

A report of the Global Agenda Council on Competitiveness

# The Competitiveness of Cities

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# Preface



Espen Barth Eide  
Managing Director  
Centre for Global  
Strategies  
World Economic  
Forum

As leaders look for ways to make their economies more competitive and to achieve higher levels of growth, prosperity and social progress, cities are typically identified as playing a crucial role. Today, more than half of the world's population lives in urban areas ranging from mid-size cities to mega-agglomerations, and the number of city dwellers worldwide keeps rising. Many factors that affect competitiveness, such as infrastructure, educational and research institutions, or the quality of public administration, are under the purview of cities, and many city-level initiatives to improve on different areas of competitiveness are under way. Yet while some cities are successful in attracting investment and talent, and ensuring prosperity and good public services for their citizens, others are struggling to cope with challenges such as large-scale influx of people or the inability to provide basic services, jobs or housing.

The World Economic Forum has been studying competitiveness for over 30 years by focusing on the assessment of the productive potential of countries in *The Global Competitiveness Report* series. To complement this strand of work, the Forum created the Global Agenda Council on Competitiveness as part of the Network of Global Agenda Councils. The Council's objective is to deepen and broaden the understanding of competitiveness and equip global leaders with tools to address competitiveness challenges. In 2012, Council Members identified the leadership role that cities are taking in stimulating the competitiveness of countries and regions as a key issue for further study.

This report presents a taxonomy of drivers of city competitiveness as well as a number of representative case studies of cities. The case studies are drawn from different geographies and varying levels of development that face different challenges and starting points. The objective of this work is to inspire and motivate city leaders, the private sector and civil society to work together to address the most important competitiveness challenges of cities by shedding light on creative and innovative initiatives put into place by cities around the world.

This report would not have been possible without the thought leadership and commitment of Professor Razeen Sally of the National University of Singapore, who chaired the Global Agenda Council on Competitiveness in 2013-2014; and of the two previous chairs of the Council, Deborah Wince-Smith, President, Council on Competitiveness, USA, and Clément Gignac, Chief Economist and Senior Vice-President, Industrial Alliance Insurance and Financial Services, Canada. Special thanks go to Margareta Drzeniek Hanouz, Head of the Global Competitiveness team, and Martina Larkin, Head of the Network of Global Agenda Councils, as well as Jennifer Blanke, Daniel Akinmade Emejulu, Gemma Corrigan and Cecilia Serin, all at the World Economic Forum, for their support in the process.

# Acknowledgements

This report, the result of a genuinely collective effort, is the culmination of almost two years of discussion, including intensive days in Dubai and Abu Dhabi, United Arab Emirates.

My predecessors as Chairs of the World Economic Forum Global Agenda Council on Competitiveness – Deborah Wince-Smith, President, Council on Competitiveness, USA, and Clément Gignac, Senior Vice-President and Chief Economist, Industrial Alliance Insurance and Financial Services, Canada – as well as Council Member Orlando Ayala, Chairman of Emerging Markets, Microsoft Corporation, USA, sparked the idea of working on city competitiveness. Clément initiated the project during his period serving as Chair. Most Council Members contributed case studies; some contributed two or more. I thank all of them for their sterling work. But I will single out Kevin Murphy, President, Partners for Sustainable Development and President and Chief Executive Officer, J.E. Austin Associates, USA, not only for writing several case studies, but also for helping me put together the sizeable “general bits” of the report and editing all of it. The final sprint – the two weeks before our deadline – placed particular demands on his time. My thanks also go to Margareta Drzeniek Hanouz for her excellent work as World Economic Forum coordinator of our Council. She guided us efficiently and was a keen promoter of the project throughout. Not least, she contributed a mini case study on Wroclaw.

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## **Razeen Sally**

Chair, Global Agenda Council on Competitiveness  
Visiting Associate Professor, Lee Kuan Yew School of Public Policy, National University of Singapore, and Director, European Centre for International Political Economy, Brussels

# Executive Summary

Cities have been the engines of productivity and growth throughout history, and will be essential to the future growth and competitiveness of nations and regions. This is especially true at a time of massive and rapid urbanization in emerging markets; hence, the focus on the competitiveness of cities.

In this report, six global “megatrends” especially relevant to cities are identified: (1) urbanization, demographics and the emerging middle class; (2) rising inequality; (3) sustainability; (4) technological change; (5) industrial clusters and global value chains; and (6) governance. Led by urbanization, they condition the greater operating environment for cities around the world. It is up to cities to take advantage of these megatrends, as well as to mitigate negative forces such as rising inequality, pressure on natural resources and the environment, and a diminution of trust in public authorities.

This raises the question of the *competitiveness agenda* for cities. City competitiveness is defined here as *the set of factors – policies, institutions, strategies and processes – that determines the level of a city’s sustainable productivity*. Sustainability encompasses economic, environmental and social issues. Productivity is about the efficient use of available resources that drives economic growth. But productivity has to be sustainable – maintained beyond the short term, and in a way that reconciles economic, environmental and social goals.

A four-part taxonomy of city competitiveness was developed, including (1) institutions, (2) policies and regulation of the business environment, (3) “hard connectivity”, and (4) “soft connectivity”. This has been applied to a “big basket” of 26 cities, with a mini case study on each; and to a “small basket” of seven cities, each of those with a full case study. These 33 cities are located on all major continents, and have different endowments, starting conditions and levels of development.

General lessons on city competitiveness, elicited from the case studies, are presented in the following checklist that includes “how-to-reform” and “what-to-reform” elements:

## 1. Institutions (how to reform) – governance or decision-making framework

- *Leadership and vision* – A clear, far-sighted view of where cities should head, and a single-minded, practical will to ensure they get there are key – showing the power of mayors as “chief executive officers” (Singapore; Dubai, United Arab Emirates; Bilbao, Spain; Medellin, Colombia; and Surat, India are stellar examples). But negative examples of poor leadership, for example Detroit, USA, show what to avoid.

- *Institutional strength* – Singapore highlights the importance of gradually building up strength of institutions through successive development phases. However, Monterrey, Mexico and Cebu, Philippines, point to fragile institutions that can endanger existing gains as well as future competitiveness.
- *Decentralization, coordination and collaboration* – Cities should take maximum advantage of decentralizing power (successful examples are Bilbao; Ningbo, China; Dubai; Penang, Malaysia; Busan, Republic of Korea), coordinating across jurisdictions where necessary (as in the city-region of Bilbao-Basque Country), and promoting public-private collaboration (as in Bilbao; Guadalajara, Mexico; Medellin; Wroclaw, Poland).
- *Windows of opportunity* – Cities should look out for opportunities, often during a political or economic crisis, to push through the required number of decisive reforms (as Singapore and Surat have shown, and as Detroit has the chance to do at present).

## 2. Policies and regulation of the business environment (what to reform)

- *Getting the basics right* – Stable and prudent macroeconomic policies, efficient and simple taxation, a flexible labour market, openness to trade and foreign direct investment, simple and transparent domestic business regulation, a safety net that protects the most vulnerable – these are the primary lessons for good public policy. One of the important takeaways from the Singapore case study is to keep policy simple for producers, consumers and citizens. While the case studies have several other examples of getting the basics right, plenty examples exist of getting them wrong.
- *Developing own foreign economic policies* – Cities should create their own policies on trade, foreign direct investment, tourism and attracting foreign talent, and advance these globally as far as possible (as in Singapore; Dubai; Manisa, Turkey; Hyderabad and Ahmedabad, India; and Ningbo).

### 3. Hard connectivity (core physical infrastructure)

- *A mix of planning and organic growth is needed* – These are complements, not substitutes. The borough of Manhattan in New York City is an excellent example with its street grid and “room for expansion”. Both overplanned (e.g. Brasilia, Brazil; Chandigarh, India; many cities in China) and underplanned cities should be avoided.
- *Big hard-connectivity gaps should be plugged* – Most emerging-market cities still have such gaps; closing them will require massive investments to avoid barriers to productivity and growth.
- *Urban density is preferable to urban sprawl* – This includes “building tall” in city centres, which is good for business, innovation, the arts and culture, and the environment. Hong Kong SAR and Singapore are great examples of urban density, as is Chicago, USA in recent years. Mumbai, India is a glaring counter-example of very poor urban planning. Chinese cities could also do with more density and less sprawl.
- *Intelligent choices in infrastructure* – Examples include Ahmedabad’s public transport system, Singapore’s electronic road pricing and water treatment systems, Busan’s port and port logistics, and Hong Kong SAR’s mass transit system.

### 4. Soft connectivity

- *Soft connectivity, the city’s social capital, is as important as hard connectivity in the 21st century’s knowledge economy* – While soft and hard connectivity are mutually reinforcing, soft connectivity is also about supporting an open society in the city, which spurs ideas, entrepreneurship, innovation and growth.
- *Education is the ultimate soft connectivity* – US cities such as Boston, Pittsburgh and St Louis have escaped post-industrial decline and specialized in knowledge-intensive niches by capitalizing on their strengths in education. In Asia, Singapore has become the continent’s education hub.
- *Cities need to facilitate digital infrastructure* – This will support human-computer interfaces that empower individuals and take full advantage of hard connectivity. It has the power to significantly increase personal and organizational productivity.

- *Making cities more liveable must be a higher priority* – This means improving the quality of urban life, especially for upper-middle- and high-income cities. Good examples are Wroclaw; Leipzig, Germany; Busan; and Curitiba, Brazil. Singapore and Dubai, as global cities, appreciate that they have to expand and diversify their educational, cultural and recreational facilities to attract top global talent.
- *Soft connectivity failures can also be instructive* – Examples include Chandigarh; Lagos; and even Chicago, USA’s metropolitan area (Chicagoland).

In conclusion, four observations can be made:

- Successful cities are flexible and adapt quickly to changing conditions.
- The taxonomy is one of interactive parts, not of elements in isolation. The important factor is the interaction of all four parts, with the use of new technology as only one example.
- The right mix of priorities must be tailored to specific conditions and stages of city development. Obviously, priorities for a Western city with a stable population and facing sluggish growth, unemployment and ageing demographics will be quite different to those of an emerging-market city with lower income levels, high growth potential and a rapidly-expanding population. Cities have big differences in their natural and policy endowments, and hence in their conditions for reform.
- Reforms at the municipal level are usually more feasible than at the national level, even when they seem impossible in national capitals. Urbanization trends enlarge these possibilities. Cities should grasp this opportunity, experiment with new rules and put reforms on a fast track.

# 1. Introduction

## Background on City Competitiveness

Since 1979, the World Economic Forum has brought competitiveness to the attention of global leaders by defining the term, showing its importance, seeking to measure it through the Global Competitiveness Index, and publishing *The Global Competitiveness Report* annually. Several years ago, the Forum created the Global Agenda Council on Competitiveness, whose mission is to deepen and broaden the understanding of competitiveness; to further equip global leaders with competitiveness tools; and to provide a network for global leaders, whose aim is to further the competitiveness of their companies, industries, cities, regions and nations. In 2011, the Council produced *Best Practices and Lessons Learned for National Competitiveness Councils*, which was posted on the Forum's website and disseminated. It also produced the *Best Practices for National Competitiveness Reports*, drawing from practical examples worldwide.

In 2012, Council Members identified the leadership role that cities are taking in stimulating the competitiveness of nations and regions. Literally hundreds of city competitiveness initiatives are being implemented today. The coming decades will see the next wave of mass migration to cities, especially in Asia and Africa. Megacities are sprouting, while entirely new cities are being created. Cities, with their economies of scale, scope and connectedness, bring people and markets together in a single dense space. They will be one of the driving engines of growth, poverty reduction and prosperity over the course of this century. Yet, many cities are struggling to add on services and infrastructure amid chaotic growth, from the *favelas* of Brazil to the *tugurios* of Colombia and the shanty towns of Africa. In developed countries, many cities, such as Detroit, are struggling with ageing populations, financial sustainability and the loss of industrial bases, as manufacturing has moved to other venues and automation has dispensed with unskilled and semi-skilled jobs. Hence, city competitiveness is a timely and important topic.

## Objectives

The objectives of this work are to encourage city leaders, policy-makers at local, regional, national and international levels, and academic and other experts to focus on competitiveness at the city level; and, to encourage a rich global dialogue on this issue and shine a light on creative and path-breaking initiatives that address the multiplicity of challenges facing today's cities. The Forum's global network is in a unique position to contribute to this dialogue through the inputs of its many contributors from public policy, business, non-governmental organizations (NGOs), academia and think tanks.

## Methodology

The approach is qualitative and descriptive, based on case studies of individual cities around the world. The intent is not to try constructing another index of city competitiveness. Several are already available, such as the Global City Competitiveness Index of the Economist Intelligence Unit, A.T. Kearney's Global Cities Index, CityLab's Global Economic Power Index and the Mori Memorial Foundation's Global Power City Index. With focused case studies for drawing useful comparisons and lessons, this report complements rather than replicates quantitative-based studies

First, global "megatrends" are reviewed, starting with urbanization, and their relevance today to city competitiveness is highlighted. The report then provides a definition of city competitiveness, and creates a simple taxonomy of four drivers of city competitiveness. This is applied to a "big basket" of cities from the United States, Latin America, Europe, Africa, the Middle East and Asia. The taxonomy is also applied but in a more detailed, systematic way to a "small basket" of seven cities, chosen from different countries and regions and at different levels of economic development (low-, middle- and high-income cities). Lessons distilled from these big and small baskets are collated into a "how to reform, what to reform" checklist for city competitiveness. Each city studied, whether as a mini or full case study, has one or several important lessons that are highlighted and can be useful to city leaders elsewhere.

# 2. City Competitiveness in the Global Economy: Megatrends

## Cities and the Wealth of Nations

It is quite usual to think of the wealth of *nations*, as Adam Smith did. David Ricardo, in a letter to his fellow economist Thomas Robert Malthus, spoke of “the wealth and poverty of nations – the grandest of all questions in political economy”. Two centuries later, “national competitiveness” is seen as driving wealth creation for nations, regions and localities. *The Global Competitiveness Report*, published annually by the Forum, identifies the policies and institutions that boost national productivity, which determines competitiveness and growth.

Today, focus should also be given to “cities and the wealth of nations” – the title of a book by the renowned urbanist, Jane Jacobs. More than ever, cities are the lifeblood of the global economy. Their competitiveness increasingly determines the wealth and poverty of nations, regions and the world. Hence, what makes cities successful must be one of the most important questions of 21st-century political economy.

For most people, the map of the global economy that comes to mind is of nation states interconnected through flows of trade, capital, people and technology. However, before the ascendancy of the Westphalian nation state in 1648, the primary political, economic and cultural unit was the city. An alternative map of the global economy comes to mind: one of cities connected across land borders, seas and oceans through the exchange of goods and services, foreign direct investment, migrant and short-term workers, and border-hopping technology.

Throughout history, the most intensive cross-border economic transactions have been between cities – mostly those located on coastlines. Phoenician, Venetian, Genoese, Baltic and Arab merchants linked port cities within and across continents through sea- and ocean-going trade. Today, the bulk of international trade by volume still passes over the oceans between coastal cities, only now transported by huge container ships.

What does this mean for the “competitiveness of cities” and the “wealth of nations”? Two contemporaneous historical examples provide some clues.

The development of cities drove the early economic advance of Europe – a veritable “European miracle”. Competition among cities in late medieval and early modern Europe enabled many European regions to catch up with and overtake other parts of the world as commercial centres well before the Industrial Revolution. Starting with

Venice and Genoa in Italy, and moving on to north-west Europe and the Hanseatic League, cities vied with each other for commercial advantage. They eased restrictions on merchants and opened doors to skilled artisans, many of them dissidents fleeing religious persecution.

Cities were magnets for the freethinking, the creative and the entrepreneurial, who brought their talents to these open urban areas to escape repressive hinterlands. Hence, the popular German saying *Stadtluft macht frei* – “city air makes you free”. Such decentralized political competition spawned a commercial revolution and paved the way for subsequent scientific, agricultural and industrial revolutions.

Early Asian prosperity was also driven by cities – a pre-modern “Asian miracle”. Cities dotted around the Indian Ocean enjoyed a golden age of trade in the two centuries before the Portuguese and Dutch moved in with extreme violence and imposed very restrictive commercial practices. Before they did, Arab and other trading diasporas roamed the seas freely, stopping off in city states along India’s Malabar and Coromandel coastlines and across South-East Asia. “Port-polities” such as Cambay and Calicut of India, and Malacca (of modern-day Malaysia) and Macassar (of today’s Indonesia), were cosmopolitan, lightly governed and tolerant of religion. They attracted traders from all over the world with low taxes and free trade policies. This enabled commerce to flourish from the Chinese coastline all the way to the Middle East.

Fast-forward to 2014: Most productive policy innovation is happening in cities and subnational regions, not at the level of national governments, let alone in international forums such as the United Nations (UN), the European Union (EU) and the Group of Twenty (G20). Policy-making is more flexible and practical the closer it is to the citizen, and is thus more conducive to policy experimentation, all-round learning and adaptation. Cities emulate each other and often adopt best international practice better than nations do. Policies are “initiated from below and diffused by example”, as the historian David Landes puts it.

This has certainly been true in the United States and the EU in recent years, as the US government experiences partisan gridlock and EU institutions and national governments find it difficult to implement needed reforms. American cities are hotbeds of policy innovation. Some European cities are rediscovering the ingredients of the European miracle of a few centuries ago. However, this century’s story of cities and the wealth of nations will be scripted mainly in the emerging world – outside the West. The world economy, spurred by urbanization trends, is shifting south and east, particularly to Asia. And Asian cities will be among the main players in city competitiveness.

## Global Megatrends

In turning to global megatrends – big, long-term trends that directly bear on city competitiveness – six are identified for consideration: (1) urbanization, demographics and the emerging middle class, (2) rising inequality, (3) sustainability, (4) technological change, (5) industrial clusters and global value chains; and (6) governance.

### Megatrend 1: Urbanization, Demographics and the Emerging Middle Class

People have moved from the countryside to cities for millennia, but never before has the world urbanized at such speed and scale as it has today. As of 2010, for the first time in history, over half the world's population lives in cities. Cities account for over 80% of global gross domestic product (GDP). By 2011, over half of the population of the People's Republic of China was living in urban areas – while only 20% was in cities as recently as 1980. By 2020, about 60% of the country's population will live in cities. India's urbanization is relatively low at just under one-third of the population, but over 200 million people – one-sixth of the population – have urbanized since market reforms were introduced in 1991. According to the UN, an additional 2.4 billion people globally will urbanize by 2050, bringing the total number of city dwellers to 6.3 billion, or 67% of the world's population. Moreover, another 2 billion people could urbanize by the early 22nd century.

According to the McKinsey Global Institute (MGI), the top 100 cities, measured by expected contribution to global GDP growth by 2025, accounted for 38% of global GDP (\$21 trillion) in 2007. In 2025, MGI reckons that the top 600 cities will have nearly 60% of global GDP and 25% of the world's population. These same 600 cities already have 1.5 billion people who produce well over half of global GDP. This ratio of population to GDP underlines the vital role of cities as the engines of productivity or output per capita.

