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The Wide Angle

What Drives 21st Century Cities?

Summary
We live in a world where urban hubs account for more than half the population and 80% of the economy. Developed countries are overwhelmingly urban and so are many developing regions like Latin America. Moreover, the share is likely to rise further as South Asia and Africa rapidly urbanize. Indeed, the urbanization of India will be the single largest human event of this century. This means that all discussions about the world's social, economic and political trajectory is ultimately about cities. But, why do cities thrive in the 21st century?

Contrary to expectations that communications technology would de-cluster cities, we are finding that 21st century life is increasingly dependent on the clustering of diverse amenities, institutions, and human capital. Thus, today's successful cities are those that allow citizens to "mix-and-match" between different lifestyles and knowledge silos. At the pinnacle of this phenomenon is an elite group of Global Cities (such as London, New York, Tokyo, Paris, Hong Kong) that play a disproportionate role in the global economy. A common characteristic of such cities is that they are good generalists rather than specialists. While such hubs can evolve naturally, Singapore illustrates how they can also be deliberately created.

Sadly, not all cities will succeed in the 21st century. Cities that do not have a diverse ecosystem and are dependent on a single industry run the risk of being hollowed out. Some of China's small industrial towns could be particularly susceptible to the "Detroit syndrome" as the country moves up the value chain.

Meanwhile, the logic of "mix-and-match" will change cities in important ways. Cities will have to deal with a sharing economy that simultaneously increases the importance of public goods, peer-to-peer renting and of closed "clubs" (such as condominiums/gated communities). Similarly, "walkability" will become a very important urban design principle. Meanwhile, successful cities will have to pay more attention to how they cluster diversity ranging from socio-cultural diversity to that of "soft infrastructure" such as restaurants, theatres, museums, parks, religious institutions, social clubs, universities, think-tanks and so on.

Why do Cities thrive in the 21st century?

We live a world that is already dominated economically, socially and culturally by cities. Not only is a majority of the world's population urbanized (currently estimated around 52%) but it is estimated that more than 80% of world GDP is concentrated in urban clusters. The concentration of economic power is, in fact, greater than even these numbers suggest. McKinsey Global Institute estimates that 600 of the top urban centers, accounting for a fifth of world population, generate 60% of global GDP[1]. In the United States, cities with a population of more than 150,000 inhabitants account for 84% of GDP and even in newly urban China, cities with more than 200,000 inhabitants account for 78% of the economy. Moreover, the dominance of cities is likely to increase in coming decades as Africa and South Asia begin to urbanize rapidly. This means that any discussion of the world's socio-economic trajectory is ultimately about cities.

In this report, we will survey the planet's urban landscape and will try to provide the reader a sense of emerging trends. One of the themes that we will explore will be the enormous economic power that cities enjoy as nodes in an interconnected, globalized world. Indeed, the relative importance of major urban hubs has continued to grow even as the world has struggled with the lingering impact of the Great Recession. According to a recent survey by Yuwa Hendrick-Wong and Desmond Choong, the world's top 132 urban hubs saw an estimated 30% increase in international visitor arrivals and a 39% increase in their cross-border spending between 2009 and 2013 even as the world's real GDP rose by a mere 16.8% during the period[2].

Table 1: The Importance of Large Cities as Centers of Economic Gravity

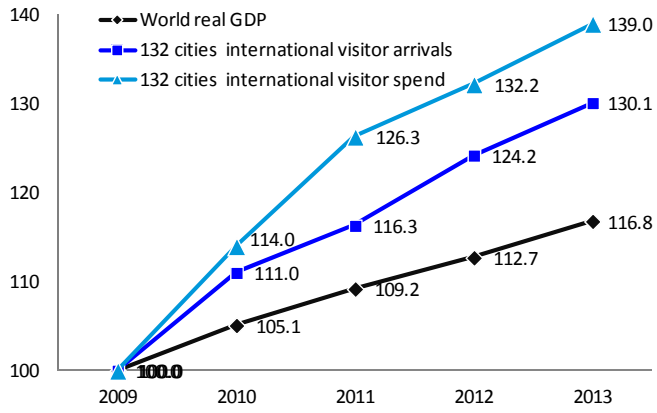
Region	Large city GDP as a share of the region (%)
United States	84.0
Western Europe	64.0
Latin America	76.0
China	78.0

Source: McKinsey Global Institute; Urban America: US cities in the global economy, April 2012.
McKinsey defines large cities as having 150,000 of more inhabitants in the United States, and Western Europe.
In China and Latin America, only cities with 200,000 inhabitants plus are included in 2010. GDP is in PPP US dollars.

[1] "Urban World: Mapping the Economic Power of Cities", McKinsey Global Institute, March 2011

[2] "Global Destination Cities Index", Yuwa Hendrick-Wong and Desmond Choong, Mastercard Worldwide Insights, 2Q, 2013.

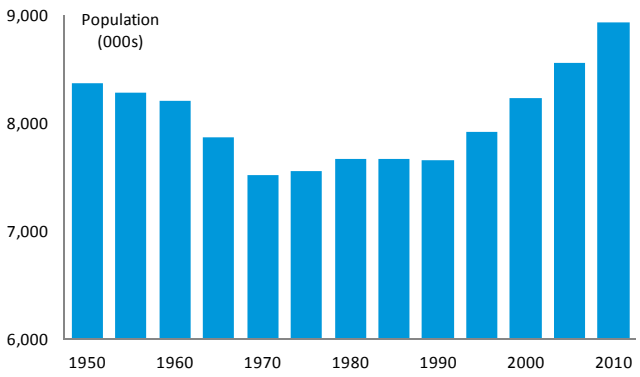
Figure 1: World GDP Growth Versus the Growth of International Visitor Arrivals and Cross-Border Spending by 132 Destinations (Indexed)



Source: MasterCard, Global Destination Cities Index 2Q2013

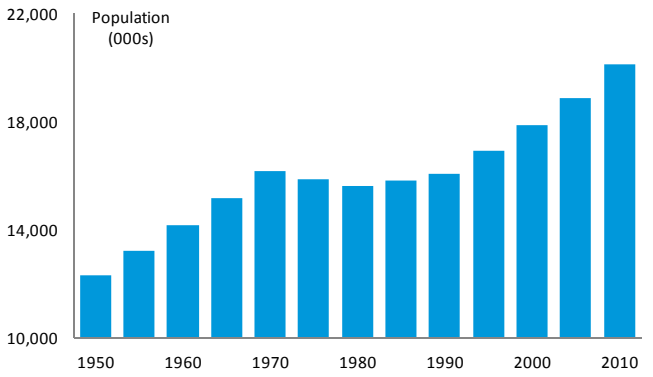
The obvious question that arises is – why have cities been so successful in the 21st century? As recently as the nineteen-nineties, many commentators and scholars argued that that technology would make cities irrelevant. It was believed that the internet and mobile communications, then infant technologies, would make it unnecessary for people to live and work in urban concentrations. Why live in a crowded and expensive place like Manhattan or Hong Kong, so the argument went, when one can work from the ski slope? Yet, the last two decades have witnessed how cities have boomed like never before. Indeed, as shown below, London and New York have witnessed a return of population over the last twenty years after decades of decline. A combination of a number of factors explains the phenomenon. For the purposes of this report, they can be summarized and grouped in two broad categories:

Figure 2: Population in Greater London



Source: UN Population and Urbanisation Prospects (2011 revision)

Figure 3: Population in New York-Newark



Source: UN Population and Urbanisation Prospects (2011 revision)

Twenty-first Century Lifestyles and the Importance of Density:

