



Cities of opportunity



Partnership for New York City

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Cover photos:
Top: Central Park, New York City
Bottom: Shanghai South Railway Station

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A window on city life at a time of transformation...

Cities of Opportunity presents a rich view of city life at an important point in time. While many significant challenges remain the worst of the economic downturn may have passed. Growth is returning to many parts of the world. Forward-looking action on key social and economic issues can make major advancements for many. As the home to most of the world's population and intellectual and economic capital, cities will be at the forefront of progress.

Education, energy, transportation, waste and water, health care, sustainability and urban migration are just a few of the areas where significant gains can be made if wise policies are pursued by the world's leading cities.

It is in this light that *Cities of Opportunity* takes both a quantitative and qualitative look at the emerging picture of city life

in 21 capitals of business, finance and culture worldwide. To a great extent, the successes and shortcomings that surface in the study substantiate the central thesis of our research: the more well-balanced a city is for both businesses and residents, the better it will fare.

Chicago, Stockholm, Toronto, Sydney, Singapore, London and New York are a few of the cities that demonstrate this healthy balance for businesses and residents. In different ways, each city shows that quality of life is a tangible economic asset.

The study also shows that progress is not limited to mature cities. Interviews with the leaders of São Paulo and Mumbai, for instance, show they are facing up to their own issues of rapid growth and provision of basic services. And as they do, the cities are working to advance their economies and quality of life.

Cities of Opportunity may prove most useful for businesspersons and policymakers as a good orientation point on the move toward a city-centered world. The study takes notice of the actions and policies that are working best for the common good, and its insights will prove valuable in that context.

The urbanization of the world touches all of us in business, government and everyday life. This will increase in the future as the global proportion of city population continues to grow. It benefits all to adapt actions and approaches that promote the greatest good.

Yours truly,

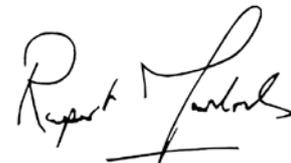


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See the [Web](http://www.pwc.com/cities) at www.pwc.com/cities for greater depth and functionality. [Model your own city](#) by selecting the variables and cities you want to focus on for a customized, interactive look at the results. [Read](#) the full-text of the eight interviews condensed in the report. [Obtain a wider range](#) of correlation analyses. [Learn the detailed background](#) on all sources and definitions for the 58 variables in the study.

About the study

| Sydney Harbour Bridge, Sydney



| Eiffel Tower, Paris

Livability emerges as an economic asset

This third annual edition of *Cities of Opportunity* takes the pulse of 21 leading centers of business, finance and culture after a sobering economic downturn but looking out toward a growing vitality and significance that is lifting up the world's great cities.

By midcentury three out of four of us will be city dwellers. Yet expanding urban population only touches the surface of what's occurring. The world has changed much in the last half century, and it's poised to change again. In 1950, the symbolic peak of corporate life in developed cities may well have been a skilled manager turning the gears of a newly opened postwar, free-trade world.

By 1980, when financial deregulation liberalized capital and helped propel a decades-long bull market, the new urban business ideal may well have been a financial professional who for the first time operated in a 24-hour worldwide market facilitated by advancing information communications technologies. Whether a trader looked at a screen in Tokyo, London or New York, they sat near the center of the action.

Today major signs say the Great Recession of 2008–2009 is over. But feelings of uncertainty—a questioning of institutions and values—remain. In this light, a vital urban spirit appears to be taking hold worldwide. It revolves around trends in education, communications, travel and demographics that put cities, not rural areas, at the center of the socioeconomic map. Awareness has heightened that more sustainable approaches to

transportation, building, energy, waste and water are needed, as well as new policies and plans for the post-industrial, people-centered transformation cities are undergoing.

Fittingly, the symbol of an urban business-person today might be anything from a chef to an economist to an accountant—one way or another, an internationalized, English speaker as likely to be a woman as a man. He or she will likely be defined by cultural and social interests ranging from music and art to environmentalism, with a profile on Facebook, and very quickly comfortable in New York, London or Paris, Stockholm, Shanghai, São Paulo or Sydney.

Cities of Opportunity this year takes both a quantitative and qualitative look at this emerging picture of city life. And to a great extent, the successes and shortcomings that surface do validate the central thesis of our research—namely, that the more well-balanced a city is for both businesses and residents, the better it will fare.

The study shows that livability is, in fact, an economic asset. Chicago, Stockholm, Sydney, Toronto and Singapore perform well in many quality of life as well as economic indicators, providing both businesses and residents a strong balance. New York, London, Paris and Tokyo may surpass them in breadth and depth of resources, as expected from longstanding world capitals, but pound for pound “second cities” are proving resilient and increasingly attractive to business and citizens.

Stockholm, which enters *Cities of Opportunity* the same year as being named Green Capital of Europe, comes in first or second in an impressive range of variables including higher education, e-readiness, miles of transit track, congestion management, infant survival, greenness and air quality and R&D spending per capita. (An interview with Gunnar Söderholm, city director of environment and health, appears in condensed form on page 48 and in full on www.pwc.com/cities.)

Toronto leads the study in city livability, with high quality of life and health and a diverse population with advanced education. The city works well for business, too, offering strength, good value and, this year, building more skyscrapers than any city except Tokyo. (A panel discussion on Toronto's success attracting and keeping skilled immigrants and in building social cohesion appears in condensed form on page 54 and in full on www.pwc.com/cities.)

Chicago builds strong quality of life attributes into its business case. The city comes out on top overall in quality/intensity indicators and finishes in the top tier in areas like mass transit, housing, diversity, number of hospitals and biomedical technology transfer. America's traditional “second city” (though today third in population behind New York and Los Angeles) also offers strong purchasing power, high air travel volume and other attributes businesses need.

Sydney's natural strengths and forward-looking policies pull it up from the middle of the pack in power to the second highest

The study shows the more well-balanced a city is for both businesses and residents, the better it will fare, validating the central thesis of our research.

score under Chicago when size is removed as a factor. The city scores among the top performers in business, political and quality of life variables ranging from city livability to housing, green space, air quality, congestion management and carbon footprint.

On the other end of the sustainability scale, less well-balanced models for city economies were hurt in the boom and bust. The financial difficulties of Dubai, a fast-growing, regional financial capital, are notable. The city had not yet had the time to build a resilient, broad base and it neared bankruptcy in the crisis.

Looking beyond this first financial recovery led by Asia, a number of cities—notably Shanghai, Hong Kong and Singapore—naturally move into the limelight when considering future centers of business, finance and culture. Good cases can be made that any one of them may prove dominant in the Asia-Pacific region and perhaps beyond.

Shanghai, a historic center of business, finance and culture in mainland China, sits at the fulcrum of what is expected to become the world's largest economy. The city is well situated to manage China's domestic capital markets. And Shanghai's international attraction is signaled by the fact that in this year's study it ranked highest in foreign direct investment.

Hong Kong keeps a foot well planted in two worlds and in many ways carries a legacy of worldwide trading success into the future. Thirteen years after joining the

People's Republic of China following long lasting British rule, Hong Kong is part of one of the most prosperous nations. Yet the city's western colonial tradition remains alive and well, further building its dynamic business core. For instance, HSBC, one of the world's largest banking groups, is taking a larger financial stake in China and this year relocates the company's chief executive to headquarters in Hong Kong.

Singapore makes a strong showing through a range of quality-of-life and business lenses, rising considerably in the power rankings this year and performing well in many quality ones. The city-state is often mentioned when observers speculate on the future financial hub of the Asia-Pacific region with its government retaining a commitment to market security and social order. Singapore leads the study's overall ease of doing business indicator (see page 38). Signaling its global nature, it finishes third highest in number of international tourists behind only London and Hong Kong. Singapore also comes out first or second in shareholder protection and ease of hiring, and tops in housing, infant survival, congestion management and lack of crime.

Long-established capitals New York, London, Tokyo and Paris retain their towering advantages. And none are resting on their laurels. New York and London, numbers one and two in the power ranking, also rate highly on quality variables that require forward-looking policies and actions. Number three on power, Tokyo performs at the top of health and medical care variables, befitting the center of Japan where the average

lifespan of 83 years leads the world. Paris rates in the top two in gauges of education, green policies and the scope of entertainment, embassies and fashion.

Finally, this year's report adds a number of elements to assist both general readers and those using the results for city policymaking. Eight interviews with leaders from business, government and policy substantiate and enrich the quantitative research. Correlation analyses have been added to deepen insight into relationships among the 58 variables, particularly focusing on indicators of city economies.

The Website, www.pwc.com/cities, offers readers the opportunity to model any combination of 21 cities and 58 variables for interactive comparison. The site also provides complete discussion transcripts for all eight interviews condensed in the report.

In closing, *Cities of Opportunity* takes the pulse of the move toward a city-centered world at an important time of growth and transformation. Its observations on those policies and practices that work best can provide valuable guidance for the future.

Cities of Opportunity presents a robust look at the world's hubs of finance, commerce and culture

Study context

The collaborative nine-year effort by PricewaterhouseCoopers and the Partnership for New York City that led to developing *Cities of Opportunity* began in the wake of 9/11. The enormous impact on companies and citizens caused a reassessment of what needed to be done to keep New York—and, by extension, other cities like it—vibrant engines of a globalizing economy.

Where do cities stand today? What direction might they go in? What key ingredients will be needed to keep cities strong? What factors make a city more resilient to withstand events like the recent economic crisis? Which cities are actually doing things correctly, and what can be learned?

This third edition of our report answers these questions and takes steps ahead—expanding and changing the mix of 21 cities, enriching the data with more variables and complementing the quantitative nature of the report with insight from world authorities on the issues from business, government and culture. In addition, the *Cities of Opportunity* Website (www.pwc.com/cities) allows users to model the data interactively, enabling comparison of one or more cities with any selection of variables. Readers

will also find complete texts of the interviews that have been condensed in the printed study posted in full on the Website.

Three key factors governed the cities we chose:

- **Capital market centers.** Many of the cities included are hubs of commerce, communications and culture. But all are financial capitals of their region—meaning each plays an important role not only locally but also as a vital part of a globalizing economic fabric.
- **Distributed over a broad geographic sampling.** While each city is a center of finance and commerce in its own region and in many cases the world, collectively the 21 cities form a representative international distribution.
- **Balanced between mature and emerging economies.** Twelve mature cities and nine newly growing ones are included.

Some intuitively compelling cities were left off the list because they failed to meet all three criteria. For instance, Bangalore is a center of technology, and Zurich is a headquarters city, but neither is a true financial capital.

In terms of the data indicators selected, we constructed a robust sampling of variables, each of which had to be: relevant; consistent across the sample; publicly available and collectible; current; free of skewing from local nuances; and truly reflective of a city's quality or power. (See pages 63–65 for a brief key to the variables and www.pwc.com/cities for a detailed listing of definitions and sources used to develop *Cities of Opportunity*.)

These criteria eliminated cities like Milan, which lacked some of the data needed. The study's result is an unbiased, quality controlled and rich look at the pulse of key cities at the heart of the financial, commercial and cultural world.

Three key factors governed the cities we chose: **Capital market centers** +

The basic questions: What direction will cities go in years to come? What key ingredients will keep them strong? What makes a city more resilient to financial downturns and other risks? Which cities are doing things correctly?

Understanding the scoring: Seeking transparency and simplicity

Because *Cities of Opportunity* is based on publicly available data supported by extensive research, three main sources were used to collect the relevant data:

- **Global multilateral development organizations** such as the World Bank and the International Monetary Fund (IMF);
- **National statistics organizations** such as National Statistics in the UK and the Census Bureau in the US; and
- **Commercial data providers.**

The data was collected during the second and third quarters of 2009. In the majority of cases, the data used in the study refers to 2008 and 2009. In some cases, national data was used as a proxy for city data. For example, the data on ease of hiring is national data. However, it is based on the largest business city in each country, which in the bulk of cases is one of the 21 cities included in this report. Care has been taken to ensure that, where used, national data closely reflects the city.

The scoring methodology was developed to ensure transparency and simplicity for readers, as well as comparability across cities. The output makes for a robust set of results and a strong foundation for analysis and discussion.

In attempting to score cities based on relative performance, we decided at the outset of our process that for maximum transparency and simplicity we would avoid applying overly complicated weights to the 58 variables, and in so doing treat each variable with equal importance. This approach makes the study easily understandable and usable by business leaders, academics, policy makers and lay persons alike.

Taking the data for each individual variable, the 21 cities were sorted from the best performing to the worst. The cities were then assigned a score from 21 (the best performing) to 1 (the worst performing). In the case of a tie, the cities were assigned the same score.

In some cases a city was not included in the ranking and, therefore, was not assigned a score (ranking at zero). For example, Dubai, Santiago and Johannesburg lack any top

500 global corporate headquarters, according to *Fortune's* 2009 Global 500 list. In these cases, the remaining cities were ranked and assigned a score from 18 (reflecting the reduced number of cities in the ranking) to 1.

Once each of the 58 variables had been ranked and scored, they were placed into their 10 indicators (for example, economic clout or demographics and livability). Within each individual group, the variable scores were summed to produce an overall indicator score for that topic. This produces 10 indicator league tables that display the relative performance of our 21 cities (see Indicator Discussions, pages 24–62).

broad geographic sampling + mature and emerging economies

Summary of indicator rankings

The maps below show city rankings in each of the study's 10 overall indicators. Detailed results on variables and analyses are presented on pages 24-62. In addition, a brief key to understanding the 58 variables is available on pages 63-65. Interactive tools to model your own city and detailed listings of definitions and source documents used to develop *Cities of Opportunity* are offered at www.pwc.com/cities.

Intellectual capital (page 26)



Transportation and infrastructure (page 34)



Ease of doing business (page 38)



Sustainability (page 51)



Demographics and livability (page 52)



Technology IQ and innovation
(page 27)



Economic clout
(page 30)



Cost
(page 43)



Health, safety and security
(page 47)



Lifestyle assets
(page 58)



Map Key

- High
- Medium
- Low

The 21 cities are sorted from the best to the worst performing, with each receiving a score from 21 for best to 1 for worst. In ties, cities are assigned the same score.

Dynamic measures

| Harbor, Hong Kong



| Office building, São Paulo

Cross-analysis of the data reveals telling insights on those cities with the most favorable quality of life, cost and value quotients and those that are most open for business.

Looking at the overall research results, some findings are expected. Historically preeminent capitals of commerce, finance and culture tend to remain great year over year. But analyzed along different axes, revealing patterns emerge. Many of the developed world's "second cities" by size and power outperform New York, London, Paris and Tokyo when judged qualitatively.

For instance, almost a century after a first-generation immigrant, poet Carl Sandburg, described Chicago as "hog butcher for the world, tool maker, stacker of wheat ...bareheaded, shoveling, wrecking, planning, building, breaking, rebuilding," America's now third city by population ranks high in *Cities of Opportunity* when judged by quality of life indicators. Hog pens and wheat stacking largely may have migrated elsewhere. But the continuing spirit of planning, building, breaking and rebuilding remains a keystone of Chicago's success.

That same spirit and its results can be seen in Sydney, Toronto, Stockholm and Singapore—cities all highly regarded for their quality of life—when judged by qualitative indicators.

Cross-analysis of the data also reveals telling insights on those cities with the most favorable cost and value quotients and those that are most open for business. In addition, when all the key indicators of an urban economy are correlated by their tendency to move in like or opposite directions, the 21 cities tend to fall into four categories—those marked either by their technology and knowledge, openness for business, financial power or booming growth.

In this section, we look at the study's 58 variables through seven lenses:

- **Quality/intensity versus power**—separating those areas where size and strength mainly matter from those where less may actually generate more
- **Cost competitiveness**—dividing cities among the best values, fairly priced and most expensive
- **Openness for business**—gauging the welcome not only for finance and commerce but talent as well
- **Intellect and innovation**—investing in the fundamental building blocks of global economies
- **Sustainability management**—testing the holistic thinking of big cities living on a small planet
- **Physical momentum**—taking the pulse of construction and foreign investment
- **Correlations**—coupling various permutations of individual variables according to how each moves in relation to the other; either attracted in a positive way or repelled negatively in opposite directions.

Balancing quality and power:

The big stay big, but “second cities” loom large

Dividing the 58 variables into indicators of either a city’s raw power or its per capita characteristics, a few cities show greater assets for business, finance and citizens than might be superficially apparent.

Historically dominant cities New York, London, Tokyo, Paris and Hong Kong predictably lead when power indicators alone are investigated. But “pound for pound,” Chicago, Sydney, Toronto, Stockholm and Singapore display strength for the 21st century on per capita indicators when gauges of power are removed.

It’s notable also that Asian cities make a strong showing based on power. Tokyo, Beijing, Hong Kong and Singapore finish in the top third tier with Seoul and Shanghai following right behind in the top ten.

For context, power variables show absolute size, which ties to historical strength—for instance, a city’s share of top 500 universities. Quality variables normalize cities by population, showing the intensity of a given characteristic. Quality variables are typically per capita ratios that neutralize size as a comparative factor, such as the percent of a city’s population with higher education. Many of them, like congestion management, may also portray an element of a city’s quality in the everyday sense of the word.

“The city of broad shoulders,” dubbed so by Sandburg on the strength of Chicago’s skyscrapers, still stands tall in many areas. Among them are Chicago’s role in finance and business; mass transit and congestion management; diversity; purchasing power; and in many of the key quality of life indicators. Much of the old “bareheaded, shoveling” industrial grit has also gone green thanks to continuing attention to the city’s legacy of grand parks and architecture. The Chicago Climate Exchange, first active carbon emissions trading platform in the

US, symbolizes the emerging city just as aptly as the commodity futures trading pits for pork bellies and corn do its heritage.

Chicago slips four rungs in power rankings this year. One reason is that Chicago is just one of many big and attractive US cities vying for foreign investment, and this year a second variable has been added to measure foreign direct capital investment in addition to last year’s variable—job-creating green-field investment.

The quality rankings also place Sydney, Toronto, Stockholm and Singapore tightly bunched in the top third of cities. Sydney’s natural strengths and forward-looking policies pull it up from the middle of the pack in power to the second highest scoring city when size is removed as a factor. The scenic Australian port scores among the top few cities for its business, political and quality of life indicators ranging from city livability, to housing, green space, air quality, congestion management and carbon footprint.

Toronto and Stockholm, two northerly cities at arm’s length from the madding crowd if not as distant as Sydney, both offer businesses and citizens a good reason to buy warm clothes.

Toronto tops city livability, offering high quality of life and health and a diverse population with advanced education. In addition, the city offers strength (scoring highly this year in skyscraper construction) and good value for business. Toronto benefits from a Canadian immigration policy aimed at attracting highly skilled workers. (See interview on pages 54-57 covering the Federal Skilled Worker Program and related areas.) All this should help Toronto to continue prospering in a globalized world.

Stockholm, new to *Cities of Opportunity* this year, has long been called the Venice of the North. In fact, built on an archipelago of islands, the city glitters not only because of its lacework of waterways and nearly midnight sun in summer. Many of the study’s variables reflect Stockholm’s strengths. Relatively small in size, the Swedish capital ranks first or second in: higher education, e-readiness, miles of transit track, congestion management, infant survival, greenness and air quality and R&D spending per capita. (See pages 48-50 for an interview with Gunnar Söderholm, city director of environment and health.)