For the foreseeable future, rapid urbanization will be an almost exclusively non-Western affair: about 94% of those who will move to cities in the next few decades will come from the developing world. MGI's list of top 600 cities contained 220 from developing countries, which accounted for 10% of global GDP in 2007. But it estimates that, by 2025, the number will double to 443. They will account for close to half of global GDP growth and 18% of global GDP. China will have 242 cities in the top 600, and Latin America and South Asia 57 and 36, respectively. All new megacities with a population of at least 10 million will come from outside the West (with one exception: Chicago, USA). Seven of these megacities (over one-half) will be in China. But the 577 "middleweight" cities in the top 600 – those with a population of between 150,000 and 10 million, and the vast majority of them in the developing world – will account for about half of global growth through 2025. The top 600 will also add over 300 million people to the global workforce, almost all from cities in developing countries and two-thirds from Chinese and Indian cities.

The emerging-market middle class – those households with a daily expenditure of \$10-100 per person at purchasing power parity (PPP) – will double its share of global consumption from one-third to two-thirds by 2050. This class will be concentrated in existing and new cities. MGI estimates 1 billion new members of the "global consuming class" (those earning more than \$10 per day at PPP) will be added by 2025, with income sufficient to consume goods and services going beyond daily necessities. Of these members, 600 million will live in the top 440 cities in the developing world; they will drive consumption and investment that could add \$30 trillion annually to the world economy. By 2025, these cities will be home to 235 million upper-middle-class households with an annual income of more than \$20,000 (at PPP) – more such households than will be found in the developed world's top cities.

Ageing will also be an important trend in global demographics. By 2050, one in every five people will be at least 60 years old. The overall ratio of old to young is set to almost double from current levels. Ageing is most prevalent in Europe and Japan, but is also seen in developing countries in the middle-income bracket – most noticeably in China, and in smaller countries such as Sri Lanka. Asian countries with rather low average income such as India, Pakistan and Indonesia can count on younger, growing populations for at least another two decades, and most African countries well beyond that time frame.

Ageing is very much related to cities and urbanization, in both developed and developing countries. MGI estimates that 423 cities from developing countries will contribute almost 80% of growth in the 65-plus age group in its top 600 cities by 2025. The top 216 cities in China will have 80 million new older citizens.

### Megatrend 2: Rising Inequality

Market reforms and global economic integration, which accelerated from the 1980s through 2007, delivered the biggest boost to prosperity and the most impressive reduction in poverty ever seen. But, within countries, inequality is on the rise.

*Global* inequality, when comparing individuals rather than countries, has fallen, especially due to the dramatic decline in poverty in China and India, which together account for close to 40% of the world's population. But *in-country* inequality, as measured by the Gini coefficient, for example, has increased in many countries. This is true for member nations of the Organisation for Economic Co-operation and Development (OECD), and the developing countries China, India, Russia and South Africa. The causes are complex, with economic globalization just one of several factors, and the trend is not necessarily secular (it could change in the future). But it seems that, for now, a combination of economic globalization and technological change rewards those who have capital, advanced education and high-level skills much more than those in the middle and lower levels of society.

Cities are affected by rising inequality and, in some instances, may help cause it. Rapid urbanization in the developing world inevitably increases the development gap between cities on the one hand, and small towns and rural areas on the other. Cities often boost standards of living by providing job opportunities and access to services. The fact that people keep arriving to the slums of very poor cities indicates that life is perceived to be even worse in rural areas. Will a city-based global economy “pull up” non-urban hinterlands, or will cities become rich enclaves surrounded by marginalized rural areas?

Growing income gaps are evident among cities, as seen in successful and unsuccessful, and ascending and declining cities within countries. A yawning gap exists between New York and Detroit in the United States, for example, and between Bilbao, Spain and Liege, Belgium. Dubai of the United Arab Emirates (UAE) has pulled far ahead of Cairo, Egypt. Surat and Chandigarh are contrasting examples from India. Many cities have seen big increases in inequality within their municipal limits; this is especially true of the conspicuously successful global cities of London, New York, Hong Kong SAR and Singapore, where premium rewards go to the owners of capital and to global talent – highly educated and skilled professionals.

### Megatrend 3: Sustainability

Sustainability can be defined as long-term economic development compatible with available natural resources and the preservation of the natural environment. As population and incomes grow, pressures grow on resources and the environment. Per-capita energy consumption worldwide has more than doubled since 1950. Global demand for energy could increase by up to 50% by 2030. According to the International Energy Agency, energy demand is projected to double in developing Asia by that time, fuelled by industrial revolutions in China and other parts of the developing world. Despite efforts to develop renewable energy, this will lead to a large rise in fossil-fuel consumption, which increases carbon emissions. At the same time, growing demand for food collides with the lack of new land for agriculture. And, energy and food production are water-intensive, thus putting growing pressure on water resources.

Cities are especially intensive users of energy, food and water, given their concentrations of people and economic activity, and are responsible for over half of global greenhouse gas emissions. Their challenge, particularly in the developing world, is to fuse technology and markets to become much more efficient in using available resources.

### Megatrend 4: Technological Change

Technological advance has always spurred urbanization. It has dramatically reduced transport and communication costs. Coupled with policies to open markets, it has *dispersed* economic activity around the world, allowing comparative advantage to help generate positive outcomes; but, at the same time, it has *concentrated* economic activity in particular locations. Cities have been the big beneficiaries: they enable firms to reap economies of scale and scope,

and bring talented people together – not least entrepreneurs – to share ideas and innovate. The city’s “agglomeration” advantages, or clustering effects, have played a historical role, from ancient and medieval times to during and after the Industrial Revolution, and to today’s world of satellites, ever more powerful computers, mobile communications and the internet – enabling the city to make better use of technology than any other location. The difference today is the phenomenal increase in the *speed* of communications, with a fourfold growth in total international bandwidth between 2007 and 2011. Moreover, the internet now has 2.5 billion users; 6 billion people have access to mobile phones; and developing countries accounted for 80% of new mobile phone subscriptions in 2011.

Technological change is “disruptive”. Automation and globalization have shifted much manufacturing, and the jobs related to it, to developing countries. This is now happening with clerical jobs in many service industries. Some cities, typically over-reliant on one industry, and with ossified policies and institutions, were hollowed out and became rust belts – Detroit being a glaring example. Others, more flexible and adaptive, have reinvented themselves and flourished, reaping the advantages of Schumpeterian “gales of creative destruction”. London, New York, Singapore, Hong Kong SAR and Dubai have done this impressively by becoming world-class locations for an array of service sectors. Plenty of other successful examples are documented in the case studies. Hence, cities remain best placed to take advantage of technological change, whether incremental or disruptive – from access to global markets, new opportunities in education and training, improving healthcare, storing and using Big Data, and much more.

### Megatrend 5: Industrial Clusters and Global Value Chains

Global value chains (GVCs) are the defining feature of early 21st-century international trade. The information and communication technologies (ICT) revolution and the opening of new markets have allowed fragmenting production across borders, with different parts of the value chain located in different countries. Simultaneously, trade in parts and components, and complex logistics systems, knit production networks together to serve global markets. GVCs are most visible in manufacturing, especially in ICT products, but they are enabled by supporting services, notably financial, telecommunications, transport, logistics and other business services. Trade in GVCs is the fastest-growing part of international trade, and a critical driver of productivity, growth and employment in both developed and developing countries. GVCs unite exports, imports, foreign direct investment, critical technology and intellectual property in a seamless whole.

For firms, the challenge is not to produce everything related to a final product, but to specialize in a value-adding task or set of tasks along a multi-country value chain. For countries, the same applies. The challenge for national governments is to ensure a smooth flow along the value chain by keeping borders open; having non-discriminatory policies for trade and foreign direct investment; protecting private property rights, including intellectual property; and maintaining an efficient environment for doing business.

The same applies to cities. They are already the hubs and nodal points in GVCs, with clusters of manufacturing and service activities. But they stand to gain disproportionately as GVCs expand, both sectorally – from ICT products to other parts of manufacturing, into services, and even into agriculture and resources – and geographically, from North America, Europe and East Asia to other parts of the world.

Multinational companies can be seen as the GVC “system integrators”. Cities compete to host multinationals for global or regional headquarter (HQ) operations and as foreign subsidiaries. MGI estimates that 20 cities are home to the global HQs of one-third of all large companies (defined as those with at least \$1 billion in annual revenue), which account for 40% of the revenue of all large companies. True, it is difficult for a city to attract global HQ operations from other cities, where such operations already exist and where large companies are committed for historical and other reasons. But cities can and do compete vigorously to host regional HQ operations and subsidiaries – a game that Hong Kong SAR and Singapore excel at in Asia, as does Dubai in the Middle East. Moreover, a big expansion is foreseen of next-generation large companies in the market for locating HQ and subsidiary operations. Many of these companies will come from China and other emerging countries. These are all opportunities for cities to become more deeply involved in GVCs.

## Megatrend 6: Governance

Markets are globalizing, and societies are being transformed as a result. Technological advances can spur concentration of economic activity, but they also impel decentralization of choices and decision-making. The internet, mobile communications and social media have empowered vast numbers of individuals across the globe to work, play, think and pray as they see fit. At the same time, a handful of large companies sit at the apex of new technology markets.

In stark contrast to these dynamic economic, social and technological forces, the world of politics and governance seems much more static. The Westphalian system of nation states still predominates almost four centuries after it began; above it are intergovernmental organizations and assorted mechanisms of international cooperation. However, global governance remains weak, as does supranational regional governance, with the possible exception of the EU. Below nation states are subnational governments, at provincial and municipal levels, which vary enormously across countries and regions.

Decentralizing forces – economic, social and technological – play in favour of subnational governance. The availability of much more information, and rising expectations on transparency, accountability and good governance, are making people more distrustful of national governments and national political elites. Intergovernmental organizations and supranational regional institutions – not least the EU – seem remote and bureaucratic. This creates a window of

opportunity for provincial and city governments to reactivate themselves. Decentralized political systems, such as that of the United States, may be best positioned to take advantage of the situation. In sum, very strong reasons exist to radically decentralize authority and decision-making down to the cities.

## Conclusion

These six megatrends, led by urbanization, condition the environment facing cities around the world. Some megatrends, notably urbanization and its clustering effects, are centripetal, or concentrating, in nature. Others may be more centrifugal or dispersing, such as recent technological advances and trends in governance. How can cities take advantage of these megatrends? How can they best balance centripetal and centrifugal forces? How can they mitigate negative forces such as rising inequality, pressure on natural resources and the environment, and a diminution of trust in public authorities? What are the choice sets for different cities, in different countries and regions? These questions lead to the *competitiveness* agenda for cities.

# 3. City Competitiveness: A Definition and Taxonomy

## Defining City Competitiveness

MGI defines cities as metropolitan areas with populations of over 150,000; these can be grouped to include “small middleweight” cities of up to 5 million, “large middleweight” cities of up to 10 million and “megacities” with populations of over 10 million. Many cities are, of course, embedded in elongated multi-city corridors, as with “Chicagoland”; others are rooted in wider subnational regions, such as Bilbao in the Basque Country of Spain, while yet others have important cross-border characteristics. However, the focus of this report is on the city as a metropolitan area.

City competitiveness can be defined as *the set of factors – policies, institutions, strategies and processes -- that determines the level of sustainable productivity of a city*. Sustainability encompasses economic, environmental and social issues.

By focusing on productivity, this definition resembles that of “national competitiveness” used in the World Economic Forum’s annual *Global Competitiveness Report*. Productivity is the efficiency with which an economy uses available inputs to produce outputs; it determines the rate of return on investments, which fundamentally drives economic growth. In other words, a more competitive economy is likely to grow faster over time, and productivity-based competitiveness sets an economy’s level of prosperity. Productivity has to be sustainable – that is, maintained beyond the short term – and in a way that reconciles economic, environmental and social goals.

## Analysing City Competitiveness: A Four-Part Taxonomy

At first glance, it seems difficult to develop a framework for competitiveness that can be relevant to a breathtakingly broad array of conditions. Cities vary by level of development in low-, middle- and high-income countries. The challenges for a country’s capital or leading commercial city may be quite different from those for its secondary and tertiary cities. Some cities, such as second-tier industrializing cities in China and India, are growing by leaps and bounds while other cities, such as Detroit, are losing their populations. Cities have different demographics, with some skewing young and others old. Some cities have been newly created, while others have existed for centuries; some are on coastlines and have long trading histories, and others are landlocked and more insular. While some have been planned and others have grown organically, most have varying mixes of planning and organic growth. Therefore, it is important not to apply the policy and institutional takeaways from one city to all others, regardless of context, nuance and, indeed, stark differences. This report is not about universal, one-size-fits-all solutions. However, careful analysis and reflection can elicit lessons from best practices that can be applied *contingently*, i.e. to cities that face a particular set of conditions at any one time.

In this spirit, the report presents an analytical framework for looking at city competitiveness. While used as the

common template for the case studies herein, it can equally be applied to cities in general, around the world. A simple four-part taxonomy of the important factors determining city competitiveness is proposed. The following guidelines were used to develop the taxonomy:

- *Keep it simple*: The content is in four parts – what is considered to be absolutely necessary, rather than a shopping list.
- *Focus on core competitiveness*: The central drivers of productivity feed into sustainable economic growth.
- *Align the criteria with those of the Forum’s Global Competitiveness Report*: Vital lessons from national-level core competitiveness are adapted for city competitiveness, and vice versa. Thus, several of the report’s 12 pillars of competitiveness are drawn upon.

## City Competitiveness Taxonomy

The taxonomy’s four parts are: (1) institutions, (2) policies and regulation, (3) hard connectivity and (4) soft connectivity.

### 1. Institutions (how to reform)

This is the governance or decision-making framework for competitiveness; it concerns how important decisions are made and vital reforms created. When studying the economic histories of cities and nations, it becomes clear that policy priorities – or what to reform – may be the easiest part of the challenge. While many of these priorities are well known, it is more difficult to understand why some cities manage to implement initiatives that set their economic lives on a new trajectory, while others struggle to do so. Ascribing this difference to “leadership” is easier because leadership is always important – yet, it is often difficult to emulate. While leadership is part of the equation, understanding how institutions emerge, how social capital is built and how cooperation is encouraged provides a much more nuanced challenge for those wishing to understand how to drive change.

The following factors of how to reform are highlighted:

- The political and legal systems of city government
- Relations with national and state/provincial levels of government
- Relations with organized interests, especially business
- Public-private collaboration
- Individuals and leadership
- The role of ideas (vision) and the city brand
- The timing of major reforms, including taking advantage of crises and critical turning points

### 2. Policies and regulation of the business environment (what to reform)

The framework of public policies and regulation shaping competitiveness indicates what to reform – critical policy reforms already done, and those needed for “unfinished business”.

The main factors of what to reform are:

- Macroeconomic policies related to the city's fiscal policies (revenue and expenditure)
- Business-environment policies and regulations related to markets for goods, services, capital and labour, many of which are well captured in the World Bank's Doing Business Index.
- Foreign economic policies that position a city in the global economy through international trade, finance, foreign direct investment (FDI), foreign workers and tourism, all as part of clusters of economic activity linked to global value chains

### 3. Hard connectivity

Infrastructure has been an important factor in city competitiveness, from ancient times through the Middle Ages, to modernity and the present. Today, the discourse is in broader terms of "connectivity". But connectivity has two types of components: hard and soft. Hard connectivity is the core physical infrastructure connecting people to energy, water and other services.

The main elements highlighted in this report are:

- Transportation (air, road and rail)
- Communications
- Energy
- Logistics systems (especially those that feed into regional production clusters and global value chains)

Hard connectivity seems to have been especially important during the industrial age. Examples abound of cities that capitalized on their rivers, canals, lakes, maritime ports, railroads, roads and airports.

### 4. Soft connectivity

Soft connectivity is the social capital that makes investments in hard infrastructure and new technology (e.g. broadband access) more productive, and is now considered as important

as hard connectivity. In fact, the two are mutually reinforcing – it is not just about technological innovation, but innovation in the broad sense. And, it concerns an atmosphere of tolerance, free expression and cosmopolitanism, all characteristics of what the philosopher Sir Karl Popper called the "open society". Today, they are highly conducive to the generation and dissemination of ideas, and to entrepreneurship, innovation and economic growth, just as they were in cities at the heart of the pre-modern European and Asian "miracles".

The following soft-connectivity elements are highlighted:

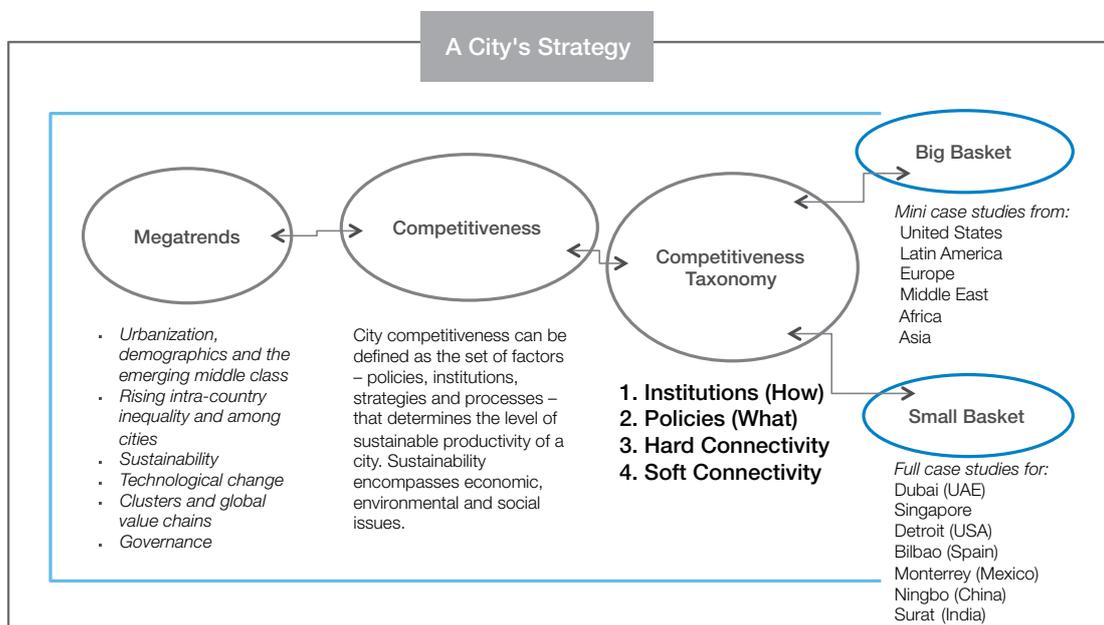
- Technological innovation and diffusion (in government and business, and through public-private linkages)
- Education and training systems
- Innovative ecosystems involving small and medium-sized enterprises (SMEs)
- Entrepreneurial culture
- Hubs for intellectual property, including data storage
- Liveability, or quality-of-life factors, to attract and retain talent
- Relationships that promote trust and affinity, leading to commercial and financial interactions
- An open society

The taxonomy's four parts are, of course, highly interactive. Technology and other soft-connectivity factors, for example, feed into the other three components. And, the setting of decision-making in cities shapes the quality of policies and regulatory implementation, both of which bear directly on hard and soft connectivity.

The city competitiveness map (Figure 1) visually demonstrates the links between megatrends and the taxonomy, and how they apply to the cities covered in the report's "big" and "small" baskets.