One major factor that has helped cities boom is that lifestyles have fundamentally changed in the last two decades. In the last century, life was based on regular cycles. On work days, people went to work in offices and factories (at least in the developed and middle-income countries), they returned home in the evening and ate dinner with the family while watching TV before falling asleep, and then repeated this the next day. Weekends and

holidays were spent doing chores and relaxing. Such regular cycles do not anymore apply to the lives of most people. In the course of a work day, people now mix-and-match a number of activities – they work at their desks but they may also meet friends for lunch, do chores, visit the gym, make a presentation, shop on-line, travel on business and so on. Similarly, life at home is also not clearly demarcated as people work online, attend to international conference calls even as they fit in time for family and leisure. Note that all this is happening in the context where the nuclear family is no longer the standard social unit and has given way to a multiplicity of household arrangements – singles, multi-generational families, couples with/without children, friends sharing and so on. This universe of multitasking and social multiplicity means that twenty-first century lifestyles require a dense concentration of amenities that the average citizen can mix-and-match according to their requirements. This includes easy access to hard amenities like airports, bars, restaurants, shops, hotels, public transport, schools, theatres, offices, sports facilities, parks and so on. It also requires concentrations of soft amenities like clubs, religious/political communities, friends & social networks and so on. Far from making people live in isolation, the internet has allowed more people to access a greater multiplicity of these amenities and consequently has made cities attractive places to live a lifestyle defined by diversity and multitasking.

Productivity gains from Clustering, Creativity & Random Networks:

Cities have increasingly become the hubs for innovation and creativity as value generation has become more about breaking down silos. Till the late of the 19th century, most innovation was driven by generalists and tinkerers. This meant that knowledge accumulation was relatively slow, but its application across different fields was quick. In the twentieth century, knowledge creating became the job of specialists in universities and government/private labs. This dramatically sped up knowledge accumulation within silos but slowed cross-disciplinary application and understanding. Although resources are still being poured into specialist innovation systems, there are signs that this source of technological change is slowing. Estimates by Pierre Azoulay (MIT) and Ben Jones (North-Western) suggest that the total factor productivity contribution of an American R&D worker in 2000 was a mere 15% of a similar researcher in 1950[3]! Yet, we seem to live in a world of constant innovation – where is all this innovation coming from? It appears that value generation and innovation is increasingly about connecting the dots between different silos. Thus, we are witnessing extraordinary innovations in diverse fields such as gastronomy, entertainment, media and lifestyle made possible by mixing different technologies and skills (Facebook and Twitter, for instance, are not technological innovations, but are better seen as social innovations made possible by the application of communications technology). As readers would have guessed, this environment dramatically increases the economic value of certain kinds of cities that are able to concentrate different kinds of human capital and to encourage random connections and face-to-face interactions between people[4]. This, in turn, allows the urban economy to flexibly mix-and-match different skills and knowledge silos that generates large productivity increases. Studies show that a doubling of a city's population can increase economic productivity on average by 130%.[5] Certain kinds of cities can do much better than the average.

For the purposes of this report, we have obviously simplified the factors behind the success of cities, but we hope that readers will now have a sense of the

[3] "Generating Ideas: Academic and Applied Research", Pierre Azoulay & Ben Jones, Tinbergen Institure, Dec 2006.
[4] "Urban characteristics attributable to density", Wei Pan et al, Nature Communications, June 2013
[5] http://web.mit.edu/newsoffice/2013/why-innovation-thrives-in-cities-0604.html

types of cities that are likely to be especially successful in the twenty-first century. Notice that there is an underlying similarity between the social and economic factors driving urban success – it is the ability of cities to "mix-and-match" everything from ideas to social requirements. Readers should keep this in mind when we later discuss the future evolution of cities. But first, we will do a survey of the urban phenomenon around the world.

The Changing Urban Landscape

We now live in an urban majority world for the first time in human history. As recently as 1950, barely 29% of world population was urban and only North America and Western Europe had urban majorities (see Table 2). Asia as a whole had urbanization rate of only 17.5% with China at 11.8% and India at 17% (see Table 3). In contrast, Latin America was not only more urban in 1950 but the proportion rose sharply in subsequent decades. By 1990, more than 70% of Latin America's population was urbanized with 74% of Brazil's population living in urban areas. By 2010, the share had risen even higher for Brazil and Mexico to 84.3% and 77.8% respectively – i.e. levels comparable to developed countries. Eastern Europe similarly went through very rapid urbanization between 1950 and 1990 under socialist industrialization although the process slowed down substantially in the 1990s.

Table 2: Urbanization Rate by Region

Region	Population (mn)	Urbanization rates (%)					
	2010	1950	1970	1990	2010	2030	2050
World	6,895.9	29.4	36.6	43.0	51.6	59.9	67.2
Asia	4,164.3	17.5	23.7	32.3	44.4	55.5	64.4
Southern Asia	1,704.1	16.0	19.5	26.5	32.2	40.8	52.4
Eastern Asia	1,574.0	17.8	25.0	34.0	54.4	71.7	79.3
Western Asia	232.0	28.8	44.8	61.1	67.4	73.8	78.3
Africa	1,022.2	14.4	23.5	32.0	39.2	47.7	57.7
Sub-Saharan Africa	856.3	11.2	19.5	28.2	36.3	45.7	56.5
Northern Africa	209.5	25.8	37.2	45.6	51.2	57.5	65.3
Europe	738.2	51.3	62.8	69.8	72.7	77.4	82.2
Eastern Europe	294.8	39.7	56.6	68.0	68.9	72.9	78.2
Western Europe	189.1	63.8	71.5	74.1	79.5	84.2	87.7
Southern Europe	155.2	45.1	57.6	63.8	67.7	73.5	79.2
Latin America and the Caribbean	590.1	41.4	57.1	70.3	78.8	83.4	86.6
South America	392.6	42.8	59.8	74.1	82.8	86.9	89.5
Central America	155.9	39.2	53.8	65.0	72.1	77.3	81.6
Northern America	344.5	63.9	73.8	75.4	82.0	85.8	88.6
Australia/New Zealand	26.6	76.2	84.5	85.3	88.6	90.7	92.4

Source: UN Population and Urbanisation Prospects (2011 revision) and Deutsche Bank estimates

Asia's urbanization since 1950 has taken place in waves as individual countries have undergone a phase of very rapid industrialization. In 1950, Japan was the only urbanized Asian economy with a bit more than half the population living in cities/town. By 1990, the ratio had jumped to 77% and today it stands at 90%. As we shall see, the Japanese model of urbanization was heavily skewed by the explosive growth of the mega-city of Tokyo (today the world's largest city with 37mn inhabitants). The next level Japanese cities are much smaller followed by even smaller settlements that are essentially urbanized villages (the latter often causes definitional problems when categorizing places as urban). Japan was followed by the urbanization of South Korea and Taiwan.

As recently as 1990, the urban areas of China and India accounted for only a quarter of their respective populations but the pace of change accelerated sharply in China the 1990s and by 2011 it was an urban majority country. India has so far been a relatively reluctant urbanizer and still has two-thirds of its population in rural areas. However, there is every indication that this is changing and we expect India to become an urban majority country in the late 2030s[6] (note that it will also be the world's most populous country by that time). The urbanization of India – involving the absorption of around 350-400mn people – will be the single biggest human event of this century.

Note that this is an interesting difference in the way India and China are expected to grow from here. McKinsey Global Institute (MGI), for instance, expects that medium-sized cities in China will account for half of economic growth whereas in India they will account for only 18% of the economy (see Table 4). Instead, India's economy is bunched at two ends – villages/small towns on one end and very large cities on the other with urbanization skipping the middle. In both cases, forecasts like those by MGI are an extrapolation of past trends. We think the future may be quite different. The contribution of rural areas will drop sharply as India urbanizes. Large cities will increase their share, but spiraling real estate prices will push more activity to medium-sized towns than the MGI forecasts imply. Meanwhile, post-industrial dynamics will help China's larger hubs at the cost of the smaller industrial towns (more on this later).

