respondents, attracted in by cheaper staff and new, largely untapped markets.

2.3 Globalization and World Cities Group (GaWC)

This research group based at Loughborough University has been responsible for many breakthrough theoretical and analytical understandings of world cities. The GaWC has produced substantial knowledge of world city formation and practice, and one of its major contributions is a listing of world cities, ranked according to tertiary sector activity.

GaWC has typically produced four-yearly updates on the world city network, providing a strict empirical basis for assessing the most connected cities in the world. The study provides figures for comparative density of business firm networks, based on a benchmark of 100 for the most connected city (historically either London or New York). The first report was produced in 2000, with the most recent figures produced for 2008. Network connectivity is primarily based on the worldwide distribution of advanced producer service (APS) firms. The 2008 figures were produced out of a collaboration begun in 2007 with the Global Urban Competitiveness Report (GUCP) at the Chinese Academy of Social Sciences (CASS).⁸²

Statements of success and failure

The GaWC's reputation has led to its own measures coming to signify what it means to be a bona fide world city in many quarters. A city is a successful world city if it hosts many of the major firms listed, if it has a high number of connections via flights and telecommunication links to other cities, and if it is a centre of elite worker migration. This does not make an analytical judgement as to whether this is 'good' or 'bad' for the city: 'goodness' is implicit in being a world city. The GaWC approach also argues that cities must facilitate cooperation within office networks of globalised service firms, rather than engage in competition for capital and knowledge. Successful cities are those which can take part in the overall density of global network connectivity, something that rose between 2000 and 2008. The report shows that 179 out of 307 cities were more connected to the world city network in 2008 than in 2000.

For the 2008 measure, the 175 firms considered were in the advanced sectors of accountancy, advertising, law, management consultancy, banking/finance and insurance. Network connectivity is the main measure of importance of a city in the GaWC model, and a large dataset is computed to achieve overall connectivity measures.

Cities highlighted by the Index

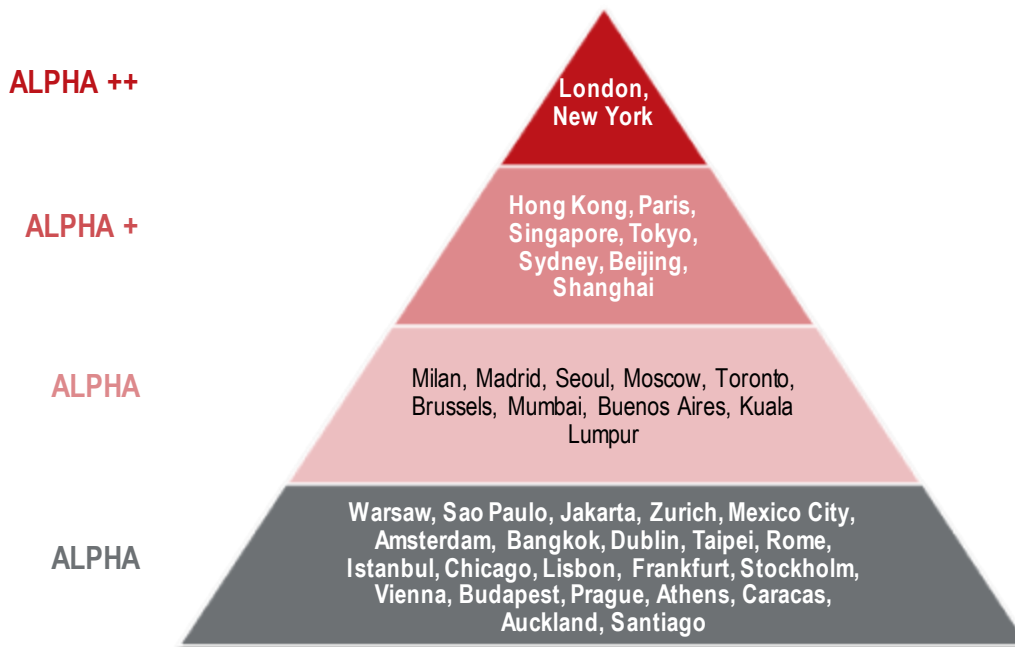
The GaWC assessment of its 2008 world-city-status scores identifies **London** and **New York** as two cities that stand apart from the rest. It describes 'NYLON' as 'the global cities dyad par excellence.' The report also identifies **Hong Kong** as clearly the 'number three' city in the world city network, at the front of the chasing pack, approaching the elite alpha++ level in the near future. The GaWC analysis of the variation between the 2000 and 2008 figures highlights that there is considerable stability at the summit of the network. While **New York** has marginally overtaken **London** at the top of the rankings, the top three cities remain unchanged.

The cities of **Paris**, **Singapore** and **Tokyo** also take up the 4th to 6th positions in both the 2000 and 2008 assessments, with Paris overtaking Tokyo to move into 4th.

GaWC also comments on the decline of North American cities in the status rankings. While **Miami** and **Atlanta** are noted for falling out of the entire alpha level of cities in 2004, **Los Angeles** and **San Francisco** in 2008 have also

⁸² Derudder et al (2009), 'Pathways of Growth and Decline: Connectivity Changes in the World City Network, 2000-2008,' GaWC paper.

disappeared from the elite list. The surprise of the US having just two alpha world cities – New York and Chicago - out of 40 globally, is a distinctive feature of the 2008 update, and is explained by the US reliance on such a strong home market. The GaWC analysis considers the decline of North American and some European hubs as pointing to a wider ‘world-regional’ trend. While the 20 most connected cities in 2000 included five North American cities and five Asian cities, in 2008 only two North American cities (New York and Toronto) make the top 20, while nine Asian cities are present. This is described as a ‘major geographical transformation from West to East.’⁸³



2000			2008		
1	London	100.00	1	New York	100.00
2	New York	97.10	2	London	98.64
3	Hong Kong	73.08	3	Hong Kong	81.33
4	Tokyo	70.64	4	Paris	77.91
5	Paris	69.72	5	Singapore	74.15
6	Singapore	66.61	6	Tokyo	72.58
7	Chicago	61.18	7	Sydney	71.76
8	Milan	60.44	8	Shanghai	70.05
9	Madrid	59.23	9	Beijing	68.77
10	Los Angeles	58.75	10	Milan	67.67
11	Sydney	58.06	11	Madrid	66.42
12	Frankfurt	57.53	12	Moscow	64.24
13	Amsterdam	57.10	13	Seoul	63.54
14	Toronto	56.92	14	Brussels	63.53
15	Brussels	56.51	15	Toronto	62.29
16	São Paulo	54.26	16	Buenos Aires	61.21
17	San Francisco	50.43	17	Mumbai	60.24
18	Zurich	48.42	18	Kuala Lumpur	58.87
19	Taipei	48.22	19	Taipei	56.77
20	Jakarta	47.92	20	São Paulo	56.49

83 Ibid

Cities making progress

The second level of cities features seven cities which increasingly are made up of western Pacific Rim cities, headed by **Sydney** (up from 11th to 7th since 2000), **Shanghai** and **Beijing**. This is considered a key development by GaWC researchers for the 2008 assessment.

The rise of cities from 'emerging markets' is a key focus – especially the appearance of **Seoul**, **Moscow**, **Mumbai**, **Buenos Aires** and **Kuala Lumpur** among alpha cities in 2008. This has occurred at the expense of North American and Western European hubs, namely **Amsterdam**, **Frankfurt**, **Zurich**, **Chicago** and **Los Angeles**. Shanghai and Beijing are ranked 8th and 9th globally respectively in 2008 having both been outside the top 25 in 2000, while Seoul has also risen from 32nd to 13th.

By comparison, **Mumbai's** rise in relative connectivity has been less marked, moving from 22nd in 2000 to just 17th in 2008. Other Asian hubs – such as Taipei and Jakarta – have stalled or even fallen down the list of most connected cities.

In Eastern Europe, the researchers identify **Warsaw** as a leading hub by 2008, making a strong breakthrough towards the top 20, while **Moscow's** improvement in 2000 (39th to 12th) has been extremely pronounced. Interestingly this appears to be at the expense of **Berlin**, which is said to have failed to become a major world city by business network measures.

2.4 fDi Intelligence: Cities of the Future

fDi Magazine's Cities of the Future is a continental ranking series produced in conjunction with the fDi Markets data tool. In addition to its datasets, the index has a judging panel which typically includes senior figures at real estate, investment and legal firms. Each continent is assessed approximately every two years, providing a strong indication of which cities are acting to promote inward investment.

Seven main themes are usually covered for measuring city strength:

1. Economic potential
2. Cost effectiveness
3. Human resources
4. Quality of life
5. Infrastructure
6. Business friendliness
7. FDI promotion strategy.

For economic potential, measures such as population growth, number of patents, GDP per capita, number of FDI projects and R&D expenditure are included. Office rents, wages and the costs of petrol, hotels and logistics are some of the measures for cost effectiveness, while human resources is measured by figures in higher education, investment in education and science/high-tech employment. The quality of life score focuses mainly on health, security and housing/schooling options. Infrastructure measures include telecommunications and international connectivity, while business friendliness not only incorporates scores on business freedom but also considers the concentrations of high-tech and knowledge firms.

The most recent addition to the overall measure is the FDI promotion strategy indicator. This innovative inclusion considers such questions as size/quality of incentives to inward investors, key attraction initiatives, number of staff dedicated to facilitating investment, and the city's 'vision' for achieving full FDI potential.

European Cities and Regions of the Future

The 2012-2013 European rankings involved the collection of data for 253 cities and 110 regions in Europe. It also covered city-regions, in consideration of wider functional economic areas of cities.

Statements of success and failure

Successful investment cities are seen to be those with an established system of investment promotion, coupled with excellent infrastructure, business access and flexibility, well-educated populations and cost effectiveness. No one theme is weighted especially highly, meaning that cities must be successful across the full range of factors.

Cities highlighted by the report

London and the South East of England were the major winners of this assessment, with London gaining the top city position, and the UK's south-east claiming the top regional spot in the 'Large Region' category, despite being overhauled by the Greater Stockholm region as the leading region in the overall rankings. London has won this accolade previously and, once again, performed well across the spectrum of benchmarks, achieving the 'number one' position in the categories of human resources, business friendliness and infrastructure. London continues to dominate the opposition, given fDi Markets data that shows the city has received 376 greenfield FDI projects in 2011 – the highest ever annual figure and a 16% annual rise from 2010. Following London in the overall standings, **Paris** and **Vienna** rank 2nd and 3rd respectively.

Kharkiv is notable for winning the title of the Best Major European City for Cost Effectiveness, while **Vienna** was awarded the Best Major City for Economic Potential. fDi Magazine's panel was particularly impressed by German cities' FDI strategies, with Berlin, Munich and Hamburg occupying the top three positions for Major Cities and Leipzig ranking 2nd in the Large Cities category, splitting the Scottish duo of **Edinburgh** (1st) and **Glasgow** (3rd).

Cities making progress

The top of the list of European Cities of the Future is dominated by British cities with **Edinburgh**, taking 1st spot in the Large Cities category (11th overall), **Bristol** (16th overall) in the Small Cities category and **Reading** (5th overall) in the Micro Cities category. Northern and Western European cities dominate the rankings but there continue to be notable exceptions from Eastern Europe. fDi rate Moscow as the 4th ranking city overall – scoring particularly highly in the Business Friendliness and Economic Potential criteria. St Petersburg joins Moscow as a standout city in the human resources index (6th and 8th respectively). Warsaw and Prague also receive credit for strong performances in the Business Friendliness criteria (4th and 5th respectively).

Asian Cities of the Future

Released in December 2009, fDi Magazine's Asian Cities of the Future 2009/2010 shortlists were based on six months of research and data collection from 133 Asia-Pacific cities. The methodology mirrors that of the European study above.

Cities highlighted by the report

Singapore was ranked the top city in 2009-2010, rising from 2nd place in 2007-2008. Singapore recorded excellent scores across the spectrum, with top positions in the categories of business friendliness and quality of

life, 2nd place in infrastructure, behind Hong Kong, and 3rd place in economic potential, behind Shanghai and Beijing.

In general, Chinese cities performed very well, based on China being the world's leading destination country for global FDI since 2003. **Shanghai** (3rd), **Beijing** (6th) and **Guangzhou** (8th) all ranked inside the top 10 in Asia. Shanghai and Beijing were both rated outside the top 10 in 2007-2008, indicating their rapid emergence as world-class destinations for FDI, ahead of smaller, more specialist centres – primarily because of their huge overall economic potential. **Tokyo** also ranked an impressive 2nd after being out of the top 10 in 2007-2008, with excellent university-led human resources, and is let down only in the cost effectiveness field.

Hong Kong was rated by the independent judging panel to have the best FDI strategy of the cities in the region, as well as the best infrastructure, due to its outstanding port, airport and telecommunications set-up.

Cities making progress

Australian cities feature prominently in terms of vision, with the judging panel ranking **Brisbane**, **Melbourne** and **Perth** in the top 10 for the best FDI strategy.⁸⁴

Indian cities in general lag in this index, but **Bangalore** is ranked as having the 4th best FDI strategy, while **Mumbai's** business friendliness also makes the top 10.

⁸⁴ fDi Magazine (2010), 'Asian Cities of the Future 2009-2010', <http://www.fdiintelligence.com/Locations/Asia-Pacific/Asian-Cities-of-the-Future-2009-10>

North and Latin American Cities of the Future

The first ranking by fDi of North and Latin American cities' foreign investment prospects was published in early 2011, as previously separate continental rankings were combined for the first time. This 2013-2014 edition has extended its scope to 422 cities utilising fDi's extensive analytical tools and benchmarks as well as a selection of external metrics to collate this index. Cities are measured on five categories: Economic Potential, Human Resources, Cost Effectiveness, Infrastructure and Business Friendliness. A further category has been added this year, with FDI Strategy being included based on the city's response to a questionnaire.

With such a large sample of cities, fDi further categorises cities by size: Major (49 cities), Large (52 cities), Mid-sized (80 cities), Small (196 cities) and Micro (43 cities).

Statements of success and failure

With the financial outlook still uncertain and global FDI levels down 16% in 2012, cities and their investment agencies are facing mounting competition to attract FDI. Those that can, will reap the benefits.

Cities highlighted by the report

New York is rated the top American city of the future in the overall rankings. The 'Big Apple' retained its top rank from 2009 and 2011, with consistently high scoring despite financial and physical challenges in recent years. The city attracted over 1.08% of global FDI in 2012, with the total number of projects up over 10% on its own strong performance in 2011.

São Paulo is the big mover in this year's index, jumping straight into the top 10 and, remarkably, straight into second spot behind New York, leapfrogging a host of the most prominent economic hubs in the hemisphere. São Paulo managed to attract 1.19% of FDI projects, having reached 6th place globally, and has posted increased FDI levels every year since 2004.

As **Chicago** (9th) and **Houston** (6th) have fallen down the rankings since 2011, it is Canadian cities which have capitalised. **Toronto** moves up to 3rd, **Montreal** 4th and **Vancouver** 5th. The Canadian trio all score well in attracting knowledge intensive industries and are important nodes, both as destinations and sources of FDI.

Montreal is singled out for its corporates investing in more FDI projects in the Americas than any other city, bar New York. Montreal also tops the rankings for the best FDI Strategy based around its focus on high-tech clusters in aerospace, life science and health technologies. Montreal has been particularly successful in attracting investment from Europe. The Canadian centres are praised for their business-friendly environments with low corporation tax, transparent regulatory systems and a concentration of financial institutions and major corporates.

Cities making progress

Santiago continues its strong performance by gaining the title, 'Latin American city of the future'. The Chilean capital boasts low corporation tax rates and high economic freedom, making it the 4th most business-friendly city in the Americas and the top-ranked Latin American city in this category.

Managua, the Nicaraguan capital was rated 3rd overall for its FDI strategy. Innovative investment strategies include the establishment of a public-private commission which, in cooperation with the World Bank, is developing a suite of policies and initiatives designed to improve the business environment and to mark the city out as a credible target for FDI.

2.5 IBM: Global Location Trends

IBM's Global Business Services arm produces an annual report into foreign investment trends. Included in the report is a ranking of the top 25 cities by investment projects, which is among the few publicly-available lists of cities' investment performance.

Statements of success and failure

IBM identifies cities as growing focal points of economic activity and development for their hinterlands and nations, based on their agglomerative capacity and their brand appeal. It does not go into detail on how cities can be successful at attracting investment, but highlights a widening role for special-purpose promotion bodies, at city and city-regional level.

Cities highlighted by the report

London retains its 'number one FDI destination' with well over 250 projects, notwithstanding a 10% decline on the previous year. A strong year for Paris sees the French capital jump three places to claim 2nd place. Paris is followed closely by Dubai, which posted 25% annual growth to leapfrog **Singapore, Shanghai** and **Hong Kong**, the only other cities able to boast over 100 FDI projects in 2011, despite all experiencing significant year-on-year falls.

São Paulo is the top-ranked city in the Americas, posting healthy 14% growth. The Brazilian city remains ahead of **Houston** (14th) **Chicago** (18th) and **Toronto** (21st), the only other North American cities to feature in the top 25.

Major cities in emerging Eastern markets performed the least well in 2011, with Shanghai, **Beijing, Chennai** and **Bangalore** all posting significant losses.

Cities making progress

European cities posted some of the most impressive gains. **Amsterdam** improved by 23% on its 2010 performance and, in doing so, propelled the Dutch city to 7th place. Even more impressive is the performance of **Madrid**, a new entrant in the global top 25 having posted a 53% improvement on the previous year. However it is **Düsseldorf**, posting a 259% annual improvement and storming into 13th place overall that has posted the most impressive recovery. Other cities showing improvement are **Tianjin**, up 69%, and **Houston**, up 27%.

IBM notes that metropolitan areas in large emerging countries are becoming significantly more important destinations for investment. BRIC countries now account for eight of the world's top 20 cities for investment, five of which are in India.

2.6 Global Services and Tholons: Top 100 Emerging Global Outsourcing Cities

Outsourcing media platform Global Services and investment consultancy Tholons have conducted a 'Top 50 Emerging Global Outsourcing Cities' study since 2006. In 2009 the study was supplemented by a 'Top 10 Aspirants' section that highlights cities with potential to enter the upper echelons in the near future, aided by governments in facilitating outsourcing sectors. In 2010, Tholons expanded the report to 100 cities in recognition of the growing number of cities competing to be outsourcing locations and, in the latest 2013 edition of the study, 100 cities are again featured.

The report is based initially on primary research - surveys and interviews with both tier-one and tier-two global service providers and customers. Secondary research was used to collect historical and institutional data. The weighted rankings are based on a balance between qualitative and quantitative assessment.

The 2013 report highlights three clusters of outsourcing regions making significant progress. South-East Asia, South America and Eastern Europe are edging ahead of rival areas and establishing themselves as the big three outsourcing regions. The creation of an outsourcing brand and improving macroeconomic conditions are the central factors behind these regions' recent success. Though posting mixed results, with some South American cities sliding down the rankings, others, able to overcome risk factors, are performing very strongly. Eastern Europe meanwhile is increasingly identified as a specialist for IT outsourcing services.

Statements of success and failure

Successful outsourcing cities must ensure optimal business environments, high respect for intellectual property, consistently low corruption, exchange rate stability and healthy geopolitical conditions. It is also now considered standard that city or national governments provide appropriate incentives for incoming firms. Top cities also need to create a long-term environment with processes that ripple out into the local community and upgrade local labour pools.

Cities highlighted by the report

The proliferation of outsourcing destinations beyond India and Philippines, which was so marked in the 2010 study, has continued in 2013 as firms have begun to favour time-zone proximity as well as language and cultural affinity. Minimising costs is no longer the primary factor for many corporations, and therefore higher-cost regions, such as Eastern Europe, are emerging as key providers. However, the top places in the report are still dominated by Indian and Filipino centres.

2013 Rank	Movement from 2012	City
1	—	Bangalore
2	—	Mumbai
3	1	Manila
4	-1	Delhi
5	—	Chennai
6	—	Hyderabad
7	—	Pune
8	1	Cebu City
9	-1	Dublin
10	1	Krakow

Bangalore and **Mumbai** hold steady in the top spots ahead of Manila, which exchanged places with Delhi in 3rd and 4th respectively. The Indian trio of Chennai, Hyderabad and Pune hold firm ahead of **Cebu City**, which gains another place, continuing its recent rise. IT Business Process Outsourcing lies at the centre of Filipino success, attracting fresh foreign business as well as consolidating existing contracts.

Dublin bucks the trend as being the only city located outside of the big three regions, and maintains its position with its attractive nearshoring operations serving UK and US businesses.

Krakow leads the Eastern European contingent. The overall outlook in Poland, in particular, has been developing. Warsaw (36th) and Wroclaw (75th) both improved, with the latter benefiting from IBM's new security operations centre.

Cities making progress

Kuala Lumpur (19th) gained nine places in 2013, this year's most improved centre. Malaysia's strong GDP growth (5%) and improved investor confidence catalysed additional IT-BPO investment, leaving the city well placed to attract foreign business and tap into the burgeoning domestic market. Malaysia's robust infrastructure development has further assisted Kuala Lumpur's development.

Colombia performs well, particularly in IT-BPO, with **Bogota** (49th) and **Medellin** (53rd) among the biggest movers in 2013. Colombia's progress is attributed to concerted support from private and public sector stakeholders to promote the country's outsourcing nodes. Colombian cities have been particularly effective in drawing large Western providers. Convergys and Aravato Iberia have both established back-office operations in Bogota and Bucaramanga respectively, while Medellin has been successful in attracting conferences, including the O2LAC conference – an excellent marketing opportunity.

Biggest gains				Biggest declines				
2013	Change	Country	City	2012	2013	Change	Country	City
13	5	Costa Rica	San Jose	13	18	-5	Brazil	São Paulo
19	9	Malaysia	Kuala Lumpur	15	24	-9	Argentina	Buenos Aires
37	6	Uruguay	Montevideo	30	38	-8	Brazil	Rio de Janeiro
49	6	Colombia	Bogota	46	56	-10	Russia	Moscow
53	7	Colombia	Medellin	49	58	-9	Egypt	Cairo
80	5	Colombia	Bucaramanga					

2.7 Toronto Board of Trade Scorecard on Prosperity

The Scorecard on Prosperity is, as of 2013, in its fifth year. Conceived by the Toronto Board of Trade, it tracks Toronto's economic performance against 23 leading metropolitan areas worldwide. The 2013 Scorecard examines two principal areas: Economy and Labour Attractiveness. As in previous editions, the 2013 Scorecard includes an area of special analysis, which this year extends the detailed examination of the North American economy that featured in the 2012 report.

Every year, new indicators for each measure have been added and removed on the basis of data availability. In 2013, 18 indicators comprised the Economy measure – including areas such as venture capital investment, IPO size and patents, as well as more conventional metrics such as GDP per capita and productivity. Meanwhile, 15 indicators make up the Labour Attractiveness ranking, including commuting time, international visitors, air pollution, and the Gini coefficient on inequality.

Statements of success and failure

As the Board of Trade plays a key role in lobbying for and helping implement enhancements in regional quality of life and economic competitiveness, strength in these areas is considered critical to all cities' success. Economic dynamism, transport mobility and labour attractiveness are viewed as the core of a city's success.

Cities highlighted by the report

Paris continues to dominate the rankings and finishes top for the third year running, thanks to its improved score (5th place, B grade) in the economic criteria and by continuing to finish top of the Labour Attractiveness metric. The French capital's labour attractiveness is supplemented with solid economic scores, including top-ranking performances in the market size and high-tech employment metrics.

Calgary comes 2nd overall, the leading North American city in a top 10 with a distinctly European flavour. The Albertan city leads the way in the income growth metric among a consistently strong set of results across the economic criteria.

Toronto's own performance remains in the upper-mid table, despite losing ground to its Canadian rival, Calgary, but leapfrogging all its American rivals. Once again, labour attractiveness is at the core of Toronto's success, finishing 5th overall in that collection of metrics, while only 12th in the economic criteria. GDP, venture capital and productivity are among Toronto's weak suits and are factors behind the city making little ground on the cities above it in the overall rankings. That said, high-tech and professional employment both show signs of improvement

San Francisco, rated top in the pharmaceutical and ICT sectors, and 2nd place overall in 2011 and 2012, suffered the biggest drop of the leading cities, down to 7th. Despite its enviable rating for economy, it ranks third last for labour attractiveness.

Barcelona has nosedived in the 2013 scorecard. A very low immigrant population, very high unemployment, low disposable incomes and modest employment in high-tech sectors are some of the areas in which the city performs weakly.

City	2009	2010	2011	2012	2013
Paris	15	7	1	1	1
Calgary	1	5	3	4	2
London	4=	14	5	3	3
Oslo	16=	22	22	8	4
Madrid	16=	8	9	9	5
Toronto	4=	4	8	5	6
San Francisco	12	6	2	2	7
Seattle	8=	9	7	6	8
Sydney	-	11	13	12	9
Tokyo	-	18	11	11	10

Selected others:

Boston	4=	1	4	7	11
Barcelona	16=	3	12	10	24

Cities making progress

Oslo, which performed superbly in 2012, up from 22nd to 8th, continues its meteoric rise up this index, climbing a further four places to 4th overall. The city places 8th in labour attractiveness, and registers solid scores in a host of metrics, including those for the youthfulness and education of the population, homicide rate and low commuting times.

In stark contrast to Barcelona's decline, **Madrid**, like Oslo, records a four-position gain in 2013. Labour attractiveness is the city's strength with strong scores for climate, low murder rates, commuting and income equality making the Spanish capital the index's surprise performer, given the difficult economic climate in Southern Europe at the moment.

2.8 AméricaEconomía Best Cities to Do Business in Latin America

AméricaEconomía's annual ICUR index is perhaps the most comprehensive economic comparator of Latin American cities in existence. The ICUR consists of an impressive and innovative eight dimensions, each made up of several variables. The variables are similar to those in the EIU or Mercer quality of life indexes, while also including the issue of brand power, executive services, human capital and sustainability. As well as using data, it incorporates the results of a major survey the publication undertakes each year to provide insight into less tangible issues, such as immigration tolerance and image perception.

Statements of success and failure

The index makes the bold claim that size is no longer the decisive enabling factor for a city in Latin America to be competitive. Cities are now being distinguished on how they manage their space, how united and visionary their leaderships are, how they deliver liveability, and how they cultivate a strong tax framework and immigration policy. Medium-sized cities often perform well in these respects and can now seriously compete for international investment. AméricaEconomía Intelligence therefore modified the methodology and score weighting in 2010 to reduce the role of size in the index.

Cities highlighted by the report

The 2010 index identified a new trend of cities adopting different specialised policies aimed at positioning themselves in a precise way in the regional market for firms and talent, strategies that are familiar to medium-sized Central European and East Asian dynamos such as Copenhagen, Zurich or Chongqing. It pointed to the choice of Procter & Gamble to locate its new Latin American headquarters in the smaller hub of **Panama City** in 2010, due to its strategic location and infrastructure-led connectivity. As in 2010, Panama City is rated 7th overall despite its small size and GDP, one place behind **Buenos Aires**, which ranked as the top centre for innovation in the 2011 index and came in 6th overall.

Miami retains its position as being the 'number one' city in the region – ranking top in five of the eight ICUR criteria - thanks to its outstanding trade connections and asset management capability, despite not being physically located in Latin America. While AméricaEconomía has consistently regarded the Florida city's quality of life and entertainment provision as outstanding, its corporate services are said to have been strengthened and its relative operating cost have dropped sharply due to the fall in real estate prices.

Santiago ranked 3rd in 2011, scoring highly in brand power, economic dynamism and social and political stability. The Chilean capital is competitive with Miami in most of the eight key sub-sectors, but continues to lag well behind in business services and physical infrastructure. Fourth place **Mexico City** has gradually improved its position from 6th and 7th in the mid-2000s and continues to score well on human capital. The smaller Central American hub of **San Jose**, placed 12th, has the highest score in environmental sustainability.

However, the major story in the 2011 survey is of Brazilian performance, the country being described in the report as 'the new El Dorado'.⁸⁵ Brazil's two major cities, **São Paulo** and **Rio de Janeiro**, ranked 2nd and 5th respectively,

⁸⁵AméricaEconomía (2011), 'Ranking Ciudades 2011', <http://rankings.americaeconomia.com/2011/ciudades/ranking.php>

both ahead of Argentine rival Buenos Aires. São Paulo has regularly been at or near the top of the rankings for several years, having ranked 1st in 2006 and 2008, and continues to impress with improvements in the social, political and connectivity criteria, including registering a 50% increase in direct air connections on last year's results.

Brasília has also performed well in 2011, climbing four places to become the third Brazilian city in the top 10. As in a number of other studies, the Brazilian city of **Curitiba** is hailed for its commitment to environment and high technology to attract investment, but, at 14th, the city has slipped in the last five years having consistently ranked 5th or 6th in the mid-2000s. Its Technopark, the vaunted 'Silicon Valley of South America', is supplemented by an unmatched public transport network of buses and tube stations, making it an excellent business location, but it appears other cities have caught up enough in these areas for their superior size and location to tell.⁸⁶

Cities making progress

The rankings in this index are by no means static, and point to a shifting hierarchy of business cities in the region, led by major capitals and population centres. It is Brazilian cities making the major moves in the 2011 index. The largest mover, **Brasília**, has been described above and is joined by the recovering **Porto Alegre** – climbing three places to 15th - and **Belo Horizonte**, which moves up to 16th. **Rio de Janeiro** has made big strides in previous years - from having been regularly outside the top dozen cities between 2003 and 2007, it has consolidated its position in the top five.

Quito is the major loser in the 2011 report, dropping 11 places to 26th.

86 America Economia (2010), 'Les Meiores Ciudades Para Hacer Negocios en America Latina', <http://rankings.americaeconomia.com/2010/mejoresciudades/ranking.php>

2.9 Centre of Thought on Competitive Strategies (CEPEC) Urban Investment Attraction Index

The University of Rosario's Centre of Thought on Competitive Strategies has created a significant new measure of investment positioning among Latin American cities. In 2010 the inaugural report measured 48 cities on a number of economic performance attributes, presence of international firms, business environment hospitality for new investors, and comfort of urban living. The 2012 index introduces an additional measure of higher education provision.

Statements of Success and Failure

As a fairly conventional business environment index, cities with an established cluster of international firms are seen to possess good prospects, because they have demonstrated the capacity to supply appropriate human resources to meet the professional and technical demands of these firms.

Cities highlighted by the report

Size appears to be central to success in this ranking. **São Paulo** is the leading city in the index in 2012. It has a high GDP per capita and among the highest financial potentials, thanks to its unmatched population and wealth concentration. **Santiago** is placed 2nd, regarded as having exceptional financial potential and also with the second highest urban liveability in the continent, after **Montevideo**. **Mexico City** ranks 3rd overall, ranking 2nd for international recognition behind São Paulo, although it is outside the top 30 cities for urban quality of life.

The top five is completed by **Lima**, improving three places on 2011 with political stability and improved urban infrastructure pivotal factors in it proving a more attractive investment opportunity, followed by **Bogotá**. The Colombian capital climbs four places on last year, after scoring well on educational rankings and improved security, which have been reflected in better scores for urban comfort.

Despite dropping in this year's table, **Rio de Janeiro** and **Buenos Aires** both maintain top 10 places, 7th and 9th respectively, with each city scoring well in terms of regional presence. Buenos Aires hosts more multinational firms (150) than any other Latin American city, according to this ranking.

Four Brazilian cities now rank among the top 10 in this index with both **Belo Horizonte** and **Porto Alegre** joining São Paulo and Rio de Janeiro among the elite.

Cities making progress

As well as the strong performance of Brazilian cities, those in Colombia have also ranked well in this latest study. While it is notable that investment in Colombia, as is the case in Peru and Argentina, is overwhelmingly concentrated in its capital, **Bogotá**, the nation's smaller cities have also performed well. Bogotá improved to 5th in the region (from 11th in 2011) and, although from a much lower base, **Medellín** (25th), **Cali** (30th), **Barranquilla** (28th) and **Bucaramanga** (29th) are all making upward progress. The traditional weaknesses of Colombian cities, which revolve around concerns about crime, quality of life, a lack of market size and poor international recognition are, according to this index, being successfully addressed. The integration of Bogotá's stock exchange with that in Santiago is said to have been successful in improving the profile and liquidity of Colombian equities which, along with improved national security rates, have contributed to Colombia's improved performance in 2012.

2.10 IW Consulting German City Comparison

Created by the Initiative for a New Social Market Economy and Business Week magazine, the IW Consulting 2012 German City Comparison is the 9th edition of the survey since it was introduced in 2003. It is a comprehensive set of comparisons of the 100 most populous cities in Germany, focusing on questions of wealth and economic dynamism. In addition to the usual rankings, the study has begun to assess 20 of Germany's city-regions.

The study makes a clear distinction between target and predicted variables, identifying city performance across prosperity and employment indicators and weighting them accordingly. A total of 96 individual indicators are used, using benchmarking of the most recent data possible.

Statements of success and failure

Future cities are recommended to create competitive advantages for their region by cultivating their potential and developing their infrastructure to serve both residents and businesses.

Cities highlighted by the report

At the city level, **Munich** has been the unchallenged leader since the study began in 2003, and in 2012 took first place once again, well clear of all other national challengers. **Stuttgart** maintained its 2nd spot, having previously risen from 7th in the 2009 list, while **Frankfurt** stayed 5th and **Hamburg** 8th. Remarkably, **Berlin** continued to place only 47th of 50 cities, well down on its rivals. The report highlights the concentration of technical and economic innovation in the area and the city's ability to transfer systematically this asset into the creation of value-added processes and services. The Munich area has unmatched levels of disposable income and low unemployment, attributed to its impressive hosting of global firms and niche high-technology companies, as well as its very strong university-business links.

Cities making progress

The report's 'dynamic rankings', which measures cities' relative five-year improvement from 2006 to 2011, sees the smaller cities of **Magdeburg** and **Oldenburg** come to the fore, ahead of larger East German cities **Rostock** and **Leipzig**. All of these cities have shown improved job supply and reduced age dependency.

Berlin, which has traditionally ranked remarkably poorly in this report, has produced the ninth strongest overall improvement over the last five years. Increased tourism, reduced private debt and increased per capita GDP have all contributed to the capital's mild resurgence from an extremely low base, according to these measures.

Hamburg is the strongest five-year performer among the already highly-ranked internationally-oriented cities, rated 10th of 50 cities, substantially ahead of Munich and Stuttgart.

2.11 Capgemini US Metro Wealth Index

Capgemini is one of the world's top providers of consulting and technology expertise. Since 2008 it has tracked the number of high net worth individuals (HNWIs) in US metropolitan regions. Its Metro Wealth Index is intended

to assist advisers and wealth management firms in understanding the movement and capitalising on the trends affecting high net worth individuals across the US.⁸⁷

Statements of success and failure

Capgemini provides the data for firms to assess growth opportunities, and does not comment on the figures and the comparative urban strengths.

The total number of HNWI's residing in the top 10 US metro areas decreased marginally by 1.2% in 2011, but remains above pre-GFC levels. This drop is in stark contrast, however, to the preceding two years, which posted uplifts of 18% and 7% in 2009 and 2010 respectively. This year's less spectacular figures do, however, mark an important watershed, as Capgemini notes that the solid performance in previous years means that nearly all US metro-areas remain at pre-2008 crisis concentrations of HNWI's.

Cities highlighted by the report

New York has led the national rankings for many years, and boasts significantly more HNWI's than its closest rivals, **Los Angeles**, **Chicago** and **Washington DC**, which all posted marginal decreases in numbers of HNWI's. These figures show the depth and resilience of New York's wealthy and talented communities. California hosts three of the metro areas with the largest HNWI populations, with Los Angeles ranked 2nd, **San Francisco** 5th and **San Jose** moving up one place to 9th. This provides an interesting contrast to other conventional US economic surveys, such as that published by Area Development, which highlights the relative weakness of California's economic recovery since the financial crisis.

Cities making progress

As in 2009 and 2010, **Houston** (now ranked 8th) recorded the strongest growth rate in its HNWI population with 9.6% year-on-year growth, and is the only mover within the top 10. The more modest growth of 1.9% in 2011 remains relatively strong in contrast to its rivals. Low unemployment rates and a boom in the energy sector – particularly in the expansion of natural gas extraction – are marked out as factors behind the Texan city's success. San Jose's remarkable progress in 2009, when it recorded near-on 25% annual growth in HNWI's, seemed to have stalled in 2010 when its growth of just 2.7% was the weakest performance of the cities analysed – however, it appears back on track. The Californian city has posted the highest gains of the top 10 of 2.1, contributing to its leapfrogging of **Detroit**, which posted a decrease of a similar level.

2.12 The Business Journals/Portfolio.com: Small Business Vitality Rankings

A six-part formula was used to analyse the 102 largest metropolitan areas in the US, looking for the places that are most conducive to the creation and development of small businesses. The formula analysed each metropolitan area's number of small businesses per 1,000 residents, the one-year change in that concentration, one-year growth rates for small businesses and private-sector employment, and five-year rates for population and employment. A small business was defined for the survey as any private-sector employer with 99 or fewer employees.⁸⁸

⁸⁷ Capgemini (2012), <http://www.capgemini.com/mwi2012>

⁸⁸ The Business Journals (2010), 'Small Business Vitality 2010', <http://upstart.bizjournals.com/multimedia/interactives/2010/01/small-business-vitality-2010.html>

Statements of success and failure

The highest scores in this study are gained by cities with a combination of a prosperous economy, rapid expansion, and a densely-packed concentration of small businesses.

Cities highlighted by the report

Austin has led The Business Journals' rankings for four consecutive years. With over 40,000 small businesses, Austin has succeeded in adding nearly 50,000 private sector jobs since the downturn five years ago, and has recorded strong population growth, especially among young people.

The South and West of the US are the most popular regions for entrepreneurs currently in America, comprising three-quarters of the top 20 metros. The other five slots in the top 20 are occupied by three Eastern and two Midwestern metros. Seattle and New York are two of the standout larger metros in the list.

2.13 Forbes Indexes on Billionaires

Forbes, the US magazine, is internationally known for its rankings of wealth, and in 2009 the publication produced a host of 'Top 10' lists relating to city liveability, tapping into the surge in interest in comparative urban analysis. While its lists are neither comprehensive nor statistically authoritative, they provide insight into perceived qualities of many of the world's most famous city locations.

One of Forbes' highest profile indexes is its annual assessment of cities hosting the highest number of billionaires. The number of billionaires globally has increased dramatically over the past two decades, and cities that can boast a critical mass of ultra high wealth individuals are thought to be cities with a bright future at the centre of global exchange. Forbes published these latest figures in March 2012.

Statements of success and failure

Forbes' indexes of this kind do not have obvious normative aspirations for cities, although cities which host large numbers of billionaires are, by implication, seen to be highly successful hubs of business and to possess a quality of life which impact upon all residents.

Cities highlighted by the report

As of Q1 2012, **Moscow** dramatically increased the numbers of billionaires in the city, rising to 79 from 50 in 2010, to take the 'number one' spot. Moscow is home to almost 80% of Russia's billionaires, most of whom are Russian by nationality and made their money in the 1990s. **New York**, having hosted 71 billionaires in 2008 - including its own Mayor Michael Bloomberg - dropped to 57 in 2012, although the city is still well ahead of the likes of **London**, which has gained seven billionaire residents since 2010, **Hong Kong**, which returned over 50% growth in the same period and moved to 4th in the rankings and **Istanbul** - Istanbul increased its share of billionaires from 28 to 30.

It is notable that the geographic variation of the top 10 cities is wide, including three cities from North America but also featuring cities from Eastern Europe, South Asia and East Asia. Two new entries, **Seoul** and **São Paulo** – each boasting 19 billionaire residents - complete the picture of a geographically diverse spread in this index.⁸⁹

2012 Rank	City	# of billionaires 2010	# of billionaires 2012
1	Moscow	50	78
2	New York	60	57
3	London	32	39
4	Hong Kong	25	38
5	Istanbul	28	30
6=	São Paulo	-	19
6=	Seoul	-	19
8=	Mumbai	20	18
8=	San Francisco	14	18
10	Dallas	17	17

Cities making progress

Since the 2010 study, **Hong Kong** has made the most significant progress in the top 10, moving inside the top four, indicating its prominence as a wealth hub and business gateway to South-East Asia and mainland China. A resurgent **Moscow** reclaims the top spot with 50% growth on 2010 figures.

2.14 KPMG Competitive Alternatives 2012

KPMG's Competitive Alternatives series compares a variety of business costs in developed city markets. In 2010 its study became international for the first time - it assessed costs in 100 cities in 10 countries, all in Western Europe, North America, Japan and Australia. In 2012 the study expanded its scope to encompass 110 cities and added BRIC countries to its analysis.

The study measures 26 cost components over 19 different business operations, including three operations that are new in the 2012 edition. It also features softer factors that are considered attractive to business location, such as labour force availability and skills, innovation and infrastructure, and regulatory environment. All cities were measured against a US baseline of 100%.

An adjacent report also included a special feature on tax burdens in major cities. It measured 55 large cities for statutory labour costs, corporate taxes, net income before tax, corporate income taxes and a total effective tax rate. A final index compiling total tax burdens is then used to rank the cities.

Statements of success and failure

KPMG points out that cost variations are generally narrowing and have been over the last decade. Nevertheless, costs are still a key point of attraction for high-end firms where variations are higher. The report points to cities

⁸⁹ Forbes (2010), 'The World's Billionaires', http://www.forbes.com/2010/03/10/worlds-richest-people-slim-gates-buffett-billionaires-2010_land.html?partner=seealso and (Forbes 2012) <http://www.forbes.com/sites/calebmelby/2012/03/16/moscow-beats-new-york-london-in-list-of-billionaire-cities/>

which incentivise firms whose labour costs are high – R&D, ICT, corporate services – by offering specific tax relief and other benefits.⁹⁰

Australian cities are noted for offering a system of R&D refundable tax credits; as of 2010, upwards of 40%. France, the Netherlands and Canada also offer significant incentives which can result in net subsidies for businesses. These are seen as highly attractive for university research projects and medium-sized spin-offs. For example, Dutch cities are praised for their innovative system of encouraging employers to retain part of the employee wage tax fund deducted from the pay of R&D employees. Such an incentive amounts to 50% of the first US\$250,000 of payroll and 18% thereafter, up to US\$17m annually, significantly reducing the effective income tax rate.

Cities highlighted by the report

Despite US and Canadian cities comprising the majority of the cities studied, three of the costliest five cities are outside of North America. **Tokyo** is the most expensive destination, with an index score of 112.3. Neighbouring **Osaka** is not far behind, at 106.5, while **Honolulu**, **Anchorage** and **San Francisco** are the priciest cities in North America, posting index scores of 108.4, 105.3 and 104.5 respectively. **Frankfurt** recorded the highest index score of 12 cities ranked in Europe; at 102.2 it is the only European city with an index rating over 100. Europe's next most expensive cities are **London** and **Paris**, with scores of 98. Manchester is Europe's most affordable city featured, ranking slightly better than Dutch cities, **Rotterdam** and **Amsterdam**, all scoring under 95, while all four Australian cities, including **Melbourne** and **Sydney**, are ranked as expensive, scoring between 102 and 105.

In North America, the Canadian duo of **Montreal** and **Toronto** are the low-cost leaders, ranking ahead of a number of mid-sized cities south of the border including Atlanta, Cincinnati, Tampa and Orlando. Meanwhile, New York and San Francisco represent the most expensive major North American cities in which to do business.

American coastal cities tend to be the most expensive on the continent. **Los Angeles**, **Seattle** and **Boston** are all above the continental average, while cities in America's Midwest and South East all fall below the average cost. Toronto ranks as fairly affordable, at 95.7, while **Vancouver** and Montreal are similarly inexpensive, with Canadian cities proving highly attractive as low-cost business destinations.

The inclusion of BRIC cities within the index dramatically lowers the global average score. Chinese and Indian cities replace Mexican centres as the most inexpensive locations. **Chengdu** (72), closely followed by **Chennai** (72.9), posts the best results, with **Shanghai** (76.3) and **Mumbai** (76.4) also posting highly competitive scores. Still cost-effective, but far more expensive than their high growth rivals in China and India, **São Paulo** (94.6) and **Rio de Janeiro** (91.4) are the least cost-effective of the emerging centres, with high social security and minimum wage legislation contributing to the Brazilian cities being more expensive than their BRIC rivals.

In terms of tax burden, Canadian cities again perform extremely well, with Toronto, Vancouver and Montreal all ranked in the top six. In the overall rankings the Canadian trio are the leading cities featured in the G8. In sector-specific ratings these three cities also benefit from federal and provincial tax incentives to make them particularly competitive. In the digital sector, Toronto's tax incentives in the creative digital industries mean a tax bill for a company in that sector could be just 7% of baseline. Montreal at 25% and Vancouver at 34% complete a Canadian monopoly in the top three.

A similar picture can be found in the R&D industry with the three Canadian cities being the world's most competitively taxed. In this case, Montreal at an indexed figure of 20 sits ahead of Vancouver (2nd) and Toronto

⁹⁰ KPMG (2010), 'Competitive Alternatives 2010: Focus on Canada', p.4-5

(3rd). In that sector, Canadian companies can claim a tax credit equalling 20% of R&D expenditure. Provincial credits of varying levels are also available, accounting for the differentiation between the featured cities.

Also of note, particularly in the R&D field, are the Dutch cities of **Rotterdam** and **Amsterdam**, which employ a tax incentive for qualifying employers in this sector that allows them to retain a proportion of their employees' salaries deducted at source and which ordinarily would be collected by the state.

Cities making progress

Rankings show a relatively consistent picture between 2012 and the last edition of the Report in 2010. The addition of the BRIC cities has distorted the picture at the inexpensive end of the spectrum with Indian and Chinese cities dominating their rivals in Latin America. Australian cities have seen the most dramatic rise in costs with rapid currency inflation against the US dollar and increased freight and energy costs cited as influences. London and Manchester are among the big improvers in Europe with currency depreciation, taxation reductions and decreased industrial facilities costs highlighted as factors.

2.15 Chinese Academy of Social Sciences' Blue Book of Urban Competitiveness

The Chinese Academy of Social Sciences, one of China's most prestigious think tanks, has been producing the annual Blue Book of Urban Competitiveness since 2003. Its report has expanded to survey almost 300 Chinese cities in 2010 on a host of indicators including comprehensive growth, economic scale, economic efficiency and development costs. Since 2005, it has included factors such as power and water consumption as well as environmental pollution. The study is one of the most important comparative urban documents in China and is widely used by local planners and foreign investors.

Statements of success and failure

This series of reports belongs to the same family as the Global Urban Competitiveness Project. Starting out as a primarily economic measure, the Blue Book has incorporated more and more factors of human capital and environmental performance. Gradually the report has acknowledged that all-round provision is what drives overall competitiveness.

In 2011 the report authors were candid about the problems of traffic congestion, environmental pollution, poverty, unemployment, crime, limited medical services, urban disasters and diminished security in Chinese cities: 'Many Chinese people moving into cities face severe problems, emerging from excessive urbanisation, before they enjoy the benefits of being urbanites'. It cited figures that only a quarter of respondents in 35 large and medium-sized Chinese cities are satisfied with traffic conditions and less than two-fifths content with the environment. 'The environmental pollution in many small cities is even worse than that of Beijing', stated the director of the Institute of Regional and Urban Economics at Renmin University, a key contributor to the report.⁹¹

Cities highlighted by the report

In 2011, **Hong Kong**, **Shanghai** and **Beijing** occupied the top three positions. This trio is generally always in the top five of the report, and dominate in the financial capital sub-metric. Hong Kong was rated the country's best city for government management, ahead of fellow SAR **Macau**, and is the only major Chinese city to feature in the top 10 for economic system. Shanghai was ranked top in 2005 and is usually near the top ranks for capital,

⁹¹ China Daily (2011), 'City life no smooth ride as growth skyrockets', http://www.cdeclips.com/en/nation/City_life_no_smooth_ride_as_growth_skyrockets/fullstory_65378.html

infrastructure, location, culture and governance. The financial giant rated 3rd for government management in 2011. The capital Beijing has been ranked in the top four since 2005, with the capital consistently at the very top in terms of workforce, economic structure and science and technology. Where the city has struggled in the history of the index is in natural resources, environment, property rights and private economic development.⁹²

Guangdong's vibrant cities of **Shenzhen** and **Guangzhou** rated in the top six, and have been reckoned with as major performers for several years; the pair ranked ahead of Beijing in 2005. They head a strong group of cities which have benefited from industrial clustering around the big three Chinese hubs of Hong Kong, Shanghai and Beijing. The North East cities of **Tianjin** and **Dalian**, near Beijing, were placed 7th and 8th respectively in 2011. **Hangzhou**, a large satellite city in Greater Shanghai, ranked 10th, while the only substantially inland city in the top 10 was Changsha, in 9th, which was outside the top 10 previously.⁹³

In individual sub-metrics, several less well-known cities (at least to a Western audience) appear as having individual specialisms. In terms of regional competitiveness, the cities of **Chongqing** and **Harbin** are well inside the top 10, while **Suzhou**, **Chengdu** and **Nanjing** make the top 10 for financial capital. In the top 10 for ecological environment competitiveness, the larger international cities perform less well, with only **Hong Kong** (1st) and **Shenzhen** (7th) in the list.

Cities making progress

There have not been huge shifts in performance since the first study, but a few areas of change are of note. Firstly **Shenzhen** and **Guangzhou** are clearly established as the 'number three' and 'number four' cities on the mainland of China, not only performing well in industrial measures, but increasingly in softer qualities. Secondly, the cities within 200 kilometres of the major economic powerhouses are making strong progress, as China witnesses the rise of macro-urban agglomerations such as the Greater Pearl River Delta and Yangtze River Delta. Finally, a handful of inland cities are making small strides to challenge the hegemony of these mega regions. The ongoing progress of **Chengdu** and **Changsha** are particularly remarkable in this regard. The former is ranked 6th for high-tech capacity, ahead of Hong Kong and Guangzhou. The latter is a highly affordable development destination.

2.16 KPMG: Global Cities Investment Monitor

This index, produced by KPMG in collaboration with the Greater Paris Investment Agency, benchmarks 25 global cities on their performance and attractiveness as inward investment locations. Divided into two sections, the first half of the index comprises a perception survey completed by senior personnel from 512 companies in 25 countries. The second half of the index supplements these qualitative assessments with a reality study – a quantitative analysis of International Greenfield Investments (IGI) (excluding mergers, acquisitions, alliances and privatisations). Data for the IGI study is collated from sources including 132,000 international investment projects, 40,000 business and 9,000 independent information sources.

