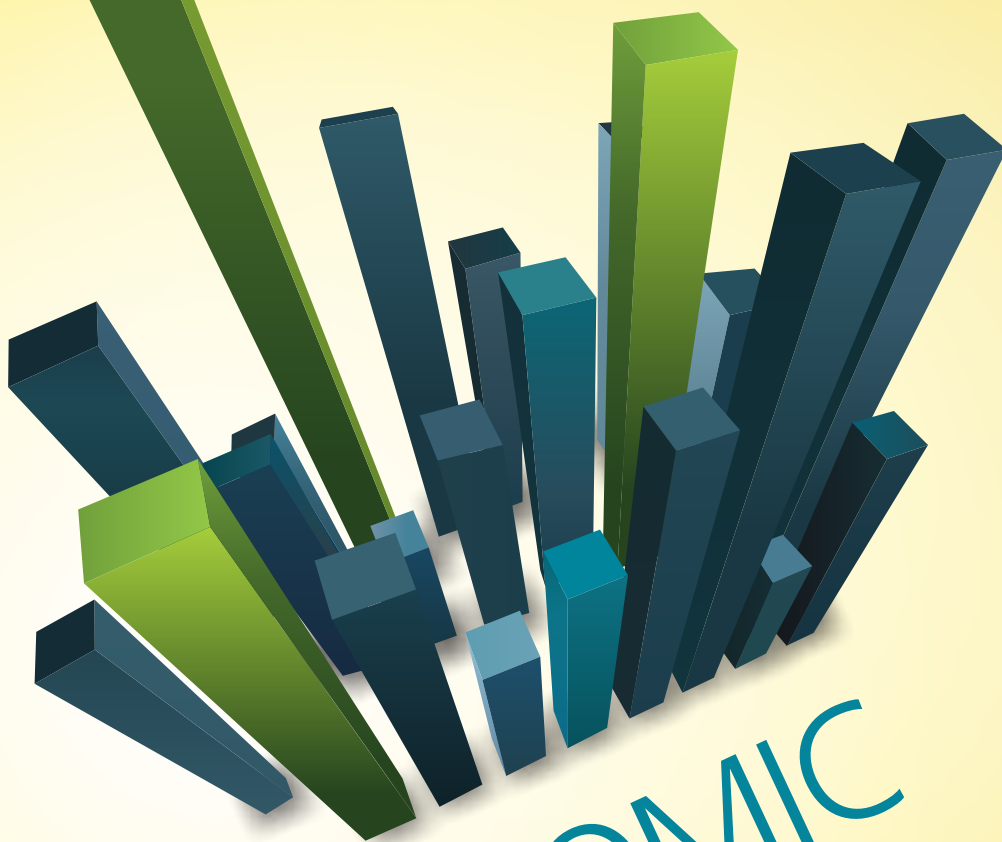


THE GLOBAL
URBAN ECONOMIC
DIALOGUE SERIES



THE ECONOMIC
ROLE OF CITIES

UN  HABITAT
FOR A BETTER URBAN FUTURE

THE GLOBAL
URBAN ECONOMIC
DIALOGUE SERIES



THE ECONOMIC ROLE OF CITIES

United Nations Human Settlements Programme
Nairobi 2011

UN  **HABITAT**

The Global Urban Economic Dialogue Series
The Economic Role of Cities

First published in Nairobi in 2011 by UN-HABITAT.
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HS/067/11E
ISBN (Series): 978-92-1-132027-5
ISBN(Volume): 978-92-1-132361-0

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FOREWORD



Urbanization is one of the most powerful, irreversible forces in the world. It is estimated that 93 percent of the future urban population growth will occur in the cities of Asia and Africa, and to a lesser extent, Latin America and the Caribbean.

We live in a new urban era with most of humanity now living in towns and cities.

Global poverty is moving into cities, mostly in developing countries, in a process we call the *urbanisation of poverty*.

The world's slums are growing and growing as are the global urban populations. Indeed, this is one of the greatest challenges we face in the new millennium.

The persistent problems of poverty and slums are in large part due to weak urban economies. Urban economic development is fundamental to UN-HABITAT's mandate. Cities act as engines of national economic development. Strong urban economies are essential for poverty reduction and the provision of adequate housing, infrastructure, education, health, safety, and basic services.

The *Global Urban Economic Dialogue* series presented here is a platform for all sectors of the society to address urban economic development and particularly its contribution to addressing housing issues. This work carries many new ideas, solutions and innovative best practices from some of the world's leading urban thinkers and practitioners from international organisations, national governments, local authorities, the private sector, and civil society.

This series also gives us an interesting insight and deeper understanding of the wide range of urban economic development and human settlements development issues. It will serve UN member States well in their quest for better policies and strategies to address increasing global challenges in these areas

A handwritten signature in black ink, appearing to read 'Joan Clos', with a long horizontal flourish extending to the right.

Joan Clos

Under-Secretary-General, United Nations
Executive Director, UN-HABITAT

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INTRODUCTION

The world has reached a turning point in 2008 for the first time in history, more than half its human population, 3.3 billion people, live in urban areas. The world's urban population grew from 220 million to 2.8 billion in the 20th century. The next few decades will see an unprecedented scale of urban growth. By 2030, this is expected to expand to about 5 billion. Such rapid urban expansion will be particularly notable in Africa and Asia where the urban population will double between 2000 and 2030. By 2030, the towns and cities of the developing world will make up 81 per cent of urban humanity¹.

Urbanization has been an essential part of most nations' development towards a stronger and more stable economy. The countries in the South that urbanized most rapidly in the last 10–20 years are generally those with the most rapid economic growth. Most of the world's largest cities are in the world's largest economies, which is further evidence of this link between economic wealth and cities. Cities and towns also have important roles in social transformation. They are centers of artistic, scientific and technological innovations, of culture and education. The history of cities and towns is inexorably linked to that of civilization in general (the Habitat Agenda).

Cities play an important role in economic development. Cities provide economies of scale, agglomeration, and localisation; they provide efficient infrastructure and services through density and concentration in transportation, communications, power, human interactions, water and sanitation services. They attract talents and skilled labor that allow specialization in knowledge, skills,

and management capabilities possible. They can achieve the economies of scale, agglomeration and urbanization².

Economic growth and urbanization are often positively linked. Cities are the driving force for economic development. Economic growth also stimulates urbanization. Such positive relationship is clear in many countries. However, urbanization can also occur in the absence of economic growth. For example, in some Sub-Saharan African countries, urbanization has occurred to a large extent independent of economic development³. Urbanization processes and patterns are also differentiated by different institutional settings and policies from country to country and region to region.

Despite the growing importance of cities in world affairs and national economic development, the position of the city is regarded as marginal to current debates and development controversies⁴. The negative impact of over-urbanization is often over-emphasized such as the concentration of poverty, slums and social disruption in developing cities. However, cities do represent the best hope for growth and opportunities. This paper illustrates the central role of cities as engines of national economic development.

THE ROLE OF CITIES

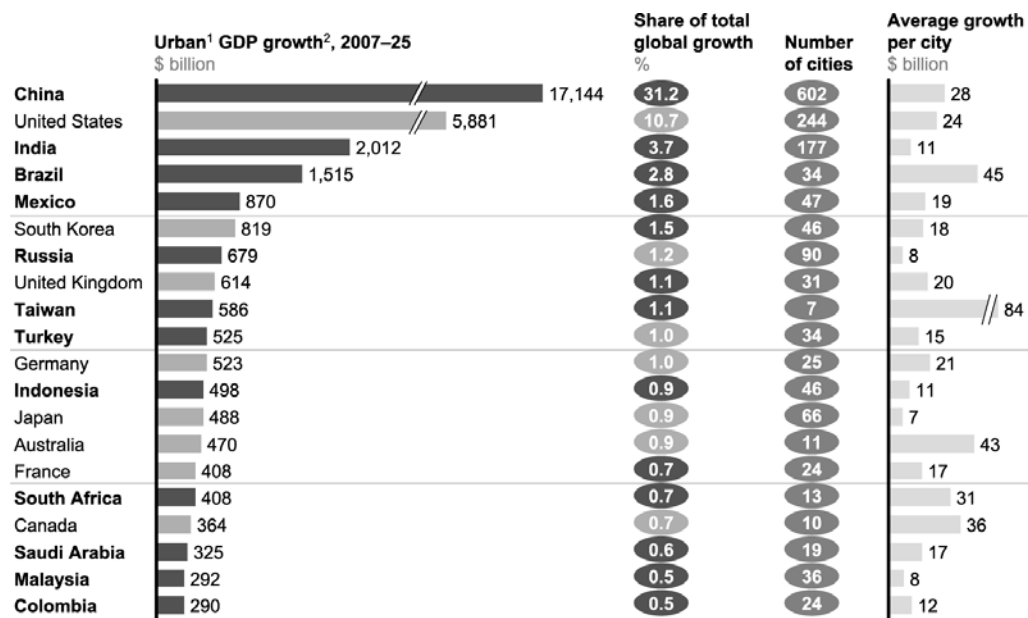
Advantages of Cities

Cities provide large efficiency benefits, which result in unprecedented gains in productivity and competitiveness. Cities are the centres of knowledge, innovation and specialization of production and services. Cities facilitate creative thinking and innovation. High concentration of people in cities generates more opportunities for interaction and communication, promotes creative thinking, creates knowledge spillovers and develops new ideas and technologies. Cities provide more opportunities for learning and sharing. Cities facilitate trade and commerce by providing super market places. Cities serve as production and services centres because the production of many goods and services is more efficient in a high-density urban environment. Cities provide consumers with more choices of goods and services. Cities are the agents of social, cultural, economic, technologic and political changes and advancement.

Economies of Agglomeration and Economies of Urbanization

The advantages of urbanization economies can be reflected in large functional urban regions, in particular in metropolitan regions. Such regions can embrace diversity and accommodate a variety of specializations inside the region. In a sense a metropolitan region is a high degree self-contained universe that generates a large share of its own demand. Metropolitan regions are different from other regions by being larger and capable of according more diversity. Firms select locations where co-location of agents, chain businesses and the formation of clusters that benefit from frequent contacts, where shopkeepers benefit from consumers' complementary shopping behaviors⁵. The economies of agglomeration and urbanization point to the phenomena where large urban regions are more productive. Countries with high levels of urbanization tend to contribute to the strongest urban GDP growth. Figure 1 projects the urban GDP growth in 2025. China, United States, India, Brazil and Mexico will have highest urban GDP growth by 2025. China will contribute to 31.2 percent of the global growth; United States, 10.7 percent; India, 3.7 percent; Brazil, 2.8 percent; and Mexico, 1.6 percent.

FIGURE 1: Countries with the strongest urban GDP growth tend to have large population and high levels of urbanization



1 Includes full Cityscope of ~2,000 cities. ■ Developing
 2 Predicted real exchange rate. ■ Developed

Source: McKinsey Global Institute 2011

Economies of Agglomeration

Agglomeration economies are the positive benefits of economic activities that firms obtain from being located in close proximity with those engaged in similar businesses or interests (i.e. agglomerating). It refers to the reduction of business cost as more efficiency and productivity occur because of positive technological and pecuniary externalities arising from the interaction of economic agents located in close spatial proximity due to economies of scale and knowledge spillovers. Certain degree of density is necessary to efficiently share some basic infrastructure and to reduce the user unit costs, particularly for specialized inputs of production including labor skills. Proximity may also facilitate the sharing of new ideas and dissemination of production techniques. Certain spillovers may

only be available in large cities such as those caused by diversity or access to international human capital. The incubation functions come more naturally to agglomerative cities. Diversity and specialization of resources and supplier functions are the major externalities of agglomeration⁶.

The logic emphasizing the role of diversity and specialization in enhancing economic efficiency suggests that national growth is enhanced by the combined forces of the heterogeneous features of modern cities and the level of specialization⁷. There are two types of economies which can be described as external economies of scale: localization economies and urbanization economies. “Economies of localization” arise from many different firms in the same industry located close to

each other. The main benefits are: 1) labour pooling allows firms to have access to a variety of skilled labour forces; 2) the development of industries due to the increasing return to scale in intermediate inputs of production; 3) the enhanced interaction, exchanges of ideas, supplies, and labour market due to the proximity⁸.

“Economies of urbanization” arise if economic activities benefit mainly from diversification of industries and/ or co-existence of different industries. Division of labour (i.e. specialization of functions between firms) can increase with the scale of the city. The larger the city, the more specialized operations and services can be formed. Providers of specialized services in large cities can achieve the economies of scale. But cities can not grow unlimited. If cities grow too big, other negative externalities increase such as congestion and pollution⁹.