Table 3: Urbanization by Selected Countries

Country	Population (mn)	Urbanization rates (%)				
	2010	1950	1970	1990	2010	2030
China	1,341.3	11.8	17.4	26.4	49.2	62.4
India	1,224.6	17.0	19.8	25.5	33.0	44.2
United States of America	310.4	64.2	73.6	75.3	82.1	86.0
Indonesia	239.9	12.4	17.1	30.6	49.9	63.1
Brazil	194.9	36.2	55.9	73.9	84.3	88.5
Bangladesh	148.7	4.3	7.6	19.8	27.9	39.1
Russian Federation	143.0	44.1	62.5	73.4	73.7	77.6
Japan	126.5	53.4	71.9	77.3	90.5	96.8
Mexico	113.4	42.7	59.0	71.4	77.8	82.7
Germany	82.3	68.1	72.3	73.1	73.8	77.4
Egypt	81.1	31.9	42.2	43.5	43.4	49.6
Turkey	72.8	24.8	38.2	59.2	70.5	83.1
France	62.8	55.2	71.1	74.1	85.2	91.4
United Kingdom	62.0	79.0	77.1	78.1	79.5	82.7
South Africa	50.1	42.2	47.8	52.0	61.5	69.8

Source: UN Population and Urbanisation Prospects (2011 revision) and Deutsche Bank estimates. Also note that Japan poses particular definitional issues that can cause wide variety in estimates.

[6] For a fuller discussion on India's rural-urban migration and the role of slums in the process read "Land of the Seven Rivers: A Brief History of India's Geography" by Sanjeev Sanyal, Penguin 2012. Also see "Slums defy a Concrete Answer", Sanjeev Sanyal, Business Standard, 9 December 2009; "Rise of Tomorrows's Middle Class", Sanjeev Sanyal, Business Standard, 10 Nov 2010.

Table 4: Comparison of the Economic Importance of Cities in India and China (% share of projected GDP growth from 2010 to 2025)

Category	India	China
Top 5 cities	14	17
Rank 6 to 15	10	15
Rank 16 to 30	7	11
Other large/medium cities	18	51
Small cities and rural areas	51	6
Total growth	100	100

Source: McKinsey Global Institute; Urban America: US cities in the global economy, April 2012
In India small cities and rural areas continue to matter; 234 cities made it into McKinsey Cityscope database.
In China 3 cities became mega cities between 2007 and 2010 and four more are expected to do so by 2025.

While one can look at the urbanization process in terms of population share at the national level, it is just as interesting to note the growth of individual cities. As shown in Table 5, there were only two cities in 1950 with population of over 10mn including the wider metropolitan area (i.e. Tokyo & New York). There are over 20 such cities today with several more that are close to the threshold. Moreover, emerging countries dominate this list even though Tokyo remains the world's largest metropolis with 37mn people. As one can see, India's largest cities have grown exceptionally fast. In 1950, Delhi had a population of just 1.4mn when the urban hub of New York boasted 12.4mn. By 2010, Delhi was the world's second largest city with 22mn (note that this estimate is for the wider urban agglomeration including Gurgaon and Noida). According to UN forecasts, it is expected to have 33mn people by 2030.

The experience of Indian mega-cities is especially striking when one considers that India remains two-thirds rural. Latin American cities too have grown very fast since 1950 but, in general, they experienced most of their grown prior to 1990. Mexico City saw its population jump from 2.9mn in 1950 to 15.3mn in 1990 and the rise to 20.1mn in 2010. It is now the world's third largest city. Sao Paolo, similarly, saw population jump from 2.3mn in 1950 to 14.8mn in 1990 and then to 19.4mn in 2010. These cities are still growing but at a slower pace than Asia's mega-cities. Africa's largest city is still Cairo (11mn) but Lagos is growing much more quickly and will bypass it in the next 10 years.

Table 5: Largest Urban Agglomerations by Populations ('000s)

	Country	City	1950	1970	1990	2010	2030
1.	Japan	Tokyo	11,275	23,298	32,530	36,933	38,661
2.	India	Delhi	1,369	3,531	9,726	21,935	32,935
3.	Mexico	Mexico City	2,883	8,769	15,312	20,142	24,581
4.	United States of America	New York-Newark	12,338	16,191	16,086	20,104	23,572
5.	Brazil	São Paulo	2,334	7,620	14,776	19,649	23,175
6.	China	Shanghai	4,301	6,036	7,823	19,554	28,404
7.	India	Mumbai	2,857	5,811	12,436	19,422	26,557
8.	China	Beijing	1,671	4,426	6,788	15,000	22,633
9.	Bangladesh	Dhaka	336	1,374	6,621	14,930	22,906
10.	India	Kolkata	4,513	6,926	10,890	14,283	18,711
11.	Argentina	Buenos Aires	5,098	8,105	10,513	13,370	15,524
12.	United States of America	Los Angeles-Long Beach-Santa Ana	4,046	8,378	10,883	13,223	15,687
13.	Brazil	Rio de Janeiro	2,950	6,637	9,595	11,867	13,621
14.	Philippines	Manila	1,544	3,534	7,973	11,654	16,278
15.	Russian Federation	Moscow	5,356	7,106	8,987	11,472	12,576

	Country	City	1950	1970	1990	2010	2030
16.	Japan	Osaka-Kobe	4,147	9,408	11,035	11,430	12,031
17.	Egypt	Cairo	2,494	5,585	9,061	11,031	14,740
18.	Nigeria	Lagos	325	1,414	4,764	10,788	18,857
19.	France	Paris	6,283	8,208	9,330	10,516	12,163
20.	China	Guangzhou, Guangdong	1,049	1,542	3,072	10,486	15,474
21.	China	Shenzhen	3	22	875	10,222	15,545
22.	Republic of Korea	Seoul	1,021	5,312	10,544	9,751	9,867
23.	China	Chongqing	1,567	2,237	3,123	9,732	13,627
24.	Indonesia	Jakarta	1,452	3,915	8,175	9,630	12,822
25.	United States of America	Chicago	4,999	7,106	7,374	9,545	11,434

Source: UN data on Urban Agglomerates

Table 6: Growth Rates of Largest Urban Agglomerations (in per cent)

	Country	City	1950 - 1970	1970 - 1990	1990 - 2010	2010 - 2030
1.	Japan	Tokyo	106.6	39.6	13.5	4.7
2.	India	Delhi	157.9	175.4	125.5	50.1
3.	Mexico	Mexico City	204.2	74.6	31.5	22.0
4.	United States of America	New York-Newark	31.2	-0.6	25.0	17.3
5.	Brazil	São Paulo	226.5	93.9	33.0	17.9
6.	China	Shanghai	40.3	29.6	150.0	45.3
7.	India	Mumbai	103.4	114.0	56.2	36.7
8.	China	Beijing	164.9	53.4	121.0	50.9
9.	Bangladesh	Dhaka	308.9	381.9	125.5	53.4
10.	India	Kolkata	53.5	57.2	31.2	31.0
11.	Argentina	Buenos Aires	59.0	29.7	27.2	16.1
12.	United States of America	Los Angeles-Long Beach-Santa Ana	107.1	29.9	21.5	18.6
13.	Brazil	Rio de Janeiro	125.0	44.6	23.7	14.8
14.	Philippines	Manila	128.9	125.6	46.2	39.7
15.	Russian Federation	Moscow	32.7	26.5	27.7	9.6
16.	Japan	Osaka-Kobe	126.9	17.3	3.6	5.3
17.	Egypt	Cairo	123.9	62.2	21.7	33.6
18.	Nigeria	Lagos	335.1	236.9	126.4	74.8
19.	France	Paris	30.6	13.7	12.7	15.7
20.	China	Guangzhou, Guangdong	47.0	99.2	241.3	47.6
21.	China	Shenzhen	633.3	3,877.3	1,068.2	52.1
22.	Republic of Korea	Seoul	420.3	98.5	-7.5	1.2
23.	China	Chongqing	42.8	39.6	211.6	40.0
24.	Indonesia	Jakarta	169.6	108.8	17.8	33.1
25.	United States of America	Chicago	42.1	3.8	29.4	19.8