This, the 2013 edition, collates data from Q4 2011 to Q3 2012 and, for the first time in three years, the index reports a return to growth. The latest results show 9% year-on-year growth in IGIs, a result which makes major inroads into the 8% and 3% drops in activity recorded in the previous two investment periods.

⁹² China.org.cn (2011), 'Top 10 cities in gov't management in China 2010', http://www.china.org.cn/top10/2011-05/18/content_22588520.htm GUCP (2005), 'China's Most Competitive Cities', <http://www.gucp.org/en/news.asp?NewsID=105&BigClassID=16&SmallClassID=73>

⁹³ China Daily (2009), 'HK listed as most competitive China city', http://www.chinadaily.com.cn/china/2009-04/15/content_7681141.htm

Statements of success and failure

The index's qualitative analysis draws an interesting distinction between a city's investment attractiveness and its Image. Attractiveness is dependent on interviewees' perceptions of various stated investment criteria – most importantly political and judicial stability, economic growth, accessibility and skilled human resources. Image in this index is, by contrast, a more abstract concept, drawing upon current and retrospective perceptions of a city, and leans towards higher rankings for cities with traditional international prestige.

The attraction of IGLs forms the basis for success in the quantitative criteria. The number, size and prestige of IGLs that a city is able to attract form the basis of a city's relative rankings.

Cities highlighted by the report

London is the clear leader in terms of quantitative performance, with a total of 381 IGLs; of these, 186 are established strategic functions. The make-up of London's inward investment is heavily biased towards business, finance, IT and communications – together accounting for 81% of investment. London improves in the five-year IGI list, with 1375 IGLs since 2008. On the subjective criteria, London also fairs well. The UK capital ranks 1st in the education criteria – fairs especially well in the eyes of BRIC investors (1st) but is viewed less favourably by non-BRIC Asian investors, with whom London ranks 5th – and is either 2nd or 3rd in all other criteria. London's attractiveness is ranked 2nd overall, behind New York which remains, in the eyes of investors, the leading investment centre – topping all but three of the 10 perception criteria. Political stability and the quality and maturity of London's international connections are highlighted as other factors in London's continued success.

Hong Kong just edges out **Shanghai** in this year's IGI rankings. Hong Kong's 239 IGLs in the sample period leads Shanghai's 233. Shanghai, however, retains its lead over Hong Kong in the five-year IGI rankings.

Leading the subjective rankings is **New York**, which rates top for Image and 2nd for attractiveness – scoring highly in a raft of fields: Political Stability, Infrastructure, Market Accessibility, Availability of HR, Living Costs, R&D and Quality of Life, which dominate the perception criteria. New York is beaten to the top spot in the attractiveness and economic growth rankings by Shanghai. The accessibility of the Chinese hub's vast commercial market and its scope for growth sees it take a comfortable 1st place in the eyes of investors. Despite its stellar ranking for attractiveness, Shanghai's image is perceived to lag some way behind that of London, New York and, indeed, **Paris**, which ranks 3rd overall, but whose investment attractiveness is perceived to be only 7th best. New York has climbed the perception rankings from 7th in 2012 to 3rd in 2013. Beijing, Paris and **San Francisco** make up the remainder of the top five.

By adding Singapore and Hong Kong – and, to a lesser extent, Tokyo and São Paulo – to the cities already mentioned, one has a list which encompasses this index's elite list of centres which have rated well in both Image and attractiveness. Of the remaining cities encompassed in the survey, two distinct groups form: those Western cities whose Image is reasonably strong but lack investment attractiveness (e.g. **Frankfurt** and **Toronto**); and a second group including **Beijing** and **Mumbai** whose Images rank poorly, but which have attractive investment potential.

Cities making progress

The advance of major BRIC cities is the main progressive trend identified by the index; five of the overall top 10 cities in the quantitative study are located in BRIC countries. **São Paulo** attracted 282 IGLs in the last period of analysis – more than both New York and Paris – and is only bettered by Hong Kong, Shanghai and London. São Paulo builds upon 160% year-on-year improvement in 2012, and is quickly establishing itself a leading player in attracting IGI. Of these investments, 28% were in the IT and Communication sector, 24% in the business and

finance sector and 37% in energy and industry. This is a particularly significant trend in sector-specific investment, when one considers that just 1% of the investments into London and New York relate to either the construction or manufacturing sectors. The index notes that the respective growth of both São Paulo and **Moscow**, despite the Russian capital faltering compared with its earlier growth, marks a shift from previous year when manufacturing dominated the investment.⁹⁴

2.17 Menon: Leading Maritime Capitals of the World

Authored by the research and innovation network Menon, and commissioned by Nor-Shipping and the Oslo Maritime Network, this index benchmarks 12 leading maritime centres in four areas: shipping, maritime finance, maritime law and insurance. The report utilises publicly available data from a number of mainstream sources including Bloomberg, Dealogic and Legal 500, and these quantitative analytics are supplemented by the subjective views of 28 experts from business, the press and academia. The quantitative approaches taken by the survey – particularly in the legal, finance and insurance categories – are not without difficulty, as the authors of the report readily admit. Nevertheless, the report offers useful comparative insight into the trends in some of the world's leading shipping centres.

Statements of success and failure

The ability to attract leading corporates and individuals is highlighted as the key objective for competing cities seeking to become, or maintain positions as leading maritime centres. Primary indicators of maritime strength, such as cargo tonnage and shipping traffic, are important factors in measuring the strength of a naval centre, but so too is the presence of a sophisticated infrastructure, which supports a buoyant shipping industry – notably finance, professional services, education, research and development. In many respects the presence of a strong maritime economy within a city is indicative of the concentrations of corporations and individuals used as benchmarks of success in the more general indices featured in this report.⁹⁵

Cities highlighted by the report

Perhaps predictably for a city founded because of its strategic maritime location and geography, **Singapore** performs consistently well across all four criteria, taking the leading spot in the maritime technology category and 2nd in the ship owner and operation criterion. In addition to strong performance in those criteria, which one might generalise as competencies in primary maritime operations, Singapore also performs well in the secondary sectors of finance, law and insurance.

The leading European city is **Oslo** which comes in 2nd in the overall rankings. Like Singapore it achieves a top five position in all four categories and takes the top spot in the ship ownership/operation criterion. Perhaps surprisingly, Oslo comes 1st in the maritime finance category owing to both the number and market capitalisation of publicly listed shipping companies, and the lending patterns of Norwegian banks. In this latter category of bank finance portfolios, Oslo ranks only behind **Hamburg** which leads this category by a considerable distance, due to the presence in Hamburg of HSH Nordbank, the world's largest ship finance bank. Nevertheless, Hamburg scores weakly in the eyes of the expert commentators and in other financial criteria, and ranks outside the top five in this sub-category.

⁹⁴ Greater Paris Investment Agency (2012), 'Global Cities Investment Monitor 2012', <http://www.greater-paris-investment-agency.com/en/2012/09/24/global-cities-investment-monitor-2012-4/>

⁹⁵ The Leading Maritime Capitals of the World (Menon, commissioned by Nor-Shipping and Oslo Maritime Network) (2012), <http://www.messe.no/Global/NV/OsloMaritimeWeek/pdf/one%20of%20five.pdf?ExhibitionId=0>

The final spot in the top three is claimed by **London**, which scores strongly in the finance criteria and tops the legal and insurance market. The influential presence of the insurance sector and traditional legal strengths continue to impress the expert commentators. London, however, performed weakly in the primary categories of ownership and technology, which reflects its modern position as a finance and professional services hub rather than as a port of global significance.

Cities making progress

As the first report of this type, it is not possible to make any comparisons with previous results. However, in the forward-looking conclusion to the report, the experts were asked to predict the shape of global maritime distribution. The results indicated that **Shanghai** will emerge as a dominant maritime city in the upcoming decade.

2.18 USA Today: Best US cities for Technology Start-ups

Commissioned by USA Today and conducted by the National Venture Capital Association, this index from August 2012 ranks the top 10 US cities for technology start-ups, based on dollars invested in young tech companies in 2011.

Statements of success and failure

This object of the USA Today Index is to assess the number of technology start-ups and to quantify the amount of venture capital raised by those start-ups. Successful cities are able to attract both entrepreneurs and venture capitalists to be successful in this index and, as such, low business costs, proximity to high calibre educational establishments and a technology-friendly heritage are all considered factors contributing to the success of leading cities.

Cities highlighted by the report

Unsurprisingly, **San Francisco** leads this index by a considerable margin. In 2011 the Bay Area attracted 3,442 start-ups with 430 of them sharing US\$11.8bn of venture capital investment. The rich technological heritage of the city (being home to technology megaliths including Facebook, Google and Yahoo among others), a large technological community, and proximity to quality educational establishments (including University of California Berkeley and Stanford University) make the city the premier location for start-ups. One criticism noted in the report is that high rents and operational costs put off some potential start-ups, who look elsewhere for a less expensive cost base.

Boston ranks 2nd in this index with its famed universities cited as the major driver in technological innovation and investment. US\$2.8bn was invested in 285 start-ups in 2011, with, as the report notes, local venture capitalists looking to invest their capital in the area rather than anywhere else for business opportunity.

New York, **Los Angeles** and **Washington DC** take 3rd, 4th and 5th places respectively in a top 10 which is largely dominated by major East and West Coast cities. The main exceptions to the coastal hegemony are the encouraging performances of two, perhaps surprising, entrants. **Austin's** annual 'South by South-West' start-up festival and its relatively low start-up and operational costs are highlighted as reasons behind the Texan city's recent growth in the technology sector. The city has also gained leverage from the existing residency of Dell. The other exception to the East-West dominance is the **Denver/Boulder** metropolitan area, where US\$585m was shared by 85 start-ups in 2011.

Cities making progress

As a one-off survey it is not possible to assess progressive trends in this area, although in addition to the growth in Austin and Denver, **Portland** is singled out as making particular progress in recent years.

2.19 Top 50 Chinese Cities with Strongest Investment Potential

At the eighth annual World Famous Brands Assembly held in Jakarta, the US-China Economic Trade and Investment General Chamber of Commerce, the Europe-America-Asia Cooperation Union for Investment in Industry and Commerce, and the World Cities and World Business Research Association jointly released a list of the 2011 Top 50 Chinese Cities with Strongest Investment Potential. The data is collated from city and regional customs authorities.

Statements of success and failure

The index focuses on typical economic metrics, including trade flows and domestic product, in its ratings.

Cities highlighted by the report

Beijing tops the 2012 index. Beijing Customs statistics show the city's trade value reached US\$389.5bn in 2011, constituting a near 30% annual rise from the 2010 figure. While the Chinese capital's exports amounted to US\$59bn, an increase of 6.5%, imports accounted for the bulk of the huge trade increase, up 34.2% to US\$330.5bn. The dramatic rise in imports is a significant feature of this report, demonstrating the much-publicised increased levels of consumption in China's growing cities.

Beijing is closely followed by **Shanghai** which is second in the rankings. Customs statistics show that exports from Shanghai rose 18.1% on 2010 figures to US\$499.96bn in 2011, while imports grew at a similar rate, rising 19.5% to US\$312.35bn. Foodstuffs and luxury goods accounted for a large proportion of the increase in imports.

Hong Kong finished 3rd in the index. The region remains an influential financial hub and trade conduit between East and West with huge volumes of financial products traded there on a daily basis. Following Hong Kong is **Chongqing**, which attracted US\$10.5bn in foreign direct investment in 2011, a rise of 65% on 2010. Chongqing's import-export trade experienced a near 100% increase to US\$35bn, accounting for 1% of China's overall trade.

In June 2011, the Chongqing-Xinjiang-Europe International Railway was put into operation. The line, which starts from Chongqing and ends in Duisburg links the city not only with Europe, but also with Russia and emerging Central Asian markets. It can deliver freight to Germany in 13 days, down from 36 by land and sea, and is now competitive with the Chinese ports of Shanghai and Guangzhou.

5th place is held by **Tianjin**. The city's imports and exports increased by 25.8% to US\$103.27bn last year with import growth accounting for the lion's share of the rise. The authors note that Tianjin's exports to ASEAN and Latin America grew by 52% and 35% respectively in 2011.

Shenzhen and **Guangzhou** complete the top seven in this index. Both cities struggled relatively in terms of external trade; Shenzhen Customs reported a rise of nearly 20% in exports, although imports rose only by a relatively modest 10%. Shenzhen is going through a period of significant urban renewal with a push to attract high-tech industry to the city to replace the existing low value industries. 15,000 small firms are being moved to neighbouring sites in order to clear space.

Cities making progress

This is the first time this index has featured and, as such, no comparison is possible.

2.20 Indian Institute of Competitiveness: Indian City Competitiveness Report

The Indian Institute of Competitiveness' India City Competitiveness Report 2012 is a microeconomic survey of India's cities using data provided by the Government of India in 2011, which assess each of India's 50 largest cities' economic competitiveness. The report is built on four pillars, upon which the authors state competitiveness should be built:

- Factor conditions
- Demand conditions
- Context for strategy and rivalry
- Supporting and related industries

These pillars are further divided into 12 sub-pillars and are collated to form a holistic view of each city's relative economic competitiveness.

Statements of success and failure

For Indian cities to become successful global players, the report states they must create and build upon comparative advantages and continue to attract global talent. Strong, city brands are vital in this process – a particular weakness of Indian cities is their relative brand weakness when compared with leading emerging centres in Asia. The report highlights that, despite the divergent characteristics of the cities featured in the study, each city should focus on the following five components for success:

- Vision
- Entrepreneurship
- Specialisation
- Social cohesion
- Proper governance structure

“Undoubtedly, cities are the drivers of any economy. Their growth will enhance the growth of States and eventually that of the country. In the past few years they have risen from their age-old shells and are proving their potential on the global front. Though to become competitive they need to develop a vision for themselves, build a strategy around it, enhance their infrastructure, policies, governance structure, etc. It is important to put into place the fundamentals underpinning economic growth and development, in order to propel overall growth for the country as a whole”.⁹⁶

Cities highlighted by the report

Delhi is ranked as India's most economically competitive city in 2012, a position it has held in each of the previous three years. Delhi ranks top in three of the four pillars, lagging behind in 10th in the related industries category.

⁹⁶ Institute of Competitiveness (2012), 'City Competitiveness Report 2012', <http://competitiveness.in/2012/07/10/city-competitiveness-report-2012-2/>

Delhi is followed in 2nd place by **Mumbai**, followed by a raft of India's other major metros including: **Chennai**, **Hyderabad**, **Kolkata**, **Gurgaon** and **Bengaluru** which are positioned at 3rd, 4th, 5th, 6th and 7th respectively. **Noida** is the highest ranking mid-sized city in the survey, featuring in 8th position, and is cited by the authors as the city most likely to challenge India's traditional urban powerhouses. Behind Noida, other high growth cities highlighted in the report are **Pune** and **Ahmedabad**.

Planned twentieth-century city, **Chandigarh**, is another strong performer in 12th and is commended for its ability to attract foreign investment and workers. **Nagpur**, a near neighbour of Mumbai in Maharashtra, also performed well, just missing out on a top-10 spot, at 11th overall.

Of the second and third-tier cities, **Agra**, **Bhopal**, **Kochi** are mentioned as potential high-growth centres. **Guwahati** is also commended for its high levels of economic growth and light-footedness in avoiding some of the social and planning problems encountered by Indian megacities.

Cities making progress

Noida is highlighted by the report as having the potential to become an economic hub in the sub-continent.

2.21 US Federal Spending in Scientific Research

This index, produced by the Kaufmann Institute, seeks to assess the destination of domestic US federal spending on scientific research. In the realm of scientific research, the authors of the report note that "*the power of cities to aggregate people, allow for collaboration, the cross-pollination of ideas, and the spread of information.*"⁹⁷ Yet, as the authors note, there is a dearth of accurate data allowing the precise destination of the US\$130bn spent by Washington DC each year on research. One US agency, the National Institutes for Health (NIH), has endeavoured to maintain accurate data on its own grant-giving. This index aggregates the grant-giving of the NIH since 1992, which amounted to US\$34bn in 2011 and assesses which cities receive the lion's share of research funding.

Statements of success and failure

The report notes that scientific funding (in the form of grants) is simultaneously an input as well as a measure of research success. "*Successful research begets more funding.*"⁹⁸

Cities highlighted by the report

Familiar names dominate the upper echelons of the cities attracting scientific research funding. The greater **Boston** area, home to Harvard, MIT and a host of other research universities, leads the field. **New York** and its surrounds and the **Los Angeles** metropolitan area follow close behind. These three urban areas have distanced themselves from the competition with 3rd-ranked Los Angeles attracting double the funding of nearest rivals **San Francisco** (and the Bay Area) and Greater **Philadelphia**. Philadelphia is perhaps the most surprising name in the elite list, not having an outstanding reputation in scientific research, while the college town of Ann Arbor is the only mid-sized city on a list of major metropolitan areas.

⁹⁷ Samuel Arbesman and Jordan Bell-Masterton (2012), 'The Needlessly Inscrutable Geography of Scientific Funding', <http://www.theatlanticcities.com/jobs-and-economy/2012/11/needlessly-inscrutable-geography-scientific-funding/3720/>

⁹⁸ Ibid.

In terms of average year-on-year spending, the top 10 looks largely similar, with Boston and New York leading the way from Los Angeles, which has made the largest real terms' increase in attracting spending in recent years.

Top 10 recipients of funding⁹⁹

Rank	2011	Real Spending	Change in Rank vs. 1992
1	Boston-Cambridge-Quincy, MA-NH	US\$1.30bn	+1
2	New York-Northern New Jersey-Long Island, NY-NJ-PA	US\$1.13bn	-1
3	Los Angeles-Long Beach-Santa Ana, CA	US\$1.05bn	0
4	San Francisco-Oakland-Fremont, CA	US\$509m	+1
5	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	US\$506m	-1
6	Baltimore-Towson, MD	US\$489m	0
7	Seattle-Tacoma-Bellevue, WA	US\$423m	+2
8	Chicago-Naperville-Joliet, IL-IN-WI	US\$412m	0
9	Houston-Sugar Land-Baytown, TX	US\$324m	+1
10	Ann Arbor, MI	US\$296m	+1

Cities making progress

The highest rated cities have remained remarkably static in the 20 years under examination, with **Seattle's** two-place gain the largest jump in the top 10. There are, however, some cities which have moved more dramatically. **San Diego** dropped 44 places in the rankings, demonstrating a significant weakening in that city's ability to attract research funding. The largest climber is **St Louis** which climbed 205 places to 15th, owing to the establishment and continued success of its Genome Institute. Other cities making significant progress include **Jacksonville**, which has climbed 86 places since 1992, albeit to a still modest 94th.

2.22 Brookings Institution: Export Nation

The 2008 economic crisis and subsequent recession in the US brought a deal of scrutiny on the structure of the nation's economy. Policymakers at all levels saw the need for a realignment of the US economy and, in particular, the need to boost the nation's export levels. This index, one of Brookings' numerous pieces of original research, examines the export performance of the nation's top 100 metros.

The Brookings research provides unique insight on export data. It measures exports by product location – not origin-of-move - which provides a more accurate representation of the provenance of the product or service. It also analyses export data at county level, which allows an analysis at the metropolitan level. Taking into account 34 export categories, 26 for goods and eight for services, this is the most comprehensive study on US exports available.

The study shows that in 2010, the year to which the data relates, exports drove the US financial recovery, growing 11% in real terms on the previous year and constituting 46% of the nation's economy. Late metropolitans were at the centre of this renaissance, with the 100 urban areas under scrutiny amounting to 65% of total exports. While NAFTA partners, Canada and Mexico, remain the largest recipients of US exports, emerging markets are increasingly important, with exports to Brazil, India and China up. Manufacturing was the largest export sector, constituting 65% of total exports, and it is in the largest metros that the bulk of the high value-added service exports originate.

⁹⁹ www.theatlanticcities.com/jobs-and-economy/2012/11/needlessly-inscrutable-geography-scientific-funding/3720/

Statements of success and failure

The importance of international trade links and exports in the global economy are well stated. This metric provides an in-depth economic analysis of which US metros have been most successful in connecting their products and services with overseas markets and reaping the benefits of domestic product and job creation.

Cities highlighted by the report

The **New York** metropolitan area leads the way in terms of direct export-production jobs. The 'Big Apple' boasts particular strengths in pharmaceuticals, where it leads the way in this sector in exports to Brazil. The New York region's total export value of US\$78bn is the second largest nationally.

In that regard New York is trumped only by the **Los Angeles** region, which boasts a total export value of US\$79.8bn. Los Angeles was one of the four metros to establish its own Metropolitan Export Initiative – a new collaborative public, private and civic collaboration to boost the city's exports. Los Angeles' export job creation has reaped the benefits of the strategy, with LA's direct export job level marginally behind that of New York, posting strong results in both the non-ferrous metal and pharmaceutical sectors.

Chicago comes in 3rd in terms of total export value at US\$53.9bn, and with an annual uptick of nearly 12%, outperforms the two leaders in export growth. Chicago performs well across a number of metrics, including motor-vehicle exports to China, where it is placed 7th nationally, and pharmaceuticals, where it also achieves a top-10 finish, and non-ferrous metals where it is second only to **Salt Lake City**.

Cities making progress

Of the top 10 export cities by volume, it is **Detroit** that has posted the largest annual rise in exports (12.3% on 2010 figures). The city's car and car-part base is experiencing something of a renaissance after the controversial bail-out of the industry earlier in the decade, which has boosted export employment. With 16% of US motor vehicle exports to China originating in Motown, it is clear that emerging overseas markets are the key to Detroit continuing its recovery.

Portland's annual growth in exports of 16% on 2009 is the largest improvement among the leading cities. Portland is one of the other cities that have been proactive in establishing a Metropolitan Export Initiative and this strategic partnership appears to be making immediate progress – contributing to 73% of the state's exports.

2.23 Rigzone: Oil and Gas Cities

Rigzone, an oil and gas employment and data clearinghouse, polled 8,000 industry executives and engineers, and asked them which cities represented the most important, promising opportunities in the sector.

Cities highlighted by the report

Despite having smaller hydrocarbon resources than Abu Dhabi, **Dubai's** half century of experience in leveraging offshore fields makes it the 'number one' city in this study. Leading firms such as Dragon Oil, Halliburton and Wood Group have a long-standing presence in the emirate, which the report links to its 'business-friendly climate, cultural openness and accessibility to markets in Africa, Asia and the Middle East.' Dubai shows how oil can be used as a tool for economic diversification.

North American and Australian cities are established centres of the oil and gas industry. **Perth**, in 6th place, is home to huge gas projects such as Chevron's US\$45bn Gorgon gas project and the US\$31bn Browse LNG project, which are driving considerable population growth. **Denver** and **Calgary** are also very strong, rated 2nd and 3rd respectively.

A number of emerging cities are high on the list of oil and gas cities. **Cairo** is rated 10th because Egypt is the largest oil producer in Africa and home to the headquarters of the Ministry of Petroleum and Mineral Resources. The prospect of enhanced oil recovery (EOR) techniques and improved natural gas production has attracted many foreign firms including Hess Corporation and Royal Dutch Shell. Kuala Lumpur (9th) is on the rise in this sector after energy giant Petronas made its first onshore discovery since 1989, and the city is set to benefit from Malaysia's likely role in the trans-ASEAN gas pipeline. Meanwhile Mumbai (8th), home to the Reliance Group, is profiting from national shale gas expansion and a significant broadening of the gas pipeline network. Finally, Rio de Janeiro is witnessing a large international influx to its CBD, as Petrobras loosens its stranglehold on oil-related activity in Brazil. Chevron, Repsol and BP are all making significant investments, with a knock-on effect on jobs.

Cities making progress

As the first instance of this index, no comparison is possible.

2.24 Hamburg Economic Development Board and Berenberg Bank: 30 German cities of the future

The Hamburg Economic Development Board and Berenberg Bank have joined forces to produce a biannual economic index ranking the 30 German cities of the future.

The German response to the global financial crisis has been relatively strong. However, the index notes that on a national level, Germany still hasn't returned to pre-2008 levels of production. The story in the country's 30 largest cities is different. Their collective productivity levels surpassed 2008 levels as early as 2010 and are well above pre-recessionary rates.

Many cities have successfully gone through structural changes in their economies to adapt to the new cycle, with an increasing shift towards knowledge and research-intensive industries. This index looks forward to 2025 and predicts the status of each of the 30 cities should they continue on present trajectory. The index tracks a range of factors including: economic performance, education, innovation, international connectivity and population changes.

Statements of success and failure

This index contends that the future development of German cities depends upon attracting corporates, strong regional political frameworks, sound public finance, the establishment of interregional networks and the development of strategic development paths.

The report's assessment is purely quantitative and is not supplemented by any qualitative data.

Cities highlighted by the report

Frankfurt tops the index and is predicted to be the top German city of the future. Its international connectivity, high levels of corporate innovation and top-class infrastructure combine to make the city an attractive proposition

in 2025. The financial hub boasts Germany's largest airport, contributing to there being 41 major European cities within three hours by plane, train or car. Frankfurt also has a high proportion of highly-skilled workers.

Munich comes 2nd in this year's index. The Bavarian city has both the highest proportion of foreign companies and the highest number of foreign workers. With strong levels of population growth, the report's authors contend that Munich could overtake **Frankfurt** at the top of the index in the future.

At the bottom end of the spectrum, **Bochum** and **Chemnitz** continue to struggle to create jobs and are ranked 29th and 30th respectively.

Cities making progress

Bonn has made great strides since the last edition of the report. In particular, Bonn improves significantly in the employment and productivity categories. **Essen** also performs well, climbing 11 places from 21st to enter the top 10 for the first time. The former mining town is making strong progress based on good levels of private sector investment in the culture, leisure and education sectors.

Berlin continues to improve. From 24th place in the inaugural 2008 edition of the survey, Berlin improved to 8th in 2010 and now ranks 5th. Innovation and the internationality of the capital are cited as the main factors behind Berlin's improvement.

2.25 Perú Económico: Top Cities to Live

In an expansion of the indexes genre to new regions, Perú Económico has produced a simple index for 2013 that lists the top Peruvian cities in which to live. The city examines 24 of Peru's main cities across eight metrics including political stability and economic development.

Statements of success and failure

While numerous factors influencing a city's success, this index highlights the importance of tax income, comprehensive provision of civic services and the ability to attract investment as key factors enabling Peru's cities to grow and become internationally competitive.

Cities highlighted by the report

The report observes a divergence in the development of cities in coastal and mountain regions compared to those located in the rainforest. The top 10 cities comprise two coastal cities and eight mountain metros but none from jungle areas.

Lima is regarded as Peru's leading city according to the study. The capital is followed by **Arequipa**, **Trujillo**, **Ilo** and **Chiclayo**.

Tacna is commended for its quality of life, urban development and population density. **Piura** is the other city featured for job opportunities.

Cities making progress

No comparison is yet possible with this index.

3 Macroeconomic Performance Indexes

3.1 Brookings Institution: Global Metro Monitor

The Brookings Institution's Metropolitan Policy Program launched the Global Metro Monitor in 2010. This 2012 edition is the third in the series of the index, initially produced in collaboration with the London School of Economics' Cities Programme.

As with Brookings' US Metro Monitor, this global survey is an interactive barometer of the health of metropolitan economies. It aims to enhance understanding of the local underpinnings of national economic trends, and to promote awareness among public and private-sector bodies charged with responding to the financial crisis and building resilient urban economies for the future.

The Global Monitor has grown and now tracks the performance of 300 urban economies that account for 19% of the world's population and 48% of world GDP. The 300 cities (up from 200 in the 2011-2012 version) are selected by the size of their respective economy and the availability of comparable economic data.

A number of major themes continue to dominate the global economic landscape. The sluggish and uncertain economic recovery in the US and the continued eurozone debt crisis remain two of the key topics in current macroeconomic discourse. Yet, as Brookings notes, a continental or national analysis of economic performance cannot provide a detailed examination of economic activity at a local level.

The Brookings analysis of metropolitan urban performance provides a window onto these key economic units, allowing a greater understanding of sub-national growth and leaving policymakers better equipped to develop targeted growth strategies.

Statements of success and failure

Brookings notes that as metropolitan areas contain an ever-increasing concentration of population and output, it is increasingly important to monitor and understand the dynamics and contributions made by the world's cities. The Monitor makes a threefold assessment of economic performance. Cities are benchmarked against each other, relative to their nation's performance and relative to their 2011 performance. As an interactive benchmarking tool, users are able to switch between these metrics and plot metro performance across each of them.

This summary will concentrate on the economic performance data: per capita GDP growth and employment growth. Beneath this core data, Brookings analyses the economic performance of the metros by industry area, providing a further dimension to the analysis.

Cities highlighted by the report

Chinese cities dominate the index in terms of growth dynamism. 34 of the 48 mainland Chinese cities featured in the index are placed in the top 60 positions, but it is the autonomous area of **Macau** that tops the index, having established itself as a global leisure capital. Macau's index-leading employment growth of 5.7% and GDP growth of 5.1% is the strongest economic performance in 2011-2012 of any metro.

Xiamen (4th) is the leading mainland China metro. Xiamen's GDP was up 7.7% and employment 3.3% in 2011-2012, comfortably outperforming the national average. Brookings cites the attraction of foreign investment to Xiamen's manufacturing sector as a leading factor in the city's success. **Changsha** in 5th is the next best-placed Chinese city in the 2011-2012 rankings.

By contrast, **Beijing** is one of the worst-performing Chinese cities in the latest rankings. GDP rose 2.3% in 2011-2012 – well below the national average. Studies point to an over-reliance on local and non-market services as a factor behind Beijing's sluggish performance as inefficiencies begin to accumulate in the Chinese capital.

Perth, in 2nd place overall, achieved employment growth of 4.9% in 2011-2012, well above the modest Australian average of 0.6%. The Western Australian city also outperformed the national average significantly in the GDP growth criteria which, at 6.9% (up from 1.2% in 2010-2011), was three times that of Australia as a whole. Perth's role at the centre of the Australian commodities sector is central to the city's impressive performance. In particular, the city has seen significant growth in business and financial services catering to the core commodities corporations based there.

Riyadh (3rd) completes the 2011-2012 top five. The Saudi capital posted GDP growth of 4.9% and employment growth of 4.5% in the year's metric. Riyadh's GDP growth is a significant improvement on its medium-term performance which averaged just 1.7% between 1993 and 2007. A period of sustained investment and diversification of the city's economy, previously reliant on oil reserves, appears to be paying off for Riyadh.

European cities perform poorly with few exceptions. **Bucharest's** 34th and **Oslo's** 65th were the leading cities in a continent which provided the majority of the fifth, and bottom, quintile. Business and financial services and manufacturing were the key sectors in both of those cities in 2011-2012. **Madrid** (295th), **Milan** (285th) and **Paris** (262nd) are among the major cities to struggle – all suffering as a result of the eurozone crisis.

The performance of South American cities was also disappointing in comparison to Asian standards. **Santiago** is the continent's leading light and the only representative in the top quintile at 54th. The Chilean capital registered employment growth of 1.9% and strong GDP growth of 4.2% in 2011-2012. However, its 1.9% employment growth is well below the 6.1% it achieved in 2010-2011. **São Paulo** only managed 217th place as its economy contracted in 2011-2012 by 0.1%, though it did manage to create jobs, albeit at a rate of only 0.9%.

Jakarta (11th) is the final leading performer in 2012. The city has benefited from Indonesia's low interest rates and high growth in the post-Suharto era and, in recent years, has gained increased economic traction. Jakarta's role as both the country's trade gateway and hub for financial and business services is helping to drive the city's strong economic performance.

Cities making progress

The index provides comparisons of the key economic metrics in 2011-2012 against each city's average performance in the pre-recessionary 1993-2007 period, as well as against the 2010-2011 edition of the report.

Nanning, 500 miles west of Hong Kong, leads the way in improved income growth. The city's pre-recession average of 4.4% doubled in 2011-2012 to 8.8%, making it the world's most improved city in that respect. Jakarta's 1.2% pre-recessionary average was bettered by almost 4% in 2012 where it also posted GDP growth of 5%. Perth's increase of 3.2% on its pre-recessionary average completes the top three in this criterion.

Perth is also placed 5th for its 2011-2012 employment growth (4.9%) compared to pre-recessionary levels (2.8%). **San Juan** leads this metric with its most recent employment growth of 5.5% a huge improvement on its pre-

recessionary average of 1.2%. Bucharest's 2012 employment growth of 3.3% provides a welcome boost to an employment market that contracted by an average of -0.3% between 1993 and 2007.

Bangkok has recovered well from a poor year in 2010-2011 with its GDP and employment up 4.3% and 4.9% respectively.

3.2 PwC: Global Metropolitan GDP

PwC's 2009 Outlook updated an article published in March 2007, which became the first large-scale comparative analysis of global urban GDP. Data on GDP for cities is notoriously unreliable, typically associated with the difficulty of ascertaining agreed city boundaries. This is often even more of a problem in non-OECD countries, as PwC itself points out. Therefore the production (cited in both the 2007 and 2009 documents) of current and projected estimates for the largest 100 city economies in the world was a very valuable benchmarking development, although no further public updates have been made.¹⁰⁰

The 2009 analysis took into account the impact of the 2008 economic crisis and made room for lower growth figures. The analysis has been particularly useful for seeing how the fast-emerging cities in South and East Asia, and Latin America, will challenge the current urban elite over the next 15-20 years. PwC's population analysis indicates that cities such as New York, London and Paris will continue to slip down the list of the world's most populous cities up to 2025. Chinese cities were expected to remain about the same in the population rankings, while rising in absolute numbers, but these projections may have changed given rapid developments in China.

Statements of success and failure

Success and failure in this report is purely a statistical measure based on total GDP.

Cities highlighted by the report

Tokyo has consistently been the city with the highest GDP in the world, according to PwC analysis, and will continue to have the edge over **New York** up to 2025 according to growth projections. Both cities have economies of close to US\$1.5 trillion in 2008, comparable to countries such as Spain and Mexico. Currently, **Los Angeles** is a secure 3rd place, because of its large metro population, followed by Chicago, London and Paris which have recorded very similar GDP figures.

Cities making progress

The big mover in the top 20 prior to the global financial crisis was **São Paulo**, which joined the top 10 for the first time. **Moscow** (25th to 15th), **Shanghai** (32nd to 25th) and **Singapore** (36th to 27th) all indicated that their aggregate wealth has been rising very sharply.

Looking ahead to the 2025 projections, PwC predicted the top 10 wealthiest cities to have two new entrants from the emerging BRIC economies, namely **Shanghai** and **Buenos Aires**, while **São Paulo** is set to continue its steep rise through the rankings. Just outside the top 10, the Indian/Chinese cities of **Mumbai** (29th to 11th), **Beijing** (38th to 17th), **Delhi** (37th to 19th) and **Guangzhou** (44th to 21st) were also forecast to rise through the rankings based on consistently higher growth rates than their North American and European counterparts, but the story since this study was published indicates a complex picture of fluctuating growth patterns.

¹⁰⁰ PwC (2009), 'UK Economic Outlook - September 2009', p.20

3.3 McKinsey Urban World Top 25 Hot Spots by 2025

McKinsey's research arm, McKinsey Global Institute (MGI), produced a report entitled 'Urban world: Mapping the economic power of cities' in early 2011 in an effort to track the growing economic importance of urban centres. Within this report MGI created Cityscope, a global database of more than 2,000 cities featuring measures of GDP, demographic make-up, family size and income. In the future, Cityscope is intended to incorporate figures on infrastructure investment, consumer demand and economic structure. The database is designed to aid policymakers involved in planning efforts, businesses looking to make strategic investment and location decisions, and even political representatives and institutions seeking to be relevant and effective in an urban landscape that is very different to that in the twentieth century.

Statements of success and failure

MGI's report is especially focused on cities' capacity to host and generate growth. It notes that the usual strategy for multinational corporations of operating in developed cities and a handful of leading emerging megacities will not be optimal in the future, as most growth will occur in medium-sized cities, both in the developed and developing world. It estimates that the share of global growth accounted for by the 23 megacities in 2011 will fall from 14% to 10% by 2025, while medium-sized emerging market cities will contribute over 40%.¹⁰¹

Cities highlighted by the report

In the forecast top 25 cities by GDP in 2025, **Shanghai** and **Beijing** are the big entrants into the elite global tier of cities. Shanghai places in 3rd place behind **Tokyo** and **New York** in 2025. This compares with the PwC forecast just 18 months earlier, which projected Shanghai to rise only to 9th by 2025, having been rated 25th in 2008. Equally, Beijing is forecast by MGI to rise to 5th in the world by 2025, substantially higher than PwC's forecast of 17th. While some may have attributed these positions to their very high populations, MGI figures of household income show that this Chinese pair will soon host as many middle-income residents as established Western leaders. Shanghai is ranked 4th for residents with household income above US\$20,000 by 2025, while Beijing is ranked 5th, ahead of the likes of Paris, Los Angeles and Chicago. The pair is also forecast to host the highest housing demand in the world in the next decade and a half. MGI points out that their success is due to their capacity to attract talent, stimulate investment and operate successfully at the centre of a local city network.

Other cities to excel in 2025 can be seen in the GDP per capita ranking. This is dominated by mostly smaller cities in Norway (e.g. **Tromsø**), South Korea (e.g. **Asan**) and the US (e.g. **Bridgeport**), which together account for two-thirds of the top 20. They are joined by Macau, which ranks 2nd, and representatives in the Gulf, including **Doha** in 4th and **Al-Ain, Abu Dhabi** in 12th. The largest cities to feature in the per capita GDP ranking are all in the US, led by New York in 21st, **San Francisco** in 15th and **Boston** in 19th.

Cities making progress

Beyond Shanghai and Beijing, mainland China is forecast to have four other cities in the global top 25 of GDP by 2025; **Shenzhen** in 10th, **Tianjin** 11th, **Chongqing** 17th and **Guangzhou** 19th. Only three other cities from the emerging markets are anticipated to enter the top 25, none of which are in Asia: **São Paulo, Moscow** and **Mexico City**. Other emerging cities anticipated to host large populations of middle-income households (<US\$20,000 p.a.) by 2025 include **Mumbai** (16th), **Cairo** (17th), **Taipei** (19th), **Istanbul** (22nd), **Delhi** (23rd) and **Buenos Aires** (24th).

¹⁰¹ McKinsey Global Institute (2011), 'Urban world: Mapping the economic power of cities', p.4
http://www.mckinsey.com/mgi/publications/urban_world/pdfs/MGI_urban_world_full_report.pdf

MGI points out that the leading ‘middleweight’ cities in the world are, with just a few exceptions, performing better at generating growth in wealthy residents than larger megacities. The leading middleweights are mostly in China, led by **Shenzhen**, **Nanjing**, **Foshan** and **Tianjin** – but also include **Jakarta**, **Lima**, **Tehran** and **Johannesburg**.

3.4 MarketWatch: Best US Cities for Business

MarketWatch’s study of US city business prospects, running annually since 2007, is one of the leading gauges of urban economic health. Its economic score examines metrics such as unemployment, job growth, population growth, personal income and local GDP. New data points include those on personal income growth, regional GDP, tourism and military contributions to local economies.¹⁰²

Statements of success and failure

Like several other urban economic studies in the US, MarketWatch gauges success on fairly straightforward output-oriented employment and income results.

Cities highlighted by the report

Des Moines leads the way in this year’s edition of the index, boasting enviable economic stability and concentration of corporates. **Washington DC** has benefited dramatically from its status as the national capital in a period of government high-spending. Despite losing its hold on 1st place in the 2011 rankings, the capital maintains its position as the leading major city in the index, having harnessed effectively the agglomeration of other cities in its wider regional compass, enabling it to increase job numbers and diversify its economic base.

Other high-performing cities include higher-education centre **Boston**, which drops three places to 5th, and **New York**, which continues a downward trajectory to a still respectable 13th, largely thanks to the concentration of corporates in the city, as its economic stability score drops.

Cities making progress

New Orleans was the big progress story in the 2011 rankings. After being largely destroyed by Hurricane Katrina in 2005, the iconic Louisianan city was ranked in last place in the 2009 survey. Moving to 77th in 2010, the fortunes of the ‘Big Easy’ began to rise and that trend continues in 2011, the city moving up to 33rd in the rankings. Beating the national average in numerous criteria, including unemployment, personal income growth and economic output growth, MarketWatch commends the city’s ‘pro-growth attitude’.¹⁰³

Raleigh and **Charlotte**, both in North Carolina, have performed well in the latest edition of the survey.

¹⁰² Market Watch (2011), ‘Resilience makes Washington the Best City’, http://articles.marketwatch.com/2011-12-13/economy/30748740_1_jobless-rates-marketwatch-saic

¹⁰³ Market Watch (2011), ‘Resilience makes Washington the Best City’, http://articles.marketwatch.com/2011-12-13/economy/30748740_1_jobless-rates-marketwatch-saic

3.5 Brookings US Metro Monitor

The Metropolitan Policy Program at Brookings has introduced a quarterly Metro Monitor since 2009 to track the effects of economic recession and performance in the recovery across large US metropolitan areas.¹⁰⁴ This latest edition of the report, published in June 2013, covers Q1 2013.

As an interactive barometer of the health of US metropolitan economies, the study examines underneath national statistics and looks to locate the wide range of metropolitan performance since the 2008-2009 recession. It aims to enhance understanding of the local underpinnings of national economic trends and to promote awareness among public and private-sector bodies charged with developing recovery strategies.

The Metro Monitor track of quarterly indicators among metropolitan areas of over 500,000 people includes measures of total wage and salary jobs, unemployment rate, gross metropolitan product (GMP) and prices of single-family properties.

Statements of success and failure

The report focuses mainly on economic growth and employment levels in the metropolitan areas. In June 2013, Brookings reported that the outlook for metropolitan economies was generally positive in the first quarter of 2013. Employment levels in 30 of the 100 metros have now recovered to pre-recession peaks and output has risen in all but four of the featured cities. This reflects the modest but upward gains in employment and GDP (1.8% nationally) in this quarter and the addition of 175,000 jobs to the labour market. However, as Brookings notes, while the national recovery is making small progress towards sustained growth, there is a vast amount of variation between Metros.

Cities highlighted by the report

Generally speaking, economic performance continues to be strongest in Texas, where the recession was relatively mild and where natural gas has fuelled new growth. California, Florida, and the Rocky Mountain states have also continued to post strong scores, though the housing collapse in those regions means there remains significant room for improvement.

San Jose leads this quarter's rankings, moving up from 2nd in Q4 2012. The Californian city's output is ranked second nationally in terms of post-recession growth with 7.7% growth in its information sector in the last year, including 2.5% growth in the last quarter alone. Manufacturing and health sectors in the city have also performed well. San Jose also gains top 10 positions in both employment (8th) and unemployment (10th) with construction and professional services jobs leading the way.

New Orleans comes in 2nd; its impressive recovery continues with GDP and employment nearly 25% up on 2005 figures. Information, education and construction jobs are fuelling the city's recovery, though weak house prices 2.1% nationally. As the report notes, 'the national recovery remains tenuous, as shaky job numbers and softening GDP growth are cause for concern'.¹⁰⁵

Cities highlighted by the report

While employment growth gained traction across the majority of the 100 cities surveyed, output growth weakened. Employment growth was prominent in **Washington DC** and a number of Texan cities, including

¹⁰⁴ Brookings (2010), http://www.brookings.edu/~media/Files/Programs/Metro/metro_monitor/2010_03_metro_monitor/2010_03_metro_monitor.pdf

¹⁰⁵ Brookings (2011), 'Metro Monitor: 1st quarter 2012', <http://www.brookings.edu/research/interactives/july-metro-monitor#overall>

Houston and **Austin**, which were among only seven cities to have recovered to pre-financial crisis levels of employment.

Metropolitan GDP rose in all but two of the cities studied, although the majority of these cities experienced a dip in growth, rated in comparison to previous quarters. **Las Vegas** produced the largest increase in output – up 1.6% for the quarter – and, once again, the Texan cities of **Dallas**, **Houston** and **Austin** were among the other leading cities in the category.

The house price indicator produced a gloomy picture for the first quarter of 2012. Only two cities recorded positive house price movement, with cities in the South East hardest hit, **Miami** and **Atlanta** being among the biggest losers nationally.

Brookings reports a wide variation over the past decade between high-performing metropolitan areas, which have recorded double-digit job growth since 1999, and many low-performing regions recording negative growth. The 17 metropolitan areas recording more than +10% growth over the past decade are all located in the South and West of the country and include **Austin**, **Houston** and **Phoenix**. In these cities the severe job losses during the 2008/2009 recession associated with the housing market collapse have only made a small imprint on overall gains in the recent decade. **Austin** is the only large city to rank in the top 20 American metro areas for both (low) recession impact and recovery dynamism.

Austin ranks 8th overall including a 4th place finish in output and 5th in employment. Mining, construction and education jobs are driving employment growth in the city, while the trade, transport and utilities sector is the star performer in output. **Houston** produces very similar results with its employment levels 7th nationally and its output 6th, primarily due to mining, construction and manufacturing.

Philadelphia has endured a torrid quarter, finishing 98th nationally with output down in 86th and unemployment 93rd. Chicago and New York also posted disappointing figures at 75th and 79th respectively.

Cities making progress

Of the top 20 strongest performing recovery metro areas, Texas hosts five, including **Austin**, **Dallas** and **Houston**. Many larger cities' recoveries are much slower, in part because they proved more resilient during the initial recession. The federal bail-out of the struggling automotive sector has stimulated strong recent performance in **Detroit** and a surge in the extractive industry sector sees it ranking well in employment criteria.

3.6 Kiplinger Best Cities for the Next Decade

In 2010, publisher of business forecasts and finance advice, Kiplinger, produced an important review of 367 American metropolitan areas on the basis of their economic prospects for the next 10 years. It is based on data on cost of living, household income and its growth between 2005 and 2008, as well as a useful measure of percentage of population working in the creative class.¹⁰⁶

Statements of success and failure

Kiplinger notes that as unemployment is set to remain high nationally and American leadership in technology and scientific fields falters, successful cities will be those which innovate, incubate and harness new ideas and can

¹⁰⁶ Kiplinger (2011), 'Best Cities for the Next Decade', <http://www.kiplinger.com/magazine/archives/10-best-cities-2010-for-the-next-decade.html>

attract talented populations. It also points out that collaboration is critical, and that the support of governments, universities and business communities in tandem can provide the necessary economic vitality to get American cities back on their feet.

Cities highlighted by the report

A regular high performer in indexes since 2008, **Austin** is rated the top city in the country, a leader in incubating small businesses and supporting entrepreneurs. The Texan city is host to 12 venture-capital funds which is seen as important to providing the impetus for innovation to get off the ground. The city is 3rd (after Portland and Memphis) among cities above one million in population in terms of percentage of workforce in the creative class, at just under 37%.

Another leader in America's urban recovery, **Seattle**, is ranked 2nd due to its excellent base of educated residents, world-class firms and entrepreneurial spirit. In 3rd place appears Washington DC, which has a very high average household income, second in the country at US\$81,000, and one of the lowest unemployment rates in the US. Beneath these three are **Boulder** and **Rochester** (MN), both of which have excellent links between business and research, while other cities in the top 10, such as **Salt Lake City** and **Des Moines**, are highly ranked due to their low operating costs and efforts to attract talent.

Of the top 20 largest cities in the US, the range in percentage of workforce in creative class ranges from 24% (**Phoenix, Atlanta**) to 37% (**Houston**). **New York, Miami** and **Chicago** are in the middle of this pack, at around 30-33%.

Cities making progress

The 2010 study appears to be Kiplinger's first and only future-oriented performance index, so progress is yet to be gauged.

3.7 Milken Institute: Best Performing Cities

Policy think tank Milken Institute runs a robust Best-Performing Cities index, updated annually, as an economic performance tool to compare metropolitan areas in the United States. Its 2012 report points to a resurgence in the high-tech economies in California, particularly in Silicon Valley, while in 2010 and 2011, the strongest performing cities were in the country's South, and in particular in Texas. The output-oriented index measures growth in jobs, wages and salaries, and technology output over a five-year span to adjust for volatilities in business cycles. It also includes the most recent year's figures and 12-month job growth performance to capture relative momentum. Employment growth is weighted most heavily as it is described as the most important factor in determining community vitality.

Milken also incorporates measures to reflect the importance of high-tech industry presence. It has a high-tech location quotient to indicate a metro area's commitment to the knowledge economy and a measure of how many specific high-tech industries a metro area has higher than the national average concentration.¹⁰⁷

¹⁰⁷ Milken Institute (2010), 'Best-Performing Cities 2010: Where America's Jobs Are Created and Sustained', pp.1-9

Statements of success and failure

During this challenging period for the US economy, Milken describes best-performing cities as those which can be resilient in preventing large-scale job losses and a large shift in housing markets. The top cities are where a housing bubble had been avoided, financial services were not a huge sector, and economic performance more stable in general over the last few years. Milken also identifies, in line with other recognised trends, that cities with a low dependence on durable goods manufacturing have been better shielded from the recession effects, given the collapse in production of such items nationally. As such, more diversified economic bases – including high-technology manufacturing and services – have been critical to the best cities coming out unscathed.

Milken recognises that the top-performing cities in its rankings are there not just for structural reasons, but also due to contingent cyclical factors owing to the recessionary effects.

Cities highlighted by the report

Metropolitan areas in Texas have been the standout performers in the last three years. In 2010 the state hosted three of the top five metro areas in the country, and 11 of the top 25 and has continued its impressive performance. In the year preceding June 2011, the Lone Star State created 20% of new jobs in the US and boasts four cities in the top five and 9 in the top 25. Its cities are seen to benefit from a distinctive economic base; minimal reliance on durable goods manufacturing, high military activity, strong trade relationships with Latin America, and low business costs. Expansion in exploratory energy industries – notably in shale gas – have also positively impacted upon the state's performance. **San Antonio** has rocketed from 14th to 1st in this year's rankings, with El Paso jumping from 9th to 2nd, capitalising on military growth in the area. Austin continues to perform well, albeit dropping from 2nd to 4th, with impressive five-year job growth and high-tech GDP contributing to the state capital's success.