City Clusters

The economies of agglomeration underline the laws and trends that determine the number, size, distribution, cluster or density of urban settlements. Human activities produce two main types of goods and services. One is lower order goods and services such as daily goods from grocery stores. The other is higher order goods and services such as sophisticated appliances from specialty stores. People are willing to travel only short distances to get certain lower order goods and services and to go further to get higher order goods and services. The people consumption preferences and behavior lead to the formation of urban systems comprising of urban centres of various sizes. Big cities offer a greater variety of higher order goods and services. There are few large cities (the sentence is hanging). There are

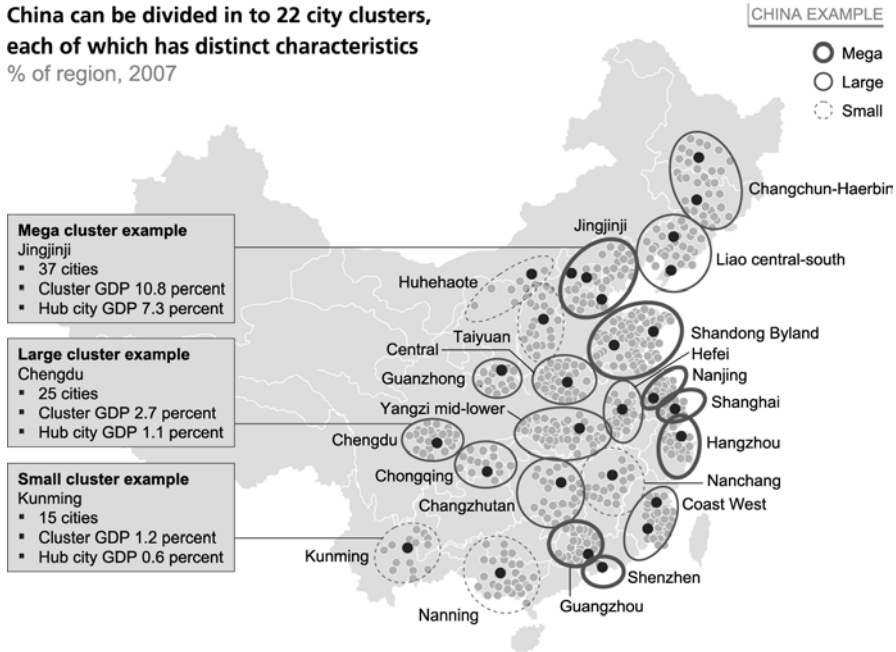
more small towns and villages offering lower order goods and services. The emergence of central cities or places results in the clustering of a hierarchy of cities¹⁰.

Specific types of industries and businesses tend to cluster together to achieve maximum competitiveness. They form vertical and horizontal linkages with other industries that supply their inputs or market and sell their products or services. The formation of city clusters depends on a number of local factors such as topography, climate, transportation, technological facilities, and the personal preferences of consumers. In the long historical development, transportation and infrastructure played an important role in leading to the agglomeration of enterprises and business activities. Firms tend to aggregate in development nodes that were in turn linked to other nodes to form clusters¹¹.

For example, 22 clusters can be identified in China where the clusters vary widely in their wealth; per capita GDP in the cluster around Shanghai is triple that of the inland cluster of the Changjiang River mid-lower, offering very different growth opportunities between the two. And market dynamics and consumer attitudes range widely, too. Shanghai has eight times the density of hypermarkets that Changjiang River mid-lower has; consumers in the Liao central-south cluster have three times the price sensitivity of their counterparts in Changjiang River mid-lower, and the impact of word of mouth on buying behavior is five times as high (Figure 2).

FIGURE 2: City Clusters in China

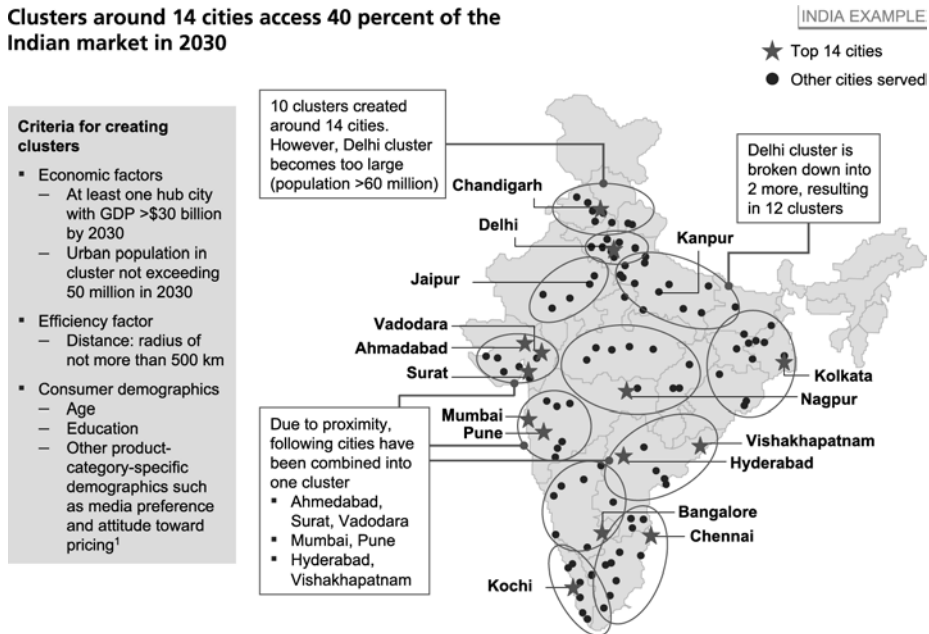
China can be divided into 22 city clusters, each of which has distinct characteristics
% of region, 2007



Source: McKinsey Global Institute 2011

FIGURE 3: City Clusters in India

Clusters around 14 cities access 40 percent of the Indian market in 2030



1 Not included.

Source: McKinsey Global Institute 2011

India, given its relatively early stage of urbanization, is an economy where 14 major clusters of cities capture significant shares of the country's population and GDP. These 14 urban agglomerations would cover 17 percent of the country's total population and 40 percent of India's total GDP in 2030 (Figure 3).

Three mechanisms enhance productivity¹²:

1. An entire industry may benefit from agglomeration, since the size of the agglomeration provides sufficient demand to allow individual firms with internal scale economies to develop differentiated products.
2. An individual firm may benefit from the option to buy more specialized inputs at lower transaction costs from differentiated input suppliers within the region.
3. An individual firm may benefit from knowledge flows outside the market (spillovers) that arise from proximity within an agglomeration.

Agglomeration can generate positive externalities. The agglomeration externalities are the key force behind clustering. Urban externalities involve diversity of suppliers and information spillovers about market conditions and technology. Clusters grow because they facilitate people's interaction and learning from each other. The proximity enhances the interaction. The second type of externalities comes from the industry diversity, particularly the diversity on innovation and diffusion of technologies in a city or region, which is the main factor driving regional and national economic growth. Cities pay an important role of external human capital for economic activity and the growth of knowledge¹³.

Urbanization economies are those economies of agglomeration, which accrue to firms across different sectors. People who work in sectors that feature localization economies will require

legal, real estate, retail, educational, health care, transportation, communication, and leisure services. While firms themselves may require services such as design, marketing, advertising, catering, packaging, transportation, real estate, communication, and security.

Gains from urbanization to the economy stem from several factors¹⁴:

- There are efficiency gains from having firms located in the same place. The variety of goods offered is greater, search and travel costs are reduced, and competition is stronger. This is what we call 'economies of scale.' A good example is a shopping mall which leads to efficiency gains in retail.
- Firms want to be close to their customers, whether they be firms in the same industry or a mass of consumers. This creates a powerful force for clustering of firms in related industries in cities. Firms are then able to learn about and imitate the practices of other firms in the industry. Good examples include the clustering of software firms in Bangalore and car manufacturers in Detroit.
- Cities are also centers of innovation in the production of ideas, knowledge, and their commercialization. People can absorb knowledge from contact with more skilled individuals in their own industry. Large cities therefore facilitate learning, and are particularly attractive for highly-talented young people, e.g., London.

Other benefits of moving to cities include political access, enhanced by proximity to the administrative and governance center, as well as the anonymity that city life brings. The latter is especially the case in India where urbanization can often mean freedom from the oppressive caste system of the villages.



Shanghai drives the economic development of the Changjiang River Delta region

Photo ©: UN-HABITAT/X. Q. Zhang

Higher Productivity in Cities

These advantages make cities more productive than in rural areas. No countries have achieved sustained economic growth without the growth of cities. Cities are the driving force of national economies. Cities generate disproportionately higher rate of economic growth than in rural areas. They generate more than 80 percent of global GDP today. Of which the top 100 largest cities could account for 35 percent of global GDP; the top 600 cities are expected to generate 62 percent of global GDP; the top 1,000 cities could account for 68 percent of global GDP and the top 2,000 could account for 75 percent of global GDP (Figure 4).

In developed countries, statistics show that cities have higher productivity per capita than rural areas. For example, Tokyo with 26.8 percent of the national population, produced 34.1 percent of national GDP. London has 20.3 percent of population and accounts for 25.4 percent of GDP. Paris, with 16.2 percent of national population, accounts for 26.5 percent of national GDP. Dublin with 25.9 percent of population generates 32.8 percent of GDP. Auckland, Vienna and Helsinki generate about 50 percent higher of GDP than their respective population share (Figure 5).

FIGURE 4: Economic Contributions of Top 2,000 Cities

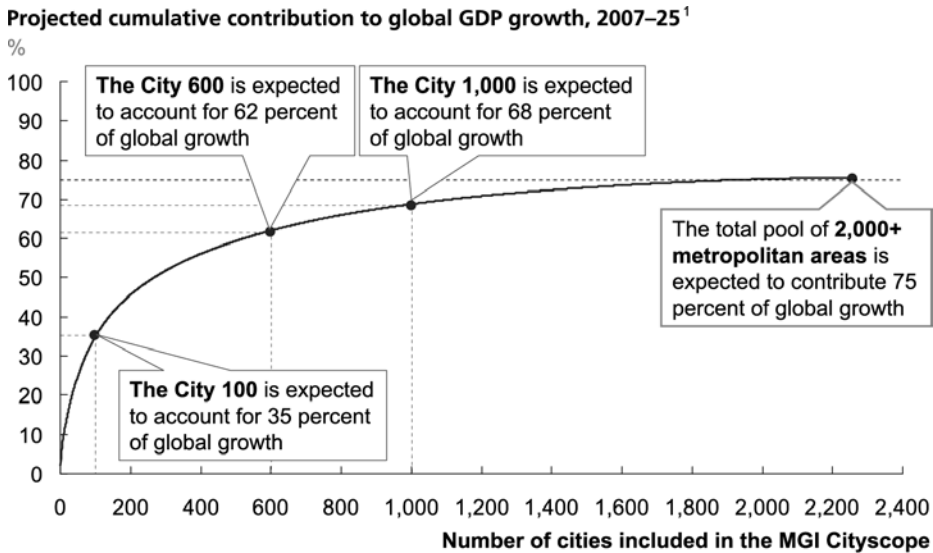
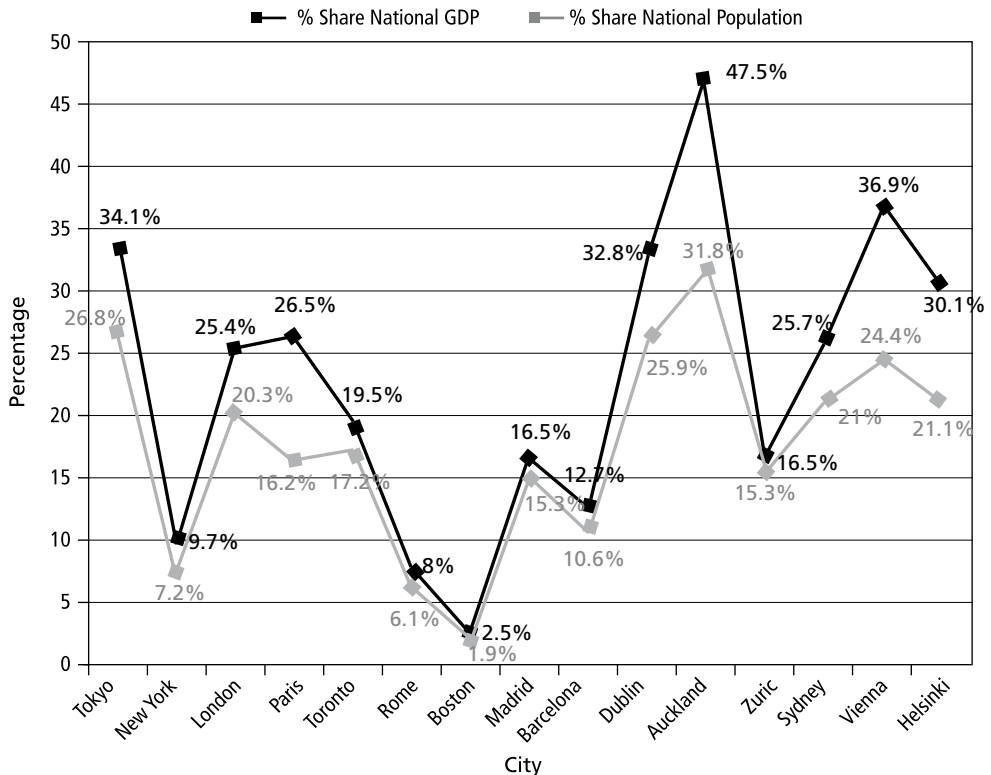


FIGURE 5: Share of National Population and GDP in Key Cities in Developed Countries



Variation in Productivity within Country

Cities are normally more productive than their rural areas in their own countries. The productivity and income in cities varies within countries. For example, the average income per capita in 2007 in the San Francisco metropolitan area was above USD 60,000 , while the average income per capita was under USD 20,000 in Brownsville, Texas. Per capita gross product in New York is more than three times higher than in El Paso¹⁵.