Source: UN data on Urban Agglomerates

So, what drives cities to grow ever so large? Do they not suffer from diminishing marginal returns to scale from congestion? Interestingly, the evidence suggests that, if anything, urban agglomerations can enjoy increasing returns to scale even when they reach the size of Tokyo. The city has continued to add population even though Japan's economy and its demographics stagnated after 1990. Indeed, the UN expects the city to keep adding population for some time even though Japan's population is set to

shrink. Moreover, the agglomeration dynamics of certain cities appear to be enjoying a post-industrial revival in the developed world due to the factors discussed in the previous section. Both London and New York were losing population till they came back in the 1990s. Far from being hobbled by size, they leveraged their concentration of human capital and hard amenities to stage a comeback whereas smaller cities like Detroit and Birmingham have continued to bleed.

The increasing returns to scale enjoyed by successful post-industrial cities can often exert such a strong gravitational force that, despite the high cost of real estate and congestion, lesser cities could find themselves limited or even hollowed out. Thus, we find that many countries are dominated by a single mega-city: London (Britain), Paris (France), Tokyo (Japan), Seoul (South Korea) and so on. Some countries like India, China and the US are too large to have only one city but they too are dominated by a handful of very large cities. Although there are places like Germany that have made a success of a more dispersed urban model (see Box 1 below), these generally have been exceptions. Note that we are merely recounting observed experience and are not making a judgment about whether or not such concentrated urban outcomes are desirable.

Table 7: Concentration in Big Cities, 2010

	United States		Western Europe		Japan	
In percentage	Population	GDP	Population	GDP	Population	GDP
Top 2 by GDP	10	13	6	9	44	49
Top 30 by GDP	34	37	27	31	29	29
Other large cities	35	33	24	23	7	7
Small cities and rural areas	21	16	42	37	20	15

Source: McKinsey Global Institute, Urban America: US cities in the global economy, April 2012

Box 1. Is there a German-Swiss model of small city urbanization? What does it imply for China's urban strategy?

As pointed out in the main text, successful cities can enjoy such large economies of scale that they can dominate their host countries. There are some notable exception to this – Germany and Switzerland. As can be see for Tables 8 and 9, both countries have been able to use a network of small/medium sized cities rather than rely on a single city. There are a few similar examples even in developing countries. The Indian state of Gujarat is the country's most industrialized province but it too has a network of medium sized cities – Surat, Baroda, Ahmadabad, Rajkot and so on. What is behind this dispersed pattern of urbanization?

Our study suggests that the most important factor is an initially dispersed political structure that allowed a number of rival hubs to have a minimum cluster of human capital as well as social/economic infrastructure. Thus, the Swiss model of autonomous cantons has provided Switzerland with hubs in Geneva, Zurich, Bern and so on. Similarly, the German pattern is derived from the fact that the country was made up of a number of small states till as recently as 1870. This meant that there were a number of rival hubs with a critical mass of human capital and socio-economic amenities. It is possible that over time a single city (Berlin) would have come to dominate the landscape but this was interrupted by World War II and the city being partitioned for several decades. Even India's Gujarat can be similarly explained because it too was divided into a number of semi-autonomous principalities till 1947. In all these cases, the initial dispersal appears to have created a pattern that has so far survived later forces of centralization.

Table 8: Historical Population of German Cities

City	1875	1910	1950	1970	1990	2010
1. Berlin	966,859	2,071,257	3,336,026	3,208,719	3,433,695	3,460,725
2. Hamburg	264,675	931,035	1,605,606	1,793,640	1,652,363	1,786,448
3. Munich / München	193,024	596,467	831,937	1,311,978	1,229,026	1,353,186
4. Cologne / Köln	135,371	516,527	594,941	849,451	953,551	1,007,119
5. Frankfurt am Main	103,136	414,576	532,037	666,179	644,865	679,664
6. Stuttgart	107,273	286,218	496,490	634,202	579,988	606,588
7. Düsseldorf	80,695	358,728	500,516	660,963	575,794	588,735
8. Bremen	102,532	217,437	444,549	592,533	551,219	547,340
9. Dresden	197,295	548,308	494,187	502,432	490,571	523,058
10. Leipzig	127,387	589,850	617,574	583,885	511,079	522,883

Source: German Statistics - Statistisches Bundesamt - Gemeindeverzeichnis (German)

Table 9: Historical Population of Swiss Cities

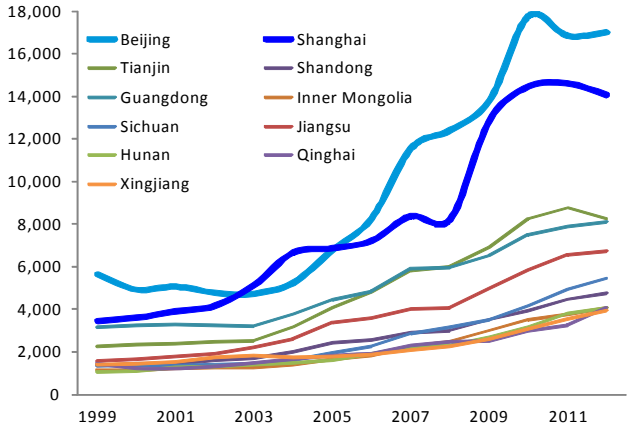
City	1980	1990	2000	2010
1. Zürich [Zurich]	369,522	365,043	363,273	372,857
2. Genève [Geneva]	156,505	171,042	177,964	187,470
3. Basel	182,143	178,428	166,558	163,216
4. Lausanne	127,349	128,112	124,914	127,821
5. Bern	145,254	136,338	128,634	124,381
6. Winterthur	86,758	86,959	90,483	101,308
7. Luzern	78,283	76,466	75,425	77,491
8. St. Gallen	75,847	75,237	72,626	72,959
9. Lugano	NA	NA	51,016	54,667
10. Biel (Bienne)	53,793	51,893	48,655	51,203

Source: Swiss Federal Statistical Office

Although it seems that certain conditions do allow for a network of small cities to stand in for a mega-city, history also suggests that it can be very difficult to artificially create such a network or even to hold up small cities once they begin to unravel. Despite decades of effort, Britain has so far failed to revive many of the former industrial cities of northern England even as the US has been unable to revive cities like Detroit and Baltimore. This is particularly true for small cities that relied heavily on a single industry or on a temporary location advantage. Once the industry goes into decline, the human capital can quickly de-cluster and destroy the city unless there are extraneous factors that hold it together.