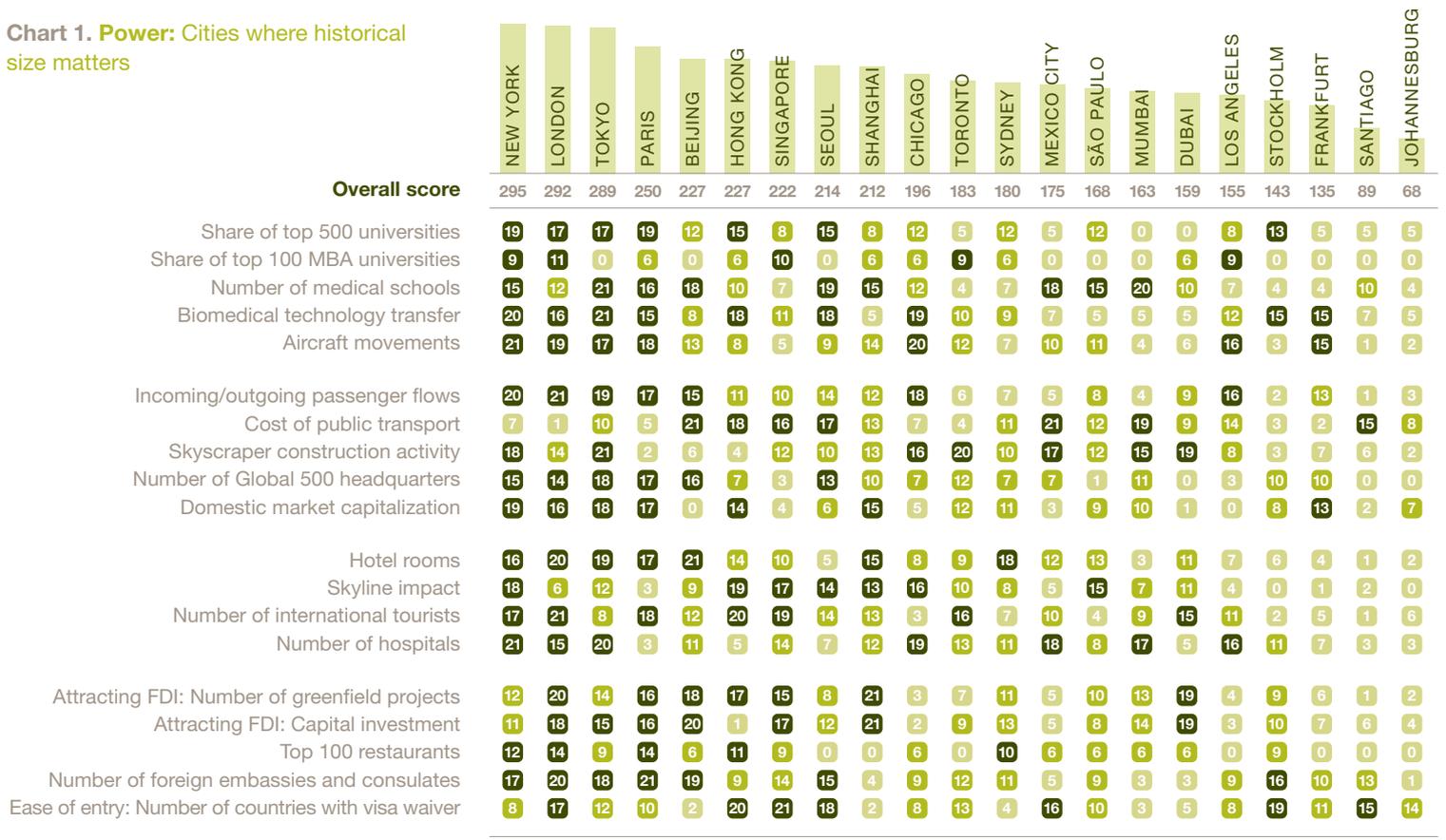
Singapore, too, makes a strong showing in many ways. Judged in the power rankings, Singapore jumps three spots from last year overall and tops all cities on ease of entry. Singapore’s international tourist flow (including both business and pleasure travel) is only exceeded by London and Hong Kong. In normalized variables, Singapore comes out first or second in shareholder protection, ease of hiring, housing, infant survival, congestion management, flexibility of travel and lack of crime. The city-state leads the study in ease of doing business (see page 38).

Frankfurt, another small city, makes the top tier when normalized by population based on a strong economic base and forward-looking urban policies. The city sits at or near the top in variables ranking higher education, financial services employment, strength of currency, purchasing power, political and social environment, miles of mass transit track, commute time, housing, recycling and city livability.

At the same time, the most powerful cities are not necessarily resting on their past. New York and London, numbers one and two in the power ranking, also rate highly on quality variables. This shows both are taking active steps to stay at the forefront of a changing world economy.

Historically dominant cities New York, London, Tokyo, Paris and Hong Kong predictably lead when power indicators alone are investigated.

Chart 1. Power: Cities where historical size matters



Power variables show absolute size tied to historical strength.

Read the full interviews or model your own city on the Web at www.pwc.com/cities by customizing your own interactive window on the research.

High
 Medium
 Low

Toronto and Stockholm offer businesses and citizens a good reason to buy warm clothes: Quality of life advantages underpin the economy.

Chart 2. Quality/intensity: Cities where less may generate more

	CHICAGO	SYDNEY	STOCKHOLM	TORONTO	NEW YORK	SINGAPORE	FRANKFURT	LONDON	LOS ANGELES	PARIS	HONG KONG	TOKYO	SEOUL	SANTIAGO	DUBAI	BEIJING	SÃO PAULO	JOHANNESBURG	SHANGHAI	MEXICO CITY	MUMBAI
Overall score	554	550	548	548	545	540	538	527	523	500	475	438	410	382	354	332	328	323	295	291	235
Percent of population with higher education	14	9	21	18	15	5	17	16	13	20	6	19	10	4	7	8	3	1	12	11	2
E-readiness	20	17	21	15	20	16	11	13	20	12	15	9	10	8	7	3	4	5	3	6	1
Registered taxis	6	3	18	5	4	16	7	9	2	20	8	13	19	17	12	15	10	1	11	21	14
Miles of mass transit track	19	13	20	11	18	8	21	16	14	17	6	9	12	7	15	3	2	1	5	10	4
Congestion management	14	19	21	14	7	21	14	17	5	14	14	14	5	17	17	14	5	19	7	1	5
Working age population	16	3	5	4	13	17	8	7	15	11	19	6	18	14	20	21	12	1	9	2	10
Diversity	18	18	2	19	21	9	14	20	15	5	9	13	11	1	5	10	16	3	9	12	9
Financial and business services employment	10	9	17	15	16	14	21	19	6	20	11	3	18	7	2	13	8	12	4	5	1
Level of shareholder protection	19	9	9	19	19	20	4	15	19	7	21	13	7	12	1	4	7	15	4	12	12
Inflation	11	18	13	16	11	13	15	20	11	15	20	5	17	21	1	8	6	2	8	4	3
Strength of currency (SDRs per currency unit)	18	14	7	15	18	13	20	21	18	20	10	3	1	2	11	10	12	6	10	5	4
Cost of business occupancy	16	11	9	15	8	5	13	3	18	7	1	2	19	20	4	14	12	21	10	17	6
Cost of living	14	16	3	19	4	6	13	10	12	9	2	1	7	18	11	5	17	21	8	20	16
Purchasing power	18	19	16	17	15	8	21	13	20	11	6	14	9	5	12	3	7	10	4	2	1
Total tax rate	14	10	7	12	11	18	9	15	13	5	20	6	17	19	21	2	3	16	2	8	4
Entertainment	16	21	12	15	21	8	15	21	21	21	12	13	5	6	4	2	10	10	3	8	1
Housing	17	21	17	19	17	21	19	17	17	10	10	17	7	3	17	5	5	10	7	3	1
Commute time	8	10	19	7	3	11	20	2	15	12	18	5	21	16	13	17	9	4	6	14	1
Crime	18	18	18	18	12	21	18	12	8	12	21	18	12	8	21	8	1	3	8	3	4
Infant survival rate	12	16	21	16	12	21	18	16	12	18	6	21	16	9	9	6	7	2	6	3	1
Natural disaster risk	18	9	20	21	9	15	15	13	3	18	4	2	6	1	13	19	13	16	7	5	10
Political and social environment	15	18	21	19	15	12	20	12	15	18	10	18	7	9	5	1	5	8	2	7	3
Ease of hiring	15	18	8	12	16	21	5	11	14	2	21	13	4	8	21	10	1	3	10	6	17
Rigidity of hours	21	15	3	18	21	17	5	9	21	2	17	10	5	11	6	14	2	8	14	7	14
Ease of firing	21	12	7	14	21	18	7	13	21	5	17	9	9	11	17	4	17	10	4	2	1
Flexibility of visa travel	8	5	18	12	8	20	11	21	8	10	19	9	14	17	4	1	13	15	2	16	3
Green cities	15	13	21	11	18	12	19	14	8	20	17	16	10	10	2	2	6	7	3	5	4
Air quality	12	19	21	21	9	19	16	16	8	16	5	16	12	5	8	5	12	19	8	1	5
Recycled waste	9	12	10	18	14	17	20	11	6	4	19	3	21	7	2	14	1	6	16	8	15
Green space as a percent of city area	15	20	21	16	18	12	7	14	13	19	6	10	5	4	1	17	2	8	9	11	3
Percent of gross domestic expenditure on R&D	18	13	21	11	18	14	15	10	18	12	5	20	19	3	1	9	7	6	9	2	4
ICT competitiveness index	21	7	10	9	21	17	12	14	21	11	5	13	8	4	2	17	6	3	17	1	18
Mobile phone penetration	6	14	10	3	11	19	15	12	5	9	20	16	7	8	21	17	18	4	13	2	1
Top global fashion capitals	0	12	5	3	18	7	2	16	15	17	14	10	0	6	11	0	13	2	9	4	8
Business trip index	18	20	19	21	11	16	15	7	17	13	14	12	10	8	6	9	4	2	5	3	1
City livability	15	20	19	21	10	11	17	12	13	18	14	17	9	8	5	7	4	4	6	2	1
Disease risk: Vaccines required to travel	21	12	21	21	21	9	21	21	21	21	7	13	7	11	9	3	7	7	2	11	1
City carbon footprint	5	21	16	6	10	7	14	14	4	12	9	15	8	18	1	2	20	19	3	17	11
Thermal comfort	3	16	1	2	11	6	4	5	18	7	17	12	8	19	9	10	21	13	20	14	15

Quality variables are normalized by population. These are typically per capita ratios that remove size as a comparative factor.



Cost competitiveness:

A “fair pricing” index highlights Los Angeles, Frankfurt, Toronto and Chicago

Value matters to businesses and citizens alike. The top finishers this year roughly resemble last year’s leaders: Los Angeles, Toronto, Chicago, Sydney and Johannesburg are again among top values. But Paris, Frankfurt and Dubai all show interesting annual change—significantly upward for the European capitals and downward for Dubai. Stockholm and Seoul show a balance between the costs associated with participating in a particular city’s economy and subsequent productivity of that economy.

For context, relative cost values of each city differentiate their attractiveness to finance and commerce. We include three variables in the calculation: cost of business occupancy, cost of living and purchasing power. Each represents a different measure of a city’s “cost competitiveness.” Higher costs of business occupancy will feed directly into higher operating costs for businesses and unequivocally lower cost competitiveness. Cost of living has a direct impact on household budgets, but also an indirect one on

business competitiveness in that greater costs of living will likely require higher wages to attract the best and the brightest, and generally detract from a city’s cost competitiveness.

Purchasing power proves more complicated. Intuitively it would seem higher purchasing power should stimulate business as households have more money to spend, driving up demand for services and goods. However, rising demand affects the revenue side of the business equation, not the “cost” side. In this case, we are using purchasing power as a proxy for productivity—with productivity broadly signifying the ability to generate goods and services, intrinsically connected to purchasing power.

To compare each city, we determined average cost by creating a factor of cost of living and business occupancy. This is weighted in inverse proportion to purchasing power, and a competitive difference comes forward that shows the best and worst values. The resulting ranking is a broad indicator

that gauges general cost levels relative to what might be expected according to basic economic theory: that is, a city in a rich country with high purchasing power would be expected to be more costly on a relative scale. Divergences from what might be expected determine competitiveness.

Dubai tumbled nine places this year whipsawed between financial crisis and perhaps overbuilding.

At the same time, Paris and Frankfurt have remained very strong in relation to other cities in the face of the economic downturn. Both cities rose markedly in this year’s report—up four places from last year for Paris and eight for Frankfurt.

The cost competitiveness index again underscores the value that cities like Toronto, Frankfurt, Chicago, Sydney and Stockholm offer citizens and businesses. Contrain-tuitively, Mumbai is again the second most expensive city for “Westernized” living in this year’s report.

Chart 3. Cost vs purchasing power



Average cost is determined as a factor of costs of living and business occupancy. This is compared in inverse ranking to a purchasing power scale in which high numbers signal the greatest purchasing power. A difference emerges in which the highest positive numbers indicate competitive advantage, and the cities scoring on the other end of the spectrum show a competitive disadvantage.

Openness for business: London remains a vital world gateway

London proves strong once more this year in the 12 variables that reflect how open a city is for business, how powerful it is as a magnet for finance and commerce and how welcoming it is in a changing world. The UK capital fares well whether measured in the power rankings by the clout of its many headquarters and robust passenger flows or as reflected qualitatively in the momentum the city is making toward the future in areas such as diversity and flexibility of visa travel. (This year's data does not yet reflect the full effects that the economic downturn may have had on this world financial center.)

Toronto and Stockholm again rise dramatically in the standings when measured by indicators of quality rather than power. Stockholm flips from the bottom quadrant

in the power rankings to the top tier on quality. Toronto falls midpack ranked by power variables but leads the list based on quality with strong rankings on livability, diversity and political and social environment. Frankfurt also moved from midpack on power to the top tier rated on quality.

On the power variables, London, Paris, New York and Tokyo lead again this year, as would be expected. Their historical dominance surfaces in the ease and volume of travel, the number of global headquarters and the attraction of foreign tourists and investments that create new employment.

Mirroring their change in position in the overall power rankings versus last year, Singapore rises six slots in its strength

to attract business and Chicago falls six. This reflects, in part, the inclusion of a second measure of foreign direct investment (FDI) in this year's report. Chicago would tend to suffer with a greater weight to FDI as many strong US cities compete for foreign capital. By contrast, cities like London or Singapore that dominate their nation would tend to attract the lion's share of incoming capital investment.

But beyond that, Singapore strengthened across the board in four out of five variables that appeared both years. Chicago remained about the same, and then took an additional hit from a newly added FDI variable.

Chart 4. Power: Showing the strength to attract business

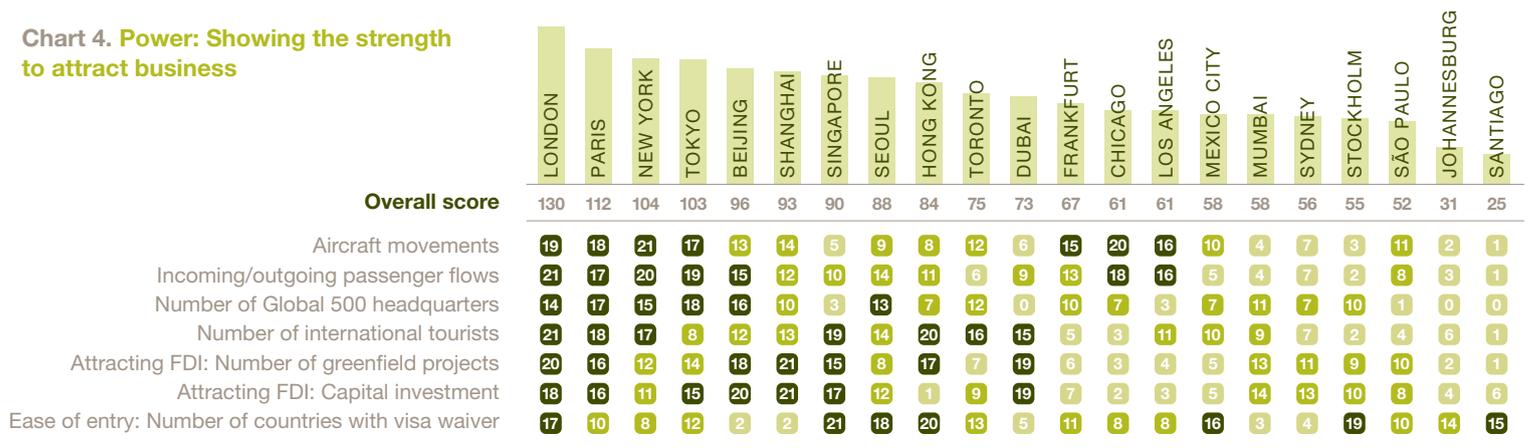


Chart 5. Quality: Rolling out the welcome mat for a global economy



These variables portray a city's openness to global business.



Intellect and innovation: Nurturing the 21st century smart set

Predictably, the top five cities ranked by the long-established intellectual foundation—New York, Tokyo, London, Paris and Seoul—repeat from last year. New York leads on both power and quality measures, as it did last year, showing not just its historical investment in education but also the large equity stake the city is taking in a future that continues to generate ideas and innovations. New York edges out other traditional powers with its strong academic base. But New York also leads in per capita quality variables, offering one reason that New York stays at the top of the global rankings over time.

For context, universities (chart 6) lay down a solid foundation that, balanced with the intensity of a population’s knowledge readiness (chart 7), offers a rounded view of a city’s intellectual base and its potential for innovation. As the world demands increasingly complex and sophisticated products and services, cities at the top of both rankings below will continue to prosper.

In this quality ranking, Stockholm again jumps to the very top tier in intellect and innovation when its small size is normalized by population (in chart 7). The Swedish capital has the greatest share of residents

with higher education. It also tops the list in e-readiness and percent of gross domestic expenditure on R&D.

Chicago also rises notably from its power ranking in the quality standings, finishing close behind New York again this year when size and population are taken out of the equation in relation to its impressive intellectual resources.

(See page 28 for an interview with Francelino Grando, national secretary of innovation, on Brazil’s hubs of innovation and technology.)

Chart 6. Power: The brain trust as it stands today

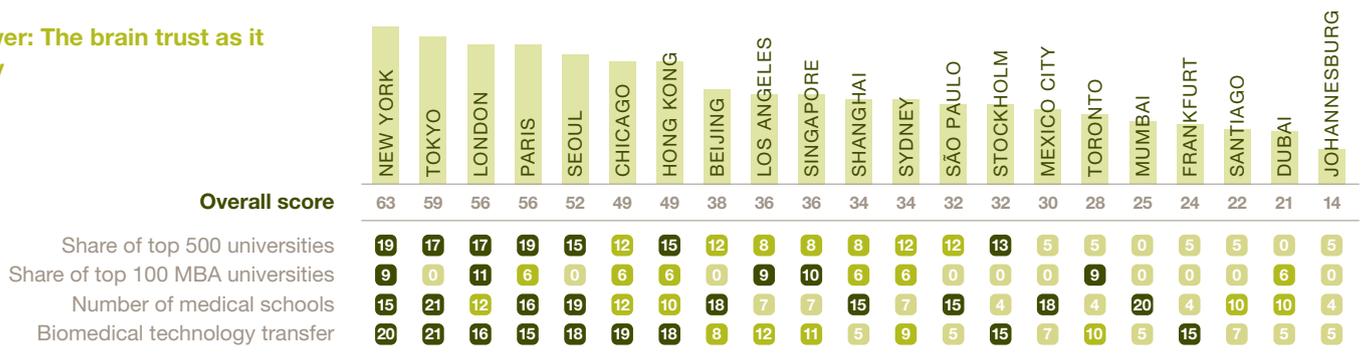
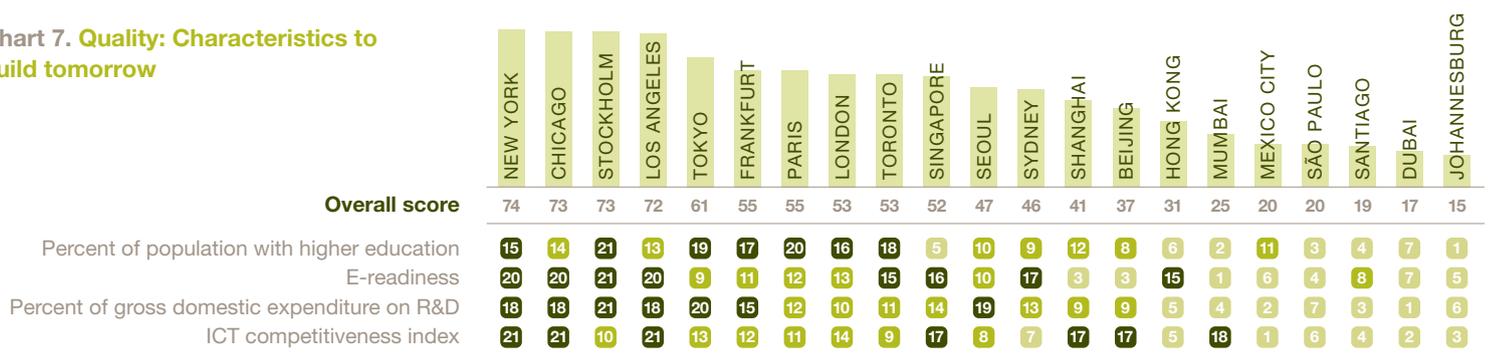


Chart 7. Quality: Characteristics to build tomorrow



As the demands for products and services grow more complex, cities where universities are entrenched in the social fabric are better situated to prosper. The 21 financial centers in our study are particularly likely to grow when they possess highly-educated populations and strong high-technology sectors that generate innovation and counterbalance their financial services economies with complementary job opportunities.