Variation in Growth between Cities

Economic growth drives the population growth. Dan Diego's population grew by 9 times between 1950 and 2000, while the total US population grew less than 2 times. Zhenzhen saw its population multiply by a phenomenal 20 times in 25 years' time. Surat, in western India has also grown by many times the national average¹⁶.

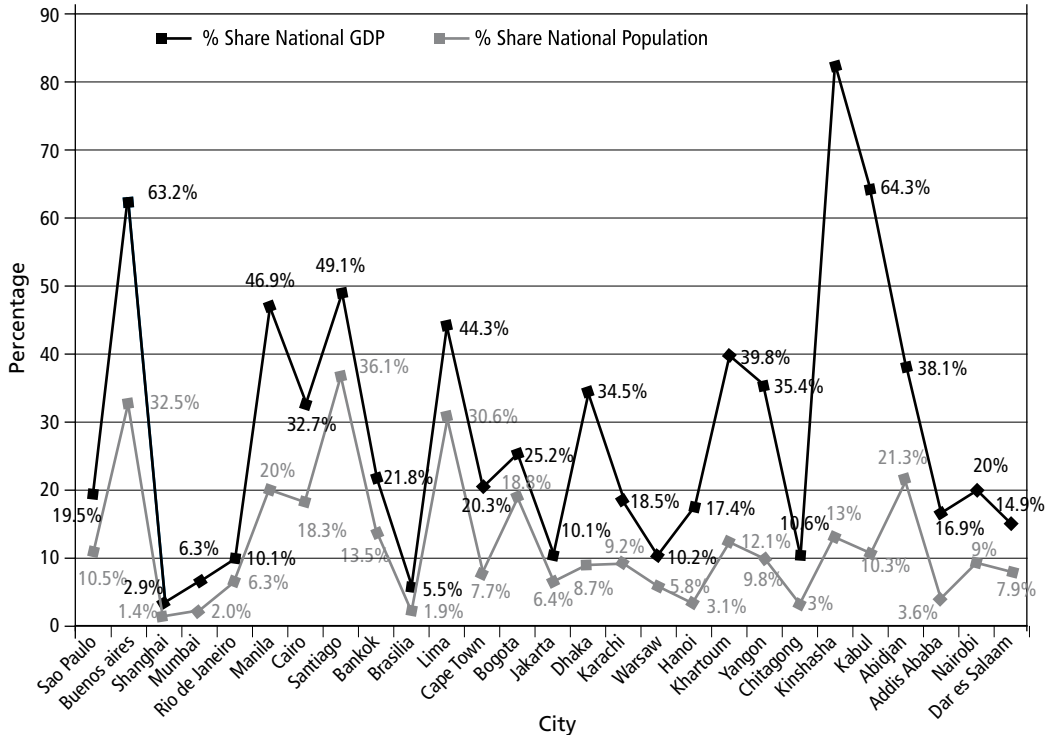
Why do some cities grow faster? In general, the growth drivers of cities come from two main sources. Firstly, it is from the natural advantages of cities such as being on a coast, waterway, or having a favorable climate. Many global cities are located at the coastal areas such as New York, Shanghai, Hong Kong, Amsterdam, Boston, Singapore, Barcelona, Mumbai, Lagos, Copenhagen and Lisbon. Secondly, being the hub of industrial activity, or trade and transport etc. This includes knowledge centres. Other growth drivers of cities include the administration and governance seats, and the level of infrastructure. We can call these are local assets. Once there are considerable local assets driving the city to grow, it will continue to attract firms, workers, and consumers to create a cluster effect¹⁷.

In the US, cities in the sunbelt of California, Miami and Florida have gained at the expense of mid-western towns, in part due to favorable climate conditions. In China, emerging centres of urban economic activities in Shenzhen, Dongguan, Shanghai and Guangzhou have in part had a strong manufacturing base which has fueled their rapid economic growth¹⁸.

Greater Contribution of Cities to National Economy in Developing Countries

The central role of cities in national economies is more significant in developing countries than in developed countries. For example, Sao Paulo has 10.5 percent of population and generates 19.5 percent of GDP. Shanghai, with a 1.2 percent of population generates 2.9 percent of GDP. Buenos Aires, with a 32.5 percent of population produces 63.2 percent of GDP. Mumbai, with 2 percent of population, accounts for 6.3 percent of GDP. Nairobi, with 9 percent of population, generates 20 percent of GDP, Dar es Salaam, with 7.9 percent of population, accounts for 14.9 percent of GDP. In Shanghai, Manila, Brasilia, Cape Town, Karachi and Nairobi, cities generate more than 100 percent higher GDP than their population share. In Dhaka, Yangon, Chittagong, Khartoum, Mumbai, cities generate more than 200 percent higher GDP than their population share. In Addis Ababa, it generates more than 360 percent higher GDP than its population share. In Hanoi, it produces more than 460 percent higher GDP than its population share. In Kinshasha and Kabul, cities generate more than 500 percent higher GDP than their population share (Figure 6). Estimates of the contribution of cities to total GDP in India range from 60 percent to 80 percent¹⁹.

FIGURE 6: Share of National Population and GDP in Key Cities in Developing Countries in 2008



Source: Based on data of PriceWaterHouse Coopers; International Monetary Fund; and National Statistics

Higher Urban Productivity in Developed Countries than in Developing Countries

Cities in both developed and developing countries play crucial roles in driving national economic development. Statistics show that cities are much more productive than rural areas in developing countries than in developed countries. However, this does not mean that cities are more productive in developing countries than in developed countries. In fact, the productivity in cities is generally higher in developed countries than in developing countries. For the GDP per capita was USD 113,000 in Tokyo in 2005; USD 100,000 in Helsinki; USD 90,000 in Boston; USD 112,700 in Osaka; USD 81,000 in New York and USD 75,000 in London. The GDP per capita is much lower in leading

cities in developing countries. For example, it is USD 12,300 in Shanghai; USD 22,000 in Mexico City; USD 20,600 in Guangzhou; USD 21,300 in Budapest; USD 13,000 in Bangkok; and USD 1,432 in Bangalore²⁰.

Larger Gap and Inequality in Productivity in Developing Countries

But it also reveals the fact that the productivity gap and inequality of development between cities and rural areas are much larger in developing countries than in developed countries. The large productivity gap and inequality of development between cities and rural areas in developing countries leads to the enlarged income gap between urban and rural areas, which in turn drive rural

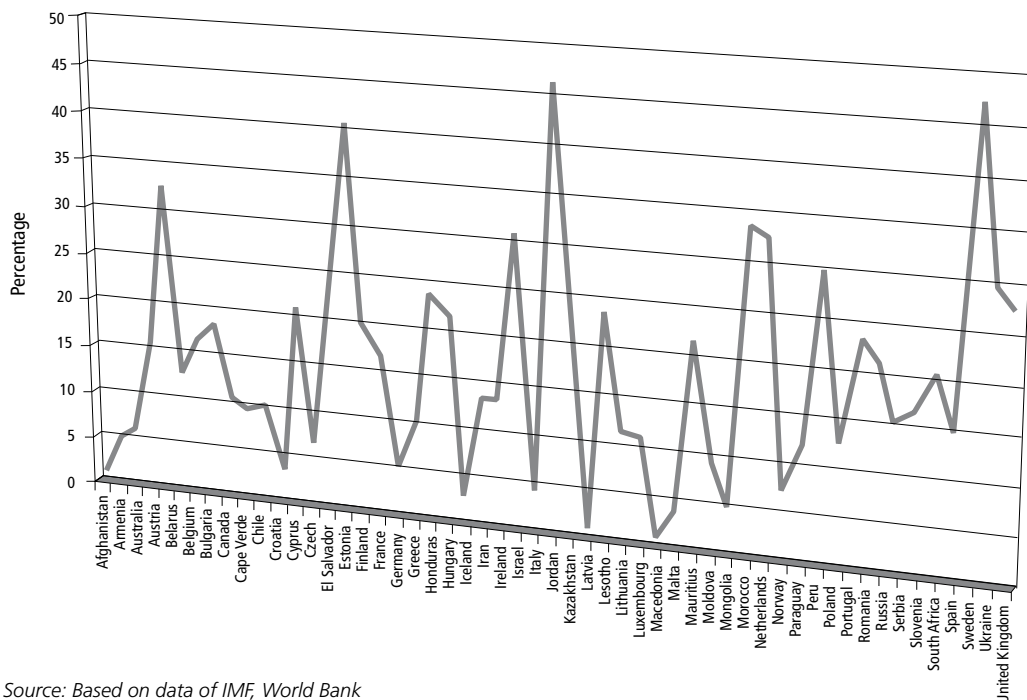
population to migrate to cities to search for better opportunities and prosperity. The influx of massive rural population to cities creates shortages of resources to provide housing and services for all citizens in cities. Therefore, the engines of economic development become the engines of migration. The over-paced migration over economic development turns into the engine of slum formation. This is why Manila, Karachi, Nairobi, Dhaka and Mumbai are the engine of economic development on one hand and they are also cities of slums on the other hand.

Higher Productivity and Under-Resources in Cities

The contribution of cities to national economic growth is very significant in developing countries. The economic future of developing countries depends much more on cities than even before. Cities generate wealth

much faster than their rural counterparts. However, cities are seriously under-resourced to fulfill their potential as drivers of national economic development and prosperity. Cities face many challenges, from accelerating growth, influx of massive rural migrants, deteriorating infrastructure to environmental degradation, social exclusion, violence, under-investment, lack of fiscal freedom and policy choices. Municipal governments often lack financial means to address the vast challenges facing them. For example, of the total government revenues in Canada, the federal government receives 39 percent; provincial governments receive 50 percent and municipal governments only get 11 percent. Municipal governments in most countries have less than a quarter of total government revenue. In many countries such as Afghanistan, Armenia, Australia, Chile, Cyprus, El Salvador, Greece, Honduras, Iran, Jordan, Lesotho, Malta, Mauritius, Mongolia, Morocco and Paraguay, municipal governments are allocated less than

FIGURE 7: Local Governments' Share of Total Government Revenue in 2008



Source: Based on data of IMF, World Bank

10 percent of the government revenues (Figure 7). International development community also ignores the need of cities. For example, the total urban assistance to developing countries from 1970 to 2000 was about US\$ 60 billion, about US\$ 20 per capita. It was less than US\$ 1 dollar per capita per year²².