MSA	2012 rank	2011 Rank
San Jose-Sunnyvale-Santa Clara, CA	1	51
Austin-Round Rock-San Marcos, TX	2	4
Raleigh-Cary, NC	3	14
Houston-Sugar Land-Baytown, TX	4	16
Washington-Arlington-Alexandria, DC-VA-MD-WV	5	17
Salt Lake City, UT	6	6
Provo-Orem, UT	7	9
Cambridge-Newton-Framingham, MA	8	12
Charleston-North Charleston-Summerville, SC	9	11
Fort Worth-Arlington, TX	10	24

San Jose metro is the top-performing area in 2012, jumping a remarkable 50 places in the year. The fast movements in the innovative technologies in which the city specialises, makes it susceptible to volatility, but with its clean tech, big data and processing businesses in rude health, the city has recorded the nation's fastest wage growth for the third year in a row and has top 10 levels of employment growth.

Metropolitan areas in Texas have been the standout performers in the last three years and although not quite as dominant in 2012, they continue to impress. **Austin** continues as the post-recession's most consistent economic performer. Although lacking in high-tech GDP growth (129th nationally), the sector has been central to Austin's renaissance, and despite experiencing a slight drop-off in its short-term job growth (22nd), the state capital ranks in the top 14 in all other categories, including 3rd in five-year job growth and 7th in short-term wage growth.

Significant investments from Samsung (US\$13bn since 1996), GE, Apple, Dell and IBM are key to the city's impressive job creation record.

Houston jumps into 4th place overall with job and wage growth at the core of the city's success. Energy giants, including Exxon Mobil and BP, continue to invest in the city, spurring job growth. **Fort Worth** completes the Texan trioka at 10th overall. Distribution and logistics remain the key industry in the city which continues to offer businesses cost advantages over neighbouring Dallas and is reaping the reward in employment as a result (16th nationally).

Of the largest cities outside of Texas, **Washington DC** stands out again as the top economic performer. It has recovered from its 2010-2011 slump in the job growth index, moving up the index into 5th place in 2012. High-tech growth (11th) is the city's most impressive metric and is taking the strain from job losses associated from cuts in government spending.

Cities making progress

Of the top-performing cities, San Jose and Salt Lake City continue to impress and resulting in both cities entering the overall top 20. San Jose posted the greatest place gain of any large city with buoyant job growth in 2010-2011 particularly in the high-tech job category, where the Californian city holds onto its 'number six' position. Neighbouring Provo joins Salt Lake City as the second Utah metro in the elite rankings with a 7th place finish owing to its sixth-ranked high-tech GDP growth and posting of the nation's third-best results in short-term job growth.

3.8 Ajilon: Top 10 Cities for Employment

Since 2009 the recruitment firm, Ajilon Professional Staffing, has introduced a national 'top 10' city ranking of the cities where it is easiest to find a job. Its list is created using national Department of Labor Statistics and figures from its regional market branches. Factors considered include the range of industries in the city, living costs, the range in size of companies offering employment, and level of higher education achievement among its residents. In 2012, when the third list was published, the top 10 cities boasted an unemployment rate of below 8%, whereas the national average was 8.9%.¹⁰⁸

Statements of success and failure

Top cities are currently those which are affordable to mobile job hunters and have an established base of diverse sectors operating there. The ability to host talent is seen as the crucial factor upon which medium-term success rests. The importance of having government presence and defence contractors in cities is regarded as particularly important by Ajilon and so too is the presence of leading hospitals, research institutions and universities.

Cities highlighted by the report

The twin cities of **Minneapolis-St Paul** were ranked top in 2011, thanks to its burgeoning financial services, healthcare, retail and manufacturing sectors. The cities have a low cost of living as well as low crime and poverty

¹⁰⁸ Orange County Register (2012), 'Ajilon Professional Staffing Announces 10 Best Cities to Find a Job', <http://economy.blog.ocregister.com/2012/03/23/top-10-cities-to-find-a-job/105352/>

rates. Ajilon points out that cities like Minneapolis benefit from hosting clusters of specialist roles, such as tax and compliance, IT audit and accounting.

Another strong performance was recorded by **Austin**, ranked 2nd, mainly due to its cheap cost of living, diverse talent pool and highly-educated population generated by the University of Texas. Many of the rest of the top 10 are mid-size cities away from the East or West Coast. The most established cities on the list are **Boston** (4th) and **Dallas** (10th) where, in both cases, their financial services sectors have proved more agile than in larger cities.

Despite its vibrant non-governmental and advanced services sector, **Washington DC** has dropped out of Ajilon's ranking in 2012. **Baltimore** is a consistent top 10 performer in this ranking, as it has attracted professional and governmental talent due to its proximity to the capital and growth in its health sector.

In the two years between the two studies thus far, **Pittsburgh** is notable for ranking in the top 10 on both occasions, although dropping from 6th in 2011 to 9th in 2012. Despite a somewhat unfavourable reputation as a struggling deindustrialising city, Ajilon notes the strengths in education, technology and financial services that have prompted a recovery in recent years. **Salt Lake City** has also made solid progress in 2012, the only western city in an index dominated by cities in the eastern half of the continent.

3.9 Area Development: 100 Leading Locations for 2012 which MSAs Rank Highest for Economic & Job Growth?

Site and facility planning publication Area Development's inaugural '100 Leading Locations' survey benchmarks 350 US metropolitan statistical areas. It uses 23 economic workforce indicators garnered from a range of official sources including the US Bureau of Labor Statistics, the Bureau of Economic Analysis, and the Census American Community Survey. A conventional economic study, Area Development's indicators are subdivided into six ranking categories:

- Job Growth
- Prime Workforce
- Local Area Unemployment
- Wage and Salary Growth
- Per Capita GDP
- Manufacturing Job Growth

The index deals solely with US metropolitan areas and, as such, the cities featured include a large number of minor US urban areas. For example, Columbus, Indiana, ranks as the US's leading location in the overall rankings but, with a population shy of 77,000, Columbus is unlikely to make a global impact on a scale noteworthy for present purposes. The report does, however, provide a breakdown of the results of major US metropolitan areas. The depth of economic analysis on these major US areas provides valuable insight into the relative merits of US global players and of the chasing pack of American cities.

It is worth noting that in this index, as with a number of other regional surveys which cover the US, the rankings are not dominated by cities which receive recognition in global and more general surveys – New York, for example, even on the shortlist of major cities, ranks only 32nd. Indeed coastal cities in general are outperformed by the nation's mid-section, with Texan and Midwestern cities showing more robust economic performance than the cities at the eastern and western peripheries of the continent.

Statements of success and failure

This index is a relatively conventional economic survey and utilises conventional economic indicators. Area Development uses employment rates, the size and quality of workforces, wage rates, productivity and growth. The index gives pre-eminence to employment growth, which it highlights as the most significant indicator because of 'its critical importance to community vitality'¹⁰⁹ and, as such, it gives it extra weighting in the rankings

Cities highlighted by the report

With both **San Francisco** and **Los Angeles** not making the top 50 of leading major US cities, it is another Californian city, **San Jose**, which comes in at the top of the pile – excelling in both the Recession Busting and Prime Workforce Growth criteria owing to the prevalence of new high-tech jobs in the area. Another Pacific city, Portland, also recorded strong economic performance in 2011, ranking 14th on the major cities' list.

In a top 10 otherwise dominated by smaller regional centres in the US South and Midwest, including **Charleston** and **Nashville**, the next cities of international renown in the rankings are 8th-placed **Washington DC** which scores highly in the Economic Strength criteria – largely due to the amount of federal spending that the capital attracts - and 9th placed **Boston**, which achieves standout results in the Prime Workforce classification due to the concentration of world-class higher education institutions situated in that metropolitan area.

Texan cities feature prominently in the list. **Austin** ranks 2nd on the overall list showing strong all-round performance, including a top ranking on Economic Strength and 3rd on Recession Busting criteria. **Dallas** and **Houston** also perform well, ranking 11th and 12th respectively. Extractive energy – notably the exploitation of natural gas reserves - and major military spending owing to the federal level restructuring of the armed forces, lay behind Texan success.

Cities making progress

No specific medium-term trends on city progress have yet to be identified.

3.10 LSE: European Metromonitor Cities and the economic recession since 2008 (Three ways of measuring reliance)

New in this year's review is the LSE's European Metromonitor of economic performance. This addition to the discipline measures, among other things, the economic resilience of the cities scrutinised. The index tracks three measurements to establish a city's resilience:

- R1 - Ability to grow post-2008 recession. The sum of the annual growth rates of Employment and GVA for 2008-2012 for each metropolitan region.
- R2 - Difference of post-recession vs pre-recession growth. The sum of the differences between the annual growth rates of Employment and GVA for 2008-2012 and the annual growth rates of the same indicators for 2002-2007 for each metropolitan region.
- R3 - Metropolitan vs national performance. The sum of the differences between the metropolitan and national annual growth rates of GVA and Employment over 2008-2012.

109 Area Development Online (2012), 'Leading Locations for 2012: Ranking MSAs for Economic and Job Growth', <http://www.aredvelopment.com/Leading-Locations/Summer2012/Introduction-and-Top-100-MSAs-1445556.shtml>

Plotting these criteria, utilising data from Eurostat and Oxford Economics, the report offers a three-dimensional view of a city's post-recession growth, performance relative to its pre-recession performance, and its performance relative to the wider economic strength of the country in which it is situated.

Statements of success and failure

With economic resilience being seen by policymakers and urban experts as an increasingly important factor in a city's long-term success, this metric provides a three-dimensional illustration of which cities possess the trait, and which do not.

Cities highlighted by the report

Ankara leads the way in the R1 metric, which measures, in absolute terms, each city's growth in the five years from 2000. With an average rate of growth of 7% – a figure only matched in the metric by **Wroclaw** - Ankara has maintained enviable growth through the recession. **Istanbul** follows behind in R1 performance with growth rates averaging 4.5% since 2008, with **Stockholm** (3.9%) and **Bratislava** (4.6%) among other leading performers in this metric.

Greek and Spanish cities perform particularly poorly on this metric. **Athens** averages annual growth of -7.7% in the last five years; **Thessaloniki** (-8.1%), **Barcelona** (-4.2%) and **Seville** (-4.4%) perform only marginally better.

The R2 criteria tracks post-recession growth against the five years before the recession. Very few cities have recovered to growth levels comparable with pre-recession levels. Indeed only nine of the cities surveyed have achieved five-year post-crisis growth that has equalled or bettered the five years preceding it. Dutch and German cities perform best in this metric. **Groningen** leads the way with post-recession growth 1.7% higher. **Berlin** (1.5%), **Kiel** (0.8%) and **Hamburg** (0.7%) are among the other top performers in this elite group.

Baltic and Balkan cities dominate the less auspicious end of the spectrum. **Vilnius'** growth is -17% of that before the financial crisis, while Riga's is marginally better at a comparably unhealthy -16%. **Sofia** at -15% and **Athens** at -13.6% are among the other cities with economies light years behind their pre-recession condition.

The cities that defy poor national growth trends are of interest in the R3 category. **Aberdeen** is the top performer – growing at 4.6% above the UK average. Despite having its own growth issues, **Sofia** outperforms the Bulgarian economy by 3.8%, marginally ahead of **Bucharest**, which is growing 3.6% faster than the Romanian economy.

Cities with growth rates weaker than their national economies include **Riga**, performing at -3% of the wider Latvian economy, **Valencia**, -2.5% of the Spanish economy, and **Istanbul**, -2.8% of the Turkish economy.

The top performers across all three categories are **Wroclaw**, **Stockholm** and **Aberdeen**.

Cities making progress

Polish, German and Turkish cities exhibit the strongest progress in the post-2008 years.

4 Quality of Life Indexes

4.1 Economist Intelligence Unit – Livability: Liveability Ranking

The Economist Intelligence Unit's concept of livability is now well established and has been operative for a number of years. In assessing comparative urban living conditions, the livability rating is part of the annual Worldwide Cost of Living Survey, and quantifies the challenges and benefits to lifestyle in 140 cities worldwide. Each city is assigned a score for over 30 qualitative and quantitative factors across five broad categories:

- Stability (25% weighting)
- Healthcare (20% weighting)
- Culture and environment (25% weighting)
- Education (10% weighting)
- Infrastructure (20% weighting)

Each factor in every city is rated as acceptable, tolerable, uncomfortable, undesirable or intolerable. For qualitative indicators, a rating is awarded based on the judgment of in-house analysts and in-city contributors. For quantitative indicators, the rating is calculated based on the relative performance of a number of external data points. The categories are compiled and weighted to provide an overall rating of 1–100, where 1 is considered intolerable and 100 is considered ideal. The report considers that any city with a rating of 80 or more will have few, if any, challenges to living standards. Livability scores can be scaled as follows:

Rating	Description
80–100	Few, if any, challenges to living standards
70–80	Day-to-day living is fine, in general, but some aspects of life may entail problems
60–70	Negative factors have an impact on day-to-day living
50–60	Liveability is substantially constrained
50 or less	Most aspects of living are severely restricted

Cities from Canada, Australia, Scandinavia and Central Europe have consistently been the best performing cities in the EIU index in the past few years, with no exception in 2012. In cities in these regions there is seen to be a widespread availability of goods and services, low personal risk and an effective infrastructure. The EIU's livability does take into account factors of recreational and cultural activity, but overall the negative features (infrastructure, crime, terrorism risk) of big cities such as London and New York are weighted more significantly in their index. London and New York remain well outside the top 10. Despite this, the EIU emphasises that most major centres do not present any significant challenges to livability, and that all the major economic centres are in the 'top tier' of livability.

Elsewhere, European and North American (in particular Canadian) cities continue to dominate the top tier of the ranking, alongside cities in Australia and New Zealand.

Statements of success and failure

The overwhelming majority of cities in the top livability range are based in Western Europe and North America, although the report particularly highlights the success of Australian cities which have a remarkably strong

presence in the top 10, occupying four places. The top-ranked cities combine everyday quality of life with high stability and health factors.

Cities highlighted by the report

The EIU report is notable for the success of medium-sized cities over the past five years. Such cities, with populations ranging from 500,000 to 4 million, are thought to offer a wide range of cultural and sporting provision while also supplying outstanding infrastructure, light congestion and low crime levels. **Melbourne** topped the survey in 2012 pushing the incumbent **Vancouver** into 3rd. The report author's noting the city's outstanding lifestyle credentials and continued infrastructure investment from the Australian Federal Government. Vancouver too has seen significant infrastructure investment stemming from both the Winter Olympic Games, which it hosted in 2012 and the Evergreen mass transit project. It has been near the top of the rankings for a considerable time, as it ranked 1st in 2002, 2004, 2005 and 2011. The city has, however, been challenged by **Vienna**, which rose to 2nd in 2012.

In 2010 Vancouver's success was contrasted with the fortunes of another city hosting a major event, **Johannesburg**, which finished only in joint 92nd place, which while still the highest score in Sub-Saharan Africa, indicates the challenges it faces. The report highlighted Johannesburg's concerns with security and crime which are only marginally compensated for by cultural and recreational activities. In 2012 the report continued to point to ongoing crime, violence and conflict as holding back the most struggling cities in Africa and South Asia, including **Dhaka** (140th), **Lagos** (138th), **Algiers** (136th) and **Karachi** (135th).

Cities making progress

There is remarkably little change at the top of the rankings over the past several years, with Vancouver, Vienna and Melbourne vying for top spot for a number of years. Slightly lower, **Sydney** and **Adelaide** have been improving through the EIU rankings with top scores in education, infrastructure and healthcare.

Further down the list, emerging Asian cities are making only moderate progress. Despite their increased global footprints, **Hong Kong** and **Singapore** still fail to challenge the elite group.

4.2 Mercer Consulting Human Resources: Quality of Living Survey

Mercer Human Resources Consulting produces an annual 'Quality of Living' index that analyses the quality of living in 215 cities around the world. The aim of the index is to help governments and major companies place employees on major assignments. New York is given a baseline score of 100 and 39 measures are then used to assess the quality of living in each city surveyed. These include personal safety and security, health issues, cleanliness and pollution and transportation.

Statements of success and failure

Mercer makes its rankings based on the following information:

- **Political and social environment:** (political stability, crime, law enforcement, etc.)
- **Economic environment:** (currency exchange regulations, banking services, etc.)
- **Socio-cultural environment:** (censorship, limitations on personal freedom, etc.)

- **Medical and health considerations:** (medical supplies and services, infectious diseases, sewage, waste disposal, air pollution, etc.)
- **Schools and education:** (standard and availability of schools, etc.)
- **Public services and transportation:** (electricity, water, public transport, traffic congestion, etc.)
- **Recreation:** (restaurants, theatres, cinemas, sports and leisure, etc.)
- **Consumer goods:** (availability of food/daily consumption items, cars, etc.)
- **Housing:** (housing, household appliances, furniture, maintenance services, etc.)
- **Natural environment:** (climate, record of natural disasters)

Mercer asserts that quality of life and quality of living are different:

'A city with a high Quality of Living index is a safe and stable one, but it may be lacking the dynamic je ne sais quoi that makes people want to live in world-renowned cities such as Paris, Tokyo, London or New York. Sometimes you need a little spice to make a city exciting. But that 'spice' may also give a city a lower ranking. What makes one person's quality of life better or worse cannot be quantified in an objective index. Therefore, Mercer's Quality of Living report reflects only the tangible aspects of living in a city on expatriate assignments, and leaves the question of the quality of one's life to those living it!'

The element of danger as an integral part of the image of the world city is hinted at here – certainly Paris, London and New York have their dangerous but exciting underworlds.

Cities highlighted by the report

Top 10 cities over the past four years of the Mercer survey¹¹⁰

City	Rank 2010	Rank 2009	Rank 2008	Rank 2007
Vienna	1	1	2=	3=
Zurich	2	2	1	1
Geneva	3	3	2=	2
Vancouver	4=	4=	4	3=
Auckland	4=	4=	5	5=
Düsseldorf	6	6	6	5=
Munich	7=	7	7=	8
Frankfurt	7=	8	7=	7
Bern	9	9	9	9=
Sydney	10	10	10	9=

Zurich is highlighted for having lost the top spot it held in 2007 and 2008. Nevertheless, three Swiss cities continue to occupy the top 10 cities in the world. **Vienna** receives acclaim for its gradual ascent to the summit of the rankings. Overall, European cities are conspicuous for their continued dominance of leading locations – 13 of the top 20 - with German cities – led by **Düsseldorf, Munich** and Frankfurt – especially prominent.

¹¹⁰City Mayors (2009), 'The Best Cities in the World for Environment and Infrastructure', http://www.citymayors.com/features/quality_survey.html; Mercer (2008), <http://www.mercer.com/pressrelease/details.jhtml/dynamic/idContent/1307990>

French and British cities are noted for their comparative mediocrity in the list. Paris has fallen from 32nd to 34th place since 2008, while London places only 39th, with next best UK cities Birmingham and Glasgow outside the top 50. US cities are similarly undistinguished, with Hawaii's Honolulu leading the way in 31st. The report's authors point to Singapore (28th) as the leading Asian city ahead of Tokyo at 40th. Baghdad, which has been at the bottom of the rankings for a number of years, continues to be rooted to last place.

Cities making progress

The top 10 cities with the best quality of living remains precisely unchanged in the three surveys since 2006. However, further down the list some progress can be found, albeit slow. Among Eastern European cities there are some signs of improvement, with Ljubljana (78th), Bratislava (88th) and Zagreb (103rd) all moving up at least three places. Overall though there is a noticeable absence of cities from Africa, Latin America, China, India and Eastern Europe from the global top 50.

Among more established cities, big recent movers include Ottawa, which has risen from 19th in 2008 to 14th in 2010, and Hamburg moving from 27th to 23rd. Stuttgart appeared in the 2010 survey at 'number 30'.

4.3 IBM: Commuter Pain survey

In 2010 IBM surveyed over 8,000 motorists in 20 global cities on the question of traffic, commuting and congestion. The Commuter Pain Survey was conducted to improve knowledge of consumer attitudes towards traffic congestion given important upcoming decisions for cities infrastructurally and environmentally. 2010 was the first year of the global survey, after it had been published at US level since 2008.

IBM compiled the survey results into an index that factors in the emotional and economic cost of commuting in each city on a scale of one to 100, with 100 being the most demanding. The index is comprised of 10 areas, which includes commuter and traffic time, the stress and anger of driving and effects on work attendance and energy. In general the majority of respondents worldwide believe that traffic has become a worse problem since 2006.

The survey is to be used as a knowledge tool for expanding key technology solutions such as automated tolling, real-time traffic prediction, congestion charging, and intelligent route planning.¹¹¹

Statements of success and failure

IBM distinguishes between the experience of rapidly emerging cities and long established centres. The congestion in East Asian and Latin American hubs has grown in parallel with the rapid economic growth achieved since the early 1990s, while congestion in New York, Los Angeles or London is noted as having grown as a problem much more gradually, allowing policymakers more time and resources to address the problem.

As a whole IBM argues its study presents strong evidence that transport infrastructure has failed to match the needs of growing economies. Its findings, it says, indicate that traditional road-building solutions will not be sufficient to meet demand in emerging cities, which means that other solutions need to be implemented at the same time across the transport network. IBM suggests that these solutions will relate to improved systems management and technology-led dissection of local transport trends.

¹¹¹ IBM (2010), 'IBM Global Commuter Pain Study Reveals Traffic Crisis in Key International Cities', <http://www-03.ibm.com/press/us/en/pressrelease/32017.wss>

Cities highlighted by the report

The index reveals a large gap in the experience of commuting between global cities. **Stockholm** had the least painful commute of the cities studied; the Swedish capital is praised for its strong commuting experience, with only 14% of Stockholm drivers stating that roadway traffic negatively affected work or school performance. Other top cities include **Melbourne**, **Houston**, and **New York**.

Moscow was singled out for mention due to the length of its traffic jams, with drivers reporting a worst traffic jam of two-and-a-half hours on average in the last three years.

Cities making progress

IBM's study highlights the progressive experience of **Beijing**. It notes that the number of new cars registered in the city in the first third of 2010 rose by 24% year-on-year. Beijing's total metro system investment is projected to exceed 330bn yuan (US\$54bn) between 2010 and 2015 as the city expands the system to more than double its current capacity. 48% of drivers surveyed in Beijing report that traffic has improved since 2006 – the highest proportion of any city, suggesting a notable improvement in management and infrastructure. Nevertheless, 95% of respondents in Beijing stated that traffic has negatively affected their health, a figure surpassed only by New Delhi.

Johannesburg respondents have by far the largest proportion of population which reports its city traffic as having become 'somewhat' or 'a lot' worse, at 80%, a long way ahead of next city **Moscow** (64%).

4.4 Monocle Magazine: Quality of Living Index

Monocle, the influential media magazine, has published an annual quality of life index since 2007. Although comparatively more informal and subjective than the studies by Mercer and the EIU, the index makes insightful comments on contemporary changes in 'liveability' of global cities. Researched over a three month period, the ranking mixes quantitative data – e.g. statistics on murder rates and domestic burglaries, education and healthcare, cost of public transport – with more subjective elements such as quality of housing, urban scale, hours of sunshine, strength of local media and liquor licensing hours.

Statements of success and failure

The index does not hesitate to make statements on success and failure, which it concedes are highly subjective. For example, London did not make the top 20 cities in 2008 because of the decision to grant planning permission to an 'uninspired' shopping centre in Shepherd's Bush and Chicago is omitted from this year's expanded top 25 because of its 'appalling homicide rate.'

Tyler Brule, author of the report suggests that what makes a city livable is:

'a mix of shops and services within walking distance, a good transport interchange within close proximity, green space as part of their residence, a good park with a body of water for a refreshing plunge nearby, independent businesses as a key feature of the community, a sense of security (police on the beat or a Japanese-style police box in their neighbourhood), excellent coffee ... and finally a little bit of grit and surprise.'

Cities highlighted by the report

City	Rank 2008	Rank 2009	Rank 2010	Rank 2011	Rank 2012	Rank 2013
Copenhagen	1	2	2	3	3	1
Melbourne	9	9	9	5	6	2
Helsinki	5	5	5	2	2	3
Tokyo	3	3	4	9	7	4
Vienna	6	7	8	4	4	5
Zurich	4	1	3	1	1	6
Stockholm	7	6	6	11	10	7
Munich	2	4	1	6	5	8
Sydney	11	13	12	7	8	9
Auckland				13	9	10
Hong Kong				17	13	11
Fukuoka		16	14	16	12	12
Kyoto				21	11	13
Paris	10	8	7	12	14	14
Singapore				15	15	15
Hamburg				22	16	16
Honolulu	12	11	13	19	17	17
Madrid	13	12	10	10	20	18
Vancouver	8	14	16	20	19	19
Berlin	14	10	11	8	18	20
Barcelona	15	15	17	14	21	21
Amsterdam						22
Portland						23
San Francisco						24
Düsseldorf						25

The top four cities in 2011 which retained their places in 2012 are subject to a shake-up in 2013. **Zurich**, which achieved top ranking in 2012, combining great medical facilities, fantastic transport infrastructure and a compact small-city feel, drops out of the top four to 6 for the first time. The city's 50-plus galleries, museums and concert venues also add a cultural sophistication to the Alpine setting. Second place Helsinki is praised for its forward thinking, efficient infrastructure and creative culture – having been the World Design Capital in 2010.

As was the case in 2011, **Copenhagen** and **Vienna** complete the top four. These cities are noted, respectively, for their 'relaxed vibe' and high welfare, outstanding public transport and environmental commitments and their innovation and business-friendliness, though they experience mixed fortunes in 2013. Copenhagen has seized the top spot for the first time since 2008, while Vienna has dropped a place.

Melbourne and **Munich** make similar divergent progress. Having swapped places in 2012, finishing 5th and 6th in the index, respectively, Melbourne continues its upward climb to 2nd, while Munich continues its slide to 8th. Melbourne's improved transport facilities have supplemented its cosmopolitan atmosphere and pleasant climate to make it a vibrant cultural hub in the Asia-Pacific region.

As in previous years, Japanese cities feature prominently in the 2013 Monocle report. **Tokyo**, which is experiencing renewed favour among the judges, impressed with its small-town ethos, despite being one of the world's largest metropolises, reclaims its position in the top four. The capital is joined in the upper echelons of the report by **Fukuoka**, a consistent performer in this Monocle survey, the city standing firm in 12th – its highest ever ranking – owing to its scenic setting, which is superbly connected to Japan's major business hubs. In doing so Fukuoka just edged out **Kyoto**, which has slipped two places to 13th, somewhat halting its excellent progress of previous years. Home to entertainment giant, Nintendo, Kyoto is praised for investment in its new subway system.

Two cities to have suffered in 2013 are **Madrid** and **Berlin**. The German capital's delay in opening the new Brandenburg Airport counted against the city and, in Monocle's view, its cheap and bohemian image needs replacing with a more mature outlook and Berlin continues to slide. A victim of Spain's economic troubles, high unemployment makes the Spanish capital a less attractive proposition than in previous years and it slips out of the top 25 cities altogether.

Cities making progress

Melbourne, **Tokyo** and **Stockholm** are the major winners in the 2013 edition of this Monocle report.

4.5 Gallup/Healthways Well Being Index

In February 2010, the polling provider, Gallup, and management firm, Healthways, together released a landmark ranking of US cities based on a record survey of physical, social, professional and community well-being.

The study has involved the polling of 1,000 Americans per day, 350 days per year since January 2008. Overall the index is based on more than 350,000 surveys completed in 2012. More than a million surveys have been collected since polling began in January 2008, making the WBI the largest known database of behavioural economics and information concerning holistic well-being. It seeks to be an ongoing process which continues to identify the factors that contribute to well-being, generating more than nine million individual responses by 2035.¹¹²

The survey currently incorporates 42 core questions scientifically designed by experts in economics, psychology and health to measure how respondents fare in all aspects of their lives; physically, emotionally, socially and professionally, as well as to take a daily pulse of how Americans rate the overall quality of their current life and outlook for the future.

The rankings are not intended as a competition and are designed to provide government policymakers, community leaders, media agencies, employers, health plans and healthcare providers with valuably detailed information about where to target policy and investment.

The WBI score for each city is an average of six sub-indices, graded out of 100:

- Life Evaluation - based on the Cantril Self-Anchoring Striving Scale
- Emotional Health
- Physical Health

¹¹² Gallup/Healthways (2012), 'Well Being Index', <http://www.well-beingindex.com/default.asp>

- Healthy Behaviour
- Work Environment
- Basic Access to Necessities

Statements of success and failure

The Well Being Index aims to provide a powerful tool for examining community well-being. Its scope is somewhat different to many indexes, in that it seeks to establish indicators for 'total well-being' – beyond just that of health or quality of life. Successful cities are those which have not only a healthy and longer-lived citizenry, but can develop policies, programmes and solutions across the whole city population.

Residents of large cities with a population of over 1 million typically report higher levels of well-being and more optimism about the future than those in small or medium-sized cities. Furthermore, nine of the 10 cities that fare highest in the category 'life evaluation' - assessments of life now and expectations in five years - host a major university, a big military installation or a state Capital — which the report links to institutions that can provide some insulation from recession

Cities highlighted by the report

Lincoln (NE) is highlighted as being the city where an individual can find the highest personal well-being and quality of life in America. Of metropolitan areas with a population greater than 1 million, **Washington DC** finishes top, surpassing the Californian duo of **San Francisco** and **San Jose**.

The index has underlined national disparities in perceived well-being. While, unsurprisingly, high income communities typically score higher, in previous years most of the highest-scoring cities are found on or near the West Coast of America whereas many of the lowest-scoring cities are in the South.

Once again **Chicago** (87th) and **New York** (100th), like a number of the US's most prominent global cities, have not performed well in the rankings. New York performs particularly poorly in emotional health and work experience. **Chicago** fares somewhat better, recording higher scores for emotional health and physical health. **Las Vegas** is noted for finishing last among all large metropolitan areas in the US and in the bottom quintile overall.

Cities making progress

The North Carolina duo of **Charlotte** and **Raleigh** are the most notable risers to a top 10 traditionally dominated by cities from California and the Atlantic North East.

4.6 Eurobarometer: Perception Survey on Quality of life

The EU's statistical and survey arm Eurobarometer develops regular studies of European urban perceptions. In late 2009 it carried out a perception survey on quality of life in European cities, measuring local opinions in 75 cities in the EU, Croatia and Turkey. This study followed on from earlier surveys in 2004 and 2006. They are used primarily by the European Commission to obtain a snapshot of opinion on urban questions and for comparison against hard data of infrastructure, security and environment. Up to six cities from the larger countries were selected for analysis. In each city 500 residents were interviewed.

Statements of success and failure

Eurobarometer is statistics-driven and does not present normative arguments for urban success and failure. However, new questions in the 2009 survey identified issues of public space and outdoor recreation, indicating that these are more urgent concerns for policymakers and citizens alike. The survey also brings up questions of poverty and social trust, which show an emerging policy commitment to social cohesion in the post-recessionary environment.

Cities highlighted by the report

Citizens in top Northern European cities are the most satisfied across a range of measures. **Stockholm, Copenhagen, Amsterdam** and **Munich** are highly satisfied in terms of health provision, cleanliness and job prospects. Residents in Eastern Europe were in general most likely to be concerned about job prospects and poverty, with **Budapest** and **Riga** notable in these areas. In areas of public space, buildings, cultural facilities and recreation, mid-size cities were typically most likely to top the satisfaction table, with **Malmö, Bordeaux, Oviedo, Cardiff** and **Groningen** notable for strong performance. Larger cities such as **Madrid, Rome, Paris** and **London** all scored moderately well across infrastructural measures.

In terms of the rivalry between London and Paris, both cities have relatively high employment opportunity satisfaction and are favourable about the presence of foreigners (75% and 81% respectively), indicating the belief in diversity. However, London (78%) and Paris (79%) ranked among the lowest western European cities for health service satisfaction, behind top cities **Rotterdam** (91%) and **Munich** (90%). There are greater concerns about poverty among Parisians (83%) than Londoners (71%) and also about the integration of foreigners (39% to 36%). London has been marginally more successful in creating sustainable diversity. Nevertheless, substantially more respondents in Paris (52%) report always feeling safe in their city than those in London (32%).

Housing is a serious concern for Paris residents, named as one of the city's most important problems by 51% of respondents, the highest in Europe. Only 3% agreed that it is easy to find housing at a fair price, compared to **Barcelona** (25%) and **Berlin** (51%).

A key finding of this survey is that many leading cities have residents which are mostly unpersuaded by the benefits of the presence of foreigners in their city. **Barcelona, Vienna, Madrid** and **Brussels** all report 35-45% of its population as disagreeing with the notion that immigrants have a positive effect, while these cities also mostly disagreed (52-64%) with the idea that foreigners were well integrated.

Italian cities overall perform quite poorly in this survey. **Rome** (13%) and **Turin** (11%) have among the lowest employment satisfaction in Europe, while they also report relatively high concern at affording bills (37-39%), alongside Hungarian and Bulgarian cities. All six Italian cities were ranked in the bottom 15 for air pollution satisfaction.

A number of emerging European centres recorded negative scores in certain areas. **Dublin** performed especially poorly in health service satisfaction (57%), comparable to many Eastern European centres. **Istanbul** was notable for having the lowest level of trust between citizens in Europe, with 85% of respondents disagreeing that most fellow citizens could be trusted. On the same lines, Istanbul had the highest proportion of respondents (50%) in Europe who answered that they rarely or never felt safe in the city, and the fourth highest (68%) who disagreed that the city was a healthy place to live.

The cost of housing is a big concern in many major European centres. 77% of Parisians and 65% of Romans strongly disagree that reasonably-priced housing was easy to find, while London was only marginally better (60%). A number of cities in Germany and the UK, including **Berlin** and **Manchester**, recorded much higher citizen satisfaction with house prices, demonstrating the range of costs within the same country.

Cities making progress

Stockholm recorded the greatest increase in the proportion of respondents who agree that good jobs were easy to find - from 20th in 2006 (43%) to 1st in 2009 (61%); a remarkable increase given the economic conditions. Similar job optimism was found in **Hamburg**. Stockholm's improvement is also the highest in terms of perceived foreigner integration and city cleanliness. Elsewhere the Baltic capitals – **Vilnius**, **Tallinn** and **Riga** – all show strong increases in housing satisfaction since 2006 as do **Dublin** and **Belfast**. Eastern European urban perception improvements are most noticeable in the area of infrastructure – especially green space and public transport.

4.7 AskMen Top 29 Cities to Live In

Popular male-oriented internet portal AskMen.com created a ranking in mid-2009 to provide a 'guide to greener pastures', indicating where the best cities to live in are, in light of the financial recession. Its editorial team created an innovative statistical formula to eight lifestyle categories, calibrating the results in conjunction with less tangible city characteristics. In the 2010 survey these categories were adjusted and reduced to seven:

- **Weather** - deviation from the average temperature in the ideal weather city - Los Angeles.
- **Cost of Living** - cost-of-living and national iPod and Nissan 370Z indices.
- **Professional Life** - average income and guaranteed paid time off is guaranteed
- **Dating** - ratio of women to men, level of female education
- **Night on the Town** - nightlife, culinary scene
- **Day on the Town** - cultural calendar assessment, menswear and public transport efficiency.
- **Fresh Air Factor** – proximity to beaches and mountains, green spaces

The global recession meant that criteria such as cost of living and economic stability carry greater weight than in more typical circumstances. The report has been repeated in greater depth in 2010, ranking the 29 best cities in the world.

Statements of success and failure

For readers of AskMen, successful cities are those where there exist professional, romantic and outdoor activities in equal measure. A balance between liveability and affordability on the one hand, and exciting nightlife and relentless energy on the other, represents the ideal city.

Cities highlighted by the report

Many of the world's most established cities are regularly ranked near the very top of this annual index. London's status has benefited from its hosting of the Olympic Games and the wide range of cultural celebrations associated with the Games. As such, the British capital ranks 1st in 2012. **New York**, a previous winner, places a healthy 6th. **Paris** is further down the list, but continues to excel as a daytime venue, while **Hong Kong** is improving its reputation for entertainment, hospitality and recreation. **Melbourne** places in the top 10 consistently, with its exceptional beach and interior environs maintaining its allure.

Further down the list, **Toronto** and **Chicago** perform extremely well in the cost of living measure (9.3/10). **Istanbul** is a notable outstanding performer in the Day on the Town criteria (19/20), thanks to its buzzing art scene and growing reputation for jazz. **Amsterdam** and **Berlin** are also strong cities for daytime activity. **São Paulo** makes a rare showing at 16th, mainly thanks to its exceptional nightlife, with two of the best electronic clubs in the world,

while **Buenos Aires** at 9th also performs very well in this category, indicating an improved reputation among Latin American hubs for clubbing and cuisine. **Istanbul** (18/20) and **Shanghai** (17/20) also lead in Night on the Town due to their events calendar and outstanding culinary scene respectively.

Cities making progress

Mumbai has improved impressively, to 2nd place overall in 2012, because the city offers a deep sense of adventure, backed by improving transport and hip festivals, such as the Sunburn Mumbai music festival and Mumbai International Film Festival. Elsewhere in Asia, **Shanghai** has improved to 5th place, with the city described as the 'showpiece of the world's most fascinating superpower.'

Rio de Janeiro places in the top four, profiting from the double buzz that surrounds its hosting of the 2014 World Cup and 2016 Olympics. And in Europe, **Marseille** performed surprisingly well in 2012, rising to 9th.

In the 2010 survey, many of the world's biggest cities made a return to the top of the rankings, after 2009 saw the likes of **New York**, **London** and **Tokyo** perform surprisingly badly. **Madrid** has also made a comeback on **Barcelona** after being ranking well below its rival in 2009. The 2010 report also features a number of emerging Middle Eastern entertainment cities, whose political instability is seen as less of a deterrent than previously. These include **Beirut**, **Tel Aviv**, and **Istanbul**.

4.8 CI/IFC Livability Index, India

The Confederation of Indian Industry (CII) and Institute for Competitiveness, India (IFC) created a national Livability Index for 2010. The report has been updated in 2011 with the release of the 2nd edition of the index. The data-driven report features a comprehensive study on 50 cities, up from 37 in 2010, ranked on the basis of eight pillars, including demographics, education, health and medical standards, safety, housing, socio-cultural political environment, economic environment and natural build and planned environment basis. More than 300 indicators were assessed over a 10 year time line series across 20 constituent sub-pillars.

The study is said to be indicative of the quality of life across India, with leaders emerging as an aspirational benchmark of urban development.

Statements of success and failure

Alongside measuring India's cities against each other, the Livability report provides commentary on why Indian cities are generally low performers on liveability standards compared to international cities. The authors of the report encourage each city to leverage off unique selling points and create competitive advantages, rather than rely solely on inherited configurations. They point to the question of policymaking, city planning and international perspective as key to Indian cities being successful and competitive.¹¹³

Cities highlighted by the report

Delhi is the leading city in India on this measure, topping the overall rankings and posting 1st place results in the demographic, education and healthcare pillars while recording top 5 results in the socio-cultural, economic and planned environment categories. The next leading cities are **Mumbai**, **Chennai**, **Bengaluru**, **Kolkata**, **Hyderabad**, **Ahmedabad** and **Pune**. Delhi, a clear leader on this index, is followed by Mumbai, Kolkata and Hyderabad while

¹¹³Institute of Competitiveness (2011), 'Livability Index 2011. The Best Cities in India', <http://competitiveness.in/wp-content/uploads/2012/01/Livability-Report.pdf>

Bengaluru drops from 4th in 2010 to 18th in 2011. Mumbai maintains its ranking as best for socio-political environment - with **Hyderabad** also featuring strongly on this measure – while Mumbai is considered the national 2nd best for city planning, usurped in 2011 by **Noida**.

Perhaps surprisingly Kolkata ranks as India's safest city – outperforming a raft of smaller provincial centres as well as India's major metropolises. Notably, whereas the biggest cities in India ranked modestly for health and medical standards in 2010, with Mumbai 12th, Delhi 17th and other low performances for Chennai, Hyderabad, Jaipur, and Pune, the data collected in 2011 indicates a full reversal of fortunes with just **Gurgaon** entering the top five, alongside Delhi, Kolkata, Mumbai and Hyderabad.

It is noted that cities in the surrounding Delhi region have fared poorly in the study, with Gurgaon, Noida and **Faridabad** ranked 50th, 22nd and 45nd respectively.

Cities making progress

This index's methodology lends itself to dramatic year-on-year changes and, as such, establishing lasting trends is not without difficulty. In the top echelons of the index, Kolkata has climbed 2 places and now completes the top three behind Delhi and Mumbai.

4.9 Symantec: Riskiest Cities for Cybercrime (US)

Anti-virus firm Symantec partnered with Sperling's BestPlaces to develop a ranking in 2010 for cyber-crime. The collaboration relied on data from Symantec's security response team for factors including the number of malicious attacks, infected machines and spam-spewing zombies per capita. Sperling's contributed data on the prevalence of computer ownership, Internet use and potentially-risky online activities, including online banking and online shopping. Also factored into the rankings was the number of free Wi-Fi hotspots per capita. 2012 saw the latest edition of the index.

Statements of success and failure

Cities whose population spend more time online are considered at greater risk. For cities to reduce the impact of cyber-crime, they are advised to inform their publics of the risks and provide appropriate precautions.

Cities highlighted by the report

Washington DC ranks near the top in each category with particularly high smartphone usage and high in malware and cyber attacks. **Seattle** came in 2nd, an improvement on its top ranking in 2010. High email and social networking use in the city combines with high proportions of Wi-Fi hotspots and high internet usage still make the city high on cybercrime, sharing a number of these characteristics with 3rd-placed **San Francisco**.

People in **Boston** and **Atlanta** are prone to high-risk internet behaviour such as high numbers on online financial transactions and the Georgian city is particularly vulnerable to IP spamming.

At the other end of the spectrum **Detroit** is regarded the least risky online city. Low Wi-Fi usage, conservative transaction habits and relatively low computer use in the city all combine to make the city low risk.

Cities making progress

Sacramento is the only newcomer to this index, scoring consistently high across the board.

4.10 Richard Florida and Charlotta Mellander: Top 25 Cities for College Graduates

Esteemed creative cities commentator Richard Florida has long been a pioneer of comparative urban assessment in the US. In 2011, he and colleague Charlotta Mellander devised a study to rank 223 American metropolitan areas in terms of attractiveness to young and ambitious talent. Published in *The Atlantic* magazine in May 2011, the premise of the ranking is that even in a highly mobile employment universe, the location of a graduate's first job is often defining in terms of future lifestyle and prospects.¹¹⁴

Initially, the main factors used to calculate this ranking related to the intensity and quality of the urban job markets. Other factors included the proportion of young adults and college graduates, which enables young talent to forge personal and professional networks. The availability of rental housing was also factored, while affordability was not, with the authors stating that affordability is initially less important as an attraction for ambitious talent. Finally, data on earning potential and marriage proportion were assessed.

Statements of Success and Failure

This ranking is not especially focused on the 'creative' dimension of cities that Richard Florida is acclaimed for having introduced. The report states that 'given the truly frightening state of the economy, we decided to focus this year's rankings mainly on the job market and economic conditions'

A city performing well in this ranking, hosts over 40% professional or creative jobs, median first-year earnings above US\$50,000, over 15% young people aged between 25-34, and over 40% which rents housing.

Cities highlighted by the report

Washington DC and its surrounding region ranks first in 2011. Its job market is considered highly varied, with huge depth in federal government to global firms, think tanks, start-ups, and NGOs. The capital is just ahead of **San Francisco**, which would probably have ranked top, were it not for a high unemployment rate; the metro area has exceptional density of young renting, highly skilled and highly-paid graduates. In 3rd place is **Austin**, which hosts the highest proportion of young people of all 223 metropolitan areas.

The **New York** metropolitan area ranks only fifth, despite its popularity among those seeking roles in banking, management, media, and entertainment and creative industries. This is because the wider metropolitan area, where the demographic is older and unemployment is higher, brings the scores down.

San Jose, in the heart of Silicon Valley, places 7th, continuing to offer premium attraction for ambitious technologically minded graduates. **San Diego** (9th) also achieves strong scores across the board and has a high renting population. **Seattle** (8th) records very strong results for median earnings and for percentage of young college graduates, as does **Boston** (6th), which also records one of the highest scores for professional/creative jobs, at 45.6% of the population.

¹¹⁴ Richard Florida (2011), 'America's Top 25 Cities for Recent College Graduates', *The Atlantic*, May 19th, <http://www.theatlantic.com/national/archive/2011/05/americas-top-25-cities-for-recent-college-graduates/238972>

Strong performer **Houston** ranks only 24th in this index, with a fairly low percentage of professional/creative jobs (35.7%) and college degree owners (28%). **Los Angeles** ranks 19th, mainly due to a high unemployment rate and low professional/creative jobs count, although it does excel as a metro area high in single populations who rent.

The report identifies the performance of smaller college towns - **Madison, Boulder, and Iowa City** – which host highly skilled, resilient economies and which are capable of retaining graduates as they decide their career path.

Notable absentees from the top 25 include the metropolitan regions of **Chicago** and **Miami**.

Cities making progress

Larger more established cities re-asserted their status in 2011. **Washington DC, San Francisco, Boston, and New York** all improved places on 2010, as cities like **Ithaca** and **Ann Arbor** lost out. Middle-sized creative hubs, such as **Austin** and **Seattle**, also gained ground having already been favourably placed.¹¹⁵

4.11 Portfolio.com/The Business Journals: Best Places for Young Americans to Live

In 2010 Portfolio.com/bizjournals released an index assessing the prospects of American cities for young people in the post recession environment. It is based largely on economic imperatives which are seen to be more significant to young job-seekers in a recessionary national economy. The study team analysed 67 US metropolitan areas with populations above 750,000, searching for qualities that would appeal to workers in their 20s and early 30s. The study's 10-part formula gave the highest marks to cities with strong growth rates, moderate costs of living and substantial pools of young adults, who are college-educated and employed.

Statements of success and failure

The report is based on the conception that successful cities will have large concentrations of young affluent populations with degrees and high quality jobs. It does not analyse cultural or quality of life factors, but considers the economic milieu as key to city success in this period.

Cities highlighted by the report

The Southwest of the US emerged as the most popular new region where young Americans have the best chance of establishing themselves in a recessionary economy with a high quality of life. Five Southwestern metropolitan areas, led by **Austin**, ranked in the top 10. Austin's addition of almost 100,000 jobs since 2005 and fast employment-growth rate are central to its top position. Four south western metropolitan areas - **Houston, Oklahoma City, Dallas, and Tulsa** – were ranked between 5th and 8th in the rankings, while **Washington DC, Raleigh, and Boston** are the three runners-up in the study's rankings. Washington DC and Boston's strengths were noted as its large concentration of educated and well-paid young adults, while Raleigh has a very fast growing population

The least desirable market for young adults, according to the Portfolio.com/bizjournals study, is **Detroit**, attributed to the problems associated with car corporations' decline. The city is highlighted for having the nation's worst

115 Richard Florida (2011), '25 Best Cities for College Grads', *The Daily Beast*, <http://www.thedailybeast.com/galleries/1662/1/?redirectURL=http://www.thedailybeast.com/blogs-and-stories/2010-05-26/best-cities-for-college-graduates-from-ithaca-to-seattle/#>

unemployment rate for young adults, the slowest rate of income growth, and the biggest decline in overall employment.¹¹⁶

Cities making progress

No progress can be verified.

4.12 NAVTEQ: Europe's most congested cities

NAVTEQ is a leading map and location-based service provider, and in 2011 entered the city ranking field, issuing an expert ranking of the Top 10 most congested rush hour cities in Europe. It uses data from 13 countries in Western Europe, so does not offer an exhaustive account of urban congestion, only an indicative set of results. The firm utilised billions of GPS probe data points and its sizeable sensor network to calculate the ranking.¹¹⁷

Statements of success and failure

NAVTEQ's review is very sparsely detailed. Its survey judges where the greatest rush hour delays occur, but does not indicate what a city might need to do to reduce or minimise congestion.

Cities highlighted by the report

London, Paris and Dublin were the three worst cities in Europe in this study. Berlin and Hamburg, ranked 4th and 6th are Germany's representatives in the top 10, while the positions of Lyon (8th) and Marseille (10th) mean France is the only nation with three of the 10 most congested cities. Manchester makes an appearance in 7th place, and Stockholm is Scandinavia's only representative, in 5th.

Cities making progress

NAVTEQ's study is its first and has very minimal information, so no gauging of progress is possible as yet.

4.13 Cycling Plus: Britain's Top 20 Cycling Cities

Leading bike publication Cycling Plus magazine created a new ranking of the UK's top 20 cycling cities in April 2010. Its report examined cycling conditions in the 20 biggest cities and towns by population. The cities were ranked according to a series of innovative factors, including road quality, cycle commuter numbers, number of cycling club members (British Cycling or CTC affiliated), number of independent bike shops, levels of bike theft, the number of traffic-free bike lanes, casualties, levels of asthma-causing PM10 diesel fumes, and rainfall.¹¹⁸

Statements of success and failure

The Cycling Plus ranking acknowledges that even the best UK cities are not high performing cities for bike provision by international standards. Even in top-ranked Bristol, the reporteditor explained that 'local cyclists still

¹¹⁶ Portfolio.com (2010), <http://www.portfolio.com/business-news/us-uncovered/2010/03/15/austin-washington-raleigh-and-boston-top-2010-rank-of-best-cities-for-young-americans>

¹¹⁷ NAVTEQ (2011), 'NAVTEQ Cites Top 10 Most Congested Cities in Europe', <http://press.navteq.com/index.php?s=4260&item=23346>

¹¹⁸ BikeRadar (2010), 'Cycling Cities League Table Sparks Controversy', <http://www.bikeradar.com/road/news/article/cycling-cities-league-table-sparks-controversy-25634>

feel that progress isn't being made quickly enough,' and that traffic, theft and infrastructure are problems in most British cities.

Cities highlighted by the report

Bristol is ranked the UK's most bike-friendly, big city. The city is remarked upon for also being named the first 'cycling city' by the Department for Transport in 2007, which gave it access to £20m in extra funding for bike-related schemes. Bristol is a leader in terms of number of riders, bike shops, traffic free routes and low pollution levels. Bristol edged out **Nottingham**, **Leicester** and **Manchester**.

London is one of the least hospitable to cyclists, ranked 17th, above only **Glasgow**, **Birmingham** and bottom-placed **Bradford**.