Sustainability management: Stockholm's long-term outlook bears fruit

With its decades-old commitment to environmentalism and commonsense solutions to city living, Stockholm enters *Cities of Opportunity* this year as the leader in sustainability management, aptly reflecting its selection as the European Union's first Green Capital for 2010.

While its recent congestion charging scheme offers "a once-in-a-lifetime" success story on air quality, traffic reduction and changing public sentiment, Gunnar Söderholm, city director of environment and health, adds "[Stockholm's most important lesson] is the long-term perspective in planning" that

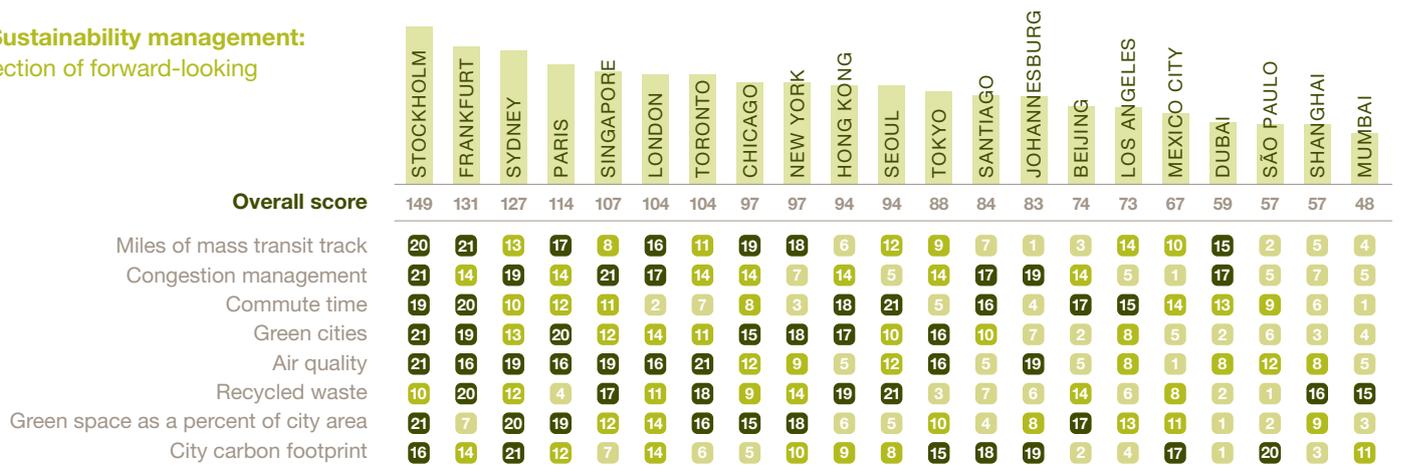
governments have sustained since the 1950s no matter what party held power in City Hall. (See interview, page 46.)

Stockholm, along with Frankfurt and Sydney, bunch into the top three cities. All are relatively small and possess urban planning policies that stress sustainability. But Paris, number 2 last year, is a larger city that follows close behind.

US cities Chicago and New York show up only in the middle ranks, overshadowed by cities with longer-standing commitments to sustainability. But that tide could be turning at least in environmental construction, says

Johan Karlström, President and CEO of Skanska. "I can clearly see that the US has started to be more proactive than western Europe in the environmental respect," Karlström notes from his perspective as a major worldwide builder active in Europe, the UK and the Americas. Bruce Katz, director of the Brookings Institution Metropolitan Policy Program, amplifies the thought. "I see a lot of 'best cases' in Europe that [the US is] going to copy and that we're going to probably outperform. The great thing about the US is that we're insanely competitive." (See interviews with Karlström and Katz, respectively on pages 36 and 32.)

Chart 8. Sustainability management:
A cross-section of forward-looking indicators



Eight variables create a picture of what cities are doing or have done to promote sustainability. "Green cities" itself is a composite index that tracks elements including health policies and vehicles per capita.

High
Medium
Low

Physical growth:
Brick-and-mortar momentum

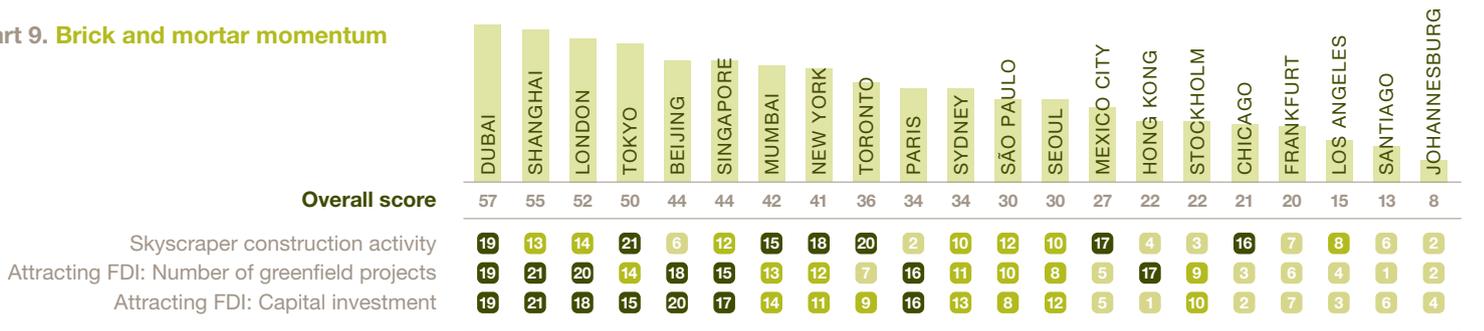
When capital and jobs creating investment are weighed along with the number of rising skyscrapers, vital growth is shown in a mix of developed and developing cities. Dubai again leads this year's ranking, but the variables fail to yet reflect the toll of the Gulf city's financial implosion and drastic downshifting of its hypergrowth, which next year's data should capture.

Shanghai and London continue among this year's top few cities, both attracting strong infusions of foreign investment. Tellingly perhaps, Mumbai remains in the top third for brick and mortar momentum ahead of even

New York, Toronto and Paris, showing the emerging economic strength of the Indian megalopolis.

London leads the overall ranking of mature economies. But that somewhat reflects the city's unrivaled dominance in UK business. Comparatively in the US, New York ranks as only one strong choice along with major centers of finance and commerce that only begin with Chicago and Los Angeles, the two other US cities in this study.

Chart 9. Brick and mortar momentum

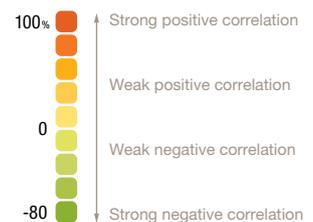
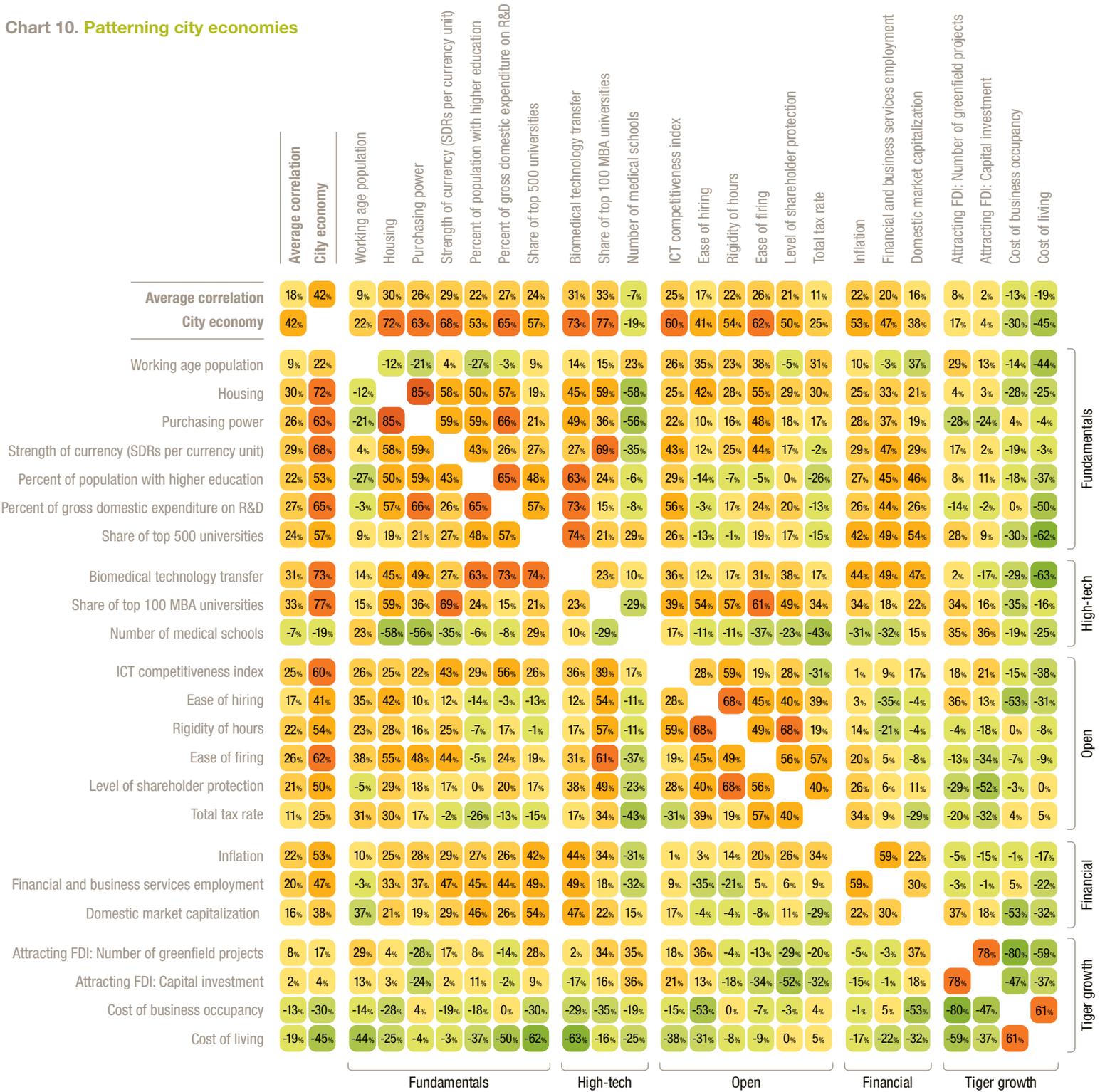


Emerging economies spark new construction, while the traditional centers give themselves a face-lift.

Read the full interviews or model your own city on the Web at www.pwc.com/cities by customizing your own interactive window on the research.

High
Medium
Low

Chart 10. Patterning city economies



Correlating key city economic variables challenges some theories and confirms others

Correlating the similarities and dissimilarities in the comovement of different variables—essentially tracking the tendency of two variables to move together or apart—reveals interesting and potentially causal relationships, notable among them shedding light on families of urban economies and how they behave. The chart to the left correlates the 23 variables relevant to city economies. Many of the patterns are expected. But a few exceptions raise interesting questions.

It appears some common assumptions on what makes a city economy go round fail to be fully substantiated by the data. For instance, foreign direct investors are less cowed by lack of protections than they are drawn by opportunities for fast growth and new markets. And strong purchasing power in a city does not necessarily signal a financial capital.

Taking a step back, 23 of the report's 58 variables form a city's economic profile. Some are directly controlled by city government and policymakers. Others are fundamentals, beyond the city's control and often the nation's. Fundamentals lay down the fabric for a metropolitan economy, the resources and characteristics a city builds on ranging from housing stock to purchasing power to educated population. Among the fundamentals, housing offers a good proxy for any city's overall economic performance, tracking closely at +72 percent. Good housing also closely parallels high standard of living, with a +85 percent correlation

to purchasing power—signaling livability's importance in urban policymaking as an attractor for the highly skilled.

From there, four city families emerge. Financial and open city families show patterns that tend to counter conventional wisdom. High-tech and tiger growth cities closely follow intuitive expectations: the former group being top performers taking the right actions to remain so; the latter, performing toward the bottom but growing rapidly.

High-tech cities show close correlation between biomedical technology transfer and the percent of gross domestic product spent on R&D—+73 percent, significantly higher than even between the ICT competitiveness index and percent of GDP spent on R&D at +56 percent. Biomedical transfer and share of top 500 universities also tracks very closely at +74 percent.

Correlations among variables in tiger growth cities also tend to confirm theories that cities with developing business structures attract investors with their low costs. A strong (-44 percent) negative correlation between cost of living and working age population shows cities with relatively lower costs have younger populations, as is typical for tiger growth cities like Shanghai and Beijing. Greenfield and capital foreign direct investment also flocks in as costs lower. For instance new, greenfield FDI correlates strongly opposite to rising cost of business occupancy (-80 percent) and cost of living (-59 percent).

But a surprise emerges when correlating FDI with shareholder protection: Foreign investment comes into tiger growth cities despite a negative relationship with shareholder protection (at -52 percent for capital FDI and -29 percent for greenfield FDI), showing that low cost, high growth and new market opportunities tend to trump security risks in investor decisionmaking.

The development of a strong financial sector does not appear overly dependent on a city's underlying economic strength. Cities with high financial services employment and domestic market capitalization as well as healthy inflation are only loosely correlated with a city's fundamental economic strength. For instance, purchasing power is only +19 percent correlated with domestic market capitalization and +37 percent with financial and business services employment.

Open cities characterized by ease of hiring and firing, less than rigid working hours and lower tax rates show loose correlations with a city's economic strength. This counters some commonly accepted theories, such as that high taxes kill city economies and easy hiring and firing is a boon. Only moderately positive correlations tie ease of firing to housing (+55 percent) and purchasing power (+48 percent). Interestingly also, population with higher education is only weakly correlated (+29 percent) with the ICT competitiveness index, indicating less than the strong link that might be assumed.

Feel the heat: Understanding correlation analysis

Correlation analyses map the covariation or comovement of two statistical variables, commonly using hot or cold colors to code the direction. Positive correlations occur when an increase in X is associated with an increase in Y, or, the variables move in a similar track. In negative correlations, X rises as Y falls, or the tracks move opposite each other. In the chart at left,

darker red indicates stronger positive correlation. Darker green shows stronger negative correlation.

Causal connections are more likely to be occurring at the extremes of positive and negative correlation, the closer that covariation gets to +100 percent or -100 percent. (The same variable would be +100 percent positively correlated with itself.)

Correlation charts, also known as heat maps, depict in the upper left an average correlations row and column followed by a headline

row or column. The average provides a benchmark for comparing how high or low a correlation is to others. The headline highlights what the particular analysis is showing. This chart includes all 23 variables that go into creating a city's economic profile. The headline also serves to sort the entire matrix because each row and column is reordered from raw input to reflect the relative strength of the correlation with the headline indicator.

See more correlation analyses and detailed methodology at www.pwc.com/cities



Indicator discussions & interviews

| Tower Bridge, London



| Apple Store, New York

Among the younger generation, there's a feeling that we can help turn this very special city into something great.

Naki Osutei

Research results and expert insight create a complementary view

The basic research is represented by 10 indicator categories that include 58 individual data variables. The makeup of the indicators also mirrors the study's hypothesis: cities with well-rounded economies and forward-looking policies and actions over the long run will prove best for businesses and residents.

Intellectual capital and **Technology IQ and innovation** anchor any city's prospects for the 21st century. Paris, New York, London, Tokyo and Chicago all perform well. Stockholm, new to the study this year, tops higher education per capita, e-readiness and R&D funding. Francelino Grando, national secretary of innovation, sees innovative energy powering Brazil ahead.

London, Paris, New York and Toronto lead on **Economic clout**. And Bruce Katz of the Brookings Institution Metropolitan Policy Program gives his insight on the economic transformations now occurring.

Tokyo, Chicago, London and New York top the **Transportation and infrastructure** landscape. Skanska's Johan Karlström offers his experienced world view of sustainable construction, transportation and water supplies.

Ease of doing business leads with Singapore, Hong Kong, London and New York. **Cost** comparison finds Johannesburg, Los Angeles, Toronto and Chicago best. Leaders in two of the world's largest emerging cities—Gilberto Kassab in São Paulo and Dr. Jairaj Phatak in Mumbai—offer their perspectives on these and other pressing issues.

Stockholm leads in both **Health, safety and security** (with Tokyo, Toronto and Chicago next) and in **Sustainability** (followed by Sydney, Frankfurt and Toronto). The Swedish capital's long-term outlook and the rewards it is yielding are outlined by Gunnar Söderholm, director of environment and health.

Frankfurt, Sydney, Los Angeles and Chicago lead in **Demographics and livability**. Toronto, the winner in the city livability variable and the fifth overall finisher in the indicator, brings a compelling story of its own on immigration and social cohesion. Three Torontonians join to tell it.

Lifestyle assets reflects the glamour and energy of world capitals. Not surprisingly New York, London, Hong Kong and Paris all glow here. And from his corner table on luxury dining, Laurent Plantier tells how he and three-star Michelin chef Alain Ducasse select cities in which to place restaurants.

Read the full interviews and model your own city on the Web at www.pwc.com/cities by customizing your own interactive window on the 21 cities and 58 variables.



Intellectual capital

Intellectual capital is the brain power that fuels a city's economic engine—its edge in the quest to attract, nurture and retain talent. While a brain drain of educated and skilled persons can deflate any city's economic and social vibrancy, ample availability of higher learning and associated cultural resources provides a real basis for growth as talented people migrate in and build the future.

Paris, New York, Tokyo and London remain in the top four overall from last year, which would be expected for long-standing capitals of business, finance and culture that

have had centuries to develop a deep intellectual infrastructure. But in the individual categories, high scores are spread around the world.

The proportion of the population with university-level degrees measures the depth of a city's talent pool ready to raise the bar on commerce and innovation. Stockholm, a smaller city and a new one in our study this year, leads in percent of population with higher education, followed by Paris, Tokyo and Toronto. London and Singapore claim the lead in share of top MBA universities, as befits major business hubs.

Tokyo heads in number of medical schools, but it is followed by a cluster including economically developing cities Mumbai, Seoul, Beijing, Mexico City, Shanghai and São Paulo. Interestingly, these cities fail to score as well in other *Cities of Opportunity* health measures. It would seem domestic as well as foreign medical students may be training in these cities, but go elsewhere to work as physicians. However, the number of medical schools in these large, developing cities could also signal that as these cities mature, more doctors will be retained locally and health care quality will rise.

	Share of top 500 universities	Percent of population with higher education	Share of top 100 MBA universities	Number of medical schools	Total
21 Paris	19	20	6	16	61
20 New York	19	15	9	15	58
19 Tokyo	17	19	0	21	57
18 London	17	16	11	12	56
17 Chicago	12	14	6	12	44
17 Seoul	15	10	0	19	44
15 Shanghai	8	12	6	15	41
14 Beijing	12	8	0	18	38
14 Stockholm	13	21	0	4	38
12 Hong Kong	15	6	6	10	37
12 Los Angeles	8	13	9	7	37
10 Toronto	5	18	9	4	36
9 Mexico City	5	11	0	18	34
9 Sydney	12	9	6	7	34
7 São Paulo	12	3	0	15	30
7 Singapore	8	5	10	7	30
5 Frankfurt	5	17	0	4	26
4 Dubai	0	7	6	10	23
3 Mumbai	0	2	0	20	22
2 Santiago	5	4	0	10	19
1 Johannesburg	5	1	0	4	10

Each city's score (here 61 to 10) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.