Gap in Income and Benefits between Cities and Rural Areas

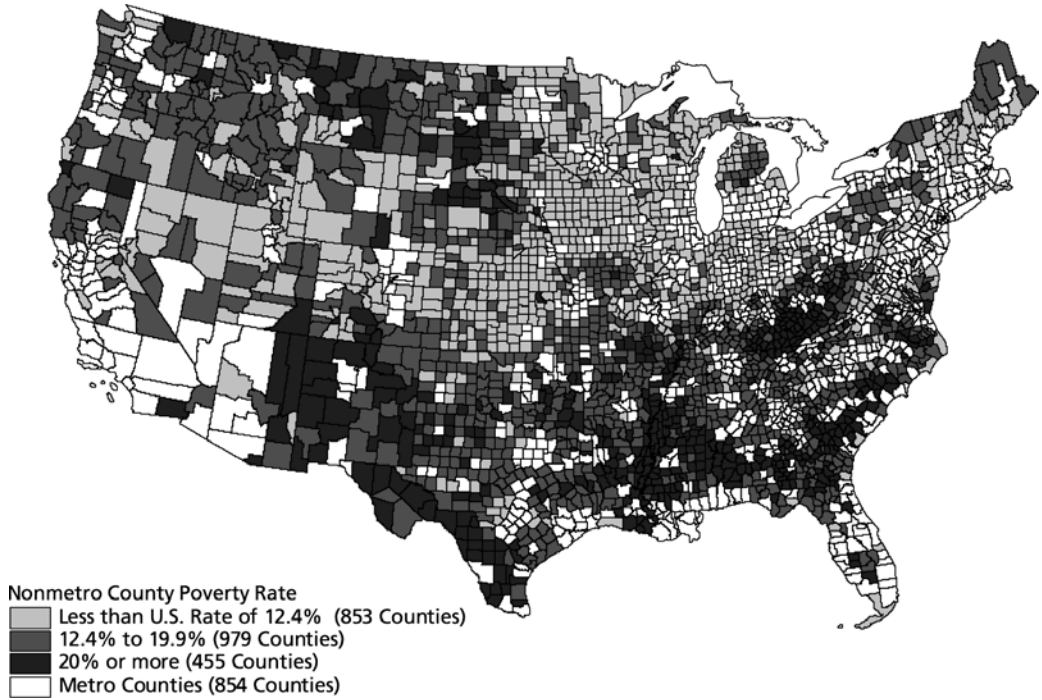
Income per capita in cities is normally higher than in rural areas. The income gap between urban and rural areas has widened in China since 1994. The urban-rural income ratio was 3.21 to 1 in 2006. This calculation did not include the non-monetary benefits urban residents have such as housing, education, medical care and social security. If we consider these social benefits, then the urban-rural income gap is much wider. The number of high school graduates in urban areas is 3.4 times higher than in rural areas. The number of vocational high school graduates in urban areas is 6.1 times higher than in rural areas. The number of junior college graduates in urban areas is 13.3 times greater than in rural areas. The number of college graduates in urban areas is 43.8 times greater than in rural areas. The number of post-graduates in urban areas is 68.1 times higher than in rural areas²³.

Cities as Poverty Reduction Mechanisms

The importance of cities in poverty reduction has become increasingly prominent. Cities are proven to be better poverty fighters than their rural counterparts. For example, average incomes of urban residents are four times higher than those of rural ones in countries such as China and Thailand. China, with its pro-urbanization policies, has removed 220 million people from poverty in less than 25 years. With economic growth highly correlated with poverty reduction, the high growth of cities bodes well for poverty reduction²⁴.

The American cities proved the similar poverty reduction effects as those of China and Thailand. Cities are generally better off than rural areas. There is less poverty in cities than rural areas. In the United States, 1,610 Of 2,288 non-metro counties have a poverty rate above the national average rate, outnumbering metro almost 5 to 1; 979 non-metro counties have a poverty rate from 12.4 percent to 19.9 percent; 455 non-metro counties have a poverty rate of 20 percent or more (Figure 8). Of the 500 poorest counties, 459 are non-metro, outnumbering metro 11 to 1.3. Of the 500 lowest per capita income counties, 481 are non-metro, outnumbering metro 25 to 1. And of the 500 highest per capita income counties, only 150 are non-metro, outnumbered by metro more than 2 to 1²⁵.

FIGURE 8: **Non-Metro Counties Poverty Rate in 2000**

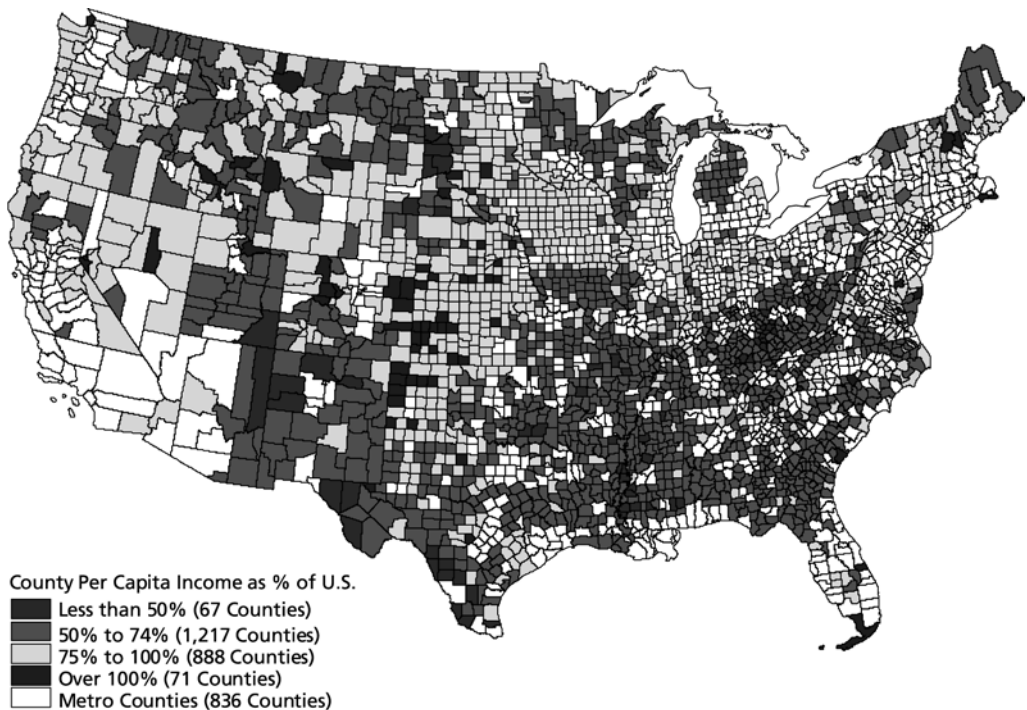


Source: Kathleen K Miller & Thomas D Rowley (2002), *Rural Poverty and Rural-Urban Income Gaps*, RUPRI Data Report 2002-5

In term of per capita income, most non-metro counties are below the national average. Some 62 non-metro counties are less than half of the national average per capita income. 1,358 non-metro counties have 50 percent to 74 percent of the national average per capita income. 774 non-metro counties have 75 percent to 100 percent of the national

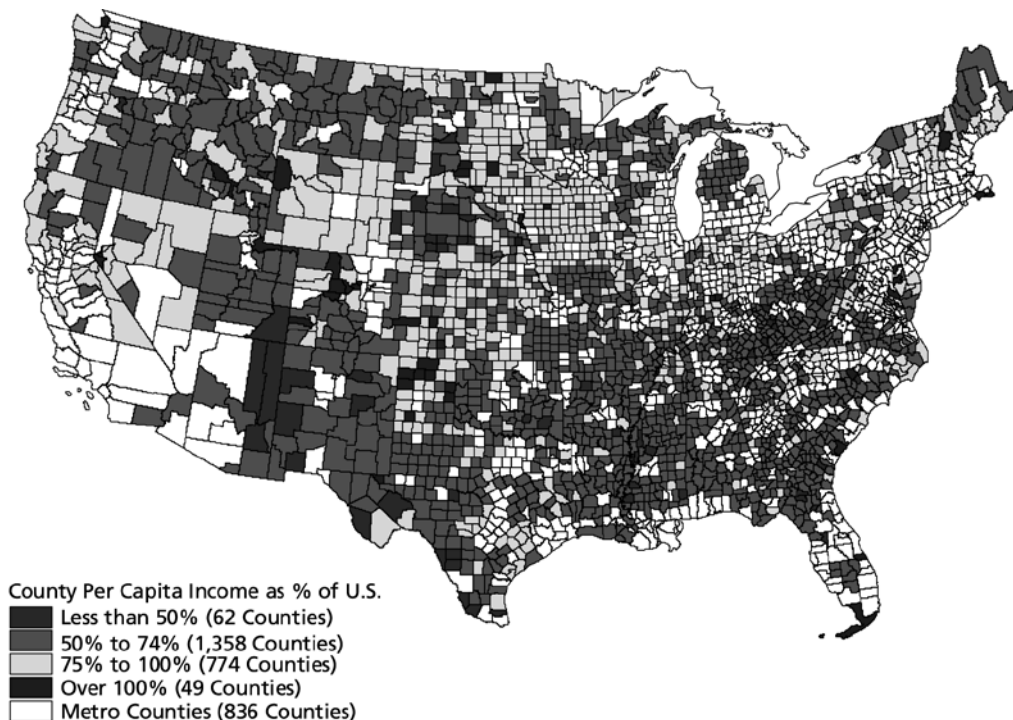
average per capita income. Only 49 non-metro counties are above the national average per capital income. Compared to the year 1990 to year 2000, the number of non-metro counties above the national average per capita income decreased from 71 to 49 (Figure 9 and 10).

FIGURE 9: Non-Metro County Per Capita Income as Percentage of USA Per Capita Income in 1990



Source: Kathleen K Miller & Thomas D Rowley (2002), *Rural Poverty and Rural-Urban Income Gaps*, RUPRI Data Report 2002-5

FIGURE 10: **Non-Metro County Per Capita Income as Percentage of USA Per Capita Income in 2000**



Source: Kathleen K Miller & Thomas D Rowley (2002), *Rural Poverty and Rural-Urban Income Gaps, RUPRI Data Report 2002-5*

Wealth Generation in Cities

Cities are the drivers for wealth generation. In 2009, the world's most economically powerful cities were Tokyo, New York, Los Angeles, London, Paris, Chicago, Osaka, Mexico, Washington DC, and San Francisco. Tokyo produced USD 2.99 trillion; New York produced USD 2.63 trillion; Los Angeles produced USD 1.79 trillion; London produced USD 695.6 billion; Paris produced 658.1 billion; Chicago produced USD 657.1 billion; Osaka produced USD 525.5 billion; Mexico produced USD 452.1 billion; Washington DC produced USD 384.5 billion; and San Francisco produced USD 374.5 billion²⁶.

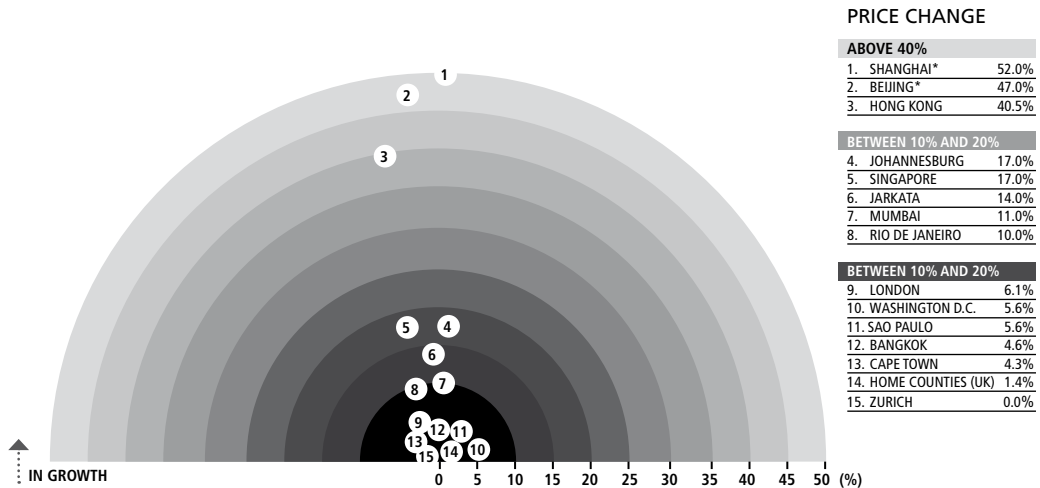
Either Tokyo or New York's economy is larger than the individual national economies such as Italy, Spain, Canada, Russia, South Korea, Brazil, and India. London's economy ranks as the ninth largest in all of Europe, larger than the individual national economies such as Austria, Greece, Portugal, Switzerland, Sweden and Belgium. The top 10 cities in Europe are London, Paris, Milan, Madrid, Rome, Berlin, Hamburg, Munich, Barcelona, and Stockholm²⁷.

In terms of prime residential price, Chinese cities have the highest growth rate in price, which makes Chinese cities the most attractive investment assets. 8.5 million new residential

units were sold in China in 2009, compared to about 500,000 in USA. The average prices of housing units in urban Shanghai, Beijing and Shenzhen increased 87 percent, 63 percent and 66 percent respectively. Prime residential price increased 52 percent in Shanghai; 47

percent in Beijing; and 40.5 percent in Hong Kong; 17 percent in Johannesburg; 17 percent in Singapore; 14 percent in Jakarta; 11 percent in Mumbai; 10 percent in Rio de Janeiro in 2009 (Figure 11).