Cycling Plus' selection of large cities excluded traditional bike hubs such as **Cambridge** and **York**.

Cities making progress

This study was the first of its kind, released in April 2010, with therefore no indication of short or long-term progress.

4.14 AskMen: World's most bicycle-friendly cities

Continuing its theme of informal but topical urban rankings, in 2011 AskMen magazine presented its list of the top 10 cities in the world for using a bicycle. Recognising that the bicycle has had a resurgence and is now a 'major part of urban community transportation plans', the magazine explores the extent of bicycle infrastructure and commuter uptake.

Statements of success and failure

AskMen distinguishes between cities that make token gestures towards cycling and those that make a comprehensive commitment to this mode of transport within city planning. It argues that large cities, like Paris and London, have made important steps to encourage bicycle use, but remain too sprawling and car-dominated to be considered models of bicycle-friendly cities.

Cities highlighted by the report

The leading cities are evenly spread among Northern Europe, South America and Northern cities in North America. **Amsterdam** ranked top in the list, mainly due to the fact 40% of commuters travel by bike. The city is praised for its bicycle infrastructure and facilities at major, inter-modal destinations. **Copenhagen** ranks second and **Trondheim** 10th for similar reasons. In 3rd and 4th place are the less familiar cycling cities of **Bogota** and **Curitiba**, where car ownership is low and efforts to curtail vehicle traffic are robust. Curitiba, in particular, is noted for its bike lane provision and strong civil society culture supporting cycling.

The only Asian city to make the top 10 is **Beijing**, which despite heavy car congestion, is seen as a leader in terms of encouraging bicycle use for commuting as the most effective means of transport.¹¹⁹

Cities making progress

This report is currently a one-off, so no progress can yet be gauged.

4.15 Bicycling Magazine: Most Bike-Friendly Cities in America

Leading US bike publication Bicycling Magazine published its study of top American cities for bike-riding in April 2010. With a slightly more informal set of judgements than in most indexes, criteria here include the number of bike lanes, municipal bike racks, bike boulevards, government interest in cycling improvements and local bike culture. A vibrant and diverse bike culture and 'smart, savvy' bike shops are also rated within the index.

Statements of success and failure

The Bike-Friendliness study acknowledges that US cities have 'come a long way' in recent decades, such that many hubs have excellent provision for bicycles. While many are said to be behind leading European hubs, a successful city is one where cycling is an everyday way of life for a substantial proportion of its population, via extensive bike lanes and sharing programmes.

¹¹⁹ AskMen (2011), 'Top 10: Bicycle-Friendly Cities', http://uk.askmen.com/top_10/travel/top-10-bicycle-friendly-cities.html

Cities highlighted by the report

Minneapolis ranks overall highest in the US in terms of bicycle friendliness. This represents a shift from **Portland**, which has ranked highest in most national bike-related surveys in the past. In its assessment of Minneapolis, *Bicycling* magazine pointed to the fact that the city has nearly doubled its percentage of bike commuters in just three years and its pledge to install new bike racks and start an innovative bike-share programme. The city was praised for the large number of miles of on- and off-street bicycle facilities, availability of indoor bike parking and other cycling-friendly facilities. Meanwhile Portland remains strongly ranked in 2nd with praise for its innovative programmes, from designated bike-only areas at traffic signals to free bike lights.

Other high-performing cities include **Seattle** (4th), **San Francisco** (6th), and **New York** (8th). Seattle is noted for its 10-year, US\$240m bike master plan that seeks to triple the number of journeys made by bike and add 450 miles of bike paths.¹²⁰

The index as an aside also highlights five international examples of bike-friendly cities. These are **Amsterdam**, **Bogota**, **Barcelona**, **Copenhagen** and **Berlin**.¹²¹

Cities making progress

There is no indication of progress or decline in this report.

4.16 Forbes: Top 25 Cities for Shopping

Forbes' catalogue of lifestyle-led rankings continues with its shopping index. The data-informed rankings broaden the scope of retail preferences to include factors such as ease and affordability. Cities with high numbers of shopping malls and low sales taxes therefore perform disproportionately well.¹²²

Statements of success and failure

A largely irreverent ranking, successful cities are presumed to be those who have maximised the retail opportunities available to their citizens, while also minimising costs as much as possible.

Cities highlighted by the report

Cities in the South perform especially well, as America's most well-known retail hot spots were ranked poorly due to high price indexes and limited malls. **Houston** is surprisingly ranked 'number 1' in the US, praised for its boutiques, 54 shopping malls and cheap prices. Houston is followed by fellow Texan city, **Dallas**, followed by less established retail hubs such as **Baltimore**, **San Antonio**, and **Columbus**.

Of America's larger international cities, **Chicago** performs moderately at 15th, with **Los Angeles** at 16th, the latter hosting over 40,000 retail locations. **New York** is only 22nd because of prohibitive prices and the fact it hosts only 9 shopping centres.

¹²⁰ *Bicycling Magazine* (2010), <http://www.bicycling.com/topbikefriendlycities/slide5.html>

¹²¹ *Bicycling Magazine* (2010), <http://www.bicycling.com/article/0,6610,s1-3-583-22221-1,00.html>

¹²² Forbes (2010), 'Americas 25 Best Cities for Shopping', http://www.forbes.com/2010/12/13/best-cities-for-shopping-forbes-woman-time-retail-walmart-sales-tax_slide_2.html

Cities making progress

There is no historical timeline to this ranking, although this may gradually change.

4.17 [portfolio.com/The Business Journals: Top Retirement Metropolitan Areas](#)

Increasing interest is being shown in the lifestyle choices of older people. It is estimated that 1.4 million senior citizens search for a new place to live each year in the US. In this index, six statistical indicators have been used to identify America's most popular retirement areas, assessing over 150 metropolitan and micropolitan areas, where at least 40,000 residents are classified as over 65. Factors such as median age, and influx of older persons, were all included.¹²³

Statements of success and failure

Cities that are successful at attracting senior populations are in this index considered to be those with an already high proportion of senior citizens as a share of total population, a high median age and a high incoming rate of older populations. No lifestyle elements are incorporated here.

Cities highlighted by the report

No large economic hubs perform well in this index. Warm Southern metro areas are the most popular choice currently. The 'number 1' region is Bradenton-Sarasota, on the Western Florida coast, followed by two Arizona regions - Prescott and Lake Havasu City. In each of these areas around a quarter of the population are over 65, and the median age is almost a decade above the average. The remaining seven members of the top 10 are all in Florida

Of the larger urban areas, the **Tampa** (11th) and **Miami** (17th) regions in Florida are the most popular, followed by **Phoenix**, Arizona. Other less likely cities to perform well are **San Francisco** (34th) and **Seattle** (50th). Less popular major cities include **Chicago** (111th) and **Boston** (126th).

Cities making progress

This is the first index of its kind, and progress measures are unavailable at present.

4.18 [Farmers Insurance Group of Companies: most secure large cities in the US](#)

This study of large metropolitan areas in the USA was commissioned by the Farmers Insurance Group of Companies and compiled by Sperling's BestPlaces. The study takes into account several factors: economic stability, crime statistics, extreme weather, risk of natural disasters, housing depreciation, foreclosures, air quality, environmental hazards, life expectancy, motor vehicle fatalities, and employment numbers.

123 Portfolio.com/bizjournals (2010), 'Retirement rankings for 157 metro areas', <https://www.bizjournals.com/lo/gin/buffalo?r=%252Fbuffalo%252Fdatacenter%252Fretirement-rankings-for-157-metro-areas.html>

Statements of success and failure

The premise of this report is that large metropolitan areas are “islands of security” when they offer economic stability thanks to educational and governmental institutions, or gentle climate, low crime and strong health record.

Cities highlighted by the index

For the seventh consecutive year **Bethesda** has ranks as the safest large city in the United States. The Maryland metro boasts low unemployment and low personal crime rates, while its long life expectancy rate also boosts the overall picture of well-being.

Grand Rapids shoots up the rankings, debuting in the top 20 in 2nd position overall. **Pittsburgh** is the first of the country's larger metros to feature in the top 20, as it has done on for the last six years and moves up to 3rd place ahead of **Austin**. Similarly it is the fifth year in a row that Austin makes the top 20, this year improving from 10th in 2011 to 4th.

Cities making progress

Cities on the Pacific coast appear to be making strides in this year's survey: **San Francisco**, **San Jose** and **Portland**, in particular.

4.19 Careerbliss Happiest Cities to Work

In February 2011, online career firm CareerBliss announced its first Happiest and Unhappiest Cities to Work, based on figures from over 200,000 firm reviews. From these reviews it evaluated work happiness based on eight factors: growth potential, compensation, benefits, work-life balance, career advancement, senior management, job security and employee recommendation.

Statements of success and failure

Careerbliss state that cities with high concentrations of technology jobs have high levels of satisfaction due to the remuneration levels and working conditions.

Cities highlighted by the report

Metropolitan areas in Florida and California tend to achieve the highest levels of job satisfaction among residents. Technology hub **San Jose** leads the way, ahead of **San Francisco**, while **Los Angeles** and **San Diego** also appear in the top 10. All four Californian metro areas have high average annual salaries alongside strong opportunities for career development. **Miami** and **Jacksonville** rank 4th and 3rd respectively, indicating the strong emphasis on work-life balance and growth prospects in these regions. In addition, the Southern cities of **Birmingham, Alabama**, **Memphis, Tennessee**, and **El Paso, Texas**, perform very well, suggesting there is no obvious link between geography, urban scale and job happiness. **Chicago** ranked only 24th of the 50 cities, while **New York** still rates well for job satisfaction at 14th. **Minneapolis** finished bottom of the study with very low scores in all fields, and low average salaries of US\$62,000.

Cities making progress

As the first study by CareerBliss, no comparison over time is possible.¹²⁴

4.20 Kiplinger Top 10 Cities for Commuting

Kiplinger has been active in creating national level indexes for several years. In 2011 it devised a ranking of the top 10 cities (with a population above 1 million) for commuters in the US, based on a combination of affordability, public transport use and time.¹²⁵

Statements of success and failure

Like many indexes created in the US, there is more of a car-friendly analysis than would be found in European rankings. Top cities are seen to have strong road provision, low congestion costs and a high supply of central parking facilities. Many of the cities at the top of the index have a public transport usage of less than 5%.

Cities highlighted by the report

None of the major cities in the US feature in the top 10. Instead mid-sized cities in the North East and Midwest mostly occupy the list. The leading city is **Rochester**, NY, which despite boasting public transport uptake of less than 3%, has a very low annual congestion cost of just US\$273, thanks to an average time of just 19 minutes daily, compared to the national average of 25 minutes. **Columbus**, **Cincinnati** and **Cleveland**, all in Ohio, feature in the top 10, with average journeys of less than 13 miles and annual costs less than US\$500.

Cities making progress

This is the first report measuring commuting by Kiplinger, so no changes in recent years can be detected.

4.21 TomTom Congestion Index (Europe and North America)

Satellite Navigation device manufacturer TomTom has, since 2007, collected data from its customer's navigation devices to analyse accurately congestion in major cities in Europe and North America. The congestion data is primarily used by TomTom to improve route guidance for its customers, but is also published in this report for the general public, industry and policymakers with accurate and impartial data on urban congestion. TomTom asserts the result is *'the most accurate and comprehensive barometer of traffic congestion in major cities'*¹²⁶.

The index's methodology contrasts off-peak travel times during the quieter moments in a city's road network with peak travel times. The difference in the figures is expressed as a percentage. The report is also able to identify peak congestion days and times through the calendar.

TomTom has produced separate reports based on the same methodology in Europe and North America for 2012. The results of both reports are summarised here.

124 CareerBliss (2011), 'CareerBliss Announces the Happiest and Unhappiest Cities to Work',

<http://www.businesswire.com/news/home/20110201007603/en/CareerBliss-Announces-Happiest-Unhappiest-Cities-Work>

125 Kiplinger (2011), '10 Best Cities for Commuters', http://www.kiplinger.com/tools/slideshows/slideshow_pop.html?nm=Commutingcities

126 TomTom (2013), 'TomTom Congestion Index', http://www.tomtom.com/en_gb/congestionindex/

Statements of success and failure

A commuter in Istanbul, Europe's most congested city, with a daily 30-minute drive to work will experience an annual delay amounting to 118 hours. Impacting upon a city's economic, social and environmental performance, the effects of traffic congestion can be damaging to a city's overall performance and reputation.

Cities Highlighted by the Report

TomTom finds that the most acute congestion occurs in European cities. **Istanbul** is the most congested city across the studies with 57% congestion. During the evening, peak congestion stands at 125% and, as mentioned above, a half-hour commute in the Turkish city will result in combined annual delays of 118 hours. The next most congested cities are again in Europe, with **Warsaw** (45%), **Marseille** (42%) and **Palermo** (40%) all posting very high levels of congestion.

Paris and Rome complete the top positions – each of the capitals suffers congestion level of 34% - the same figure as Los Angeles - the most congested city in North America. The North American top five is completed by **Los Angeles'** Californian neighbour, **San Francisco** which, with 29% congestion, ranks 3rd and is joined by three Canadian cities **Vancouver** (33%), **Montreal** (28%) and **Toronto** (27%) which rank 2nd, 4th and 5th respectively.

A trend of note is that North American cities universally experience the most severe congestion during the evening rush, which is significantly busier than the morning peak. In Europe, meanwhile, the picture is more varied, although congestion in European cities tends to occur in the morning rush.

The least congested cities featured are in Europe. Of the 10 least congested areas, all are in Europe and eight are Spanish. **Madrid** is joined by a number of regional Spanish cities including **Seville** and **Valencia** with congestion levels at 15% and 10% - less than half that of the most congested centres. **Malmo**, **Bern** and the Eastern **Ruhr** conurbation complete the list of the survey's least congested cities.

In North America, **Edmonton** is the pick of the Canadian cities with just 14% congestion, a figure only beaten by **Phoenix**, which suffers 12% congestion – the lowest level of major cities in the continent. **Minneapolis**, **Dallas** and **Detroit** are other major cities posting relatively low congestion levels.

Cities Making Progress

In North America a number of cities have posted year-on-year decreases in congestion levels. **Edmonton**, **Ottawa** and **Washington DC** posted 7, 3 and 2% drops in congestion since 2011. In Europe **Bern**, **Rome** and **Milan** have made the greatest annual improvements with 10, 8 and 6% reductions in congestion, respectively.

4.22 WalkScore Walking and Public Transit Rankings

This US-focussed index ranks the accessibility of both public transit systems and their walkability in US cities. Public transit is graded by calculating the total number of public transit routes and their frequency, weighted by mode of transport with a distance penalty factored in. The results are then normalised and ranked out of 100.

For walkability 'WalkScore' ratings, the authors utilise the 'Street Smart' Walk Score algorithm, which calculates walking distances from an address to a diverse set of standardised amenities, which reflect day-to-day living needs. Again marked out of 100, the higher the score the shorter the distance to walk to the local amenities.

Statements of success and failure

This index utilises sophisticated quantitative techniques to assess the openness of a city's mass transit system and the level to which a city can be readily navigated on foot. Both factors are key indicators in wider considerations of a city's liveability and socio-economic performance.

Cities highlighted by the report

New York City once again ranks as both the United States' most walkable city and the centre with the most accessible public transport. Scoring 85.3 on walkability, the report's authors say that most errands can be carried out in New York City on foot. Meanwhile, the 'Big Apple' also tops the public transit index with 81 points, with most journeys in the city easily accessible by public transport.

On public transport, **San Francisco** comes a close second with 79.9 points, well ahead of **Boston** (74), **Washington DC** (69) and **Philadelphia** (68). Raleigh in **North Carolina** brings up the rear in the top 25 major cities scoring just 23 points indicating that the majority of errands in the city will require alternative forms of transport.

Once again, San Francisco comes a close 2nd behind New York in the walkability rankings with 84.9. The Californian city is then followed by Boston (79.2) **Chicago** (74.3) and Philadelphia (74.1) which all score well. Washington DC follows close behind with a creditable 73. Southern cities dominate the lower rankings in the walkability top 50, with **Jacksonville**, **Nashville**, **Oklahoma** and **Memphis** all in the bottom five.

Cities making progress

With major progress difficult to establish quickly, the top rankings in this index remain unchanged.

4.23 Reconnecting America: Are We There Yet?

Reconnecting America is a US not for profit organisation that advises civic and community leaders on how to overcome community development challenges in order to enhance communities as a whole. This index, focussed on physical connectivity – in particular transit infrastructure – but which also takes into account other socio-economic factors, has collected data on 33 indicators in order to examine existing conditions of communities and to track progress at the regional level in all 366 Metropolitan Statistical Areas in the United States.

The 33 indicators take into account factors such as:

- Percentage of jobs near existing fixed-guideway transit
- Percentage of blocks smaller than 6 acres
- Percentage of households with no car more than a mile from a grocery store
- Percentage of jobs accessible by transit (within a 45-minute commute)

The index's aim is to identify *complete communities* – those with high levels of regional connectivity and cohesion - and *opportunity areas*, those regions which lack regional cohesion but which have, or have potential to create greater levels of connectivity.

Statements of success and failure

The authors believe that when communities offer the services, amenities and opportunities people require, regions have the chance to become *complete communities*. Complete communities, boasting factors such as high school graduation rates, reduced levels of obesity and reduced traffic congestion are linked to more people walking and cycling and increased community engagement. Subsequently,

“children live in safe and affordable housing, and we see citizens getting active in the democratic process and the creation of civic environments that foster more economic activity and jobs — which gives the US an economic competitive advantage”.

Cities highlighted by the report

The Reconnecting America Index reveals two standout performers in the largest city category. **New York** achieves four A grades and coming top of a number of the indicators. In the Living section the ‘Big Apple’ and its surrounds are credited with having the highest level of access to bus and rail – 99% of inhabitants. 44% of New Yorkers, nearly double the next best performer, have close access to fixed guidance transit with 63% of the population living in *opportunity areas*, again, a considerable distance ahead of any other major urban area. In the *moving* criterion, New York is also the top ranked city for transit connections to existing jobs, has the highest number of jobs in *opportunity areas* and the highest employment density in the US. In terms of mobility, New York has more than double the number of fixed-guidance transit units than any other area (862), and at 30%, has a greater proportion of its population using mass transit than any other and at 6.5% the greatest number of residents walking or cycling to work. New York also has the lowest ratio of fast food outlets to ‘healthy’ establishments in the US at 1.87%.

San Francisco is the only other major city to score straight As and scored particularly highly in terms of the number of jobs in opportunity areas and the highest percentage of transit stations within opportunity areas. The region has the highest percentage of its population living near parks. The city is commended by the authors for the In, the US\$50m Transit-Oriented Affordable Housing Fund which “provides flexible financing that allows non-profit and for-profit developers to purchase and/or develop property near public transportation throughout the nine-county region.”¹²⁷

Boston and **Los Angeles** are the next highest scoring cities. Highlights for the former include coming second in the percentage of households living near fixed guidance transit, second in the percentage of commuters walking or cycling and top in pedestrian safety. Los Angeles scored particularly well in terms of access to local amenities with the lowest propensity of *food deserts* and the fewest residences more than a mile away from a grocery store.

The **Riverside** region in California and **Dallas-Fort Worth** were the lowest scoring of the major cities. The report found that both regions are predominantly suburban and disconnected from transportation, amenities and jobs.

Cities making progress

This is the first Reconnecting America report of this kind and as such no comparison is possible.

¹²⁷ Reconnecting America, ‘Are We There Yet? Creating Complete Communities for 21st Century America’, <http://reconnectingamerica.org/assets/PDFs/20121001AreWeThereYet-web.pdf>

City	Living	Working	Moving	Thriving
Atlanta	C	D	D	D
Boston	A	A	B	C
Chicago	B	B	B	B
Dallas-Fort Worth	D	D	D	C
Detroit	C	C	D	C
Houston	D	C	C	D
Los Angeles	B	B	B	A
Miami	B	C	B	C
Minneapolis-St. Paul	C	B	C	B
New York	A	A	A	A
Philadelphia	B	B	B	C
Phoenix	D	C	C	C
Riverside	D	D	D	D
San Diego	C	C	C	B
San Francisco	A	A	A	A
Seattle	C	B	B	B
Washington DC	B	A	B	B

4.24 QS Best Student Cities 2012

QS's inaugural Best Student Cities Index supplements the organisation's annual World University Rankings Index, providing a holistic tool through which to compare and rank the relative merits of the world's major academic centres. To qualify for the survey, a city must have a population of at least 250,000 and be home to two institutions ranked in the QS World University Rankings. 92 Global cities were able to meet these qualification criteria, with the top 50 making the shortlist.

QS utilises 12 indicators, drawn from existing research compiled in other QS reports or by independent third parties. Indicators are divided into five categories of equal weighting:

8. **Ranking** – the collective performance of the city's universities based on the QS World University Rankings.
9. **Student Mix** – incorporating total student population, number of international students and ratio of international students.
10. **Quality of Living** – utilising the Mercer Quality of Living Survey, 2011.
11. **Employer Activity** – ranking the views of both domestic and international employers.
12. **Affordability** – utilising the Mercer Cost of Living Index, 2011 and the Big Mac Index to measure the cost of living.

The scores for each category are combined and scaled to the leading city in each category, which receive 100. With 100 points available for each of the categories, the rankings are marked out of a theoretical maximum of 500.

Statements of success and failure

Although no new research has been undertaken in the compilation of this index, QS have, nonetheless, by applying the data gathered in the well-respected indices listed above, produced a well-rounded assessment of what constitutes a leading university city from the perspective of the student. The key student drivers highlighted by this index are the quality of education and lifestyle that the city can offer and the employment prospects that the city, or that city's reputation, can offer upon graduation.

As an internationally-focused index, extra weighting is given to indicators which highlight that a city is particularly strong from an international perspective; for example the number of international students and the rankings of international employers are weighted higher than equivalent domestic figures.

Cities highlighted by the report

Paris tops this inaugural index, scoring particularly highly in the university rankings, quality of living and employer activity criteria. Despite Paris' highest rated institution only figuring in 33rd position in the QS universities rankings, with 16 ranked institutions (more than any other city) and an academic population of nearly a quarter of a million, the French capital offers enormous breadth of opportunity for students. Combined with the city's renowned cultural life and solid employment prospects as '*Parisian graduates are targeted by a vast range of employers throughout the continent*',¹²⁸ Paris convincingly claims top spot in this index.

Paris is followed in this index by two more cities of academic renown. **London**, ranking second in the index, boasts 12 ranked institutions including the London School of Economics, University College London and Imperial College – all ranked inside QS's elite, top 10 institutions. A major financial and corporate hub, London, like Paris, offers students a fertile recruitment market and one of the most multicultural and dynamic social scenes anywhere in the world. High accommodation costs and the increase in tuition fees in England are factors in making the cost of studying in London relatively high compared to its rivals.

The top three is completed by **Boston** – encompassing neighbouring Cambridge. Harvard and MIT, placed 2nd and 3rd respectively in QS's rankings are among five ranked institutions in the metropolitan area. The concentration of elite higher education establishments and the proximity to the open spaces of one of the United States' most historic and attractive cities make Boston a world-class proposition for students.

Whereas the QS top universities Index is dominated by English speaking institutions, this index, taking into account a wider range of city-focused criteria produces more varied results. Half of the top 10 (if one considers Montreal as a predominantly francophone, albeit bilingual, city) is non-English speaking. With **Vienna**, **Zurich** and **Berlin** joining Paris and **Montreal** at the top end of the rankings. The Australian duo of Melbourne (4th) and Sydney (6th) are the only entrants from the Asia-Pacific region as Asian cities, as was the case in the SQ university rankings, struggle to gain recognition in the premier ranks of global cities of learning. Singapore is the highest ranked Asian city (12th), **Buenos Aires** the highest in Latin America (24th) and **Cairo** the top rated African city (48th) in a list still dominated by cities in North America, Europe and Australia.

128 QS (2012), 'QS Best Student Cities 2012', <http://www.topuniversities.com/student-life/best-student-cities/2012/paris>

Attributes among the top 10 student cities ¹²⁹

Rank	City	Student Mix	Quality of living	Employer Activity	Affordability
1	Paris	85	91	96	54
2	London	87	88	89	41
3	Boston	85	89	83	44
4	Melbourne	100	94.5	84	28
5	Vienna	99	99.5	81	62
6	Sydney	94	97	81	25
7	Zurich	84	99	81	51
8=	Berlin	81	95	57	71
8=	Dublin	92	91.5	70	43
10	Montreal	85	93	68	46

Cities 2012 - Making Progress

Being the first edition of this survey it is not possible to assess progressive trends.

4.25 SportBusiness Group Ultimate Sports Cities

SportBusiness Group has devised an impressive ranking of cities according to their sporting facilities and credentials. This benchmark is quite exclusive, with only 25 cities considered based on their history of hosting sports events. Judges assess global locations based on very wide ranging criteria that rivals the considerations of nominating bodies, such as the IOC and FIFA. These criteria include the quality of venues, transport options, hotel accommodation, security, legacy commitments, the degree of public sports interest, marketing and the use of social media.

Cities highlighted by the report

English-speaking cities perform very well indeed, reflecting the large appetite their residents have for different sports. In 2012, **London** placed first in the rankings, as a result of an improvement in venues associated with its preparations for the Olympic Games, alongside the overall offer London provides in terms of tourist accommodation, visitability and the passionate interest of Londoners in sport.

Other regular high performers include **Melbourne** and **Sydney**. Both Australian cities have outstanding sporting infrastructure and offer a quality visiting experience. Indeed Melbourne was rated as the city with the best venues and event strategy in the world. **New York** and **Manchester** also rate in the top five in 2012, not least because of their worldwide sport club brands and commitment to social legacy, especially in the case of Manchester.

Cities making progress

SportBusiness Group notes that in 2012 smaller cities were becoming much more competitive sporting destinations than previously. This reflects the fact that many are developing targeted events strategies and are now regularly playing host to top-level sport, which comes to imbue the entire city with a sporting ethos. These improvers include **Berlin**, **Copenhagen** and **Glasgow**, all of which rate in the top 10. Glasgow is seen as particularly strong in terms of marketing its sporting credentials.

¹²⁹ QS Best Student Cities 2012

Dubai and **Singapore** are clearly established as the best sports cities in their respective regions. Dubai is the leading sports city in the Middle East and Africa, attaining 14th place overall, and Singapore remains the best sports city in Asia, at 6th globally. Another improver is **Istanbul**, which has hosted a series of important events recently, including the World Indoor Athletics Championships, and is regarded as offering exceptional and affordable accommodation for sports visitors.

4.26 Copenhagenize Bicycle Friendly Cities

Copenhagenize Design Co. consulting firm first designed an index of the world's leading cities for bicycle users in 2011. In 2013, the firm have greatly expanded the scope of the survey from 88 to 150 cities. Run by Mikael Colville-Andersen, the ranking incorporates 13 holistic criteria: advocacy; public bicycle culture; bicycle infrastructure and road space; bike share programmes; ratio of male to female cyclists; modal share for bicycles and modal share increase since 2006; safety perception; politics; social acceptance; planning for bicycle infrastructure and traffic calming. Utilising social media platform, Twitter, the Copenhagen utilises live feedback from over 400 on-the-ground data sources to provide a live, eyewitness reporting network.

Statements of success and failure

The authors contend that "The bicycle makes sense in cities. Investment in bicycle infrastructure is a modern and intelligent move for a city to make. Studies from Denmark tell us that for every kilometre cycled, society enjoys a net profit of 23 cents. For every kilometre driven by car we suffer a net loss of -16 cents. With rising urbanisation our cities need modern mobility solutions and the bicycle proves time and again that it can offer them."

As such the best performing cities are those that take tangible steps to improve rider security and make active attempts to encourage new riders onto the road. A combination of political will and planning innovation is seen as key.

Cities highlighted by the report

Amsterdam retains its top position in 2013. While its cycling network may not be uniform the saturation of cyclists on the inclusion of more, smaller cities roads makes the compact city centre the ideal domain for bike users. Cycling infrastructure is extensive and political opinion is fully behind the cyclists. The city's 30kph speed limit is considered an excellent safety innovation by the report's authors.

Copenhagen holds on to its 2nd in 2011 and with Amsterdam are considered significantly superior cycling cities to the chasing pack. The city's urban design is unparalleled. Cycling and pedestrian bridges in the harbour side area continue to improve the cycling network and while political posturing towards 50% of road users being cyclists are, perhaps, unrealistic in the short term, the city possess an enviable cycling culture.

New entrant **Utrecht** completes the top three and is the leading small city in the index. The city's extensive cycling infrastructure experiences enormous usage levels. In a top 10 dominated by European cities, **Seville** is another new entrant coming 4th in this year's survey. From 0.5% of journeys being taken on bikes in 2006, the city's cycling culture has soared with that share now closer to 7%. Though modest compared to the top three, all of which have a strong base of cycle usage, but modal shares in the 30% range, this is a significant shift in transport habits. With 80 kilometres of cycling infrastructure being installed in a single year and the installation of a citywide bike-share scheme, it is perhaps no surprise that the Andalucians jumped at the opportunity to utilise the facility. The top five is completed by two French cities, Nantes and Bordeaux.

Tokyo is the highest ranked non-European city in the rankings, closely followed by Montreal and Nagoya.

Cities making progress

Rio continues to make strides and is the leading emerging city on the list and is the only city in the 2011 top 20 to improve upon its position in 2013. 18th in 2011, Rio moves to 12th this year. Cycle infrastructure started to gather pace at the Earth Summit in 1992 and Rio has consistently built upon them. With the World Cup and the Olympics coming to Rio, the report's authors detect a real chance for cycling to become embedded in the character of the city, both in terms of resident lifestyle but also as a means to cut congestion and pollution.

With an influx of new cities in 2013 it will be interesting to note their progress in the next edition of this report.

4.27 EIU Best Cities – Spatially Adjusted Liveability Index

In this new report the EIU joins forces with BuzzData. The collaboration takes the form of a competition that offers the public an opportunity to combine EIU data with other sources to create a new index dealing with the cost of living and liveability. The winning entry, selected by an EIU panel, provided the most innovative additions to the EIU Liveability Index and has been published as this special report.

By opening up the index to the public the EIU sought to enhance their indexes both in terms of the presentation and visualisation of data and, more importantly, by adding new data sets and methodologies that refine the accuracy of the EIU's Liveability Index.

The winning entry was the Spatially Adjusted Liveability Index (SALI) submitted by Filippo Lovato. Lovato was commended for the dual-accessibility of his scoring and map indicator, but particularly for his empirical value-added.

Lovato took the five categories in the EIU's Liveability Index (Stability, Healthcare, Culture and Environment, Education and Infrastructure) and adjusted the combined weighting of these categories from 100% to 75% to create room for a new sixth category, Spatial Characteristics, comprising:

- Green space
- Sprawl
- Natural assets
- Connectivity
- Isolation
- Pollution

Though the new methodology has not been applied to all cities featured in the EIU Liveability Index (70 out of 140), SALI sample provides an interesting alternative to the common place definitions of liveability that are often considered problematic in their treatment of major cities.

Statements of success and failure

Space plays a central role in urban life. Spatial characteristics are among the more democratic influences on city living, inherent to the space and largely utilised (or endured) by all. Because of the indiscriminate nature of these factors, they are given a hefty 25% weighting in the SALI.

Combined with the conventional liveability factors already built-in to the EIU model, this index places an increased emphasis on the physicality and geography of urban liveability.

Cities highlighted by the report

In a top 10 dominated by Asian and European cities **Hong Kong** leads the index with a SALI score of 87.8, an improvement of 9 places on its equivalent ranking in the EIU Index. Hong Kong's natural heritage, the availability of green space and its superb connectivity make its liveability performance greatly improved when spatial factors are considered.

Amsterdam comes a close 2nd, scoring 87.4 and climbing six places on its position in the EIU rankings. While the Dutch city scores weakly in the isolation category, averagely for sprawl, but very impressively in the other spatial criteria and making significant strides relative to the conventional EIU metric. Connectivity and natural assets are Amsterdam's trump suits.

Osaka completes the top three, maintaining its position 3rd place position held in the EIU Liveability Index of the cities included in the SALI. Osaka scores consistently in special characteristic, but particularly well in pollution and cultural assets.

Toronto is the sole representative from the Americas in the top 10. The Ontarian city, ranked 1st of those featured in the EIU index drops seven places when its spatial characteristics are taken into account. Though posting excellent results for its green spaces, low pollution and connectivity, Toronto scores poorly for sprawl, natural assets and isolation.

London, in 12th, is the city that benefits most from the addition of spatial characteristics. The British capital moves up 10 places compared to its EIU Liveability equivalent. London registers top marks for green space, connectivity and pollution. **New York**, in 16th, also benefits from the new criteria with connectivity and green space driving the 'Big Apple's' improvement (seven places). The improvement of London and New York which, ordinarily occupy two of the top four spots in comprehensive metrics but which often perform poorly in liveability indexes, is a significant feature of SALI.

SALI criteria make little impact at the foot of the EIU Liveability Index where African and South Asian cities continue to struggle. **Miami** scores poorly in the SALI metric relative to its performance in the EIU Liveability Metric and loses 11 places, scoring particularly badly in the sprawl and natural assets criteria. **Singapore** also loses ground. A lack of cultural and natural assets, cited as the weak areas for the city-state, which slips two places.

Cities making progress

This is the first edition of this index. As such no comparison is possible.

4.28 Travel and Leisure: Quality of Life and Visitor Experience (USA)

This survey published on the Travel and Leisure website lists America's favourite cities in the opinions of both their residents and of visitors.

The survey looks at a number of factors from *Wine Bars* to *Family Vacation*. We concentrate on the quality of life and visitor experience metric which polls people on 12 categories – all with a host of sub-categories:

- cleanliness
- weather
- safety
- affordability
- wireless coverage
- architecture
- public parks and outdoor space
- hotel options
- peace and quiet
- people-watching
- public transport and pedestrian friendliness
- environmental friendliness

Statements of success and failure

This index is a simple survey of visitors and residents' perceptions and experiences of a given city.

Cities highlighted by the report

Charleston, with the highest combined score leads the way in this index, and proving particularly popular with its own residents. The historic centre offers a feast of colonial architecture as well as host of dining options. Meanwhile **Savannah** tops the visitor perception scores coming top for ice cream, charming local accents and as a Fall destination.

San Diego is the first of the large cities on the list. Its party-town reputation makes it top for 4th of July, celebrations, for Spring Break and for athletic getaways.

Austin which secures top 10 positions in both metrics is a top three location for singles, music and barbeques. Perhaps unsurprisingly fine dining and luxury retail suffer as a consequence. Another strong performer, **Portland** (OR), posts similar reverse correlation between Microbrewing (1st) and Valentine's Day (32nd)

Minneapolis achieves top spot for its public spaces, cleanliness and nation-leading home décor provision. Those surveyed suggest, however, it is to be avoided in winter, particularly New Year's Eve.

Cities making progress

This is the first edition of this survey and as such no comparison can be made.

4.29 Office of Strategic Communications (CGE): Top 10 Cities to Live in Mexico

The Office of Strategic Communications (CGE), conducted telephone surveys of 25,000 residents of 50 Mexican cities to establish their views of their own cities in order to create this Top 10 Cities to Live in Mexico index. The survey covers eight categories:

- Mobility
- Environmental and cleanliness
- Schools
- Heritage
- Housing
- Leisure provision
- Natural beauty
- Cohesion and ambience

Statements of success and failure

A straightforward opinion poll survey, this index ranks the top 10 cities in Mexico based on the scores provided by 500 residents of each city.

Cities highlighted by the report

Many of Mexico's major cities, including **Guadalajara** and **Mexico City** are absent from the top 10, which is dominated by smaller cities. **Hermosillo** leads the rankings with 86.5 approval rating. The city in the Sonora region scores particularly well for its leisure provision. **San Nicolas de los Garza**, with an overall score of 86.4% narrowly misses out on top spot.

Merida in the Yucatan Peninsula comes 4th combining scenic location in the south east of the country with rich Mayan heritage. At the other end of the country, **Tijuana** in Baja California scores well for its lively social scene.

Guanajuato's colonial era architecture and cultural heritage also scores well, coming 9th overall. While **Pachuca's** natural environment and mountainous setting is a leading factor behind that city's position in the top 10.

Cities making progress

This is the first edition of this report and as such no comparison is possible.

5 Knowledge Economy, Human Capital and Technology Indexes

5.1 Buck Consultants: Tech Cities Index

In 2008, Buck Consultants launched a robust new Tech Cities Index, hoping it would become an indispensable tool for firms and talent to identify the best European cities for technology-driven companies. At this point prior to the recession, the consultancy observed an increase in the number of investment projects for R&D centres and technology-driven production operations. In 2012, Buck updated the survey – extending its scope to 31 cities.

The index designers identified five major factors of regional technological competitiveness: technology and know-how; talent; market size; connectivity; and international business climate. These factors were combined to produce the overall ranking.¹³⁰

Statements of success and failure

Cities that spend a high proportion of R&D as a percentage of GDP, host a high number of registered patents and offer high innovation performance, emerge as very strong in the technology dimension. The consulting firm also judged the availability of talent and the cost of labour, thus offering a rounded assessment.

Cities highlighted by the report

As was the case in 2008, **Paris** and **London** are clear leaders in the field of European R&D, thereby demonstrating their wide range of strengths beyond finance. Their market size and range of talent was critical in achieving this score, as both are unchallenged in this measure across Europe. Paris also ranked top for connectivity, and ranked ahead of London for technology and know-how, meaning it gained 1st position outright.

British cities stood out as Europe's best performers. Beside London, **Oxford** and **Cambridge** scored very impressively to rank 3rd and 5th respectively, the latter dropping a position on 2008 and being superseded by Berlin, which moved up one place to 4th. The English duo's success is largely attributed to the research and enterprise clustering around the country's leading universities. **Manchester**, having come in 9th in 2008, has suffered in the economic crisis, dropping to 15th in lacking the strength in depth of some of Europe's larger tech hubs. British cities were especially strong in the talent dimension, with three of the top 10, including **Edinburgh** and **Glasgow**. The Netherlands, Germany and Spain are all represented by two cities within the top 10. Preferential tax rates and credits and R&D connectivity assisting the development of tech industries in the Dutch duo of **Amsterdam** and university city, **Delft**.

Zurich is Europe's 3rd city for technology and know-how, although ranks down in 16th overall. **Madrid** and **Barcelona** scored impressively in total number of people working in technology jobs, ranking 3rd and 6th respectively, as did **Milan** and **Rome**. Finally, Scandinavian cities dominated the international business climate sub-ranking.

¹³⁰ Buck Consultants International (2012), 'Tech Cities Ranking 2012', <http://www.bciglobal-news.com/newsletter/images/Tech-Cities-Index-2012-Printable-format.pdf>

ties making progress

The strength in depth of London and Paris has allowed those cities to weather the financial storm and retain their position at the top of the table. **Berlin**, the leading German city on the list, is however closing the gap on the dominance of the French and UK capitals.

5.2 Robert Huggins Associates: World Knowledge Competitiveness Index

The biannual Robert Huggins Associates World Knowledge Competitiveness Index (WKCI) is the first composite and relative measure of the knowledge economies of the world's leading cities. The 2008 index represented the 5th edition of WKCI, and increased its scope to cover 145 regions (up from 125) worldwide – fairly evenly geographically distributed - across 19 knowledge economy benchmarks. These benchmarks include employment levels in the knowledge economy, patent registrations, R&D investment by the private and public sectors, education expenditure, information and communication technology infrastructure, and access to private equity. Indicators were chosen on the basis of data availability at the local level. The report also contains a special chapter on economic development in the three leading Chinese city-regions, due to increased interest in Chinese knowledge hubs.

Statements of success and failure

While the WKCI is presented as a quantitative index, the report does also make qualitative assessments of the data, in particular with regards to the differential approaches taken by regions across the world. One of the report's co-authors suggests that,

'it is clear that at a regional level, there are significant variations in the economic development models at work across the globe. The US regional development framework is far more reliant upon its investments in knowledge sustainability in the form of educational expenditure and ICT infrastructure. Asian-Pacific regions tend to place a greater emphasis on mobilising human capital already within the workforce and investment in business-based innovation. Europe's leading regions often possess strength relating to the high technology service sectors and niche high value added manufacturing.'

Similarly, the report relates the performance of regions' knowledge economies to wider national economic performance and political occurrences, thus placing the index in a more general context.

Cities highlighted by the report

A majority of cities at the top of the knowledge charts are in the US. The top 20 now contains 13 US regions, five European regions and two Japanese regions. At the top of the index is the metropolitan area of **San Jose**, with a score of 248.3. San Jose – home to Silicon Valley - also finished top of the 2005 index, and is adjudged the world leader by a clear margin, owing to its enormous investment in knowledge-intensive business development, in particular in the fields of high-technology engineering, computers and microprocessors. The city-region has emerged impervious to the challenges of the dot-com crash earlier in the decade.

Boston has remained in 2nd place in the 2008 index, mainly due to its eight research universities, and is described as a hub which 'thrives on high levels of intellectual and financial capital.' **Hartford** in Connecticut ranks a new high of 3rd, based on outstanding results for both R&D spending and private equity investment, and the highest productivity score worldwide.

At the foot of rankings are Chinese, Indian and Eastern European regions – the lowest ranked being **Bangalore**, **Mumbai** and **Hyderabad**. Among the emerging regions in the index, **Shanghai** continues to perform best, increasing its ranking slightly and overtaking **Berlin**, but it is still outside the top 100.

Cities making progress

The number of emerging cities making strong gains in this index is smaller than in most other economic studies. The Connecticut city-region of **Bridgeport**, a new entry region in the 2008 index, goes directly into an impressive 4th place. **Stockholm** is the highest ranked city outside the US, moving up two places to 6th position, with its continued ranking improvement explained on the basis of excellence in business R&D spending, biotechnology and chemical sector employment, and higher education spending.

Another city to make excellent progress is **Tokyo**, which has moved up from 22nd to 9th position since 2005, having been 38th in 2004. A number of other Japanese regions, including **Osaka**, have also recorded double figure position gains. Meanwhile, **Singapore** has risen a dramatic 51 places to 27th worldwide since 2005.

5.3 2thinknow Consulting: Innovation Cities

Australian innovation agency 2thinknow has established a reputation for helping to embed innovation in cities and businesses globally. Its Innovation Cities Program aims to develop powerful tools for creating an innovation economy, including city benchmarking data used for this index. It has published the Innovation Cities Indexes city rankings online since 2007. The index began with 22 cities from a data-set of 95 cities, and has now extended the scope of the survey to 445 global cities.

Each city is selected from a much larger sample, based on core factors of health, wealth, population and geography. The selected city has data mined on 162 indicators, scored by analysts using a variety of web and print sources. Where data was unavailable, national or state estimates were used. The final index has a zeitgeist (market confidence) factor added, and was competitively graded into five bands with the top 133 cities ranked.

Statements of success and failure

Cities are graded into five categories based on their index score. The top cities are described as NEXUS cities, critical transistors of innovation across economic and social segments. The second tier is made up of HUBs, considered influential on key economic and social segments given current trends. The third tier is NODEs, those with fairly strong performance in many segments but experiencing some imbalances. Beneath NODEs is the INFLUENCER category, those with competitive status in some areas but not offering overall consistency. Finally there is a group of UPSTARTs, a group of mostly emerging cities making steps towards future strength in some segments.

Cities highlighted by the report

Europe dominates the NEXUS group, accounting for nearly half of the top 30, and six of the top 10. **Vienna** is the new continent leader, in 3rd place, having overtaken **Paris** in 5th. Germany has very strong representation in the upper echelons, with four cities in the top 20: **Munich** is placed an improved 6th, **Berlin** has risen impressively to 13th, **Frankfurt** is placed 15th and **Hamburg** 19th. British cities have also improved from the previous ranking, with **London** gaining ground into 7th, while **Manchester** has overtaken Stuttgart and Tokyo to rank 24th. **Glasgow** and **Edinburgh** rank 92nd and 59th respectively.

Despite Europe's impressive innovation urban economies, US cities dominate the elite positions. It is **Boston** that leads the world in this ranking, continuing its fine status as a world-class research and commercial development city. Perhaps the most notable change at the top is **New York's** rise to equal 1st alongside Boston over long-time innovation leader, **San Francisco** (4th). Canada's top city is **Toronto** (11th), with **Montreal** (31st) and **Vancouver** (35th). France is also well represented in the rankings with **Lyon** (17th), **Marseille** (40th), and **Strasbourg** (42nd) showing there is innovation dynamism beyond Paris.

Without making dramatic progress since 2010, Asia's leading cities continue to challenge the top cluster of cities. They are headed by **Hong Kong** (14th) and **Seoul** (22nd) and Tokyo, but **Shanghai** has fallen to 29th, just ahead of **Singapore** (30th). Among the second-tier Chinese centres, **Shenzhen** and **Hangzhou** are the highest-ranked.

Cities making progress

Of the NEXUS cities, **Munich** has made the most significant upward movement since 2010, jumping 10 places from 15th to 6th. **Mexico City** has leapfrogged São Paulo and is the only Latin American representative in the top 100. **Dubai** (34th) has reinstated its lead over Abu Dhabi, while, in Africa, **Cape Town** (119th) is leading the continent but is itself being overtaken globally by smaller cities in Europe and North America.

5.4 AON Consulting People Risk Index

In 2010, AON Consulting introduced a major new study of corporate employability in 90 world cities. The 2012 edition of the study expanded the survey to 131 cities while this, the 2013 edition, adds seven new cities to make the total 138. The People Risk Index offers a readable yet rigorous comparison of people risk by location. It aims to help business leaders identify and understand the various sources of people and to adjust strategy accordingly. AON suggests that this inaugural study can improve businesses' grasp of the underlying and full business risks of operating in any given location.

30 critical factors were identified, clustered into five areas:

- Demographic risks - labour supply, and societal trends
- Government risks – the role of government policies and practices in affecting people management
- Education risk – finding qualified professionals in a location
- Talent Development risk - quality and availability of recruiting and training resources
- Employment Practices risk - risks associated with employing people in a given location

Researchers relied on publicly available statistics from reliable sources for initial assessment ratings, followed by regional reviews by well-placed AON consultants. As such, the ratings are based both on quantitative sources and qualitative internal expert analysis.

Statements of success and failure

People risk is defined firstly around issues of recruitment – the inability to find qualified candidates, employees who do not fit the firm's organisation or those without experience. It is also premised on employment risks - of losing valuable skills and of restructuring risks - moving people into new locations. Successful cities are those with substantial and comparatively youthful populations, home to low crime rates and high educational attainment, with strong training systems and linguistic capability, robust labour relations, low corruption and

flexibility of personnel costs. A sound legislative and governmental framework providing employers with predictable and consistent outcomes is also highlighted as a critical factor:¹³¹

'Cities with low risk typically have a government that is transparent, non-confrontational, deals with employment issues fairly and promotes education and talent development initiatives.'

Cities highlighted by the report

English-speaking cities and highly multilingual cities are overwhelmingly dominant in this ranking. **New York** ranks as the city with the lowest people risk, albeit with a raise from the 2012 figures. New York is particularly strong in terms of demography with a large working age population, positive immigration and high productivity. New York also scores strongly in the education and training categories. The Canadian duo of **Toronto** and **Montreal** continues to excel in terms of government support (particularly in equal opportunities and health and retirement benefit legislation), low corruption, education and talent development. **Singapore**, the only Asian city in the top five, climbs to 2nd. **London**, joint 4th with Montreal, completes the top echelon, and is the leading European city in this year's index.

New York dominates in demography (largely due to its young population), education and talent development, but is seen to have poor employment practices, as is Singapore. The city-state performs exceptionally for government support and talent development, where it ranks 1st in each, but is let down by disappointing educational performance, with modest tertiary school enrolment and education spending. Meanwhile, London also has very considerable government support and educational attainment, with weaker results for demography, most likely due to crime and an ageing population.

North American cities continue to fare extremely well with all 20 North American cities within the top 42 in the rankings. The three Canadian cities featured fared better than their US counterparts because of stronger government regulation and employment practices, as well as superior health care and retirement coverage. Consequently, they all ranked in the top 10, with Detroit bringing up the rear. Latin American cities widely struggle; **São Paulo** (65th), **Rio de Janeiro** (67th) and **Buenos Aires** (104th) have all increased their respective risk ratings in the last year. **Santiago** holds firm in 52nd as the continent's leading performer.

At the bottom end of the spectrum there are few improvers. Lagos is the only city in the bottom 10 to have improved its position, albeit to 129th. **Phnom Penh** and Ulaanbaatar also show signs of upward progress. Mid-tier Chinese cities perform badly. **Chongqing**, **Changsha** and **Changchun** all lose ground, as does **Kolkata** (104th), in contrast to **Pune** and **Ahmedabad** which appear to be making progress.

Political instability substantially increases people risk, which is borne out in a much-revised bottom 10, which includes new entries such as **Tripoli**, **Damascus** and **Baghdad**. Asia-Pacific cities continue to perform poorly in education and employee development, and AON remarks on challenges related to government transparency, regulation assurance and inadequate numbers of skilled professionals. As is common on lots of indexes ranking human capital and business environment, South Asian cities in particular struggle. **Dhaka** and **Karachi** are both in the bottom 10. Another city with significant people risk is **St Petersburg**.

Cities making progress

The prominent trend in the 2012 edition of the AON report is the improved performance of cities in North America at the expense of those in Europe. The improvements of **New York** (73 to 66 points) and **Boston** (83 to 76 points) exemplify this and can be held in contrast with the declining performances of **Paris** (93 to 95 points) and **Madrid**

¹³¹ AON Consulting (2012), 'People Risk 2012 Update – Rankings and Ratings Update', <https://aonpeoplerisk.com/2012-Update/Rating-and-Ranking-Update>

(103 to 110 points). This can be attributed largely to increased structural risk within Europe and, in particular, within the eurozone. As sustained economic growth remains elusive in this area, employers look set to face increased demographic instability – heightening people risk in affected urban centres.

Non-eurozone cities in Europe – led by **Zurich** - performed very well in 2013, while Boston, Chicago, New York and Philadelphia are among this year's fallers.

5.5 Ericsson: Networked Cities

In 2011, Ericsson, in collaboration with the consultancy firm Arthur J Little, developed the first of three City Indexes, ranking 25 global cities on ICT maturity and development. The first study focused on benefits provided to cities, the second related to its citizens, while the final report, released in November 2012, concentrates on business.¹³² The findings of the three reports are summarised here.