**Figure 1: City Competitiveness Map**

Source: Authors



# 4. The Big Basket: Mini Case Studies of City Competitiveness from Around the World

The city competitiveness taxonomy is now applied to 26 cities drawn from five continents and representing virtually all demographics, income levels and other conditions. Together, these mini case studies constitute a relatively representative sample illustrating how city competitiveness works in different situations and contexts. These have been prepared by a wide set of authors from different national backgrounds who have been encouraged to identify lessons learned.

This part of the report covers five US cities, five in Latin America, three in Europe, two in the Middle East, two in Africa and nine in Asia (India: 3, China: 3, and East Asia excluding China: 3). The focus is mostly on “second-tier” cities – generally middle and large, or “middleweight”, in terms of population – rather than on megacities and national capitals. The exceptions are Buenos Aires, Argentina and Santiago, Chile (the former a megacity, and both national capitals); Lagos (Nigeria’s megacity/commercial capital); and Chicago, with a population of just under 10 million but projected to become a megacity in the next decade. A short, precise mini case study is done for each city in this chapter, given the large size of this basket. (The following chapter – the “small basket” – contains detailed case studies for seven cities.)

## Case Studies from the United States<sup>2</sup>

### Chattanooga, Tennessee: Smart Targeting of Foreign Direct Investment and the “Gig”

Chattanooga, Tennessee offers a strong example of how a city can leverage a customized innovation and pro-business strategy to rebound from economic decline. Heavily dependent on manufacturing, Chattanooga found itself facing massive job losses and economic decline. Yet in recent years, the city attracted \$4 billion in new foreign investment, revitalized its downtown, increased wages and enhanced the overall quality of life. While many challenges still exist, such as a higher-than-national-average unemployment rate, progress in a number of areas has been substantial.

Chattanooga’s renewal is often attributed in part to the “Gig”. Created by the public Electric Power Board (EPB), this state-of-the-art, gigabyte-per-second fibre optics network has provided Chattanooga with one of the fastest internet speeds in the United States, and attracted numerous start-ups and businesses looking to take advantage of this revolutionary technology (nearly 1,000 new jobs drawn in by the Gig alone). The influx of computer technology entrepreneurs has helped to offset some of the city’s recent job losses from more traditional sectors, the biggest in

recent years being government, construction and finance. To fully capitalize on the new infrastructure, Chattanooga will need a new generation of highly educated labour. Governor of Tennessee Bill Haslam has recently announced a plan to make two years at Tennessee community colleges and technical schools tuition-free for residents. A large step towards preparing Chattanooga’s workforce of tomorrow, this policy promotes both competitiveness (productivity) as well as inclusiveness.

The Chattanooga Regional Growth Initiative (CRGI), supported by a wide range of local leaders, identifies a number of industry clusters that should be fostered in order to best translate Chattanooga’s strengths into economic gains. Many of the clusters, such as hospitality and tourism, already had a healthy base in the city and were easily reinforced. Other selected clusters focused on industries that would be relatively new for the area. For example, vehicle manufacturing was targeted by the CRGI in the early 2000s as a frontier innovation cluster that Chattanooga could capture. Due to concerted actions by city leaders, Volkswagen chose the city as the location for its first US automotive factory in 2008. Volkswagen representatives directly attribute their decision to the high quality of life and strong manufacturing background present in Chattanooga. Adding to the city’s attractiveness, state and local governments approved \$577.4 million in tax breaks and assistance for the project over the next 30 years. City and state officials hailed this development as a benefit for the area and a result of Chattanooga’s work in improving its business incentives, environmental sustainability and workforce capabilities. Over the next 30 years, the project is predicted to bring in roughly 11,000 jobs, \$11.8 billion in personal income growth and \$1.4 billion in new tax revenue.

Certainly Chattanooga’s path cannot be directly replicated by all other cities. For example, the Gig technology is no longer unique, as when it was first introduced (Google has begun introducing similar networks in multiple cities). This city’s success story still gives clear insight into how others can turn around their fortunes by establishing a vision, engaging leaders from all sectors and enacting pro-business policies. Chattanooga’s innovation strategy couples investment in cutting-edge technology, workforce skills and forging next-generation public-private partnerships.

### Pittsburgh, Pennsylvania: From Steel City to “Roboburgh”

Nearly 30 years ago, Pittsburgh had an unemployment rate of over 17% and was losing thousands of jobs monthly, as the steel industry on which it depended was devastated

in the late 20th century by slowing demand, higher costs and intense competition. Now, the city boasts lower-than-national-average unemployment. While still employing 100,000 people as America's second largest market for industrial metal employment, Pittsburgh successfully reinvented itself by attracting and creating new industries, even earning a new moniker, "Roboburgh", for its success in robotics and advanced manufacturing. Can its story be a map for other cities, especially those in America's "Rust Belt", to overcome industrial decline?

The challenge of Pittsburgh's transformation was presented in the 2002 report *Clusters of Innovation Initiative: Pittsburgh* by the Council on Competitiveness. The report cited obstacles hindering the city's economic performance, including poor workforce retention, low levels of innovation, a challenging start-up environment and weak coordination among different levels of leadership. Over the next decade, Pittsburgh took steps to address each of these challenges.

To keep talented graduates from leaving the city and attract others from around the globe, attention was put on changing the culture of the city. Funds, incentives and appropriations were invested in new revitalization programmes. Results were seen quickly when Pittsburgh was named the most liveable city in the United States by the Economist Intelligence Unit. In an effort to boost start-up creation and growth, a number of innovation programmes were initiated. Innovation Works, a state-run programme, promoted and supported entrepreneurship. Private-public partnerships like Innovation Works have become a powerful tool not only for directing finance to deserving start-ups and growing companies, but also in providing channels of communication and cooperation between various economic stakeholders. This sort of effort was combined with the already existing foundations of a skilled workforce and strong research community to make Pittsburgh's transformation possible.

Pittsburgh's success was recognized in 2009 when it was chosen as host city for the prestigious and influential G20 summit. Organizers pointed to its "diverse, balanced and resilient economy", making Pittsburgh "a model for economic, environmental and quality-of-life transformation". Beyond the previously mentioned success in advanced manufacturing, the city has witnessed great performance in financial and business services (hosting two of the 15 largest US law firms); global business (home to 100 or more billion-dollar-plus businesses); healthcare and life sciences (providing over 100,000 jobs); education and research (Carnegie Mellon University and University of Pittsburgh ranking high in research, and over 70,000 jobs provided by research and development [R&D] as a whole); and information and communications technology (roughly 1,600 technology firms). US President Obama recently commented on Pittsburgh, highlighting how it "transformed itself from the city of steel to a center for high-tech innovation – including green technology, education and training, and research and development".

Pittsburgh's recovery demonstrates the vast potential for transformation in cities dependent on declining industries. It can be looked to as an example of how it is possible for manufacturing cities to find a second life through innovation and new technology. Today, Pittsburgh's unemployment rate is lower than the national average. In a 2014 National Bureau of Economic Research report, Pittsburgh was named the second-best city for being able to achieve the American dream, recognizing its newfound prosperity and the economic mobility that it offers its citizens.

### **Oklahoma City, Oklahoma: Diversifying Beyond Resources**

*Forbes* recently named Oklahoma City a "recession proof" city, surpassing the national average in employment and job growth and providing lessons on how to be more economically competitive.

Oklahoma City's prospects have not always been so bright. Due to fluctuations in the energy industry, the city has faced a boom and bust cycle. Energy has long been an important part of the city's economy, but that may be becoming less true. Only 15 years ago, oil and gas made up 25% of the state's revenue; today that figure has been roughly halved even during the current energy boom. This change has less to do with the impact of shrinking oil and gas revenue, and more to do with a concerted effort to diversify its economy.

A number of actions can be credited with causing the city's strong performance. Incentives aimed at attracting businesses (such as a low 5.5% state income tax) play an important role in job growth, along with leading Oklahoma to be ranked among the top 10 states in the nation for doing business. One of the most impressive features is the city's focus on manufacturing and innovation. Oklahoma City is not just satisfied with extraction with regard to the large natural gas deposits it is sitting on; it is quickly moving into related engineering fields. The region is finding itself in a leadership position in the research, engineering and production of new technology. The city frequently ranks high in manufacturing job growth, and was recently named the number three city in the nation for engineers.

The symbiotic relationship that exists between innovation, manufacturing and business has had an important role in Oklahoma City's economic progress. Success in one area causes positive ripples across the entire economic landscape. Sectors that did not exist a few decades ago are now present and thriving. Aviation and aerospace, bioscience as well as hospitality add to the long-standing success of the city's traditional, recession-resistant sectors of government (Oklahoma City is the state capital), medical and research, and energy. Oklahoma City has built on natural resources through innovation and manufacturing. The city has been able to best translate its wealth of energy into new jobs, stronger economic performance and a better standard of living for its residents. Cities taking part in the new American energy renaissance can look towards Oklahoma City as a model of how best to reap long-term benefits from this boom.

## St Louis, Missouri: Global Biotech and Tech Powerhouse

Like many similar cities, St Louis faced hard economic times when the Great Recession hit in 2008. But St Louis differentiated itself by pursuing the tech industry, especially biotech. Its strategy has been rewarded; it currently ranks as the fastest-growing city in the United States for technology jobs.

Due to its central location and prominence as a railroad hub and inland port, St Louis has a long history of economic importance to the country at large. Ranking 21st in gross metropolitan product, St Louis still plays an important role as America's second largest inland port, through which over 50% of all grain exports pass. The city faced a loss of prominence as population and economic activities shifted westward. But St Louis now finds itself in a very different position than similar cities in the American Midwest through its newfound success as a global biotech hub and top destination for tech start-ups.

"Arch Grants" have been one tool used to create a tech hotbed in St Louis. Started in 2012, Arch Grants are a non-profit way to provide start-ups with no-strings-attached, non-equity awards of \$50,000. The only condition is that the start-up must locate itself in St Louis. A number of the city's other enticing features are further attracting businesses. Low utility and building costs, state tax incentives and partnerships with local universities all contribute to the city's success. Already this year, companies from 28 states and 20 countries have applied for the competitive grants. Some predict that the number of applications could reach 1,000 for 2014.

Biotech is a specific technology sector where St Louis is thriving. Numerous global companies call the city home and are making large investments into the area (last year, Donald Danforth Plant Science Center and Monsanto announced investments of nearly \$500 million to their existing facilities). The St Louis Economic Development Partnership has founded the Helix Biotech Incubator as a way to further strengthen the biotech community. Through offering affordable lab and office space as well as shared equipment, the Incubator will make St Louis an even more attractive location to base a biotech start-up. With the industry offering higher-than-average salaries and drawing young talent from around the globe, biotech has the potential to cause positive ripples across the city's economy.

St Louis' new competitiveness has not gone unnoticed. In 2013, Boeing chose to relocate nearly 400 R&D jobs from Seattle to St Louis. This decision could be attributed to both the strong tech community existing in the city and smart tax incentives aimed at attracting investment (Boeing would be eligible for a \$16.8 million incentive from the state of Missouri). St Louis demonstrates the economic benefit of getting high-tech industries to establish roots in an area, with potentially exponential effects. Thanks to the Arch Grants and other pro-tech incentives, St Louis has established a diversified and forward-looking economy against which other cities can benchmark themselves.

## Chicagoland: Institutional Coordination for Competitiveness<sup>3</sup>

With 9.5 million people, Chicago is the eighth largest city in the world with a GDP of over \$500 billion. However, the "metropolitan region" encompasses many jurisdictions, including 14 counties and parts of three states (Wisconsin, Indiana and Illinois). This makes coordination of a coherent competitiveness strategy challenging. There have been transportation bottlenecks because of the lack of coordination among jurisdictions. Chicago's productivity and GDP growth has lagged the US average in recent years.

### Hard connectivity was Chicago's historical strength.

The "windy city" has been the hub between the Great Lakes and the great inland valleys of North America. A magnificent railway network built upon its impressive water transport hub saw over half of all rail transportation passing through the Chicago metropolitan area. The interstate highway system adds to these major corridors. Chicago O'Hare International Airport further demonstrates the hard connectivity of the city, as it is the second largest US airport by volume. This hard connectivity lowered the cost of inputs and distribution, and drove Chicago's competitiveness in the industrial age.

**Soft connectivity has not kept up.** There has been a soft-connectivity disconnect among the regional governance bodies, which failed to coordinate among themselves and even competed with each other for attracting talent and investment. Despite world-class universities and research labs, there is a shortage of highly skilled workers and a skills mismatch with the evolving needs of the private sector. The founders of NetScape, PayPal and YouTube, who studied at the University of Illinois, all left for California.

**How to reform – new strategy calls for new institutional arrangements.** The Chicagoland Chamber of Commerce has begun to implement a new strategy, but with a new set of jurisdictional actors. The regional governance disconnect led the Chicagoland Chamber of Commerce to form a new approach to governance by convening the major state, city and local bodies regardless of jurisdictional state or county. Involving 14 counties, three states and many agencies, this coordination is seen as long overdue.

**What to reform.** Informed by an OECD study, Chicagoland is focusing on workforce development, logistics development and economic development. The first addresses the skills gap by attracting talent, as well as building skills responsive to the private sector's competitive needs. The logistics focus addresses multimodal transportation to overcome bottlenecks under multiple authorities and jurisdictions, in order to build a seamlessly efficient, traceable transport and logistics network including air, rail, maritime and ground transportation. The third focus is on building green clusters, including the retrofitting of Chicago's buildings with energy-efficient materials and systems, and helping to place firms in the region on the forefront of clean, green and energy-saving technology. The Illinois Science and Technology Coalition focuses on supporting these firms by bringing venture capital to the region. Chicagoland is implementing a cluster development strategy. Initial coordination of technical agencies in different

jurisdictions bodes well for the future. Local universities are benchmarking and monitoring progress. Different regions are cooperating instead of competing for investment and talent. Creating one connected regional labour market linked to a multimodal transportation network should give a boost to the region's ability to attract investors.

## Case Studies from Latin America: Colombia, Mexico, Brazil, Argentina and Chile

### Medellin, Colombia: From Most Dangerous to Most Innovative City<sup>4</sup>

Once called "the world's most dangerous city", Medellin was chosen by voters of *The Wall Street Journal* as "Innovative City of the Year" in 2013, and has recently won awards as an attractive investment destination, as well as for imaginative urban planning. With 2.4 million people, Medellin contributes 11% of Colombia's GDP and hosted UN Habitat's Seventh Session of the World Urban Forum.

This process has been driven by a strong relationship between universities, industry and government. In 2004, Sergio Fajardo became mayor of the city and brought change through the strategy *Medellin, la más educada* (Medellin, the most educated), devoting 40% of the municipal public spending to education. Empresas Públicas de Medellín, a public service company, assigned 7.5% of its total annual earnings to research, development and innovation, closing the virtuous circle with universities, which focus their research on industry needs. Proantioquia, a group of leading businessmen, initiated a corporate social responsibility strategy.

Medellin has been able to implement strategies that combine educational venues with social interaction. Biblioteca España and Parque Explora are two such projects. The Library Network brings education to marginalized communities. Urban mobility in Medellin, a city between two mountain ranges, was addressed with the construction of Metrocable, a cableway system that connects *comunas* in the mountains to the main metro stations in the city. The combination of the metro and cableway represents "hard connectivity" infrastructure that fosters "soft connectivity" inclusiveness and involvement, building social capital and trust among low-income communities.

Medellin is the only city in Colombia that has a science, technology and innovation plan. The plan has identified strong foundations to develop health, energy, and information and communication technology clusters. The Medellin Innovation District master plan has been developed, with Ruta N (the "N" Route), a compound focused on business and innovation development, as the heart of an innovation ecosystem in the city. The area (114 hectares) connects several barrios as well as the University of Antioquia; it encompasses Parque Explora, Planetario, Jardín Botánico and the Innovation and Business Center, which together create an urban centre that supports the drive towards a knowledge-based society and economy. The Triple Helix organization, Corporación Ruta N, reflects

the way in which the city has worked to achieve its sustainable development. Medellin has seen private, public and civil society leaders come together for the last 10 years to implement tangible projects designed to foster inclusive economic and social interaction.

### Guadalajara, Mexico: Creative City Poised for High-Tech Future<sup>5</sup>

Guadalajara, located in the state of Jalisco, is one of the most important metropolitan areas and economic nodes in Mexico. While the overall economic performance of the city has yet to reach its full potential, Guadalajara scores among the top 10 cities in the CIDE<sup>5</sup> and IMCO<sup>6</sup> indexes. The appeal of Guadalajara is attributed to its cultural, economic and urban conditions. The city embraces creativity as one of the main drivers for development. Famous for its mariachi and tequila, Guadalajara hosts two of the most important cultural events in Latin America: an international book fair and international film festival. It is home to over 40 universities, including some of the most important in Mexico. In 2011, it hosted the Pan American Games, which led to the construction of world-class infrastructure.

Economically, the electronic manufacturing and ITC clusters have become the main driving forces of the city. By 2010, 12 original equipment manufacturers, more than 700 electronic manufacturing companies and several design centres were established in Guadalajara. This process began in 1968 with the establishment of several leading international companies and, by 2010, these industries exported over \$17 billion worth of goods, the highest figure in this sector of the country, led by companies such as LG, Samsung, Sony and Siemens. The state of Jalisco holds 24% of the software development market, 34% of the high tech industry and 56% of the electronic industry in Mexico.

Institutionally, Jalisco is the only state in Mexico with a Metropolitan Coordination Law, which aims to improve harmonization throughout the urban area and foster development. Additionally, the Urban Planning Commission, working closely with the private sector and universities, has been key to the development of urban projects seeking to enrich the experience of the city.

In 2012, Guadalajara was selected as the site of Ciudad Creativa Digital, a project that aims to become the largest hub for the digital media industry in Latin America. The initiative seeks to transform the city's historic downtown and is supported by the federal, state and municipal governments, as well as by universities and business organizations. Guadalajara Ciudad Creativa Digital A.C., a public-private organization, was founded to guide, manage and allow for the long-term continuity of the project.

Guadalajara has built on its strengths to become the main hub for high-tech industries in Mexico. The integration of focused economic development, proper urban conditions and creativity, based on both education and history, might be the corner stone of the city's future. Nevertheless, Guadalajara still needs to work on improving social factors: 30% of the population falls below the poverty line, and it needs to control urban sprawl. Guadalajara's

competitiveness drivers must be strengthened to rank at the top of the nation and justify the city's tag line as "Mexico's Silicon Valley".

### Curitiba, Brazil: Leader in Innovation and Green Growth<sup>8</sup>

Located in the state of Parana, in the south of Brazil, Curitiba is currently one of the richest cities in the country and the greenest city in Latin America. A clear strategy focused on developing local capacities, and an efficient and effective public transportation policy have helped Curitiba to make the leap to innovation since 1960. In spite of its growing population, which rose from 356,830 inhabitants in 1960 to 1.7 million in 2010, Curitiba ranked 10th among cities in the United Nations Development Programme's Human Development Index in 2010 and has maintained a high standard of living. Curitiba has overcome the effects of disorganized urban sprawl through a sound strategy built on its Bus Rapid Transit system and community work, which helped the city earn the title of the world's most innovative city in 1996 (UN-Habitat), as well as the Sustainable Transport Award (Institute for Transportation and Development Policy [ITDP]) and the Globe Sustainable City Award, both in 2010.