FIGURE 11: Prime International Residential Index in 2009



Source: Knight Frank (2009), *The Wealth Report 2009*

Rapid Wealth Accumulation in Cities in Emerging Economies

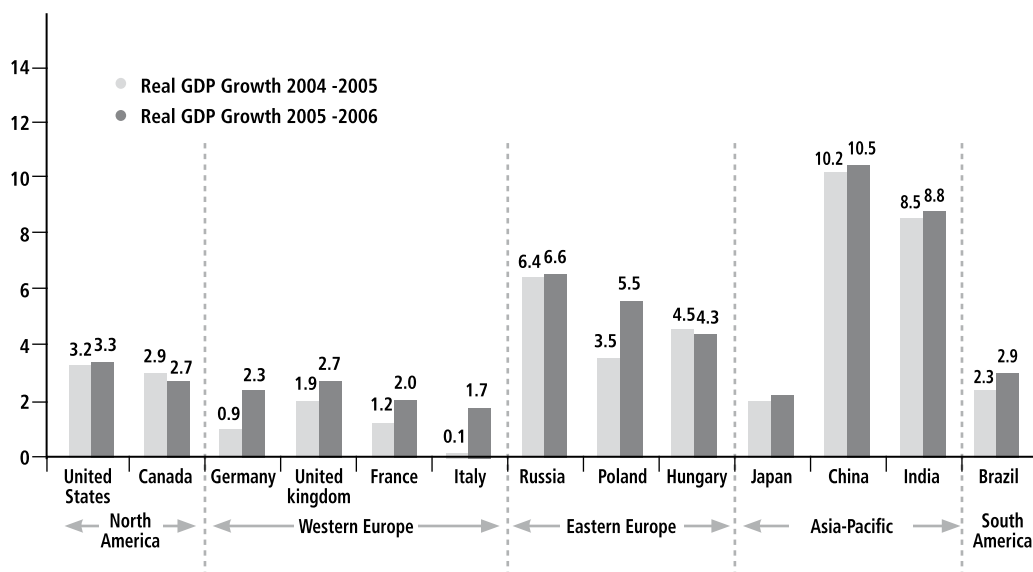
Rapid urbanization and industrialisation drive the rapid economic growth in emerging economies. GDP growth rate in Russia was 6.4 percent in 2005 and 6.6 percent in 2006. It was 2 times that of United States, and more than 2 times that of Canada, Germany, United Kingdom, France and Italy. GDP growth in India was 8.5 percent in 2005 and 8.8 percent in 2006. GDP growth rate in China was two digital at 10.2 percent in 2005 and 10.5 percent in 2006 (Figure 12).

Figure 13 shows that returns on investment in Brazil, India, Russia and China are much higher than in Japan, UK, United States, France, and Germany. For example in 2006, annual returns on investment in stock in

Japan, UK, and US were respectively 6.9 percent, 10.7 percent, and 13.6 percent. While the annual return on investment was as high as 32.9 percent (where and when?). It was 46.7 percent in India and 70.7 percent in Russia. Annual return on investment in Shenzhen stock market in China was 96.4 percent and it was incredibly as high as 130.6 percent in Shanghai, China.

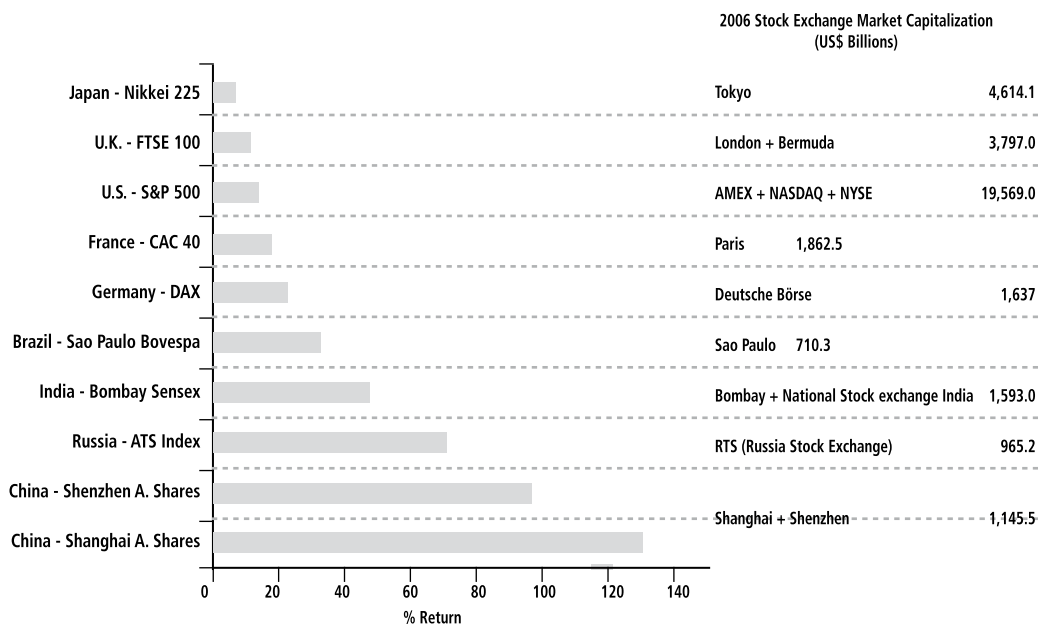
The global financial crisis has impacted the global economy and many countries experienced negative growth in 2008-2009. Some emerging countries such as China and India still maintain rapid economic growth during the period of global financial and economic crisis, and have become the most important economic force for global recovery (Figure 14).

FIGURE 12: Real GDP Growth in Selected Countries 2005-2006



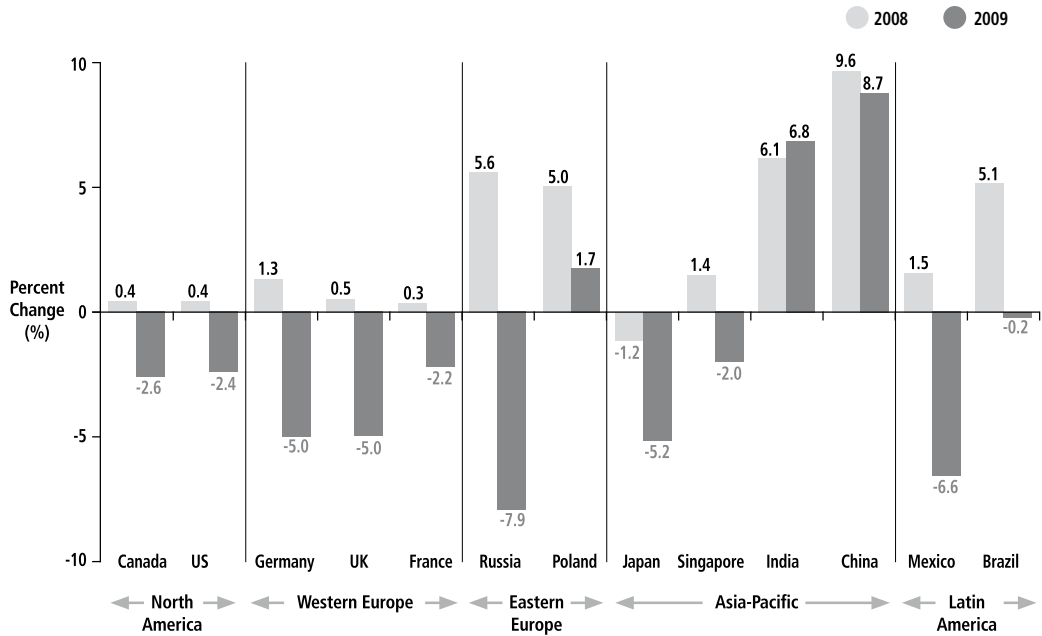
Source: The Economist Intelligence Unit, February 2007

FIGURE 13: Returns on Global Stock Market Indexes, 2006



Note: Stock market capitalization values include all companies listed on exchange
 Source: "Year-End Review of Markets & Finance," The Wall Street Journal, January 2, 2007; Russian Stock Exchange, <http://www.rts.ru/en>, accessed April 2007

FIGURE 14: Real GDP Growth 2008-2009



Source: Economist Intelligence Unit – April 2010. Real GDP variation over previous year.

Capturing Land Value in Cities

Cities generate tremendous wealth. In this process, local governments help to create land value through better urban planning and creating friendly business environments. It is very important for governments to capture land values to re-invest in the city to improve its infrastructure and business environment. Land value capture is a mechanism by which governments capture part of land value created by public intervention such as improved accessibility and an increase

in business opportunities²⁸. There are four common mechanisms to capture land value: 1) government purchases land and resells it at increased land prices or through long-term leases; 2) government introduces a land tax to be paid annually based on the land value; 3) government introduces a tax on income generated from the sale of land and buildings at appropriate personal and business tax rates; 4) introducing taxes or user charges (Table 1).

TABLE 1: **Mechanisms to Capture Land Value**

MECHANISM	DESCRIPTION
Government purchase and ownership of land, with resale and developed land prices or providing development and use rights through long-term leases.	This enables value increments created by re-zoning (or the expectation of investment in social infrastructure) to be captured. There are substantial practical difficulties associated with such an approach in many areas other than on the urban fringe where the land commissions have established an acceptable political and institutional precedent.
A uniform land tax, paid annually without discrimination.	This is an effective and non-distorting approach that would also appropriate increments generated within use classes and not only at the time of upgraded development rights (as is normally proposed with betterment taxes).
A tax on income generated from the sale of land and buildings at appropriate personal and business tax rates, providing tax deductibility for the value of improvements.	This would act as an effective betterment tax. Such a system could replace capital gains tax (at least as it applies to land and buildings).
Taxes or charges applying to the 'unearned increment' of value increases only.	The classic application of betterment taxation theory. It seeks to capture the difference between the unimproved value of the land at its current use and its unimproved value following re-zoning.

Source: Medda F R & Modelewska M (2011) *Land Value Capture as a Funding Source for Urban Investment*, Warsaw: Ernst & Young Poland

The impressive achievements of modern urban development and infrastructure in China are largely benefited from the land value capture through land sale. 76.6 percent of local government revenue in China was from land value capture in 2007 (Table 2). The share of land value capture in total local government revenue is about 2 times that of Australia and the United States. In Australia, 37.8 percent of total local government revenue was from land value capture (in 2002)²⁹. In the United States, about 38 percent of local government revenue was from land value capture (in 2006)³⁰.

TABLE 2: **Ratio of Land Sale Income to Local Government Revenue in China, 2001-2011**

Year	Ratio of Land Sale Income to Local Government Revenue
2001	16.6 %
2002	28.4 %
2003	55.0 %
2004	53.9 %
2005	39.0 %
2006	44.1 %
2007	55.2 %
2008	33.5 %
2009	46.0%
2010	76.6 %

Source: Ye Jianping (2011)

Assets and Competitiveness of Cities

Opening up national economies to global markets has restored to cities a competitive role within the same country and globally. City competition has had the effect of identifying urban economy as fundamental to the achievement of national economic goals and resulted in the remarkable transformation in national governments' view of cities. High economic development levels in cities are recognized as the result of higher productivity, greater capital intensity, higher levels of human capital, and a greater density of infrastructure³¹.

Competitiveness is most often discussed in relation to the tradable part of the economy. In the short term, competitiveness depends on the structure of the economy and on its sectoral specialization as well as contextual conditions such as the character and effectiveness of institutions, the quality and spread of infrastructure and other factors which affect the efficiency of the national economic system. In the long term, competitiveness depends on the ability to sustain changes in the factors that enhance the productivity growth. Therefore, investment in assets both tangible or intangible such as human and physical capital, institutional and organizational changes³².

A competitive urban economy can identify six attributes³³:

1. the jobs created should be high-skill, high income jobs;
2. production should evolve towards environmentally benign goods and services;
3. production should be concentrated in goods and services with desirable characteristics, such as high income elasticity of demand;

4. the rate of economic growth should be appropriate to achieve full employment without generating the negative aspects of overstressed markets;
5. the city should specialize in activities that will enable it to gain control over its future, that is, to choose among alternative futures rather than passively accepting its lot;
6. the city should be able to enhance its position in the urban hierarchy.

Cities can achieve competitive advantages by allowing market forces to operate in such ways that local natural assets/advantages are utilized to develop specializations. Cities which can form most competitive advantages specialize in the growing industries and develop cutting-edge technologies and technological products. Competitive cities have always specialized and these specializations are at the heart of what distinguishes cities from one another. The development of clusters of activities in cities is a testimony of the importance of specialization.