The project aims to highlight the role of digital technologies in city operations. It tailors itself specifically to city mayors, local authorities and decision makers, who can use the framework to judge their positioning and achievements. Ericsson anticipates an era of partnership between business and government, such that the optimal dissemination of ICT can achieve positive social and economic outcomes for the city.

Statements of success and failure

Cities with a high level of ICT embeddedness are said to be more capable of managing their infrastructure, sustainability agenda, security regime and health/education policies, according to this study. The authors state that:¹³³

'this analysis should be seen as a humble starting point to explore the link between ICT investments and sustainable development. It is our joint hope and intention that this report can serve as inspiration for cities that do not settle for the status quo.'

Cities performing poorly are often described as big megacities witnessing a large digital divide. They are advised to develop digital access and computer skills training for lower income and disadvantaged populations. The index finds that businesses can capitalise from ICT only with a supporting framework of transparent legal and fiscal structures, which promote efficacy and predictability in the business environment.

Cities highlighted by the report

Part 1 – City Index

The three best-performing cities are **Singapore**, **Stockholm** and **Seoul**. All are pioneers in investing in ICT solutions to solve problems of governance and management. The report points to Singapore's active innovation in online health initiatives and traffic-congestion management, and to Stockholm for using digital technologies to enable research collaboration and knowledge transfer. There is a sizeable gap between these two and 3rd city Seoul, praised for its wide employment of ICT to develop high-tech green projects.

¹³² Ericsson (2011), 'Networked Society City Index', p. 10 <http://www.hugin.info/1061/R/1514402/450437.pdf>

¹³³ Ericsson (2011), 'Press Release: Singapore, Stockholm and Seoul Top Ranked in Ericsson's Networked Society City Index', <http://hugin.info/1061/R/1514402/450438.pdf>

Beneath this excelling triumvirate are the world's four most established world cities - **London**, **Paris**, **New York**, and **Tokyo**. There is another gap to **Los Angeles** in 8th, while **Shanghai** and **Beijing** impressively complete the top 10, scoring very well for ICT maturity.

Part 2 – Citizens' Index

The top three cities in the City Index remain in the top positions in this section of the report. Seoul takes the top spot in this index, boasting high ICT maturity and high ICT leverage. The South Korean capital is particularly strong in the social dimension, with high levels of digital entertainment and strong quality of life ratings. The report highlights the smartification of Seoul's public transportation system, utilising ITC and public and private partnerships to enhance the city's physical infrastructure digitally. Future innovative projects in the city include the Smart Transportation Program, which will use "*smart pricing systems for transportation demand management, connected busses for an improved citizen experience and a personal travel assistant for improved transportation planning*".¹³⁴

Singapore is given credit for long-term ICT projects that deliver tangible benefits to its citizens and have propelled the city-state into 2nd place in this index. In 2006, Singapore's Infocomm Development Authority established a holistic strategy, called the iN2015 plan, to attract overseas capital and sustain long-term growth through the ICT industry. Stockholm completes the top three. The Swedish capital's use of ICT as a tool in the enhancement of its citizens' well-being in the health and security sectors, in particular, are commended by the report.

The 'big four' of London, Tokyo, Paris and New York once again fall in behind the three top cities, with London heading its rivals owing to the success of the Tech City project and the market-driven expansion of public Wi-Fi access in the city.

Part 3 – Business

The hegemony of the top three cities is interrupted in the final part of this study, in which Ericsson examines the ITC landscape in the context of businesses. New York tops the rankings with its solid and growing ITC framework and digital economy bolstered by favourable business conditions, ease of doing business, clear legal frameworks, and collaboration between business and academia.

Stockholm maintains its position in the top three, which is completed by London. Like New York, the British capital represents a mature ICT urban economy which is focused on services and accelerating into the digital economy. Indeed the top eight in the Business Index remains unchanged from the City and Citizens' reports. Ericsson points to the common denominators in these successful ITC hubs as being "*reliable network infrastructure initiatives that take advantage of ICT and a clear regulatory framework that supports triple bottom line benefits*".¹³⁵

Cities making progress

While this is currently a stand-alone study, its results do indicate that the Chinese cities of **Shanghai** and **Beijing** have made very strong progress, overtaking Sydney and moving clear of **Buenos Aires** and **São Paulo**. **Mumbai** is substantially ahead of **Delhi**, **Dhaka** and **Karachi**, while **Cairo** is surprisingly well clear of **Johannesburg**. In general though, there remains a very distinct gap between the advanced developed cities and the struggling cities in Africa and South Asia, with only Chinese cities looking capable of bridging the gap.

¹³⁴ Ericsson (2012), 'Networked Society', http://www.ericsson.com/networkedsociety/media/hosting/city_index_report_part_2_REV.pdf

¹³⁵ Ericsson (2012), 'Networked Society City Index part 3: Triple Bottom Line Benefits for City Business', <http://www.ericsson.com/res/docs/2012/networked-society-city-index-report-part-3.pdf>

5.6 Christian Matthiessen, Annette Schwarz and Søren Find: World Cities of Scientific Knowledge

The work of scholars at the University of Copenhagen and the Technical University of Denmark, this landmark academic paper examines the world city network of knowledge. It identifies that the structure of knowledge networks has altered since 2000 in favour of South-East Asian and Southern European cities at the expense of the traditional leaders of North America and North-Western Europe. The figures are based on bibliometric data of cities, measured in terms of research output. Urban agglomerations are measured to include places reachable by a 40-minute commute from a city centre. While no weighting is made on the quality of research being produced, the figures do give a strong indication of the shifting balance of power in knowledge production.¹³⁶

Cities highlighted by the report

The paper finds that most research activity remains concentrated around major metropolitan areas, with the top 75 science-producing clusters in the world from 2006 to 2008 generating almost 60% of the research. **Tokyo-Yokohama** was the world leader between 2006 and 2008, marginally ahead of **London**. Both urban regions, described as 'true giants of knowledge production' produced over 90,000 publications in this period, and have been at the summit for many years, also leading in the 1996-1998 period a decade earlier.

A second tier of eight knowledge-producing cities follows. Surprisingly, in 3rd place is **Beijing**, which has enjoyed remarkable growth, having not even been in the top 30 cities in 1996-1998. The Chinese capital overtook the **San Francisco Bay Area** between the 2004-2006 period and the most recent study, recording an almost fourfold growth in percentage of global research, to 2.75%. **Moscow** had been in this second echelon, but has experienced a serious downturn in research output, falling to 11th globally, while **Washington DC** also shows a notable ranking decline since the 1990s. Beyond Beijing, three other Asian cities have entered the top 30 since 1990; Seoul (rapidly approaching the top 10), Shanghai and Hong Kong (both ranked outside the global top 20).

Cities making progress

Of emerging cities outside Asia, **Tehran**, **Istanbul**, and **São Paulo** have all recorded considerable improvements in research production. Of North American cities, **Toronto** stands out for a resilient ranking display since the 1990s, overtaking the likes of Edinburgh, Stockholm and Madrid.

5.7 QS: World University Rankings

The QS World University Rankings (formerly known as the Times Higher/QS World University Rankings from 2004 to 2009) are an authoritative league table of the world's leading universities. Developed by education network provider QS, it ranks the world's top 500 universities – considering the merits of over 10,000 universities worldwide - across a range of factors.

The ranking is based on research quality, teaching quality, graduate employability and internationalisation. Its most interesting methodological tool is its academic peer review survey, which is sent out to multiple channels to attract a large response from universities worldwide. As of 2010 its surveys are translated into additional languages to target specific countries where response rates have been low. Its other data points include an

¹³⁶ Matthiessen, Schwarz and Find (2010), 'World Cities of Scientific Knowledge: Systems, Networks and Potential Dynamics. An Analysis Based on Bibliometric Indicators', <http://usj.sagepub.com/content/47/9/1879>

employer review, citations per faculty, and student:faculty ratio, as well as numbers of international faculties and students. In 2011 the report received a record level of responses from both academic and employer sources.

The rankings expressly aim to give a range of stakeholders, in particular prospective students, a simple tool to shortlist universities in which they may be interested.

Statements of success and failure

QS argues that world-class universities must have strength in the four key areas of research, teaching quality, graduate employability and internationalisation. It weights a notable 40% on academic peer review in order to consider teaching quality across the board, which is said to result in universities specialising in Arts and Social Sciences performing somewhat more strongly than they otherwise would.¹³⁷

Cities highlighted by the report

The world's best universities continue to be heavily Anglophone and concentrated along an Anglo-American axis. Only one of the top 20 institutions (ETH Zurich) is a non-Anglophone institution. Montreal's McGill University joins ETH Zurich in the top 20 along with 18 leading US and UK institutions. In 2011 the UK had more universities in the top 500 than any country outside the US. The cities of Boston and London both have two universities in the top 10 globally. If one includes Oxford and Cambridge in the London city-region (GSE), as some do, then London has four universities in the top 10. Within the city itself, London is unique in having four higher education institutions in the top 100 worldwide.

A notably high performer is Hong Kong, which is the only city outside Boston/London to host three universities in the top 100, although none are in the top 20. Chicago, New York, Los Angeles and San Francisco all boast two universities ranked in the top 40, as does Paris. Tokyo's universities also feature twice in the top 60, as higher education quality continues to be located in established urban centres.

Cities making progress

The secure dominance of leading educational hubs is not being rapidly threatened by emerging cities. While Hong Kong now has world-class provision and other Asian cities are recording positive progress, they are not in danger of challenging Anglo-American hegemony. Taipei's National University is now in the top 100 (87th), up from 102nd in 2007, but Singapore's two top-100 universities have not changed substantially since 2007 – the National University of Singapore and Nanyang Technological University are ranked 28th and 58th worldwide, compared to 33rd and 69th in 2007. Moreover, Beijing's Tsinghua and Peking universities – which were ranked 36th and 40th in 2007 – have both fallen, to 46th and 47th, while Shanghai's top university – Fudan – has drifted to 91st since its 85th place showing in 2007.

5.8 ShanghaiRanking Consultancy: Academic Ranking of World Universities (ARWU)

In the global knowledge economy, cities have become key sites of education and knowledge transfer. The annual Academic Ranking of World Universities (ARWU) has been an important means of measuring comparative higher education institutions and cities. First published in 2003, the index is a collaboration between the Centre for World-Class Universities and the Institute of Higher Education of Shanghai Jiao Tong University.

¹³⁷ QS (2010), 'Top Universities', <http://www.topuniversities.com/articles/rankings/world-university-rankings-q>

The initial purpose of the ARWU was to find the global standing of Chinese top universities, but it has gained international recognition over the past seven years. From 2009, the ARWU has been published by ShanghaiRanking Consultancy, which provides various global comparison and in-depth analyses on research universities, informing decision-making by national governments and universities worldwide.

Statements of success and failure

The success and failure of universities is determined by a relatively complex ranking methodology that differs to the QS survey and is more science-focused. Universities are ranked according to several indicators of academic and research performance, which are oriented around distinguished performance:

- Alumni and staff winning Nobel Prizes and Fields Medals
- Highly cited researchers
- Articles published in Nature and Science
- Articles indexed in major citation indices
- The per capita academic performance of an institution

For each indicator, the highest scoring institution is assigned a score of 100, and other institutions are calculated as a percentage of the top score. The distribution of data for each indicator is examined for any significant distorting effect and standard statistical techniques are used to adjust the indicator if necessary.

Cities highlighted by the report

Like the QS survey, British and American universities dominate the upper echelons of the ranking, accounting for 19 of the top 20. **Boston** unsurprisingly performs highest once again, with Harvard and MIT both ranked in the global top 10, while the **San Francisco** metro area hosts a further two in the top 10 (Stanford and Berkeley).

Cities making progress

The order of the top 20 cities is almost unaltered between 2007 and 2010, indicating that there is little significant change at the summit of global higher education. There is notably negligible movement among the top 100.

Tokyo's Nagoya University, which rose from 94th to 79th over the three-year period, is among the most improved, as is King's College **London**, which has gained 20 places to rank 63rd. The University of **Sydney** is also a noteworthy entrant into the top 100 since 2007, at 92nd. There are no Asian universities outside Japan in the top 100.¹³⁸

5.9 Financial Times: Business School rankings

The Financial Times (FT) is one of the world's most authoritative publishers of annual business school rankings. Business school quality is increasingly important for cities, as many MBA graduates stay on in the city of their graduation, due to contacts made during their education. Each year the FT publishes the top 100 cities based on a series of indicators including weighted salary, career progression, graduate perceptions of value for money, and the rate of internationalisation of faculty and students.¹³⁹

¹³⁸ ARWU (2010,2009,2007), <http://www.arwu.org/ARWU2010.jsp> ; <http://www.arwu.org/ARWU2009.jsp> ; <http://www.arwu.org/ARWU2007.jsp>
¹³⁹ FT (2011), 'Global MBA Rankings 2011', <http://rankings.ft.com/businessschoolrankings/global-mba-rankings-2011>

Statements of success and failure

The Financial Times does not make any judgements on business schools or their host cities beyond the weighting of criteria. The focus on internationalisation indicates that the FT views global connections as highly significant for the school, generating insights and connections throughout the world.

Cities highlighted by the report

London remains one of the best cities in the world to undertake an MBA. The London Business School is again ranked top in 2011, and has been ranked in the top two globally for the last four years. Within the wider Greater South-East region, London also benefits from the Said and Judge Business Schools in Oxford and Cambridge respectively, and additionally the Cranfield School of Management, all of which are ranked in the top 35 worldwide in 2010.

American cities continue to perform very well in terms of their business school reputation. **Pennsylvania** (Wharton, =1st), **Boston** (Harvard, 3rd; MIT, 9th), **San Francisco** (Stanford, =4th), **New York** (Columbia, 7th) and **Chicago** (UoC, 12th) all have representation in the top 10.

Elsewhere, **Madrid** remains a world-class business school host, with the IE business school ranked 8th, and the IESE – which has campuses in Madrid and Barcelona – ranked an impressive 9th. **Cape Town** is the only African representative in the top 100, with its university business school rapidly rising to 60th in 2011.

Cities making progress

Cities in Asia are recording very notable improvement in business school reputation, among them being the **Hong Kong** UST business school reaching 6th in 2010, up from 17th in 2008. It performs extremely well for internationalisation.¹⁴⁰ Hong Kong also had an impressive new entry in 2010 – the Chinese University of Hong Kong – at 28th, although it slipped out of the list in 2011. Meanwhile, **Hyderabad's** Indian School of Business is now only just outside the top 10, up to 13th from 20th in 2008. **Singapore's** Nanyang Business School has risen over a dozen places since 2008, to 33rd, and its National University School of Business reached a new high of 28th, while its partnership with **Paris' INSEAD** means it now also has representation in one of the world's top five schools. **Shanghai's** CEIBS, having fallen dramatically down the rankings in 2010, to 22nd, having entered the top 10 for the first time in 2009, recovered to 17th in 2011. The final inclusion of note in 2011 is the SB Jain Center of Management, located jointly in **Dubai** and Singapore, which appears in 68th place. These all indicate the gradual penetration of Asian centres of business excellence into the global consciousness.

Further down the list, **Rio de Janeiro's** COPPEAD entered the top 100 in 2009 but fell out of the list in 2011, while **Mexico City's** highly-rated IPADE school made its debut appearance in 2010 and rose 30 places in 2011 to 64th.

5.10 Centre for Cities: Outlook

Think tank Centre for Cities, in collaboration with the Local Government Association, has produced its annual Outlook since 2009.

The 2010 and 2011 reports related specifically to the new challenges facing the UK in the context of the recession, and provided a future assessment of economic recovery. This 2013 report also looks at the implications of the Coalition Government's policy decisions, as a raft of new legislation takes hold.

¹⁴⁰ FT (2010), 'Global MBA Rankings 2010', <http://rankings.ft.com/exportranking/global-mba-rankings/pdf>

In particular, the report notes the potential of City Deals. These framework agreements between cities and central government devolve policymaking powers to city authorities. With this greater autonomy, the cities, which the Centre for Cities contends are best placed to tailor growth strategies, are able to drive growth with greater efficiency.

Statements of success and failure

The report identifies an 'urban renaissance' between 2000 and 2010, but sees the coming decade as much more austere, though the pace and impact of the difficult economic conditions differs from city to city. This year's report highlights 'a downturn of two halves' that demonstrates the differing effect of the recession. The report highlights a group of cities hit hard in 2008-2009 but that have since showed signs of recovery. Conversely, the report notes a second group of cities, that came away relatively unscathed in 2008-2009, but that are now showing signs of economic fragility.

In both groups of cities, those that perform successfully will be those whose leadership is purposeful, aware of its long-term economic positioning and open to partnership with the private sector. The case for city autonomy needs to continue to be made in order that growth is incentivised at a local level.¹⁴¹

Centre for Cities points to the importance of cities diversifying in order to reduce dependence on public sector employment. This can be achieved, it argues, only by raising skill levels according to very specific city contexts. Success therefore depends on achieving greater devolution of powers and fiscal responsibility from central government.

This year's report also focuses on housing. The importance of the housing sector, both in the provision of affordable housing to enable labour mobility, and as a major sector of the UK economy, is considered a key factor in city success.

Cities highlighted by the report

The economic performance of British cities in the first half of the downturn (2008-2009) compared with the second half (2011-2012) reveals a striking divergence of experiences. Many of the major cities British cities with relatively broad and deep economies including **Aberdeen** (five-place drop), **Birmingham** (five-place gain), **Bristol** (no change) and **London** (seven-place gain), experienced relatively level economic performance in the two periods.

However a number of cities experienced significant early economic hardship but have since recovered. **Coventry**, **Milton Keynes** and **Southampton** all improved by more than 15 places from 2008-2009 to 2009-2012. Conversely, **Cardiff**, **Liverpool** and **Nottingham** are among a group of cities whose economic performance deteriorated significantly in between 2009-2012 after being relatively unaffected in 2008-2009.

An assessment of unemployment claimants finds that smaller UK cities that have yet to complete deindustrialisation fully, have struggled the most in the economic recession as gaps between high- and low-achieving cities increase. **Grimsby**, **Hull** and **Birmingham** were among the five cities with the highest jobless count in both 2009 and 2010, and continue to occupy three of the four bottom places in the 2013 report. Other cities struggling in this department include the northern cities of **Liverpool**, **Middlesbrough** and **Sunderland**. There is a clear link made between how knowledge-intense the city is and economic performance. The knowledge hubs of **Oxford** and **Cambridge** occupy 4th and 1st respectively, and occupy the top two places in the high-level qualification rankings, followed by Edinburgh, London and Brighton.

¹⁴¹ Centre for Cities (2010), 'Cities Outlook', p.1

Despite the job losses in the financial heart of the City of **London**, the city as a whole is described as 'relatively resilient' by UK standards, with the number of jobless claimants rising less than the national average. **London** is also in the top 10 of 65 UK cities for skills (4th), employment rate (3rd) and business stock per capita (1st).

Cities making progress

Cambridge (4.6%) and Aberdeen (2.4%) post the most impressive business stock growth in this year's report. Aberdeen also performs well in employment growth, which grew at 2.4%. **York** is the only city in the top 10 to outperform Aberdeen in the employment rate index, with growth of 3% propelling the city to 6th.

5.11 Astbury Marsden: Preferred Location Survey

In July 2012, recruitment consultant Astbury Marsden conducted a survey of 462 people in the financial services sector. The survey sought to establish perceptions on where those working within the investment banking industry would most like to work.

Statements of success and failure

A simple poll of the perception of those surveyed, this report offers no specific success criteria.

Cities highlighted by the report

Astbury Marsden's report states that 31% of respondents selected **Singapore** as their preferred location to work in investment banking. This figure is up from 27% in Astbury Marsden's 2011 survey. The rankings were completed by **New York** (20%), **London** (19%), **Hong Kong** (16%) and **Dubai** (15%).

Comparatively higher taxes in New York and London and low wage growth since the financial crisis of 2008 in the financial sector are highlighted as factors in making Singapore and, to a lesser extent, Hong Kong, more attractive. Astbury Marsden commented that:

"the increasing mobility of the workforce means that far more London-based bankers are now more willing and able to relocate the 6,700 miles to Singapore."

The report also asked participants which cities would be the leading financial centers in 10 years' time. 60% of bankers surveyed expected the Asia-Pacific region to be the biggest financial services centre in 10 years' time while 20% expected London to be the major finance hub in 2022.

Among respondents, Hong Kong (22%) and **Shanghai** (22%) are predicted to be the major centres in 2022, with 16% predicting that Singapore will be the largest.

Cities making progress

The survey indicates that there is a considerable swing in perception of the best places to work from West to East and particularly to Singapore.

5.12 Wall Street Journal: Innovative City of the Year

The Wall Street Journal (WSJ), in association with Citi and the Urban Land Institute, asked its readers to nominate global cities that have, in the past year, demonstrated innovative responses in the wake of the global financial crisis. With the votes counted, the WSJ and its partners are finalising the shortlist of three top innovative cities from which the winner will be selected. In the meantime, the publication has released the names of the 25 cities topping the reader polls.

Statements of success and failure

The criteria for innovation in this context is broad, but solutions to familiar themes in urban development: transport, sustainability, clean energy, cultural awareness and civic responsibility, to name but a few, are those most commonly highlighted in this index as innovative and worthy of inclusion. WSJ's research partner, the Urban Land Institute notes that:

*'[the] global financial and economic crash of 2008, and the persistent economic fragility of many of the world's regions since then, has challenged cities to maintain their innovative momentum. Uncertain times reveal the depth of the innovative mind-set and test a city's capacity to adapt and re-imagine itself. These 25 cities have stepped up to the challenge — the scale and scope of avenues they have pursued since 2008 exhibit a sustained and growing commitment to development.'*¹⁴²

Cities highlighted by the report

London has been making steady progress, improving its environmental profile in recent years. The Thames is ranked as one of the world's cleanest urban waterways; CO₂ emissions per unit of GDP are a third of the European average: and, behind Berlin, Londoners recycle more waste than any other large European city. The construction of the London Array, a 1,000 megawatt wind farm in the Thames Estuary to the east of the city, is the world's largest offshore wind project. It will power 25% of London's homes and displace 1.9 million tonnes of CO₂. The 2012 Olympic Games have also provided London with the stimulus to regenerate the brown field Lea Valley area of the city.

Financing development, while traditional lines of credit are in short supply, is a particular challenge of the time. **Chicago** is singled out for its response in this regard. In Spring 2011 the city launched an Infrastructure Trust – a fund in which private financing organisations can invest directly on targeted municipal projects with low risk medium-term yields. This is the first time such a finance mechanism has been attempted at a municipal level.

'Culture' and 'liveability' are the two watchwords this index uses to describe **Vienna**. The WSJ notes that the city uses less than half the amount of energy per capita than the European average. Vienna's buses operate on liquefied petroleum gas, and CO₂ emissions are a third of the European norm. The city's water supply is piped from Alpine springs using only gravity-generated electricity in transit to the Austrian capital.

Cities making progress

Although this is the first such report, it is worth noting the inclusion of a number of other cities on the shortlist. **Medellín**, for example, is commended in particular for progress made in improving public transport and accessibility in the city. Of particular note is the construction of a free public escalator, which scales one of the city's hillsides and connects the centre to one of Medellín's most deprived neighbourhoods. The result is that the

¹⁴² Citi, The Wall Street Journal, Urban Land Institute (2012), 'City of the Year', <http://online.wsj.com/ad/cityoftheyear>

former 35-minute walk up a steep mountainside is replaced by a six-minute escalator ride. In addition to this rather unusual transit solution *‘the city has seen great advancement in public transportation, with more than 500,000 residents and visitors using its Metro train system each day’*.¹⁴³

São Paulo continues to attract inward investment and showpiece events including the Football World Cup in 2014. As the city grows, its authorities are increasingly focused on the city’s sustainability. Already generating its total electricity from hydroelectric sources, São Paulo has made it compulsory to fit all new-build roofs with solar panels. Two waste-to-energy plants have also assisted in reducing the city’s CO₂ emissions by 20% since 2005.

5.13 Scientific Reports – Characterising Scientific Production and Consumption in Physics

This study puts science and technology at the heart of economic growth. It measures the publication database of the American Physical Society over a 50-year horizon to establish the metropolitan areas most prevalent in producing physics research. The study takes into account more than 2,000 cities with data from 1960 to 2009. While the early years of the study are given the provenance of the sole source of data, dominated by US cities, the picture is of scientific research being increasingly prevalent in the East.

More locally, in the United States, where research was traditionally concentrated on the coastal peripheries, there has been a gradual shift to research institutions in the country’s hinterland. In Europe, where the UK and Northern European cities dominate that continent’s research economy, there has been an increasing spread south and eastward.

The author’s note:

‘This findings suggest that the Internet, digitalization and accessibility of publications are creating a more levelled playing field where the dominance of specific areas of the world is being progressively eroded to the advantage of a more widespread and complex knowledge production and consumption dynamic.’

Statements of success and failure

With scientific research acknowledged as a key driver in economic growth, those cities that act as hubs of research and development are best placed to leverage this research base and capitalise on these developments.

Cities highlighted by the report

Boston is the clear world leader in the production and dissemination of physics research, leading the rankings consistently over the last three decades. With Harvard and MIT just two of the city’s leading research institutions, it is perhaps unsurprising that the New England city has managed to maintain its global supremacy despite the gradual de-concentration of research.¹⁴⁴

The Californian hubs of **Berkeley** and **Los Angeles**, both home to University of California campuses and linked to the technological powerhouses of San Francisco, San Jose and Silicon Valley, are the two next most prominent centres.

¹⁴³ Ibid.

¹⁴⁴ Scientific Reports, (2013), ‘Characterizing scientific production and consumption in Physics’ http://www.nature.com/srep/2013/130410/srep01640/fig_tab/srep01640_F5.html.

Paris leads the way for European centres with Paris and its suburb, Orsay, both listed in the world's top 10 in 2009. Orsay's progress in the first five years of the new century, and Paris' in the second five years of the same decade, have been meteoric. Tokyo, ranked 4th in 2009, is the leading Asian centre, and the only Asian city within the top 20, demonstrating the Japanese capital's long-term status as a centre for high-tech research.

Rome features above London in 9th and 11th respectively, as the only two other non-North American centres on the elite list in 2009, with London a new entry. The remainder of the list comprises American cities, with Chicago leading a host of other smaller, university campus cities.

Cities making progress

As the first instance of the index examines a 50-year period, the general progress highlighted above applies.

5.14 EIU-Bank of Communications: Sea Turtle Index

The EIU-Bank of Communications Sea Turtle Index benchmarks the potential returns on investment in international education. The index examines 80 global cities in the potential returns on an undergraduate education across five categories:

- **Educational returns:** how highly valued the education is elsewhere in the world, balanced against whether it represents good value for money.
- **Financial returns:** how open the investment environment is to non-nationals, and how high are policy, economic and currency volatility risks that may affect returns on investments.
- **Real estate returns:** the potential of the local real estate market, the likely returns on investment in the form of rent and how taxes will affect those returns.
- **Work experience:** the openness of the local job market to overseas skilled applicants, whether overseas students are supported by their university in seeking jobs and whether the local economy offers high-pay, low-tax opportunities.
- **Social experience:** whether students are exposed to world-class cultural experiences and can study among a truly multicultural student body.

Statements of success and failure

As demand for higher education grows, student mobility grows with it. In 2010, 4.1 million students attended universities overseas and this number is set to rise. Potential students face an enormous choice in this global pool of universities. While the standard of learning is important, other factors are too, including returns on investments, employment opportunities and cultural offering.

Cities highlighted by the report

Generous immigration regulation and employment opportunities make Australian and Canadian cities a popular choice. **Montreal** tops the index with a score of 72.4. The city is praised for its openness to overseas students and value for investor parents. Canadian immigration allows students to remain in Canada after graduation for the same length of time as they studied in the country. Relatively low tuition fees and quality institutions, including McGill University, make Montreal an attractive proposition for international students, particularly those from the US.

London ranks 2nd overall with a score of 70.2. British institutions provide good value for money for international students and London's concentration of quality institutions is also credited. London also scored highly for cultural vibrancy.

London edges out national neighbours, **Cambridge** (5th) and **Oxford** (6th). These universities cities rank 1st and 2nd for educational returns and equal 6th for financial returns. Perhaps surprisingly, work experience is considered the weak link for both cities where they rank below half way.

Hong Kong (3rd) is the leading Asian city on the list. This high ranking reflects the city's openness to investment, excellent real estate returns and the improvement in the provision of quality education. The city's role as the gateway to the East provides a cultural diversity and vibrancy popular among students.

Boston is the highest rated city from the US in 7th. The quality of its institutions is the city's strength but work experience opportunities are considered a weakness and the reason for the city's ranking down in 7th. The high cost of living in Boston also counts against it.

Sydney is the leading Australian city in the index. The social experience in the city is rated highly – 5th in the world and its work experience credentials are also in the global top 10.

Cities making progress

No comparison is available at this time.

5.15 CNN Money and Fortune: Best new global cities for start-ups

This CNN Money Index, compiled by Fortune, utilises existing data from the Global Innovation Index (co-published by INSEAD and the UN's World Intellectual Property Organization) - a benchmarking tool which rates nations on criteria including technological infrastructure and the quality of high-tech education. From this base data, Fortune then assesses the effectiveness of each country's technology-stimulus policy – assigning further credit to those countries that have managed to successfully get technology products from development to market. The index then drills down to assess which cities within those countries have the greatest density of tech start-ups and which are most hospitable to hosting the next generation of tech companies.

Statements of success and failure

The **San Francisco Bay** area has set the benchmark for balancing capitalism and creativity to create a hospitable climate for technology start-ups. This index seeks to identify the next generation of start-up cities which combine business friendly policies, R&D and sustainability to foster the next generation of tech companies.

Cities highlighted by the report

As a percentage of GDP, **Zurich** files more patents than any other country in the world. This culture of innovation is working to attract established technology operators including Google and Yahoo, who, no doubt, also attracted by the city's favourable tax treatment, have both opened European headquarters in the city. Home to quality educational facilities and hundreds of start-ups – Doodle among the most well known – the city is establishing a reputation as a burgeoning start-up centre.

The first of three Northern European cities on the list is **Stockholm**. The city's Kista district, Sweden's so-called 'Wireless Valley', is home to 700 start-ups including Sound Cloud and Spotify. Once again, business-friendly policies and an emphasis on R&D lie at the heart of the Swedish capital's success, with the national government ploughing 3.6% of the country's GDP into R&D. **Copenhagen** joins Stockholm in the index, similarly boasting business-friendly policies and an open and creative culture. Tech executives further contributed to the city's potential with the creation of Founder's House, 'an invitation-only workspace designed to incubate upcoming tech entrepreneurs.'¹⁴⁵ **Oulu**, in Finland, a city of only 140,000 inhabitants, but which hosts 800 small-tech businesses, completes North Europe's triumvirate.

Singapore breaks European hegemony in CNN Money's Index. The Singapore government prides itself on its business-friendly image and a raft of incentives including tax credits for R&D make Singapore an attractive proposition for start-ups. With a particular emphasis on attracting science-focused organisations, Singapore has been able to attract a number of major pharmaceutical companies including GlaxoSmithKline, Roche and Novartis.

The index is completed by two more European cities. **Eindhoven's** one-square-kilometre Brainport district accounts for 'more than 100 companies and institutes and some 8,000 researchers, developers and entrepreneurs who churn out nearly 50% of all Dutch patent applications' and is recognised by the report for its sustainable credentials. And finally the low-cost English speaking and low-tax regime in the Irish capital make **Dublin** the final standout start-up hub in this index.

Cities making progress

As the first edition of this survey, it is not possible to assess ongoing trends.

5.16 ARC Centre of Excellence for Creative Industries and Innovation: Creative Cities Index

The ARC Centre of Excellence for Creative Industries and Innovation is a leading research unit funded by the Australian Research Council that specialises in the role of the creative industries. This 2012 report examines the challenges facing index authors in selecting a set of indicators that accurately measure a city's creative performance, absolutely and relative to other cities.

The authors highlight strands of informal creativity and productivity that are not captured by conventional city creativity and economic metrics as new strands of creativity are being identified. Consumer imagination, user co-creation, amateur production, social learning and 'microproductivity' remain difficult to measure objectively and are often absent in major indexes.

This report attempts to analyse the inadequacy of existing creativity indexes and provides a prototype index with a more sophisticated methodology.

The index examines a small sample of six cities: **Berlin, Bremen, London, Cardiff, Melbourne** and **Brisbane**. The cities have been selected in national pairs: with one metropolitan and one provincial city from each country. German cities have been selected in order to challenge data accumulation in non-English speaking countries.

The report combines economic and cultural metrics and utilises a complicated systems-based framework. This emphasis on 'evolutionary complexity' is, according to the report's authors, a better measure of city creativity than conventional aggregation-based approaches in existing metrics.

¹⁴⁵CNN Money (2012), '7 Best New Global Cities for Startups', <http://money.cnn.com/gallery/technology/2012/09/19/startups-global-cities.fortune/6.html>

Statements of success and failure

The Creative City Index settles upon eight components of the creative city:

- Creative industries scale, scope and employment
- Microproductivity
- Attractions and economy of attention
- Participation and expenditure
- Public support
- Human capital and research
- Global integration
- Openness, tolerance and diversity

These metrics seek to provide a better measurement, absolutely and relatively, of a city's creativity. Though this report is a working prototype and is only applied to six cities, the development of this index may prove an interesting development in this historically problematic area of city indexes.

The report's authors note '*[cities] are crucibles of everyday human inventiveness through the rapid experimentation, market feedback and social copying processes that drive creative endeavour. Some cities do this better than others, and those that do can become great creative cities.*'

Cities highlighted by the report

Predictably, **London** dominates the six cities featured in this working prototype. What is, perhaps surprising is the level to which the British capital dominates. Leading in seven out of the eight categories, the report's authors note that London, as an example of a major creative hub, dominates its smaller rivals to a greater extent than is typical in conventional metrics with less magnitude of per capita variation.

The economy of attention metric is dominated by **London** and indicates exponential difference between smaller cities and major global cities that combine scale with creativity. The authors note that this 'super-scaling' pattern is also identified in the microproductivity metric in which London is equally dominant.

Berlin comes 2nd in the index, taking a number of second places. The German capital scores particularly well relative to other cities (excluding London) for its economy of attention and microproductivity. **Berlin's** human capital and research score of 75.2 is strong both in absolute terms and relative to the other cities, where it is only just behind London in 2nd place.

Melbourne comes 3rd in the metric with particular strength in the openness category. **Brisbane** (4th) is the only city to have claimed a scalp over London in the public support category. **Bremen** 5th and **Cardiff** (6th) complete the pilot index rankings.

5.17 IDC Spanish Smart Cities Index

This IDC white paper examines the smartness of the 44 largest cities in Spain, with populations over 150,000. The index analyses eight 'building blocks' in two groups:

Smartness dimensions

- Government
- Buildings
- Mobility
- Energy and environment
- Services

Enabling forces

- People
- Economy
- Information and communication technologies

The index contains 93 indicators in all, across 23 criteria and is the most detailed examination of urban smartness in Spain. Results are grouped into a top five, with a further five 'contenders' taking up the next spaces. The next 20 cities in rank are categorised as 'players', with the bottom 14 cities in the given category 'followers'.

Statements of success and failure

IDC contends that becoming a smart city requires vision, political will, leadership, broad-based inclusion, investment and collective intelligence.

Cities highlighted by the report

Since the first edition of the index in 2011, the report shows significant progress in many cities.

Barcelona leads the index. The Catalan city is taking strides to establish a strong public-private alliance to turn Barcelona into a world-class smart city. The city is working with major corporates, including Endesa, Cisco and Orange, to develop a sophisticated digital infrastructure including remote access, traffic lights, traffic cameras and environmental services.

Barcelona is also exploring other initiatives through its 22@ innovation district, seeking to build links with corporates to stage pilot events such as the Smart City Expo World Congress. Barcelona is also developing financing structures to fund the Smart City project. Public budgets are being utilised alongside financial instruments including the EC Miracle Civitas programme.

Santander comes 2nd in this year's study. The city's strategy is founded on the pillars of innovation and collaboration, and ambitiously wishes to use Smart Santander as a city-scale smart experiment. Smart Santander also utilises public-private collaboration with Telefonica, Alcatel-Lucent and Ferrovial among the major corporates working in collaboration with the city authorities to deliver smart solutions.

Santander's city strategy plan has established the framework for Santander's smart journey and plans to utilise private investment over public funds and, like Barcelona, is keen to exploit EC funding.

Bilbao in 5th place also scores well. The city's smart framework is laid out in the Digital Agenda 2012 plan that has guided the city's strategy for the last five years. Public-private collaboration in Bilbao includes the 'Bilbao Kilorak' project that aims to cut energy costs in the city by 25% and reduce overall electricity consumption by 14%.

Madrid and Malaga complete the top five. Valladolid, Zaragoza, Vitoria, San Sebastian and Pamplona are the 'five Contenders'. Cities that perform poorly include Granada, Jerez and Getafe.

Cities making progress

The most significant progress this year has been made by the leading cities, notably Barcelona and Santander.

5.18 UBM Future Cities: Top 10 Internet Cities

Prominent blog on the future of urbanism, UBM Future Cities has introduced a new study into how well connected world cities are to the internet, given the growing role being online plays in city life. UBM highlights the growth of e-commerce, smartphone apps, social networking and GIS as fundamental to the new generation of urban experience, both socially and economically, but also to factors such as disaster response. 10 cities were highlighted, in no particular order.

Statements of success and failure

Five major factors are identified as key to a successful city in this area:

- Fast average internet connection speed
- Widespread availability of free citywide Wi-Fi and 3G networks
- Support for start-up companies
- Openness of public data including property records and public statistics
- Commitment to security and data protection

Cities highlighted by the report

Continental Europe and East Asia dominated the 10 winning cities in this index. The strength of the internet infrastructure in Seoul, Hong Kong and Tokyo is unparalleled, and the pervasive access to Wi-Fi has cultivated highly web-savvy citizens.

Nominated European cities excelled because of their commitment to smart city projects, open data, digital citizen contributions and extremely fast broadband in the future. This especially typified Vienna. The nominated North American cities of Seattle and Montreal, have some progress to make to roll out on-the-go Wi-Fi, but are considered the region's strongest proponents of start-up culture and civic data usage.

Cities making progress

The first index was produced in August 2013 so progress cannot yet be tracked.¹⁴⁶

¹⁴⁶ Mary Jander (2013), 'Discover the World's Greatest Internet Cities', UBM Future Cities, www.ubmfuturecities.com/document.asp?doc_id=525595

6 Infrastructure and Real Estate Indexes

6.1 Mercer Consulting: Infrastructure survey

Mercer's quality of life survey has periodically incorporated an assessment of city infrastructure in an adjacent ranking to its quality of life assessment. This list is based on electricity supply, water availability, telephone and mail services, public transport provision, traffic congestion and the range of international flights from local airports.

Singapore has led the world in this index for the past five years, thanks to its high overall standard of basic infrastructure, excellent international connections and comparatively free-flowing traffic. German cities excel in this area, with **Frankfurt**, **Munich** and **Düsseldorf** occupying 2nd, 3rd and 5th places globally. Large finance cities, in general, perform surprisingly well because of the large scale of their infrastructure platforms. **Hong Kong** and **London** have risen from equal 8th to equal 6th since 2009, while Japanese cities have fallen slightly. It is notable that no BRIC cities appear in the top 50.¹⁴⁷

6.2 fDi Intelligence: Global Free Zones of the Future

In 2010, fDi Magazine introduced a new addition to its comparative analysis of investment destinations. fDi has now published a follow-up covering 2013-2014. Over four months, 56 economic zones across the globe completed a survey of qualitative and quantitative statistics regarding their zones. Eligible zones include free-trade zones, special economic zones and country zones.

Zones were measured by an independent judging panel on economic potential, cost effectiveness, facilities, transportation, incentives, FDI promotion strategy, airports and ports (if applicable). Zones could gain up to 10 points for each category, weighted by significance. fDi uses a certain amount of subjectivity when assessing areas of strategy and success.

Statements of success and failure

The strongest free zones on this ranking are initially those with a high amount of land, high volumes of imports/exports and with a growing number of firms operating. Beyond size, zones with the best potential need to have excellent incentives, a range of planned infrastructure enhancements, and a clear vision for growth.

Cities highlighted by the report

Middle Eastern cities are very prominent in the new index with 23 of the top 50 zones located in the region, of which 14 are in the UAE. The Middle Eastern contingent is headed by **Dubai Airport Free Zone** which improved upon its 2nd place in 2010 to take the top spot in 2012-2013. The zone, established in 1996 and the fastest-growing in the Middle East, is praised for its ability to attract FDI and for its transport links. A new entry, the **Dubai International Finance Centre** follows close behind its neighbour in 2nd place. **DuBiotech** and **Dubai's Media City** and **Knowledge Village** also feature in the top 10.

¹⁴⁷ Mercer (2012), '2012 Quality of Living Worldwide City Rankings', <http://www.mercer.com/press-releases/quality-of-living-report-2011#City-Rankings>

Shanghai Waigaoqiao Free Trade Zone (WFTZ), China's largest free-trade zone, drops two places, based on the number of firms – 9,000 - it has attracted to set up operations; it is home to over 30% of all foreign companies in the city. Notably, it is the only Chinese zone in the top 50 ranking, demonstrating its dominance in East Asia.

Iskandar in Malaysia comes 4th in this year's study, ahead of the T anger Free Zone in **Tangier**. The leading European entry is **Ventspils** in Latvia which ranks 7th. South Asia's leading free zone is the Chittagong Export Processing Zone in Bangladesh.

Cities making progress

While the study is dominated by the free zones of the Middle East and particularly the UAE, the report highlights the progress made by Eastern European free zones. Zones in Eastern Europe benefit from excellent infrastructure and transport. Access to airports and ports, and the strategic clustering of infrastructure assets, gives European sites a competitive advantage over other regions. Polish cities perform especially well with free zones in **Katowice** (11), **Lodz** (18) and **Walbrzych** (22) all among the top 25.

6.3 Urban Land Institute (ULI) and PwC: Emerging Trends in Real Estate

Emerging Trends in Real Estate is a report produced by the Urban Land Institute (ULI) and PricewaterhouseCoopers. Now in its 34th edition, reports in 2013 exist for Europe, North America and Asia-Pacific, providing a critical outlook on property investment and development trends across hundreds of metropolitan areas worldwide.

The research process involves a combination of surveys (70%) and interviews (30%) with real estate investors, developers, property companies, lenders, brokers and consultants.

The 2013 reports describe a 'low-gear real estate recovery' that looks set to continue this year, even in the troubled residential sector. While those in search of short-term gains will be frustrated by global interest rates at record low levels, real estate continues to offer a steady medium-term investment.

North America

2013 sees significant improvement in the market as a whole. North America's protracted real estate downturn has led to investors concentrating on primary coastal markets at the expense of secondary centres. Inflated prices in these top centres, which include **San Francisco** and **New York**, do however cause some concern with interest growing in secondary markets as a result of high prices in prime locations.

The best-performing cities are those which function as gateways to global markets, and those in the warmer Southwestern states which have international airport access for back-office support. Often it is these metropolitan areas which have large pools of talented and educated young people, enabled by universities, R&D facilities and a technology, healthcare and education presence. 'American infill' locations – those with strong transit and walkability systems - also perform well.

In this context, two cities stand out in the US: **San Francisco** and **New York**. Both continue to attract institutional and foreign buyers seeking prime assets. San Francisco tops the investment, development and homebuilding rankings.

A second tier of high-performing cities with business and cultural connections to Asia, Europe and Latin America appear as the next most attractive to property investors in the medium term. **San Jose**, **Boston**, and **Seattle** have clear connectivity and knowledge economy advantages in this regard, and are ranked 3rd, 6th and 7th respectively for investment prospects.

Austin and **Houston's** real estate markets reflect the strength of those cities' buoyant economies, and rank 4th and 5th respectively. Massive employment growth in the software and energy sectors in Texas has triggered a surge in both commercial and residential markets.

Major cities in Canada have experienced less real estate market distress during the downturn, despite rising vacancies and stalling rents. Low government debt and a buoyant resource sector have incubated Canada from the worst of the property crash. ULI in 2013 identifies, in line with other real estate metrics, that Albertan cities offer the most impressive real estate growth. **Calgary** and **Edmonton** share top rankings across all metrics and outperform **Toronto**, the long-term top performer in Canada.

Europe

The ULI Emerging Trends Europe study reports a return to optimism among property professionals in 2013. European cities benefit from the availability of substantial equity, and experts predict that this equity flow will only increase. Bank debt, however, already at low levels, is expected to contract further. Investors' risk appetite is increasing. 2013 sees greater investment in non-prime assets in established cities such as **London** and **Munich**.

German cities are performing strongly in 2013. **Munich** has held the top spot in Europe for the last five years in terms of investment prospects, benefiting from a strong national economy (driven primarily by manufacturing exports to emerging markets) and very strong reputation for stability. Increased appetite for non-prime investment opportunities in the city adds to Munich's strength.

Hamburg has also scored well in recent years, and climbs to 5th in investment prospects in 2013. While **Frankfurt** continues to suffer relative to national neighbours due to concerns about its heavy finance dependency, it remains in a respectable 11th. Behind Munich, in 2nd, Berlin performs strongly again, particularly in terms of the performance of existing investments.

Istanbul has been a leading performer in recent years and now almost matches London in investment prospects for existing property, and has become the outright leader in Europe for new property investment potential and overall development prospects. Expectations for capital and rental growth in the Turkish city are market leading. Investor optimism has been retained since it returned in 2010, especially locally, thanks to the city's thriving economic growth.

Elsewhere, the larger established European destinations have returned to near the top of the rankings. **Paris**, **London** and **Stockholm** all record top seven positions across the board due to their diverse economic bases, lower volatility, lower risk and higher stability, amid an environment where investors are resigned to lower profit margins.

At the other end of the spectrum, cities whose economic fundamentals are weak have been rejected by investors. The chief losers are **Dublin** and **Athens**, while **Lisbon**, **Barcelona** and **Madrid** remain precarious markets in the bottom 10 cities across all metrics.

Cities in Central and Eastern Europe are gradually improving their property investment credentials. **Moscow** has recovered slightly from its significant drop in 2010 and enters the top 10 at 9th. **Warsaw** is judged to be a fair market, entering the top 10 for existing property performance.

Asia-Pacific

While European and North American markets are demonstrating increased investor confidence, Asian markets are experiencing a period of uncertainty in 2012-2013. While local investors remain bullish, international investors in Asian markets are more cautious. Given the uncertainty, investment flows are greater in the larger and more liquid markets in 2013. Tokyo and Australian cities are benefiting from this trend.

Singapore and **Shanghai** have been the two standout cities in this study in recent years, both appearing in the top five in the Asia-Pacific region for investment prospects since 2007, and one of the duo has ranked top in three of the past five years. In 2010, Shanghai recorded the largest rating increase in Asia for both investment and development prospects, but the city slipped to 2nd in 2011, overtaken by Singapore. However, a dramatic rise in prospects for **Jakarta** (ranked 11th in 2012) sees it taking the top spot, ranking 1st in both investment and development criteria. With interest rates in Indonesia now under control and FDI flooding in, Jakarta's real estate market is seen as the most attractive in the continent.

The other big mover in recent years is **Mumbai**, which has risen to 3rd for investment prospects, having been 17th only in 2007. However, two successive years of decline sees Mumbai slump to 20th.

Australian cities have made clear year-on-year improvements in their investment ranking. **Sydney** has risen 12 places to 4th since 2007, and is described as a safe place of retreat for foreign funds, given its mature property market and commodity-based economy. Likewise, **Melbourne** has recovered from a dip during the immediate recession years to rank 10th in 2012. Other cities showing signs of medium-term success are **Kuala Lumpur**, which enters the top five for the first time, and **Manila** which jumps from 18th to 12th.

A number of leading cities experienced setbacks in their investment credentials in 2011, indicating that Asian powerhouses are not uniformly attractive to international real estate investors. **Bangalore** suffered a drop in confidence in 2013, falling to 19th, having gradually climbed to 9th in previous years. Meanwhile, **Guangzhou** dropped a very disappointing nine places to 15th from 6th.

6.4 Citi bank and Knight Frank: Wealth Report

Since 2010, Citi bank and Knight Frank have collaborated to produce a keynote study into the high-end residential property market. It explores the desire of high net worth Individuals to own and invest in upscale property, identifying the emergence of hotspots around the globe and the continued importance of property as an investment asset for the super-rich seeking long-term capital growth.

The report incorporates three distinct assessments. The Knight Frank Prime International Residential Index (PIRI), which claims to be the most comprehensive analysis of global luxury residential markets, is compiled using data supplied by the estate agent's global network and is based on figures updated throughout the year. The PIRI analysis is joined by the EIU Global City Index, an assessment of 120 cities conducted by the Economist Intelligence Unit and commissioned by Citi. Finally, the 2012 Report also includes a new feature: a Global Cities Study – a subjective survey utilising intelligence from Citi Private Bank's wealth advisors and Knight Frank's own luxury property network.

Statements of success and failure

Between 2010 and 2012 the Wealth Report has explained the growing significance and dynamism in the global property market, and the opportunities for cities that emerge with it. Successful cities are those which can host 'luxury, prime or prestige' property as markets recover on the back of improved confidence and the return of global economic growth.

The centre of gravity of global wealth continues to shift eastward. The report notes that with 18,000 cent-millionaires, Asia boasts more individuals in this super-rich club than both Europe and North America. Yet economic growth is not necessarily enough to make a city attractive to HNWI.

Markets that will be most successful in the long term are those whose price growth is sustainable. Personal safety and security, economic openness and social stability topped respondents list of demands in a global city in which they would reside, with availability of luxury housing, quality education and communities of other HNWI as important but secondary considerations. A 'safe haven' mentality among respondents is a prominent feature in the 2012 report; a trend which plays into the hands of traditionally secure and stable markets, such as London, which attract residents from both emerging markets and HNWI from Southern Europe escaping the fallout of the eurozone crisis.

Yet macro and microeconomic considerations obviously play an important part in the dynamic. By way of example, governmental price control in mainland China – an attempt to cool the booming residential property market - has caused Chinese property investors to look to commercial and residential property markets in Hong Kong, where such restrictions are absent.