In the 1960s, a group of young architects led by Jaime Lerner launched the Curitiba Master Plan, which has guided the growth of the city during the past 50 years. This plan focused on strengthening the links between integrated urban transportation, appropriate land use and environmental preservation. This group later developed the Institute of Research and Urban Planning, which has worked closely with the Curitiba Popular Housing Company "to ensure a continuous supply of low-cost housing, which is renowned for its quality and for helping to restore a sense of citizenship to the people",<sup>9</sup> creating a sense of community and appropriation from citizens with their urban space.

The city currently has one of the lowest air-pollution concentrations in Brazil. Its waste management policy allows it to recycle nearly two-thirds of its waste with a programme for lower-income families, which is based on exchanging garbage for bus tickets or food. The city has developed one of the largest green urban areas (per inhabitant) in the world, with 52 square metres (m<sup>2</sup>) per inhabitant, far above the 10-20 m<sup>2</sup> per inhabitant recommended by the World Health Organization (WHO).

Economic development has been strong in Curitiba. From 1970 to 1980, the city's annual GDP growth rate was 11.78%, well above Brazil's 8.56%. From 2006 to 2010, this trend continued, although at a slower pace (5.64%), but still above Brazil's 4.61%. In terms of innovation, in R&D, the city's universities have partnered with international companies to work together on important technology areas, which have helped the city to produce 1.43% of Brazil's GDP in 2010 despite its modest population. The clear and focused vision of becoming "the greenest city in Latin America", and the sustained execution leadership, have allowed Curitiba to bolster transportation, environmental planning and local communities as drivers of innovation, sustainability, and social and economic development.

### Buenos Aires, Argentina: Challenging Times in a Cultural Capital<sup>10</sup>

Buenos Aires, the second largest city in South America, is a metropolis of more than 12 million people comprising the Autonomous City of Buenos Aires plus 24 adjacent *partidos* (municipalities). Discovered in 1536 by Spanish explorer Pedro de Mendoza, it is a port city that sits on the banks of the Rio de la Plata River and is named after the patron saint of sailors responsible for good wind or *buen aire*.

Buenos Aires is a cultural giant known for its European-style architecture, its pervasive cafés, the haunting and alluring tango, haute cuisine and a world-recognized theatre, music, and literary scene. Today, like many cities in Latin America, it faces some of the common megacity challenges brought on by diseconomies of scale, including growing urban sprawl, pollution, traffic congestion and economic inequality. Solving these issues has been even more difficult given the drag on GDP as a result of slow growth in productivity.

Today, Buenos Aires has a plan in place to build a *ciudad moderna* (modern city). This plan addresses top-of-mind concerns like economic growth, government transparency, quality of life, mobility and the environment. In fact, a 2014 survey by the Inter-American Development Bank shows that residents of Buenos Aires rate safety, inequality, transportation, transparency and health as their top concerns.

Buenos Aires is taking some new approaches to help resolve these pressing challenges, and many of them involve the use of innovative technologies that deliver benefits for government, business and citizens. For example, to achieve more transparency in government (one area of intended reform), the city is pursuing an open-data strategy that uses insights gathered through data analysis and visualization (big data) to provide real-time information, interactive applications and other services to its citizens. Through the connectivity provided by this "digital platform", the city is already offering service status notifications for the metro system, voter information guides and a mobile app for submitting complaints to the city.

Other examples include the creation of online portals to help small and medium-sized businesses interact more efficiently with city government; energy-efficient buildings with monitoring via sensors; an innovation lab to facilitate the emergence of new ideas and companies, including a focus on building creative industries; digital classrooms and libraries; and free Wi-Fi.

Should the *ciudad moderna* vision become reality, the city will have taken significant steps to increase government transparency and improve citizen services, support the growth of small business and promote a connected city that provides better quality of life and new opportunities for its residents. But Buenos Aires still has a long way to go to get its basics right – more efficient municipal government, solid public finances, business-friendly regulation and hard connectivity.

## Santiago, Chile: Innovation and Urban Revitalization<sup>11</sup>

Santiago de Chile is one of the fastest-growing cities in Latin America, and is among the most competitive in the region. Beginning in 2012, Chile renewed its focus on competitiveness and innovation, and has earmarked more than 50% of the spending on national innovation and 54.9% of the spending on R&D for the metropolitan region of Santiago. Santiago has developed a regional innovation strategy, formalized in December 2012, which aims to promote knowledge, generate talent and encourage innovative and entrepreneurial dynamism among businesses within the framework of sustainable development.

But there are a number of challenges that Santiago must overcome in order to successfully build an innovation-driven metropolitan area that results in better quality of life for its citizens. One of these is addressing the ongoing protests among students and others in the country regarding the high cost of, and inequality in access to, education. While this is reportedly an area that Chile's new president, Michelle Bachelet, has high on her agenda, there continues to be a strong sentiment in Santiago and across Chile that education is not truly available for all. Clearly, lack of access to affordable education is an impediment to competitiveness by inhibiting the type of soft connectivity needed in thriving metropolises.

There are challenges in hard connectivity too. Take, for example, the lack of effective transportation systems in the region. In 2006, Santiago implemented public transport reform to integrate the city bus system with the metro system. The initial outcome of this Transantiago effort was universally perceived as negative, resulting in system overcrowding and protests. These ills eased by 2010, but there were still issues of poor reliability.

In a new effort to fix congestion on its streets, Santiago is implementing a "complete streets" programme that brings in urban planning experts to oversee new design concepts and encourage participatory planning. The metropolitan region hopes that the programme will be a cornerstone of urban redevelopment and revitalization. The complete streets approach is currently focused on the principal boulevard in Santiago – the Alameda – and will address, in an integrated fashion, transportation, access for pedestrians and cyclists, rejuvenation of the central park and preservation of historic buildings. This concept of a "complete Alameda" is expected to become reality by 2016, and will depend upon strong political leadership in Santiago to usher the programme to a successful conclusion.

## Case Studies from Europe: Germany, Poland and France

### From Leipzig to "Hypezig": Boomtown of Eastern Germany<sup>11</sup>

Although it has a population of only 530,000, Leipzig has leapt from stagnation to the forefront of European cities. The city sparked the largest public demonstration in Germany in 1989, leading directly to the fall of the Berlin Wall, but suffered terribly in the transition from communism. Some

96% of jobs in the uncompetitive industrial sector are said to have disappeared within six months after German reunification. While the city of Jena had an optics industry and Dresden a microelectronics industry that survived, Leipzig had to begin again to create a modern industrial base. Leipzig has been able to attract automobile plants from what was formerly West Germany, and today both BMW and Porsche have large plants just north of the city. In 2011, DHL transferred operations from Brussels Airport to Leipzig/Halle Airport. The city is an important producer of construction cranes, and hosts the leading energy exchange of Central Europe.

Located at the juncture of key highways dating back to the Holy Roman Empire, Leipzig has always been a centre of trade. It boasts fairs at its excellent exposition centre, with its trade fair going back nearly 1,000 years, which today is hosted at the Leipzig fairgrounds. Beyond manufacturing, the city has attracted many software companies which cluster around its world-class schools and universities, with the University of Leipzig about ready to celebrate its 600th anniversary. And tourism also fares well, with an article in *The New York Times* referring to Leipzig as one of the top 10 places to visit. Benefiting from massive economic transfers from western Germany and investments in new

roads, railroads and an upgraded airport, Leipzig used these developments to help position itself for the future. Much of Leipzig's success has been attributed to two very strong mayors, Hinrich Lehmann-Grube (in office 1990-1998) and Wolfgang Tiefensee (in office 1998-2005), who are associated with the "Leipzig Model" of city governance that emphasizes cooperation among political parties, avoiding unnecessary political conflict, citizen involvement and cooperation with the private sector.

Leipzig has been ranked among Germany's most liveable cities, and indeed among European cities with the highest standard of living, such as Groningen and Krakow. It does well on rankings of innovation. Unemployment declined from over 18% in 2003 to under 10.8% in 2012.

Leipzig is known for style and pushing the edge on culture, and is sometimes referred to as "Hypezig." Bach and Mendelssohn compositions, created in Leipzig, are still heard in the opera house which hosts one of Europe's first conservatoires (1843), but the University of Music and Theatre now produces heavy metal and many independent popular music creations.

Situated towards the eastern edge of Germany, Leipzig has shown what even modestly sized cities from former centrally planned areas can do with good leadership to develop new manufacturing, trade, software, culture and tourism industries, while fostering citizen participation and partnership with the private sector.

## Wroclaw: From the Command Economy to Knowledge-Intensiveness and Cultural Flair<sup>13</sup>

Located in the south-western corner of Poland, Wroclaw is ranked 30th among cities in the EU for number of inhabitants. Over the past decade, the city registered one of the highest growth rates in Poland; its budget doubled between 2002 and 2012; and unemployment dropped from 10.9% in 2005 to 5% in 2010.

Since the Polish regional governance system was reformed in the 1990s, decision-making and the provision of public services were gradually decentralized to municipalities. With Poland's accession to the EU, the proximity to large, quickly developing German cities (Dresden or Berlin) and the availability of EU structural funds have helped Wroclaw boost its economic development and find a place in the new European context. The key to Wroclaw's success was certainly visionary leadership, which ensured a strong and widely supported strategic direction and a high degree of alignment of interests regarding the city's future. Today, Wroclaw is considered a success story among Polish cities, and the example is widely emulated.

Taking advantage of the strong and diversified industrial base of the city and the surrounding region, Wroclaw based its economic strategy on its main asset – the young and highly skilled population. The city is home to 31 tertiary institutions and 140,000 students, many of whom are enrolled in science, mathematics, information technology (IT) and technology. About 20% of Wroclaw's inhabitants hold a tertiary degree, and its educational system is considered one of the best in Poland.

As a result, a number of multinational companies, mainly from the IT sector, established branches in Wroclaw, but the city also attracted knowledge-services outsourcing, back-office operations and manufacturing. Investors appreciated the presence of a skilled population, favourable conditions such as assistance with administrative procedures, availability of land for development and good connectivity to European cities. Wroclaw also successfully attracted EU funds for investment and the development of the private sector, and to strengthen the link between business and R&D. A significant part of the city's attractiveness is due to cultural tradition and its being a vibrant, increasingly international city. Concerts, music festivals, art galleries and museums are omnipresent, as Wroclaw devotes a significantly higher share of its budget to culture compared to other Polish cities. Culture will continue to play a significant role in the future development strategy, with Wroclaw being named the 2016 European Capital of Culture.

Investments in transport infrastructure undertaken ahead of the UEFA European Football Championship 2012 helped address one of the city's main challenges. Wroclaw is fairly well connected with Europe by air, road and rail, compared to other Polish cities. However, faster transport connections to other Polish cities are needed.

In the future, Wroclaw must better connect educational and research institutions to local and multinational businesses.

Entrepreneurship also needs to be encouraged to ensure that R&D efforts continue to be translated into economic growth. This would enable the city to become one of Eastern Europe's innovation hubs and to move into higher-value-added products.

## Nantes: From Industrial Decline to a New Cultural and Green Identity<sup>14</sup>

With 600,000 inhabitants, Nantes is the sixth largest city in France, located in the north-west on the banks of the Loire River, 55 kilometres (km) from the Atlantic Ocean. Traditionally a city of trade and merchants, Nantes saw a major decline at the end of the 20th century with the crisis in its shipbuilding industry, particularly in and around Saint-Nazaire.

The city has since reinvented itself by focusing on culture and investing in a greener economy. Unlike other major cities that chose iconic cultural attractions (Bilbao and the Guggenheim Museum; Metz and the Centre Pompidou), in Nantes, arts and culture are spread throughout the entire city. The old harbour infrastructures have been transformed into art and leisure centres, creating a metropolitan, creative space. Culture has been used as an engine for economic diversification through building festivals and other happenings around the city, coupled with a biannual contemporary art fair called Estuaire.

A project launched in 2011 under the name *Le Voyage à Nantes* crystallizes this cultural offer in a yearly event (from mid-June to mid-August), combining architectural heritage, contemporary architecture, installations in public spaces and exhibitions in artistic venues. This has given Nantes a new identity, and tourists attracted by this cultural offer have increased from 486,000 in 2011 to 650,000 in 2013.

The city has also reinvented itself around the preservation of the environment, and received the European Green Capital Award in 2013 for combating climate change, preserving nature, and for biodiversity, air quality, noise reduction and waste management. Nantes' transport policy and climate plans were especially strong. In the last 10 years, Nantes has developed a sustainable transport policy based on public transport, car sharing, bicycle rental and the reintroduction of the electric tramway. The city centre is planned so as to minimize the use of private vehicles and facilitate pedestrian transit. Moreover, 95% of inhabitants live less than 300 metres from public transport. The 2007 Nantes Climate Action plan targets a 30% reduction in emissions by 2030 from a 2003 baseline for three sectors: tertiary, residential and transport. Ambitious carbon-dioxide-reduction targets have been set, and good progress has been made.

Thanks to these soft-connectivity elements, which are also linked to an attractive housing policy and the rapid train connection to Paris, the metropolitan area of Nantes is expected to grow by 100,000 inhabitants by 2030. Young families are being attracted to Nantes, leading to a favourable demographic trend. The city will also continue to attract new inhabitants from the Paris region, who find Nantes to be a more liveable and affordable city while retaining a cultural and social offer. Quality of life is cited as a major factor in moving to Nantes.

Population growth will have implications for energy, climate, ageing and connectivity, leading the 24 mayors of

metropolitan Nantes to reflect upon and initiate a project called *Ma Ville Demain, inventons la métropole nantaise 2030* (My City Tomorrow: Let's Reinvent Metropolitan Nantes 2030). This produced a bottom-up set of proposals for the future development of the city, around a more innovative economy; a city designed around poles linked by public transport, fostering a new culture of mobility and more inclusive social policies.

## Case Studies from the Middle East and Africa: Turkey, Saudi Arabia, Morocco and Nigeria

### Manisa, Turkey: Foreign Investment Attraction and Success<sup>14</sup>

Manisa is a city in western Turkey about one hour from the scenic coastal city of Izmir. A special characteristic of Manisa is its polycentric structure in terms of its population and economics. Only 26% of the city's population lives in the provincial centre. Manisa has districts with significant populations that have given it economic scale and power. Industry is the city's predominant sector, but a few of its districts – Akhisar, Salihli and Turgutlu, in particular, each hosting around 12% of the provincial population – specialize in agriculture and its ancillary industries. Consequently, unlike neighbouring economic centres in the region, Manisa boasts a more diverse economic structure that includes industry, agriculture and service sectors.

Over the last 20 years, Manisa has developed its high-tech industrial production. In the mid-1990s, the average number of patents registered annually by firms in Manisa was less than five; by 2010, the average rose to 90. Similarly, while only one firm from Manisa registered in the list of the 1,000 largest firms in Turkey in the mid-1990s, there are now 29.

The industrial zones are the main drivers of this transformation, with seven zones in the provincial city. The centrally located zone is also the seventh largest in Turkey in employment generated. Electronics, machinery and automotive have now become Manisa's leading industrial sectors.

Manisa's investment climate is a highly competitive one. In 2005, it was named the best European city for foreign investment, taking the crown among 200 European cities. Some of the characteristics that contributed to Manisa's success were its industrial infrastructure (especially energy infrastructure), its relative close proximity to the port of Izmir and its rapid development of a world-class and high-quality business services environment. Manisa has attracted such major European firms as Bosch and Siemens.

While industry leads in Manisa, the city has also left a positive mark in agriculture. Among Turkish cities, Manisa is 6th in vegetable production and 5th in animal husbandry. It is also fast becoming a tourist attraction; the number of visitors increased fourfold between 1995 and 2013.

None of Manisa's achievements could have been realized without the participation and collaboration of its public and private sectors. Business associations as well as political leadership contributed to making Manisa competitive.

Manisa is fast taking its place as a destination of choice for foreign and domestic investors in Turkey. It is a place to watch transformation at work.

### Medina, Saudi Arabia: City Competitiveness at a Unique Sacred City<sup>16</sup>

Can an ancient religious city, as sacred and unique as Medina, rebrand itself as a "Knowledge Economic City" in the 21st century? Can an urban real estate project drive this vision for Medina?

In 2006, the Kingdom of Saudi Arabia announced its intention to create a new Knowledge Economic City in the north-west quadrant of Medina, donating land and investing billions of dollars in a major city infrastructure and real estate development project. Fast transport will link the area to the central mosque within minutes. Companies with knowledge-intensive characteristics will be encouraged to site there, and great minds will be encouraged to retire there. Conferences will be held and properties will be sold to investors. Scheduled investments include a major new hospital and a vast Epcot Center for the Islamic world, including the lands of Islam and stories from the Koran, presented in a way designed to entertain and delight families during their leisure time. But there is a greater vision.

Al-Madinah Al Munawwarah literally means the "City of Light", and was historically a centre for both spiritual and intellectual enlightenment. After prayers, students would gather around various pillars of the holy mosque as global scholars taught them. It was the bricks-and-mortar internet of its day. This intellectual vocation fell by the wayside, but may now be on the rebound.

Millions of people come to Medina throughout the year, not just at the *hajj*, but also making the lesser pilgrimage of *umrah*. The city could, with its new modern university, hold conferences on major issues of the day, with experts in science, math and letters. Whether this project leads to an intellectually vital residential and corporate community remains to be seen. But repositioning need not wait for buildings to be in place. In prosaic terms, conference tourism could augment religious tourism in a culturally sensitive way, enhancing the appeal for investors, retirees and even firms to settle there. Even before the buildings are up, Medina could simply announce informal symposiums; physicists might come the first week in March, astronomers the second, and experts in diabetes the third, and so on. Intellectual stimulation could be added to spiritual activities. Medina could recapture an intellectual leadership role, contributing to knowledge generation and dissemination and, in a way, keeping with both its historic and religious tradition as a "city of light."

At times, the project seemed to suffer from lack of coordination among real estate developers, city leaders and Saudi visionaries. Travel restrictions on women and on non-Muslims who may not travel inside the excluded area in much of the city centre also complicate things. But if city competitiveness can be relevant to Medina in the vision of King Abdullah, then there is virtually no city in the world that cannot benefit from a rethinking of its vocation in a newly interconnected world of the 21st-century knowledge economy.

## Casablanca, Morocco: From Hard Connectivity to Diversified Resilience<sup>17</sup>

Casablanca is not the only economic engine of Morocco – with its 4 million people representing approximately half of the country's GDP, investment and labour force – but is also a regional hub for a diverse set of industries. The largest city in the Maghreb region, it ranks 22nd on the 2014 Global Cities Index of high-potential emerging cities.

**Creating hard connectivity in a strategic location:** As Morocco's primary highway, railway, sea and air hub, Casablanca has been propelled in part by the investment in hard connectivity, and benefits from its location with short shipping lanes to European ports. Casablanca combines a variety of access roads with an urban expressway and a motorway bypass linking the three major Moroccan road axes. It is the country's major highway hub, and also has a renowned passenger rail service and two major ONCF (Office National des Chemins de Fer, or National Office of Railway Services) train stations. One of these, Casa-Voyageurs, will become the first high-speed train station in 2015 with the launch of the TGV linking Tangiers to Casablanca. The Mohammed V International Airport is one of the busiest in Africa, used by 60 airline companies with traffic of more than 7 million passengers and more than 50,000 tons of freight. Casablanca's port handles 60% of the nation's commercial trade; it is the second largest port in Africa and holds the largest naval base of the Royal Navy. In 2012, the King of Morocco launched construction of two logistics structures in Casablanca as part of a national strategic plan for the development of logistics and competitiveness. These projects are expected to contribute a 3-5% increase in GDP in 2015, and to generate 96,000 jobs by 2030.