These findings have important implications for China's urban model. In the last 20 years, China has urbanized hundreds of millions of people. While its largest cities have grown very fast, China was able to simultaneously develop many smaller cities, including brand new cities. This was possible because Chinese authorities deliberately concentrated industrial infrastructure and were then able to guide workers using the Hukou permit system (this is why Beijing and Shanghai do not have larger populations than Mumbai and Delhi despite the fact that India is less urbanized). However, as China moves up the value chain, not all of the industrial towns will be able to re-engineer themselves. At the same time, China will also be easing its Hukou permit system to allow for the aspirations of a better educated, services-oriented workforce. The result is likely to be a situation where the gravitational pull of the most dynamic cities like Beijing and Shanghai could begin to attract away the best human capital from the smaller industrial towns. In turn, it is possible that China could end out with its own versions of post-industrial Detroit. In fact, the pressures may already be visible in the pipeline. As survey of real estate prices in China shows how, despite cooling measures, property prices for the top cities have vastly outperformed those of the second tier. The problems of the second tier hubs could worsen if, as we have argued in a previous report, the pace of net rural-urban migration slows significantly over the next decade (see "The Future of Our Cities", The Wide Angle series, Deutsche Bank, 31st August 2011).

Figure 4: Selling Price of Properties in Chinese Cities (RMB/sq mt)



Source: CEIC

The Dominance of Global Cities

We have already seen how major cities play an important role in the national economy but a small group of elite cities – often dubbed "global cities" – play a disproportionate role as nodes in the hyper-connected global economy. These are cities that are best able to take advantage of mix-and-match dynamics by combining talent, creativity, finance, legal institutions, quality-of-life and other ingredients that drive twenty-first century urbanism. Critics would accuse these global cities of being elitist – and one cannot deny that such cities do attract a major share of the world's elite. Nevertheless, it also cannot be denied that these cities exhibit an extraordinary ability to generate wealth, ideas and jobs.

While these are all large cities, note that sheer bulk does not always qualify a city as a global hub. So, how does one define a Global City? Over the years, academics/researchers have provided several definitions but, in reality, a precise definition is not necessary because there is wide consensus on which cities qualify. In Table 10, we have put down several lists of global cities created by well known organizations (we have even attempted one ourselves). Each of these rankings have been generated on the basis of objective and subjective inputs. While one can quibble about the exact rankings of different cities, what is striking is that they contain almost exactly the same cities. As the reader will see, all the lists will give high rankings to cities like London, New York, Tokyo, Singapore, Hong Kong and Paris. In other words, it may be difficult to define a global city but most of us know when we see one.

Table 10: Ranking Global Cities – The Top 20

	A.T. Kearney's Global Cities Index, 2012	The Economist Intelligence Unit's Global City Competitiveness, 2012	The Institute of Urban Strategies' Global Power City Index, 2011	Deutsche Bank's Global Cities Ranking
1.	New York	New York	New York	London
2.	London	London	London	New York
3.	Paris	Singapore	Paris	Singapore
4.	Tokyo	Hong Kong	Tokyo	Tokyo
5.	Hong Kong	Paris	Singapore	Hong Kong
6.	Los Angeles	Tokyo	Berlin	Paris
7.	Chicago	Zurich	Seoul	Washington DC
8.	Seoul	Washington	Hong Kong	Boston
9.	Brussels	Chicago	Amsterdam	San Francisco
10.	Washington, DC	Boston	Frankfurt	Frankfurt
11.	Singapore	Frankfurt	Sydney	Zurich
12.	Sydney	Toronto	Vienna	Los Angeles

	A.T. Kearney's Global Cities Index, 2012	The Economist Intelligence Unit's Global City Competitiveness, 2012	The Institute of Urban Strategies' Global Power City Index, 2011	Deutsche Bank's Global Cities Ranking
13.	Vienna	Geneva	Los Angeles	Beijing
14.	Beijing	San Francisco	Zurich	Sydney
15.	Boston	Sydney	Osaka	Berlin
16.	Toronto	Melbourne	Boston	Shanghai
17.	San Francisco	Amsterdam	Geneva	Seoul
18.	Madrid	Vancouver	Beijing	Geneva
19.	Moscow	Los Angeles	Copenhagen	Toronto
20.	Berlin	Seoul	Madrid	Dubai - Abu Dhabi

Source: AT Kearney, The Economist Intelligence Unit, The Institute of Urban Strategies, Deutsche Bank

Knight Frank's World Wealth Report 2013, lists global cities according to how much they matter to High Net Worth Individuals. This too generates a list that is roughly the same as that given above (see Table 11). A somewhat different way to identify important global hubs is to consider how much international visitors spend in each city. A recent survey by MasterCard looked at cross-border spending by international visitors (see Table 13) but the study too came up with a list that is broadly similar (with the exception of Bangkok)[7]. In other words, it would be fair to say that all approaches lead us to the same global cities and broadly the same rankings.

Table 11: Results of Knight Frank Survey on Cities That Matter to High Net Worth Individuals in 2013

Sl	Economic Activity	Political power	Quality of life	Knowledge and influence
1.	New York	Washington	Zurich	London
2.	London	Beijing	Melbourne	New York
3.	Tokyo	Brussels	Sydney	Singapore
4.	Paris	Berlin	Toronto	Paris
5.	Shanghai	London	Frankfurt	Boston

Source: Knight Frank, The Wealth Report 2013

Table 13: Global Top 20 Top Destination Cities by International Overnight Visitor Spend

Sl	Destination cities	USD bn
1.	New York	18.6
2.	London	16.3
3.	Paris	14.6
4.	Bangkok	14.3
5.	Singapore	13.5
6.	Tokyo	12.7
7.	Seoul	10.8
8.	Dubai	10.4
9.	Sydney	10.4
10.	Barcelona	8.9
11.	Istanbul	8.6
12.	Taipei	8.1
13.	Kuala Lumpur	7.8
14.	Los Angeles	7.8
15.	Shanghai	6.9
16.	Milan	6.6
17.	Vancouver	6.5
18.	Rome	6.4
19.	Amsterdam	6.3
20.	Miami	6.3

Source: MasterCard, Global Destination Cities Index 2Q2013

[7] "Global Destination City Index", Yuwa Hendrick-Wong & Desmond Choong, MasterCard Worldwide Insights, 2Q 2013

The above lists and rankings give us several insights into a world dominated by a few global cities. First, we can see that one of the common characteristics of successful global cities is that they all seem to be good generalists rather than specialists. The more successful the global city, the more likely that it will have good quality bars/restaurants, universities, theatres, legal systems, financial markets, and even parks (it is no coincidence that London and New York have great universities, museums and theatres but also enjoy Hyde Park and Central Park respectively). Specialist cities can be successful, but they do not play in the big league (Bilbao has a good museum, Agra has Taj Mahal and Davos may host the annual World Economic Forum, but they are not global cities). Again, this should not be surprising given that mix-and-match economics of 21st century cities requires a clustering of diverse inputs. Sometimes the ecosystem can develop naturally from a pre-existing milieu but interestingly, this clustering can also be deliberately created as in the case of Singapore (see Box 2).

Second, the geographical distribution of global cities is very uneven. Western Europe and North America have several world-class hubs, and Asia seems to have acquired quite a few international hubs in recent decades. However, there are no virtually contenders from Latin America, Africa and South Asia even though there are several large cities in these regions. It is particularly glaring in the case of Latin America which it has been heavily urbanized for several decades now and for India which has three of the top-ten cities by population. Clearly, population size is not the only ingredient that drives the global importance of an urban hub.

Third, despite the world-wide pretentions of all these cities, each global city has linkages and orientations that are based on geographical, historical and cultural affinity. Below are the top five "feeder" cities for international visitors to London, New York, Hong Kong, and Singapore. As one can see London is oriented to Europe and North America. New York is linked to Europe and Latin America (and presumably to the domestic market of North America). Singapore and Hong Kong are clearly more linked to the rest of Asia than to Europe or the Americas. While the study by MasterCard limits itself only to the top five feeder cities, it shows that geography still matters and each global city retains a specific hinterland.