Cities highlighted by the report

Despite the very weak performance that has afflicted the major markets since 2009, several prime markets are bucking the trend in 2012. Knight Frank identifies **Nairobi**, **Jakarta**, **Miami** and **London** as all achieving double-digit growth between mid-2011 and mid-2012. London is described as the exemplary global market, capable of withstanding the impact of introducing new stamp duties of 7% for individuals purchasing £2 million+ homes. Among the global financial centres, **Singapore** also receives credit for maintaining steady price progress despite a new 10% stamp duty on foreign buyers. The city-state benefits from its reputation among wealthy Chinese, Indonesian and Indian buyers, whose interest has survived the implementation of the new surtax.¹⁴⁸ **Moscow** is additionally forecast to perform well into 2013.

After the financial crash, Gulf cities were highlighted for their continuing price decline, but a clear recovery has been subsequently noted in 2012. **Dubai** (-45%) and **Abu Dhabi** (-10%) were among the main losers in 2009, but these hubs are performing much more strongly in 2012, with Dubai increasing faster than any city in early 2012, with a rise of 4%.

Likewise, American cities that suffered heavily in 2009 and 2010 are attracting much greater investment. **New York** had declined by 12.5% and San Francisco by 16% in 2009, but in 2012 they lead a resurgent North America that has seen luxury prices increase by an average of 7.7% since 2011.

Asian cities were the big winners from the 2009 market fall, rising an average of 17% despite an average decline of 5.5% worldwide. Chinese cities performed most successfully in the index. **Shanghai's** prices rose by a leading 52% in 2009, with **Beijing** slightly behind on 47%. The report points to an exceptional scale of demand in China, with 8.5m new homes sold in China in 2009, compared with about 500,000 in the US. It suggests China's growth

¹⁴⁸ Property Wire (2012), 'The value of prime property in the world's key cities fell in first quarter of 2012', <http://www.propertywire.com/news/global-news/global-cities-property-prices-201205156526.html>

is not just a bubble but a genuine compelling market advance, driven by long-term migration from rural areas. In the Asia-Pacific region, only Kuala Lumpur (-1.8%) suffered a decline.

Political centres, such as **Washington DC** and **Beijing**, are highlighted for being transformed into banking as well as policy hubs, attracting new types of property owner.

Cities making progress

Three-quarters of the locations featured in the report's Prime International Residential Index witnessed falling prices in 2009, while only some cities recorded strong growth.

Three cities, which were among the worst performers in 2008, are now among the highest. **Hong Kong** has made the biggest recovery, rising dramatically from 55th to 3rd. **Singapore** (51st to 5th) and **London** (53rd to 9th) also made excellent revivals. All three markets are praised for having proven the long-term attraction of prime residential property, with buyers and investors seeking to capitalise on improved value.

6.5 Cushman & Wakefield: Main Streets Across the World

The Main Streets Across the World index provides a detailed analysis of retail property rental performance worldwide in the 12 months to June 2008. The information and data accumulated is based on a comprehensive survey of Cushman & Wakefield's international offices supported by a comprehensive database of market information and regular liaison. The report aims to facilitate the exchange of local market knowledge and expertise and the coordination of strategy for international investment and locational decision-making.

The index tracks retail rents in over 200 shopping worldwide locations across more than 40 countries. The report's global league table is drawn up by looking at the most expensive location in each of the countries monitored.

Statements of success and failure

The survey notes the slowdown in growth that was just beginning when the report was published. It notes that city markets in the US, UK, Spain, Italy and Ireland are at greater medium-term risk than stronger performers in Asian and Central/Eastern European economies.

Cities highlighted by the report

Main Streets in **Buenos Aires**, **Toronto** and **São Paulo** recorded the highest recent rental cost growth in the Americas, well ahead of most struggling US city hubs. São Paulo's Iguatemi Street has entered the top 10 most expensive locations in the Americas.

In Europe, the strongest growth in rentals by far has been on the main streets of **Istanbul**, followed by **St Petersburg**, **Moscow** and **Warsaw**, although the most expensive locations remain in established high-end retail centres such as **Paris**, **Milan** and **Dublin**. **London's** most expensive retail street, New Bond Street, has fallen down the list of most expensive locations, overtaken by Dublin and Milan between 2007 and 2008.

In Asia-Pacific, the most pricey retail locations are in the more developed cities of **Hong Kong**, **Tokyo**, **Brisbane**, **Sydney** and **Seoul**. However, the strongest growth has been in four different locations in **Mumbai**, which each recorded a remarkable rental growth between 90 and 180% in the 12 months up to mid-2008. Mumbai has made

one of the biggest relative rises in the rankings of the world's most expensive retail locations. A number of other Asian hubs continue to perform well, including **Kuala Lumpur**, **Singapore** and **New Delhi**. The success of cities in India is attributed to the rapid expansion of the retail sector and the continued popularity of main streets as the preferred location for major lifestyle brands.

Other high performers elsewhere in the world include **Beirut** and **Tel Aviv**.¹⁴⁹

6.6 Cushman & Wakefield: International Investment Atlas

Cushman & Wakefield produces an annual account of activity in the global commercial real estate investment markets early in each year to give an indication of activity in the year ahead. In 2011, its information was based on estimates made in February relating to recorded transactions of commercial property only, excluding residential space.¹⁵⁰

Cushman & Wakefield notes that China was again the country receiving the most global property investment in 2010, but only just ahead of a resurgent American market. China is now the 9th largest market for standing investments, rising each year. Eight of the world's top 20 markets are in the Asia-Pacific region. The report identifies a number of national markets performing very well; Brazil, Norway, Sweden and Canada. European nations such as Denmark, Belgium, Spain and Italy, as well as South Korea, all suffered in 2010.

Cities highlighted by the report

The leading world cities have usually headed this ranking in recent years thanks to their depth and gateway status. A consistent top performer in post-recession investment indexes, **London** was the largest global investment market for the second year running in 2010. Its turnover of commercial real estate rose 17% on 2009, up to US\$21.1bn. Its excellent performance is attributed to the city having retained its status as a safe haven of the global market, and as a global attraction and gateway to Europe. **Tokyo** also witnessed a strong year for investment, ranking 2nd at US\$15.6bn, up 19%, while **New York** recorded a spectacular doubling of volume to almost US\$12bn. **Paris** completed the top four with US\$11.7bn of turnover.

The Asian powerhouses all feature in the top 20, with **Beijing** (16th), **Shanghai** (14th) and **Hong Kong** (5th) all demonstrating their capacity to compete at the top in terms of commercial investment.

Cities making progress

A number of significant European and North American cities rebounded into the top 20 in 2010, indicative of their medium-term resilience. **Frankfurt** (18th), **Berlin** (17th) and **Stockholm** (15th) all improved several places, as did **Toronto** (12th), **Dallas** (20th) and **Chicago** (10th). After a disappointing 2009, **Singapore** was resurgent in 2010, ranking 9th with turnover over US\$5bn. Six of the top 20 were Asian cities, compared to seven in North America. One other city performing strongly in 2010 was **Sydney** (11th), which punched above its weight in this field.

¹⁴⁹ Cushman & Wakefield (2008), 'Main Streets Around the World', p.2-5

¹⁵⁰ Cushman & Wakefield (2011), 'International Investment Atlas 2011', pp.2-6

6.7 Cushman & Wakefield: Office Space Across the World

Cushman & Wakefield (C&W) also produces an Office Space report which details prime office property rental performance and occupancy costs worldwide. The latest report was based on data mined across 2010. Figures are collected in cities' local currencies and then calculated into euros for a final ranking.¹⁵¹

C&W states that the office market suffered one of its most severe downturns in history in 2008-2009, and that 2010 marked a year of gradual recovery. In cities globally, office market rents rose slightly by 1%, with rents in all regions improving except for the Middle East and Africa. South American cities showed the best average year-on-year performance, with growth of 12%. Looking to performance in 2011 and 2012, C&W suggests that in most cases a rapid expansion in demand is not likely, even though employment prospects are brighter.

Cities highlighted by the report

Hong Kong witnessed a dramatic rise in rental values, becoming the most expensive in the world, overtaking **London** and **Tokyo**. Europe's recovery in rental values was driven by success in London, where letting activity was recorded at a 10-year high, fuelled by pre-lets, while supply of good-quality space diminished. There is a large gap to Tokyo in 3rd and a further gap to a group of about 10 cities in a second tier.

Values in **Manama** and **Muscat** fell more than in any other cities in 2010, by 33% and 27% respectively, while rents in both Dubai and Abu Dhabi also fell over 20%.

Cities making progress

Remarkably, the most expensive location in the Americas for the first time was **Rio de Janeiro**. With a year-on-year growth of 47%, this marks the first time a Latin American location has been the highest ranked in the hemisphere, with **New York** having long been the leader and itself growing faster than anywhere in North America. By contrast, the **Buenos Aires** market was subdued, with tenants preferring to consolidate and concentrate on lease renewals.

Other cities to perform among the best in their continent in 2010 include Vancouver, Santiago, Beijing, Shanghai, Tel Aviv, Singapore, and Warsaw.

6.8 Cushman & Wakefield: Industrial Space Across the World

As part of its series of mostly biannual reports on rental performance, Cushman & Wakefield's Industrial Space report details prime industrial property rental performance and occupancy costs worldwide. The latest report was based on data mined across 2010. Figures are collected in cities' local currencies and then calculated into euros for a final ranking. It should be noted that this particular study is not as comprehensive as the 'Main Streets' study, and features fewer cities.¹⁵²

Cushman & Wakefield reports that rents in the property sector fell by 1% globally in 2010, with only Asian cities recording positive growth (5% average) overall.

¹⁵¹ Cushman & Wakefield (2011), 'Office Space Across the World 2011', pp.7-16

¹⁵² Cushman & Wakefield (2011), 'Industrial Space Across the World 2011', pp.2-13

<https://www.cushwake.com/cwglobal/docviewer/CUS100810%20ISAW%202011.pdf?id=c41200031p&repositoryKey=CoreRepository&itemDesc=document&cid=c3390004p&crep=Core&cdesc=BinaryPubContent&Country=GLOBAL&Language=EN>

Cities highlighted by the report

London's Heathrow Airport remained the most expensive industrial location in the world, with prices exceeding €250 per square metre per year. The British capital's dominance was reiterated by its second location, Hammersmith, ranking 4th worldwide. Tokyo was the 2nd most expensive location, some 25% down, at €183, while Swiss hub Geneva improved to 3rd.

Singapore bounced back from a poor 2009 to rank in the top five, with rental values increasing by 15% over 2010, based on an improvement in manufacturing output and a related spike in occupier demand.

The report notes that there was a wide divergence in performance across the Europe/Middle East region. Dubai witnessed a considerable decline, while Abu Dhabi's performance remained robust. More than 10% declines were also felt in Madrid, Barcelona, Kiev, Turin, Athens, Leipzig, Tallinn and Zagreb, while growth was recorded in most French cities, (former West) German cities, Swedish cities and outliers such as Moscow. The comparatively strong performance in Western Europe was partly attributed to limited supply preventing a large fall in values.

The cities which struggled most in 2010 in North America were Miami (19th) and Seattle (10th).

Cities making progress

The highest rental growth was found in Greater Jakarta (22%), on the back of a strong economic recovery and a stable political environment. Other cities performing very strongly in 2010 included Bangalore (11%), Beijing (18%), Shanghai (15%) and Guayaquil, Ecuador (13%).

6.9 LaSalle: European Regional Economic Growth Index

The European Regional Economic Growth Index (E-REGI) ranks cities in Europe according to where demand for real estate is considered to be strongest in the medium term. E-REGI is a tool for investors, developers and occupiers, complementing qualitative approaches and supply-side knowledge.

In 2012 the E-REGI covered 106 cities across 33 countries in Europe with a combined population of 780 million. The report identifies a generally sluggish economic recovery, marked by strong regional discrepancies. The upper rankings are dominated by Northern and Western European cities, while cities in the south and east of the continent, with some notable exceptions, struggle.

E-REGI is a multi-factor model that ranks each city based on a weighted average of 15 variables. The model has most emphasis (60%) on economic growth factors – such as regional output, service employment and a measure of R&D expenditure to capture innovation potential. Another important measure is the overall level of wealth (20%) which correlates with real estate demand. Finally, there is a 20% weighting on a city's business operating environment, seen as critical to the attraction of foreign investors. Flexible labour markets, a favourable tax regime, and a low burden of regulation, are all advantages here.

Statements of success and failure

E-REGI tends to favour wealthy locations with very sound fundamentals that are resilient in an era of austerity. Swiss and Scandinavian cities are the main illustrations of such cities in Europe. In 2012 the index notes a widening inequality in performance, with regional disparities which are 'even more than last year'.

Cities highlighted by the report

As in many real estate rankings in 2012, **London** regained the leading position that it had lost in 2011. Improvements in GDP and employment growth are cited as the key factors behind London regaining its top spot. **Munich** (2nd) gains a position after being displaced by **Moscow** in previous years. The Bavarian city remains a highly-competitive investment for real estate, backed by strong growth forecasts and an innovative diverse economy. **Paris** (4th) also maintains its strong position in the top five thanks to its economic diversity and wealth concentration.

Moscow had made a 'spectacular entry' into the European top 10 in 2009, and the Russian capital ranked 2nd in all of Europe in 2010. However, despite strong GDP the Russian capital slips 77 places in 2012 owing to the volatility of Russia's economy.

Struggling cities were mainly located in Spain and Central/Eastern Europe, due to weak economic momentum and pure fiscal fundamentals. All of the Spanish cities featured dropped further places in 2012. **Madrid** (-25 places) **Barcelona** (-18) and **Bilbao** (-25) are among the biggest losers in Spain. **Athens** and **Thessaloniki** rank in the bottom five overall.

Most Eastern European cities have also struggled, owing to uncertain output forecasts. **Warsaw**, however, bucks the trend and is one of the region's leading performers. The Polish capital's GDP and employment growth propel it 15 places up the table to the brink of the top 20, at 21st.

Cities making progress

Bratislava's improved growth sees it improve 29 places up to 28th in the rankings. **Bucharest** scores even more impressive progress, climbing 36 spots to 35th. The Romanian capital is tipped as a growth market for the future.

6.10 CB Richard Ellis: How Global is the Business of Retail?

Since 2008, CB Richard Ellis has produced an annual global study of retailer presence and expansion. It is based on surveys of 320 international retailers across over 60 countries, and seeks to map the evolution and dynamics in the structure of the global retail market. The survey works to identify the types of retailer present in each country and city, their preferred method of expansion, and top target markets.

Its overall city ranking is based on the proportion of surveyed retailers with a presence in the city. The 2013 study has been expanded in scope and shows both penetration and depth of coverage to highlight the cities with most retail potential – Retailer Representation.

Statements of success and failure

CBRE maps retail presence under the assumption that retailers can now operate almost anywhere globally, and that cities must work to provide the best proposition to businesses. It notes that nearly one in two of surveyed retailers owns a physical store in all three major global regions. American retailers are noted as the most global, much more so than those from Asia-Pacific, where only a quarter of retailers have operations in all three regions.

Cities highlighted by the report

In the Hot Markets metric, CBRE reports that 81% of the cities featured attracted at least one new retailer. **Hong Kong** leads the way, with 51 new retailers opening in the city across all sectors in the last year. Demand from growing numbers of middle-class Chinese tourists lies at the heart of this phenomenal growth.

Mature retail markets in **Berlin**, attracting 28 new retailers, and **Singapore** and **Dubai**, both attracting 25 new retailers, also feature in the top five in this new metric.

The new format Retailer Representation metric better reflects both the footprint and depth of retailers' presence in the featured cities, taking into account potential retail range expansion.

With mature markets exposed to intense domestic competition, emerging centres take over from the more mature retail markets at the top of the rankings. Three of the top 10 cities that are building large store portfolios are Chinese. **Beijing** and **Shanghai** claim 1st and 2nd respectively. **Beijing's** 376 fashion retail stores are more than double the 155 of 5th place London. **Shanghai's** 339 international fashion stores are over 100 more than 4th place **Tokyo**. **Chengdu** in 10th is the third of the Chinese cities.

Among the more traditional retail cities, **Tokyo** comes 3rd and **London** 5th. Both cities perform very well considering major US cities, including **New York** (26th), do not feature in the upper echelons owing to domestic saturation and established international competition.

Cities making progress

With the metric's criteria changing in the year's report comparison with previous years is problematic. However, in the Hot Markets' criteria **Kiev** is making progress as the leading emerging centre in the top 20, coming 2nd overall, attracting 39 new international stores. **Sao Paulo** is the next best-placed emerging centre in equal 4th with 25 new stores opening in the past year.

In the Retailer Representation metric, second-tier Chinese cities are considered by CBRE as having the most potential. As well as **Chengdu**, **Shenyang** in 16th is considered a city to watch.

6.11 Akamai: Broadband Cities – The State of the Internet

Web platform Akamai publishes a 'State of the Internet' report every three months. The report includes data gathered from across Akamai's global server network about attack traffic, broadband adoption and mobile connectivity, and incorporates trend data. In 2009, it began for the first time to publish city-specific data, revealing which cities have the highest average and highest maximum broadband speeds.

Statements of success and failure

Naturally, cities with stronger and more secure broadband platforms are regarded as more suited to the business and casual internet user. Akamai notes that cities which are home to one or more major academic institutions tend to perform much better in the list, and feature prominently at the very top. In 2010, Akamai removed connections from known academic networks from the dataset so as to mitigate the distortive impact high-speed campus connections may have on overall city rankings. This has caused the dominant broadband university cities in the US – **Berkeley**, **Chapel Hill** and **Stanford** – to fall directly out of the top 100.

Cities highlighted by the report

East Asian cities dominate the top 100 list, with more than 60 of the top cities located in Japan alone, and 16 more in South Korea. South Korea in fact had 14 of the top 20 broadband cities at the start of 2011, indicating exceptional telecommunications in the country as a whole. By contrast, a declining number of only 11 North American cities make the top 100, and only 12 in Europe. As of early 2011 the only city in the UK to make the top 100 is **Bradford**, in 99th. It is also notable that smaller cities perform much better on average than larger ones, indicating the comparative ease to install high-quality infrastructure throughout small and mid-size cities than in large metropolises.

The city of **Masan** in South Korea was the top ranked city through much of 2010, but has been surpassed by neighbours **Daegu** and **Taejeon**. Of the major international Asian cities, **Seoul** is ranked an impressive 11th and **Hong Kong** 41st, the best-placed Chinese city. **Tokyo** ranks a fairly strong 68th. The top US cities are all in California, led by Riverside in the broader **Los Angeles** region, indicating the strength of Southern Californian broadband roll-out. Of the European representatives in the top 100, there is not a single major international city, with **Salzburg** the most established city in 94th place.

Cities making progress

There is no city-level analysis of progress in this index yet, but indications show that cities in East Asia and Eastern Europe are gaining faster maximum speeds year-on-year, whereas cities in two top Western nations – US and Sweden – actually fell slightly in maximum broadband speed on average between 2009 and 2010.¹⁵³ Overall, however, Akamai forecasts continued growth in all regions with the adoption of new technologies.

6.12 Emporis Skyline Ranking

One of the more informal rankings in this compilation, the Skyscraper Cities Ranking List provides an ongoing assessment of the cities with the most powerful and spectacular skylines, based on the number, size and density of skyscrapers in the city. It is drawn entirely from statistics in its own website database, and reflects only completed high-rise buildings, not including TV towers, masts or bridges.

Statements of success and failure

This ranking does not offer normative arguments of success, but simply tracks construction growth.

Cities highlighted by the report

Hong Kong is by some distance the city with the most dominant skyline in the world by Emporis calculations, with a score more than three times greater than the next best city, **New York**. Most of the top 10 cities are based in Asia, including **Singapore**, **Shanghai**, **Seoul**, **Tokyo** and **Bangkok**. Indeed, almost all the top-ranked cities are those that have grown most rapidly in the second half of the twentieth century. Western European cities are almost entirely absent, with London the highest placed city from the region at 35th. London itself has fallen from 23rd in 2006, as Asian and Latin American cities have overtaken it. This indicates both the wide range of development approaches, and also the planning restrictions that established centres have been subject to which have forestalled large skyscraper growth.

¹⁵³ Akamai (2010), 'State of the Internet Report: 1st Quarter 2010', p.13

World's leading skyscraper cities, August 2013

		Buildings	Skyline Points
1	Hong Kong	7,765	130,459
2	New York	6,006	40,502
3	Singapore	4,403	20,215
4	Chicago	1,138	19,773
5	Dubai	632	18,874
6	Seoul	2,898	18,055
7	Sao Paulo	5,689	17,497
8	Shanghai	1,005	15,976
9	Bangkok	911	15,393
10	Tokyo	2,762	15,076

Cities making progress

Although its growth has been considerably forestalled since late 2008, **Dubai** remains one of the biggest movers in this ranking, entering the top 10 in 2010 after overtaking **Guangzhou**, and moving up to 8th in 2011 and 5th in 2013. This represents remarkable growth given that it was outside the top 30 in 2006. **Guangzhou** and **Moscow**, at 11th and 12th respectively, are both growing fast and pressing to enter the top 10.

6.13 Real Estate Investment Network: Top Canadian Cities for Investment

The Real Estate Investment Network (REIN), a Canadian organisation of investors, compiled in August 2010 the top 10 Canadian cities in which to invest. Results are based on key factors such as planned transportation improvements, or if the area's average income, population and job growth are increasing faster than provincial averages. In November 2012, REIN repeated the study.

Statements of success and failure

The index implicitly identifies a number of factors for near-term real estate success. A strong and stable economic base is the central ingredient, but REIN also points to the importance of inter-city transport infrastructure, visionary city leadership, international immigration and quality of life in attracting business.

Cities highlighted by the report

Albertan cities lead the way in this year's rankings. The state's major cities, **Calgary** and **Edmonton**, are ranked 1st and 2nd respectively. **Calgary** had been a high-performing investment hub prior to the downturn, and has recorded two years of declining average resale housing prices since. But the city's strengths in the production of food, fuel and fertiliser is set to lead to high real estate growth in forthcoming years.

Several smaller cities in the Calgary-Edmonton corridor - **Airdrie** (6th), **Red Deer** (8th) and **St Albert** (9th) - also appear in the top 10.

Several of Canada's top cities - **Toronto**, **Vancouver** and **Montreal** - are absent from the top 10 as they lack the growth levels achieved by some of the nation's smaller hubs. Many of the highest ranked cities, including **Surrey** (BC) and **Waterloo** (ON), are within the wider region of one of the major cities and, as sub-regional centres, are forecast to grow strongly.

The Technology Triangle of **Kitchener-Cambridge** (7th), in the sub-region of **Toronto**, performs well once more, albeit somewhere off the 2nd place the area achieved in the previous report.

Cities making progress

Albertan cities made the most progress in 2012. **Airdrie** and **Red Deer** are among the state's top performers.

6.14 US News: 10 Best Cities for Public Transportation

US News rankings of public transport, introduced in 2011, take into account a number of factors on the premise that transport infrastructure will be an important differentiator of urban America in the future. US News notes that public transport systems have rapidly expanded across America's urban fabric, accompanying and driving economic growth. It measures per capita spending on public transportation, number of safety incidents per million trips, and the number of trips taken per capita, based on nearest available figures in 2008, using metropolitan area data whenever possible.¹⁵⁴

Statements of success and failure

The report argues that 'an effective public transportation system can simply increase the quality of life in a city...providing economic benefits to individuals and municipalities alike.' Cities which perform best in this ranking have the optimal combination of public transportation investment, high usage, and strong safety commitments.

Cities highlighted by the report

Denver is rated the top city in the US. The city has strong light rail provision and an excellent airport shuttle service. Its MallRide bus is acclaimed for its free transport across the central city, as is Denver's ongoing investment in the roll-out of commuter rail and rapid bus transit lines. **New York** is noted as by far the biggest public transport system in the US, accounting for 40% of national public transport trips, and earns 2nd place nationally behind **Denver**. Its 4.2 billion trips in 2008 dwarfed the 3rd highest, **Los Angeles** (700 million).

The dynamic cities of **Boston** and **Portland** rank 4th and 5th respectively. Portland is praised for its variety of travel options, from buses to light rail, commuter rail, streetcars and aerial trams, and in particular its fare-free routes in its central areas. Portland is joined in the top 10 by neighbour **Seattle**.

California has three cities in the top 10: Los Angeles (3rd), **San Jose** (=6th) and **San Diego** (8th). **Salt Lake City's** wireless Internet on buses is considered a useful innovation that could catch on elsewhere. **Honolulu**, rated 10th overall, is adding a 20-mile elevated electric passenger rail system to better connect with suburban areas.

Other strong cities for public transport include the larger hubs of **Washington DC**, **San Francisco**, and **Chicago**. The main reason for their failure to make the top 10 are relatively modest safety records.

Cities making progress

No figures on progress are available as yet.

¹⁵⁴ US News (2011), '10 Best Cities for Public Transportation', <http://www.usnews.com/news/articles/2011/02/08/10-best-cities-for-public-transportation>

6.15 KPMG: International Infrastructure 100, World Cities Edition

The International Infrastructure 100: World Cities Edition is an independently-judged showcase of the top 100 urban infrastructure projects either in the pipeline or in construction today. Designed to inspire rather than rank or award projects, the regional and global judging panels have selected 100 infrastructure projects from the hundreds of projects independently nominated to KPMG. The judges, who sit on regional panels for North America, Latin America, Europe, Asia-Pacific and Middle East and Africa, are overseen by a global judging panel and include industry experts from private and public institutions including the African Development Bank, Mott MacDonald, Transport for London and Grupo Ferrovial.

Seeking to inspire city leaders and those within the infrastructure sphere, rather than rate individual projects, initiatives are included in the top 100 based on excellence in the five judging criteria of scale, feasibility, technical or financial complexity, innovation and impact on society. The shortlisted projects are then classified into one of 10 project categories which include Urban Mobility, Communications Infrastructure and Healthcare.

Statements of success and failure

With unprecedented pressure being placed upon urban areas, a key challenge for city leaders is the installation of infrastructure able to meet growing and myriad demands. It is the projects and the cities that produce innovative solutions to rapid urbanisation, technological developments, environmental sustainability and aspirations of higher quality of life which are marked out in this survey. The challenges facing emerging centres differ from those confronting established metropolises. This is borne out in the nature of the projects featured in this report which range from specific and, in infrastructure terms, short-term projects such as London's Royal London Hospital redevelopment project, to the transit-oriented **Delhi-Mumbai** Industrial Corridor project which, should it come to full fruition, is estimated to impact upon 320 million people and create 24 new cities at a cost of US\$90bn.

In a period of uncertainty for traditional flows of project financing, credit is also given to those cities able to raise capital on a scale able to meet the ambitious aims of urban innovators.

Cities highlighted by the report

Singapore takes a prominent role within the top 100 with four domestic projects featuring in the report in addition to its joint venture with the Chinese government in the creation of the **Tianjin** Eco-city. Singapore's domestic projects provide solutions to the diverse challenges of data security, sewerage and water-supply (using desalination technology), while its Gardens by the Bay project seeks to transform Singapore from a 'Garden City' to a 'City in a Garden' in an attempt to improve quality of life through the creation of a large green area in the city's Marina Bay district.

Four Smart City projects received recognition from the judges, with **Amsterdam** and **Barcelona's** high-level cooperative initiatives gaining credit for the technological innovations designed to improve economic competitiveness, welfare and sustainability. Perhaps more ambitious in its scope is the Cidade Inteligente Búzios – a suburb of **Rio de Janeiro**. Green technology is at the core of the project, with Spanish energy utility, Endesa, working with civic and national authorities on the development of sustainable generation and usage strategies. The index notes that, if successful, the architects of the Búzios project expect the Rio de Janeiro region to become 'a world reference in the use of clean technologies in an urban setting'.¹⁵⁵

¹⁵⁵ KPMG (2012), 'Top 100 Infrastructure Projects', www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/Infrastructure-100.pdf.

The judging panels have also recognised a number of projects within **New York**, which is on a par with **Singapore** as the city with the most infrastructure projects featured in the report. New York's projects include the Yonkers Schools PPP, the World Trade Center Redevelopment, +Pool (a quirky project, which places floating swimming pools in the city's rivers to encourage open-water swimming and a reconnection with the city's marine setting) and the East Side Access project – a major transport upgrade enhancing connections between Manhattan, Long Island and other major commuter regions to the east of the city.

Cities making progress

The report notes two major projects in **Istanbul** – the intercontinental Bosphorus Tunnel and the Kartal Pendik project (the development of a new city-centre built on a former industrial area using 'organic architecture' techniques) – which received praise from the judges for the commitment to 'ease congestion, cut journey times and stimulate economic growth in the dense environment of one of the world's oldest cities'.¹⁵⁶ The Brazilian duo of Rio de Janeiro and São Paulo are noted as 'undergoing a huge transformation' – catalysed in part by the prospect of hosting two major sporting events within a five-year horizon with transport infrastructure, in particular the easing of road congestion, at the forefront of the planners' thinking in these cities.

Although over a much longer timescale, the judges also noted the ambition of the Delhi-Mumbai Industrial Corridor – the creation of a transit-orientated industrial hinterland connecting the political capital in **New Delhi** and the financial hub, Mumbai. If successful, this project is of global significance. Its aim – to create an economic super-axis between **Mumbai** and **Delhi** – forms a central strand of Indian growth policy for the next half century which, it is hoped, will not only create 24 new cities in the Indian hinterland but also propel the cities of Mumbai and Delhi into the global elite.

6.16 Jones Lang LaSalle: Global Capital Flows

Jones Lang LaSalle's quarterly Global Capital Flows report captures financial data in the world real estate investment market. Although a general report, which covers trends at a regional and national level, the report does include specific data on trends in cash flows in and out of major cities, as well as data on a regional and national basis. The index offers a near real-time glimpse into confidence in local real estate markets.

Statements of success and failure

A purely quantitative exercise, this report highlights those cities able to attract and retain real estate investment over a quarterly time span.

Cities highlighted by the report

London tops the index as the most attractive city in the world for cross-border real estate investment. In H1 2013, US\$12.1bn was invested in London real estate; a figure only US\$0.5bn ahead of its closest rival, **New York**, and US\$1.5bn ahead of the resurgent **Tokyo**. Compared to H1 2012, the London market has lost some of its advantages in this year's corresponding period, while **Tokyo** has posted a near 50% like-for-like increase. Jones Lang LaSalle suggests supply-side issues have slowed the **New York** and **London** markets at present.

Indeed, it is the Asian centres which have performed well recently, with Seoul, Shanghai, and Singapore all posting respectable gains while the top US and European centres lose ground.

¹⁵⁶ Ibid.

Rank H1 2012	Rank H1 2013	City	H1 2013 (US\$bn)	H1 2012 (US\$bn)
1	1	London	12.1	14.8
2	2	New York	11.6	13.3
3	3	Tokyo	10.6	7.1
4	4	Paris	6.5	6.9
5	5	Los Angeles	5.1	5.4
6	6	Hong Kong	4.8	4.9
11	7	Singapore	4.2	3.8
13	8	Shanghai	3.8	3.1
12	9	Seoul	3.6	3.1
7	10	Chicago	3.6	3.9

Sydney drops out of the top 10, possibly because the Barrangaroo office scheme, which was completed during Q3 2012, painted an over-favourable picture of the market as a whole.

Cities making progress

Tokyo's excellent progress aside, **Shanghai** is recently the most improved centre. The Chinese city's US\$3.8bn, up from US\$3.1bn, moves it up from 13th and ahead of **Seoul** and **Chicago** into 8th.

6.17 Cushman & Wakefield: Winning Cities

This report, the latest in the suite produced by commercial real estate services firm, Cushman & Wakefield, examines the largest and fastest growing global cities in terms of investment and pricing, demand and activity. The report highlights some of the fundamental factors behind city performance, and establishes how successful cities will evolve. The report covers data from Q3 2011 to Q2 2012.

The report examines the following criteria indicative of winning cities and the factors driving success:

Indicators of success	Factors driving success
Top Destinations for Investment in Property	Population Size
The Fastest Growing Property Investment Markets	Economic Performance
Top Destinations for Retail Investment	Retail
Top Destinations for Office Investment	Commerce and Finance
Top Destinations for Industrial Investment	Innovation
Top Destinations for Investment in Development Sites	Connectivity
Top Destinations for Multi-Family Residential Investment	Green Transport
Top Destinations for Hotel Investment	Quality of Life
Top Destinations for Cross-Border Investment	Tourism and Culture
Property Yields	Education and Skills

Statements of success and failure

The sustained buoyancy of a city's property market is persistently considered a major indicator of the area's economic and wider success. This detailed report explores the various economic indicators and ranks, and success is defined by a city's performance on these criteria.

Cities highlighted by the report

In terms of total inward investment, **New York** attracted the most capital for real estate, followed by **London**, **Tokyo** and **Paris**. The 'Big Apple' saw volumes rise nearly 19% to stretch its advantage over London, which experienced modest 3.8% growth in real estate volumes. London, however, retains its advantage in attracting office and hotel investment that is nearly double that of Paris, which takes 2nd place in the category.

Amsterdam and **Munich** are both credited for their future potential, as both of these cities score well in the future potential metrics such as education and innovation.

In North America, San Francisco and Washington DC follow New York, although the capital's outlook is questionable given government cuts.

Cities making progress

The key indicator for cities making progress in this index is in the growth of real estate investment. As stated above, this criterion is dominated by North American cities. Other cities following and posting annual growth (around the 100% mark) in real estate investment volumes are **Charlotte**, **Baltimore** and **Perth**.

6.18 Savills: World Cities Review

Published in March 2013 by real estate firm, Savills, the World Cities Review benchmarks the cost of property in 10 leading global cities to compare the relative expense of each location and to track local trends in the property market. Savills assesses the cost of housing a Savills Executive Unit (SEU): a generic, seven-strong business unit of varying ages and incomes ranging from expatriate directors to local administrative staff. For the first time, the Autumn 2012 edition of this report included the cost of office space, as well as residential accommodation.

Statements of success and failure

Monitoring trends in the 10 cities, that Savills describes as "shaping the world real estate market", the aim of the index is to provide expert insight into fluctuations in the property market rather than ranking them. This said, the index makes clear that year-on-year increases in property prices mark out the cities with buoyant real estate markets and underlying strength in their economies.

Cities highlighted by the report

Hong Kong leads this year's index with residential capital value growth of 15.2% propelling the SAR's property market. Residential rental markets are in somewhat more modest health, posting 3% annual growth. While the city's office rents have fallen, its buoyant residential market is enough to secure top spot, being around three times as expensive as Shanghai. While the top end of the Hong Kong property market was relatively weak in 2012, its mainstream market performed very well. Increased competition in the local mortgage market and continued, albeit subdued, investment from mainland China in 2012 mean that residential property prices in Hong Kong are at a record high with the city posting highest capital growth of any of the featured locations.

A good year for **New York** saw strong growth across the board with double-digit residential capital value growth (12%) and office rentals soaring by 9%. Although still well behind 2005 levels, the New York property market is showing positive signs and value for investors.

Moscow arguably presents the most consistently positive figures across the board, with both capital and rental values increasing significantly. The presence of supply constraints and strong commodity prices are both cited as factors in the strength of Moscow's property market over the past year. The report notes that increased supply and the forecasted plateauing of commodity prices may serve to depress the property market in the Russian capital.

This positive outlook is not shared by all of the 10 featured cities. Property prices in **Paris** fell by 3.4% in 2012 as the continued crisis in the eurozone deflated confidence in property prices in the French capital. The election of President Hollande, and his government's proposals to increase tax levels on expensive assets, have compounded this lack of confidence in the premium property market.

Savills has also published a comparison of the 10 cities' performance since 2005. The results show that only **Tokyo, Singapore, London** and **Hong Kong** have surpassed 2005 levels. Hong Kong's long-term performance is dominant: twice the index rating of 2nd place London.

Changes in world city rankings since 2005

	Rank	2012		2005
		Index	Rank	Index
Hong Kong	1	237.4	1	173.7
London	2	130.1	3	131.4
Singapore	3	112.8	7	82.8
Tokyo	4	101.5	2	149.9
Paris	5	93.3	5	110.3
Shanghai	6	76.2	8	54.6
New York	7	72.7	4	114.9
Moscow	8	62.7	9	48.9
Sydney	9	64.0	6	103.2
Mumbai	10	44.6	10	30.3

Mumbai, on the other hand, continues to show the signs of strain on its housing market that grew so dramatically in the first decade of the twenty-first century. Rental prices in Mumbai skyrocketed in 2012; however capital value growth in the residential sector was negligible and office prices plummeted by nearly 10%. Moreover, Mumbai's index remains at less than half its 2005 level.

Cities making progress

Capital growth in real estate markets has been strongest in **Hong Kong, Moscow** and **Sydney**. The 'Old World' duo of **New York** and **London** are, although not posting stellar results, maintaining reputations as safe bets for real estate investments, with Singapore also continuing to provide a safe haven for capital in Asia.

6.19 Knight Frank: Prime Global Cities Index

In 2011, Knight Frank introduced its Prime Global Cities Index, aiming to provide high-end investors and owner-occupiers with better analysis of prime urban property markets. The index responded to a recognition that leading global cities now show markedly different patterns of investment to their wider national markets, and are plugged into global fluctuations in investor demand.

Over the past two years, the index indicates that large global cities have rebounded strongly from the financial crisis, and have some of the fastest-growing house prices since the recession. Many leading markets have recorded over 10% growth, and the gap between the best and worst-performing cities has shrunk.

Statements of success and failure

The index is merely a quantitative measure, but there are indications that cities and nations need to manage their property wisely to ensure stable medium-term growth. The report authors note the diverging approaches of European and Asian policymakers. Whereas in Asia there are new restrictions for foreign ownership to prevent a bubble, cities in Europe are offering major visa and tax inducements to rejuvenate investment interest.

Cities highlighted by the report

Jakarta headed the rankings in the first half of 2013, showing an impressive 27% year-on-year growth in luxury prices. The Indonesian capital is closely followed by **Dubai**, which is experiencing major demand from wealthy investors across the whole Middle East region, as well as Asia. Other strong markets include **Tokyo** and **Singapore**.

The struggling European capitals of **Rome** and **Madrid** remain the least dynamic markets, joined surprisingly by **Paris**.

Cities making progress

Relative to their size and status, **St Petersburg**, **Tel Aviv** and **San Francisco** are proving highly resilient and gaining ground as major ports of call for HNWI investors. ¹⁵⁷

¹⁵⁷ Knight Frank (2013), 'Prime Global Cities Index: Q2 2013', <http://my.knightfrank.com/research-reports/prime-global-cities-index.aspx>

7 Environment and Sustainability Indexes

7.1 Mercer Consulting: Eco-City Index

In 2010, Mercer introduced an Eco-City ranking for the first time. It included criteria primarily related to environmental infrastructure, namely water availability, water portability, waste removal, sewage, air pollution and traffic congestion.

Cities from Northern Europe, Australasia and North America dominate the first Mercer Eco-City rankings. Canada is rated the best country for urban eco-environments, with four cities in the global 20, headed by **Calgary** at 'number one'. Unlike in Mercer's quality of living survey, US cities perform much better for environmental infrastructure, with **Honolulu**, **Minneapolis** and **Pittsburgh** inside the top 20.

The world's major cities perform very modestly in this index, with smaller niche Western cities leading the way. The best performer among the world's finance powerhouses is **Singapore** at 22nd, while only **Sydney** and **Frankfurt** also make it into the top 50. The likes of Paris, London and New York all ranked well outside the top 50. **Cape Town** is the top performer from the developing world, rated number 30.

7.2 Siemens/EIU: European Green City Index

In late 2009, Siemens/EIU released a landmark study of urban environmental sustainability, featuring 30 major cities in 30 European countries, following on from its recently-formed series on Sustainable Urban Infrastructures. Presented at the UN Climate Change Conference in Copenhagen, the report analysed these 30 cities' achievements and objectives in the field of environmental and climate protection.¹⁵⁸

The study evaluates the 30 cities in eight categories:

- CO₂ emissions
- Energy
- Buildings
- Transportation
- Water
- Air quality
- Waste and land use
- Environmental governance.

The report, which features design and measuring input from the Economist Intelligence Unit, is intended to support European cities' environmental efforts by providing a valuable source of comprehensive standardised data, enabling a prioritisation of carbon-reducing actions. It has a very wide scope, with the eight categories based on 30 indicators. There is a very unusual balance of quantitative indicators (16) and qualitative indicators (14). Quantitative indicators include water consumption, energy consumption per capita, recycling rate and public transportation use. Qualitative measures include the strength of carbon reduction targets, building efficiency

¹⁵⁸ Siemens (2010), <http://www.siemens.com/press/en/events/corporate/2009-12-Cop15.php>

standards, and support for environmental protection measures. Data is procured mainly from official sources, such as municipal statistics departments and city governments.

Statements of success and failure

The report finds that European cities are world leaders in environmental performance. All of the 30 cities featured, which have an average size of 2.5 million, record lower per capita emissions than EU country averages. The report considers success in terms of whether cities have already developed and implemented an environmental strategy. It also identifies renewable energy expansion as a key criterion of success, explaining that only 7% of these cities' energy supply is currently taken by renewable sources, a figure it describes as disappointing given the 20% target set by the EU for 2020. All European cities, the report argues, can improve on increasing their share of waste that is recycled (average just 20% currently) and on reducing volumes of water leakage. A successful city is not only one that is aware of the significance of environmental protection, but one that has created - and gone some way to reaching - ambitious climate targets.

Cities highlighted by the report

Copenhagen is rated the 'greenest' major city in Europe, slightly ahead of its neighbour **Stockholm**. Copenhagen is not an outright leader in any single measure, but performs extremely well in all eight measures, finishing no worse than 7th (out of 30 cities) in any category. With **Brussels**, **Helsinki** and **Stockholm**, it recorded a perfect score for environmental governance. Copenhagen is praised for its ambition to be carbon free by 2025.

Stockholm is a close second in the index, rated top or joint top in three of eight measures – buildings, transport and environmental governance. The best city in the key category of carbon emissions is **Oslo**, which emits only 2.5 tons of carbon dioxide per capita and per year, less than one-third of the EU average of 8.5 tons.

Scandinavian cities in general are near the very top of the European charts in this study. Eastern European cities perform worse according to the index – especially in terms of building energy consumption and modern infrastructure - due to reasons the authors associate with low GDP and historic burdens of communist rule. On the other hand, cities in Eastern Europe perform well on the public transport usage measure, indicative of a comparatively low car-dependence compared to Western European hubs. Meanwhile, **Vilnius** recorded a surprise top ranking in air quality, and a top 10 rating for waste and land use.

The largest European business cities perform moderately well on the overall green index, but are well down on the leaders in Scandinavia and Central Europe. Paris, London and Madrid are ranked 10th, 11th and 12th respectively, with Paris having the edge over its two rivals in carbon emissions, buildings and environmental governance.

Cities making progress

A pioneering new study, the Siemens/EIU report does not provide immediate insight into cities making strong progress in the environmental field.

Siemens/EIU: Latin American Green City Index

Siemens/EIU selected 17 major cities in Latin America, mostly capital cities and leading business centres, and 31 individual indicators were used for each city. In contrast to the European study, cities were placed within a performance band to indicate their relative results. The authors acknowledge that the counterintuitive results are the result of a gap between subjective surface-level observations about quality of life, rather than overall

environmental performance and policymaking. Siemens points to Mexico City as an example of a dense capital notorious for its air-quality weaknesses, rather than credited for its forward-looking transport and environmental building policies.¹⁵⁹

Cities highlighted by the report

Curitiba, a longtime sustainability pioneer, is awarded the status of Latin America's outstanding green city, which Siemens/EIU recognises is due to many decades of holistic pedestrian and commuter-friendly planning. It is the only city to be rated 'well above average'. The city's Bus Rapid Transit system has been replicated elsewhere on the continent, while its ongoing study of CO₂ emissions and absorption is considered a major step forward.

Other Brazilian cities also score well. Four of the five cities rated 'above average' are Brazilian: **Belo Horizonte**, **Brasília**, **Rio de Janeiro**, and **São Paulo**. The report states that, except in the field of policy and planning, their strengths are by no means identical. São Paulo is praised for its implementable climate change action plans, Belo Horizonte for its approach to eco-buildings and water management, while Rio has strong clean energy commitments.

Of the larger Latin American cities, **Mexico City** performed moderately overall, while **Buenos Aires** scored disappointingly, especially in the waste category. Interestingly, Siemens/EIU found no clear correlation between environmental outcomes and city resident wealth, unlike in the European index.

Siemens/EIU: Asian Green City Index

The first Asian Green City Index was published in 2011, less than 18 months after the first European study was launched. 22 cities were assessed in the same eight categories, including the wider metropolis known as Metro Manila, comprising 16 cities and one municipality. Average annual carbon dioxide emissions per capita were found to be 4.6 tons in the Asian cities, slightly below the 5.2 ton figure for Europe. Asian cities also produce 20-30% less waste per capita than either Latin American or European cities. The areas in which Asian cities have the most progress to make are air pollution, which is uniformly high, and renewable energies, which only account for 11% of total energy use, compared to 64% in Latin American cities. Overall, performance was much more consistent in Asian cities than in Europe or Latin America, where there is more diversity. Siemens/EIU attributes this to Asian cities' strong capacity to execute policies and enforce regulations, suggesting it provides further evidence for decentralising authority from national to local governments in order to achieve greater results.¹⁶⁰

Singapore emerged clearly as Asia's most environmentally-friendly major city. Its comprehensive and effective policies were the key to its top score, enabled by its aligned governance structure and well-trained civil service. Similar strengths related to autonomy are responsible for **Hong Kong's** above average score

Chinese cities perform averagely well in the index. **Beijing** is praised for collecting 95% of its waste, **Nanjing** for its waste management, **Shanghai** for its water infrastructure and **Guangzhou** for its green space. The growth of automobile transport is considered a key problem for all these cities, with rail transport not matching the speed of development of car manufacturing. Overall, Siemens/EIU sees room for optimism in Chinese urban energy, infrastructure and transport policy.

Elsewhere, Japanese cities all score above average overall. **Tokyo** is the continental leader for energy and CO₂, and is joint top for water management, while **Osaka** ranks 1st in Asia for transport. Indian and Pakistani cities routinely score poorly, especially struggling in the fields of waste, transport and environmental governance. **Delhi**

¹⁵⁹ Siemens (2010), 'Latin American Green City Index', p. 7

¹⁶⁰ Siemens (2011), 'Asian Green City Index'

is the only city from South Asia to rank averagely, while **Mumbai's** major weaknesses include air quality and sanitation.

As in Latin America, Asian cities with higher incomes did not necessarily use more resources. Resource consumption was shown to increase clearly up to an average GDP of €15,000, after which it decreases as environmental awareness improves, regulatory power is greater and infrastructures become more efficient.

7.3 Centre of Regional Science/Delft University of Technology: European Smart Cities

The European Smart Cities project is an academic venture led by specialists at the Centre of Regional Science at the Vienna University of Technology and other representatives from Delft University of Technology and the University of Ljubljana. Its premise is that European cities face serious challenges to combine economic competitiveness and sustainable urban development with urgent innovations needed in housing, cultural provision and environment.

The project does not refer to leading European metropolises but only medium-sized cities (100,000–500,000) and their development horizons. This is to fill a certain knowledge gap in assisting mid-sized urban areas on issues such as resources and capacity. 70 cities from the EU Urban Audit database were sampled for the debut study in 2010, for reasons of feasibility. Cities had to have at least one university to provide for an adequate knowledge base, and to be part of a wider region of no more than 1.5 million people, such that they are not subject to the plans of much larger nearby cities.

The concept of smartness is derived from six overall indicators: smart economy, mobility, environment, people, living and governance. Each has a series of up to 20 sub-measurements.

Economic smartness is based on factors such as innovation and entrepreneurship, while mobility is measured according to local and international accessibility and the sustainability of the transport system. Every factor is considered holistically in what is one of the most comprehensive indexes in this report.

Statements of success and failure

Strong cities in this index have strengths across the board in all areas, and have identified their strengths for future positioning to ensure comparative advantage. Ultimately, like much of the corporate smart city literature that follows in Section 7, the authors of this index argue that smartness is about not compromising any one of economy, environment and quality of life; all three must be maintained for optimal urban sustainability.

Cities highlighted by the report

Luxembourg is marginally the smartest mid-size city in Europe, with top scores in Economy and People. It just pips Danish city **Aarhus**, which also performs outstandingly in the same two categories.

Finland's **Tampere** scores highest of the 70 cities for Governance, while **Montpellier** is the best city for Environment in the study. **Maastricht** is ranked the best city for Mobility while **Salzburg** wins in terms of Living. Danish and Finnish cities in general are the best performers, all in the top 10, while Dutch and Austrian cities are also highly rated, with most inside the top 20. British cities, by contrast, are in the middle of the European bunch, with **Cardiff**, **Leicester**, **Portsmouth** and **Aberdeen** all ranked between 35th and 40th. Italian and Spanish cities perform marginally worse than UK cities, while Eastern European cities are invariably at the bottom of the list –

scoring poorly for Economy and Liveability - with Bulgaria's **Ruse** bringing up the rear. Slovenia's **Maribor** (30th) is the top-scoring Eastern European city, performing very well for Environment and People.

Cities making progress

2010 marked the first publication of the index, so there is no way of gauging progress just yet.

7.4 Forbes: World's Smartest Cities

After initially introducing America's Smartest Cities in 2006, Forbes went global in 2009 with a subjective ranking piece by urban scholar and author, Joel Kotkin. His ranking understands 'smartness' as a quality that does not just refer to a green sustainable agenda, but also an entrenched commitment to upward mobility and economic progress. Smart cities, for Kotkin, are small, compact and efficient while also offering commercial opportunity.

Cities highlighted by the report

Amsterdam, **Seattle**, **Singapore**, **Curitiba**, and **Monterrey** are held up as exemplars. Singapore in particular is praised for being a 'twenty-first-century successor to fifteenth-century Venice', a commercially-minded node with visionary government that has achieved wonderful income growth and educational improvement in less than 50 years. It is also praised for its strategic infrastructural investment that has enhanced connectivity. Alongside Singapore, **Hong Kong** is also noted for its business freedom and its entrepreneurial population.

Often brought up as a model for sustainable development, Curitiba is hailed for its transport innovation and strategy for economic diversity, overcoming the propensity of Latin American cities to generate large income inequality and unmanageable development patterns.

Kotkin argues that megacities, such as **New York**, **Mexico City**, **Tokyo** and **São Paulo**, are immediately discounted for their endemic congestion, costly real estate prices and income inequality.