**Developing a diverse set of industries and soft connectivity:** Casablanca has built upon its strategic location and hard infrastructure to create soft-connectivity levers of competitiveness in agriculture, fisheries, manufacturing, construction, tourism, finance, ICT-related services and supporting service industries. Casablanca is located on the agriculturally productive Chaouia plain and is also nestled by the Atlantic coast, where it generated 4,536 tons of fish in 2013. An innovator and early mover with industrial parks, the Casablanca TechnoPark, created in 2001, helped the city position itself as a home to over 230 green tech and ICT-related companies now employing 1,500 people. Casablanca has attracted offshoring investments that have created over 30,000 new jobs through the establishment of the 53-hectare CasaNearShore, a home to firms specializing in software development, infrastructure management, back-office banking, and insurance and customer relationship management.

Casablanca has modernized its e-gov platform and, through the creation of the Casablanca Financial City, is setting the trend to becoming a financial hub for Africa, having ranked 62nd out of 75 financial centres worldwide (2nd in Africa) in the Global Financial Centres Index. With a rich cultural and architectural heritage, the "White City" is the third most visited city in Morocco by tourists, but boasts luxury malls and lively entertainment. Supporting these industries are retail, business services and personal service industries, including the education sector, which graduates

27,000 students from two public universities, 500 private higher institutes and vocational training centres. Morocco's economic policies, institutions, commercial relationships and public-private dialogue have contributed to this remarkable outcome.

## Lagos: Rationale for City Competitiveness – That's Where the People Are<sup>18</sup>

**Importance of Lagos:** With over 17 million people, Lagos City is one of the largest megacities in the world, having surpassed Cairo as the largest city in Africa. Some 60% of Nigeria's commercial activities and 25% of Nigeria's GDP come from Lagos.

**Competitiveness challenges:** Lagos has major hard-connectivity challenges, including legendary transportation bottlenecks, cumbersome port clearance and serious power outages. Rapid rural-urban migration seems to overwhelm the ability to provide health, education, water, transportation, energy and other services. Nigeria's challenges of corruption, personal security and terrorism also affect Lagos.

**Hard and soft connectivity:** Lagos has not one but two major ports, and is well connected to the outside world by air as well as maritime transportation. Impressive growth in mobile telephone usage now means that there are two mobile phones per capita in Lagos. Trade has always been important for the city, and efforts are underway to try to build more West African trade, as regional connectivity is still deficient. The new generation in Lagos seems well connected by phones, and increasingly by smartphones. "Innovation hubs" related to information, communications and technology are also springing up. The growing financial hub mentioned earlier complements the role of Lagos-based firms in what is now regarded as one of the high-growth, "frontier" emerging markets.

**What to reform:** Fiscal management has played a key role in reform, and Lagos' revenues are said to have grown threefold since 2007. Judicial reforms are underway, and some progress has been made to support an arbitration centre for the region. At the Lagos state government level, there is a crackdown on corruption scandals and local-level bribes. The Alternative Dispute Resolution Centre and Citizens Mediation Centre (CMC) have provided some relief for citizens. The Lagos Innovation Advisory Council, including both public- and private-sector members, drives this effort. It has also established the Research & Development Fund to support innovations. Saturday service has begun to be offered by some key government agencies, which has enhanced the responsiveness of Lagos public service to the needs of residents. Violent crimes have declined by over 80% since 2007 due to the Security Trust Fund, where public and private organizations/individuals contribute for police funding. Alternative Dispute Resolution has also been on the ascendancy in Lagos. In 2013, the CMC handled 7,186 cases. Lagos enacted an arbitration law in 2009, which has seen the establishment of a private-sector-led Lagos Court of Arbitration. Some \$20 billion from the state government has helped to improve infrastructure, such as seven functional and specialized mother and child hospitals, each with 100-110 beds.

**The lesson of Lagos for city competitiveness:** Lagos City has a larger population than many countries. With almost 18 million people gathered into the city, the prospects of boosting the productivity of a large number of people and connecting them to education, health, water and sanitation services are higher than in less dense areas. The ability to lift people out of poverty by training and placing them into jobs is greater in Lagos precisely because of its density. Lagos has enormous assets, including a huge, available labour force. The city is the principal financial centre in Nigeria, with Africa's second largest stock exchange and a wide range of financial services, including venture capital. Few places offer the opportunity to make a greater impact on the productivity and competitiveness of more people.

## Case Studies from India<sup>19</sup>

### Ahmedabad: Capitalizing on Economic Reform

The city of Ahmedabad, with just under 6 million people, was ranked by *Forbes* as one of the fastest-growing cities of the next decade. It is the largest city in the north-west Indian state of Gujarat, often regarded as among the most market-oriented and business-friendly states in India. Ahmedabad's model of development, entrepreneurial spirit, proactive policies, rising centres of education and specialized industrial parks have made it a preferred location for investment. The combination of a favourable business environment with a good quality of life makes the city a desirable place for both work and living.

Originally, the city was merely a centre of textile, pharmaceutical and chemical industries. It was considered as a trading hub with local market drivers. After India's independence (post-1947), the city tried multiplying its growth options by founding various professional and technical institutes, such as the Indian Institute of Management (IIM), National Institute of Design (NID) and the Centre for Environmental Planning and Technology (CEPT). The economy of the city, however, began witnessing challenges after two decades, as the system was highly informal and showed signs of stagnation.

The economic liberalization in India (1990s) especially benefited Ahmedabad. It shaped the city's economy and boosted the commercial as well as the industrial sector. This enabled the arrival of major domestic and international players who started setting up their bases in and around the city. According to the Industrial Entrepreneurial Memorandum (IEM), Ahmedabad attracted an investment of \$3.8 billion in industries ranging from petrochemicals and engineering to drugs and pharmaceuticals from 1988 to 2007. It has also emerged as a major automobile-manufacturing cluster with the commencement of the Tata Nano Car plant and investments from global giants like Peugeot and Ford, compared to other Indian cities like Aurangabad, Chennai, Gurgaon and Pune that have had lower levels of investment and where doing business is not as easy.

Other infrastructure services like the transportation system and residential and office space have further

complemented the city's success formula. The Bus Rapid Transit System (BRTS), started in 2009, was a step taken by the government towards a safe, accessible and efficient transport system, which was awarded the USA International Sustainable Transport Award. Projects like the Kankaria Lake redevelopment and Sabarmati Riverfront were welcomed by residents.

The city's present practices and concurrent developments have strengthened its public service management. In 2013, the city received national acclaim for topping the charts in a survey on safety among women. The growth trajectory of the city is expected to further rise with the commencement of large, futuristic projects, such as the Delhi-Mumbai Industrial Corridor and Gujarat International Financial Tec-City, both of which have already been allocated budgets.

Good civic infrastructure, strong administration and the right progressive policies are thus some of the components of Ahmedabad's success formula.

### Chandigarh: City Planning versus Reality Suggests Scalability

Chandigarh offers an important lesson on how city planning and reality bump up against each other, suggesting that city competitiveness planning, especially in Asia and Africa, be scalable from the outset. Chandigarh was built on a city plan where population growth has outstripped the planner's model. The city is striving hard to redefine itself.

Chandigarh was planned by the famous French architect Le Corbusier in 1952, and was initially conceived to serve as the capital of Punjab. In 1966, it received the unique status of being the capital of two Indian states, Punjab and Haryana, and was also declared a union territory. It has been constantly questioned by critics, who say that it has suffered from a short-sighted vision.

The city was primarily planned as an administrative centre with low-rises and low-density areas, and was supposed to accommodate a population base of only half a million. The city's population is now double that size, at about 1 million inhabitants, outstripping the plan and calling into question the low-density approach. Yet, Chandigarh attracts residents in part because it has, to date, offered quality living to its residents, with a relatively pollution-free environment, clean drinking water and regular power supply. The population explosion has already started putting pressure on Chandigarh's limited resources. The city critically needs facilities such as an integrated transit system and affordable housing options. The city, based on a European theme, doesn't offer sufficient open spaces for entertainment and recreational activities, apart from the few spaces around shopping centres and offices.

Questions are thus being raised with respect to its long-term sustainability. How long will the city survive without a clear agenda? Is the deteriorating quality of life also affecting its industrial environment and competitiveness? What actions are being taken towards these challenges?

The industrial growth of the city lags behind its counterparts, and existing small and medium industry has tended to be based on outdated technology and lack of innovation. The opening of Rajiv Gandhi Chandigarh Technology Park in 2005 was expected to act as a milestone in IT and IT-enabled services, but has been disappointing because of the critical mass of relevant skills. On top of this, the areas reserved for industrial set-up are being replaced by malls and shopping complexes. The city has already started losing its sheen as one of the favourite destinations for foreign tourists. As a result, much of the recent industrial development has occurred in Chandigarh's satellite towns, thus endangering the competitiveness of the city. It is even reflected by the drop in its position (from 12th in 2012 to 15th in 2013) on the India City Competitiveness Index.

Chandigarh can build on its unique architecture and good environment, but needs to move beyond its limited economic sectors and create stronger public-private civil society mechanisms for the next phase of its development.

### Hyderabad: From Hyderabad to “Cyberabad”

The transformation of Hyderabad from trading zone to a major IT hub of the country has been phenomenal. Hyderabad has become India's premier IT and IT-enabled service hub, and has even earned the sobriquet of “Cyberabad.”

Traditionally, the city has had a strong base not only for the pearl trade, but also for unique handicraft items and in manufacturing handloom-based clothing. In the 1940s, its connection to the port cities of the country made it an attractive trading centre for countries around the globe. The steady industrial growth later burgeoned with the emergence of prominent public-sector companies. The next milestone was its diversification into the pharmaceutical and scientific research industries. Therefore, Hyderabad has today become the home to various Council of Scientific and Industrial Research (CSIR) bodies and other public-sector research institutes.

In the 1990s, with the advent of the technological wave, large multinational IT giants started setting up their businesses in the city. Cheap and abundant skilled labour acted as an additional advantage (the work force participation rate increased to 28.99% in 1991) for attracting several Fortune 500 and Indian companies.

During the tenure of the IT visionary Chandrababu Naidu as chief minister of the state of Andhra Pradesh in 1995-2004, Hyderabad attracted many IT-related firms and saw the opening of digital service centres offering many IT-enabled government services to citizens. By 2009, Hyderabad's contribution to India's net export of IT and IT-enabled services was 15%, which can be valued at around \$35.7 billion. Major investments have been made to expand the technological infrastructure. HITEC City, a major technology township that provides integrated infrastructural facilities of office space and housing options to the IT industry, is an active case in point.

Hyderabad has also diversified its economic profile into the growth sectors of transportation, storage, communications and construction, further boosting revenues, generating employment opportunities, shaping the public infrastructure service provision and enhancing other vital facilities like education. As a result, the city's population increased more than threefold from 1971 to 2000.

Hyderabad was one of the most talked-about and internet-searched Indian cities in 2013, due to the bifurcation of Andhra Pradesh into two states, where Hyderabad will serve as the capital of both for 10 years. Top IT firms in the city are unfazed by the political changes, and plan to expand their businesses and organize larger recruitment drives. According to the *India City Competitiveness Report 2013*, Hyderabad was ranked as the India's best city in the category of supplier sophistication. The city certainly has the potential, which is well coupled with government policies, good infrastructure facilities and other favourable factors like skilled workers. It thus can be touted as a powerful model of economic, political and social success, backed by good governance and a progressive plan of action.

### Cases Studies from China<sup>20</sup>

#### Changsha: Prospering through Environmental Sustainability

Changsha City, also known as “Star City,” is the capital of Hunan Province and a comprehensive transport hub in southern China. With a total area of 11,800 square kilometres (km<sup>2</sup>) and a population of just over 7 million, Changsha is the political, economic, and cultural centre of Hunan and one of the most competitive cities in central and western China. It is also a highly forested city that places a high degree of importance on the natural environment.

In December 2007, the State Council approved the Changsha-Zhuzhou-Xiangtan city cluster as a national resource-saving and environmentally-friendly society for a comprehensive reform pilot zone. Changsha's mission has been to create an eco-liveable, energy-saving and environmentally-friendly metropolis suitable for business start-ups. Changsha has been recognized as a “Global Green City” and one of China's “Top Ten Demonstration Cities for Ecological and Civilized Construction” (2013).

As part of realizing its goal, Changsha created Yanghu Ecological New Town, with an area of 19.8 km<sup>2</sup> and a population of 250,000. Located in south-west Changsha, near Yuelu Mountain in the north and along the Xiangjiang River in the east, it has been built as an economic hub equipped with hotels, offices, houses, business zones, schools, ecological wetland parks and liveable green communities. The town – with its dual goal of being environmentally sustainable and a driver of business growth – has been designated as a national 4A scenic spot (a tourist-attraction rating) and a pilot area for a national smart city.

The Yanghu Wetland Park is becoming the largest urban wetland in south-central China. It is made up of five functional districts: wetland recreation, wetland biodiversity exhibition, wetland education, ecological conservation and river wetland, and is being put into operation in three phases.

In order to protect and recycle water, the Yangshu Ecological New Town has focused on developing ecological technologies and integrating wastewater treatment, with artificial and natural wetlands for pollution treatment, for the first time in China. It can treat 2,000 tons of urban wastewater per day. The discharged water, whose quality meets the first-class national emission standard, can be used as supplementary water for Yangshu Ecological Wetland Park and water for reforestation.

In 2008, Changsha also established the Dahexi Pilot Zone as a new engine of growth for the city and for Hunan province. It is focused on eco-friendly, culturally diverse and innovation-oriented development, and is expected to be completed in 2016. In particular, the pilot zone will aim to incorporate a cluster of high-tech industries into Changsha and establish a model for urban-rural integration, at the same time meeting high standards of environmental sustainability.

### Guilin: Betting on Tourism

Guilin is situated in the north-east of the Guangxi Zhuang Autonomous Region in south-west China. It is known for its ubiquitous limestone mountains, which have been weathered and etched for centuries. Tourism is the most important industry in Guilin. Early in 1973, Guilin was listed by the State Council as one of the first of 24 open tourism cities in China. Over the past 30 years, Guilin's tourism industry has continued to evolve and is today a major driver of local development.

Guilin's twelfth five-year plan (2010-2015) for economic and social development proposes the creation of a world-class leisure and tourism city. To achieve this vision, Guilin has devoted a good deal of attention and resources to a variety of transportation and infrastructure projects. One of these projects has been improving access to and from Guilin by train. The GuiGuang railway and XiangGui railway will be in full operation in 2014, reducing travel time to the four provincial capitals in central-south, south and south-west China (Changsha, Guangzhou, Guiyang and Nanning) to two hours; and, Guilin to Beijing will be a 10-hour journey. With the GuiGuang high-speed railway, Guilin is creating what it calls an "international golden tourism line" across Guangzhou, Guiyang, Guilin, Kunming and Bangkok.

The Guilin Liangjiang International Airport is a point of entry for visitors from the Association of Southeast Asian Nations (ASEAN). There are 50 domestic and international airlines serving 31 cities inside and outside China. In 2013, the city launched a reorganization and expansion of the airport, which will now be able to accommodate larger passenger aircraft such as the Airbus A380. It will also be a fully modern airport in terms of its technological capabilities.

Other projects outlined by the city of Guilin include improvement and protection of the Lijiang River, creation of the Guilin Electronic Science and Technology Park, and the development of sports and leisure facilities. While Guilin also has plans to become a smart city, at this point in time information technology is primarily being used to provide solutions for green, low-carbon development and smart transportation.

Although Guilin has accelerated its pace of development in terms of hard connectivity, many challenges lie ahead in soft connectivity. For example, by the city's own assessment, few large enterprises exist, industrial clusters are absent, and expertise in science and technology is lacking. The city will need to find ways to spark local innovation, encourage entrepreneurship and create new jobs in order to improve the lives of its citizens and continue on its path to becoming a highly desirable global tourist destination. The good news is that Guilin actively promotes education and has many universities that perhaps can provide a valuable foundation in building a new innovation environment.

### Zhuhai: Empowered to Chart a Three-Phase Development Course

The municipality of Zhuhai lies in the south of China, in the Pearl River Delta. Established in 1953 as a county and in 1979 as a city, Zhuhai became one of China's special economic zones (SEZs) in 1980. Zhuhai is the second largest port city in China, processing over 107 million inbound and outbound visits, and has the largest sea territory, largest number of islands and longest coastal line of the cities in the Pearl River Delta. With over 200 islands big and small, Zhuhai has long been known as "the city of a hundred islands".

As one of China's first four SEZs opened to the outside world, Zhuhai was given the historical mission of exploring and experimenting with a socialist market mechanism. It became a Chinese city with relatively high degrees of free market forces, international ties and rule of law. The city is empowered by the National People's Congress to have legislative power of the SEZ. It also has the right to interpret and alter specific terms of existing laws and administrative regulations. Zhuhai has taken the lead to establish its own laws and regulations that are compatible with international practices.

Zhuhai had three major phases of development. In the first phase, the city focused initially on developing infrastructure, improving the investment environment, attracting foreign investment and producing advanced technologies. In the next phase, Zhuhai focused on high-tech industries with intensive technologies and high added value. Today, in its third phase, Zhuhai seeks to make additional progress on environmental sustainability and to become a model city of scientific development.

On its path to development, Zhuhai prioritized a number of desired outcomes, which included the following:

**Transparent and efficient government services:** Online service centres connecting communities and villages were developed to make it easier for citizens, enterprises and non-governmental organizations to get things done in the virtual space.

**Implementation of the strategy of innovation-driven development:** Innovation in the SEZ was highlighted via the publication of *Regulations on the Promotion of Science and Technologies of Zhuhai Special Economic Zone*.

**An internationalized business environment:** Zhuhai implemented reform of its commercial registration system and enterprise investment management system.

**Low unemployment:** Efforts have been made to promote high-quality employment. In 2013, 43,300 new jobs were created. The unemployment rate is under 2.28%.

Zhuhai has big plans for the future, including the completion of the Hong Kong-Zhuhai-Macau Bridge in 2016. The bridge will link Zhuhai with Hong Kong SAR and Macau, making it the only city in China to be connected by road to both places. These new linkages will open up expanded economic opportunities for Zhuhai. For example, driving from Zhuhai to Hong Kong SAR will take 30 minutes once the bridge is completed.

## Case Studies from East-Asia: Malaysia, Philippines and Republic of Korea<sup>21</sup>

### Penang, Malaysia: Carefully Targeted Investment Attraction

Penang, “the Pearl of the Orient”, is located in the north-west of peninsular Malaysia and is one of its 13 states. Largely contained in the island of Penang, the city has a population of about 1.7 million and was one of three Straits Settlements that the British established, along with Malacca and Singapore. The island city is in many ways a replica of old Singapore in terms of its ethnic and cultural diversity, and is rapidly modernizing. Often said to be one of the top 10 destinations to add to one’s “bucket list”, the city is at once a flash of spice and colour, a buzz of activity and a paradise for food lovers.