Table 14: London's Top Origin/feeder Cities

Origin/Feeder City	2013 Visitors (thousands)	2013 Spend (USD mn)
Dublin	717	313.0
New York	684	829.0
Stockholm	488	290.0
Amsterdam	462	274.0
Frankfurt	404	240.0

Source: Source: MasterCard, Global Destination Cities Index 2Q2013

Table 15: New York's Top Origin/feeder Cities

Origin/Feeder City	2013 Visitors (thousands)	2013 Spend (USD mn)
London	1,079	1,403.0
Toronto	745	289.0
Sao Paulo	733	1,613.0
Paris	632	1,109.0
Buenos Aires	393	821.0

Source: Source: MasterCard, Global Destination Cities Index 2Q2013

Table 16: Singapore's Top Origin/feeder Cities

Origin/Feeder City	2013 Visitors (thousands)	2013 Spend (USD mn)
Jakarta	878	1,334.0
Kuala Lumpur	793	530.0
Tokyo	522	664.0
Manila	483	515.0
Shanghai	434	499.0

Source: Source: MasterCard, Global Destination Cities Index 2Q2013

Table 17: Hong Kong's Top Origin/feeder Cities

Origin/Feeder City	2013 Visitors (thousands)	2013 Spend (USD mn)
Seoul	657	371.0
Taipei	634	400.0
Singapore	550	390.0
Tokyo	496	314.0
Manila	483	249.0

Source: Deutsche Bank

Looking ahead, it is clear that the future success of global cities depends on being able to maintain a competitive cluster of amenities, institutions, financial capital and human capital. One way to gauge how these may shift in the future is to ask High Net Worth Individuals about what cities matter to them today and what will matter to them in 2023. A survey by Knight Frank (see Table 17) shows a sharp increase in the expected importance of East Asian centers in a decade's time. While such forecasts should be taken always with a pinch of salt (Miami is clearly not a global contender), it should still be noted that no city in Latin America, Africa or South Asia is expected to join the list. Of course, this could change with time but, in order to play in the big league, large cities in these emerging regions will have to create the eco-systems that allow for mix-and-match dynamics to play in both social and economic spheres.

Table 18: Survey Results on Cities That Will Matter to High Net Worth Individuals in 2023

Rank 2013	% of responses	2023	% of responses
1. London	25%	London	22%
2. New York	14%	Singapore	12%
3. Singapore	11%	New York	11%
4. Hong Kong	9%	Hong Kong	9%
5. Geneva	4%	Shanghai	6%
6. Shanghai	3%	Beijing	4%
7. Dubai	3%	Miami	3%
8. Miami	3%	Geneva	2%
9. Paris	3%	Dubai	2%
10. Beijing	3%	Paris	2%

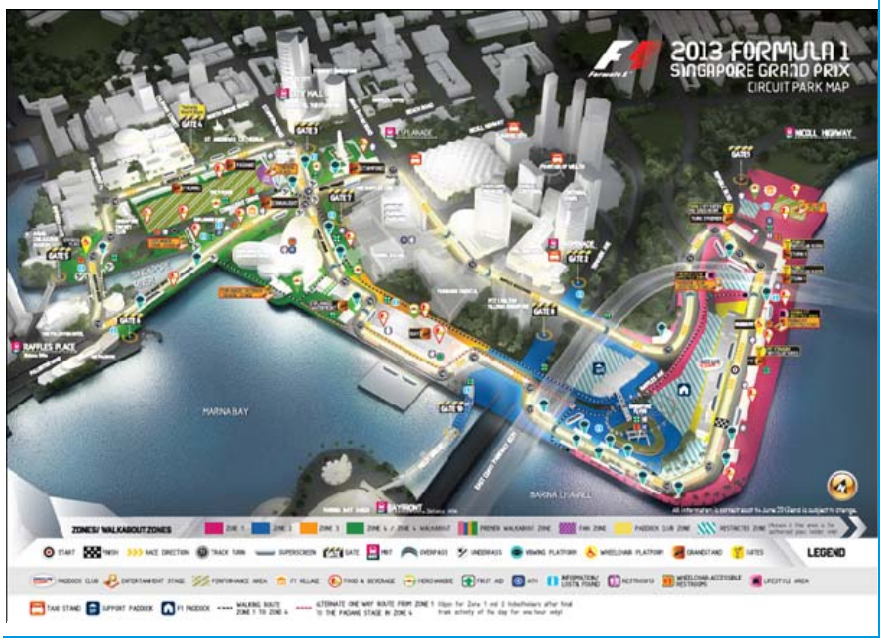
Source: Knight Frank, The Wealth Report 2013

Box 2: Singapore: The Art of Building a Global City[8]

The inclusion of cities like London, Tokyo or New York in the global cities lists should not be surprising. They are well-established hubs backed by large national economies and the weight of history. However, it is interesting that virtually every list puts Singapore and Hong Kong in the top ten. In fact, a survey of what High Net Worth Individuals placed Singapore even above New York by 2023! Yet, it is often forgotten that the inclusion of the two cities in the big league is very recent and there were many commentators who would have written them off fifteen years ago. Indeed, many people had speculated that Hong Kong would not survive the handover of 1997. The predictions for Singapore were even more dire after a series of shocks suffered by the city-state. First, it was hurt by the Asian Crisis of 1997-98. Even though Singapore was not directly involved, its economic hinterland was devastated by the crisis. Next it was hurt by the Tech downturn of 2000. And, then came the scare over the SARS epidemic in 2003 (this also hurt Hong Kong).

Till 1997, Singapore had had a dream run by converting itself from third-world colonial outpost to a first world commercial hub. But between 1997 and 2002, it seemed like it had run out of luck and some detractors argued that it would inevitably decluster and slip into oblivion. The government, however, boldly decided to double its bet and convert Singapore into Asia's premier global city[9]. This strategy was not without its critics. As a participant in the heated debates of that time, I remember how skeptics argued that global cities had always emerged naturally and were not deliberately built up (incidentally this is not true given the evidence of Medici Florence and Hausmann's Paris among others). Fortunately, the Singaporean authorities took the plunge.

Singapore's strategy is good example of how mix-and-match economics can be applied to cities. The government invested heavily in creating a human capital cluster by opening up immigration, creating new universities/think-tanks and inviting reputed foreign institutions to set up shop. At the same time, it invested in sectors such as leisure and entertainment – Gardens-by-the Bay, Formula One racing, casinos and so on. Most interestingly, it actively used urban design to encourage the random interactions and networks that drive twenty-first century cities. The best way to understand this is to visit the city centre. Within a walkable radius of the financial district, one will find the new Singapore Management University, the Esplanade theatre complex, the Marina Bay Sands complex (conference centre/casino/shopping), a number of new museums, a colonial era cricket club, and new extension to the financial district (which is also mixed in with residential buildings). Added to the mix is a floating stadium and numerous hotels/bars/restaurants. The authorities even went so far as to add in a Formula One race tract in the middle of the city even though it causes a great deal of disruption for a few days every year (see map below). Not every ingredient works individually but there can be no doubt that the overall cluster is very successful.