Technology IQ and innovation

Technology IQ and innovation drive progress, and cities that perform well in this indicator have a head start in shaping the future. The challenge of a globalized economy means mature cities must move beyond past accomplishments. And those emerging cities will prosper that take advantage of technological advances to make gains and provide a nurturing environment for innovation.

New York, Chicago and Tokyo lead overall, performing well on a large number of measures. But Singapore, Stockholm and Los Angeles follow closely behind. Other cities fare well in various measures. Dubai leads in mobile phone penetration—the number of mobile phone accounts as a percent of the

city population. Asian cities Hong Kong, Singapore and Beijing follow, all of which tend to be rapid adapters of new technologies, such as transactional payments. In contrast, US cities such as New York, Chicago and Los Angeles lag well behind.

Biomedical transfer gauges the ability to take knowledge gained in the laboratory to early-stage commercialization, and here Asian cities Tokyo, Hong Kong and Seoul stand out, as do New York and Chicago.

Stockholm, new in the study this year, performs best in two areas. The Swedish capital leads in e-readiness, or the ability of consumers, business and government

to put information and communication technology to practical use. Stockholm also tops the list on R&D spending, followed by Tokyo, Seoul, New York and Chicago.

In addition to rating just below top-ranked Stockholm in e-readiness, New York, Chicago and Los Angeles (tied using national data) lead in the Information and Communication Technologies (ICT) Competitive Index, a composite of 120 variables including information technology (IT) and transportation infrastructure, labor relations, foreign ownership restrictions and business costs.

	Biomedical technology transfer	E-readiness ¹	Percent of gross domestic expenditure on R&D	ICT competitiveness index ²	Mobile phone penetration	Total
21 New York	20	20	18	21	11	90
20 Chicago	19	20	18	21	6	84
19 Tokyo	21	9	20	13	16	79
18 Singapore	11	16	14	17	19	77
18 Stockholm	15	21	21	10	10	77
16 Los Angeles	12	20	18	21	5	76
15 Frankfurt	15	11	15	12	15	68
14 London	16	13	10	14	12	65
13 Hong Kong	18	15	5	5	20	63
12 Seoul	18	10	19	8	7	62
11 Sydney	9	17	13	7	14	60
10 Paris	15	12	12	11	9	59
9 Beijing	8	3	9	17	17	54
8 Toronto	10	15	11	9	3	48
7 Shanghai	5	3	9	17	13	47
6 São Paulo	5	4	7	6	18	40
5 Dubai	5	7	1	2	21	36
4 Santiago	7	8	3	4	8	30
3 Mumbai	5	1	4	18	1	29
2 Johannesburg	5	5	6	3	4	23
1 Mexico City	7	6	2	1	2	18

Each city's score (here 90 to 18) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.

¹ E-readiness is a measure that rates the ability of a country's consumers, businesses, and government to use information and communication technology to their benefit. It also assesses (1) citizens' ability to utilize technology skillfully, (2) the transparency of the business and legal systems, and (3) the extent to which governments encourage the use of digital technologies.

² The index takes into account such factors as education levels; size and track record of the sector; quality of information technology infrastructure; air, port, road, and railway infrastructure quality; quality of electrical supply; size of labor force; labor productivity; hiring and firing flexibility; labor relations; foreign ownership restrictions; business costs of terrorism; and cost of establishing a business.

High
 Medium
 Low

Highest rank in each variable

Francelino Grando sees innovation

...and the city hubs that nurture it as a natural pathway toward Brazil's future

Francelino Grando, Brazil's Secretary of Innovation, led efforts to modernize the nation's laws governing innovation and technology. Secretary Grando also served as head of sustainable development, science and technology in the city of São Carlos and oversaw programs for the United Nations Environment Programme in Nairobi. Here he addresses the importance of closing the traditional gap in Brazil between university research and business, some of the most promising technological breakthroughs now occurring in his nation and the flourishing climate of innovativeness and creativity that he sees in Brazil.



What are you most excited about now in terms of fostering innovation for Brazil and its cities?

We have been pursuing a very important Brazilian public policy on innovation, creating a bridge between academic research and business. In recent years, we have moved away from the perspective that academia is responsible for everything connected with research and technological development, and arrived at a more contemporary position that innovation in its true sense is developed in the private sector. That's common sense nowadays.

This is a major development. Brazil's public policy is now focused on supporting technological development and innovation in the private sector, where these battles are supposed to be fought. We are no longer solely emphasizing research leaders within universities and public institutions.

One of the major achievements of this innovation law is that it is now legal in Brazil to take money from the national treasury and provide funds for a privately owned business to stimulate innovation, since there is no longer as great a distinction between public and private interests. There is a national interest in promoting innovation.

President [Luiz Inácio Lula] da Silva was elected as a populist. It's notable that you say there's no more public, there's no more private, just a national interest. In other words, a popular interest for the good of the overall society?

No, it is more focused. It is a sense of promoting innovation for that purpose alone, not any other. Let's look at incubation. It had been illegal for any university in the country to support private incubation efforts. A teacher could not share his knowledge with a company because he was paid by public money. Now, with the innovation law,

it is legal to incubate and have private spin-offs within a university building, within public premises using public support.

How do you view Brazil's successes today in terms of homegrown innovation?

In the past, everything was difficult—very bureaucratic. We were often entangled in red tape. I thought we needed to focus innovation, beginning with information and communication technology. Why ICT? First of all, because this is the nature of business in the 21st century and it will be like that as far as we can see. Second, Brazilians are well-known for being innovative. We have become that way after facing so many difficulties. Usually, we like moving around, changing things, doing something that is quite different. When Brazilians travel abroad, we are fascinated by how every house is similar to the last house. Here in Brazil, from Manaus to Porto Alegre, you never see anything like that.

People are individuals, with their own styles, their own ideas.

That's it. Brazil is a very fertile ground for developing new products and new services—innovating in the economic sense of it—but especially with ICT because it's not so capital-intensive and instead relies on entrepreneurs and some brilliant ideas.

What are some other areas?

Energy is a natural fit for innovation. Brazil is becoming a multilegged energy giant, but we need to manage it, for instance, by developing software for electrical grids. We are also at the brink of major breakthroughs in renewable energy. It's my conviction that biofuels will have a big stake in the world's energy metrics when we reach the second generation. Not Brazilian-made biofuels but biofuels in general. A second example is the hydrogen economy, which would be purely sustainable for operating engines.

We needed to focus innovation, beginning with information and communication technology. Why ICT? First, because this is the nature of business in the 21st century. Second, Brazilians are well-known for being innovative. We have become that way after facing so many difficulties. ...And ICT is not so capital-intensive. ...Energy is also a natural fit for innovation. Brazil is becoming a multilegged energy giant.



Last year in our study, São Paulo had the highest rate of new construction in the world. Has this continued, and is the nation or its cities doing anything special to keep the economy moving and innovative during the global economic slowdown?

Yes. Both the national and the state governments moved very quickly to enact cyclical policies. For instance, for the state, the value-added tax was reduced on many popular products.

But there is one thing that frightens me: It took São Paulo, which has the third-largest budget in the nation and is, of course, an area where industry is the locomotive of development, a long time to act on innovation. I think the traditional industries are so important to São Paulo's gross state product that innovation is looked at as rocket science. There may be a feeling within the federation of industries and public authorities that it

is very good to have Embraer, and that's enough. At the national level, though, we do not see innovation as the frontier.

Do you think that the same cultural challenges pertain to other developing nations, or just Brazil and the rest of Latin America due to the Iberian heritage?

Brazil has two distinguishing characteristics. One of them is the economic meltdown that lasted more than two decades. This is only Brazilian. The other is that there is no developing nation in the world that is generating over 12,000 PhDs per year funded by public money.

This is peculiar to Brazil in the good sense. We are not only exporting iron ore and soybeans and aircraft, but nowadays we are generating a more noticeable share of the world's knowledge. This is a crucial output of the massive public investment we're

making in educational institutions. It is important ground for us to walk over.

Talented individuals tend to stay in São Paulo, according to our research. Why do you think that is?

I have a personal anecdote that helps to explain. My two sons had the opportunity to go all over the world, and they went to New Zealand. My older son graduated last December from a traditional hotel management school in Lausanne, Switzerland. He could live anywhere, but he came back to São Paulo. All his friends and colleagues are the same. Brazilians like to travel abroad but love to come back to Brazil.

Are there any lessons you might like to pass along to other developing cities and nations?

I would point out Campina Grande, which is focused on ICT and electronics, in the middle of the poor northeast region. Just 20 years ago, this city appeared doomed. The only things likely to rise there were crime and violence. Yet they rebuilt the port area, now known as the Caesar technological park. A formerly decrepit neighborhood is now a booming IT sales and product center. Campina Grande could be a model for other developing cities.

What triggered the turnaround?

The city was reborn because the municipality, the state and national governments, the university and private companies all worked together. The city now has Oracle, Microsoft, Google—everyone is there. The town was changed for the better.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

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Economic clout

Big cities, like kingmakers and media moguls, benefit from clout. It's one thing to be affordable, livable and sustainable on a human level. It's another to possess economic power—the kind that influences world markets, draws investment and stimulates growth.

To claim economic clout even in the age of virtual markets, a city should have a major, traditional stock exchange, its currency should be strong and inflation under control. The city also should be home to leading global companies' headquarters and continually attract foreign investment as a means of creating jobs.

In other words, economic strength isn't achieved easily; it has to be earned over time. London, the venerable British capital, outpaced the field on the strength of the pound, the percentage of its workforce employed in the financial and business sector*, and the number and scope of new, job-creating projects underwritten by foreign investment and healthy inflation. In recent years, only Shanghai shows more such projects, and only Shanghai, Beijing and Dubai received a higher total value of foreign direct capital investment.

New York finished a surprising third despite being home to the largest stock exchange in terms of market capitalization. New York trailed Paris, the second-place finisher, in several criteria: foreign investment, currency strength, the proportion of its financial workforce and—after the failure of Lehman Brothers and the purchase of Bear Stearns by JPMorgan Chase—the number of Global 500 headquarters.

Tokyo and Dubai also fared lower than might have been expected. Although Tokyo had more Global 500 headquarters than any other city and its stock market capitalization ranked second only to New York's, Tokyo's inflation and weakened yen lowered the Japanese capital to the middle of the pack. So, too, did its low percentage of workers employed in financial and business services, a drawback shared with Dubai. Overall, Dubai finished just a few notches from the bottom, hurt by its inflation and both the size of its nascent stock exchange and its shareholder protections.

	Number of Global 500 headquarters	Financial and business services employment	Domestic market capitalization ¹
21 London	14	19	16
20 Paris	17	20	17
19 New York	15	16	19
18 Toronto	12	15	12
17 Hong Kong	7	11	14
16 Singapore	3	14	4
15 Frankfurt	10	21	13
14 Shanghai	10	4	15
13 Sydney	7	9	11
12 Beijing	16	13	0
12 Tokyo	18	3	18
10 Stockholm	10	17	8
9 Seoul	13	18	6
8 Chicago	7	10	5
7 Mumbai	11	1	10
6 Los Angeles	3	6	0
5 São Paulo	1	8	9
4 Dubai	0	2	1
3 Santiago	0	7	2
2 Johannesburg	0	12	7
1 Mexico City	7	5	3

* Up-to-date data was not available for all 21 cities to truly reflect the brunt of the recent financial downturn. 2008 data was used for half of the cities.

Level of shareholder protection ²	Inflation ³	Strength of currency (SDRs per currency unit)	Attracting FDI: Number of greenfield projects	Attracting FDI: Capital investment	Total
15	20	21	20	18	143
7	15	20	16	16	128
19	11	18	12	11	121
19	16	15	7	9	105
21	20	10	17	1	101
20	13	13	15	17	99
4	15	20	6	7	96
4	8	10	21	21	93
9	18	14	11	13	92
4	8	10	18	20	89
13	5	3	14	15	89
9	13	7	9	10	83
7	17	1	8	12	82
19	11	18	3	2	75
12	3	4	13	14	68
19	11	18	4	3	64
7	6	12	10	8	61
1	1	11	19	19	54
12	21	2	1	6	51
15	2	6	2	4	48
12	4	5	5	5	46

Each city's score (here 143 to 46) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.



1 The market capitalization of a stock exchange is the total number of issued shares of domestic companies, including their respective prices at a given time. The figure reflects the comprehensive value of the market at that time.

2 The level of shareholder protection index is the average of “transparency of transactions,” “liability for self-dealing,” and “shareholders’ ability to sue officers and directors for misconduct.”

3 The inflation variable has been ranked according to how far a country deviates from a +2 percent inflation rate. The closer to 2 percent, the more favorably we view the inflation or deflation, because this is widely regarded as a target or healthy inflation rate in large international banks.

Bruce Katz of Brookings

...looks at the assets in metropolitan regions that will revitalize economies and at the transformation that metro US may be poised to begin

Bruce Katz, founder and director of the Brookings Institution Metropolitan Policy Program based in Washington, DC, regularly advises officials and writes and speaks on policy reforms that advance the competitiveness of metropolitan areas, particularly focusing on the revitalization of central cities and older suburbs. He served as chief of staff to Henry G. Cisneros, secretary of the US Department of Housing and Urban Development, and won the Heinz Award in public policy for his contribution to urban America. Here, Katz discusses cities from Seattle to Frankfurt and from Pittsburgh to Birmingham, England, and sees governance and infrastructures transforming in metropolitan hubs.



You've said that metropolitan areas will lead us out of the global recession. What cities do you particularly see leading the way?

Looking at how the next economy is going to shape up, it's becoming evident that it will be low-carbon, or at least lower-carbon, more export and less consumption oriented, and fueled by innovations in everything from clean energy to infrastructure, to health information technology. And the places that have the human capital, innovation and infrastructure assets that drive the economy will lead the nation, because the starting points matter tremendously.

We are not a nation with one single economy. We're a network of metropolitan economies. We are a metro nation and we need to start acting like one. We need to focus on the kinds of smart policies and targeted investments to achieve productive, inclusive and sustainable growth, and enhance our competitiveness globally.

In the US, I would say metropolitan areas like Seattle, Austin, Minneapolis and obviously Boston and New York have the talented workers, as well as the high-end, innovative firms, educational institutions and top-flight medical institutions, that are vital to the economy. Certain places in the Midwest—Pittsburgh, for example—may actually perform a lot better in the next 25 or 50 years than in the past because of the presence of superb research institutions and the ability to attract talent from abroad.

Do you see any Pittsburghs internationally—cities in the developed or developing world that are poised to go on the upswing?

I think about older, industrial cities in Europe—Torino particularly, probably Manchester and Birmingham. Clearly, there's a group of northern England and northern Italian cities, and then maybe some cities in Spain, which have transitioned beyond their industrial

collapse. So, on the quality-of-place metric, these places are off the charts compared to a lot of American cities.

What cities do you see at risk of stagnating because they're not paying attention to these assets?

It's not a matter of not paying attention. It's just that they may not have the same reservoir of assets to begin with, or the assets are there but underdeveloped. It will take time for older industrial cities, for example, to dig out of what we have just gone through. They've just been hit so hard that to come back they're going to have to play by the European playbook.

Which is?

In many older industrial cities, it's to diversify their economies in smart and sustainable ways and respond aggressively to the reality of sustained population loss.

Do you see a fluid global economy with many centers of commerce and finance without a few core cities?

We've primarily thought about global cities around the flow of capital and headquarters functions, but I think that minimizes how globally integrated a much broader network of cities and metros is in the world. We have many centers in the world that perform different functions because they have different clusters that are globally integrated, particularly around the flow of goods, the production of goods and more complicated supply chains and services.

You've said that crisis begets innovation. Will the cities that are being hit hardest right now by the recession take action to come out ahead in the long run?

There are different kinds of responses. Many industrial cities in the US, for example, have taken a body blow but are trying hard to

Europeans can teach the US a lot about having a coherent freight, rail and transit policy, as they are moving more rapidly on new infrastructure for the low-carbon economy. But the US will catch up and then surpass them. We've been off track for about three decades. We went crazy into consumption, and lost the sense of what we needed to produce.

adjust. But government in the US doesn't do a very good job at supporting the natural iteration of economies—to help auto manufacturing suppliers, for example, retool for different purposes. In other countries government is more focused on helping accelerate the transition.

One issue for the US is whether, at the community level, you're going to see more dramatic transformation. We are, in fact, already beginning to see it. The shrinking cities movement has come to the United States. For example, you are going to see a whole bunch of cities in the Rust Belt begin to rethink their physical landscape. And you'll see cities in the Sun Belt also alter their development because of water policy and the housing crisis.

When you say rethink, do you mean adopt a different mindset—perhaps having less but with higher quality, stressing ideas that work?

I don't know if it's generally less, though certainly some communities have a far smaller population than they once had. I think it's more compact and denser, with a broader multiplier effect. I think the US is about to understand the benefits of density. Part of that is an economic proposition and part of it is a physical proposition. Part of it is around sustainability. As we begin to move toward a lower-carbon economy there are huge benefits to be gained from density.

You're already seeing innovation, and for those cities that have really been hit hard there's a nothing-left-to-lose quality to this. Again, if federal and state governments are immersed in fiscal crises, then the impact will be to propel more systemic and effective intervention.

What are the most important systemic interventions?

They run the gamut. They're around changing the physical landscape—more density

around assets like transit and anchor institutions, more environmental reclamation, more central core vitality. They're around school reform, because if you don't have a quality educational system, you'll never really succeed as a city and as a metro. And they will be around infrastructure.

We're going to see a different kind of infrastructure in the US, one that is less auto dependent, more transit oriented, more collaborative. If we change the dial by 30 percent in the US over the next 25 years, that's enormous because of how big we are. The shift to a low-carbon economy is going to unleash innovation that we can't even begin to imagine.

Do you see any “best cases” from cities around the US that really give you hope?

I see a lot of “best cases” in Europe that we're going to copy and that we're going to probably outperform. The great thing about the US is that we're insanely competitive. And we're very viral in the sense that for all of our entrepreneurialism, we do tend to copy each other a lot.

What do you think the US will copy from Europe?

The greening of the economy, first and foremost. Germany is a good country for the US to look at because it has a federalist approach to many things. We're going to copy the iconic clean energy actions, like those around solar panels and wind turbines. In Europe overall, there are also a lot of very interesting interventions at the neighborhood scale and at the city scale, around the grid and around green enterprise zones.

What are US cities doing right that the world should be paying attention to? And what should the US pay attention to around the world?

There's much to learn from abroad. European industrial cities, for example, can teach

American industrial cities how to recover their footing and then provide a base from which to grow. That is partly around the physical remaking of the city cores. More broadly, there is substantial governance reform around the world that has a metropolitan focus. You see cities like Istanbul or São Paulo that have a metropolitan level of government.

Europeans can teach us a lot about having coherent freight and rail and transit policy, as they are moving more rapidly than we have on new infrastructure for the low-carbon economy. But the US will catch up, and then we will surpass them.

We've been off track for about three decades. We went crazy into consumption, and we lost the sense of what we needed to produce. But we will get back on track.

You said European cities could teach the US lessons in the way they recovered their footing. Please explain.

Cities like Manchester, Sheffield, Saint-Étienne, or Bremen and Leipzig never lost the sense of their center. They always knew that the core of the city—the cathedral, the City Hall, the downtown, the waterfront, the iconic building—was their core culturally. US cities ran away from their cores partly because of industrialization and partly because of racial segregation.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

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Transportation and infrastructure

Transportation and infrastructure are the means of city life, providing a means for goods to be delivered, workers to get to their jobs, visitors to fly in and out and buildings to rise. The variables in this category point to a city's present energy and its momentum for the future. Overall, the big, mature cities—Tokyo, Chicago, London, New York and Paris—lead, but the study highlights individual challenges and achievements around the globe.