Over the past six or seven years, the city began to find its economic footing under a new state government. The city was overdependent on one sector since the 1990s. Some 50% of the city’s GDP was attributed to the manufacturing sector. New policy direction has added tourism, medical tourism, aerospace and medical devices to the city’s portfolio. The state government has managed to turn in consistent budget surpluses; state-level debt is at an admirable low; and FDI is invited to leverage a strong supply chain. Again by policy design, this supply chain localizes by innovatively pushing “control tower” services such as subcontracting management and design coordination, deployable across multiple industries. For example, medical device companies are encouraged to localize production to make devices that fit Asian physiques.

Penang is a classic case of a city whose local government decided to steer the ship a little and to fine-tune the quality of institutions. For example, the city government wisely decided to boost only FDI that is value-adding, by helping potential manufacturers see that the comparative advantages of Penang lie not in low-cost labour or large internal markets, but in sourcing high-value activities. Support in talent acquisition programmes, a flexible and supportive immigration system, and an education, social, entertainment and recreational eco-structure all act to entice people to want to stay in the city.

The island city’s hard infrastructure, while significantly improved over the past decade or so, still struggles to attract and retain sufficient talent. It has, however, attracted over 300 foreign investors by leveraging a skilled technical labour pool. Companies such as Bose and Intel have taken advantage of this. Institutional, supply-chain and other efficiencies have cut factory build-times to 10 months from the roughly 24 months it took in the early 2000s. Penang is a city on the move with a five-star quality of life, positioning itself strategically by targeted use of its investment-attraction strategy while pursuing diversification.

### Cebu, Philippines: Tourism, Trade and Business Outsourcing

Central Visayas is one of the fastest-growing regions in the island archipelago of the Philippines, the land of vivid colours, colourful buses called “jeepneys”, and friendly people. Cebu is a metropolitan city located on the provincial island of Cebu and, with a population of about 4 million, is the second largest city in the Philippines. The metropolitan area comprises seven cities and six municipalities. “Metro Cebu” is not officially a government, but an economic geography that was established to foster integrated planning and coordinated implementation of policy.

The Central Visayas area, where Cebu is the leading city, boasts industry and services sectors that are 36.4% and 55.8%, respectively, of the region’s economy. Agriculture accounts for only 7.8%. Metro Cebu departed long ago from being a predominantly agrarian economy to one that is mostly driven by business process outsourcing (BPO), tourism and real estate. As of 2013, about 140 IT and BPO firms were generating close to 100,000 jobs. About 2 million tourists visit each year, and foreign visitors collectively are the fastest-growing contributors to the local economy.

Cebu is now getting more attention as a gateway to the south. More businesses are locating there, and it has begun to focus on hosting national and international conferences, building ships and making furniture.

Nonetheless, Cebu could easily reverse course into a vicious cycle. The ability of institutions to deal with corruption, as well as government delivery programmes, are still weak by global standards. Cebu has already begun to experience symptomatic issues of gridlock such as traffic, crime, congestion, pollution and rapid migration. All of these issues occur when economic development takes place in an unbridled way, without commensurate development of infrastructure supported by institutions – and Cebu is not yet on that path. The virtuous cycle of business growth and increasing consumer income, fuelling higher tax revenues and wise investment infrastructure, and resulting in more investment and improved human services, has yet to be established.

Taking a leaf out of the experiences of its Asian neighbours, perhaps Cebu needs to come up with a proper master plan to manage its growth sustainably and protect the momentum that it has strived hard to attain.

## Busan, Republic of Korea: History, Geography and Initiative

With 4 million people, Busan is the Republic of Korea's second largest city after Seoul, situated in the south-east of the Korean peninsula. The self-governing metropolitan area is a growing shipping and retail centre. The city consistently fares well in several rankings in Asia, and is considered to have a fine quality of life.

Three critical factors explain Busan's success: history, geography and initiative. The city was far enough south that it was somewhat protected from the Korean conflict. It also played its role as a port facility well, benefiting as trade grew by leaps and bounds in the Asia region. This, complemented by its ideal location as a trans-shipment point among global shipping heavyweights – Singapore and Hong Kong SAR to the south, and Shanghai to the west – certainly gave Busan the economic buoyancy to grow into what is now the fourth-busiest port in the world. Busan's rise as a container port has meant that many global shipping companies have set up facilities in the port city, which added to its economic dynamism. History and geography were critical, but innovation is what continues to propel the city.

As global competition continues to pressure companies into relocating to lower-cost destinations – from the Republic of Korea to China, Vietnam and the Philippines – commensurate pressure has been put on Busan to renew itself even though it is overshadowed by its sister city, Seoul. As a result, Busan's metropolitan government consistently faces difficulties in asserting a global identity. But it nevertheless has found its way – it innovates, and its institutions unleash the private sector to take the lead in these innovations. For example, the Busan film festival, held since 1996, has become a major festival that highlights top-class Asian films from across the continent. While the Chinese shipping boom placed Busan favourably to reap the benefits of the burgeoning global supply chain, the city deliberately upgraded its logistics capability, sea links and air connections to further capitalize on this trend.

Busan is a city with pragmatic leadership that liberalized its governance structure, developed responsive institutions to run its infrastructure, and took charge of human capital development so that the city could equip itself for yet another dimension of its development – building its creative sector.

# 5. The Small Basket: Competitiveness in Seven Cities

In applying the city competitiveness taxonomy to a “small basket” of seven cities, the analysis in these full case studies goes deeper than in the mini case studies. Cities have been deliberately selected from different regions and at different levels of income and development. They present varied sets of problems, challenges and solutions. The intention is to draw out lessons of good or best practice – and of bad practice to avoid – that are differentiated and contingent. By this is meant that many lessons are applicable in a defined set of circumstances, rather than being necessarily transferable to different kinds of cities. In other words, one size does not fit all. Nevertheless, cities of all kinds may find some lessons useful and instructive.

Two other guidelines influenced the small-basket selection: first, a strong emerging-markets focus (four of the seven cities), given that urbanization is and will remain overwhelmingly a phenomenon of emerging economies; and second, an emphasis on “second-tier” cities rather than national or commercial capitals in order to get a better sense of emerging issues for city competitiveness. Important insights from these case studies are the *interactions* of different parts of the taxonomy as they apply in each city.

The cities covered are:

- **Dubai** (UAE) – high-income; the Middle East’s “global city”
- **Singapore** – high-income; a city state and global city
- **Detroit** (USA) – high-income; a previously successful city in the 20th-century industrial economy that fell into deep decline, but is now attempting a turnaround
- **Bilbao** (Spain) – high-income; in a subnational region (the Basque Country), with a high degree of autonomy
- **Monterrey** (Mexico) – high-middle-income; a commercial hub in North American supply chains
- **Ningbo** (China) – high-middle-income; a fast-rising second-tier city
- **Surat** (India) – low-middle-income; an expanding manufacturing hub in Gujarat, a successful turnaround and an emerging-market city

## Dubai<sup>22</sup>

Dubai has emerged as not only a regional, but also a global centre, attracting talent, sprouting imaginative architecture, attracting the headquarters of major global firms and creating competitive infrastructure for shipping, logistics, air travel, real estate, tourism, knowledge work, finance,

media, high technology and many other industries. The incredible speed of this development and the ambition of its vision have amazed the world, spurring other cities in the region to greater ambitions and, if not to copy the model, than to differentiate themselves by referring to it. Dubai has boasted the world’s tallest building, the highest density of construction cranes and the ambition to have the world’s largest airport. The impact of Dubai’s commercial development has been not just on the city, which has been transformed in a generation, but on the UAE as a whole, on the regional development of the Middle East and, indeed, on the larger world around it.

## A Brief History of Dubai

Dubai first emerged on the international scene in the 1870’s when it was declared by Britain as the principal port of the Trucial States, making Dubai the centre of the import and export of goods for British merchants. These states were a group of sheikhdoms that were protectorates of the British between 1820 and 1971. They largely make up today’s UAE, the sheikhdoms which agreed to form a union under a federal council following the expiration of the protection treaty with Britain in 1971.

In 1966, modest oil reserves were discovered in Dubai, gradually building up to 4 billion barrels (compared to the 98 billion barrels in total for the UAE, mainly in Abu Dhabi). Dubai oil production peaked in 1991 and is expected to be depleted by 2030. Oil does not explain Dubai’s competitiveness on the global stage. Other countries and cities in the region discovered oil and gas at more or less the same time, with significantly larger amounts, but have not yet achieved the globally competitive city status of Dubai.

While there is no one secret ingredient for the city’s success, a combination of actions and circumstances in regulation, institutions and connectivity led to this result, and at a phenomenal speed. The end of the British protection treaty and formation of the UAE, combined with the discovery of oil in the region and the position of Dubai as a port city, placed Dubai in an ideal spot for growth. However, it was Dubai’s ability to create an environment of free trade, a global meeting place for exhibitions and trade shows, a financial centre and a major re-export hub between the East and West that enabled the city to build an economy beyond hydrocarbon, and to attract inhabitants from all over the world. In 1985, the population of Dubai was a few hundred thousand. Today, it stands at more than 4 million.

## Regulations

Globalization has brought many opportunities to emerging markets, yet uncertainties have also increased as international corporations searched for global centres where they could do business with the lowest-possible risk. Dubai managed to play a key role in attracting global business due to its strong economic incentives, which are underpinned by a regulatory and legal system developed sufficiently to encourage global and local enterprises to do business within its jurisdiction. Dubai is subject to UAE federal law, but retains independence and rights in certain areas. Federal codes of law apply in Dubai and the other emirates, dealing with the most important and fundamental principles of civil, commercial, maritime and company law, and others. Dubai retains the ability to issue rulings (decrees and laws by the ruler of Dubai) that are related to operational issues, such as the establishment and operation of government-affiliated entities. These entities are effectively the key institutions of Dubai.

Dubai follows a free trade policy, keeping import duties at the low level of 4% for the majority of items. As a Gulf Cooperation Council (GCC) member state, the UAE – and Dubai – benefit from the abolishment of double taxation and duties on re-exports within member states. Jebel Ali, a large free zone attached to the largest port between Rotterdam and Singapore, allows Dubai to play an important role in import, export and re-export at a global level. As a result, Dubai became a transit gateway to the Gulf, allowing it to benefit from the oil wealth of the surrounding Gulf States and the East-West trade route at a global level, with trans-shipment routes extending throughout the Middle East, Central Asia and through today's Republic of South Africa. The adjacent Cargo Village, which has been brought under the newly launched World Central International Airport, is creating one of the largest air transit facilities in the world, planned to be 10 times the size of Dubai International Airport (itself one of the largest and fastest-growing airports in the world), all in a free zone environment.

Instead of undergoing a major transformation of the regulatory and legal system within the city which may require changes at the federal level, making them cumbersome and difficult to achieve, the free zone concept has been extended to create many industry-specific free trade and industrial zones with their own regulations. The main attraction of these zones is that, besides their business park concept, they are each designed around one main industry category, issuing licences only to companies within the category and its value chain. The zones allow 100% foreign ownership and are duty free, with no corporate or income tax. Moreover, 100% capital and profit repatriation is allowed, and there are no restrictions on foreign currencies. On-site personnel accommodation, storage facilities and advanced infrastructure are available. To reduce the initial investment required for companies and to minimize risks, a special centre is available in the Dubai Internet City, for example, to be used as a serviced office, and on a lease for a minimum of one year after completing the registration process. This helped many companies develop their market and explore opportunities without major upfront investments. Many free zone cities exist throughout the

UAE, but Dubai has the largest number, standing at over 21 with a wide range of specializations. To name a few: the Dubai Airport Free Zone, Dubai Internet City, Dubai Media City, Healthcare City, Gold and Diamond City, Knowledge Village, Outsource Zone, DuBiotech and Enpark.

While certain industries such as telecommunications are regulated under a federal regulator (Telecom Regulatory Authority), various regulatory authorities exist within Dubai to ensure transparency and open competition in the key sectors within its free trade philosophy. For example, the Dubai Technology and Media Free Zone Authority was established in 2000 to oversee the operation of the free zone, with the authority to approve the establishment and registration of companies in the zone and to regulate all related procedures and matters, including incorporation, registration and liquidation.

The Dubai Financial Services Authority (DFSA) is the independent regulator of all financial and ancillary services conducted through the Dubai International Financial City (DIFC), a purpose-built free zone in Dubai. Its regulatory scope includes proposing legislation, authorization and recognition of financial institutions, as well as enforcement. The DFSA's regulatory approach is to be risk-based but to avoid regulatory burden. It is empowered to conduct investigations into suspected contraventions of the legislation it administers, and may exercise its powers to conduct inspections, compulsorily obtain books and records, or require individuals to participate in interviews under oath or affirmation. With a strong governance model including a full board and specialized statutory committees, as well as additional ones as required, DFSA created a solid financial regulatory framework that attracted many international institutions to Dubai, and supervises and regulates more than 430 entities.

Besides the free zones, another large pillar of Dubai's competitiveness is its real estate sector. A regulatory authority was established in 2007 under the name of the Real Estate Regulatory Agency, as part of the Dubai Land Department. The agency manages the activities of the owners of residential compounds, real estate companies and brokers, as well as related associates, and issues development project licences. Real estate has often served as collateral and a wealth-builder for Dubai-based companies, although the values at times have seemed to create overvaluations and reversals, notably after the recent global economic downturn of 2008.

## Governance and Institutions

The turn of the century brought an inflection point in Dubai's development. Although the last 30 years have witnessed the rise of Dubai as a global city, many of its currently effective institutions were formed or evolved significantly within the first decade of the 21st century. The institutions can be grouped under four broad categories that gave Dubai its competitive edge, namely governance, legal, trade and financial.

The focal point of governance is the Executive Council, which reports to the ruler of Dubai, comprised of members

of the ruling family of the emirate and the heads of sectorial and administrative divisions and authorities. Formed under Law No. 3 issued in 2003 by the Ruler of Dubai, the late Sheikh Maktoum Bin Rashid Al Maktoum, the Council has as its mission to assist the ruler in performing his duties and exercising his authority. The objective of the formation of the Council is to maintain the state security and rule of law, to develop general institutions and to achieve economic and social development. The Council is responsible for developing general policies and overseeing their implementation; taking the necessary steps to uphold federal laws; approving draft laws and legislations prior to presenting them to the ruler; preparing annual budgets for the Government of Dubai; approving plans and agreements; and establishing, organizing and overseeing government departments and agencies.

Government-affiliated entities such as Dubai Holding play a major institutional role in channelling and organizing investments into development projects, and managing them with a corporate mindset. Established in 2004 to consolidate Dubai's major infrastructure and investment projects, and owned by the government, Dubai Holding was structured in 2009 under four vertical divisions: property, business parks, hospitality and investments.

Special institutions such as the Dubai World Trade Center and the Dubai Chamber of Commerce were established. The city became a global meeting place and attracted financial, trading and business communities, and global trade shows such as Expo 2020. In addition, Dubai has become a regional financial capital assisted by the Dubai International Financial City (DIFC), one of the most prominent free zones and home to many international institutions. It is also home to the Dubai International Financial Exchange.

Dubai has retained its own courts, which are not part of the UAE federal judiciary structure. The courts, however, apply federal law or the rules of Dubai in cases where federal law is absent. Both the lower courts and the appeals courts have three divisions: civil, criminal and Islamic Shari'a law. Dubai also has both a labour court and a real estate court that deal exclusively with matters related to these areas. Laws are strictly enforced in Dubai.

### Hard and Soft Connectivity

Major landmark real estate projects were developed in multiple bold moves by the government and the private sector. They include mixed-use property, and tourism and transportation infrastructure. These projects placed Dubai on the international public map, and provided an environment in which nationals and residents can have a good lifestyle while living in Dubai. It also helped Dubai attract millions of tourists from all over the world.

Such projects include the Palm, Dubai Marina, Business Bay, Dubai Land, Burj Khalifa Development (which includes the tallest building in the world), and many other theme parks and residential and business compounds.

An extensive transportation network was developed, including major roads linking the various business and

residential communities, and a public transportation network based primarily on buses. An advanced metropolitan railway was launched in 2009 and, when fully operational, is projected to carry approximately 1.2 million passengers on an average day, and 355 million passengers per year.

With the large influx and rotation of foreign nationals, and in order to maintain the soft social fabric under a stable cultural system, a public code of conduct was released by the Executive Council of Dubai in 2009 which aims at "setting the standards for social ethics and mutual respect that shall be followed by all of Dubai's citizens, residents and visitors in respect of the Emirate's culture, religion and habits". It is based on the core values that Dubai has established as a society, being traditional, tolerant, sophisticated with style and charisma, energetic, embracing, generous, visionary and proud. The code defines a set of behaviours, including social ethics such as public conduct related to appropriate dress code and display of affection; substance abuse; safe driving; mutual respect, particularly in relation to abusive language and spreading rumours; environment; and respect for religion. While some element of the code may limit certain individual Western-style freedoms, the code serves to maintain social stability in a cosmopolitan, multicultural and high-growth city.

On the technology side, Dubai e-government capabilities cover more than 500 services. A public-private-partnership initiative was launched in March 2014 to implement a "smart city" strategy featuring six key pillars and 100 initiatives on transport, communications, infrastructure, electricity, economic services and urban planning. Under the strategy, 1,000 government services will go smart within a period of three years, integrating smartphone applications in many aspects of city life. In 2014, Dubai Courts launched an interactive electronic system for case management in the commercial court of first instance, where defendants can receive notification by email and Short Message Service (SMS) the instant the plaintiff registers the case.

### Risks and Challenges

While the opportunity in Dubai is clear, the city faces risks caused by several factors, such as the pace of growth, a possible real estate bubble and dependence on Gulf-oil-based economies.

The pace of growth accelerated after 2000; many institutions were formed and bold moves were made in the space of 10 years, which placed a strain on the system and required highly efficient and flexible governance. There is evidence that the governance structure of Dubai is evolving at the same pace as the city, as demonstrated by the establishment of institutions. The pace of growth may also affect the environment and social fabric; however, measures such as the code of conduct are being taken to limit this effect.

The risk of a real estate bubble remains real. In 2009, the global financial crisis led to a crash in over-inflated real estate prices, with declines of around 50% triggering a corporate debt crisis and sending shockwaves of concern across the international investment community. Dubai is

recovering from that situation, but the sharp price increase in 2013 caused the International Monetary Fund (IMF) to voice its concern about the speed at which recovery was happening. Because Dubai's debt has continued to rise, it might have difficulty coping with fresh instability. The IMF estimates that about \$64 billion of debt held by Dubai and the government-affiliated enterprises will come due between 2014 and 2016.

The heated situation in the Middle East region may also cause some indirect risks on Dubai, as oil prices may fluctuate and markets in the region that are very important to Dubai may become unstable due to these conflicts. These risks are beyond the control of Dubai; however, mitigating them by reducing other risks is what Dubai and the UAE are constantly working on.

Going forward, Dubai may benefit from a more liberal approach to market competitiveness – with a higher degree of independence for regulators, and a private-sector-owned infrastructure such as telecommunications, transportation and power – for a more sustainable competitive position. Dubai's position as a regional and even global hub is not going away. The city, however, will face competition from other cities in the region, and from the continual economic headwinds that will buffet its many industries. But Dubai has built a remarkably resilient economic diversity in a short period of time, and one detects a bit of envy in both the admirers and critics of its model of growth.

## Singapore<sup>23</sup>

### Introduction

Singapore and Hong Kong SAR are the two leading city states in the world today. They are successors to the fabled city states of old – Venice, Genoa, Dubrovnik, the cities of the Hanseatic League and the “port-polities” on the Indian coastline and in South-East Asia that dominated Indian Ocean trade before Western colonization.