Cities making progress

The above-mentioned smart cities are all seen to be improving in recent years, but there is no chronological comparison in this report.¹⁶¹

7.5 Ethisphere Institute: 2020 Global Sustainability Centres

The 2020 Global Sustainability Centre (GSC) study is based on the notion that most world cities are focusing on the task of making substantial sustainability progress by 2020.¹⁶²

The study focuses on 'large, cosmopolitan, economically-significant cities' because of their crucial role in tackling the overall sustainability challenge. Cities were rated based on their cultural activities, universities and international acclaim, as well as the strength of their sustainability plan. 10 leading cities are named '2020 Global Sustainability Centres', and 10 mid-sized cities are also nominated.

¹⁶¹ Forbes (2009), <http://www.forbes.com/2009/12/03/infrastructure-economy-urban-opinions-columnists-smart-cities-09-joel-kotkin.html>

¹⁶² <http://ethisphere.com/2020-global-sustainability-centers/>

The GSC's study makes a specific commitment to analysing city leadership – it states that the world urgently needs 'a city to take the lead and put forth a great sustainability program that shows how mediocre every other city's plans currently are.'

Sustainability is based on eight indicators that transcend usual environmental measures and consider education, transport, economy and media.. Each city is marked out of 10, both for current achievements in each area and also for anticipated achievement in 2020, based on current plans.

Statements of success and failure

The Ethisphere Institute in this report argues that dense cities can be centres for more healthy and happy individuals compared to sprawling suburbs. It advocates eco-densification of urban development, which has been linked with an improvement in public health as well as reducing car dependency and being more economically viable.

Successful cities are therefore those that introduce a practical and ambitious programme of actions to map out and implement a sustainable vision. This occurs when a city government is aware of the city's problems and works towards obtainable solutions. The Institute encourages cities to 'plan for the future now.'

Cities highlighted by the report

New York is highlighted for its innovative concept of sustainable development. Its long-term plan, PlaNYC, is noted for citing the UN definition of sustainable development such that the city's future meets the 'needs of the present without compromising the ability of future generations to meet their own needs.' Its score of 9.1 for current environmental plan and progress is the second highest among the 20 cities covered, just ahead of **London** (8.6), but behind recognised sustainability leader **Curitiba**.

Chicago is praised for its unique city leadership and its ambitious drive for national sustainability leadership through such measures as the recycling of 50% of all construction debris.

Among developing countries, **Bogota** is said to have made excellent improvement in the fields of air quality, urban regeneration and public transport. **Shanghai** and **Beijing** are also cited for their commitment to energy efficient buildings and the formation of political will. Meanwhile **Mexico City's** 'Plan Verde', a 15-year plan to make the city more sustainable through reforestation and ecological sensitivity, is also pointed to as an illustration of the range of locations where innovation is taking place.

Cities making progress

Hyderabad is one of the 10 large cities focused upon – the city is nominated for its development of a four-pillar plan which features as one of its pillars, environmental and resource degradation – the others being poverty and malnutrition, local R&D/innovation and improved governance structures. The report anticipates excellent improvement in the fields of transport/housing, business development, and innovation and investment.

7.6 Business Courier: Green City Index (US)

As part of its ongoing project 'Going for Green', the Business Courier has created a new Green City Index for US cities. The magazine ranks all 41 US metropolitan areas where its parent American City Business Journals

operates, as well as Indianapolis and Cleveland. The index takes into account statistics in 20 different indicators of a city's green credentials including:

- Travel delay, congestion costs and habits
- Adoption of green technologies, and numbers of LEED projects and professionals
- Carbon emissions, and utilisation of environmentally-efficient practices
- Air and water quality.¹⁶³

Statements of success and failure

The wide-ranging criteria that inform the rankings demand that a city demonstrates consistency across the whole range of measures, at least in relative terms compared to other US cities. Given the lack of absolute standards, a successful city in this index is one that can record a number of top-10 finishes across dimensions such as congestion on the one hand, and efforts to launch a vibrant green city economy on the other.

Rank	City	Score
1	Portland	11.15
2	San Francisco	11.5
3	Honolulu	11.8
4	Austin	13.25
5	Boston	14.65
6	Seattle	15.7
7	Denver	16.94
8	Pittsburgh	17.25
9	Albuquerque	17.4
10	Albany	17.8

Cities highlighted by the report

Portland is seen as the city with the best overall green credentials. The city ranks 3rd out of 43 cities for carbon emissions, 2nd on LEED certified projects, 4th for low sprawl and 6th for renewable energy generation.

One of the outstanding performers in a range of categories, **San Francisco** ranks 2nd in the index, close behind Portland. The city is rated the best in the US for public transport usage and low use of cars by commuters. It is also ranked the least sprawling city, the city with the most LEED architects and professionals, and the 2nd best performing area for renewable energy generation.

Elsewhere, perhaps unsurprisingly **Honolulu** is rated highest in the US for air quality over the past five years, and is the lowest per capita carbon emitter. **Seattle** is the best performer for renewable energy generation, while **Albany** hosts the highest number of green jobs per capita.

Many of the worst-performing cities in the US are located in the country's South, with **Greensboro** (NC), **Tampa** and **Memphis** occupying the bottom three positions. Meanwhile, most of the largest US metro areas are in the middle of the rankings, with **Philadelphia** ranked 17th, **Houston** 26th, **Los Angeles** 29th and **Miami** 30th. Notably, **New York** and **Chicago** do not appear in the rankings.

¹⁶³ Business Courier (2010), <http://cincinnati.bizjournals.com/cincinnati/stories/2010/03/15/story1.html?b=1268625600^3018091>

Cities making progress

Currently a stand-alone index, recent improvements by various US cities cannot be evaluated.

7.7 Forum for the Future: Sustainable UK Cities Index

Sustainable development organisation Forum for the Future created an annual Sustainable Cities Index in the UK's 20 largest cities since 2007. It aimed to highlight British cities' environmental performance, quality of life and their preparedness for future urban challenges. The index was intended to encourage healthy competition, and provide an element of accountability.

13 indicators were measured in three broad themes:

- Environmental impact – the city's impact in terms of resource use and pollution
- Quality of life – what the city is like for people to live in
- Future-proofing – how well the city is preparing for a sustainable future.

Future-proofing is an unusual feature of city indexes. The indicators aim to measure how well prepared the city is for the future by examining local authority commitments on climate change – based on nine key criteria. These cover council adaptation and mitigation strategies and commitments to public buildings and those citywide. Climate Change Action Plans and/or strategy documents were downloaded from council websites and assessed during September 2009 as part of this process.¹⁶⁴

Statements of success and failure

The index has sought to encourage cities with an industrial heritage to overcome the legacy of the past and perform impressively on many measures of sustainability. It cites Newcastle's Sustainable Community Strategy for 2008-2011 as an exemplar of forward-thinking approaches. The index appears, however, to have been discontinued since 2010.

Cities highlighted by the report

Brighton, **Bristol** and **Newcastle** each claimed the top position between 2007 and 2010. Newcastle pushed previous winners Bristol and Brighton into 2nd and 3rd place respectively in 2009 – the first time a northern industrial city had broken into the top three. It finished 1st in the environmental table, and 4th for both quality of life and future-proofing.

Bristol is clearly a leader in this index - it finished at the head of the quality of life table and ranked 3rd on future-proofing. It recorded the highest scores for recycling and household waste collections, and comes 2nd on employment and transport.

Brighton, winner of the index in 2007, finished 2nd in late 2009 for future-proofing and 3rd for quality of life, but, like Bristol, has a comparatively mediocre environmental performance, with a high ecological footprint.

¹⁶⁴ Forum for the Future (2009), http://www.forumforthefuture.org/files/Sustainable_Cities_Index_2009.pdf

Cities making progress

Newcastle is clearly the city which has made the most dramatic progress – rising from 4th in 2008 and 8th in 2007. **Leicester**, in finishing fourth in 2009, has also recorded a strong rise from 8th in 2008 and 14th in 2007, and is now leading the future-proofing table thanks to strong strategies for future challenges. London is also noted for its strong improvement, up from 9th in 2008 to 5th in 2009, rating 2nd for quality of life and achieving strong scores on employment, transport and health.

7.8 SustainLane: US Sustainability Rankings

The SustainLane US City ranking of sustainability was a highly detailed and authoritative index of environmental performance and strategy. The first index was released in early 2005, and the second expanded study was published in 2008. The 2008 study was developed using a combination of primary and secondary research. Data and information from the 50 cities were drawn from surveys and interviews with city environmental departments in 2007-2008 and from publicly available sources published between 2002-2008. Secondary data, as has become normal for rigorous studies, is only used from respected academic, NGO and government sources.

There are 16 individual category rankings, each weighted. Most data was acquired at city level, with some – e.g. congestion and public transport use – at county or metropolitan area level. The categories were chosen with active collaboration with sustainability practitioners.

Statements of success and failure

SustainLane's comprehensive index was predicated on the understanding that high public transport use, extension of renewable energy, expansion of the local food market, and enlightened land-use approaches will have strong positive economic and environmental outcomes for US cities.

The report also affirms that cities must use their cultural, economic and political density to push through sustainability-related improvements, pilot projects and awareness campaigns. Sustainability is also equated with quality of life – the attraction of businesses, residents, tourists and conventions.

Cities highlighted by the report

Portland gained the highest score, at an impressive 90.13 out of 100. It recorded the highest figures in the country for green buildings and green economy, as well as in innovation and governance to reduce emissions. In terms of environmental innovation, Portland is joined at the top of the rankings by **Chicago** and **Seattle**. Chicago is praised for its progressive and occasionally controversial measures that have reduced traffic lanes, installed municipal building solar panels, and greened many roofs with carbon-sequestering vegetation covering more than 4.5 million square feet of rooftop.¹⁶⁵ Meanwhile, Seattle records outstanding results for renewable energy, light rail plans and green buildings, all enabled by progressive urban policy.¹⁶⁶ Other cities noted for excellence in particular areas are **San Francisco**, for waste management and renewable energy, and **Washington DC** for high public transport usage and strong roll-out of green buildings.

¹⁶⁵ Sustain Lane (2009), 'US City Rankings - Chicago' <http://www.sustainlane.com/us-city-rankings/cities/chicago>

¹⁶⁶ Sustain Lane (2009), 'US City Rankings - Seattle' <http://www.sustainlane.com/us-city-rankings/cities/seattle>

Cities making progress

New York has risen to 5th place since 2006. The city was described as 'one of the most sustainable in the country,' with very low per capita emissions attributed to high public transport use, densely packed buildings and smaller homes. The report praises New York's PlaNYC which aims to reduce greenhouse gas emissions by 30% by 2030. The city also features highly in environmental governance, due to the large number of grassroots neighbourhood organisations in operation in the city.¹⁶⁷ Minneapolis has also made strong progress (10th to 7th) owing to the highest levels of local food consumed, bike-friendliness, and a strengthened land-use and development policy that encourages dense, green development along transit corridors.

7.9 Corporate Knights: North America's Most Sustainable Cities

Corporate Knights has published annual Sustainable Cities rankings pertaining to Canada since 2007.¹⁶⁸ The study defines sustainability as the 'ability of individuals and communities to flourish without contributing to the progressive degradation of the human and natural systems on which we depend.' In 2013, the study expanded to cover North America for the first time, considering 20 large metros across the United States and Canada, and taking into account 27 key performance metrics.

The report has ranked cities in five areas: Ecological Integrity, Economic Security, Governance and Empowerment, Infrastructure and Built Environment, and Social Well-Being. A percentage score was given to each theme, and a total percentage was calculated on which rankings were based.

Statements of success and failure

The index argues that cities are the sources of the major solutions to sustainability, and are centres of major progress in contrast to federal inaction. The report has urged Canadian cities to demonstrate their leadership on climate change by making progress on their emissions' reduction targets. Ultimately, it argues that 'every city on this list is fundamentally unsustainable', and despite progress all have a long way to go to achieve suitable outputs.

Overall, successful cities on the road to sustainability are considered those with a strong sustainability policy filter, a representative city council, high population density, ample green space, efficient waste management and measures such as bike paths and green retrofits. But a successful city is also one with economic diversity and security, and with social happiness and cohesion.

Cities highlighted by the report

San Francisco leads the metric with consistently strong performances. It leads the governance and empowerment categories and is particularly commended for its US\$600m divestment of fossil-fuel holdings from the city's pension fund at the behest of the Board of Supervisors.

Washington DC scores well in social and economic metrics, which contributes to its overall 2nd placing, with governance being its weakest link.

¹⁶⁷ Sustain Lane (2009), 'US City Rankings – New York' <http://www.sustainlane.com/us-city-rankings/cities/new-york>

¹⁶⁸ Corporate Knights (2010), 'Sustainable Cities' http://static.corporateknights.ca/Sustainable_Cities_2010.pdf

Top five cities ranked in five categories¹⁶⁹

Rank	City	Environment Quality	Economy Quality	Governance and Empowerment	Infrastructure and Energy	Social
1	San Francisco	4	12	1	3	5
2	Washington DC	9	2	11	4	2
3	Ottawa	1	7	2	13	11
4	Vancouver	3	20	7	1	6
5	Toronto	6	16	3	5	7

Cities making progress

While cities such as **Montreal** have declined in comparative terms since 2008, **Ottawa** has improved in terms of environment quality and governance. Indeed Canadian cities are well represented in the top 10 of this survey – constituting four of the top 10 and three of the top five - with impressive governance and environment scores across the board.

7.10 NRDC: Smarter Cities

Smarter Cities is a project of the Natural Resources Defense Council (NRDC), a non-profit web initiative designed to foster friendly competition and provide a forum for exploring American city progress in the fields of environmental stewardship and sustainable growth. It also acts as a resource for best practice and innovative solutions.

Begun in 2005, the Smarter Cities study is focused on how cities rethink and reshape their environments responsibly, and is the outcome of annual research on environmental sustainability in cities. The study has progressed from interview format to comprehensive online survey, expanding the range of cities studied. Cities are now grouped into three size categories to enable comparison between those with similar environmental challenges and fiscal constraints. As of 2010, it is one of the most comprehensive databases of US urban progress towards sustainability.¹⁷⁰

Online survey responses were obtained from a quarter of all US cities, with the rest judged on the basis of secondary research of databases. The study has nine sustainability criteria, awarding up to a maximum of 10 points per criterion. A tenth criterion, worth five points, covered each city's sustainability initiatives and programmes.

- **Air Quality:** median AQI; smoke-free workplaces
- **Energy Production and Conservation:** Top three fuels used for power generation; conservation incentives
- **Environmental Standards and Participation:** city department environmental policies; public role on environmental commissions
- **Green Buildings:** LEED-certified and Energystar-rated buildings; sprawl reduction strategy
- **Green Space:** types of green space; percentage of green space; pest management strategy

¹⁶⁹ Corporate Knights (2013), 'North American Sustainable Cities', <http://corporateknights.com/report/north-american-sustainable-cities-scorecard>.

¹⁷⁰ NRDC (2010), 'Smarter Cities', <http://smartercities.nrdc.org/smarter-cities>

- **Recycling**: items recycled; public recycling bins; percentage of waste diverted from landfill
- **Standard of Living**: owner-occupied housing (%); poverty (%); Housing Opportunity Index
- **Transportation**: green commuting options; ridership for public transport
- **Water Quality and Conservation**: number of infringements; water-conservation incentives

Statements of success and failure

NRDC acknowledges the difficulties of achieving sustainability in a challenging economic climate. Nevertheless, its vision of success is cities that are examining their municipal energy production and demanding better performance, based on budget, environmental fairness and liveability concerns. The top cities are said to 'exhibit great promise as leaders in moving towards a more energy-conscious society.'¹⁷¹

Cities highlighted by the report

In the 2008 rankings, largest cities (>250,000) in general performed best in the study, while smallest (<50,000) cities performed worst, and this is attributed to the resources required to create more green-certified buildings, provide a wider range of energy initiatives and offer more transportation alternatives. Of the largest cities, **Seattle** gained the highest score – 83.86, closely followed by **San Francisco**. Seattle scored very highly across all indicators, except standard of living where it scored moderately, while San Francisco was only kept off top spot by modest results in environmental standards and participation.' Six of the top 13 ranked large cities are in California, indicating the state's leadership in sustainability. These include technology hub **San Jose** (5th), which only scores poorly in Energy Production and Conservation, and **Los Angeles** (13th) which is rated highly for water quality and green buildings but poorly for energy use, standard of living and environmental standards.

New York is ranked a promising 12th in the US out of 67 large cities; it records strong scores for infrastructural and energy efficiencies but is held up by poor air and water quality by national standards. **Chicago**, at 10th, has very similar scores to New York but has marginally better water quality.

Many of the struggling large US cities for smartness are poorer declining manufacturing centres including **New Orleans** (63rd), **Detroit** (56th) and **Cleveland** (48th). **Miami** also performs poorly, at 50th, only performing well for air quality and transport.

Cities making progress

In 2010, the NRDC identified 22 cities in the US as sustainability leaders, looking at newer data than the 2008 study, including aspects such as electricity consumption and green power. The larger cities named in 2010 as Smart Cities include many of the major cities in the United States which performed best in 2008. **New York**, **Boston**, **Chicago**, **San Francisco** are all among the 12 large cities nominated, as well as perennial high performers **Portland** and **Seattle**.

In 2010, **Columbus**, Ohio, was also named as a top clean city, after previous moderate performance, because it has reduced energy costs and lowered the rate of dangerous pollution, acknowledging the impact such moves have on economic budgets and quality of life. The city is praised for its retrofitting of city buildings, promoting of

¹⁷¹NRDC (2010), 'American Cities Get Smart about Energy', <http://smartercities.nrdc.org/articles/american-cities-get-smart-about-energy>

public transport and offering of efficiency programmes for manufacturers.¹⁷² Other cities which have also entered the high-performer list since 2008 include **El Paso** and **Long Beach**.

The Smarter Cities project also has a 'Cities to Watch' section, which identifies those making strong efforts to improve their environmental sustainability. These efforts include encouraging public-private partnerships, implementing carbon reduction policies, or educating citizens about how to reduce their energy footprints. Among the larger cities mentioned are **Charlotte** and **Kansas City**.¹⁷³

7.11 EPA: Top 25 Cities with most Energy Star Buildings

As part of an emerging drive towards competition among America's cities for sustainability bragging rights, the national Environmental Protection Agency has in recent years ranked the nation's best cities for energy-efficient buildings. To be precise, the Agency ranks the cities with the most buildings certified by ENERGY STAR (ES). There is a wide variation in sustainable urban infrastructure commitment in America, and this straightforward quantitative survey provides an easily visible dimension of this.¹⁷⁴

Cities highlighted by the report

Los Angeles has been the nation's top city every year since 2008, with 2010 no exception. California's largest city leads the way in a state recognised for its pioneering efforts in this area. The city added almost 80% more ES certified buildings in 2010, rising to 510 overall. Meanwhile, **San Francisco** has been ranked either 2nd or 3rd in 2008-2010, while **Sacramento** is a new entrant in the top 10 in 2010, at 8th.

Washington DC is another national leader for efficient buildings, backed by a federal government initiative. The capital is now a clear 2nd with 301 buildings. Many of the country's economic powerhouses feature in the top 10, with **Chicago** 4th, **New York** 5th and **Houston** 7th.

Cities making progress

New York is gradually asserting its strength as a sustainability hub in line with the ambitions of PlaNYC. The 'Big Apple' has risen from 12th to 5th since 2008. Other cities to, perhaps surprisingly, make progress include **Detroit** (9th) and **Philadelphia** (14th). Overall among the top 25, it is **Sacramento** that has made the biggest progress in the two to three-year period.

7.12 Boyd Cohen: Top 10 Smart Cities on the Planet

This index by academic, Boyd Cohen, compiles a number of global and regional rankings of Smart City components on urban innovation and sustainability. Aggregated from a range of secondary benchmarking exercises from a variety of sources including Siemens, Innovation Cities Top 100 and Digital Community, Cohen attempts to provide a holistic overview of the 10 most successful Smart Cities. The aggregated research is distilled into four categories: innovation city, regional green city, quality of life and digital governance, with each city ranked in each of the categories.

¹⁷² NRDC (2010), '22 Smarter Cities Put Clean Energy on the Map', <http://switchboard.nrdc.org/blogs/fbeinecke/22-smarter-cities-put-clean-en.html>

¹⁷³ NRDC (2010), 'Cities to Watch', <http://smartercities.nrdc.org/media/cities-to-watch>

¹⁷⁴ US Environmental Protection Agency (2011), 'Top Cities With the Most ENERGY STAR Certified Buildings in 2010', pp. 1-2

This survey, albeit brief, offers a succinct overview of leading examples of Smart City projects and the factors attributing to their success.

Statements of success and failure

This index utilises a broad definition of what constitutes a Smart City. Cohen asserts that a Smart City uses ITC:

*'to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved service delivery and quality of life, and reduced environmental footprint.'*¹⁷⁵

It is therefore the speed of communication, use of low carbon technologies, efficiency of service delivery, achieving financial savings using technological innovation and associated rises in overall quality of life that are recognised by this index.

Cities highlighted by the report

Top 10 Smart Cities

Rank	City
1	Vienna
2	Paris
3	Toronto
4	New York
5	London
6	Tokyo
7	Berlin
8	Copenhagen
9	Hong Kong
10	Barcelona

The most consistent performer, and indeed the only city ranked in the top 10 for each of the four criteria – including a top place finish in the quality of life ratings – is **Vienna**. The index highlights that Vienna's planners are setting and progressing towards Smart City targets effectively utilising fixed-horizon programmes such as Energy Vision 2050, Roadmap 2020 and Action Plan-2015 which are, with stakeholder support, positioning Vienna as a major player in Smart City technology.

Toronto, ranked 2nd, receives credit for its enhanced ITC – including the opening of the IBM BASC centre – and for a number of innovative environmental initiatives, in particular its use of waste-to-energy technology in landfill to power municipal waste disposal vehicles to achieve closed-loop environmental efficiencies. **Paris** completes the top 3 and is impressed in particular with transport policy, including bicycle and electric vehicle rental schemes.

Technology formed the basis of **Hong Kong's** ranking in the top 10 but low quality of life scores mean that it achieves no higher than 9th, one place below **Copenhagen** which 'is taking a global leadership role on sustainable innovation' and is committed to carbon neutrality by 2025.

¹⁷⁵ Boyd Cohen, 'The Top 10 Smart Cities on the Planet', <http://www.fastcoexist.com/1679127/the-top-10-smart-cities-on-the-planet>

Cities making progress

This is the first time that this index has been published and, as such, rating city progress is not possible.

7.13 Coastal City Flood Vulnerability Index

The Coastal City Flood Vulnerability Index (CCFVI) has been developed by a cross-disciplinary team from the UK and the Netherlands to assess the risk of flooding to major coastal cities based on exposure, susceptibility and resilience to flooding. The index focuses on nine coastal cities with comparable geographical profiles - specifically being built on river deltas - **Shanghai, Dhaka, Casablanca, Buenos Aires, Kolkata, Osaka, Marseille, Manila** and **Rotterdam**.

Statements of success and failure

The CCFVI rates the nine subject cities by their overall vulnerability to flooding with 0 being minimum risk and 1 being the highest risk. The study's methodology takes into account a range of social and institutional components, as well as the obvious geographic nexus between the cities and their natural surrounds, to provide a holistic analysis of each city's relative vulnerability. The three components are:

- Hydro-geographic – including position above sea level, soil composition, cyclone susceptibility and length of coastline.
- Socio-economic – including size and growth of coastal population, numbers of vulnerable members of society, provision of shelter and awareness of flood risk.
- Politico-administrative – including the provision of planning restrictions, specialist flooding institutions and flood defence infrastructure.

Cities with the lowest vulnerability risk are therefore not simply those which happen to be less susceptible to flooding due to natural disasters, but are those which develop institutions and infrastructure to mitigate the effects of natural disasters; those with populations which are able to react quickly to avoid the immediate destruction caused by flooding; and those most able to return to normality in the aftermath of severe flooding.

Cities highlighted by the report

Shanghai ranks as the city most vulnerable to flooding, rated as the most vulnerable on the hydro-geographical, social and politico-administrative components with a maximum score of 1 in each of those criteria.

“Exposed to hydro-geological factors such as storm surge and sea-level rise, the city faces a high river discharge and serious land subsidence (it results in lowering the standard of coastal flood preventing establishments and increases the risk of natural disasters of typhoon, rainstorm, flood). From a social perspective, the population close to the coastline is high, people experience floods, but the city does not have high resilience and the number of shelters is low compared to the population density.”¹⁷⁶

Shanghai does, however, score well on the economic categories. **Dhaka** and **Manila** rank as the next most vulnerable cities in the index – with vulnerable geographies, limited administrative infrastructure and economic weakness being characteristics common to both cities, as well as their low-lying location and susceptibility to typhoons and monsoons, respectively.

¹⁷⁶ A Flood Vulnerability Index for Coastal Cities and Its Use in Assessing Climate Change Impacts (Natural Hazards) Volume 64, Number 1 (2012), 73-105, DOI: 10.1007/s11069-012-0234-1, Balica et al. <http://www.springerlink.com/content/m0643t72vi911r26/>

The index's methodology is primarily applied to climate data benchmarked to 2009 figures, but the report goes on to apply its methodology to the nine cities using a 2100 best-case and worse-case climate model in order to assess those cities most vulnerable to extreme and accelerated climate change. In a 2100 worst-case scenario, Shanghai will remain the city most vulnerable to flooding but Manila's vulnerability will, of the cities analysed, increase by the greatest extent.

Cities making progress

This is the first publication of this index and, as such, no comparison can be made.

7.14 Clean Edge: Metro Clean Technology Index

The technology market analyst firm, Clean Edge, publish their Metro Clean Tech Index as a tool for comparative research on aggregated industry data of the US clean-energy market. The index utilises over 20 city indicators to establish performance rankings for the 50 largest metropolitan regions in the US.

The Metro Index indicators are divided into four categories:

- Green buildings;
- Advanced transportation;
- Clean electricity and carbon management; and
- Clean-tech investment, innovation and workforce.

The quantitative indicators are normalised to account for population size/activity and are benchmarked against a number of pervasive factors including GHG emissions, advanced transportation infrastructure, venture capital investment and energy mix.

Statements of success and failure

The report's authors note that clean technology in North America is a distinctly urban affair. 87% of the US\$15bn of venture capital ploughed into the clean technology sector in North America is done so through the top 50 cities highlighted by this report. Clean Edge goes on to note that:

"[as] the industry expands and competition heats up, these metro areas will increasingly compete against one another (and against cities around the world) to capture the clean-tech opportunity. And as this unfolds, the Metro Clean Tech Index will provide an unparalleled perspective on regional activity and leadership."¹⁷⁷

Cities highlighted by the report

Metro Clean Tech Index Top 10		
1	San Jose	82.2
2	San Francisco	81.4
3	Portland	64.8
4	Sacramento	59.4
5	Seattle	56.5
6	Denver	54.5

¹⁷⁷ Clean Edge (2012), 'U.S. Metro Clean Tech Index', <http://www.cleantech.com/research/metro-index>

7	Los Angeles	52.2
8	Washington DC	50.4
9	Boston	49.4
10	Austin	48.6

Source: Clean Tech

San Jose heads the index with a score of 82.2. Bordering Silicon Valley, the region is renowned as a high-tech innovation hub and ranks first in concentration of clean-tech venture capital and performs well in patent activity, university technology development, and EV/HEV deployment.

Less than a single point behind its southern Californian neighbour, with a score of 81.4 **San Francisco** comes second in the index and personifying consistency across the range of criteria, ranking in the top 10 in almost every Metro Index indicator. San Francisco is home to a dense population of LEED-certified buildings, which draw upon clean energy and are easily accessible by clean transport solutions. The two Californian leaders are rated as being significantly more advanced in the clean technology sector than any rivals in the US.

Albeit some way behind the Californian duo, the 3rd city in the 2012 Index is another Pacific hub, **Portland**. Performing solidly throughout, the North West centre is particularly strong in its concentration of LEED projects and EV charging stations, and its main utility, Portland General Electric, utilises the highest proportion of green technology in the country.

Washington DC is the highest East Coast city in the rankings, at 8th, with a score a shade over 50, and Austin is the leading Southern city, coming in 10th place over all in an index dominated by coastal hubs.

Cities highlighted by the report

This is the first time that this index has been published and, as such, no comparison is possible.

8 Image, Brand and Destination Power Indexes

8.1 Euromonitor International's Top City Destinations

Euromonitor International releases a regular authoritative Top City Destinations Ranking, covering 100 of the world's leading and most dynamic cities in terms of international tourist arrivals. The ranking focuses on city hubs and tends to exclude beach and ski resorts that enjoy high volumes of international visitors. Its latest edition, published in January 2012 and ranking data from 2010, highlights a global return to growth after recording a decline in overall international arrivals in 2009.

Statements of success and failure

Successful cities in this context are those that attract large numbers of short and long-haul visitors. The period covered by Euromonitor's statistics was one of great flux in the international tourist market, and the report highlights those cities which have successfully taken advantage of such flux to create new strategies and markets. These have mostly been in emerging markets at the periphery of the wealthy regions of Europe and North America – and most particularly in the Asia-Pacific region. Meanwhile, cities in Europe and North America are, according to Euromonitor, set to continue to lose share of the arrivals market as infrastructure in developing cities improves.

Cities highlighted by the report

After claiming top spot in the 2008 rankings, attracting a total of 15 million tourists that year, **London** has been overhauled in the latest index by both **Hong Kong** and **Singapore** which have recorded impressive year-on-year gains of 18% and 16% respectively. London's sluggish growth of 3.5% was attributed by the report to continued economic uncertainty in the eurozone and a subsequent decline in intra-regional traffic. This trend is further exemplified by the performance of **Dublin** in 2010 – recording a 15% drop in traffic, making it the worst performer in the top 100.

Conversely, Hong Kong's impressive performance is predominantly ascribed to strong intra-regional leisure travel and, in particular, the large number of visitors from mainland China – accounting for 60% of Hong Kong's visitors. This trend is further accentuated by the 25.9% growth in visitor numbers to neighbouring **Macau**, which moves up to 4th in the overall rankings.

Like London, a number of the traditional cultural and leisure travel hubs have posted disappointing volume growth. Modest growth in leisure traffic to **New York** (8th) and **Paris** (9th) sees those centres move behind the Asian cities mentioned above as well as **Bangkok**, **Antalya** and **Kuala Lumpur** – each of which having posted double-digit annual growth in the latest figures.

The index highlights that the Chinese leisure tourism market is becoming an increasingly important global factor. We have already considered the impact of this upon Hong Kong and Macau and the report attributes outward Chinese traffic as having a rejuvenating impact in Japan. The report highlights the case of **Tokyo**, which recorded a 17% drop in tourism in 2009. However, the lifting of a ban on visas for individual Chinese visitors in July 2009, together with the completion of a number of major transport infrastructure projects, were factors in the Japanese capital posting 28% annual growth in 2010.

Cities making progress

Strength in the Asia-Pacific region is epitomised by the progress of the Vietnamese duo of **Ho Chi Minh City** and **Halong** – both of which recorded 28% growth in this year's report. The survey flags an increase in intra-regional disposable income and travel-friendly government policy as major factors in a successful year for Vietnamese tourism.

Confidence within the Asian economy and increased affordability of travel in that continent are borne out in the relative progress of major Asian cities in comparison with their rivals in Latin America and Africa. The impressive performance of **São Paulo**, which enjoyed double-digit growth in arrivals in 2009 thanks to favourable exchange rates, aggressive government stimulus, increased air links and effective promotional campaigns, notably stalled in 2010. In 2009, São Paulo was the third fastest-growing city on the list, but very modest growth of 4.5% in 2010 sees it lagging well behind its emerging rivals **Beijing** (22.9%), **Shanghai** (18.8%) and **New Delhi** (20%) in terms of 2010 growth and in rankings on the overall leader board. Impressive 2009 growth in **Cairo** and **Johannesburg** has also decelerated to 3.5% and 6% respectively.

Cities in Turkey, where the cost of travel is less expensive than in Europe, have continued to attract air travellers in 2010, gaining further attractiveness as the euro has strengthened. **Antalya** in Turkey is noted for achieving growth of 20% in 2010, while **Istanbul** also experienced solid growth of 7.7%. Such cities are thought to possess a strong advantage over other Mediterranean destinations such as Greece, Spain and Italy moving forward.

Looking ahead, Euromonitor states its expectation that cities hosting major sporting events in emerging markets will act as 'main drivers of inbound tourism development in host cities'¹⁷⁸ with investment in infrastructure and increased tourist awareness catalysing future growth in cities such as **Kiev**, **São Paulo** and **Rio de Janeiro**.

8.2 ECA International: Location Rating Survey for Asian expats

Human resources consultancy ECA International's annual index to judge the popularity of urban locations for Asian expats is emerging as one of the most popular guides to liveability worldwide. Its Location Ratings system is used to assist international HR departments to establish expatriate allowances which compensate staff for the difficulties of adapting to living in their assignment location. The ratings are based on an analysis of living standards for more than 400 locations globally. Factors such as climate, health services, housing and utilities, isolation, social network and leisure facilities, infrastructure, personal safety, political tensions and air quality are taken into account.

The quality of living analysis is innovative in that it takes into account the home and destination country of expats, and thus the challenges of culture, language and climate an expat might experience. Thus, cities perform differently depending on from which country and continent the professional worker comes from.

Statements of success and failure

In addition to general quality of life requirements, successful cities in this index must have high levels of personal safety and security, little or no socio-political tension, and a supportive social network for incoming professionals.

¹⁷⁸ Euromonitor (2012), 'International City Destinations', <http://blog.euromonitor.com/2012/01/euromonitor-internationals-top-city-destinations-ranking1-.html>.

Cities highlighted by the report

Global Rank 2012	Location	Global Rank 2011
1	Singapore	1
2	Sydney	2
3	Adelaide	4
3	Brisbane	3
5	Kobe	4
6	Perth	6
7	Canberra	9
8	Dublin	12
8	Melbourne	10
8	Copenhagen	10
11	Bern	17
11	Hong Kong	14
11	Vancouver	14
11	Auckland	12
15	Antwerp	17
15	Wellington	14
17	San Francisco	20
17	Tokyo	6
17	Yokohama	6
20	Amsterdam	22

Singapore retains top spot in this index, a position it has held every year since 2000, attributed to its infrastructure, health services, cosmopolitan population, low crime rates and superior air quality. The survey found that Asian cities including **Hong Kong**, **Beijing** and **New Delhi** ranked behind Singapore largely because of the poor air quality found in these places. Hong Kong is nevertheless a high overall performer, with the report pointing to the city's excellent housing, schooling and transport, and good-quality facilities for the international community, which has led to its ranking of 11th globally and 2nd in Asia. **Tokyo** and **Yokohama** have dropped significantly in this year's survey due to the increased consciousness of natural disasters in the area caused by the previous year's earthquake, tsunami and nuclear incident.

Australian cities are becoming increasingly dominant in the index, accounting for six of the top 10 spots. A high performer in many liveability studies, **Sydney** is again ranked 2nd by ECA for Asian expats. Aside from Sydney, Brisbane and Adelaide rank joint 3rd, while Perth, Canberra and Melbourne all feature in the top 10, with New Zealand's Wellington and Auckland also ranking in the top 20. The fall of Tokyo and Yokohama down the rankings means Kobe, ranked 5th, is by some distance the leading Japanese city on the list.

However the gap between the top five Asian locations and the rest is very large in ECA International's ranking. The 6th best Asian city, **Taipei**, is only ranked 60th globally, although it is praised for having improved air quality, availability of goods and services, recreation and socio-political tensions. Chinese cities perform very poorly, with Shanghai the leading mainland location at 83rd and Beijing down at 99th. The report acknowledges Chinese city improvements, pointing to the levels of decent housing, access to recreation and low crime rates, where Beijing and Shanghai are comparable to the best in Asia. However, it attributes their poor overall performance to low air quality, health facilities, transport links, recreation and education facilities.

Indian cities continue to perform even worse, with **Bangalore** leading the way at 156th – **Chennai** (167th), Mumbai (172nd) and New Delhi (182th) are towards the very bottom of the list, while **Kolkata** (211th) is mentioned for its poor availability of schools, housing and goods for expatriates.

Asian professionals heading to Europe can find the best quality of life in Copenhagen and Dublin, ranked joint 8th globally. The next most promising European locations are Antwerp and Bern. London only ranks 46th globally while Paris is further down in 58th – with both cities sliding significantly on last year's showing.

Cities from Latin America and Africa perform very poorly in this rating. At the bottom of the list, as has become typical in recent years, are Baghdad and Kabul, who are joint last with Port au Prince – the second least desirable for Asian expatriates.

Cities making progress

Eastern European locations have improved considerably in the ECA rankings, although the cities making the greatest strides have changed this year. Whereas Prague previously led the Central and Eastern European charge, in the last year the locations featured Ljubljana (53rd) coming top followed by Zagreb (69th).

8.3 International Congress and Convention Association (ICCA) Rankings

The ICCA rankings cover meetings organised by international associations which take place on a regular basis and which rotate between a minimum of three countries. The ICCA data researchers identified 9,100 events in 2010, up 10% from 2009 and 30% from 2007, and which amounted to an all-time high. The Association thereby produced rankings based on the location of these events. The increased number of events over the past three years demonstrates that the international meetings market was not badly affected by the economic downturn.¹⁷⁹

The ICCA's database is designed as a sales and marketing resource for its members to target future international association meetings. Thus, it does not include one-off events or those which do not move between locations. Mid-size cosmopolitan cities tend to perform very strongly in this ranking.

Cities highlighted by the report

Since 2004, the ICCA figures show that a large minority of events have taken place in the US and Germany. However, none of the three leading cities are located in these two countries. Instead, Vienna has taken top spot worldwide for meetings for the sixth year running. The Austrian capital had its comfortable lead cut by Barcelona in 2010, which increased its share by 40 meetings since 2007 and climbed ahead of established conference leader, Paris.

The report authors note that, in terms of total number of participants hosted at meetings in 2010, Stockholm placed 3rd, indicating its hosting of fewer very large meetings. Elsewhere, both Bangkok and Athens fell out of the top 20 due to ongoing political and economic concerns respectively.

Cities making progress

Unlike in many indexes, there is no shift eastward at the top of the rankings, as European cities continue to dominate. Indeed, Beijing fell from 8th to 12th in the rankings between 2007 and 2010. That said, cities such as Singapore and Taipei have recorded much improved figures over the past few years.

Istanbul is the big mover into the top 10, rising from 17th in 2009 to 7th in 2010 as it basked in its European Cultural Capital status. Turkey's financial capital has risen rapidly in the last decade as a MICE destination; it

¹⁷⁹ ICCA (2011), 'ICCA publishes country and city rankings 2010', <http://www.ftnnews.com/mice/12600-icca-publishes-country-and-city-rankings-2010.html>

ranked 40th almost a decade ago. Another city to enter the top 20 since 2007 is **Buenos Aires**, which extends its lead over **São Paulo**, and also **Madrid**, which appeared in 13th place in 2009 and is now an impressive 6th.

Sydney has also emerged in the top 10, rising 17 places since 2009, with an almost 50% increase in meetings. This reflects the city's commitment to increasing business tourism, which it sees as a US\$200m annual industry. Business leaders have said the meetings industry will generate around US\$300m (£190m) from now. Local government officials are noted to have pledged to build a new convention and exhibition centre to match growing demand.

Between 2008 and 2009, **Berlin** recorded the most significant conference growth in the top 10 to rise to 4th place, and kept this position in 2010.¹⁸⁰

8.4 The Greater Paris Investment Agency Global Attractiveness Survey

The Greater Paris Investment Agency has been a key actor in the French capital's recent development, and in 2008 it produced a significant insight into the image of world cities with its so far one-off Global Cities' Attractiveness Survey. The survey was based on a CSA-interviewed representative panel of over 500 international business leaders, and was tied to data compiled by Ernst & Young's European Investment Monitor Database. Its dual methodology compares the perceived attractiveness of global cities with their 'real' attractiveness based on the location of the world's 2,000 largest companies' headquarters.

Statements of success and failure

The survey is based on the premise that given the 'world is an open playing field', successful cities will be those that can best host businesses which have the mobility to seek growth and profitability anywhere on the globe. Noting that current projections indicate BRIC economies will outstrip G7 economies by 2050, success and failure is defined by those that meet the challenge of becoming and remaining global and attractive.

Successful cities are those that are 'profitable, creative and balanced.' They have strong entrepreneurship and high-tech clusters, they host innovative events and are culturally rich, and they have equilibrium between life quality and wealth creation.

Cities highlighted by the report

The report's headline finding is that **New York**, **London** and **Paris** outperform all other major cities in the competition for awareness and best image. Although **Tokyo** is clearly rated the world's most strategic city in terms of decision centres for the 2,000 largest companies, and is a recognised leader in construction and transport, its overall attractiveness is still some way behind this triumvirate.

Despite the strong position of these three cities, the survey found a much closer competition among cities in terms of investment attraction, with **Shanghai** and **Beijing** rising quickly to be placed just behind New York in this field. This reflects the survey's finding that confidence in 'emerging' cities is higher than in 'established' cities, as the balance of power is thought to be shifting.

Moscow is highlighted for its strong reputation among investors over the medium term, while **Mumbai** is stated as drawing considerable confidence among investors for future growth, comparable with the leading Chinese hubs.

¹⁸⁰ <http://www.iccaworld.com/npps/story.cfm?ID=1577>

Cities making progress

Beijing, Shanghai and Dubai are all rated as cities whose image currently far outstrips their performance in terms of business hub status, while established cities such as Tokyo and Sydney are seen to have an image below their business 'reality'. This indicates they have been successful at brand development. Meanwhile the cities of San Francisco and Taipei are noted for having made world-leading progress in attracting global firms in IT and banking respectively.

8.5 Anholt/GfK Roper Brands Index

Anholt, run by Simon Anholt, has been a leading authority on city brand comparison for over five years. In 2011 the company partnered with Roper Public Affairs & Media, a division of GfK Custom Research North America, to launch an update of the City Brands Index, first produced in 2006, which measures consumer perception of the image and reputation of 50 major global cities (down from 60 in 2006). The index is based on a global survey whereby close to 10,000 respondents from across 20 developed and emerging nations answered statements about each of the 50 cities. The ranking is developed by averaging city scores across the index's six categories:

1. Presence (knowledge of city and perception of its global contribution)
2. Place (cleanliness, aesthetic qualities and climate)
3. Prerequisites (affordable accommodations and quality of public amenities)
4. People (friendliness, personal encounters and cultural diversity)
5. Pulse (interesting events, activities and lifestyles)
6. Potential (perception as good place to do business, to find a job and to go to school).

It is notable that the brands index overlaps considerably with quality of living studies, such as Mercer and EIU, which also consider broadly the same aspects of place, prerequisites and pulse.

Statements of success and failure

The implication of the index is that perception is decisive in encouraging talent and tourists to visit or work in a city. Successful cities are seen as those with no notable weaknesses, thus a combination of flair, hospitality and liveability with business power and dynamism. The index's warning to top cities that their reputations are fragile across some measures, indicates that the strongest cities will in future leverage their core strengths and shore up areas of vulnerability in order to develop overall strategies to attract tourism and business investments.¹⁸¹

Cities highlighted by the report

In 2011, Paris ranked as the top overall city 'brand', closely followed by London, Sydney, New York and Los Angeles. London is the world leader for international Presence as well as Potential, given its strong reputation for business and jobs. Nevertheless, it loses out to Paris because of the French capital's consistency across the range of measures, especially those of Place and Pulse.

Sydney is considered the city with the best sense of Place, given its aesthetic and climate credentials, while it also rates highest for People and Prerequisites, given its reputation for flair and strong public realm. It is only in the areas of Presence and Pulse that the city falls behind the world leaders.

¹⁸¹ GfK (2012) http://www.gfk.com/group/press_information/press_releases/008391/index.en.html

Another notable performer is **Melbourne**, which finished 2nd in both the People and Prerequisites rankings, reflecting its image as a culturally diverse and affordable base, and enters the top 10 for the first time.

Overall, European and English-speaking cities perform much better than Asian and Latin American cities. Cities such as **Mumbai**, **Mexico City** and **Hong Kong** are all shown to be underperforming in areas of Place, People and Potential respectively.

Cities making progress

There have been only minor changes at the summit of the city brands rankings, compared to the 2009 study. While cities from emerging markets have made gains in the 2011 index, indicating increased brand visibility – Beijing for example was ranked 9th for Presence – the leading positions in the index remain dominated by traditionally dominant urban centres. The performance of Tokyo in the 2011 rankings exemplifies this. Despite the destructive impact of the 2011 tsunami and subsequent nuclear incident at nearby Fukushima, the Japanese capital has maintained its position in the overall top 10 with the report's authors highlighting that short-term events will have little long-term impact upon brand erosion in such established cities.

8.6 Forbes' World's Happiest Cities

Forbes' happiness ranking is heavily drawn from the GfK Roper Brands index. Here, happiness is defined less as where local populations are happiest than where most global populations would like to imagine themselves having a good time. In this sense it is an assessment of perception over reality. The implication from Forbes is that happy cities are those which promote positive lifestyles, social and outdoor living, and which have a certain flavour of openness and multicultural tolerance. Forbes also references the dependence that city brands have on national stereotypes. Brazilian and Australian cities, for example, are thought to benefit from a widespread positive view on the national culture.

Cities highlighted by the report

Forbes reaffirms the longstanding reputation of Mediterranean and Latin American cities as hubs of entertainment and fun. **Rio de Janeiro** was rated as the happiest city in the world. Forbes credits the city with imbuing a popular global perception as a festival of 'starry-eyed youngsters dancing into the dusk, backed by imposing mountains and dark seas.' The city's annual carnival and Brazil's reputation for good humour and exciting lifestyle, all factor into its top performance. **Sydney** also performs well, in 2nd place, because of its climate, openness and iconic Opera House. **Barcelona** as 'the classic Mediterranean city' is placed 3rd, due to its scenic beauty, affordable housing and business opportunities.

Cities making progress

As a one-off piece, there is no formal indication of progress. Forbes suggests that many of the top cities in terms of reputation have been held in such esteem for generations. The main exceptions to these are **Sydney** and **Melbourne**, whose branding achievements over the past two decades have been outstanding.¹⁸²

¹⁸² Forbes (2009), 'World's Happiest Cities', <http://www.forbes.com/2009/09/02/worlds-happiest-cities-lifestyle-cities.html>.

8.7 MasterCard Global Destination Cities Index

In 2013, MasterCard published the 3rd edition of its survey of cross-border air travel and associated spending patterns encompassing over 100 global cities. Utilising an established methodology, this index attempts to iron out potentially anomalous data such as low load factors on certain routes, transfer-focused airport hubs and high frequency of low-spending daytravellers, to produce an extremely usable and robust data set.

The index reveals what are, generally speaking, positive results for the world's most visited cities. Of the top 20 cities (by number of visitors) the last 12 months has seen a 5.7% overall increase in passenger numbers, a 10.6% rise in total cross-border spending and a 4.7% increase in average spend per visitor.

Statements of success and failure

This MasterCard Index seeks to capture the numbers of overnight visitors to cities from overseas locations and to quantify their spending habits. Both total numbers of visitors and total expenditure - as well as growth rates - are considered and ranked within the report. MasterCard acknowledges that the 'growing need and desire to travel [is] set to expand,' providing opportunities for leading and emerging cities alike.¹⁸³

Cities highlighted by the report

In 2013, the major shift is that **Bangkok** has become the most popular location for foreign overnight visitors globally, just overtaking London for the first time. **London** maintains its position in the index as both the most popular international destination for air travellers and the city capturing the largest share of global overseas spending with 16.9 million visitors spending US\$21.1bn in the 12 months ending in Q2 2012.

London's progress, which had previously far surpassed that of European capitals **Paris**, **Madrid** and **Rome**, is linked to the abundant retail, cultural and entertainment provision combined with the range of international air connections. Paris is the only city in the top 20 to record an estimated decline in the number of international visitor arrivals.¹⁸⁴

Cities making progress

Istanbul is the clear standout performer in the upper echelons of the index, recording some of the fastest tourist growth of any city. It now ranks as the 6th most popular global destination, not far behind New York. Istanbul has also shown a strong increase in visitor spend, as it becomes a genuine global holiday and business destination. The other fast-growing city is **Dubai**, which has seen visitor numbers soar by over 10% year-on-year.

The other fastest-growing cities by visitors are overwhelmingly on or near the Asian side of the Pacific Rim. The network of cities which stretches from **Tokyo** to **Singapore** have recorded exceptionally fast growth, and constitute a very important air travel cluster as the aviation market moves East.

The fastest-growing cities for air travel connectivity in North America and Europe are **Toronto** and **Berlin** respectively, indicating the pair's growing gateway roles into their respective regions. **Bogota** is also showing impressive growth figures in Latin America.

¹⁸³ MasterCard (2012), 'Global Destination Cities', http://newsroom.mastercard.com/wp-content/uploads/2012/06/MasterCard_Global_Destination_Cities_Index_2012.pdf

¹⁸⁴ Yuwa Hedrick Wong (2013), 'MasterCard Global Destination Cities Index', <http://c15210660.r60.cf2.rackcdn.com/wp-content/uploads/2013/05/MasterCard-Global-Destination-Cities-2013-Report.pdf>

8.8 Hogg Robinson Group Hotel Survey

HRG's semi-annual survey examines hotel room prices in key business destinations across the world. Published in August 2012, this latest data-set reveals HRG's findings for the first half of 2012, and utilises a mixture of industry intelligence, actual room nights booked and rates paid from January to June 2012. The findings are then compared to data from the corresponding six-month period in 2011. The index examines hotel prices in 50 cities, including many of the world's leading and emerging business centres, as well as a number of smaller UK cities.

Statements of success and failure

HRG's index provides a simple economic analysis of the average cost of hotel rooms in each city. Higher hotel room rates indicate high demand, and increases in hotel room rates indicate rising demand. As overall hotel room capacity and underlying costs are not included in the index's calculations, the particular utility of this index is the year-on-year comparison that illustrates the underlying oscillation in the flow of business traffic to the world's leading business centres.