Interestingly, mature and emerging cities can face similar roadblocks. From New York to Mumbai, commuters and suppliers sit in traffic, slowing essential flows and hampering economic vibrancy, but other cities are successfully facing up to congestion management. Singapore and Stockholm lead here, followed by Sydney and London. Singapore was the pioneer, introducing a congestion management system in 1975. Stockholm reported strong opposition to its congestion pricing system at first, but once in place, criticism turned to praise and traffic was reduced by 20 percent. (See interview with Gunnar Söderholm, page 48.)

As a sign of growth, Tokyo leads in skyscraper construction, but Toronto, a smaller city that performs well in a number of categories, finishes a close second.

Stockholm, a high performer in other areas, ranks near the bottom here. Traditionally, local public and political will has steered Stockholm away from widespread skyscraper construction due to aesthetic and quality of life concerns. By definition in this variable, more skyscrapers are rated as an advantage for a city, and Stockholm necessarily achieves a low score.

Big, mature cities lead variables such as number of aircraft movements and passenger flows as befits their sheer size and development. But in other measures proportioned to a city's population, other cities succeed, such as number of registered taxis, where Mexico City leads. Similarly, in miles of mass transit track, Frankfurt, a small but environmentally active city, tops the study.

As an emerging economy, Dubai begins with a blank slate and does well on miles of mass transit track, benefiting perhaps from the transport lessons of older cities in its recently opened rail lines, such as the new Dubai Metro inaugurated last year. Johannesburg lags on registered taxis and miles of mass transit track, posing a challenge as the city awaits an influx of guests for the World Cup this summer.

Registered taxis

21	Tokyo	13
20	Chicago	6
19	London	9
18	New York	4
17	Paris	20
16	Singapore	16
15	Beijing	15
15	Dubai	12
13	Seoul	19
12	Mexico City	21
11	Frankfurt	7
10	Los Angeles	2
10	Shanghai	11
8	Toronto	5
7	Stockholm	18
7	Sydney	3
5	Hong Kong	8
4	Mumbai	14
3	Santiago	17
2	São Paulo	10
1	Johannesburg	1

We cannot continue to take our cars when we commute. Mass transit has to play a bigger part for commuters. Otherwise, cities can't expand.

Johan Karlström of Skanska

Miles of mass transit track	Aircraft movements	Incoming/outgoing passenger flows	Congestion management ¹	Cost of public transport ²	Skyscraper construction activity ³	Total
9	17	19	14	10	21	103
19	20	18	14	7	16	100
16	19	21	17	1	14	97
18	21	20	7	7	18	95
17	18	17	14	5	2	93
8	5	10	21	16	12	88
3	13	15	14	21	6	87
15	6	9	17	9	19	87
12	9	14	5	17	10	86
10	10	5	1	21	17	85
21	15	13	14	2	7	79
14	16	16	5	14	8	75
5	14	12	7	13	13	75
11	12	6	14	4	20	72
20	3	2	21	3	3	70
13	7	7	19	11	10	70
6	8	11	14	18	4	69
4	4	4	5	19	15	65
7	1	1	17	15	6	64
2	11	8	5	12	12	60
1	2	3	19	8	2	36

Each city's score (here 103 to 36) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.



¹ Congestion management is taken from the 2009 Mercer Quality of Life Reports. This reflects not only traffic congestion but also the modernity, reliability, and efficiency of public transport—measures of a city's active management of the issue.

² Cost of public transport data refers to the cost of the longest mass transit rail trip within the city boundaries. However, bus trips were used when rail systems were absent.

³ A skyscraper is defined as any building 12 stories or greater in height.



Johan Karlström at a Skanska project.

Johan Karlström of Skanska

...discusses changes that will transform city infrastructure, transportation and water systems

Skanska, one of the world's largest construction companies, stands at the forefront of green project development. The Stockholm-based builder focuses on infrastructure, transit systems and residential and commercial property in Europe, the US and Latin America. Here, President and CEO Johan Karlström talks about major issues cities face: explosive growth and the need for sustainable buildings, more intelligent transit systems and clean and available water.

Which cities do you see growing fastest in the next 10 years?

Most cities and most urban areas will expand because we see a trend around the world of people moving from the countryside or the smaller cities into the big metropolitan areas. Then, of course, growth really increases faster in developing countries because the population is exploding.

The focus areas for us are the big metropolitan areas in the US: the New York area, of course, the Los Angeles area and other big cities in the US. The London area is also very important for us. There will always be a lot of activity going on even if the population isn't increasing, because you have to renew the infrastructure, renew the buildings even in the developed world.

You are active in Latin America and Eastern Europe, correct?

In Latin America we are more active in the energy and infrastructure sectors, which we see as a very important part of the market. In Central and Eastern Europe we are active in Poland, the Czech Republic, Slovakia and Hungary. That's a very interesting part of Europe right now because they are now part of the European Union, but they're still on a journey from the Communist world, so to speak.

Has that opened new opportunities?

The need for infrastructure has increased.

Do you see a new financial center emerging in the area?

No, but other things are coming up. Poland is expanding very fast and may be the most interesting country in the cluster. It has a big

The whole environmental area has developed over time. It started as compliance, “you had to do what you had to do.” Then it evolved into “do the right thing for the next generation,” be a good citizen. Now it has clearly moved to a business case. And it more or less focuses on energy efficiency. ...I can [also] clearly see that the US has started to be more proactive than western Europe in the environmental respect.

population, hardworking people, and it's spread over a number of regional cities. Its importance as an economy will increase.

Do any cities stand out as doing things right in terms of the total picture of costs, lifestyle, health issues, sustainability and intellectual foundation?

A big trend now is sustainability. The whole environmental area has developed over time. It started as compliance, “you had to do what you had to do.” Then it evolved into “do the right thing for the next generation,” be a good citizen. Now it has clearly moved to a business case. And it more or less focuses on energy efficiency.

Can you elaborate?

I can see, for example, differences in the US between various cities. There are some bigger cities or states that are saying that if a building is not environmentally friendly, you won't get the permit to build. I can clearly see that the US has started to be more proactive than western Europe in the environmental respect.

Does that surprise you?

I wouldn't have said that before Obama took over the presidency. But it's basically the same trend that has pushed the automobile sector—energy efficiency.

What cities are in the forefront of environmental progress in building and infrastructure?

There are a lot of things going on in London in the residential sector. There's a big push in the UK for new residential areas beyond what we are building here in Stockholm. A lot of UK politicians are coming over to Stockholm to study what we have done here—not only what Skanska's done but the society as a whole.

Does a green contractor like Skanska have an interest in encouraging cities to promote non-automotive transportation—subways, trams, bicycles?

Absolutely. We have tried to work together with politicians and to show them alternatives. I think it's important to have good examples that they can study. If they are interested, we can also go into public-private-partnership solutions where private monies will be a part of the investment.

Looking to the future, do you see anything about to change transformationally in the technologies and the systems that make cities work?

Because of city growth and environmental sensitivity, we cannot continue to take our cars when we commute. Mass transit has to play a bigger part for commuters. Otherwise, cities can't expand.

What opportunities will advanced technologies give cities in the emerging world?

Developing cities can jump directly into new technology. It's like setting up the telephone system in Africa. They didn't have to start with fixed lines. They can go from nothing directly to cell phones. It's the same way if we talk about infrastructure in the emerging world. Why build out transit systems for cars first and then go over to mass transit? Developing cities can go directly to mass transit.

Do you think new technologies might speed up the ability to have a better quality of life in China, in India or in Latin America?

Yes. Water, for instance, is going to be a big focus in developing cities on both the clean side and the waste side. Water resources are going down. If cities can't get access to water, that will definitely limit the possibilities for them to grow. A big question will also be, how can dirty wastewater be

cleaned in a way that it can be reused and not pollute the environment? That's going to be very important.

Does Skanska benefit from being located in Stockholm?

To some extent. In some countries there is a perception that if you're from Sweden, you are environmentally friendly and you have certain values. Right or wrong, that's the perception. Just to be from Sweden can actually be a door opener. But once you are in, you have to back it up. You have to deliver.

When you design and build, do you consider the aesthetics?

Absolutely. I hate ugly buildings. Of course, we build them once in a while, because the design is done and because of other factors. But why should we? Infrastructure and buildings are there for many generations. Don't we have a responsibility to leave something behind us that we can be proud of?

In other words, Skanska possesses a sense of long-term responsibility?

The values that the company is based on are fundamental for us: our business ethics, our code of conduct, environment, safety for our workers and subcontractors. We want people who are proud of Skanska. I think that you can put it in that perspective. We are extremely proud of building beautiful, sustainable structures.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

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Ease of doing business

Many financial capitals can be described as business-friendly, but none more so than Singapore. A trading post since its earliest days, this strategically located South Asian city-state remains one of the world's busiest ports and major financial centers. Its popularity among global companies can be traced to the relative ease of doing business, a crucial point that our study bears out.

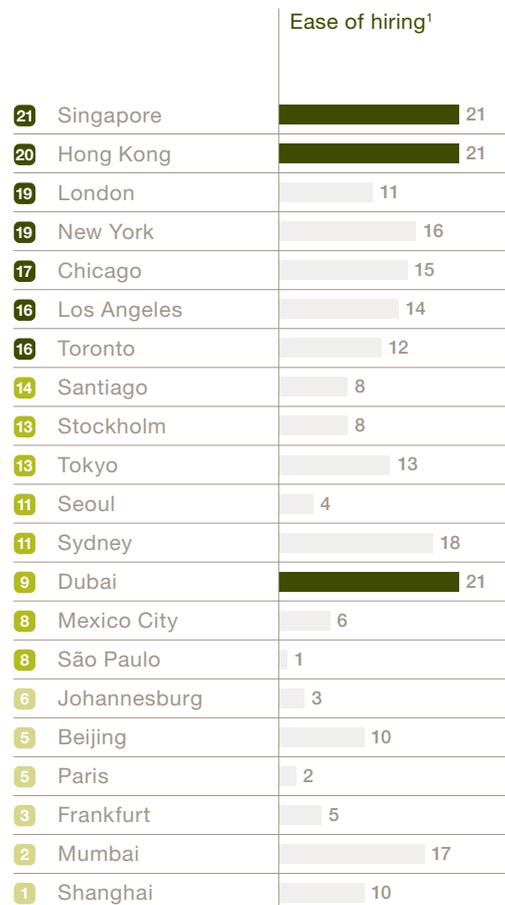
Singapore ranks at or near the top of virtually every criterion in this category. That includes the ease with which companies can hire and fire employees as well as how flexibly they can structure work hours and annual paid leave. Companies that operate in Singapore also needn't worry about visa restrictions, as the city's applicable laws are among the most open in our study.

Hong Kong's second-place showing indicates that more than a decade after return to Chinese sovereignty, the legacy of British capitalist standards remains largely in place when compared with other Chinese cities. HSBC's recent decision to move its chief executive and other top managers to Hong Kong from London also illustrates the city's standing as a magnet for international business.

Hong Kong's and Singapore's high marks suggest that neither city will soon be overtaken as an Asian business center by Beijing and Shanghai. These two rapidly developing cities on the Chinese mainland scored extremely low for a variety of reasons, most notably their constraints on visas.

New York, Chicago and Los Angeles fared better than their European counterparts and most of their Asian ones. The US cities were boosted by their leniency in regard to employers' methods for setting flexible hours and managing their workforces. Only the comparatively strict US visa requirements kept these American hubs from reaching the pinnacle of the list.

Not surprisingly, the European Union's rigid regulatory climate drove down the rankings of Paris, Frankfurt and, to a lesser extent, Stockholm. If not for its high number of foreign embassies and consulates, which serve as lubricators for international business, Paris would have ranked much lower.



Rigidity of hours ²	Ease of firing ³	Ease of entry: Number of countries with visa waiver	Flexibility of visa travel	Number of foreign embassies and consulates	Total
17	18	21	20	14	111
17	17	20	19	9	103
9	13	17	21	20	91
21	21	8	8	17	91
21	21	8	8	9	82
21	21	8	8	9	81
18	14	13	12	12	81
11	11	15	17	13	75
3	7	19	18	16	71
10	9	12	9	18	71
5	9	18	14	15	65
15	12	4	5	11	65
6	17	5	4	3	56
7	2	16	16	5	52
2	17	10	13	9	52
8	10	14	15	1	51
14	4	2	1	19	50
2	5	10	10	21	50
5	7	11	11	10	49
14	1	3	3	3	41
14	4	2	2	4	36

Each city's score (here 111 to 36) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.



1 These variables have several components, and all take values from 0 to 100, with higher values indicating more rigid regulation. The ease of hiring index measures whether fixed-term contracts are prohibited for permanent tasks; the maximum cumulative duration of fixed-term contracts; and the ratio of the minimum wage for a trainee or first-time employee to the average value added per worker. An economy is assigned a score of 1 if fixed-term contracts are prohibited for permanent tasks, and a score of 0 if they can be used for any task. A score of 1 is assigned if the maximum cumulative duration of fixed-term contracts is less than 3 years; 0.5 if the duration is 3 years or more but less than 5 years; and 0 if fixed-term contracts can last 5 years or more. Finally, a score of 1 is assigned if the ratio of the minimum wage to the average value added per worker is 0.75 or more; 0.67 for a ratio of 0.50 or more but less than 0.75; 0.33 for a ratio of 0.25 or more but less than 0.50; and 0 for a ratio of less than 0.25. Averaging the scores and scaling the result to 100 gives a final index.

2 The rigidity of hours index has 5 components: (i) whether night work is unrestricted; (ii) whether weekend work is unrestricted; (iii) whether the workweek can consist of 5.5 days; (iv) whether the workweek can extend to 50 hours or more (including overtime) for 2 months a year to respond to a seasonal increase in production; and (v) whether paid annual vacation is 21 working days or fewer. For each of those questions, if the answer is no, the economy is assigned a score of 1; otherwise, a score of 0 is assigned. Averaging the scores and scaling the result to 100 gives a final index. Higher values indicate more rigid regulation.

3 The ease of firing index has 8 components: (i) whether redundancy is disallowed as a basis for terminating workers; (ii) whether the employer needs to notify a third party (such as a government agency) to terminate 1 redundant worker; (iii) whether the employer needs to notify a third party to terminate a group of 25 redundant workers; (iv) whether the employer needs

approval from a third party to terminate 1 redundant worker; (v) whether the employer needs approval from a third party to terminate a group of 25 redundant workers; (vi) whether the law requires the employer to reassign or retrain a worker before making the worker redundant; (vii) whether priority rules apply for redundancies; and (viii) whether priority rules apply for reemployment. For the first question, an answer of yes for workers at any income level gives a score of 10 and means that the rest of the questions do not apply. An answer of yes to question (iv) gives a score of 2. For every other question, if the answer is yes, a score of 1 is assigned; otherwise, a score of 0 is given. Questions (i) and (iv), as the most restrictive regulations, have greater weight in the construction of the index. Averaging the scores and scaling the result to 100 gives a final index. Higher values indicate more rigid regulation.



Gilberto Kassab of São Paulo

...targets quality of life, education and social inequality in Brazil's teeming industrial and financial capital

Now serving his second term as mayor, Gilberto Kassab, an engineer and economist by training, is facing many challenges. São Paulo is the world's fourth-largest city and the center of Brazil's financial and industrial sectors. Here Kassab talks about many of the issues closest to him: fighting illiteracy, raising education levels and professional skills and improving the quality of life in the city, especially in its *favelas*, or shanty towns. He also envisions the São Paulo of the future—which he sees as today's gateway to a Latin America where “no one feels like a foreigner.”

What are your greatest challenges in São Paulo?

The greatest challenge facing São Paulo, and also the rest of Brazil, is social inequality. We are a rich and powerful city with terrible pockets of misery. There are more than 1,500 *favelas* in São Paulo, and about 3.5 million people live in precarious housing.

With nearly half the city's households commuting by car, what is São Paulo doing to decrease congestion?

We are taking immediate steps to reduce congestion with more bus corridors, an almost completely renewed fleet of more than 14,000 buses, restrictions on trucks and charter buses, and parking restrictions on commercial streets. More important are long-term remedies, including expansion of the subway system, and we are working toward that.

Your administration has targeted education as one of São Paulo's key challenges. What are the results so far, and what are the plans for the future?

Most exciting is that we have reduced illiteracy among the more than 1.5 million public school students. When my term began, illiteracy went up to the fourth grade. Today illiteracy stops at the second grade and is decreasing.

How close a connection do you see between the city's ability to raise the level of education and the growth of São Paulo's intellectual, technological and innovation bases?

As I see it, professional qualification is the main point and is the most difficult knot that Brazil has to untangle to consolidate its position as an economic power. Education is the key to enhancing the skills of future



In the scrum of media, Mayor Gilberto Kassab fields reporters' questions.

I feel that there's an unshakable belief in democracy among the Brazilian population today, just like all of us have a deep-seated feeling that inflation will not return. The people view dictatorship and inflation as two ghosts that can never come back.

workers, and in São Paulo we are addressing this challenge in partnership with the state government and with private initiative.

What particular challenges does São Paulo face as a developing city?

We have problems in education, health, transport, violence, pollution and urbanization, and all are pressing challenges. We are responding, one challenge at a time, aware that we will be leaving the city much better than we found it but still very far from the ideal.

How do you see large pockets of urban poverty and crime in Brazil hurting the development of a healthy society where prosperity is more broadly shared?

There are more than 1,500 *favelas* in São Paulo. Yes, *favelas* are centers of poverty and sometimes downright misery. But,

no, they are not pockets of crime. On the contrary, the overwhelming majority of the *favela* population are workers. They are men and women who fill the simplest and most essential jobs in construction, services, commerce, industry, residences and housing projects. Little by little, this population is climbing from the lowest levels of poverty.

What is the city doing to provide sanitation services and adequate, clean water?

Today, São Paulo supplies 100 percent of its population with drinking water and 97 percent with garbage collection, and 73 percent of its sewage volume is treated. Investment in basic sanitation and supply of treated drinking water has helped reduce the child mortality rate in São Paulo from 51.6 deaths per thousand live births in 1980 to 12.5 in 2008.

What key challenges or opportunities does São Paulo face in building a prosperous business hub and attracting foreign investment?

In one word, I would say, education. The lack of systematic investment in education explains the pockets of backwardness that still exist in our country. We have a growing number of areas of excellence in agriculture, industry, services and commerce, which qualify our country as one of the great hopes of the world for the coming decades. But at the same time, pockets of backwardness persist. São Paulo City Hall has been striving to make its contribution to increasing the excellence and to eliminating the backwardness. But there is still a long road ahead of us.

You have described São Paulo as the gateway to Latin America. Why?

For several reasons, starting with São Paulo City's powerful economy and cosmopolitan population. Although the pockets of backwardness that I mentioned persist, São Paulo is a worldly city. São Paulo is the ideal gateway for anyone who wants to establish business with any country in Latin America. Also, because São Paulo is made up of citizens from all continents and all over Brazil, no one feels like a foreigner here.

How are you encouraging foreign investment?

The main thing needed to encourage foreign investors is to have clear rules. No matter where a possible investor is in the world, he can learn about the entire financial and legal situation in São Paulo through the Internet. All of the expenditures and agreements made by City Hall are updated on a daily basis and are available to anyone.

Are public-private partnerships creating any special opportunities?

Yes, of course. I am a liberal by background and by conviction. I come from private initiative and believe in the force of the market. As a politician, I see the huge capacity that public power has in stimulating, promoting, regulating and creating conditions for the citizens to evolve, and that is always a plus for the community. We have several operations under way in partnership with private initiative.

Should business fear the political and social struggles and perhaps instability that have been part of recent history in Latin America?

My answer is a very strong and firm no. I am totally convinced that my country has the antidote to the poison of authoritarianism: It is democracy, with all of its virtues and deficiencies. I feel that there's an unshakable belief in democracy among the Brazilian population today, just like all of us have a deep-seated feeling that inflation will not return. The people view dictatorship and inflation as two ghosts that can never come back.

As a popular, two-term conservative mayor in a nation with a highly liberal national government, do you have any friction in obtaining support for São Paulo from the national government?

We believe that the current federal leaders are letting excellent opportunities to advance and grow slip through their fingers. The strong and ominous influence of nationalization-driven thinking has slowed national development.