Competitiveness affects urban economic performance. Figure 15 identifies the major competitiveness factors of cities. There are four major competitiveness factors which are sectoral trends, company characteristics, the business environment, innovation and learning³⁴.

Sectoral Trends capture the main influences on the structure of economic activities in a city. These factors are partly determined by the city's inheritance. The mix of industries and functions are the outcome of historical development. They are partly determined by the new preference of new investment.

1. The aggregate performance of the national (and increasingly regional and global economy) is bound to affect the individual city's development;

2. Long-term structural changes will affect the health of the industries in urban economy;
3. National policy changes will impinge on what the city is able to do.

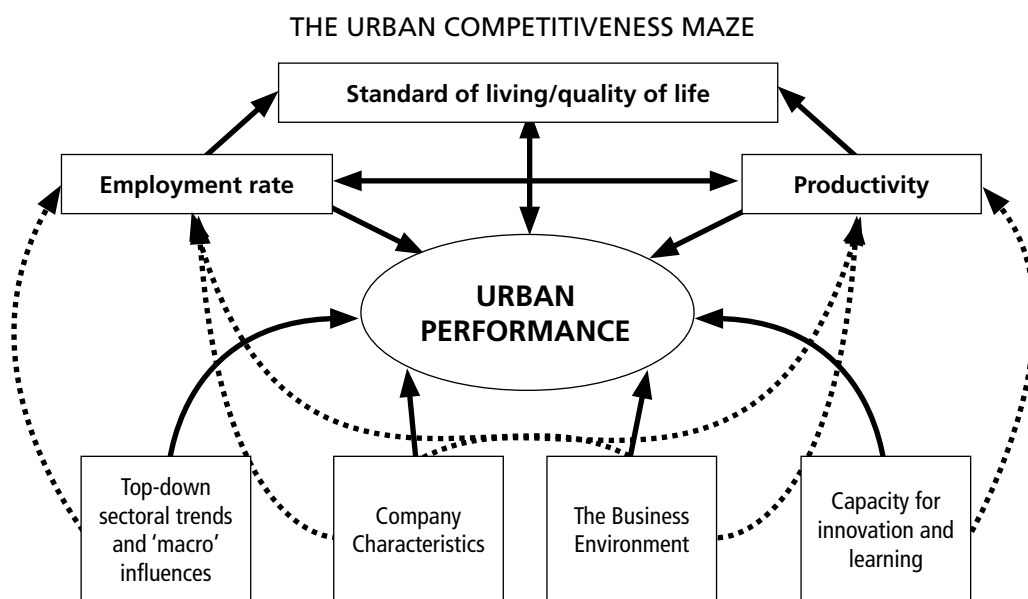
Company Characteristics refer to the mix of attributes of the companies in the city. Are they, dynamic or sluggish, financially robust or precarious? Do they have access to efficient financing or run on costly capital? Are they labor-intensive or capital-intensive or technology-intensive? Do they generate high value or low value?³⁵

The Business Environment comprises those factors outside the direct control of firms, but which have a significant impact on the attractions of the city as a place for business. Many of the most important influences on urban competitiveness concern the mix of factors that affect the input costs of employers in the city such as tax regime and infrastructure³⁶. Key factors include:

1. The supply, quality and cost of the various factors of production such as labor, housing cost, and regulatory services;
2. Labor supply;
3. Fiscal and user charges, local public spending, urban planning rules;
4. Social and environmental factors such as quality and cost of housing, crime rate, schools, and civic amenities;
5. Various agglomeration effects, such as diversity of sub-contractors, quality and cost of transport, communication and other infrastructure networks.

Innovation and Learning refers to those factors that inhibit or encourage the capacities of firms to new process and products. Investment in intangible assets such as knowledge, and development of entrepreneurship are important. Innovation and learning are important elements of the competitiveness of cities³⁷.

FIGURE 15: **Competitiveness of Cities**



Source: Begg I. (undated), *Cities and Competitiveness*

In summary, in order to maintain and promote the vital economic growth power and competitiveness of cities, it is essential that: (1) cities should have the power to generate revenues and make development decisions; (2) cities should have sufficient investment to provide adequate infrastructure and services, such as transport, communications, power supply, water and sanitation, housing, and financial and business services; (3) develop and attract high quality human resources for technological innovation, entrepreneurship, and knowledge development; (4) an enabling national environment for market development.

THE ROLE OF GLOBAL CITIES

Cities generate more than 80 percent of the global GDP today. But the economic power concentrates in global cities. The largest 600 cities with 20 percent of the world's population generate 60 percent of the global GDP. 380 of the global cities are in the developed world and accounted for 50 percent of global GDP in 2007³⁸.

A global city acts as the powerful centre of economic development. It outstrips its national network and becomes part of an international global system as a centre of command and control. It is a centre of political power, world trade, communication, finance and culture.



The Global City – New York's GDP was USD 2.63 trillion in 2009. Its economy is larger than some countries' national economy such as Italy, Spain, Canada, Russia, South Korea, Brazil, and India.

Photo ©: UN-HABITAT/X. Q. Zhang

Globalisation and Global Cities

Global cities are linked to globalization. Globalization is the development of stronger links between countries and the breaking down of existing barriers as a result of technological communications and international regulation and de-regulations. Global cities have excellent transportation systems linking them to the world. They are often the hubs of these linkages. For example, London's airports include London Heathrow, London Luton, London Stanstead, London Gatwick and London City Airports. London's international railway stations include Waterloo Station. Dover's shipping terminal and the Eurotunnel train service link London to Europe and the rest of the world. It has extensive information network including daily newspapers, television stations, and other forms of media. For example, London produces world newspapers and journals such as *The Financial Times*, *Thames Times*, *The Independent*, *The Guardian*, *The Economist* etc. It has BBC television and Sky TV broadcasted worldwide³⁹.

The role of global cities such as London and New York has rapidly changed to become an essential component for multiplicity of linkages and interconnections that sustain the contemporary global economy, social and political systems. Global cities are characterized by the concentration of headquarters of

global corporations, commodity, currency and securities exchanges, producer services organizations, international governmental organizations and global conference centres⁴⁰. For example, Tokyo is home to 17 of the top 100 multinational corporations (MNCs), New York has 11. Global cities are international financial centres, for example, London, New York, Tokyo and Hong Kong. They are the key locations for specialized services such as law, accounting, design, advertising and creative economy⁴¹.

The Financial Role of Global Cities

The global cities (New York, London and Tokyo) accounted for an enormous share of all major financial markets, about 60 percent to 70 percent of world share in 1980s. The global financial system centres on a network of about 40 global cities, with increasing tendency toward the concentration in the top 20⁴² (sentence not complete) In a survey by MasterCard on the best financial cities in the world in 2008, London ranked No. 1. Asian cities rise fastest. Shanghai represents the fastest jump in overall rank, moving eight places forward from the previous year (Table 3). Table 3 shows the world's top 40 best financial cities in the world.

TABLE 3: The Top 40 Global Financial Cities

2008 Rank	City	2008 Rank	City
1	London	21	Boston
2	New York	22	Taipei
3	Tokyo	23	Berlin
4	Singapore	24	Shanghai
5	Chicago	25	Atlanta
6	Hong Kong	26	Vienna
7	Paris	27	Munich
8	Frankfurt	28	San Francisco
9	Seoul	29	Miami
10	Amsterdam	30	Brussels
11	Madrid	31	Dublin
12	Sydney	32	Montreal
13	Toronto	33	Hamburg
14	Copenhagen	32	Houston
15	Zurich	35	Dallas
16	Stockholm	36	Washington DC
17	Los Angeles	37	Vancouver
18	Philadelphia	38	Barcelona
19	Osaka	39	Düsseldorf
20	Milan	40	Geneva

Source: <http://www.citymayors.com/economics/financial-cities.html>

The Rank of Global Cities

The rank of the importance of global cities by a global survey revealed in the Wealth Report 2011 is showed in Table 4. New York, London, Hong Kong, Singapore, Beijing, Shanghai, Tokyo, and Paris are the most important global cities. In 10 years' time, New York and London will continue to remain on the top of the list. Shanghai and Beijing will rise to position 3 and 4. Mumbai will overtake Tokyo and rise to position 7. In the top 40 global cities, the ranks of prominent

cities in China, Russia, India and Brazil will rise, which correspond to the overall shift of global economic activities. China is chosen as the best place for business. The top 8 global cities for business are Shanghai, Hong Kong, Beijing, New York, Mumbai, Singapore, London, and Sao Paulo. However, the most romantic cities remain in France, USA, UK, and Italy. The top 8 romantic global cities are Paris, New York, London, Rome, Tokyo, Sydney, Shanghai and Hong Kong (Table 5).

TABLE 4: The World's Top 40 Global Cities

Now	10 years' time	Score	Change Rank	(2010-20) Score %
1 New York	1 New York	759	0	-8
2 London	2 London	611	0	-16
3 Hong Kong	3 Shanghai	558	+3	+91
4 Singapore	4 Beijing	506	+1	+39
5 Beijing	5 Hong Kong	479	-2	+1
6 Shanghai	6 Singapore	438	-2	+4
7 Tokyo	7 Mumbai	225	+6	+118
8 Paris	8 Tokyo	220	-1	-14
9 Geneva	9 Paris	129	-1	-46
10 Zurich	10 Moscow	117	+6	+23
11 Washington DC	11 Dubai	113	+1	-7
12 Dubai	12 Sao Paulo	103	+8	+66
13 Mumbai	13 Zurich	93	-3	-39
14 Berlin	14 Geneva	92	-5	-55
15 Sydney	15 Washington DC	91	-4	-29
16 Moscow	16 Berlin	84	-2	-15
17 San Francisco	17 Sydney	72	-2	-26
18 Los Angeles	18 Los Angeles	59	0	-34
19 Vancouver	19 Seoul	52	+8	+73
20 San Paulo	20 San Francisco	42	-3	-54
21 Toronto	21 Rio	33	+39	+725
22 Taipei	22 Dallas	28	+1	-22
23 Dallas	23 Vancouver	28	-4	-56
24 Chicago	24 Chicago	24	0	-29
25 Monaco	25 Melbourne	23	+1	-26
26 Melbourne	26 Brasilia	19	+16	+111
27 Seoul	27 Brussels	19	+1	-30
28 Brussels	28 Jakarta	19	+20	+171
29 Miami	29 Monaco	19	-4	-44
30 Riyadh	30 Taipei	18	-8	-53
31 Auckland	31 Toronto	18	-10	-63
32 Houston	32 Auckland	17	-1	+6
33 Shenzhen	33 Delhi	17	+13	+143
34 Abu Dhabi	34 Abu Dhabi	16	0	+7
35 Guangzhou	35 Bangalore	15	+4	+25
36 Seattle	36 Istanbul	13	+23	+225
37 Milan	37 Seattle	13	-1	-13
38 Austin	38 Doha	12	+28	+500
39 Bangalore	39 Houston	12	-7	-25
40 Beirut	40 Beirut	11	0	-8

Source: Knight Frank (2011) The Wealth Report 2011

Notes: Respondents were asked to choose their top 10 cities in order of priority. Cities were assigned 10 points for a top ranking, nine for second, and so on.

TABLE 5: The World's Top 20 Global Cities based on Categories of Activities

THE ENTREPRENEUR	THE HEDONIST	THE ROMANTIC
1. Shanghai	1. New York	1. Paris
2. Hong Kong	2. Hong Kong	2. New York
3. Beijing	3. Tokyo	3. London
4. New York	4. Paris	4. Rome
5. Mumbai	5. London	5. Tokyo
6. Singapore	6. Shanghai	6. Sydney
7. London	7. Rio	7. Shanghai
8. Sao Paulo	8. Barcelona	8. Hong Kong
9. San Francisco	9. Sydney	9. San Francisco
10. Palo Alto	10. Dubai	10. Vancouver
11. Dubai	11. Bangkok	11. Rio
12. Rio	12. Beijing	12. Venice
13. Moscow	13. Singapore	13. Las Vegas
14. Sydney	14. Rome	14. Buenos Aires
15. Delhi	15. Las Vegas	15. Barcelona
16. Istanbul	16. Monaco	16. Istanbul
17. Jakarta	17. Vancouver	17. Beijing
18. Lagos	18. San Francisco	18. Dubai
19. Dallas	19. Prague	19. Milan
20. Bangalore	20. Miami	20. Miami

Source: Knight Frank (2011) *The Wealth Report 2011*

John Friedmann developed a framework to analyze the characteristics and roles of global cities⁴³:

1. *The form and extent of a city's integration with the world economy, and the functions assigned to the city in the new spatial division of labor, will be decisive for any structural changes occurring within it.*

- Friedmann's conception of the city is a "spatially integrated economic and social system at a given location or metropolitan region". Metropolitan economies may carry out different roles – as locations for global capital's head offices, or as financial centers, or as nodal points in a regional or nation

economy – but important cities do all three.