[8] For a summary of the conceptual framework of Singapore's urban strategy read "Singapore: The Art of Building a Global City, Sanjeev Sanyal, Institute of Policy Studies (Singapore), January 2007

[9] For a sense of the debates and discussions of that time see "Small Country to Big City", Sanjeev Sanyal, Deutsche Bank Research, October 2003 & "Singapore: Asia's Global City?", Sanjeev Sanyal, paper presented at the Fourth Singapore Economic Roundtable, March 2005

Mix-and-Match as the Urban Future

The mix-and-match economics of twenty-first century cities has some important implications for the way we think of how urban centers will evolve over the next few decades. Many discussions about the future of cities tend to drift off into a discussion about high technology and gadgets – driverless cars, 3-D printing, smart grids and so on. Some of these technologies will indeed have an impact on how we live. However, here we will discuss the underlying meta-change, driven by the logic of mix-and-match that will underpin how these other changes play out. The following are three important ways in which the logic of twenty-first cities will manifest themselves:

The Sharing Economy:

As discussed in the first section of the report, twenty-first century lifestyle is about ease of access to multiple amenities, products and services. In the last century, access often meant individual ownership but this is often not a practical solution when we are switching constantly between different things. Not only is ownership expensive but can also be onerous. After all, if I want to swim, I do not have to own a swimming pool but only need access to one. This same logic is now being applied to more and more aspects of life. The oldest form of urban sharing is through the provision of public goods (parks, public transport, roads, drainage etc). The importance of public goods is rising in the new urban economy but now the idea of the "commons" has to be expanded to include various forms of private sharing as well. In a recent article, The Economist magazine dubbed it the "The Rise of the Sharing Economy"[10]. There are many manifestations of this. The rental bicycles that have proliferated in many cities are one example of this phenomenon. Car sharing too is gathering steam after many false starts. Another example is peer-to-peer renting with people renting out everything from rooms to surf boards and boats. In all these cases, information technology has been a key enabler by allowing for search, matching, tracking/screening, payments and feedback.

Yet another manifestation of private sharing is in the form of closed "clubs". This form of sharing is useful for activities where the product or service is best shared within a closed group. It shows up in social clubs, gated communities, condominiums with multiple amenities, and so on. Thus, there has been a worldwide boom in condominium living. Confounding the traditional idea that families with children prefer stand-alone homes, we are finding that young families now prefer to live in condominium apartments where children can access swimming pools, playgrounds, tennis courts within a secured environment (this preference is clearly visible in most of Asia but we feel that it is beginning to evolve in this direction even in the US).

Walkability:

The regular cycles of twentieth century life allowed us to rely heavily on one form of transport for most things (for many it was the car or a single form of public transport). One of the consequences of today's mix-and-match way of living and working is that we need very different urban transport solutions through the course of day. Sometimes it is best to use a car but at others to use a bus, a taxi, a cycle, a train or just to walk. Thus, even in the US we are seeing a sharp decline in the number of miles driven per capita every year. This is especially clear for younger age cohorts – those between 16 and 34 years drove 23% fewer miles on average in 2009 than in 2001[11]. The need for multi-

[10] "The Rise of the Sharing Economy", The Economist, 9th March 2013.

[11] "A New Direction: Our Changing Relationship with Driving & the Implications for America's Future", Tony Dotzik & P. Baxandall, US PIRG Education Foundation, Spring 2013.

modal public transport solutions has been increasingly recognized by municipal officials in recent years, but less attention had been given till recently to the fact that walking is critical to the ability of the average citizen to switch between different modes. This is now changing. My recent discussions with the city managers of the world's most advanced cities (New York, London, Singapore and Hong Kong) suggest that walkability is perhaps the single most important dimension to next generation urban planning. Home buyers even in the US are waking up to this and this realization accounts for the soaring popularity of services such as www.walkscore.com (the website rates neighborhoods and individual properties on the basis of whether or not various amenities are accessible through walking).

It is important to recognize that walkability is not merely about creating sidewalks. It requires the creation of a whole eco-system that includes hardware such as sidewalks, over/under-bridges, signage, street-lights and the clustering of amenities within walkable distances. However, it also requires soft-infrastructure such as safety/security and street-life. Moreover, walkability is not just about walking but about easy interconnections with other forms of transport such as buses, taxis, trains, cycling and even cars. Manhattan's High-Line, Hong Kong's network of elevated walkways and Singapore's underground network are all examples of how urban planners are incorporating walkability into the urban fabric. The Global Walkability Index below is an effort to provide a simple comparison of cities around the world. It is not meant as a comprehensive list but just as an indication of how different cities stack up on this matrix. Also note that the index tries to account for the wider metropolitan system and not just the urban core (thus New York's walkability is not just about Manhattan).

Criterion and interpretation of scores

1. **Pedestrian infrastructure:** pavements, over-bridges, street lights, shade, signage, disability access and so on

2. **Connectivity:** Linkages with other transport systems such as trams, trains, taxis, cycling, buses, etc.

3. **Urban form:** The ecosystem of shops, offices, homes, parks, restaurants, cafes, street life and other amenities that allow the pedestrian to lead his/her life.

4. **Distance:** Distances to be covered on foot in order to live one's life. This is linked to connectivity, density and urban form. We have also accounted for air quality here.

5. **Safety:** Crime, policing, legal system, emergency services and so on.

Interpreting scores:

9-10= Very good, 8-9=Good, 7-8=Tolerable, 6-7=Poor, Below 6 = Unwalkable

Table 19: The Global Walkability Index

Sl Cities	Pedestrian Infrastructure	Connectivity	Urban Form	Distances	Safety	Total
1. Zurich	9.0	9.5	9.5	9.5	8.5	**9.2**
2. Amsterdam	9.5	9.0	9.5	9.0	8.0	**9.0**
3. Singapore	9.0	8.0	9.0	9.0	9.0	**8.8**
4. Munich	9.5	9.0	9.0	8.5	8.0	**8.8**
5. Hong Kong	9.0	9.0	8.5	8.5	8.5	**8.7**
6. London	9.0	8.5	8.5	8.5	8.0	**8.5**

SI Cities	Pedestrian Infrastructure	Connectivity	Urban Form	Distances	Safety	Total
7. Tokyo	9.0	8.5	8.5	8.0	8.5	**8.5**
8. Sydney	9.0	8.5	8.5	8.0	8.0	**8.4**
9. Paris	9.0	8.5	8.0	8.5	7.5	**8.3**
10. Istanbul	8.5	8.5	8.5	8.0	8.0	**8.3**
11. New York	8.5	8.5	8.5	8.0	7.5	**8.2**
12. Madrid	8.5	8.5	8.5	8.0	7.5	**8.2**
13. Boston	8.5	8.0	8.0	8.0	7.5	**8.0**
14. Washington DC	8.5	8.0	7.5	7.5	6.0	**7.5**
15. Beijing	8.0	8.0	7.0	7.0	7.5	**7.5**
16. Philadelphia	8.0	7.5	7.5	8.0	6.0	**7.4**
17. Dubai	7.5	6.5	6.5	7.5	7.5	**7.1**
18. Bangkok	7.0	6.5	7.0	7.0	7.5	**7.0**
19. Delhi	6.5	7.0	7.5	7.0	6.0	**6.8**
20. Mumbai	6.0	6.5	7.0	6.5	7.5	**6.7**
21. Jakarta	7.0	6.0	6.0	7.0	7.5	**6.7**
22. Sao Paulo	7.0	7.0	6.5	6.5	6.0	**6.6**
23. Bangalore	5.5	5.5	6.0	6.5	7.5	**6.2**
24. Phoenix	7.0	6.0	4.5	4.5	7.0	**5.8**
25. Johannesburg	6.0	5.5	5.0	6.0	4.0	**5.3**

Source: Deutsche Bank & The Sustainable Planet Institute. An earlier version of this index was presented at "The Walkable City" Lecture organized by the Centre for Livable Cities and Urban Redevelopment Authority, Singapore (April 2013)

While one can again quibble about the exact rankings, it will be quite clear from the above list that some of the most successful cities are also very walkable. Given the logic of mix-and-match economics, this should not be surprising because walkability is not just about transportation but about an urban landscape that allows for multi-tasking, random social interaction, urban buzz and so on. Ironically, large developing country cities like Bangalore and Johannesburg do poorly on this index even though a large proportion of their populations are too poor to own cars. This will be a major constraint to their future evolution. Nevertheless, note that walkability is not always better in developed countries. With a few exceptions like New York and Boston, US cities are generally less walkable that West European and developed Asian cities. Phoenix Arizona, for instance, is a essentially unwalkable because of its fractured urban form. We think that this will have a major negative impact on it in the long run. Istanbul, in contrast, is the most walkable city in an emerging market.