Despite the well-known oppositionist position that we—I and my party—hold, we and the federal government work together smoothly. We disagree on ideology and doctrine, but we understand each other from an administrative point of view.

Can developing cities avoid mistakes developed cities made and jump right to the newest and best approaches to problems?

The Brazilian economy in the 20th century and in the beginning of the 21st century has benefited largely from the experiences of more developed countries. I know well that

the multinationals did not come here with philanthropic intentions. They came to make money. But the truth is that they brought decisive guidelines for Brazilian development. Building on this foundation, São Paulo began designing its own growth model.

A good example of this is the controlling of gas emissions in landfills, enabling São Paulo to auction its carbon credits certified by the UN. We made two auctions—in 2007 and 2008—that earned us over R\$ 70 million. Furthermore, by harnessing gas emissions, we generate enough energy to supply a community of 600,000 people. São Paulo was the first large city in the world to achieve this result.

What do you think developed cities might be doing better?

Cities in developed countries set a bad example on traffic congestion and drug abuse. On the other hand, they have excellent city planning, remarkable levels of civility, education and technological advances, and we, from developing countries, see the large cities of developed countries as our models in many of these areas. Here in São Paulo, City Hall is concerned about helping both the state government and the federal government control traffic and drug abuse. It would be very good if there were tested solutions in developed countries that we could adopt.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

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Education is the key to enhancing the skills of future workers, and in São Paulo we are addressing this challenge in partnership with the state government and with private initiative.

Cost

Cost is one of the most basic considerations for a company deciding whether to locate or expand in a city or a professional weighing a personal move. For a detailed comparison of relevant expenses, *Cities of Opportunity* focused on several key measures including the cost of business occupancy as well as the total business tax rate as a percentage of corporate profit. To gain a sense of how much employees need be paid, the study examined both the cost of living and workers' purchasing power given a city's existing pay levels as well as prices of a broad basket of household goods and services.

While common sense might suggest that emerging cities are less expensive than established ones, the study revealed some striking exceptions to that. Los Angeles,

Toronto and Chicago, for example, all placed in the top five best value cities. Remarkably, Toronto's cost of living—factoring in such expenses as housing, transportation, food and entertainment—is third-lowest. Only Johannesburg and Mexico City are more affordable cities in this regard, but they also lack Toronto's advantages in health, safety and security, among others.

For a number of cities, the cost indicator turned up decidedly mixed results. Although Dubai's lack of corporate income tax vaulted it into the top half of the rankings, its high cost of business real estate dropped the commercial Mecca of the Middle East well below the leaders. New York fared well in terms of purchasing power, thanks, in part,

to its traditionally high salaries, but its steep cost of living and high price of office space depressed the city's total score.

Also notable are the cities found to be the most expensive. Despite their popularity among multinational corporations seeking to reach China's burgeoning consumer market, Beijing and Shanghai post the highest corporate tax rates among the cities presented. Overall, the two Chinese business capitals finished above only Tokyo, which suffers from the highest cost of living and the second-highest cost of leasing and maintaining Class A office space—in addition to Japan's ongoing economic challenges.

	Cost of business occupancy	Cost of living	Purchasing power ¹	Total tax rate	Total
21 Johannesburg	21	21	10	16	68
20 Los Angeles	18	12	20	13	63
20 Toronto	15	19	17	12	63
18 Chicago	16	14	18	14	62
18 Santiago	20	18	5	19	62
16 Frankfurt	13	13	21	9	56
16 Sydney	11	16	19	10	56
14 Seoul	19	7	9	17	52
13 Dubai	4	11	12	21	48
12 Mexico City	17	20	2	8	47
11 London	3	10	13	15	41
10 São Paulo	12	17	7	3	39
9 New York	8	4	15	11	38
8 Singapore	5	6	8	18	37
7 Stockholm	9	3	16	7	35
6 Paris	7	9	11	5	32
5 Hong Kong	1	2	6	20	29
4 Mumbai	6	16	1	4	27
3 Beijing	14	5	3	2	24
3 Shanghai	10	8	4	2	24
1 Tokyo	2	1	14	6	23

Each city's score (here 68 to 23) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.

¹ Domestic purchasing power is measured by an index of net hourly pay (where New York = 100), including rent prices. Net hourly income is divided by the cost of the entire basket of commodities, including rent. The basket of goods contains 122 goods and services.

High
 Medium
 Low

Highest rank in each variable

Mumbai's Dr. Jairaj Phatak

...addresses the challenges and opportunities of one of the world's most densely populated and fastest growing cities

Dr. Jairaj Phatak has had a 30-year career in senior civil service roles in India, holding high posts in urban development, education, food and civil supplies and rural development. From May 2007 to October 2009 he served as Mumbai's municipal commissioner, or overall city manager responsible for planning, development and governance. In November 2009 he took over as additional secretary, Ministry of Panchayati Raj, Government of India, responsible for a range of business and governance initiatives. We spoke with Dr. Phatak about the opportunities and challenges Mumbai faces, ranging from flood prevention and road upkeep to improving health care and education, as well as the strategies being used to address them.



Opening an exhibit at the National Center for Science in Mumbai.

Can you rank the greatest opportunities and challenges Mumbai is facing?

The most pressing challenge for Mumbai city are the floods during monsoon. In July 2005 we had 900 millimeters of rainfall in a single day and the city flooded. We must provide drains that ensure that in a heavy rainfall the water runs to the sea very quickly. The second priority is adequate water supply. The third is keeping the roads in good condition because traffic is increasing manyfold.

How do you see progress against them?

The water supply challenge will continue as long as the city's population is growing. Every five years we have to add about 100 million gallons per day additional water supply. A similar need is true about keeping the roads in good condition, widening the roads and having a good parking policy so that roads are not blocked by parked cars. I think the challenge of adequate storm water drains would more or less be met for a reasonably high rainfall during the next four to five years.

Mumbai has the second most medical schools and the fourth most hospitals of any city in our study, but doesn't perform well in public health indicators. What can be done to improve public health?

Half the population in Mumbai lives in slums. And the health indicators in slums, particularly the malnutrition rate among children, are as bad as they are in the rural areas of India. This pushes down the average health indicators of Mumbai. Also, primary health care is not available to the poorer patients.

The tertiary health care in Mumbai is better than any other city where there are free municipally-run medical college hospitals. Even liver transplant surgery is performed in

municipal hospitals. But the primary health care is largely privately provided and many poor Indians are unable to afford it.

In the developed part of the city the indicators are quite good. I compared the age at death through our cremation grounds and burial grounds because we issue the death certificates and there is as much as a gap of 14 years in the age of death between the people dying in the richer wards and people dying in the poorer wards.

What are you doing to increase the life expectancy and general health of those living in the poorer wards?

Apart from road repairs, a priority for the people in Mumbai is better medical availability. This is being improved by garbage collection and clean water supply, and service and general cleanliness measures. Our solid waste management storage sites have been largely just dumping grounds. The solid waste was just collected and dumped outside the city limits, and that is becoming a nuisance to the parts of the city developing nearby. Proper disposal has become very important to improve health and to make the city cleaner.

How can the education system be broadened so more children have access?

Mumbai already has more than 85 percent literacy so availability of basic education is not a problem, but there is a growing shift from vernacular dialect to English. Almost all high-end jobs in Mumbai go to people with good English skills, so even the poor people are putting their children in English medium schools. It is not really access to education that is a problem but, rather, proper language training and regular evaluations. The quality of education is the real issue.

It has been said that Mumbai will become like Shanghai. I agree that we are more likely to resemble Shanghai or the greater cities in China. But I am told that China has managed the problem of immigration into cities better than India has. I am not sure that our democratic setup will allow us to stop further migration into Mumbai.



Our study shows that the best and the brightest of Mumbai often leave. What can Mumbai do to keep the best people home?

People do not really leave Mumbai in very large numbers. I firmly believe that the brain-drain theory is no longer relevant: it's brain circulation today. A number of talented people from Mumbai actually return to the city after working in advanced economies. They bring knowledge to enterprises back home and make us better aware of what is going on in the advanced world.

What is Mumbai working on regarding slum improvement and development?

Slums had been considered a nuisance—a cancer that has to be demolished. But then the thinking was, they are an integral

part of the city's economy and offer cheaper service jobs that benefit the people living in the developed parts. A slum improvement program was financed by the government of India to give basic amenities such as toilets and roads and water supply.

In Mumbai, with land prices almost five times construction costs, the Slum Rehabilitation Authority was also formed for projects such as the large Dharavi reconstruction to give developers an incentive to build multistory buildings in slum areas. In this plan, the slum dwellers get new housing free, and the developer gets to profit off of the remaining land. Almost 15 to 20 percent of slums have been rehabilitated or are in the process through this concept.

What do you see as the top challenges for Mumbai to join the world's elite business centers like New York, London or Tokyo?

As regards total economic indicators, we are now 37th in the world and number one in India. We expect to be in the top 20 during the next 20 years, and every year a marginal improvement will take place. But I don't really see our economic competitiveness on par with New York, London or Tokyo in that time. We have many basic problems on which to focus our attention.

Looking ahead 10 years, what aspects of the economy in Mumbai do you think will be advancing most rapidly?

I would say real estate development, because renewal will give way to modern buildings, and also financial services and commercial development. I don't see IT companies coming in Mumbai because it is far more economical for them to go to areas where the real estate prices are lower.

When you took office in 2007 you said Mumbai is a one-of-a-kind city. It has problems particular to it and, therefore, comparisons to other cities in the world are misleading. Can you elaborate?

Mumbai is an island city with a very high population density. In fact, in the city proper, it is 50,000 people per square kilometer. It has very high rainfall concentrated only in the months of July and August. So that means for two months our storm water drain system has to be six times bigger than in other places.

Secondly, real estate prices are very high compared to any other Indian city. They are more than twice those of Delhi and

I firmly believe that the brain-drain theory is no longer relevant: it's brain circulation today. A number of talented people from Mumbai actually return to the city after working in advanced economies. They bring knowledge to enterprises back home and make us better aware of what is going on in the advanced world.

more than five times those of Pune or Bangalore. This sets Mumbai apart from all other Indian cities.

The need for greater efficiency in government services and businesses is often cited as a challenge India faces. Do you agree?

In Mumbai we try to ensure fair elections, and by and large we have a clean, speedy and efficient administration. But I think many times cities in India bite off more than they can chew. If a city takes a project with federal or state government aid—say, five times their annual budget—and then they don't really have the administrative capability to translate that much of a financial resource into results, the projects fall behind.

You have faced many challenges and opportunities. What lessons can you share with other cities in the developing world?

The selection of competent personnel is absolutely necessary for clean, speedy and efficient administration. Then time limits for projects need to be set and followed.

You once said it's better to be heartless than mindless. Were you saying that logic rigorously applied is better than deciding things emotionally?

I made that statement because I was being compelled to make an important decision under emotional pressure. A male child was stolen from a municipal hospital and the parents wanted a compensation of one million

rupees from the municipal corporation. In India people crave boys and many will go to any extent to get a son. We don't really have an insurance system for babies being stolen. It is really the mother's responsibility to guard against harm to the child. Security guards outside the hospital cannot always check whether the child is being taken out by the mother or an aunt or a perfect stranger. Similarly, the nurses cannot keep watching whether the child is with the mother, or somebody else is playing with the child.

I refused to pay. I felt that in many rural hospitals in India it would set a very bad precedent because hospital management cannot be held responsible for child thefts. I was criticized. The Mumbai mayor said that I was being heartless. It was in that context that I said it is better to be called heartless for a day than mindless for the rest of the career. Because if one city had paid one million rupees for a stolen baby, it was very likely that many false stolen baby cases would be reported. An uncle or grandfather would carry away the child just to claim one million rupees, and later return the child to the parents. So I said I will not allow bad decisions to be made just because of an appeal to the emotions.

What is Mumbai or the federal government doing to handle the influx of migration?

It is very, very difficult. Today India is still predominantly a rural country. In 2001, for instance, 72 percent of our people were

living in villages. Now people are migrating to other states and cities in search of jobs. So the government of India is taking steps to create purchasing power within the rural areas under the National Rural Employment Guarantee Act. By creating more purchasing power in the poorer areas, migration to cities will be discouraged. For example, today Mumbai is not getting migrants from South India because South India now has greater socioeconomic strength. When North India, which is poorer, develops like South India, migration to bigger cities will decrease.

What will Mumbai look like in 50 years?

It has been said that Mumbai will become like Shanghai. I agree that we are more likely to resemble Shanghai or the greater cities in China than the cities elsewhere. But I am told that China has managed the problem of immigration into the cities better than India has. I am not sure that our democratic setup will allow us to stop further migration into Mumbai.

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Health, safety and security

Health, safety and security smooth the way for a city to function economically and socially, and the mix of society's demands and government policies shape how these basic human needs are met. Stockholm leads the overall rankings, but other cities do well in given variables.

In a breakdown of the indicator, Singapore and Hong Kong are joined by an emerging city, Dubai, in lowest crime level. They were also the leaders in this category last year. The numbers here reflect the total number of crimes—including property crimes and violent offenses—committed against residents and visitors.

In a key health measure, New York leads in the number of hospitals, followed by Tokyo, but two emerging cities, Mexico City and Mumbai, rank highly. Stockholm, Singapore and Tokyo lead in infant survival, a measure of the likelihood of a newborn living at least one year. In general the developing cities do well in this measure, but as an exception, New York and the other US cities lag (all of which share the same country data).

The mature cities generally lead in the disease risk measure. This indicator is based on the number of vaccinations required for travel to a given city—the more shots required the greater the danger of disease is considered to be.

Political and social environment rates certain less tangible factors such as relationships with foreign countries, effective law enforcement, degree of personal freedom and media censorship. Stockholm leads here, followed by Frankfurt and Toronto. While a subjective measure rather than a hard number like the others in this category, achieving a healthy socio-political climate is vital to any city's attractiveness to business, residents and visitors.

	Crime	Number of hospitals	Infant survival rate	Political and social environment	Disease risk: Vaccines required to travel	Total
21 Stockholm	18	11	21	21	21	92
20 Tokyo	18	20	21	18	13	90
19 Toronto	18	13	16	19	21	87
18 Chicago	18	19	12	15	21	85
17 Frankfurt	18	7	18	20	21	84
16 New York	12	21	12	15	21	81
15 Singapore	21	14	21	12	9	77
14 London	12	15	16	12	21	76
13 Sydney	18	11	16	18	12	75
12 Los Angeles	8	16	12	15	21	72
12 Paris	12	3	18	18	21	72
10 Dubai	21	5	9	5	9	49
10 Hong Kong	21	5	6	10	7	49
10 Seoul	12	7	16	7	7	49
7 Mexico City	3	18	3	7	11	42
6 Santiago	8	3	9	9	11	40
5 Shanghai	8	12	6	2	2	30
4 Beijing	8	11	6	1	3	29
3 São Paulo	1	8	7	5	7	28
2 Mumbai	4	17	1	3	1	26
1 Johannesburg	3	3	2	8	7	23

Each city's score (here 92 to 23) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.





Gunnar Söderholm of Stockholm

...discusses the Green Capital's successful, long-term commitment to the environment

Stockholm was selected this year as the first Green Capital of Europe based on a holistic policy that balances growth with sustainable development and a plan to be fossil-fuel free by 2050. In the last few years, the city has dramatically reduced its traffic flow, improved air quality and pioneered models for new and reclaimed green housing developments. Gunnar Söderholm, director of Stockholm's environment and health administration, credits long-term planning and widely held consensus for the city's achievements.

Can you tell me about the environmental program in Stockholm, what progress you've made and what you're most proud of.

Stockholm has been selected as the first Green Capital of Europe for 2010. We are very, very proud of that. But it is based on a long track record. To start with, we have a name out in the world on sustainable housing. Hammarby Sjöstad is in the front line there. It was a brownfield area, but now it's a fully sustainable city district with 10,000 apartments and very ambitious environmental goals. Now we are planning for Hammarby's successors. An important, new sustainable area we're developing is the Royal Seaport, just north of Stockholm's central city with 5,000 apartments.

Stockholm put up €1 billion extra for renewable energy and reconstruction of suburban areas built between 1965 and 1975, where

we want to reduce energy consumption by 60 to 80 percent. We hope that we can be very successful in this because 200 million Europeans live in apartments like these. Because they were built in an industrial way, it's very easy to scale up sustainable solutions not just for Sweden but also for most countries in Europe.

We're also working on ways to increase public transport use and encourage biking. Of course, we also promote clean cars. We're running a program for public awareness to make people want to adopt a more sustainable lifestyle.

On public transportation, what's worked well? What hasn't worked?

In peak hours, 77 percent of Stockholmers use public transport when they commute in and out from the inner city. And it keeps



In Stockholm's Old Town, Gamla Stan, Gunnar Söderholm rides his bike to work as he has for 15 years.

Congestion charging is a once-in-a-lifetime story. It started with huge opposition, especially among the citizens of Stockholm. Seventy-five percent were against the scheme. But once it was introduced, people were happy about it. It's the biggest swing in political opinion that ever occurred.

increasing. Stockholm set the goal that all electricity use will be green in the commuter train system and in the tram line. The public transport company also plans to be fossil free in the bus fleet in 2020.

How has the congestion charge worked on cars entering the city since it was introduced in January 2006?

That is a once-in-a-lifetime story. It started with huge opposition from both political parties, but especially opposition among the citizens of Stockholm. Seventy-five percent were against the scheme. But once it was introduced, people were happy about it. It's the biggest swing in political opinion that ever occurred. Congestion charging has reduced traffic in and out from the inner city by somewhere around 20 percent. It's had an impact on air quality by a 10 to 14 percent

improvement in different environmental standards. Today 65 percent of the citizens are in favor of the scheme.

Has congestion management been your biggest victory or is it just part of a bigger puzzle?

It's part of a bigger puzzle, but it's a good example of what you can do with the monetary method. It's rather unique now also. Only Singapore, London, to some extent Milan, and Stockholm are doing it.

Do you think the future of automobiles in cities is grinding to a halt?

In 20 years we will see totally different technology in cars used in the central cities. I don't think we will get rid of cars, though. And that's not our intention. It's to get rid of the emissions. Hybrids and electric cars

are growing very rapidly in almost every car industry in the world. In the future, we will see a whole new infrastructure for hybrids and electric cars. Stockholm is now preparing to make it possible to charge your car in normal parking lots near offices and close to your home.

Are there any lessons you learned in managing the environmental program that translate to other cities?

It's our long-term perspective in planning, actually. District heating was in planning from the beginning of the '50s. Decades ago we began planning for waste-to-energy treatment where any waste we burn in an incineration plant outside central Stockholm is used for heating and electricity production. It has been extremely important that there has been a consensus among the political

[Stockholm's most important lesson] is the long-term perspective in planning. District heating was in planning from the '50s. Decades ago we began planning for waste-to-energy treatment... No matter what majority was in City Hall, they all made contributions to improve the environment.

parties for decades. No matter what majority was in City Hall, they all made contributions to improve the environment.

Stockholm is a beautiful, sustainable city. But it's small. How do the lessons of Stockholm apply to big, densely populated cities like Tokyo, New York or Paris?

In many ways we can be an example for the big cities in the world. The city of New York visited us several times to speak about the congestion charge project because the geography is similar. New York, like Stockholm, is made up of islands, and traffic can be controlled from control points into the inner city.

Has there been a rise in bicycle traffic?

There has. The last 10 years bike traffic has doubled. I see it in my experience as a regular bike commuter for 15 years. We are actually now facing congestion problems on the biking lanes.

Would you say that solving the social and political challenges has been harder than the operational and engineering ones?

There has been a change in political and public attitudes. Compared to when I started in City Hall 20 years ago, it's much more of an urban city. People accept that we are building new apartments very centrally located and that it's important to achieve the ambitious climate goals that we have in Stockholm.

Are there other cities that you see jumping to the forefront of environmentally friendly, healthy places to live?

Yes, a number of cities both in Europe and in the United States. The best example in the US is perhaps Portland, with very ambitious goals. In Europe you have Copenhagen, Paris, Berlin, Prague and London, of course.

Do you see any special challenges or opportunities that developing cities face?