- The form, intensity, and duration the link between the urban system and global capital may vary, and are historically based, but for the most part the changes occurring in cities are "externally induced" by the "direction and volume of transnational capital flows; the spatial division of the functions of finance, management and production". Changes to the urban system include "changes in metropolitan function, the structure of metropolitan labor markets, and the physical form of cities".

2. *Key cities throughout the world are used by global capital as 'basing points' in the spatial organization and articulation of production and markets. The resulting linkages make it possible to arrange world cities into a complex spatial hierarchy.*

- Friedmann presents a hierarchy of world cities “based on the presumed nature of their integration with the global economy” whose selection criteria include “major financial centre; headquarters for transnational corporations; rapid growth of business services sector; important manufacturing centre; major transportation node; and population”. His hierarchy presents primary and secondary world cities and further classifies these by core and semi-peripheral countries. All but two of the primary cities (Singapore and Sao Paulo) are in the global North.

3. *The global control functions of world cities are directly related in the structure and dynamics of their production sectors and employment.*

- World city growth has seen a growth in the particular sectors (see 2 above).
- World cities play an ideological role as centres in the production and dissemination knowledge (i.e. news, entertainment) and art.
- The labor force is dichotomized, with a high percentage of high-wage professionals and low-wage workers.
- World cities are also characterized as having a growth in the “informal” economy.

4. *World cities are major sites for the concentration and accumulation of international capital.*

- However, some world cities are atypical and do not have high concentrations of foreign direct investment. This

is the case in Tokyo: “Although a major control centre for Japanese multinational capital, Japanese business practices and government policy have so far been successful in preventing capital from making major investments in the city”.

5. *World cities are points of destination for large numbers of both domestic and/or international migrants.*

- Both international and inter-regional migrants contribute to growth in primary countries. These countries attempt to curb “low-skilled” immigration and promote high-demand (“skilled” or professional) immigration through legislation and special programs.
- Semi-peripheral world cities experience growth from intra-regional migration, and have experienced rapid population increases. Attempts to curb migration have been largely unsuccessful.

6. *World city formation brings into focus the major contradictions of industrial capitalism – among them spatial and class polarization.*

- Friedmann identifies three scales of spatial polarization: Global – a “widening gulf in wealth, income, and power between peripheral economies... and rich countries”; Regional – which expresses the income disparity between high- and low-income regions within states; and Metropolitan – includes class polarization and the segregation of poor neighbourhoods, for example.
- “Contradictions” include the fact that the financial services sector, which employs high paid professionals, also employs many in low-wage categories; the absence of middle sectors in the semi-periphery and the vulnerability of the middle sectors to unemployment in core cities, for example, from the loss of unionized employment.

7. *World city growth generates social costs at rates that tend to exceed the fiscal capacity of the state.*

- “The rapid influx of poor workers into world cities – be it from abroad or from within the country – generates massive needs for social reproduction, among them housing, education, health, transportation, and welfare. These needs are increasingly arrayed against other needs that arise from transnational capital for economic infrastructure and from the dominant elites for their own social reproduction”.

BOX 1: The advantages of scale in China—the case of Shanghai

Of the 858 cities (official and unofficial) in China, only 13 today have populations above five million. Yet these cities accounted for more than 25 percent of China’s total GDP in 2007. Why are China’s larger cities more successful than its smaller cities? Without doubt, history, location, economies of scale, and broad preferences granted by the central government (for example, Special Economic Zone status) have contributed. But MGI has identified three critical factors that explain why larger cities such as Shanghai, in general, have more advantageous conditions for economic success.

1. Larger cities attract the most talent. Shanghai has the skills and talent it needs to feed growth. The city has access to 100,000 or more graduates from 60 higher education institutions every year. As a result, more than one-quarter (28 percent) of Shanghai’s labor force has a college education—double the proportion of a decade ago. The city is also beginning to attract talent from overseas—the expatriate community is half a million strong.

2. Large cities attract more investment. Foreign direct investment (FDI) has disproportionately landed in larger cities. FDI in emerging markets, at least initially, tends to go to areas that have market access as well as better infrastructure, services, and tax and other financial incentives. Larger cities in China, including Shanghai, have been more competitive than smaller ones in the provision of these benefits and others that are favorable to businesses. The establishment of a foreign-invested community reduces perceived investment risks and creates a virtuous cycle that serves to attract more investment in the future. Large cities also tend to attract a disproportionate share of total financing for infrastructure, driven by larger local equity pools, greater perceived creditworthiness, and access to a larger range of financing sources due to scale (e.g., large cities can tap the bond market).

3. City network effects stimulate economic growth. Large cities are almost always at the center of a cluster of smaller cities, and network effects spur economic growth and productivity. Shanghai sits in the middle of a very close-knit cluster of economic centers on the Yangtze River Delta, and this proximity has driven growth in the entire region.

Source: McKinsey Global Institute 2011

THE ROLE OF CITY REGIONS

City regions have become an important element of geographic and economic landscape than at any previous time in history. Over the past few decades, many well positioned urban centres have been transformed into super-clusters whose extent and growth arising from the circumstances that many of the leading economic sectors are organized as intensely linked networks of producers and services with powerful endogenous growth mechanisms and with an increasingly global market reach. Each city region is the site of intricate networks of specialized but complementary forms of economic activity, together with large multi-faceted local labour markets, functions as the locus of powerful agglomeration economies⁴⁴.

City regions have emerged as the most important growth poles. The improvements in transportation and communications technologies in terms of cost and quality stimulate the rapid development of city regions. Modern products and services become increasingly sophisticated. Producers and services providers gain significant advantages from their close location in transaction networks. These networks facilitate exchanges of information on products, services, technologies, and markets and help to foster economic creativity and innovation. Firms and actors participating in these networks receive tremendous boosts to their efficiency by being part of tightly-linked and spatially-concentrated clusters. These networks and production and services modes foster the development of urban agglomerations and city regions.

There are now more than 300 city regions with a population more than one million

in the world. At least 20 city regions have a population beyond 10 million. They range from familiar metropolitan agglomerations dominated by a strongly-developed core such as London city region or Mexico City region, to more polycentric geographic centres such as Randstad or Emilia-Romagna regions. The process of globalization and world economic integration and accelerated urban economic development demand new economic and spatial planning and policy strategies to enhance the benefits of city regions⁴⁵.

City Regions as Engines of Global Economy

Improvements in transportation and communications technologies in terms of both cost and quality will eventually undermine the need for urban concentration. Some predicted that with advancement in technologies, large scale urbanization and concentration will not be necessary. However, cities not only do not disappear as the transportation and communications technologies develop further, instead cities become larger and more important. On the one hand, transportation and communications technologies enable many forms of economic and social interaction to occur over greater distances and spaces. On the other hand, they enhance the need for proximity. Different economic activities are interconnected through their transactional or network relationships to each other and to the rest of the world⁴⁶.

Economic activities often require different kinds of conditions. Vast areas of modern economy involve activities where enormous

uncertainty prevails and require mutual interactions. This is particularly true for high order economic activities. For example, high technology industry and financial services, the changing project-oriented and client-oriented product and services require firms to be organized so as to change the mix of skills and resources that they bring to each particular tasks; further skills and resources themselves are not widely available in small cities or spaces of activities. Large city regions often provide complex skills of labor, technology, services and information. City regions provide conditions for acquiring economically-useful knowledge in a timely fashion through human relationships and interactions and being able to interpret information in meaningful ways. At the same time, economic specialization and flexibility are present. Both efficiency and creativity can be easier in city regions as the costs of transaction and interactions decrease as distance decreases⁴⁷.

Since 1970s, the economic environments have become less stable and forced many firms to adopt more flexible technologies and organizational patterns. Increasing wealth and proliferating market niches stimulate the demand for wider product variety. Increased shares of products and employment require flexibly-networked production systems or value chains. Different firms and actors participating in these networks receive a tremendous boost to their efficiency because of reduced transactions costs by being part of tightly-linked and spatially-concentrated clusters. The creativity and innovation with the production system are much enhanced because of the great variety of different skills, sensibilities and experiences in the labor force and because the agglomeration of producers and service providers increases the probability of interactions which inspire novel insights and economically-useful knowledge⁴⁸.

Productivity and performance are raised by urban concentration and density. Firstly, concentration secures overall efficiency of

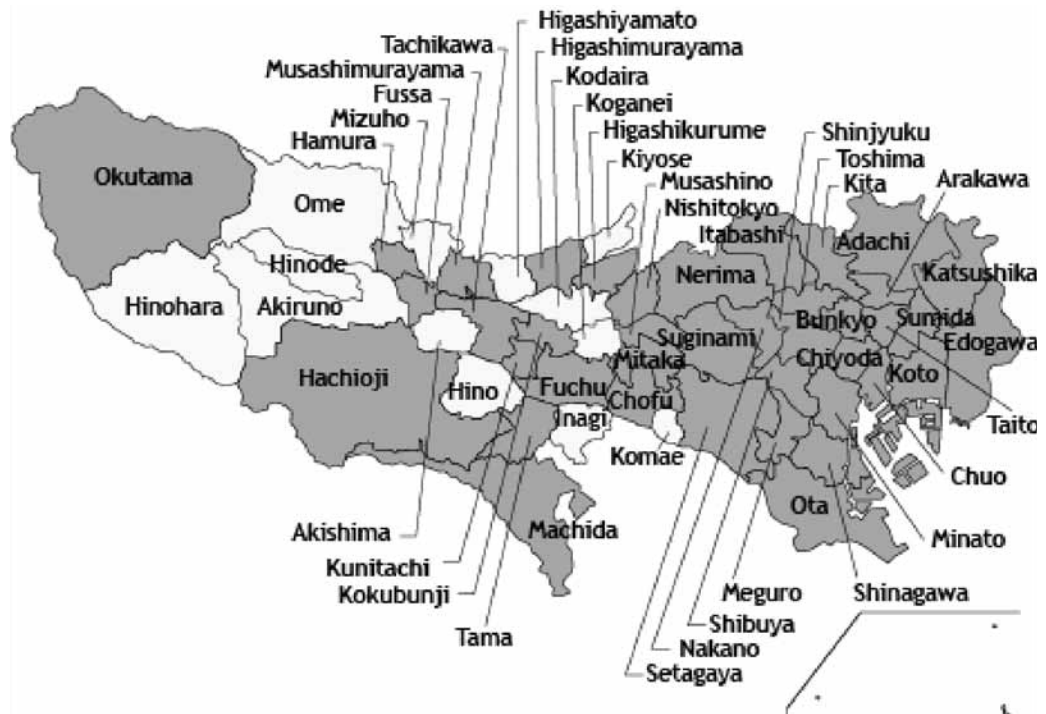
the economic system. Secondly, it intensifies creativity, learning and innovation by the increased flexibility of producers and services providers and by the enormous flows of ideas and knowledge through the transactional links within localized industrial networks. Such networks are often to be found at the economic cores of the major city regions and they are the driving forces for significant new rounds of urban expansion. Moreover, the economies of these city regions are to an increasing degree tied in to the global markets, thus stimulating further growth which in turn encourages more specialized producers to appear in any given network. The films of Hollywood, the semiconductors of Silicon Valley, the banking and financial services of New York, London and Hong Kong, the fashions of Paris, the trade services of Guangzhou all represent the outputs of clustered flexible production networks whose fortunes are tied to the global market demand. In an era of declining transportation and communication costs, the world is still organized around large city regions rather than around a more diffuse pattern of location. Because city regions offer many advantages so that the economies of these city regions have become so closely tied in with clustered flexible networks of firms and actors that compete on the increasingly extended global market⁴⁹.

Today, city regions merge as one of the most evident driving forces for economic development in many countries. For example, Tokyo city region in Japan consists of more than 40 cities and towns and has a population of 33.2 million, and generates more than 34 percent of national GDP (Figure 16). Pearl River Delta city region in China has a population of 30 million. New York City region has a population of 22 million ; Sao Paulo, 17.7 million; Mexico city region, 17.4 million. Changjiang River Delta in China has merged as the world's largest city region with a population of about 100 million, generating 26 percent of the national GDP (Figure 17).

The Greater London city region in UK consists of 51 cities and towns. It has a huge commuting ring with a radius around 60 km from central London and overlapping with other 50 cities and towns. Major highway and rail travel corridors such as Northampton (M1), Cambridge (M11), Ashford (M20), Bournemouth-Poole (M3/M27) and Swindon (M4) links these cities and towns to the centre of London. 32 cities and towns lie to the west and 18 to the east of London. The cities and towns to the west of London have developed strong and interdependent centres than those to the east (Figure 18).