Cities highlighted by the report

Moscow remains the most expensive city destination in terms of hotel room rate – a position it has held for the past eight years. Hotel prices in the Russian capital have risen 3% in the sample period. **Lagos** retains its position as the 2nd most expensive destination, as the Nigerian natural resource hub continues to attract significant international business. The relatively small supply of hotels that are able to meet business travellers' needs amid the city's well-documented social and security issues (all of which are at the high end of the market) is the central factor in the high average cost. **Geneva**, **Zurich** and **Rio de Janeiro** complete the top five in terms of average cost.

Of the 23 cities in the survey that posted a year-on-year reduction in hotel room rates, a significant number are European, with much of the significant growth being recorded in the Americas. The continued financial crisis within the eurozone is highlighted by HRG as the factor behind this trend.¹⁸⁵

Of the European cities posting decreases, **Barcelona** saw rates fall by 22%, **Madrid** 2% and **Dublin** 6%.

The two Indian cities featured in the index have also struggled in 2011-2012. Room rates in **Mumbai** decreased by 7% and in **Bangalore** by 21%. Economic slowdown in the sub-continent and a shortage of capital investment are highlighted as contributing factors to these weak results.

Cities making progress

While European destinations generally struggled in 2011-2012, Latin American cities flourished. **Mexico City** posted the greatest increase in room rates (30%), with growing demand and increased supply of quality hotels catalysing the dramatic year-on-year growth in the Mexican capital. **São Paulo** and **Rio de Janeiro** are the other major movers in this year's index, reporting rate increases of 23% and 15% respectively, indicative of the continued increase in the commercial activity within the Brazilian megacities.

Cities in the US also performed well in 2011 with **New York**, **San Francisco** and **Houston** all posting positive results.

¹⁸⁵ Hogg Robinson Group Hotel Survey (2012) <http://www.hrgworldwide.com/Media/Press-Releases/Pages/Hotel-rates-on-the-rise-in-Latin-America,-as-fallout-of-sovereign-debt-crisis-hits-Eurozone.aspx>

8.9 Public Affairs: Asia Location Branding

This survey, emphasising the importance of city branding, details the responses to a survey of senior corporate communications and public affairs practitioners operating in Asia-Pacific or in roles connected to the region.

The research was conducted between June and August 2012 and aggregates the views of 300 individuals. The respondents selected by the authors of the report are figures working in the communications disciplines including corporate communications, corporate affairs, public affairs, government affairs, marketing and public relations. Much of the report concerns itself with respondent's views on city branding in general, although it does contain a relevant section ranking the relative brand strength of leading Asian cities.

Statements of success and failure

The report's authors note the increased importance of cities in global dynamism and,

"[as] these locations develop, towns, cities and countries are in open competition for investment, jobs, tourists and students – not just within the region, but also globally. The success of these efforts is highly influenced by brand values and brand perception."¹⁸⁶

Location branding is the task of creating a clear and compelling image of what a city offers, how it differentiates, and what it stands for to both investors and visitors.

Cities highlighted by the report

Singapore comes out as a clear winner in this brand perception index. The city's ability to fuse business dynamism, while remaining a major tourist hub by combining elements of East and West, marks Singapore as a market leader. The city-state's sophisticated organisation structures have allowed it to promote itself to the rest of the world as a business and tourism hub through its Economic Development Board, the Ministry of Information, Communications and the Arts, and the Singapore Tourism Board.¹⁸⁷

Coming in closely behind Singapore are **Hong Kong** and **Sydney**. Hong Kong's bustling fusion of East and West and long-term status as a financial gateway in the region provides the city with an instantly recognisable brand. However, continued issues with air quality and its still evolving relationship with the Chinese mainland are challenges to be met in future years. Also in close contention in the ranking stakes is **Tokyo**, which has performed robustly in this index despite brand difficulties stemming from the natural disasters of 2011.

Beijing, however, continues to struggle in relation to its near rivals - scoring 7.9 points and ranking at the bottom of the top 10. Pollution and an unclear political, regulatory and business environment make the Chinese capital difficult to navigate. Cities in Asia struggling to create a positive image include **Jakarta** and **Manila** (scoring 5.9 and 5.6 respectively) with security, corruption and underdeveloped infrastructure among factors in the weakness of those cities' respective brand identities.

Cities making progress

As the first edition of this index, no comparison is possible.

¹⁸⁶ www.publicaffairsasia.net/location_branding2012.pdf

¹⁸⁷ [ibid.](#)

8.10 AMR and the Research Institute: The Global 2012 City Reputation Index

Compiled by Australian research consultant AMR and the Research Institute, this index has gathered survey data from around 18,500 residents of G8 countries. Respondents could not rate cities in their own country of residence. The 100 cities included are rated upon factors such as population size, GDP and level of tourism.

Statements of success and failure

Each city's ranking was based on a range of dimensions, including culture, physical beauty, infrastructure, leaders, business environment, safety, financial stability and technology as perceived by those familiar with the cities.

Cities highlighted by the report

The Reputation Index has a familiar looking top 10 among surveys interested in city reputation. **Vancouver** leads the way in a top 10 dominated by cities notable for their high quality of life rather than business clout. **Vienna** is ranked 2nd due to its cultural offering and increasingly dynamic technology sector.

Australian cities perform well throughout with **Brisbane**, **Perth** and **Adelaide** all registering positions in the low 30s behind **Melbourne** in 10th and **Sydney** in 3rd. Climate, education, safety and security are common factors cited in the success.

Amid a table dominated by Canadian, Australian and Northern European cities, **Barcelona** and **Florence** both perform strongly.

Cities making progress

As this is the first edition of this index, it is not possible to assess the progress of cities.

8.11 City RepTrak™ Topline Report: the world's most reputable cities

This index, published by the Reputation Institute, is based on the results of an online survey conducted between April and May 2012. The Institute surveyed a sample of the general public in G8 countries who declared that they had a reasonable familiarity with the subject cities. The cities selected were chosen on the basis of: (a) population size, (b) largest GDP and (c) and high tourism levels. In total just over 18,000 people provided their ratings of the 100 cities included in the study.

The Reputation Institute's City RepTrak™ is a standardised scorecard that measures perceptions of cities based on key performance indicators designed to assess the relative appeal of the city to respondents on 13 characteristics divided into **three silos**:

- **Advanced Economy** - including favourable business environment, location of corporate headquarters, financial maturity and stability.
- **Appealing Environment** - encompassing the city's aesthetics, geography and cultural, artistic and sporting offering.
- **Administration** - including personal safety, reliability of civic authorities, education infrastructure and transportation.

Statements of success and failure

The Reputation Institute asserts that a city's reputation is essential in its ability to attract businesses, knowledge workers, tourists and inward investment. 'The degree to which people Trust, Admire, Respect and have a Good Feeling for a place or their emotional bond to the city' is therefore critical to its success.¹⁸⁸

Cities highlighted by the report

Vancouver tops the index with a score of 74.22. In particular, the Canadian city scored well with respondents as a place to live, while ranking outside the top 10 in terms of investment or visitor appeal. Participants also rated the city highly as a place to work, with 40% of respondents happy to recommend living in Vancouver, a score only surpassed by **Sydney**, which takes 3rd place overall. Vancouver was also rated in the top 10 for home-buying. The report sums up Vancouver as follows: 'A strong city reputation builds stakeholder support, making Vancouver a city people will recommend as a place to visit, invest in, live in and work in.'¹⁸⁹

In a top 25 dominated by European cities, **Vienna** is the leading continental city. The Austrian capital rates highly among respondents as a place to live and as a place to visit – ranking 3rd overall in both of those categories – as well as in the top 10 as a place to work and to buy a home. The city's cultural heritage and high standards of living clearly resonate with participants. **Oslo** and **Copenhagen** complete the top five in a list that, at the top end, is conspicuous for being populated by historic European capitals, rather than global financial hubs.

History is not everything though; the presence of **Beijing**, **Mumbai** and perhaps most surprising of all, **Moscow**, in the bottom 10 is significant in showing that contemporary values of openness and comfort remain important to perceptions. Economic development in the Russian capital appears, on the basis of this index, to be outstripping the city's reputation. Both Beijing and Mumbai rank well below a number of their domestic rivals.

Cities making progress

As this is the first edition of this index, no comparison is possible at this stage.

8.12 Condé Nast: The friendliest and unfriendliest cities in the world

Condé Nast has surveyed its readers to establish the world's most and least-friendly cities as part of its annual Readers Choice Survey that takes into account the views of over 45,000 readers. The index, presented as a world top and bottom 20, gives each city an amicability mark out of 100.

Statements of success and failure

According to this index, in the quest to attract visitors, a city's atmosphere, including its civic friendliness, is an important element in its overall appeal.

Cities highlighted by the report

In a list that is dominated by English-speaking cities, **Florianopolis**, the Brazilian tourist destination, comes top of the rankings with a score of 95.8. Readers describe locals as "reliable and friendly".

¹⁸⁸ Reputation Institute (2012), 'City RepTrak™', www.reputationinstitute.com/frames/everts/2012%20City%20RepTrak%20Press%20Release%20Final.pdf

¹⁸⁹ Ibid.

The hospitality of the people of **Hobart** comes a close second with a score of 95.8. According to one reader, Tasmanians “know how to treat visitors”. **Thimbu** in Bhutan is the third highest ranked city, with a rating of 93.7%. Locals are described as “proud and friendly.” **Queenstown** in New Zealand comes in 4th owing, in part, to its “down-to-earth, nice people.”

Queenstown is one of three New Zealand cities to feature. **Christchurch** in 12th and **Auckland** in 16th are also praised for their friendliness. Irish cities are equally frequent in the top 20. Cork in 20th is described as “very accommodating”. Dublin in 13th has, according to one correspondent “the friendliest natives I have ever encountered”, while Kilkenny in 9th is described, *inter alia*, as “charming”.

At the other end of the index and just behind Newark, Islamabad is rated by this survey as the least friendly city in the world with a score of just 17.9. Luanda fares only slightly better in 4th place with a score of 25 which is, in turn, only marginally more friendly than **Kuwait City** in 5th bottom. **Lome**, with a score of 29.4, ranks as the 6th least friendly city in the world.

Guangzhou in 11th is unsurprisingly regarded as less “tourist-friendly” than Beijing or Hong Kong and, like **Shenzhen** in 14th, is regarded as more of a business than tourist destination.

9 Culture and Diversity Indexes

9.1 Global Language Monitor: Fashion Capitals

An interesting method of analysing cultural penetration, the Global Fashion Capitals index is based upon a Predictive Quantities Index, an algorithm that tracks words and phrases in print and electronic media, on the Internet and throughout the blogosphere, and measures them in regards to frequency, contextual usage and appearance in global media outlets. The index now covers 55 cities across five continents. The index is said to give an insight into the global fashion industry's current volatility, amid the ongoing relative decline of European leaders in favour of new global fashion destinations.

Cities highlighted by the report

2012 Rank	City	2011 Rank	2011 to 2012 Change
1	London	1	-
2	New York	2	-
3	Barcelona	7	+4
4	Paris	3	-1
5	Madrid	12	+7
6	Rome	13	+7
7	São Paulo	25	+18
8	Milan	4	-4
9	Los Angeles	5	-4
10	Berlin	10	0

London once again edges out **New York** into 2nd place to become the World Fashion Capital in 2012. London first gained the title in 2011, taking the crown from long-standing leader New York. Usurping the traditional strength of **Milan**, **Rome** and **Paris**, London and New York appear to be gaining a stronger grip on the fashion industry.

*'London and New York rank as the world's leading financial centers and most economically powerful cities. What this seems to reflect is a shift in fashion away from historical centers of cutting-edge design and to the large markets, related industries, and global affluence found in these two superstar cities.'*¹⁹⁰

Italian fashion hubs Milan and Rome had a mixed 2012. Rome, rebounded considerably to 6th from 13th in 2011, while Milan, traditionally a contender for top spot, has further dropped to 8th behind a number of less established fashion cities.

London's particular success in 2012 is attributed to the emergence of the Duchess of Cambridge as a global fashion icon and the attention that the London Olympics focused upon Britain and, in particular, London's creative industries. London designer Stella McCartney was commissioned to design Team GB's sports clothing for the Games.

¹⁹⁰ <http://www.theatlanticcities.com/jobs-and-economy/2012/09/worlds-leading-cities-fashion/3182/>

Asian cities struggled in this year's rankings. **Hong Kong**, **Singapore** and **Tokyo** all slid down the rankings with cities in Latin America, Europe and Australia the main beneficiaries. **Barcelona** beat Paris to 3rd and **Madrid** is 5th, giving Spain two cities in the top 10. The US also has two top-10 cities, with **Los Angeles** taking 9th place.

Cities making progress

Top movers on the plus-side included **Antwerp** (+33), **Caracas** (+27), **Johannesburg** (+23), and **São Paulo** (+18). This move takes São Paulo into the top 10, the first Latin American city to break into the global elite. Joining São Paulo in the upper echelons of the index are Madrid and Barcelona.

9.2 Forbes' Best Cities to Eat Well

Forbes' culinary list is derived from the food sub-index of the 2009 Anholt-GfK Roper City Brands Index, which asked respondents to indicate interest in certain foods in particular cities.

Cities highlighted by the report

Forbes' report suggests that traditionally famous 'cuisine cities' remain the most popular cities to eat in, given their powerful historical resonance. It argues that **Paris** is quintessentially known for its patisseries, Michelin-starred restaurants and perfectly prepared steak frites; **Rome** for its pizza topped with zucchini and Caprese sandwiches; and **Tokyo** for its sashimi and robatayaki alongside street food such as Gyudon.

Notably missing from the list are **London** and **New York**, the restaurant capital of the US. This is said to indicate a widespread view that the cities' local cuisine is insufficiently dynamic, despite both cities' world-class restaurant scene.

Cities making progress

Mexico City is noted for being a highly popular culinary hotspot among European and Asian audiences, even if more local knowledge suggests otherwise. This is thought to show that Mexican cuisine is more generally becoming an increasingly important cuisine globally. **Barcelona** is also seen as a city that has improved its food quality over the past decades.¹⁹¹

The growing popularity of Chinese food is seen as responsible for the improved culinary reputation of **Hong Kong**, **Beijing** and **Shanghai**, all of which ranked in the top 10.

9.3 Forbes/Nerdwallet Best Cities for Entrepreneurs

Forbes Magazine has shown strong interest in how cities can cultivate entrepreneurial spirit since the recession. In 2011, Forbes introduced a ranking of cities hosting minority entrepreneurs, on the premise that this demographic is becoming increasingly important in kick-starting economic growth and innovation. 52 metropolitan areas with populations in excess of 1 million were ranked. Rates of self-employment among minorities were combined with figures on population growth, household income and affordability of housing to create the overall ranking.

¹⁹¹ Forbes (2009), <http://www.forbes.com/2009/08/04/culinary-food-wine-lifestyle-food-wine-travel.html>

Two years later, this was followed by a feature on which American cities were doing the most to attract young entrepreneurs. Partner NerdWallet created a seven-point methodology, using public and often federal data relating to loan activity, cost of living, business dynamism, education and income levels.

Statements of success and failure

Cities with high numbers of integrated, profit-creating migrants are seen to be promising examples of self-sufficiency and dynamism in the 2011 feature.

In the 2013 Nerdwallet study, four key elements of successful entrepreneurial cities are identified:

- Access to capital – specifically loans under US\$250,000
- Local affordability
- A supportive network of businesses and mentors
- Regional economic vitality

Cities highlighted by the report

The results from the minority entrepreneur survey indicate that many of the traditional hubs of minority employment – **Los Angeles**, **Chicago**, **New York** – are not necessarily leading the way in terms of self-employment opportunities. **Atlanta** is rated the leading city, with the 2nd highest percentage of self-employed minorities as well as highly affordable housing (especially compared to North East and Californian metro areas) and strong income growth. The city's foreign-born population is said to have multiplied by a factor of 2 since 2000.

Baltimore ranked 2nd due to a high percentage of self-employed Asians, while **Nashville**, Tennessee finished 3rd due to a very fast growth in immigrants in the last decade. Houston recorded another strong performance, in 4th place, thanks to its high jobs growth and low rental costs. **Miami** continues to perform very well in this area, in 5th. Los Angeles ranks 18th, while New York places only 39th and Chicago a dismal 50th.

In the young entrepreneurs feature, **Tulsa** (surprisingly) and **Tampa** head the list of cities, because of their affordability combined with strong loan record and reasonable education attainment. **Seattle** and **Austin**, regular success stories in these indexes, also rank 6th and 8th respectively because of their human capital and high business density.¹⁹²

Cities making progress

As the first study of its kind, no method of measuring progress or decline is yet possible.¹⁹³ There are indications, however, that Southern dynamic cities, such as Atlanta and Austin, have made ground, in relative terms, over New York and San Francisco/San Jose in recent years.

¹⁹² Casserly, M. (2013), 'Where Are New York And San Francisco On The Top 10 Cities For Young Entrepreneurs?', www.forbes.com/sites/meghancasserly/2013/04/29/where-are-new-york-and-san-francisco-on-the-top-10-cities-for-young-entrepreneurs/

¹⁹³ Forbes (2011), <http://blogs.forbes.com/brettnelson/2011/03/23/best-cities-for-minority-entrepreneurs-2011/>

9.4 Flavorwire: Best Cities for Young Artists

An interesting addition to the list of cultural city assessments in 2011, Flavorwire argues that creative talents in many cases can no longer afford to base themselves in dynamic high cost cities such as Melbourne, New York and Barcelona. Its eight-city list points to the diversification of art and fashion communities across several continents, aided by city governments which are committing funds to infrastructure to support these youthful networks.¹⁹⁴

Statements of success and failure

Flavorwire argues that many cities are failing to provide the adequate conditions for young creative populations to flourish. The cities it includes have made obvious steps to do more than tolerate young artists and to actively promote their expansion for the good of their economy and social fabric.

Cities highlighted by the report

Hong Kong's neighbour **Macau** is in the top list, thanks to its 'Creative Macau' project which nurtures new film and graphic design talent. Asia's other representative is **Jakarta**, where the digital creative economy is said to be taking off.

Cities which harbour assertive graffiti artists are also praised here; **São Paulo**, for example, is included for its gallery space allowing street artists to promote their work in innovative ways. The collaboration between guerrilla art and city government is also considered highly effective in **Dresden**, where one percent of the city's municipal budget is said to be targeted at funding urban art projects.

The US has two cities in the leading octet. **Las Vegas** makes the cut based on its vibrant music scene and vintage expertise, while **Memphis** is included ahead of reborn Austin because of the range of events round the year that attract young people.

Cities making progress

2011 was the first year for this assessment, so no progress can yet be reported.

9.5 The Art Newspaper: Exhibition and Museum Attendance

The 2012 edition of the Exhibition and Museum Attendance Figures provides a detailed breakdown of global art exhibition attendance. Published annually since 1996, the Figures provide in-depth insight into the patterns of exhibition-goers across a 15-year period and encompass a vast number of galleries, museums and exhibitions. The Figures list several hundred of the top exhibitions by footfall and the top art museums by total visitors. Exhibitions which form part of a 'bigger ticket' are listed separately.

Statements of success and failure

Attracting and retaining aspirational talent is regularly cited as a key factor in a city's competitiveness. Cultural provision is part of this lifestyle mix and is a criterion in which emerging cities have traditionally struggled to bridge the gap with the established cultural centres which are typically concentrated in the dominant political hubs of the

¹⁹⁴ Flavorwire (2011), 'The Best Cities for Young Artists', <http://flavorwire.com/169898/the-best-cities-for-young-artists>

past decades and centuries. Provision of art exhibitions and associated attendance levels give an indication of those cities rising to meet the aspiring and aesthetic demands of a vibrant, cosmopolitan labour force.

Cities highlighted by the report

Rio de Janeiro is the report's standout performer. The Figures note that 'Brazil's appetite for contemporary art is remarkable'¹⁹⁵ with three exhibitions ranking in the top 20 – all at a new venue, the Centro Cultural do Brasil - including 2011's most popular stand-alone exhibition by footfall, the Magical World of Escher, which attracted an average of 9,677 daily visitors. It is also noteworthy that exhibits at this exhibition were universally free of charge. **New York** and **Paris**, each with four exhibitions in the top 20, and **Tokyo** with three, were the other leading cities for exhibitions in 2011.

In terms of overall footfall in art museums, **Paris**, once again, with three iconic museums in the top 10 and **London**, also boasting three institutions in the elite list, are the predictable world leaders in 2011. Overall attendance in the French capital rose by 3% according to statistics from the Paris Convention and Visitor Bureau, while 2011 marked another good year for London's major galleries with the British Museum (5.8m), the National Gallery (5.3m) and the Tate Modern (4.8m) proving to be the 3rd, 4th and 5th most popular globally.

The 'big ticket' list, containing exhibitions which form part of larger attractions, was dominated in 2011 by Asian cities - particularly **Seoul**. The Korean capital's National Folk Museum experienced extraordinary numbers of visitors in 2011. In the top 20 'big ticket' list, eight of the exhibitions were staged at that institution. Another Seoul institution, the National Museum of Korea, made it onto the overall top 10 of museums in 9th place, and listings of a number of other institutions in the top exhibitions list adds further evidence of Seoul's growing appetite for the arts, both domestic and imported.

Chinese and Indian exhibitions are largely conspicuous by their absence in the 2011 rankings. Only one institution from those countries makes the top-20 art museum list – the Shanghai Museum – and only two exhibitions (both held at the Shanghai Museum) of the several hundred listed were held in China. Although a number of exhibitions contained Indian subject matter, not a single exhibition on the list entered the list. Similarly, neither **Singapore** nor **Hong Kong** feature.

Cities making progress

The continued strong performance of traditionally leading cultural centres including Tokyo, Paris, New York and London in this survey of attendance at art exhibitions is somewhat predictable. What is less predictable is the performance of the cities, which repeatedly form the pack chasing the 'big four's' hegemony. While certain cities – in particular Rio de Janeiro and Seoul - appear to satisfy large demand for art exhibitions, with the exception of Shanghai, none of what one might loosely term 'the usual suspects' in Asia - Hong Kong, Beijing, Singapore, Mumbai, Kuala Lumpur, Jakarta and New Delhi - register a single art exhibition among the hundreds listed.

Other noteworthy cities include the Russian duo **Moscow** and **St Petersburg**, which have both hosted significant numbers of exhibitions.

¹⁹⁵ Exhibition & museum attendance figures 2011 (The Art Newspaper) <http://www.theartnewspaper.com/attfig/attfig11.pdf>

9.6 Europedia: Michelin Guide

This concise index provides data on the number of Michelin stars in European cities. Michelin awards its coveted stars to restaurants achieving the required culinary standard, with three stars being the top accolade, followed by two and one.

Statements of success and failure

This index is purely statistical and provides no analysis beyond the numbers of Michelin stars in each city, but clearly the quality of a city's cuisine can only improve its image, reputation and liveability.

Cities highlighted in the report

It will come as no surprise to learn that **Paris** is the clear leader in this index. The French capital's famed gastronomic and culinary heritage appears to be in no immediate danger of being challenged by any of its European rivals. With a total of 118 stars including 10 three-star establishments, 16 two-star restaurants and 56 one-star eateries, Paris has double the number of stars of its nearest rival and is unquestionably Europe's culinary capital.

London is a clear 2nd in this index. With a total of 66 stars: 46 one-star, seven two-star and two restaurants achieving three-star status, London clearly has a highly sophisticated and bustling culinary atmosphere.

Brussels (21), **Lyon** (20) and **Barcelona** (20) are the next major cities on the list, all boasting a fair smattering of Michelin-starred options. With a total of 15 stars, **San Sebastian** is an interesting case study as three restaurants in that city have three stars; a total more than London and only surpassed by Paris.

Cities making progress

No comparisons are possible at this stage.

9.7 Monica Skórska and Robert Kloosterman: Global Arts Centers Index

This Index, by two scholars at the University of Amsterdam, was published within the 'Globalization and World Cities' series in 2012. It seeks to establish any correlation between the leading cultural cities of the world and their relative status as financial hubs.

The global art centres are selected by the independent research of the authors. Taking a broad definition of the arts, the authors compiled a list of 200 cities all over the world hosting between 1 and 87 major international arts events in 2010-2011. The shortlist was refined by adding a qualifying criterion that the city hosted five or more events in the two-year period leaving a shortlist of the world's 36 most culturally active cities. Those cities are graded on the following criteria: international performing arts events; international visual arts events; local performing arts events; and local visual arts events, and ranked accordingly. The index then compared these results with financial services success, using the Global Financial Centres Index produced by Z/Yen Group.

As the authors note, there are inherent difficulties in both defining arts and culture in a global sense, and trapping all major cultural events accurately in such a diverse sample of cities. The report nonetheless provides an interesting attempt at quantifying the nexus between finance and the arts with some notable headline results.

Statements of success and failure

Leading financial centres and prominent arts centres may flourish due to the same underlying factors. A large city will have a critical mass of potential customers. These cities tend to have ‘*well-developed infrastructure for transport and communication, and, typically, an openness to creativity and newcomers which will benefit both financial services and arts.*’¹⁹⁶

Arts can also be seen as directly dependent on the set of economic activities that come with being a global city. The income generated in the high-end services just listed, generates demand for arts as highly-skilled workers in these services have both the financial and cultural capital to enjoy arts. In addition, financial services firms are regular patrons and sponsors of the arts. In attracting mobile knowledge workers, cities are increasingly conscious of cultural provision, which contributes to the quality of living of high-skilled workers.

This index provides original research, ranking the cities that have established themselves as major cultural hubs and producing shortlist of elite cities that have managed to harness a significant reputation in both the finance sector and the arts.

Cities highlighted by the report

Of the top 36 finance cities, only 16 also feature in the top 36 cultural cities identified in this index. The cultural index is dominated by European cities. Two-thirds of the top 36 is European and half of these (12) are located in Germany, Austria and Switzerland. Behind **Tokyo**, which is placed 3rd, the next highest ranked Asian city is **Seoul** (11th). North America is also well represented with four of the top 10.

The three standout performers, with high rankings on both scales, are **New York**, **London** and **Tokyo**. In addition to hosting a number of arts festivals, ‘*New York hosts over 1,600 exhibitions and 1,000 theatre plays, live music, dance, opera, etc., performances on an average week.*’ London’s particular cultural strength is the performing arts. Hosting more than 1,300 performing arts events each week, London leads the world in the quantity of theatre, dance, live music, opera, etc. The third genuine global ‘all-rounder’ is Tokyo. The Japanese capital, home to the National Museum of Modern Art and the Mori Art Museum, is a world leader for visual arts.¹⁹⁷

Behind these cities are 13 others that rank on both indices, with **San Francisco** and **Seoul** leading **Montreal**, **Frankfurt** and **Zurich**. Paris scores highly as a cultural centre but is ranked far lower as a finance hub.

Some cities notable for not ranking as cities with leadership in both finance and culture are Hong Kong, Singapore and Shanghai. All three of the Asian financial powerhouses failed to meet the criteria to make it into the top 36 cultural centres.

Conversely **Berlin**, which ranked second overall in the cultural rankings hosts more international art events than any other world city - including ABC Art Berlin Contemporary, Popkomm and JazzFest Berlin – but does not feature as a global financial centre.

Cities making progress

As this is the first time these figures have been published, no comparison has been possible.

¹⁹⁶ <http://www.lboro.ac.uk/gawc/rb/rb412.html>

¹⁹⁷ *Ibid.*

9.8 Martin Prosperity Institute: Ranking Global Cities

This index from leading think tank, the Martin Prosperity Institute, benchmarks city performance on the three T's of economic development that are theorised in Richard Florida's *Rise of the Creative Class*: Talent, Technology and Tolerance. In addition the survey also tracks a fourth dimension, the Quality of Place.

The scorecard evaluated each of the 61 cities performance as a creative economy.

Statements of success and failure

The three T's of regional economic development reflect a city's potential for economic growth. Cities that have long-term success are those with the right mix of technology, tolerance and talent. Success requires a city paying attention to all three of the attributes, given their symbiotic relationship. The rationale for the three T's is what Richard Florida calls 'creative capital theory', that "regional economic growth is powered by creative people, who prefer places that are diverse, tolerant and open to new ideas".

Cities highlighted by the report

Ottawa leads the 61 cities reviewed in this study. The Canadian capital scores consistently well across all four categories. Talent is a particular strength, with the city having high levels of educational spending, educational institutions and educated population. **Ottawa** also has a leading creative class share at over 45%, with its human capital share equally impressive.

Seattle ranks 2nd in the index and, like **Ottawa**, it produces consistently strong results across the board. **Seattle** comes joint top in the technology and amenities and quality of life grades, with the city's pleasing geography and mature R&D centres – particularly in the aerospace and software sectors.

In a list that is dominated by European and North American cities, **Tel Aviv** ranks equal 6th. While scoring relatively poorly on tolerance, the Israeli city scores joint top in technology with a score of 95.

Oslo is the leading European city, in 3rd, with good overall scores and a particularly strong ranking for talent. Oslo's A+ ranking for education spending is in the top five globally, while the city's 12 higher education institutes make tertiary education a particular strength.

Amsterdam, in 4th, boasts a high creative class share amid solid talent scores. Integration is regarded as being particularly strong as is its eclectic social scene.

London (5th) is the next best ranking European city. Higher education is a key strength, while the city also ranks well for entrepreneurialism. The city also scores well for its entertainment scene and museums. London's poor social integration is cited as a weakness.

Copenhagen (6th), **Calgary** (9th) and **New York** (10th) also score well across all metrics.

Cities making progress

As this is the first edition of the index, no comparison is possible.

10 Cost of Living and Affordability Indexes

10.1 Mercer Human Resources: Cost of Living Survey

Mercer's Cost of Living Survey is produced annually and aims to help multinational companies and governments determine compensation allowances for their expatriate employees. The survey, which claims to be the most comprehensive of its kind, has expanded to cover over 210 cities across five continents and measures the comparative cost of over 200 items in each location. These items include alcohol and tobacco, clothing, domestic services, food, transport and health, but the biggest factor accounted for is the cost of housing.

The different categories are weighted according to the research findings. New York is used as the base city, scoring 100 points from which other cities are then compared.¹⁹⁸

Statements of success and failure

Mercer's survey is driven by the growing need to provide information for firms who assign employees to medium-term placements in international destinations. Because of the cost of relocation, especially in light of the recession and corporate downsizing, comparative cost information is seen as more valuable than ever before. Mercer also implicitly suggests that a higher position in the survey is indicative of economic vibrancy, and is not only a sign of prohibitive relocation costs.

The Cost of Living Survey adds the disclaimer that exchange rate fluctuations can play a critical role in causing some cities to be unusually cheap or expensive at a given time.

Cities highlighted by the report

The 2013 survey highlights the growing cost of living in cities across Europe due to a slight strengthening of local currencies, whereas in Asia, and especially Japan, costs have become marginally cheaper. While three of the top 10 cities in Mercer's 2012 survey were Japanese, only **Tokyo** remains, its 3rd place fairly consistent with a top five position since 2006. **Osaka** and **Nagoya** have fallen out of the top 10 most expensive.

Once again, African cities are unusually prominent in the 2013 report. The Angolan capital, **Luanda**, is the most expensive city for expatriates, and has not been out of the top two since 2011, while Chad's **N'Djamena** has now become the 4th most pricey. This compares markedly with 2007, when no African city was in the top 20 most expensive cities. Mercer comments that this reflects the growing economic importance of the region to global firms of all industries, and the demand for information on less-established African hubs – especially from mining, financial services, airlines, manufacturing, utilities and energy companies. However, **Johannesburg** and **Cape Town** are much further down the list.

Moscow has also been a regular contender for most expensive city; it ranked top in 2007, but in 2013 the city fell out of the top 10 despite high accommodation charges. Instead, it is the smaller wealth centres that appear near the top of the rankings. The Swiss hubs of **Geneva** (7th) and **Zurich** (8th) are joined by Bern, now up to 9th, in the rankings. **Paris** and **London** have become comparatively more affordable for expats.

¹⁹⁸ Mercer (2013), '2013 Cost of Living Rankings', www.mercer.com/colpr

Cities making progress

Australian cities continue to rank high on the list in the global rankings. **Sydney** has risen to equal 9th, with **Melbourne** not far behind. The general pattern sees North American and Western European cities becoming comparatively less expensive than Latin American and Asia-Pacific cities.

10.2 ECA International: most expensive cities worldwide

ECA International also analyses cost of living data globally for firms' international assignees. Living costs fluctuate according to inflation, availability of goods and exchange rates, and ECA helps firms keep up to date with their remuneration packages. The survey is usually carried out twice a year comparing a basket of consumer goods and services commonly purchased by assignees in over 390 global locations.

Statements of success and failure

As with other cost of living surveys, currency fluctuations are considered the main factor impacting on year-to-year ranking changes, although broader socio-economic trends are also significant.

Cities highlighted by the report

After **Tokyo** regained its position as the world's most expensive city in 2010 (for the first time since 2006), in 2013 Norway's capital **Oslo** returned to a familiar position as the world's most expensive city, off the back of rising oil revenues and economic resilience. While ECA acknowledges that Tokyo continues to be an expensive place to send staff, the significant depreciation of the yen has had an impact.

ECA highlights that **Moscow's** cost of goods and services increased by more than 10% between 2012 and 2013, one of the largest changes anywhere. The Russian capital, now ranked 5th, is the most expensive of the major world cities. Likewise **Beijing** and **Shanghai** both continue to be more expensive than either Hong Kong or Singapore.

Sydney has risen from 150th in 2009 to 17th in 2013, as Australian cities all become much more expensive due to economic growth. **Brisbane** is rated the most affordable city, at 35th. Australia's slowing economy has meant that this rise has temporarily halted and, in some cases, cities are becoming more competitive for expats. Other cities to become more expensive over the past two years include **Buenos Aires** and **São Paulo**.

Cities making progress

Cities becoming more affordable, while remaining economically competitive, include **London**, **Mumbai**, **Dubai** and **Cape Town**. But the volatility of exchange rates means that it is difficult to deduce long-term trends from these year-to-year figures.¹⁹⁹

10.3 UBS: Prices and Earnings

Since 2006, UBS has created a series of price, wage and purchasing power comparisons among 72 world cities. The 2012 edition is the first major revision to the study since 2009.

¹⁹⁹ ECA (2013), 'Australian locations fall down list of the world's most expensive cities for expatriates, Tokyo is knocked off the top spot,' www.eca-international.com/news/press_releases/show_press_release?ArticleID=7854#.Ug4whmReuCE

For 2012, the survey of prices and wages was conducted by independent price surveyors, using a questionnaire of 122 different goods and services (which have been updated to take into account differing consumer needs – for example, the iPod Nano has been replaced by the iPhone), and with 112 questions on wages, payroll deductions and working hours for 15 different job types. A weighted average across the 15 professions' salaries was then calculated.

Cities highlighted by the report

Top 10				Bottom 10			
No.	City	Incl. rent New York = 100	Excl. rent New York = 100	No.	City	Incl. rent New York = 100	Excl. rent New York = 100
1	Oslo	116.0	104.5	63	Mexico City	51.2	45.7
2	Zurich	110.1	102.5	64	Vilnius	50.8	43.5
3	Tokyo	108.9	100.0	65	Lima	50.8	44.4
4	Geneva	106.5	96.8	66	Nairobi	48.6	43.7
5	Copenhagen	100.9	88.8	67	Cairo	42.4	36.2
6	New York	100	100	68	Sofia	42.3	36.4
7	Luxembourg	94.4	85.4	69	Manila	41.5	35.8
8	Stockholm	91.9	81.7	70	Bucharest	39.8	34.7
9	Caracas	91.0	85.3	71	Mumbai	34.1	31.0
10	London	87.3	83.0	72	Delhi	33.1	29.4

The European wealth hubs of **Oslo**, **Zurich** and **Geneva** remain among the world's most expensive cities, which, along with **Tokyo** and **Copenhagen**, are the only cities ranked as being more expensive than New York, the city against which others are benchmarked.

Prices in world cities

When factoring the cost of renting, only Oslo and Zurich are more expensive than the 'Big Apple', which has approximate parity with Tokyo in terms of total cost of living.

With food prices rising 11% since the 2009 survey, the cost of living data is of particular interest. Oslo is the world city that spends the most, per capita, on goods and services – a striking 68% more than the world average. Residents in Tokyo spend more money on food than any other cities: on average US\$928 per month. When contrasted with other cities in Asia, this figure is very high - a comparable monthly food bill in Delhi equated to just US\$208. Zurich and Geneva are the next two most expensive cities for food, with average monthly spends at just over US\$700 – a figure that, although expensive, is broadly in line with other leading centres in Western Europe.

Tokyo is again the most expensive city in the world to buy clothes, closely followed by **Dubai**. **Rome** is the only city in the world where a male wardrobe can be bought more cheaply than a woman's.

With the cost of living so high, it is no surprise that wages in Zurich and Geneva are the highest in the world, with Oslo and Copenhagen completing the top four ahead of New York (6th). Currency appreciation in those cities (and others) is one leading factor in the continuingly high cost of living in non-eurozone countries.

'Extreme examples of this countermovement are the Canadian and Australian dollars: although they slipped around 9% versus the US dollar from 2006 to 2009, between 2009 and 2012 the two currencies clawed back

these losses and appreciated by some 26% and 51% respectively. The South African rand, the Swedish krona and the Brazilian real also fall into this category.²⁰⁰

The relative purchasing power indicator shows that despite the high cost of living, wages in the Swiss duo of Zurich and Geneva are high enough to provide significant purchasing power (1st and 4th respectively). People in Tokyo, by contrast, and despite a similarly expensive cost of living to the Swiss wealth centres, have around 25% less purchasing power.

Sydney and **Los Angeles** also perform well in the purchasing power index. The Australian financial centre ranks 2nd, and, along with Zurich, has purchasing power greater than in New York when measured against annual income. **Los Angeles**, ranks 7th on the list, edging out New York as the North American City with the greatest level of purchasing power. The high purchasing power in Sydney reflects higher disposable income in that city, in part owing to lower tax and insurance contributions. For example, 'one-third of gross earnings is deducted in Brussels, Copenhagen, Oslo and **Munich**. **Luxembourg**, **Madrid** and **Dublin** have the lowest deductions in European'.

Cities making progress

UBS notes that '[one] remarkable finding is that when rents are included, relative price levels compared to New York move down in all cities except **Hong Kong**.²⁰¹

Regional discrepancies between the relative wealth in certain cities compared with geographic neighbours continue. Whereas in Western Europe, Oslo, Zurich and Geneva are around 20% above Western European price levels, Tokyo is around 50% more expensive than most Asian cities. In Africa and Oceania the picture is far less diverse.

In terms of wages, all global regions show significant growth in gross hourly wages compared with 2009. Workers in North America are on average the highest earners, at US\$26.80 per hour, followed by workers in Western Europe, at US\$27.40 per hour. Significantly lower wages are found in Asia (US\$9 per hour), Eastern Europe (US\$7.50) and South America (US\$7.40).

10.4 UBS: Big Mac and iPod Nano Indexes

The UBS Big Mac ranking identifies the globalised commodity of the McDonald's Big Mac, and calculates the time for the average worker to earn enough to purchase one in their home city. It is a long-standing measure of purchasing power in an urban context. The Big Mac ranking is incorporated in the Prices and Earnings survey and was last published in 2009. The global average was 37 minutes to earn enough to pay for a Big Mac.

The same concept applies to the iPod Nano/iPhone Index, which represents the first time a non-food item has been incorporated into these UBS surveys. The globally uniform nature of the product means that insights on affordability and technological accessibility are easily produced from the ranking.

Leaders in the Big Mac Index have been fairly consistent in previous years and typically feature a heavy presence of North American cities. The top dozen cities have an average of 15 minutes or less to afford the item. The triumvirate of **Tokyo**, **Chicago** and **Toronto** lead with just 12 minutes, just ahead of **Miami**, **Los Angeles** and

²⁰⁰ UBS (2012), 'Prices and Earnings', http://www.staticubs.com/global/en/wealth_management/wealth_management_research/prices_earnings/_jcr_content/par/columncontrol/col1/linklist/link_0.1393999310.file/bGluay9wYXRoPS9jb250ZW50L2RhbS91YnMvZ2xvYmFsL3dlYWk0aF9tYW5hZ2VtZW50L3dlYWk0aF9tYW5hZ2VtZW50X3Jlc2VhcmNoL1BtF8yMDEyX2VuLnBkZg==/P_L_2012_en.pdf

²⁰¹ *Ibid.*

London (13 minutes). There are surprisingly weak affordability scores from **Paris** (20) and **Singapore** (36). By contrast, workers earning the average net wage in **Nairobi** need to work for over 2.5 hours to pay for the burger.

There is a rough but by no means linear correlation with the Big Mac Index results in the iPod Nano/iPhone studies. **Zurich** has consistently been the city where workers can afford Apple products through fewer working hours than in any other place. Zurich's residents can now afford a smartphone in just 22 hours of work, compared to a Western European average of 48 hours. Similarly, three years ago, Zurich along with **New York** led in terms of the time needed to afford an iPod Nano (nine hours). Other cities with high affordability for these products include Chicago, Tokyo, **Dublin** and **Copenhagen** (all under 40 hours).

In cities in Eastern Europe, South America, Asia and Africa, to afford an iPhone in 2012 would have taken approximately three weeks of work. Cities with a surprisingly unfavourable work:price ratio for this gadget include **Shanghai** (142 hours), **Istanbul** (167) and **Delhi** (369).

10.5 Pricerunner: Most Expensive Cities

Data firm Pricerunner has carried out cost of living surveys among world cities for over a decade, and in late 2012 it published results of a 33-city study. Its survey examines a range of products that includes everyday items such as milk and petrol, as well as luxury and new technology items.

Sydney has overtaken long-time leader **Oslo** as the most expensive city, being a third more expensive than the global average. **London** and **New York** are again praised for their affordability in consumer goods, which in general is better than Paris, Berlin or the major Latin American capitals. Eastern European cities, headed by **Warsaw**, are also recommended for their affordability.

The cheapest city is **Mumbai**, with prices around a third below the global average overall. The Indian city is especially cheap for international textile and footwear goods. Other cities that are surprisingly cheap for purchases include San Francisco, **Dubai**, and **Shanghai**, all of which place in the top 10 cheapest cities.²⁰²

10.6 Demographia: 2010 International Housing Affordability Survey

The annual Demographia International Housing Affordability Survey has become an important indicator into the comparative affordability of houses worldwide.

The 9th survey, released in 2013, expanded coverage to 337 markets across the English-speaking world - including 81 major metros in Australia, Canada, Ireland, New Zealand, the UK and the United States. The survey employs the 'Median Multiple' (median house price divided by gross annual median household income) to rate housing affordability. Cities are subsequently categorised into Severely Unaffordable (score of >5.1) over Seriously Unaffordable (4.1 to 5.0), Moderately Unaffordable (3.1 to 4.0) and Affordable (<3.0).

Statements of success and failure

The survey report is infused with a strong normative commitment towards attractive residential communities in low-density format. Supporters of the report's ethos include Joel Kotkin, who previously pointed to how 'Australia, once the exemplar of modestly priced, high quality middle class housing, [is] now the most unaffordable housing

²⁰² London Net (2012), 'London Cheapest City for Branded Stuff in Western Europe', www.londonnet.co.uk/news/2012/nov/london-cheapest-city-branded-stuff-western-europe.html

market in the English speaking world.²⁰³ The report argues that high prices are no longer a firm indication of economic vitality and that the most affordable markets are actually the fastest growing, especially in North America. Houston, Dallas, Austin and Calgary are all attracting residents off the back of affordable property prices.

Demographia is sceptical of the notion that high-density planning is the solution to reducing greenhouse gas emissions, and argues that lower-density cities would be healthier, have less congestion and suffer less infrastructural overload. The theme in recent years has been that cities which have prescriptive land-use regulation - aiming to achieve the 'compact city', 'urban consolidation' or 'smart growth' - have been systematically less affordable because these measures materially increase the price of land.²⁰⁴

Cities highlighted by the report

In 2013, the survey found that of the 81 major city markets, almost half are seriously or severely unaffordable, with the UK and Australia especially difficult for those seeking affordable housing. Hong Kong is the most unaffordable metropolitan area, with a multiple of 13.5, by some distance more expensive than the pricey cities of Vancouver (9.5), Sydney (8.3), San Francisco and London (7.8). Sydney and Melbourne have become slightly more affordable since 2009, but most other markets have become less so.

By contrast, Demographia consistently finds a host of American markets where housing is still very affordable. Twenty major markets of more than one million residents in the US are affordable, consistent since 2010. Detroit and Atlanta are the most affordable cities of all ranked, with a Median Multiple of just 2 or below. Around 90% of the 50 most affordable cities are in the US, and include hubs such as Las Vegas, Dallas, Houston and Chicago. Most of these, it is claimed, have markets characterised by 'responsive' and 'less restrictive' land-use regulation, as opposed to 'prescriptive' regulations of 'smart growth'.

Cities making progress

Dynamic markets in the South and West of the US have proved more resilient than many others since the housing crash in 2008-2009. Chicago also stands out for its low and falling score of 3.2, given its economic size.²⁰⁵

10.7 Price of Travel: European Backpacker Index, Public Transportation and Taxi Prices

The online Price of Travel initiative has created a number of useful global comparators of everyday costs, and in this European index it launches a system which it hopes is more accurate than any previous study. The group tracks every major cultural destination in Europe on issues of accommodation, transport, attraction entry, food (three 'budget meals') and drinking (three local beers) costs.²⁰⁶

As part of website Price of Travel's commitment to finding affordable cities for travellers and backpackers, its researchers have also published a ranking of public transportation prices in 80 of the most popular tourist cities, based on the cost of a single ride on the most common form of travel.²⁰⁷ Furthermore, it also studies taxi journey prices, tracking prices for a three-kilometre trip in 72 cities, based on average taxi companies and comparing both peak and non-peak hours.

²⁰³ Demographia (2011), '7th Annual Demographia International Housing Affordability Survey'.

²⁰⁴ Demographia (2010), '6th Annual Demographia International Housing Affordability Survey,' p. 1

²⁰⁵ Demographia (2013), '9th Annual Demographia International Housing Affordability Survey,' p. 47, www.demographia.com/dhi.pdf

²⁰⁶ Price of Travel (2011), '40 European cities by price: Backpacker Index for 2011', www.priceoftravel.com/695/european-cities-by-price-backpacker-index-for-2011/

²⁰⁷ Price of Travel (2011), 'Public transportation prices in 80 worldwide cities', www.priceoftravel.com/595/public-transportation-prices-in-80-worldwide-cities/

Statements of success and failure

The index does not state that cheaper cities are necessarily more successful, or that expensive cities should be avoided, but rather provides pointers for budding travellers on a variety of budgets.

Cities highlighted by the report

The 11 cheapest backpacker cities are all in Eastern Europe. The cheapest is **Sofia**, a growing traveller destination, with a Daily Backpacker Index of just US\$20.75 a day. Hostel prices are especially cheap in the Bulgarian capital, at under US\$10. In 2nd place is **Krakow**, described as Prague 20 years ago, which has a variety of cultural amenities and affordable accommodation. Other cities to prove highly affordable include **Istanbul** (5th) and **Moscow** (10th).

At the other end of the spectrum, Swiss and Scandinavian cities again dominate the most expensive traveller destinations. **Zurich** is the most costly, at an average US\$111 a day, with food and drink particularly pricey at over US\$50 in total. **Oslo** and **Stockholm** are the next dearest, with popular tourist hub **Venice** also proving very costly, at US\$91 daily. **London** performs very well in this study, ranking 15th cheapest thanks to cheaper-than-anticipated hostels and its vast array of free attractions.

Cities in Latin America, Africa and South Asia typically have the cheapest public transport options. **Caracas** had the world's cheapest single ride, at just US\$0.12, while **Cairo**, **Delhi** and **La Paz** all had prices under US\$0.20. Surprisingly, affordable transport was found in **Hong Kong** (US\$0.26), while **Beijing**, **Singapore**, **Shanghai** and **Dubai** all had transport options among the cheapest 30 cities.

Apart from the outlier of Venice's water bus, the most expensive transport rides were found in Oslo, **Copenhagen** and Zurich, as per the findings in many other cost of living studies. In each, the cost of a single journey exceeded US\$4. Western European, Australian and Canadian cities dominated the cost list, with American cities more affordable by comparison. **New York**, **Miami** and **San Francisco** all ranked outside the top 20 most expensive cities, with journeys between US\$2 and US\$2.25.

The cheapest city for a taxi journey was **Delhi**, where a non-peak journey cost an average of US\$0.90, less than **Mumbai**, **Cairo** or **La Paz**. In most Asian cities the price of a journey would be between US\$1-2. The cheapest European cities – such as Sofia and **St Petersburg** – charge between US\$2-4, and mid-range cities cost between US\$5-10. **Helsinki**, **Monaco**, Oslo and Zurich are the only cities where the charge can exceed US\$20 in peak times. London is the 12th most expensive city, and is notably more expensive than **Paris** (21st) and **New York** (27th).

10.8 Kiplinger: 10 Best Value Cities for 2011

This 2011 report, another in Kiplinger's stable of useful indexes on the relative merits of US cities, identifies the urban areas which provide the successful balance of economic strength, provision of local amenities and low living costs. Benchmarked against a national average of 100 to provide an indication of relative cost of living, the cities were then reviewed by staff reporters to determine overall placings within the index.

Statements of success and failure

The survey seeks to find an appropriate balance of quality of life, low housing costs and a business-friendly economic environment. Coastal US cities have been overlooked in favour of cities from Southern and Midwestern

centres. The headline criteria for a positive ranking in this index are low unemployment, low cost of living and high median household income.

Cities highlighted by the report

Omaha, Nebraska, tops the rankings, boasting unemployment of just 4.6% and registering a score of 90 on the cost-of-living index and a median household income of over US\$53,000 per year. Urban regeneration projects and success in attracting major employers, such as PayPal, are credited as significant factors contributing to Omaha's success. **Charlotte**, the headquarters of Bank of America and located in proximity to a number of leading US universities, comes in 2nd, with **Nashville** scoring impressively across the board and completing the top three.

Cincinnati, in 10th place, is the largest city rated by the index. Still well below the national average on the cost of living index, the Ohioan city is home to ten Fortune 500 companies including Macy's and Procter & Gamble. A concerted redevelopment strategy, which has seen a US\$2.6bn renovation of the city's downtown area, is highlighted by the report as being a significant catalyst for the city's encouraging economic performance.

Cities making progress

This is the first time that this report has been published. As such, it is not possible to identify progressive trends.



Real value in a changing world

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