I'm impressed by the goals in a number of the Chinese cities. Shanghai, Beijing and other cities are improving public transit capacity in different ways. For a small country across the earth, they show great interest in our solutions and try to bring them home.

What developments will transform the way we live in cities in the future?

In the city of Stockholm we will see a totally different car fleet in 20 years. We will see fossil-free heating and electricity production. We will also see a much more developed public transport system, more car sharing and different solutions to transport ourselves in a sustainable way.

Sweden appears to be going from one of the most homogenous societies to a more diverse one.

Immigration has changed enormously compared to when I was a kid. Then it was exotic to meet a foreigner in the streets. But

today 25 percent of the population of the city of Stockholm has a background—either themselves or from one of their parents—in a foreign country. And we also have immigration from outside Europe, which we didn't have before around 1975.

Are you doing anything special to handle the issues of cultural cohesion or social benefits?

In all the big cities in Sweden there are programs for inclusion. There is ongoing discussion of the assimilation process, how to teach immigrant children in their own language but also teach them in proper Swedish how to develop in the school system so we can provide immigrant children with a strong education that can be useful in the labor market in Sweden. This is an enormously important part of city planning.

Do you feel lucky to be living in Stockholm or would you pick another city to live in?

I feel lucky to live here. And actually, in recent opinion polls, most Stockholmers feel lucky about living here, too.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

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Sustainability

Sustainability has become a hallmark of a city's commitment to innovative planning and design and ascended to a primary consideration for business. Stockholm provides the finest example, topping the sustainability category and designated the first European Green Capital in 2010. (See interview with Gunnar Söderholm, page 48.)

Sweden's largest city serves as a model of eco-friendliness in several respects. It scored the highest in our study in terms of air quality and percentage of green space. It also set the standard in "green cities," a composite of such factors as gasoline and electricity prices, smoking laws, public transit's share of energy consumption and the number of private vehicles per capita. The only area in which Stockholm failed to rank at or near the top was recycling, due

to the city incinerating a large portion of its garbage—thereby creating energy that is put back into the energy supply system.

Stockholm has made a major investment in sustainable housing in the form of Hammarby Sjöstad, a lakeside development built on a former brownfield and originally conceived as an Olympic village. Despite losing its bid for the 2004 Summer Games, the city pushed forward with the project. It is now a fully sustainable district of 10,000 apartments, featuring distinctive architecture and efficient links to the city's mass transit system.

For anyone who is well traveled, the sustainability findings form a rather intuitive ranking. Refined, well-planned cities such as Sydney (which has the smallest carbon footprint of the cities studied), Frankfurt

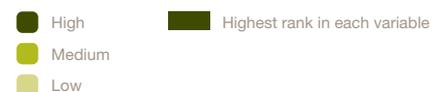
(an excellent recycling rate) and Toronto (the cleanest air) earn high grades while the lower ranks are composed of emerging cities like Shanghai, Mumbai and Dubai. The creation and preservation of green space, for the sake of citizens' health, is emerging as a key planning priority of most of higher-scoring cities in our survey.

Los Angeles is notable for its low sustainability rating. The city ranks just three rungs from the bottom—below the more populous, pollution-challenged metropolises of Mexico City and São Paulo. Los Angeles's well-documented obsession with the automobile has much to do with this: the city's carbon footprint, defined here as annual greenhouse gas emissions per capita, proved to be among the highest of all the business capitals examined.

	Green cities ¹	Air quality	Recycled waste	Green space as a percent of city area	City carbon footprint	Total
21 Stockholm	21	21	10	21	16	89
20 Sydney	13	19	12	20	21	85
19 Frankfurt	19	16	20	7	14	76
18 Toronto	11	21	18	16	6	72
17 Paris	20	16	4	19	12	71
16 London	14	16	11	14	14	69
16 New York	18	9	14	18	10	69
14 Singapore	12	19	17	12	7	67
13 Tokyo	16	16	3	10	15	60
12 Johannesburg	7	19	6	8	19	59
11 Chicago	15	12	9	15	5	56
11 Hong Kong	17	5	19	6	9	56
11 Seoul	10	12	21	5	8	56
8 Santiago	10	5	7	4	18	44
7 Mexico City	5	1	8	11	17	42
6 São Paulo	6	12	1	2	20	41
5 Beijing	2	5	14	17	2	40
4 Los Angeles	8	8	6	13	4	39
4 Shanghai	3	8	16	9	3	39
2 Mumbai	4	5	15	3	11	38
1 Dubai	2	8	2	1	1	14

Each city's score (here 89 to 14) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.

¹ "Green cities" itself is a composite index that tracks elements including health policies and vehicles per capita.



Demographics and livability

Of all the categories by which to compare cities, livability is arguably the most elusive: there are countless ways to define it. We've zeroed in on a list of essential ingredients in the eyes of companies seeking to attract and retain top talent in a particular business capital.

Highly livable cities must serve the lifestyle needs of their professional classes. That includes offering a range of viable housing options, manageable commuting times and pleasant (or at least tolerable) weather. To these we've added first-rate health care and a sound infrastructure plus superb educational and cultural opportunities, among other factors in the city livability variable.

Demographics matter, too. A diversity of nationalities, as any New Yorker or Londoner knows, produces a healthy cosmopolitanism, including a plurality of people with broad-ranging experiences and potentially innovative ideas. It also signals a city's openness to newcomers considering emigrating from other countries. Having a high percentage of people of working age promises an ample workforce.

Frankfurt and Sydney lead overall, but the results in this indicator reveal a remarkable degree of parity. The eight highest-ranking cities, representing four continents, all

scored within striking distance of one another. But within that, many cities display notable strengths.

Chicago ranks only a wisp below the top spot. Despite its frigid winters and "second city" label in the US, the Windy City outpaces New York and London on the combined strength of its diversity, its housing and its inspired civic life. The "Paris of the Prairie" envisioned a century ago by urban planner Daniel Burnham has largely come to be. Most recently, it's been realized by the restoration of the lakefront and the stirring architecture of Millennium Park.

Toronto leads the list on city livability. Sydney and Stockholm, two small cities known for beauty and quality of life, follow close behind. But Toronto—cold, inland and relatively apart geographically—also shows tremendous ethnic diversity rivaling global magnets like New York and London. This can be traced in some degree to Canada's policy on immigration and economic opportunities (see interview on page 54). Toronto's mélange of nationalities adds immeasurably to university life and the city's vitality as a whole. The varied housing stock accommodates a range of economic needs as well as urban and suburban tastes. Finally, Toronto's risk of natural disasters is the lowest in the study.

Working age population

21	Frankfurt	8
21	Sydney	3
19	Los Angeles	15
18	Chicago	16
17	Toronto	4
16	Hong Kong	19
15	Singapore	17
14	Beijing	21
13	New York	13
12	Stockholm	5
11	Dubai	20
10	Paris	11
9	São Paulo	12
9	Seoul	18
7	London	7
6	Tokyo	6
5	Shanghai	9
4	Santiago	14
3	Mexico City	2
2	Johannesburg	1
1	Mumbai	10

How dense can you possibly be? For cities, the optimal answer proves tricky

It's been years since John McEnroe irately questioned a tennis umpire's eyesight and reason. But since then nothing much has changed when it comes to debating judgments governed by both subjective and objective criteria. It's hard to make the right call.

In last year's report, *Cities of Opportunity* included a ranking of population density

calculated by dividing population by land area—the denser a city was, the better it performed in the rankings reasoning businesses and employees had easier access to one another. However, in that ranking, one of the world's most overcrowded cities, Mumbai, came out first. Intuitively, that doesn't make sense. Cities reach a tipping point where density can no longer be considered a good thing and Mumbai is one of them (as former Mumbai city manager, Dr. Jairaj Phatak discusses on pages 44-46.) This year, we sought to find a better way of ranking density.

But the perils of subjectivity makes that hard. A Stockholmer or Sydneyite comfortable with access to ample open spaces possesses a perspective just as valid as a Tokyo resident comfortable in snuggler surroundings. The issues of density in developing or developed cities also bring different dimensions to consider, such as adequacy of infrastructure. Geology and access to resources dictate the level of density a city can support as well.

Meantime, engineers, builders and environmentalists are beginning to see the value of density and thinking may be beginning to evolve in new directions. Recent study has

Diversity ¹	Housing	Commute time ²	City livability	Thermal comfort ³	Natural disaster risk	Total
14	19	20	17	4	15	97
18	21	10	20	16	9	97
15	17	15	13	18	3	96
18	17	8	15	3	18	95
19	19	7	21	2	21	93
9	10	18	14	17	4	91
9	21	11	11	6	15	90
10	5	17	7	10	19	89
21	17	3	10	11	9	84
2	17	19	19	1	20	83
5	17	13	5	9	13	82
5	10	12	18	7	18	81
16	5	9	4	21	13	80
11	7	21	9	8	6	80
20	17	2	12	5	13	76
13	17	5	17	12	2	72
9	7	6	6	20	7	64
1	3	16	8	19	1	62
12	3	14	2	14	5	52
3	10	4	4	13	16	51
9	1	1	1	15	10	47

Each city's score (here 97 to 47) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.



1 Number of countries represented in each city whose population is over 0.5 percent foreign-born.

2 Average commute time for workers commuting into or within the city.

3 A thermal comfort ranking was created for each city by calculating the average variance from optimal room temperature (72 degrees Fahrenheit). The average January and June temperatures, along with the corresponding relative humidities, were used in our calculations.

gauged optimal density by the availability of resources that can support a particular city population without upsetting the balance of available resources—for instance, by creating too much waste, using too much water or poaching from surrounding areas.

To establish our own benchmark for optimal density, we sought the insight of Dr. Joel Cohen, head of the populations laboratory at Rockefeller University and Columbia University in New York and one of the world's preeminent demographers and experts in mathematical biology as it applies to human population growth.

“I agree that it makes little sense to suppose that the denser a city, the better,” Dr. Cohen said. “A hint of the correct approach lies in looking at criteria like access to markets and workers, and lack of sprawl.”

“Suppose you have some variables that measure things you really care about like average travel time to work, crime rate per capita or some economic indicators of productivity or income. If you found that there were some intermediate population density at which, say, per capita crime rate or daily travel time was minimal, then you would have located the optimal population density for crime

rate or travel time—not because anybody cares about population density per se, but because population density can be associated in the sample of cities with variables people really care about. Different densities might be optimal for different variables you value.”

In this year's report, to prevent any inadvertent biases, the variable has been left out. But properly defining optimal density remains an intriguing question for anyone who makes plans for, lives or works in a city. And the issue will only grow in importance as populations migrate and cities grow.



Today's Toronto accent comes

...in a world of inflections from immigrants who bring skills and a desire to help build the city's healthy multicultural mosaic

Canada's foreign-born population is growing four times faster than its native-born segment, and more than 4 in every 10 new immigrants to Canada settle in the Toronto region. South Asians and Chinese predominate the rising influx. Many immigrants are highly skilled, settle permanently and contribute quickly to the economy. To learn more about immigration and cultural cohesion in Toronto, *Cities of Opportunity* talked with an entrepreneur who immigrated to Toronto 19 years ago from India by way

of Kenya and Tanzania; a policy worker who came from Ghana as an infant; and a professor of urban politics. Pradeep Sood is founder of XactScribe, Inc., as well as, chair of the Ontario Chamber of Commerce. Naki Osutei is a project director at the Toronto City Summit Alliance and DiverseCity. Myer Siemiatycki, founding past director of Ryerson University's Immigration and Settlement Studies program, has researched and written extensively on social inclusion and cultural identity in Canada.

Do the three of you think Toronto is special? Is it doing things right in terms of immigration and establishing a culture of tolerance?

PS: Toronto has taken strong initiatives to help immigrants settle in a new country where they may experience a host of new challenges related to the climate, culture, language, government, labor market, etc. Respecting that Toronto is a diverse city, the government—at every level—has encouraged immigrants to retain their cultural identity as they integrate themselves into the community.

Is this a recent phenomenon, or is it just part of being Canadian?

MS: This is a recent turn for Toronto. It hasn't always been this way. Through the first half of the 20th century and arguably



Myer Siemiatycki, Pradeep Sood and Naki Osutei, left to right, at the Mies van der Rohe-designed Toronto Dominion Centre in the heart of the city's financial district.

Toronto is a place where people feel they can contribute. It may come out of a notion that the city is still building and finding itself. Among the younger generation, there's a feeling that we can help turn this very special city into something great.

Naki Osutei

into the 1960s and '70s, Toronto was regarded as parochial and hostile to identities of difference. If Toronto could make this move toward openness and inclusion, any city can.

What happened?

MS: Explicit racism and discrimination became less acceptable after the Second World War. And Toronto, like other Canadian cities, had gone two decades, through depression and war, with no immigration and a diminished birthrate. The country needed a population boost, so it opened its doors. In the 1950s the major influx came from Italy—a shock to staid Anglo Toronto. By the time we got to the Trudeau era in the '70s, following the openness of the '60s, we had a shared sense of multiculturalism.

NO: Toronto is a place where people feel they can contribute. It may come out of a notion that the city is still building and finding itself. Among the younger generation, there's a feeling that we can help turn this very special city into something great.

PS: Toronto is distinguished and enriched by the basic principle that we respect, learn from and celebrate each other's differences. Torontonians are free to follow their faiths and retain their cultural heritages while integrating into the community and reaching their potential. This has helped the city become uniquely recognized as a mosaic with multicultural, multilingual and multitalented individuals.

MS: How many cities the size of Toronto can say that half their population is foreign-born? New York may have a statue in the

harbor; we've got the immigrants. There's a threshold of immigrant draw to Toronto that's hardly matched by any other city in the world.

In a funny way we may have America to thank. Geographically speaking, we sit on top of the US and in many ways look and seem just like it. As Canadians, we need to find ways to distinguish ourselves. This question of how to deal with identities of difference has become a major way to set us apart. We've come to define ourselves not as a melting pot but, as Pradeep said, a mosaic.

So this is inherent to the Canadian character and not laid on as a politically correct thing to do?

MS: It's the definition of who we are as Torontonians and Canadians.

A Toronto approach is looking at the barriers to immigrant employment and acknowledging that we have a problem. The problem lies not with the immigrant; it lies with the way we traditionally have done things. That's something Toronto's not afraid to say.

Myer Siemiatycki

Do you think it's easier to achieve such cohesion in a smaller city like Toronto versus, say, Paris, New York or any other big city?

NO: Some cities and countries have a long history of ethnic homogeneity. By contrast, Toronto and Canada have a history of not knowing exactly what a Canadian is supposed to be. There's a sense that anyone can become a Canadian.

Is there no longer a pro-English-speaking sensibility in Toronto?

NO: There is a strong recognition of the value of immigration. There have been countless studies that have permeated the public consciousness showing that Toronto needs skilled people to propel our city forward and that many of these people are immigrants.

Is this a defining time in the history of Toronto, given the number of immigrants who are coming here and helping to reshape the city?

MS: One of the benchmark moments came a few years ago, when the 2006 census found that half of the city's population was foreign-born.

PS: Yes, the demographics in Toronto are rapidly changing. It is projected that by 2017, one out of five Canadians will be of South Asian origin. The years leading up to that will likely prove to be a defining period. What is critical is that all Torontonians be engaged in building and shaping the city on the social, economic and political fronts.

Describe Canada's immigration policy.

MS: Canada's Multiculturalism Act establishes that there is no single national culture in this country. This is a very significant piece of our integration solution, and it's a remarkable statement for a government to make.

We also have a well-defined process for choosing which immigrants to allow in. Nearly two-thirds are selected based on a point system that measures their human capital, taking into account such factors as educational background, work experience, language skills. Of the remaining immigrants, a quarter are granted admission for family unification—by far the most popular reason for immigration to the US—and 10 percent are admitted as refugees.

In New York, it's common to see a foreign-trained engineer driving a cab. What is Toronto or Canada doing to make it quicker for a skilled immigrant to find work that makes the most of his or her education and training?

MS: This is a shortcoming of our immigration system, too. Although we select most of our immigrants on the basis of human capital, we sometimes fail to convert that capital. Recognizing credentials earned in a foreign country is a major problem, one we're starting to address at the federal and provincial levels.

NO: There are also nonprofit organizations that intervene to support the newly arrived. The Toronto City Summit Alliance, in part-

nership with the Maytree Foundation, has developed the Toronto Regional Immigrant Employment Council. For a long time, the skilled immigrant was viewed only as a victim of the system. In developing the council, we flipped the narrative and said, "No, no, no, the skilled immigrant presents an opportunity for the system and there's actually a market failure inhibiting our society from realizing this potential."

MS: The common thread to this, which may be a Toronto kind of approach, is looking at the barriers to immigrant employment and acknowledging we have a problem. The problem lies not with the immigrant; it lies with the way we traditionally have done things. That's something Toronto's not afraid to say.

PS: We are not running away from the problem. We ask, "What's the best way of addressing it?" Then we explore options and try to implement the solution. The objective is to help foreign-trained professionals and skilled workers integrate into the workforce in a timely manner and obtain employment commensurate with their qualifications.

There's a very simple equation: We're born, we die and therefore we're all the same; by extension, it's in our self-interest to support mutual well-being. Why is this so hard for us to apply in our communities?

PS: I think there's a fundamental change occurring. Twenty years ago, the environment was different. Today, through open dialogue and increased awareness of cultural

diversity, we are moving in the right direction toward tolerance, acceptance, trust and respect—all necessary elements of civic engagement and social inclusion. The concern for mutual well-being continues to grow in this city and in Canada in general.

NO: I have a funny anecdote about this. When I was in primary school, many of my peers had “inside clothes”—the clothes they would wear at home—and “outside clothes”—the normal Western attire. You never wanted to have your inside clothes on in public. My family’s inside clothes were traditional Ghanaian batik-style fabrics, and I’d be embarrassed if my mom would wear them to my school. Today, all that’s changed. Inside clothes are outside clothes.

What tangible positive results do you see from this level of social cohesion?

MS: One of Toronto’s jewels is its public library system. Toronto has 99 library branches across the city and the highest per capita rate of borrowing of any city in the world.

Toronto didn’t experience the so-called white flight that many US cities did. Many of your ethnic neighborhoods remain intact. Is there a ghettoization here in a good or bad sense? And does Toronto’s relatively small size help in any way?

MS: Toronto is actually a very big city. And regardless, size just isn’t a factor. Paris, which is much larger than Toronto, has problems with ghettoization. Sarajevo, much smaller, looked good for a while and then it became hell with all its ethnic strife. Cities

are fragile places. How well they deal with immigration has more to do with what we’ve all been saying: the civic culture and orientation of the place.

PS: I don’t think we have what you call ghettos. *Neighborhoods* would be a more accurate term. Ours is a very civilized society.

Do you think people use Toronto as a stepping-stone to the promised land in the US?

PS: I think a percentage do. But I can assure you there’s a fairly large percentage who come here with that idea and then find themselves loving the city so much, they say to themselves, “I can do business with the US from here; I’m not moving there!” It tells you something about the city—because you can probably make more money outside. But I think, living in Toronto, you feel that while money’s important, it’s not the be-all and end-all. There are other things that are value propositions.

Naki, are you happy your father brought you here? Do you ever consider moving away?

NO: I definitely want to stay here. In fact, I’m working on a project with a group of emerging leaders—it’s about talent attraction and retention—and we’re talking to people my age who have traveled to live abroad. We’re asking them what made them go, and for those who’ve come back, what made them return. Almost to a person, they’ve said they can have a great job in New York on Wall Street, but they have a great life here. I think that’s the big difference.

Projecting ahead 50 years, how do you see Toronto looking and feeling?

MS: One of Toronto’s slogans is “The world in a city.” Our immigrants come from every country in the world. Unlike a Miami, unlike a Paris, unlike an Los Angeles, there are so many different groupings within the city that it looks very different from the European colonization from which it emerged. The city gives you a global sensibility, and I think it will be even more global in 50 years.

PS: I think the challenge is going to be in maintaining consistency. Where we are today in terms of being a global city, everything looks almost perfect, but keeping it that way will be a challenge given Toronto’s continuing growth. Which direction the city will go in 15, 20, 50 years nobody can say, but if our leaders and our people continue to follow the cornerstones of respect and tolerance, Toronto will certainly be a model city going forward. That’s what we all hope for and are trying to make happen.