Cities and city regions are the key source of economic vitality and innovation for nations. Innovative and creative activities and high efficiency is increasingly linked to the ability to associate economic activities in city regions. The comparative advantages of cities and city regions make them become the drivers of national economies and global economies. Therefore, the better cities are, the better regional and national economies are.

FIGURE 16: Tokyo city region in Japan



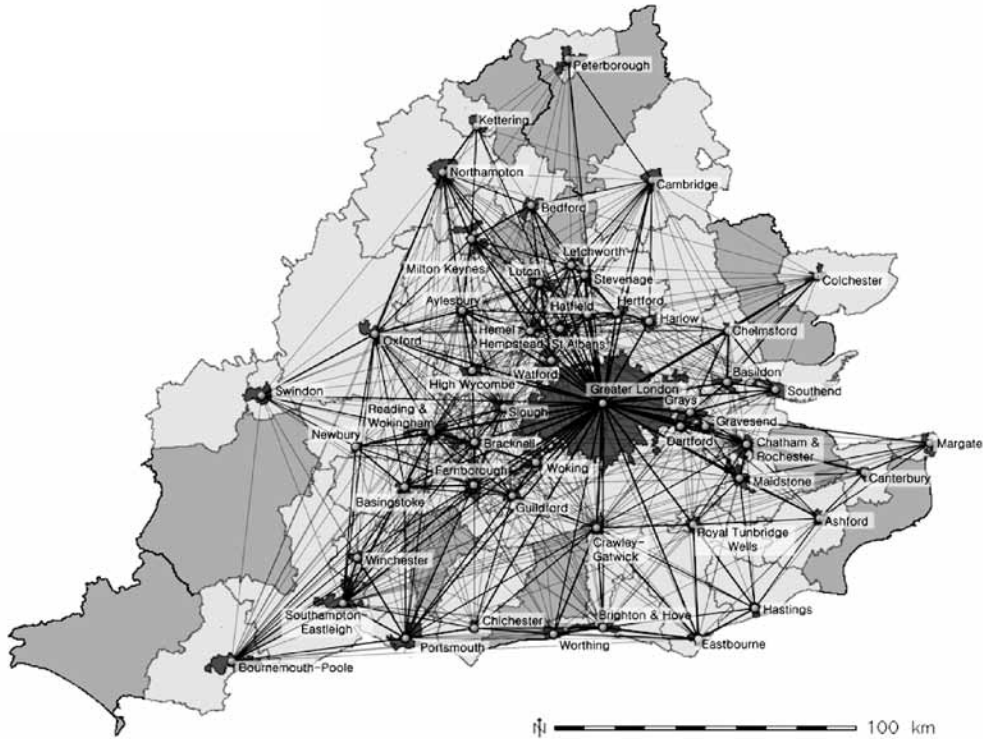
Source: <http://web-japan.org/region/pref/tokyo.html>

FIGURE 17: **The World's Largest City Region in the Pearl River Delta in China**



Source: <http://www.guardian.co.uk/world/2010/mar/22/un-cities-mega-regions>. Photograph ©: Nasa

FIGURE 18: Greater London City Region



Source : Taylor P J & Pain K

City Regions as Innovative Systems

City regions are either defined by their administrative boundaries or by their spatial characteristics, or both. City regions display a complex type of interrelationship between spatial and institutional properties. The specific patterns can influence the investment and attractiveness for companies and workers⁵². Spatial structures influence accessibility, mobility, and the availability of information and the possibilities of human interaction and organization. Innovation systems are wider frameworks within which entrepreneurs and knowledge workers can function and use their competencies. The dynamic interaction of actors of companies, learning and research institutions and governments is the basis of the innovation system⁵³.

Many studies show that larger city regions display higher degree of innovativeness than rural regions. City regions attract the large companies, technology firms and knowledge organizations such as universities, which generate investment in technology, and facilitate the development and diffusion of technological knowledge. These factors become the main forces driving economic growth⁵⁴.

Mega City Regions

The Mega City Region phenomenon was originally identified in Eastern Asia, in areas like the Pearl River Delta region and the Changjiang River Delta region in China, the Tokyo-Osaka region in Japan, and the Greater Jakarta region in Indonesia. It is a series of

urban centres between twenty and fifty cities and towns, physically separate but functionally networked, clustered around one or more large central cities and drawing enormous economic strength from a new functional division of labor. A key feature of mega city regions is that they are basically polycentric⁵⁵.

When we examine the largest mega city regions in terms of population size, we find that mega city regions have strong economic and creative advantages over the rest of the world. The world top 10 mega city regions have a population of 666 million (i.e. 10.5 percent of the world population) and produced USD 7,891 (i.e. 25.1 percent of world products).

The top 20 mega city regions have 17 percent of world population and account for 42.8 percent of world economy. The top 40 mega city regions have 23.2 percent of world population and account for 58.9 percent of world economy (Table 6).

The top 10 mega city regions have a population of 10.5 percent and produce 41.1 percent the world patents. The top 20 mega city regions have a population of 17 percent and generate 61.1 percent of the world patents. The top 40 mega city regions have a population of 23.2 percent and generate 76.8 percent of the world patents (Table 6).

TABLE 6: The Economic and Creative Power of Mega City Regions Based on Population Rankings

Mega City Regions	Regional Product		Population		Patents	
	USD (Billion)	Share of the World	Persons (Million)	Share of the World	Number	Share of the World
Top 10	7,891	25.1%	666	10.5 %	123,832	41.1 %
Top 20	13,433	42.8%	1,081	17.0%	184,240	61.1%
Top 40	18,489	58.9%	1,478	23.2%	231,797	76.8%

Source: Richard Florida, Tim Gulden and Charlotta Mellander (2008) The Rise of the Mega-Region, CESIS paper 129, Royal Institute of Technology.

When we examine the economic and creative power of the top mega city regions of the world according to their economic size, the contribution of mega city regions to the world economy is even more significant. The top 10 mega city regions have 6.5 percent of the world’s population and produce 42.8 percent of the world economic outputs and 56.6 percent of the world’s patents. The top

20 mega city regions have 10 percent of the world’s population and generate 56.6 percent of the world economic outputs and 76 percent of the world’s patents. The top 40 mega city regions have 17.7 percent of the world’s population and produce 66 percent of the world’s economic outputs and 85.6 percent of the world’s patents (Table 7).

TABLE 7: The Economic and Creative Power of Mega City Regions based on Economic Size

Mega City Regions	Regional Product		Population		Patents	
	USD (Billion)	Share of the World	Persons (Million)	Share of the World	Number	Share of the World
Top 10	13,433	42.8%	416	6.5	170,885	56.6%
Top 20	17,777	56.6%	636	10.0%	229,212	76.0%
Top 40	20,711	66.0%	1,125	17.7%	258,181	85.6%

Source: Richard Florida, Tim Gulden and Charlotta Mellander (2008) *The Rise of the Mega-Region*, CESIS paper 129, Royal Institute of Technology.

The Greater Tokyo mega city region houses more than 55 million people and generates about USD 2.5 trillion economic outputs, which is the largest mega city region in the world⁵⁶. The Boston-New York-Washington mega city region is home to some 54.3 million, about 18 percent of the total United

States population, generate USD 2.2 trillion regional product, which is larger than any national economies except for the USA and Japan. Its economic size is larger than that of France or United Kingdom and more than twice that of India or Canada (Figure 19).

FIGURE 19: Mega City Regions in North America



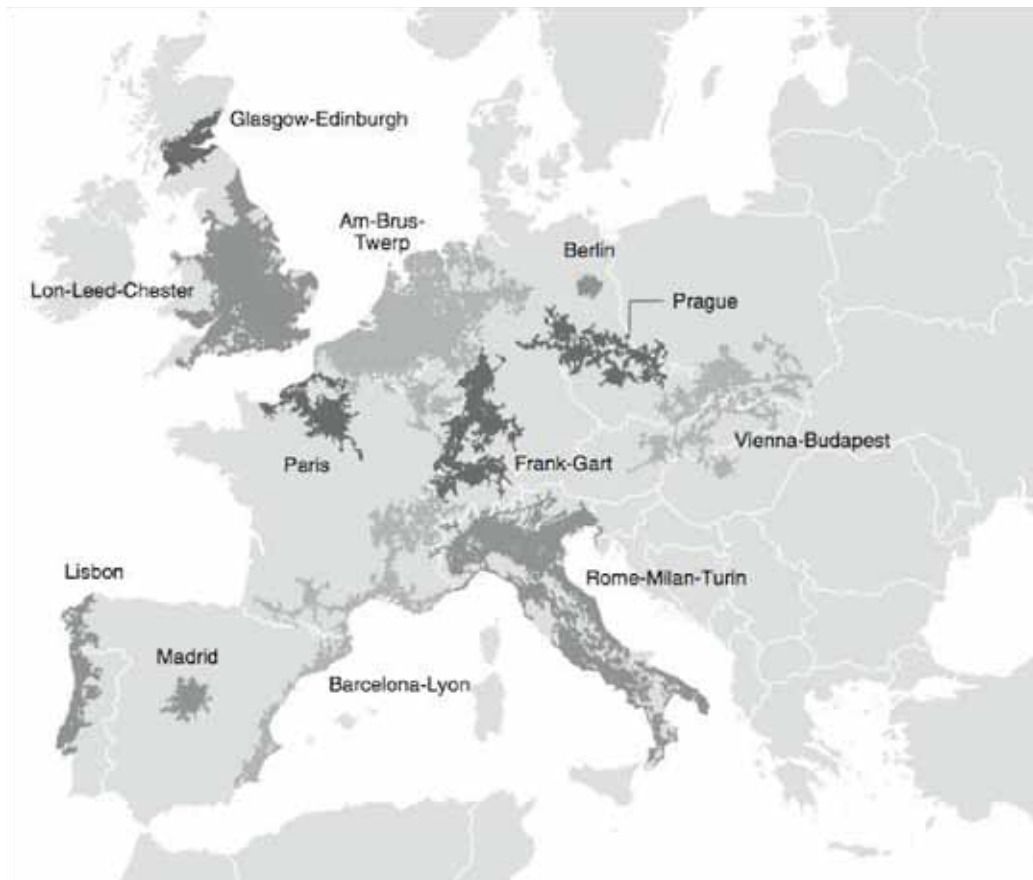
Source: Richard Florida, Tim Gulden and Charlotta Mellander (2008) *The Rise of the Mega-Region*, CESIS paper 129, Royal Institute of Technology.

The Chicago-Pittsburgh mega city region stretches over 100,000 square miles and has a population of 46 million and produce USD 1.6 trillion economic outputs.

The Rotterdam-Ryhr-Cologne-Brussels-Antwerp-Lille mega city corridor in Europe accommodates 59.2 million people and

generates USD 1.5 trillion economic outputs. The London-Leeds-Manchester-Liverpool-Birmingham mega city corridor has a population of 50 million and produces USD 1.2 trillion economic outputs. The Italian Milan-Rome-Turin mega city corridor has a population of 48 million and produces USD 1 trillion (Figure 20).

FIGURE 20: **Mega City Regions in Europe**



Source: Richard Florida, Tim Gulden and Charlotta Mellander (2008) *The Rise of the Mega-Region*, CESIS paper 129, Royal Institute of Technology.

CONCLUSIONS

Urban economics is the economic study of urban areas. It uses the economic tools to analyze urban issues such as city growth, housing, land, employment, transportation, health, education, crime, urban environment, local government finance, and social issues. This report illustrates the importance of the economic roles of cities. Urbanization is an inevitable force of development. Cities are more productive than rural areas. They provide efficient infrastructure, services, communications and skilled labor forces. They can achieve the economies of scale, agglomeration and urbanization. Cities are the driving forces of national economic development. Cities generate positive externalities of agglomeration, scale, diversity and specialization.

Cities have demonstrated productivity, efficiency and the multitude of development opportunities and advantages. However, when cities grow to certain levels, they start to produce negative impacts such as overcrowding, congestion and pollution. The roles of municipalities are to maximize the positive externalities and to minimize the negative impacts of cities. There are many different approaches that can enhance the economic roles of cities. This report addresses the important roles played by cities and explains how cities become more productive when they are agglomerated and clustered. In the next series of reports, we will examine the dynamics of urban economy and how we can drive economic development more effectively and sustainably.

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HS/067/11E

ISBN (Series): 978-92-1-132027-5

ISBN(Volume): 978-92-1-132361-0

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