The Importance of Urban Diversity:

One of the obvious implications of the mix-and-match dynamic is that social and economic productivity benefits from a denser concentration of people and amenities. This argument for density and agglomeration is now becoming more widely appreciated and we have discussed it in an earlier report (see "The Future of Our Cities", The Wide Angle series, 31st August 2011). However, the success of mix-and-match economics is not just about density but about diversity. Monotonous suburbia may struggle to compete in this the 21st century but so will dense cities without different kinds of human capital and a real estate stock that is dominated by cookie-cutter high rises and/or a single industry.

Well known urbanists like Richard Florida have long argued that socio-cultural diversity is a very important driver of a city's long term success[12]. In an NBER Working Paper, Oded Galor and Quamrul Ashraf argue that socio-cultural diversity provides a form of resilience to technological innovation that can be self-perpetuating and can provide an advantage over very long periods of time.

[12] "How Diversity Leads to Economic Growth", Richard Florida, The Atlantic Cities, December 2011

Thus, places that were more culturally diverse prior to industrialization continue to do better after industrialization leading to sustained divergence in outcomes[13].

This argument can, however, beyond socio-cultural diversity to other forms of diversity – real estate stock, human-capital & skills, public/social/economic institutions, transport linkages, green spaces and so on. The tables below provide a comparison of the "soft infrastructure" of a few major cities from around the world. While it is not a comprehensive list, it shows that successful global cities are clusters of many different kinds of soft infrastructure. In contrast, Mumbai and Sao Paulo lag behind on many parameters and this may be why they are not yet considered major global cities despite their size. Soft infrastructure is often considered elitist by developing country governments but it should be recognized that they generate economic value and real jobs – and are key to the soft power of global cities.

The importance of urban diversity has important implications for the future trajectory of many cities, especially in those emerging countries. The medium sized cookie-cutter industrial cities of China, for instance, may if difficult find it in the long run as they struggle to reinvent themselves even as the more successful agglomerations like Beijing and Shanghai suck out the best talent. Even successful global cities will have to think about the future of neighborhoods with inadequate urban diversity. Even poster-child Singapore, for instance, has many large Housing Development Board estates dominated by a form of standardization that could find it difficult to cope with the mix-and-match dynamics of the 21st century.

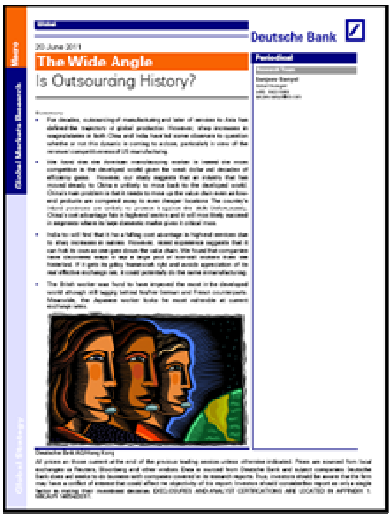
Table 20: Cultural Diversity Statistics in Selected Large Cities

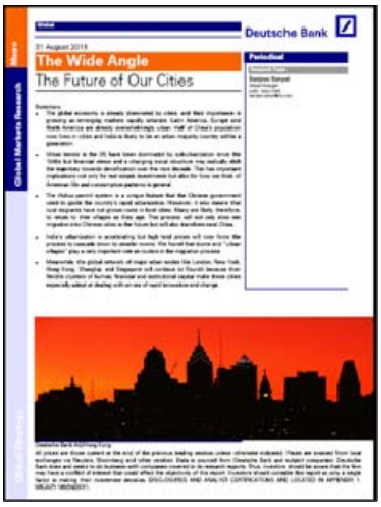
Indicator	Berlin	Istanbul	Johannesburg	London	Mumbai	New York	Paris	São Paulo	Shanghai	Singapore	Sydney	Tokyo
No. of national museums	18.0	7.0	9.0	11.0	4.0	5.0	24.0	1.0	27.0	5.0	1.0	8.0
No. of other museums	140.0	71.0	51.0	162.0	6.0	126.0	113.0	110.0	87.0	48.0	59.0	39.0
No. of art galleries	421.0	267.0	76.0	857.0	152.0	721.0	1,046.0	NA	208.0	252.0	122.0	688.0
Visits to five most popular museums/galleries (million)	4.7	7.1	0.6	25.3	1.8	15.4	23.4	2.2	6.6	2.7	2.8	9.7
No. of World Heritage Sites	3.0	1.0	1.0	4.0	2.0	1.0	4.0	0.0	0.0	0.0	2.0	1.0
% public green space (parks and gardens)	14.4%	1.5%	24.0%	38.4%	2.5%	14.0%	9.4%	NA	2.6%	47.0%	46.0%	3.4%
No. of cinema screens	266.0	501.0	368.0	566.0	232.0	501.0	1,003.0	282.0	670.0	239.0	295.0	334.0
No. of cinema admissions (millions)	9.1	10.3	13.1	41.6	10.9	NA	58.2	50.0	22.9	22.1	2.3	29.3
No. of theatre performances	6,900	6,349	5,000	32,448	8,750	43,004	26,676	NA	15,618	2,421	4,966	24,575
No. of theatre admissions (million)	2.4	2.4	1.7	14.2	2.7	28.1	5.7	NA	0.6	0.6	0.7	12.0
No. of major concert halls	2	6	13	10	2	15	15	7	4	8	4	15
No. of bars	1,247	657	NA	2,143	543	7,224	3,350	NA	1,320	576	661	14,184
No. of restaurants	4,885	1,508	15,000	37,450	13,205	24,149	22,327	12,500	55,614	2,637	4,554	150,510
No. of international students	21,805	6,643	37,067	99,360	1,500	60,791	96,782	15,432	43,016	91,500	NA	43,188
No. of international tourists (million)	2.9	8.1	4.0	15.2	2.2	8.4	13.3	1.6	8.5	11.6	2.6	5.9
% foreign-born population	13.2%	NA	5.7%	30.8%	1.4%	36.8%	12.4%	NA	0.9%	26.9%	34.4%	2.4%

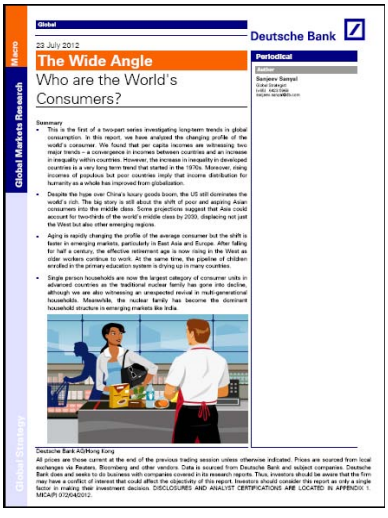
Source: World Cities Culture Report - Mayor of London

[13] "Cultural Diversity, Geographical Isolation and the Origins of the Wealth of Nation", Quamrul Ashraf and Oded Galor, NBER Working Paper, Dec 2011.

The Wide Angle Series







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Appendix 1

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