But if you want to know in one sentence what Toronto is, it is a city with a heart.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

www.pwc.com/cities

Living in Toronto, you feel that while money’s important, it’s not the be-all and end-all. There are other things that are value propositions.

Pradeep Sood

Lifestyle assets

Lifestyle assets are a city's heart and soul. They show that a city is more than the sum of its parts, and measure what gives a city its unique allure. These attributes are more than window dressing—they help attract businesses seeking to relocate, skilled workers and visitors to spur the local economy.

The larger, mature cities—New York, London, Hong Kong and Paris—lead in the study as they did last year, but other cities do well in various categories. It can be expected that emerging cities will improve in these measures once they take care of basic needs.

The entertainment variable includes theater, music and film offerings; as well as sport and other leisure activities. New York, London, Los Angeles and Paris lead here, as expected, but they are joined by Sydney in the top ranking.

Beijing leads in number of hotel rooms, a residual effect of its hosting the 2008 Olympics. London does well in this measure also, which should serve it well as it faces an influx of visitors for the 2012 Olympics.

With the top score in number of international tourists, London attracts visitors and residents with entertaining things to do. London fares well with its entertainment rating and number of top 100 restaurants. Not surprisingly, the top restaurant spot is shared by Paris.

A dramatic cityscape makes an unforgettable impression on visitors and residents, and Hong Kong leads in the skyline impact measure with its glistening urban vista. Seen from its picturesque harbor, New York's skyscrapers and array of bridges are a visual treat, and the city follows Hong Kong. Singapore and Chicago fare well, too.

Fashion presence adds another notable element to a city's allure and glitter. New York leads as top fashion capital, followed by Paris, the historic home of haute couture, with London, Los Angeles and Hong Kong making good showings.

There is a price for a city's amenities, and the Business Trip Index is a measure of that. Toronto ranks best in this index, which includes such measures as taxi rates and cost of lunch. The index also assesses quality of the environment, entertainment and infrastructure. Sydney ranked second followed by Stockholm and Chicago.

Entertainment

21	New York	21
20	London	21
19	Hong Kong	12
18	Paris	21
17	Sydney	21
16	Singapore	8
15	Tokyo	13
14	Los Angeles	21
13	Toronto	15
12	Chicago	16
11	São Paulo	10
10	Dubai	4
9	Beijing	2
8	Shanghai	3
7	Stockholm	12
6	Mexico City	8
6	Seoul	5
4	Frankfurt	15
3	Mumbai	1
2	Santiago	6
1	Johannesburg	10

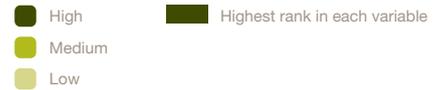
Luxury was ordinary for extraordinary people in 1900. Today luxury is extraordinary for ordinary people. It may be a once-in-your-lifetime or a once-in-a-while indulgence, but everybody can afford luxury.

Laurent Plantier of Alain Ducasse Entreprise

Hotel rooms	Skyline impact	Number of international tourists	Top 100 restaurants	Top global fashion capitals	Business trip index ¹	Total
16	18	17	12	18	11	113
20	6	21	14	16	7	105
14	19	20	11	14	14	104
17	3	18	14	17	13	103
18	8	7	10	12	20	96
10	17	19	9	7	16	86
19	12	8	9	10	12	83
7	4	11	0	15	17	75
9	10	16	0	3	21	74
8	16	3	6	0	18	67
13	15	4	6	13	4	65
11	11	15	6	11	6	64
21	9	12	6	0	9	59
15	13	13	0	9	5	58
6	0	2	9	5	19	53
12	5	10	6	4	3	48
5	14	14	0	0	10	48
4	1	5	0	2	15	42
3	7	9	6	8	1	35
1	2	1	0	6	8	24
2	0	6	0	2	2	22

Each city's score (here 113 to 22) is the sum of its rankings across variables. The city order from 21 to 1 is based on this score. See maps on pages 10–11 for an overall indicator comparison.

¹ The business travel index comprises the following five categories: stability, health care, culture and environment, infrastructure, and cost.





Laurent Plantier sees luxury

...as a defining spice in city life and in Alain Ducasse's recipe for selecting cities in which to cook

Alain Ducasse is one of the world's most highly regarded chefs—the first to hold three Michelin stars in three cities. Alain Ducasse Entreprise employs over 1,000 people and manages restaurants in Paris, Monaco, London, New York, Tokyo and Hong Kong, among many other cities. We spoke with CEO Laurent Plantier—who for the last decade has overseen the globalization and diversification of the business—about the bond between great cities and great restaurants, how tastes differ worldwide and how Ducasse chooses cities in which to locate.

When you branched out beyond France, what factors did you and Mr. Ducasse consider in choosing cities?

First, we decided that if we really want to be a global brand, we need to have a restaurant very well located in the five major cities—Paris, New York, London, Tokyo, Hong Kong—the best location and the top restaurants.

Is there a risk that diversification and globalization will dilute the Ducasse allure?

Yes. The paradox today of being a luxury brand—it's true for Louis Vuitton, it's even true for Hermès and it's true for us—is to be able to democratize your product and still preserve the measure of exclusivity. But I think if you don't do that, you die.

How do you balance exclusivity and democratization?

It's a difficult paradox. For us, we do it by creativity. One of the pitfalls would be to do exactly the same restaurant everywhere. Every time, we have a new story. Benoit in New York is not Benoit in Paris. To be a luxury brand means you are always interested in creation.

After New York, London, Paris, Tokyo, what led you to the next cities?

It's the demand for luxury.

What other criteria?

We try to look at what percentages of income people spend on food, because we know that there are some places in the world that it's not a matter if they're rich or



In the heat of the kitchen at Benoit, New York, Laurent Plantier maintains the cool he uses to select restaurant cities with Alain Ducasse.

When we do the same recipes, we need to adapt to local preferences... So, in France, the flavors will be very strong. In Japan, they will be very light. The same dish doesn't taste the same. But every time, we do French cuisine with French technique, made by Alain.

not. They simply don't spend on food, like in Germany. I think that the French spend 30 percent of their income on food. In Germany, it's in the 17 percent area, very low. When it's cultural, whether it's Ducasse or not Ducasse, you won't change it.

Anything else you look at before locating in a city?

We try to measure the attractiveness of the city—its business of tourism. Some cities are like New York, Paris, with global attractiveness. Other cities are local magnets like Chicago.

And then you look at seasonality because, for instance, Saint-Tropez is a global magnet but only during the summer. Even if it's a small city, it's still a global magnet. After we look at this, we examine everything related

to quality of the location: where we are in the city. And then everything related to the staff: social relations, quality of staff you can find there and also quality of life to be able to send a chef in a sustainable way.

If you were going to pick few cities, you're not in and you'd like to go to which would they be?

I would say Chicago for sure. Now we're starting after 10 years to understand a little bit the culture of the US. We also have critical mass in the country.

Would you consider going to Los Angeles?

Los Angeles is a difficult choice for us. It is not a restaurant city. It's not a city where the focus is on food. People go out. But we're not a nightclub business.

Venturing further afield, what other cities have you thought about?

We've considered Sydney. But it's too far for us. For the same reason that we are talking about critical mass, it would be difficult to operate in Sydney. Today, Singapore is closer.

You're in Singapore?

No. We work on projects there. But it's an interesting city. It's an issue to do a luxury restaurant in Singapore for everybody. There is a tradition of street food. Even wealthy people eat there. But it's also a city where they buy a lot of very expensive French wine.

Let's look at São Paulo.

It's a restaurant city. And if we want to expand in the Americas, we need to start to go away from only international global cities like New York.

When you go to a city, do you think about the city's brand and how it will support the Ducasse brand?

We think about that for all these cities. We need to be in London; we need to be in New York; we need to be in Tokyo; we need to be in Hong Kong. And then when you are there, do you need to be in Moscow?

Are you in Moscow?

No, we are not. But we've looked at many projects, and we turned them down. I think we could or we could not be in Moscow. I don't think it would add anything. The Russians who care already come to our restaurant in Paris or Monte Carlo. So does Moscow add something to the brand? I'm not sure. If you go to Taipei, does it add something to your brand? I'm not sure. It may be a good business decision; that's something different. On the other hand, some small places, like being in Saint-Tropez, may add something to your brand. Or Venice. We are not there, but maybe one day we will open a restaurant in Venice. It's a very cultural city; everybody goes there.

Taking a classic recipe, like duck à l'orange, do you do it differently in different cities?

Yes. First, we work with local products, which means that already the product doesn't have the same taste. If you try veal in Hong Kong, it will come from Australia. And if you cook it exactly the same way you cook it in Paris, you will make a mistake because it doesn't have the same consistency. If you don't change your recipes, you will fail.

Also, when we do the same recipes, we need to adapt to local preferences. In Japan, it is considered very impolite not to eat everything you are served. If you do a large portion, the Japanese will eat everything and not come back because they feel that it was uncomfortable for them. So we do much smaller portions in Tokyo. Also, they don't like salt. So, in France, the flavors will be very strong. In Japan, they will be very light. The same dish doesn't taste the same. But every time, we do French cuisine with French technique, made by Alain.

Have any cities pulled back more drastically from fine dining during the economic crisis or proven more resilient?

Yes, yes. We are very lucky in France. I'm not sure lots of French people notice the economic crisis when living there. In France, we have been very protected. We haven't seen a big drop in the restaurants' revenue in France. Even the decrease in VAT [value-added tax] may still stimulate demand. Maybe that's not true everywhere in France, but because we are located mainly in Paris, for us it's totally true. Otherwise, we have been hit everywhere else in the world.

Do you think that glamour and elegance make a city a city in our time?

Oh, yes. I think what has changed is luxury belongs to many more of us. At the beginning of the last century, luxury belonged only to aristocrats. Luxury was ordinary for extraordinary people in 1900. Today luxury is extraordinary for ordinary people. It may be a once-in-your-lifetime or a once-in-a-while indulgence, but everybody can afford luxury.

In the very finest restaurants people want a certain feeling about life, *art de vivre*?

Yes, yes. It's like a journey. We try as soon as a guest arrives to change his mood, to be sure that he will be with us for maybe two hours, and these two hours will be unique for him. It's an experience of sense. But I would say the superrich are also looking for a treat in terms of tradition, rarity, excellence, art and time of creation. Then we can add that people are looking for the privilege of being recognized.

Do you find that more in particular cities?

Being seen is part of New York. Fine dining is not a place to be seen in Paris. In New York, it is. There are places in New York where the guests don't want to eat. They want to be seen if they are there.

Do you think Paris will remain the world center of haute cuisine?

Yes. We don't have a culture of pizza and sandwiches in France. There are numerous restaurants that focus on the creativity of cooking. There will always be interesting restaurants in New York, and in Mumbai one day, and eventually everywhere. But having hundreds of excellent restaurants in France, you create a culture of chefs.

This interview has been condensed for publication. To read this and all the other full interviews, please visit our Website:

www.pwc.com/cities

We don't have a culture of pizza and sandwiches in France. There are numerous restaurants that focus on the creativity of cooking. ...[Having] hundreds of excellent restaurants, you create a culture of chefs.

Key to the variables

Air quality

The quality of a city's air measured by pollutants from such sources as vehicles and power plants.

Aircraft movements

A count of air traffic movements, including civil international passenger, cargo, and nonrevenue flights and excluding military and local flights.

Attracting FDI: Capital investment

The total value of greenfield (new, job-creating) capital investment activities in US dollars in the destination city funded by foreign direct investment from January 2003 through May 2009.

Attracting FDI: Number of greenfield projects

The number of greenfield (new, job-creating) projects in the destination city funded by foreign direct investment (FDI) from January 2003 through May 2009.

Biomedical technology transfer

A measure of how well institutions within each city transfer biomedical knowledge creation to technology and early-stage commercialization.

Business trip index

A weighted index of the cost of a trip to the destination city, including such measures as taxi cab rates, lunch prices, and quality of entertainment and infrastructure.

City carbon footprint

The annual amount of carbon dioxide emissions in metric tons divided by the city population.

City livability

Each city is assigned a total score for over 30 factors across 5 categories—stability, health care, culture and environment, education, and infrastructure—based on a rating of either acceptable, tolerable, uncomfortable, undesirable, or intolerable for each.

Commute time

The average commute time across all modes of transportation, measured in minutes.

Congestion management

A measure of traffic congestion policies for each city, scored on the level of congestion as well as the modernity, reliability, and efficiency of public transport.

Cost of business occupancy

Cost is measured by dividing the annual gross rent by square feet of Class A office space. Gross rent comprises lease rates, property taxes, maintenance, and management costs.

Cost of living

Measures the comparative cost of over 200 items in each city, including housing, transport, food, clothing, household goods, and entertainment.

Cost of public transport

The cost of public transport for the longest mass transit rail trip within the city boundaries; the cost of a bus trip is used for cities where there are no rail systems.

Crime

The number of reported crimes in a city, such as petty and property crimes, violent crimes, and street crimes.

Disease risk: Vaccines required to travel

Number of vaccinations recommended or required to enter the destination country.

Diversity

The number of countries represented in each city whose population is more than 0.5 percent foreign-born.

Domestic market capitalization

The market capitalization of a stock exchange is the total number of issued shares of domestic companies listed at the city's stock exchange(s) multiplied by their respective prices at a given time. The figure reflects the comprehensive value of the market at that time in millions of US dollars.

Ease of entry: Number of countries with visa waiver

The number of nationalities permitted to enter the country without a visa.

Ease of firing

Represents notification and approval requirements for termination of a redundant worker or a group of redundant workers, obligation to reassign or retrain, and priority rules for redundancy and reemployment.

Ease of hiring

Includes data on restrictions and regulations employers must follow when taking on new staff.

Entertainment

The quality and variety of restaurants, theatrical and musical performances, cinemas, and sport and leisure activities within each city.

E-readiness

Measures the ability of a country's consumers, businesses, and government to use information and communication technology to their benefit. Also assesses (1) citizens' ability to utilize technology skillfully, (2) the transparency of the business and legal systems, and (3) the extent to which governments encourage the use of digital technologies.

Financial and business services employment

Proportion of employees in the financial and business sector services to the total city workforce.

Flexibility of visa travel

Ranking based on the number of visa waivers available and the length of time for which the visa is granted. Any additional restrictions were counted as negatives.

Green cities

An index based on raw data as well as qualitative analysis such as garbage production per capita, gasoline price, price of electricity, recycling laws, private vehicles per capita, public transit's share of energy consumption, and smoking laws.

Green space as a percent of city area

The proportion of a city's land area designated as recreational and green spaces to the total land area.

Hotel rooms

A count of all hotel rooms within each city.

Housing

A measure of the availability, diversity, cost, and quality of housing, household appliances, and furniture, as well as household maintenance and repair.

ICT competitiveness index

The Information and Communication Technology (ICT) Competitiveness Index is based on an assessment of 120 quality competitiveness indicators, including availability and track record in ICT, availability of specialist skills such as those of scientists and engineers, access to venture capital, R&D capabilities, software exports, quality of ICT infrastructure, and specialization in software development.

Incoming/outgoing passenger flows

The total number of incoming and outgoing passengers, including originating, terminating, transfer, and transit passengers in each of the major airports serving each city. Transfer and transit passengers are counted twice. Transit passengers are defined as air travelers coming from different ports of departure who stay at the airport for brief periods, usually one hour, with the intention of proceeding to their first port of destination (includes various transport hubs: sea, air, etc.).

Infant survival rate

The probability of a child living until at least age one year.

Inflation

Reflects the rise in prices of goods and services, or the Consumer Price Index. Our inflation variable has been ranked according to how far a country deviates from a +2 percent inflation rate. The closer to 2 percent, the more favorably we view the inflation or deflation, because this is widely regarded as a target or healthy inflation rate in large international banks.

Level of shareholder protection

A measurement of the strength of minority shareholder protections against misuse of corporate assets by directors for their personal gain. The Strength of Investor Protection Index is the average of "transparency of transactions," "liability for self-dealing," and "shareholders' ability to sue officers and directors for misconduct."

Miles of mass transit track

The total miles of metro, tram, and light-rail track within the city, divided by the city population and then multiplied by 100,000.

Mobile phone penetration

The number of mobile phone accounts as a percent of the city population.

Natural disaster risk

The risk of natural disasters' occurring in or near a city. Hazards include hurricanes, droughts, earthquakes, floods, landslides, and volcanic eruptions.

Number of foreign embassies and consulates

The number of countries that are represented by a consulate or embassy in each city.

Number of Global 500 headquarters

The number of Global 500 headquarters located in each city.

Number of hospitals

A count of all hospitals within each city accessible to international visitors.

Number of international tourists

Annual international tourist arrivals for each city.

Number of medical schools

The number includes medical schools located in each city.

Percent of gross domestic expenditure on R&D

Total gross domestic expenditure on research and development in 2007 as a percent of gross domestic product.

Percent of population with higher education

The number of people who have completed at least a university-level education divided by the total population. The education level was set equivalent to a baccalaureate degree or higher from the US.

Political and social environment

A measure of relationships with foreign countries, internal stability, law enforcement, limitations on personal freedom, and media censorship.

Purchasing power

A measure that establishes a link between prices and earnings. Net hourly income is divided by the cost of a basket of commodities, including rent.

Recycled waste

The percent of municipal solid waste diverted from the waste stream to be recycled.

Registered taxis

The number of officially registered taxis in each city is divided by the city population and then multiplied by 1,000.

Rigidity of hours

Reflects flexibility in the scheduling of nonstandard work hours and annual paid leave for a business.

Share of top 500 universities

Each city's share of the world's top 500 universities.

Share of top 100 MBA universities

Each city's share of the world's top 100 MBA universities.

Skyline impact

The visual impact of completed high-rise buildings on their skylines.

Skyscraper construction activity

The count of skyscraper—buildings 12 stories or taller—construction projects in each city under way as of July 1, 2009.

Strength of currency (SDRs per currency unit)

The currency value of the Special Drawing Right, or the SDR per currency unit, is determined by summing the values of a basket of major currencies (US dollar, euro, yen, and pound sterling) in US dollars based on market exchange rates and the amount that can be bought by a given currency unit.

Thermal comfort

A thermal comfort ranking was created for each city by calculating the average variance from optimal room temperature (72 degrees Fahrenheit). The average January and June temperatures, along with the corresponding relative humidities, were used in our calculations.

Top 100 restaurants

The number of the World's 100 Best Restaurants located in each city.

Top global fashion capitals

The rank order of each city in an annual global survey of the top fashion capitals of the world.

Total tax rate

The total amount of taxes and any mandatory contributions required by local, state, and national law payable by a business as a percent of its profit. Does not include employer contributions to health care coverage.

Working age population

The proportion of a city's population aged 15 to 64 years to the total population of the city.

See the Web at www.pwc.com/cities for detailed background on all sources and definitions for the 58 variables in the study.



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See the Web at www.pwc.com/cities for greater depth and functionality. Model your own city by selecting the variables and cities you want to focus on for a customized, interactive look at the results. Read the full text of the eight interviews condensed in the report. Obtain a wider range of correlation analyses. Learn the detailed background on all sources and definitions for the 58 variables in the study.

The papers and printer used in the production of this study are certified to Forest Stewardship Council (FSC) standards, which promote environmentally appropriate, socially beneficial and economically viable management of the world's forests. The cover for this publication was printed on paper containing 100% postconsumer waste material, and the text was printed on paper containing 10% postconsumer waste material.

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|-------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------|
|  | 14 trees were preserved for the future |  | 3,161 lbs of ghg emissions not generated |
|  | 42 lbs waterborne waste not created |  | 3 barrels of fuel oil were not used |
|  | 6,073 gallons of wastewater flow were saved |  | 3,604 cubic feet of natural gas was not used |
|  | 672 lbs of solid waste were not generated |  | equivalent of not driving 3,127 miles |
|  | 1,323 lbs net of greenhouse gases were prevented |  | equivalent of planting 215 trees |
|  | 10,126,560 BTUs of energy were not consumed | | |