Singapore, alongside Hong Kong SAR, London, New York and Dubai, is also a global city – one in which business is conducted in several languages and currencies, and across several jurisdictions and time zones. Global cities are where truly global services cluster. But Singapore differs from other global cities in that it is a city, a state and an island all in one. Its government combines national functions, such as defence and foreign, monetary, fiscal and trade policies, with municipal functions. As a small island surrounded by the territorial waters of neighbouring states, it feels vulnerable. This impels it to leapfrog geography and serve global markets.

Singapore has a population of 5.4 million that lives in less than 700 km<sup>2</sup> of space. Its GDP is about \$340 billion at PPP, and its GDP per capita of \$62,400 at PPP is the seventh-highest (as a country) in the world. It has virtually full employment. The government has run consistent budget surpluses since the 1980s and accumulated huge official reserves (now about \$280 billion). Annual inflation is 2.4%. Singapore has no natural resources to speak of. It is the most globalized economy of significant size in the world.

Trade in goods and services is about 400% of GDP. Foreign multinational enterprises (MNEs) have nearly \$600 billion of investment stock in Singapore, while Singaporean MNEs have about \$370 billion of investment stock abroad.

But Singapore was poor only two generations ago. Its GDP per capita was just over \$500 at independence in 1965. As Lee Kuan Yew, the founder of modern Singapore, says, the Singapore story is of a leap “from Third World to First”. The city state has taken maximum advantage of the global economy at every stage of its modern development, from the 1960s to the present.

### Extended Background

Founded by Stamford Raffles in 1819, Singapore was a British colony until 1959. It has a long history as a free port, relying on entrepôt trade and being open to immigrants. This remains its chief enduring strength: the global economy is its lifeblood – it disciplines the city's institutions and policies like nothing else, and hence Singapore's psychology of adapting to changing global conditions faster and better than others. However, for the first two decades after World War II, Singapore was mired in political and industrial strife, and the economy suffered. That changed when Lee Kuan Yew took power, and especially when Singapore became fully independent in 1965 after a brief union with Malaysia. It was now free to chart its own course.

Singapore's modern economic transformation has gone through four phases.

- Phase 1 (1960s and 1970s): Attracting MNEs for labour-intensive, export-oriented light manufacturing (textiles, garments, plastics, radio and TV sets, and other low-end electronics)
- Phase 2 (late 1970s and 1980s): Capital-intensive production as real wages increased, eroding labour-cost advantage (electronics, e.g. Dynamic Random Access Memory [DRAM]; petroleum refining; and ship repair, which started in the late 1960s)
- Phase 3 (late 1980s and 1990s): Higher-value and knowledge-intensive goods and services (electronics, pharmaceuticals and life sciences, financial and other services)
- Phase 4 (late 1990s to the present): the global city – high-end services (niche financial services such as wealth management and offshore finance, other business services, casinos and integrated resorts, commodities trading, education, healthcare, transport and logistics) and high-end manufacturing (electronics, life sciences, petrochemicals, marine and aviation engineering); Singapore and Hong Kong SAR now the services hubs for Asia

Previous stages of growth saw relatively egalitarian income distribution, as was the case in other East-Asian “miracle” economies. But the latest phase has seen highly unequal growth. Singapore's Gini coefficient of 46 is among the highest in the developed world. Growth for the past decade

has relied heavily on large-scale immigration, which has exacerbated income inequality.

Typically, manufacturing is 10% or less of GDP in a global city. Singapore is exceptional in that it retains significant manufacturing (about 25% of GDP). But manufacturing employment has shrunk to about 10% of the workforce.

## Explaining Competitiveness: Applying the Four-Part Taxonomy

### 1. Institutions (how to reform)

Singapore provides a textbook example of leadership and vision. This was clearly evident with Lee Kuan Yew and the founding generation of leaders. They had a clear, long-term view of where Singapore should head, and a single-minded, practical will to achieve their goals. Lee has built strong and stable institutions to outlast him. Strong leadership has also ensured political stability, very low levels of crime and a harmonious, multi-ethnic society based on meritocracy, yet with a common sense of national identity.

Singapore's leadership also took full advantage of political and economic crises to create turning points for a better future. Lee Kuan Yew capitalized on a perceived communist threat, the exit from Malaysia and impending withdrawal of British military bases to overhaul economic policies, including opening the door fully to multinational corporations (MNCs) at a time when most other developing countries were shutting that door. This established "growth legitimacy", with the population supporting far-reaching reforms. Ever since, the government has used global and regional crises to launch major reforms.

Singapore has lean and efficient government, and public services are among the best in the world. There is a strong anti-corruption ethos. Salaries for ministers and civil servants are highly competitive (though many Singaporeans argue that senior politicians and civil servants are now overpaid). And there are institutionalized performance benchmarks in the public sector. The rule of law is strong on commercial matters: private property rights and contracts are enforced efficiently.

If Singapore does have a generic institutional weakness, it is a result of "nanny-state" interventions since the 1960s that have entrenched the power of "insiders". Social engineering has taken myriad forms in modern Singapore, though it is less evident now than it was up to the 1990s. In the economy, the state's reach extends far, through government-linked companies (GLCs), sovereign wealth funds (Temasek, the holding company for GLCs; the Government Investment Corporation), and other government funds (notably the Central Provident Fund, which pools Singaporeans' mandatory savings into healthcare, pensions, housing and other accounts). The government-linked corporate sector is extremely powerful in domestic capital, land and labour markets. This has probably crowded out domestic private-sector development. Compared with Hong Kong SAR, Singapore conspicuously lacks a home-grown entrepreneurial culture. Compared with the United States and American cities, it conspicuously lacks a venture-capital start-up culture.

### 2. Policies and regulation of the business environment (what to reform)

Singapore is arguably best-in-class in "getting the basics right" on economic policy. It is generally simple and predictable. Macroeconomic policy is consistently stable and prudent, with balanced budgets (usually in surplus), a stable exchange rate and low inflation. This encourages high levels of savings and investment. Personal and corporate income taxes are low, and the tax code is simple, with few exemptions. Government spending is less than 20% of GDP. It takes less than a day to set up a business. The Economic Development Board acts as a one-stop-shop for MNCs setting up production in Singapore. Singapore was one of the pioneers of automation and a "single window" for customs clearance. The labour market is flexible, without the intrusive and bureaucratic employment legislation that characterizes the West and many developing countries. There is a safety net, but a basic one that has largely eschewed middle-class entitlements. Singapore has funded systems for healthcare, pensions and social security, thereby putting less of a burden on taxpayers and future generations. This encourages bourgeois virtues – individual responsibility, hard work, thrift and voluntary cooperation for social welfare goals.

Free trade is integral to Singapore's policy mix. There are zero tariffs on imports, few non-tariff trade barriers and no export restrictions. Singapore is fully open to foreign investment and has no restrictions on capital flows. And, it is now highly open in service sectors. By international standards, it is extremely open to migrants and foreign workers across the skill spectrum. Foreigners are about 40% of the population – high even by global-city standards, and much higher than in Hong Kong SAR. Singapore competes with Hong Kong SAR to be MNCs' preferred Asian location for regional headquarters. That puts it at the heart of global value chains. It acts as a magnet for global talent (and their families), and spurs growth in all sorts of ancillary services.

Getting these basics right translates into top-of-the-world rankings. Singapore ranks 1st in the World Bank's Doing Business Index, 2nd in the World Economic Forum's Global Competitiveness Index, 2nd in the Globalization Index (in terms of attractiveness for foreign trade and investment), 5th in the World Bank's Logistics Performance Index (in which it is 1st in Asia) and 2nd in the Fraser Institute's Economic Freedom of the World Index.

But there have been policy mistakes, and policy challenges are now more complex than they were in previous phases of Singapore's growth. The core economic problem is sluggish productivity: total-factor-productivity growth has declined since the 1980s.

Manufacturing is one of those policy challenges. Singapore's global-city logic is one of ever-increasing expansion and diversification in services. But the government retains a long-standing commitment to manufacturing, now in high-value niches, and supported by tax incentives. It believes high-value manufacturing will have positive spillovers, including for service sectors such as modern manufacturing,

and as services become increasingly entwined. But it is questionable how much manufacturing will be left in Singapore by the 2020s, and whether industrial-policy support is worth the opportunity cost in terms of claims on available land, labour and capital.

A weak domestic private sector is the Achilles heel of the economy. Small and medium-sized enterprises (SMEs) account for half of GDP and the bulk of employment. About half are foreign-owned, but most locally-owned SMEs are small (rather than medium-sized) and have low productivity. Over decades, government promotion of MNCs on the one side, and GLCs on the other, has squeezed them in the middle. The government gives SMEs an array of incentives to boost productivity – to little avail. Without major reform of the public sector's involvement in the economy, it is questionable whether the domestic private sector will ever be vibrant and innovative.

Migrant workers have become a neuralgic issue. This is a result of a big expansion in migrant numbers during the past decade, with concomitant pressures on wages, housing, public transport and schools. The government has responded to a public backlash with tighter caps on low-wage migrant workers, as well as encouraging firms to employ more Singaporeans in middle-class occupations, especially in finance and IT. Businesses now complain of labour shortages and rising costs. This hits SMEs particularly hard, as they are most reliant on low-wage labour.

Of course, immigration is an issue that has to be managed sensitively. But Singapore needs more foreigners – at the top end, bottom end and even in the middle of the income scale – in absolute numbers and perhaps even in relative terms. The local population is ageing rapidly. And, Singapore's fortunes are bound up with its global-city prospects, which revolve around a world-class service culture. A substantial clampdown on immigration would take Singapore in the reverse direction.

Social policies have also become more sensitive, especially in healthcare, pensions and social security. There are calls to expand the safety net, not only to protect the most vulnerable but also to reduce inequality. The government has moved a little in this direction. But Singapore's social success so far owes much to targeting assistance for the genuinely needy, rather than going down the road of ever-expanding middle-class entitlements. It should retain that orientation.

Another big policy challenge is to expand geographic space. Singapore's biggest constraint is limited land availability. Singapore-based companies have lower-value production in Batam and Bintan, and special economic zones in the neighbouring Riau Archipelago in Indonesia. But the big prize is economic integration with Iskandar, a new SEZ in neighbouring Johor in Malaysia. Lower-value activities could move there, as could workers, but linked to Singapore in seamless supply chains. However, this depends on good and improving Singaporean-Malaysian relations at the political level.

The government's hallmark is to be very pragmatic; it has often corrected its mistakes. It is generally good at "market-sensing" – going with the grain of global market trends and adapting fast. Industrial policy, for the most part, has not been of the "picking-winners" variety with heavy-handed government intervention. Rather, it has relied on industrial parks, tax breaks and subsidies for training and R&D (mainly to attract MNCs). The efficacy of some of these industrial-policy measures is open to question. But the government's overall record puts it in good stead to tackle at least some of these policy challenges – though it is unlikely to structurally alter the role of the public sector in the economy.

### 3. Hard connectivity

Singapore has a strong, consistent emphasis on core physical infrastructure. Since the 1960s, the government-owned Jurong Town Corporation has provided industrial estates and science parks with first-class infrastructure. Roads are excellent, and the port is among the top five for container traffic in the world. Changi Airport is consistently ranked the best airport in the world. There is an equally strong emphasis on public transport. Singapore's mass transit system is undergoing major expansion to cope with a swelling population. Now, there are plans to extend the metro system to Johor Bahru, just across the causeway in Malaysia, and to build a Kuala Lumpur-Singapore high-speed rail link. An electronic road-pricing system in the downtown area helps to reduce road congestion. Advanced water treatment – to reduce reliance on water imports from Malaysia – has turned Singapore into a global hub for water technology. A new liquefied natural gas (LNG) terminal reduces reliance on piped natural gas imports and opens up opportunities for LNG-related businesses.

### 4. Soft connectivity

Singapore puts strong emphasis on education and skills. It has some of the best education scores in the world, especially for maths and science. The focus was on primary and secondary education during the years of catch-up growth. Since the late 1990s, focus has also been on expanding higher education and vocational training – universities, polytechnics and institutes of technical education – and improving their quality. Several educational institutions have linked up with "foreign brands", e.g. National University Hospital-Johns Hopkins Medical Hospital (USA), National University of Singapore-Yale University (USA). INSEAD was the first major foreign brand to set up a separate campus in Singapore. Singapore has become the education hub of Asia.

"Liveability" – improving the quality of life – has become a higher priority as Singapore has become richer, and especially as it has transformed itself into a global city. That means attracting global talent not only with stimulating, high-paying jobs, but also by offering an appealing overall quality of life. The government has spent a lot of money to promote the arts and culture. Its greening of the city continues – though this goes back to Lee Kuan Yew's "City in a Garden" concept from the 1970s. Compact, tall buildings allow for more green spaces in a very dense urban setting.

## Challenges and prospects

Singapore, like Hong Kong SAR, faces the dilemmas of a highly successful global city that is also a city state. It has to keep adapting faster and more nimbly than “normal” cities or countries if it is to stay on top. High or moderately high growth is much more difficult at its present advanced stage of development. Future growth will depend overwhelmingly on innovation and productivity gains rather than mobilizing huge inputs of land, labour and capital. Twenty-first-century globalization also brings wider inequality, especially for a small, highly open economy, and even more so for a global city.

At the same time, Singaporeans are now overwhelmingly in the middle class and have rising expectations. They have increasingly “normal-country” aspirations and sometimes chafe at the constant pressure to adapt to the demands of a global city. Some feel that Singapore, as a global city, dilutes or even endangers local heritage and identity. They are more sensitive to the widening gaps in society, which is related to issues such as immigration, housing and the high cost of living.

For most of the Lee Kuan Yew era, the Singapore government faced “hard” problems – providing, for example, jobs, houses, education and housing – for which it supplied hard solutions, at a time when the ruling party monopolized political space. But a wealthier society has also become more demanding, with increasing numbers giving voice to discontent on a variety of hard and soft issues, and at a time when politics is becoming more plural and competitive.

As the political system opens up, critics call for the government to be more activist and redistributive, and to tighten up on immigration. However, Singapore’s overwhelming advantage is as a global city, not as a “normal”, parochial country. That calls for sound institutions and excellent hard and soft connectivity – and, above all, continuing to get the basics right. Veering in a European social-democratic direction is a recipe for sclerosis and becoming second class; it would undermine Singapore’s competitiveness. Rather, the logic of the global city calls for more competition and genuine economic freedom. That is a far better way to improve sluggish productivity than government micro-interventions in the economy. It is an argument for government to focus more on its “rule-setting” and “umpiring” role, and less on being a direct player or micromanager in the economy.

### Lessons for other cities

The Singapore story has manifold lessons for other cities. It has lessons for cities in the developing world that start poor or at a middle-income level, but that aspire to be rich. Leadership, vision, taking advantage of crises, building sound institutions, getting the basics right on policy, building hard as well as soft connectivity – these are all valuable takeaways. Singapore’s record in maintaining and improving competitiveness also has lessons for other high-income cities, and indeed for aspiring global cities. But Singapore will have its hands full dealing with its own more complex challenges. It has plenty of unfinished business.

## Detroit<sup>24</sup>

Over the last 60 years, Detroit has experienced spectacular success followed by abject failure. In 1950, Detroit, with over 1.8 million people, was a crown jewel of the industrialized world and the unquestioned global champion of automobile manufacturing and assembly, the most complex mass-produced industrial product ever made. In 2013, the city gained global notoriety for an altogether different reason – the filing of the largest municipal bankruptcy in US history. To many, Detroit in 2013 exemplified every conceivable urban ill: blight, crime, racial inequality, economic stagnation, educational dysfunction and municipal failure. The city’s population had shrunk to under 700,000 people, declining by 25% in the preceding decade alone. Industrial disinvestment over the preceding decades had eliminated hundreds of thousands of jobs. Vast stretches of the city stood abandoned. Commercial and residential property values collapsed, shrinking the city’s tax base and crippling the provision of vital city services at the very time they were most needed.

Detroit’s declaration of municipal bankruptcy in July 2013 – characterized by unserviceable municipal obligations of \$18 billion – ratified in a legal framework powerful economic and demographic forces, as well as public policy choices, that were decades in the making. At the same time, Detroit’s current reality is a good deal more complex than its critics and detractors would indicate. Increased levels of direct investment in the city, and a campaign to rebuild and redevelop Detroit, have attracted and engaged businesses, public officials, non-profits and younger populations eager to redevelop the region.

The 1885 City of Detroit motto now seems prescient, as translated from the Latin it reads: “We hope for better things; it shall rise from the ashes.” The city’s combination of unprecedented challenges with unique opportunities provides a useful and closely watched test case for post-industrial cities throughout the world with extensive private- and public-sector legacy costs. If Detroit can emerge from its bankruptcy on a path towards municipal solvency, efficient and effective public services, innovative urban planning and meaningful regional collaboration, then it will provide useful lessons for other cities facing similar challenges.

### Background

The seeds of Detroit’s decline date back to its era of industrial growth, which began in the early 1900s, and was characterized by extensive migration to the city as the automotive industry flourished in the mid-20th century. Causes of the decline include deindustrialization, depopulation, lack of political leadership in making timely economic decisions and, finally, the recent economic downturn.

**Deindustrialization:** In response to the growth of unions from the 1930s to the 1960s among other factors, automobile companies began relocating after World War II to less expensive locations in the South or overseas. Dependent on the automotive industry, Detroit

haemorrhaged manufacturing jobs. Between 1947 and 2013, manufacturing jobs in Detroit decreased from 338,400 to 23,000, a 93% decrease. While the Detroit region still remains a global automotive epicentre, producing 20% of the passenger cars and trucks in the United States, this dislocation continues to influence the region's economy.

**Depopulation:** Racial tensions flared in the 1960s and Detroit saw riots, which only exacerbated and reinforced the trend of higher-income groups leaving the city. In what has been called the Great Migration (1916-1950), African Americans from the South migrated to Detroit in search of employment, making Detroit the fifth largest populated city in America in 1950 with over 1.8 million residents. But with the growth of the highway network and easy mortgage lending for homeowners, suburbs began attracting middle-income families who exited the city centres. In the 1960s, this trend was accelerated by gradual tax increases, deindustrialization as well as race riots. As a result, Detroit's population fell to 713,000 inhabitants and was disproportionately low-income.

**Political leadership and fiscal imbalance:** As people began to leave, the city levied a new income tax on its residents in 1962 and, six years later, doubled the tax, which further drove population declines. Many of Detroit's mayors borrowed additional money, simply to cover debt payments. However, generous city employee benefits and pensions continued, and have increased Detroit's legacy costs to a total of \$3.5 billion in unfunded pension liabilities and \$5.7 billion in unfunded retiree healthcare liabilities.

**The 2008-2009 Great Recession:** The collapse of the US national housing market in 2008 and the weakness of the national economy hit Detroit especially hard, further eroding property values and increasing unemployment, and resulting in further declines in the tax base. By 2009, unemployment in Detroit stood at 25%, although it has since improved by 9%, according to the Bureau of Labor Statistics. The combination of these factors drove Detroit to the brink of fiscal collapse, leaving the city no alternative but to file for bankruptcy. The business community breathed a collective sigh of relief upon the city's 13 July 2013 filing, viewed as long overdue and an opportunity for redevelopment.

## Explaining Competitiveness: Applying the Four-Part Taxonomy

### 1. Institutions (how to reform)

*Leadership:* All jurisdictions require results-oriented, accountable leadership to succeed. Many of Detroit's leaders have suffered and succumbed to political expediency, indifference, unwillingness to make difficult decisions, or plain corruption. The ability of new leaders to achieve and maintain effectiveness will depend on the fulfilment of their commitments and their willingness to remain accountable.

On 14 March 2013, Rick Snyder, Governor of Michigan, named a bankruptcy lawyer as an emergency manager, with sweeping power over all of Detroit's finances. He filed the petition for a Chapter 9 bankruptcy, designating himself as

bankruptcy trustee. On 21 February 2014, the bankruptcy trustee's "plan of adjustment" was submitted to the court, and is currently waiting for approval through negotiation and a bankruptcy trial.

A new mayor of Detroit, Mike Duggan, was sworn into office in January 2014. Although the city emergency manager still controls municipal finances, Duggan has restored much operational authority to the mayor's office. The new mayor has prioritized Detroit's public service deficiencies in those areas considered most vital to public well-being: police and fire response, public lighting, blight and waste removal, and functional regional public transportation. The city's bankruptcy plan of adjustment also is considering a \$148 million investment to replace its antiquated administrative infrastructure, including the city's tax collection system. Although early results in these initiatives are encouraging, much more time is needed before conclusions and lessons can emerge from them.

*Fiscal solvency:* The benefit of Detroit's bankruptcy (governed by federal law) has been to force a process with a defined timetable onto the many stakeholders in the city's fiscal condition. This is a welcome change to years of prior practice, where Detroit was able (and enabled) to defer difficult but necessary fiscal reform through additional borrowing and political patronage. This previously absent sense of urgency has brought new stakeholders, most notably the local philanthropic community, into the process, underscoring the realization that the city's viability is at stake.

*City footprint:* A city whose population has declined by nearly half in 60 years cannot sustain the geographic footprint (142 square miles [368 km<sup>2</sup>]) that accommodated the larger population. Detroit has taken a key first step to address this dilemma through *Detroit Future City*, a 350-page strategic framework that lays out a geographic, economic and social plan for the city. The plan identifies several focal areas for economic growth, including entrepreneurship, small-business development and policy reform, and also provides place-based neighbourhood development strategies.

### 2. Policies and regulation (what to reform)

*Public-sector pensions and benefits:* The negotiations to restructure Detroit's debts and emerge from bankruptcy have coalesced around two goals: (1) to reform and restructure the city's obligations to municipal retiree pensioners so that they (through their union representatives) approve the adjustment plan; and (2) to preserve intact the city's art collection, a public asset housed in the Detroit Institute of the Arts and valued at upwards of \$2 billion.

The governor and emergency manager are attempting to achieve these goals through a proposed "Grand Bargain" financial plan designed to fund municipal pensions through state appropriations, philanthropic contributions and a wholesale restructuring of outstanding municipal pension obligations, which was approved by a wide margin by the Michigan state legislature in June 2014.

*Tax policy:* Detroit and its surrounding jurisdictions have a multitude of tax authorities. While the state has simplified its business tax structure, a complex system of county and local authorities has produced over time a business tax environment that fosters confusion, as well as internal political and economic competition for investment within the region. Consolidation and coordination of tax authorities, and service provision among these jurisdictions, would contribute substantially to a more efficient, business-friendly environment.

*Permitting:* Historically, business permitting in Detroit has been characterized by uncertainty at best, and disappointment and frustration at worst. The previous city administration committed to reducing and eliminating the delays and additional requirements that stymied business development and growth. The current leadership has promised to accelerate this initiative, for which real-time data and results are not yet available.

### 3. Hard connectivity and infrastructure

*International trade gateway:* Detroit's competitiveness in the industrial age was based in part on its location and investment in infrastructure for low-cost industrial transportation. Detroit continues to serve as a major international trade gateway by any measure. In 2012, the Detroit Metropolitan Statistical Area ranked 4th nationally for trade volume, trailing only Los Angeles, New York and Houston. Every year, 25% of all US-Canadian trade – the largest bilateral trade relationship in the world, totalling over \$600 billion annually – is conducted via Detroit, which handles more than \$200 million in trade daily. Building on this consistent, world-class performance through improved infrastructure and increased capacity of the logistics sector represents an important and feasible opportunity for job and wealth creation, as well as trade performance, in the region.

*Infrastructure:* The physical infrastructure connecting Detroit and Canada – consisting of one 85-year-old bridge for all categories of road traffic and one single-lane tunnel – is woefully inadequate to accommodate the current level of trade between Detroit and Windsor. Canada and the State of Michigan have signed a binding agreement for the development, financing and construction of the New International Trade Crossing, a much larger and modernized crossing that, unlike the current bridge, will have direct connections to Canadian and US national highways. Other plans for the development of a new railroad tunnel and switching facilities, as well as an air freight terminal and new road capacity, are under development.

*Regional transit:* It may be understandable that a city built around the glory of the automobile did not build a world-class mass transit system; Detroit lacks one to this day. Physical mobility in a region increases the economic and social mobility of its population. But Detroit's lack of such a system in the 21st century has impeded its growth and regional integration. After decades of unsuccessful efforts, the counties of southeast Michigan have committed to a framework for a regional transportation system, and the Michigan legislature has ratified the accord. Development and implementation of a plan and timetable for execution

are a vital structural component of the Detroit region's redevelopment.

### 4. Soft connectivity and infrastructure

*Education:* Education is at once Detroit's greatest opportunity and greatest challenge. Effective secondary-education systems and the promise of post-secondary education at one of the state's top public universities (University of Michigan, Michigan State University and Wayne State University) are critical components of the city's ability to attract and retain talent for the region. However, Detroit's public schools have failed successive generations of Detroiters, leaving thousands of individuals fundamentally unprepared for post-secondary education or basic employment training.

Innovative programmes such as the Detroit Scholarship Fund, which provides all Detroit high school graduates a tuition-free community college scholarship, are giving initial assurance that all Detroit students will receive an opportunity for post-secondary education without financial barriers.

*Regional collaboration/new business roles:* Detroit's business community has invested heavily in a wide variety of economic development programmes throughout the region for the past 15 years. That community has now delivered a mandate to practitioners of economic development to rationalize and coordinate their activities along a collaborative model, featuring defined roles, organizational and governance structures, tracked metrics and regular project evaluation. This investor-driven model shows great promise to move Detroit towards best-in-class economic development programmes.

*Innovation and entrepreneurship:* Prior to 2012, few programmes to foster entrepreneurship and innovation existed in Detroit. Now, such programmes are a staple of Detroit's economic development scene, having produced programmes to assist businesses at every stage of the start-up process. Coordination among such programmes, especially where targeted to assist underserved communities and to build upon both the thriving entrepreneurship community in Ann Arbor at the University of Michigan and the strong information technology cluster in the region, will greatly enhance the region's economic prospects.

### Summary, Challenges, Prospects

These challenges and opportunities point to the key measure by which all economic development efforts can ultimately be evaluated, and which will prove whether Detroit can reverse its 60-year depopulation. Such attraction will depend on its ability to appeal to an inbound population that sees Detroit as a destination of opportunity, for quality of employment and education, and for quality of life. Detroit's municipal bankruptcy presents an immediate and unprecedented challenge to its citizens, pensioners, public servants and business owners. The future footprint of the city and the direction of its educational systems present no less daunting medium- and long-term challenges.

In the face of these challenges, significant opportunities abound in Detroit. The advent of new leadership at the state and city level committed to rebuilding Detroit; the remarkable levels of reinvestment in the city; the rebound of an automotive sector that has driven both economic recovery and diversification – all have significantly benefited the city in the past three years. The ability to sustain and leverage these opportunities will drive and likely determine Detroit's success or failure over the next decade.

## Lessons for Other Cities

Detroit presents some basic lessons for industrial and post-industrial cities:

- **Avoid over-reliance on one industry:** Detroit's historical reliance on the automobile industry has produced both triumph and tragedy. Many businesses and policy-makers are now determined to diversify the region's economy as they simultaneously celebrate the automotive sector's rebound.
- **Monitor and control long-term liabilities and legacy costs:** The inability or unwillingness of the public sector to monitor and control legacy costs (concerning pension and healthcare for retired workers) has wrought a devastating price on Detroit's workforce, government, businesses and financial stakeholders. Long-term planning, comprehensive risk management strategies and absolute transparency, combined with regular auditing controls and zero tolerance for violations by trustees, are basic and imperative restructuring measures.
- **Involve stakeholders in effective planning:** Detroit has suffered from a lack of coordinated, creative and long-term planning. The value of effective planning efforts derives from their inclusion of all the city's stakeholders and their accessibility to all citizens, who desire and deserve a prosperous economy, high-performing schools and a vibrant community life. *Detroit Future City* constitutes a worthwhile beginning to that process.
- **Develop mechanisms for accountability in governance:** High standards of performance for public officials and zero tolerance for the misuse of public office are prerequisites for any city's success. However, the impetus for this reform must come from and rest with the citizens, be they individual, commercial or institutional. Leadership may be important for city competitiveness, but accountability and transparency encourage good leadership.

## Bilbao and the Basque Country<sup>24</sup>

### Introduction

The Bilbao-Basque Country case study identifies relevant lessons for city and regional competitiveness, and suggests a number of key ingredients for other cities going through a similar transformation. This case study also helped produce the framework for competitiveness used in this report. By pointing out these key factors, the city's evolution as well as the successful road map for building a competitive vision can be understood. According to it, the Bilbao case study offers the following actions of interest.

In a short period of time (30 years), Bilbao has undergone a radical transformation from a city-region immersed in a deep industrial decline, caused in part by its overdependence on the iron industry, alienation during the Spanish Civil War and subsequent dictatorship, with the resulting economic and political isolation on the fringe of Europe. Unemployment at one point hit 26%, with a dominant, pessimistic psychology among the population, which seemed to lack self-esteem and influence. Apart from economic and financial problems, the city and region faced political violence and terrorism, which did not end with Spain's accession to the EU. Responding to these challenges, the Bilbao-Basque Country designed a dual strategy: (a) Outward – opening to and connectivity with the outside world, and (b) Inward – at the service of its citizens, companies and local stakeholders. The mission statement was synthesized as follows: "Modernize and internationalize the country and its economy at the service of well-being".

The strategy included the four-part taxonomy: institutions (how to reform), market regulation (what to reform), hard connectivity and soft connectivity. These key elements had to be based on a specific, unique vision and a unique value proposition. While each city and region is unique, and each has its own purpose and strategy, this framework may be useful, and the following case study shows how it was implemented in Bilbao.

### The Four-Part Taxonomy

#### 1. How to reform

##### *Vision*

The overall model was to facilitate the participation of people in the strengthening of the democratic system and citizen control mechanisms, and the generation of ad hoc instruments for the management of the different lines of action, including a new economic future.

##### *Leadership*

A shared leadership was used that was both public-public (between the different institutional levels and public opinions in municipal and regional fields, as well as with central governments and the EU) and public-private (under directories and public strategy, but with participation and private execution).

Aimed to access and reinstall self-government (devolution process) with a new autonomy statute and an internal

confederal organization, the Basque Country assumed leadership and its own orientation, which was differentiated from Spain's strategies and certain European policies used in those years. Although a common framework was needed (to become "global" as well as "European"), each city-region had its own specific strengths, a concrete and different "state of development", unique culture, priorities, motivations and purpose. So, different times, strategies and resources were needed.

### *Institutions*

The use of formal institutions of governance (e.g. government, parliament, financial institutions) allowed the Basque Country to redefine an "institutional framework" ad hoc to the main vectors of the radical transformation underway, emphasizing (a) a competitiveness programme and overall policy defined by the government in a collaborative base, enabling the creation of up to 20 main cluster associations that would drive the economic transformation; (b) a network of science and technology (from the education-industry ministry); (c) an agency of innovation for integration of business and social participation; (d) public-private agencies for planning and infrastructure; and (e) a "network of welfare" at the service of society in terms of education, health and social welfare (beyond social principles), considered as key factors of competitiveness as well as sources for economic development, job creation, new industries and clusters.

Additionally, the whole process was funded by an extraordinary budgetary framework and leading initiatives to promote, support and control all types of programmes and to facilitate the vision and transformation needed.

### *Trust and confidence*

The institutional system, the government's credibility, the business culture and the shared vision, as well as democratic control and transparency, supported a high level of trust and confidence. This represents more than a "leading and management culture" – it is the real fuel for a sustainable model.

All these elements, present along the medium- and long-term process, give governments and society the opportunity to build a successful path for approaching all of the reforms needed.

## **2. What to reform**

Given that the regulatory character corresponded largely to central government (Spain) or supranational government (European Community), as well as to the main macroeconomic policies, the strategy of Bilbao concentrated on microeconomic policy towards the approach to operations, the management and its social implications.

The Basque institutions decided their own strategy, against the dominant ideas that were driving European policies, through a unique mindset of conceiving a service economy, avoiding manufacturing and asking governments to stop applying industrial policies. The Basque strategy built a new industrial policy, based on key prioritized reforms to:

- *Cluster its economy*: breaking classic swaps and interrelating companies, technological centres, universities, financial institutions and governments for competitiveness, with more than 2,000 leaders working steadily around a dozen clusters in the process
- *Internationalize its economy*: attracting foreign investment and complementary companies to enhance the cluster development initiatives; promoting expansion abroad and setting new instruments to support companies in penetrating new markets; internationalizing its people; facilitating open talent exchange; making it easier for students and researchers in their movement abroad, as well as attracting talent to the Basque Country to reinforce the transformation agenda – a new worldwide network was developed
- *Modernize and reinvent public administration*: installing an entrepreneur-driven philosophy
- *Create special projects of a strategic nature*: integrating economic, fiscal, industrial, technological and budgetary policies in the service of their goals
- *Physically transform cities across the country*: providing each with individual, special plans; interconnected generating instruments (corporate, financial and specific management for each case) with expert international support
- *Redefine a unique social and economic ecosystem*: limiting interaction among strategies; avoiding a panel of parallel planes, frameworks or actions, but having a unique, integrated and systemic framework to work in a convergent, complete context; creating the "Basque Model" for competitiveness, well-being and human development – Bilbao's strategy as just one, relevant piece of this entire model

## **3. Strategic: Hard infrastructure and connectivity solutions**

The main hard infrastructure and connectivity solutions may meet in:

- Successive plans of infrastructure (physical and intelligent), favouring internal and external connection (Spain, Europe, international)
- Railways, ports, airports, roads, logistics, transport, municipal service centres (e.g. education, health, sports, culture, entertainment), energy, telecommunications and unemployment activities for the following programmes:
- Overcoming the shortage in the country's equipment (e.g. machinery, capital goods) and infrastructure that occurred in the 1980-1986 devolution process, due to the lack of public and private investment during the period of dictatorship

- Euskadi-Europe '93, initiated before the creation of the internal market (1987-1993); a multilevel government and public-private, long-term plan to set up a new infrastructure (named “physical and intelligent”) to prepare the country and avoid the ongoing marginalization process of the “new single market” being concentrated in the so-called “Blue Banana”, or North-South axis of London-Brussels-Milan; this main plan developed jointly, with a social and cohesive development initiative oriented to avoid poverty, inequality and emergency social isolation
- 2010 Infrastructure (1996-2001) Program, reinforcing the previous budget initiatives and advancing development options
- Sustainable investments over 30 years
- Innovation plans and programmes in key areas of the economic and social strategy
- Welfare infrastructure network (public health for all; education at all levels and for all; social services for all) and equipment for public space
- Logistics areas, industrial and tech parks network and “local” initiatives related to the defined industrial policy

#### 4. Strategic: Soft infrastructure and connectivity

Being of vital importance to hard infrastructure, the content associated with culture, values, inclusion, talent, training, education, connectivity and innovative access to new sources of employment and welfare has made up the soft vector of strategies of Bilbao. The developed strategic main lines can be summarized in an extensive digitalization and technological literacy of universal access: Integrating Technology for Active Lifelong Learning (IT4ALL); PCs at school; Spritel for internet access in public space; introduction to microelectronics and information systems (IMC, CONNECT, KZ-GUNE); network of centres for training and access to the ICTs in all regions; and BIZKAITIK, for local administrations and all citizens, and the foundation for the information society).

*Euskalit*: A movement (public and private agents) for quality, with diffusion of knowledge, training and quality assurance at all levels beyond industry, manufacturing and business, going into healthcare (companies, industries, the educational system, services, government).

*E-government CORAME*: Rationalization and modernization of public administrations at all levels, trying to create an entrepreneurial culture and attitude in all public servants and the government’s actions.

*E-tax*: Fiscal architecture and a permanent contributory relationship; administration, design and control based on one key driver: “Taxes for a sustainable project, and not only to collect money for government”. People have to be involved in the taxation process, understanding how and

what is needed to finance the vision and the future. Beyond specific initiatives and programmes, the soft-connectivity strategic effort has been supported in a social movement. Social capital is permanently reinforced towards an “appropriation goal” in order to commit people to build their own future. This explains an ongoing innovative process; it is an unfinished process to redefine, daily, how to reform and what to reform, as well as the hard and soft connectivity needed.

*Social wage*: Universal access to a minimum income of assistance and social insertion; the Basque Country was the first government in Spain, and one of the pioneers in Europe, to introduce this social salary.

*Science-technology network*: Technology centres, basic research network and excellence network. A network of over 8,000 researchers, in a coordinated strategy.

*Social capital*: Broad social innovation programmes with ad hoc tools for innovative partnerships in the country (Innobasque) to create and disseminate an “innovation culture” through the country.

#### Co-creation inner value process

A key lesson in the Bilbao-Basque Country case study is the implementation of the strategy serving the *co-creation of value* from and for the city-region. The desired international connectivity, the economic modernization and its global commitment, the attraction of talent and generation of a competitive economy are the priority services of citizens themselves and of Basque society. The effort is not to transform a city to delight and provide pleasure (or outside admiration), but to improve inclusive and sustainable competitiveness in the service of its economic agents and, above all, of the welfare of Basque citizens. The key questions here are: Why a strategy? Why a competitive city? And, why the effort to carry out reforms?

The real answer to a single proposition of value in every city in the world is, in the end, a process of co-creation of value on a number of key pillars:

- A shared long-term view, under public leadership and implemented on multiple strategies, through specific instruments of management and financing, and with constant evaluation
- Public-public and public-private partnerships
- A socio-economic vector, directing the process in an integrated way to generate an area of competitiveness and well-being, both outward (international connectivity) and inward (inclusive)
- Self-government – appropriating one’s own future

## What can be learned from Bilbao?

Is there something different in the Bilbao-Basque Country story that may be applied to other cities around the world? Yes, there is.

At the beginning of the “Bilbao transformation”, it was an old manufacturing port city – similar to all those with an evolutionary development from an interrelated and historical chain of clustered industries – moving from a strategic geographic position of initial trade needs and pre-maritime industries, to an outward economy with the comparative advantage that traditional manufacturing industries provided. Successful times decline into a deep common crisis. Similar approaches may exist to overcome such a crisis, using the same players (methods, consultants, initiatives, among others), but only some of the approaches succeed. Why? “Co-creating a unique value proposition aligned to its own identity, culture and needs” is a long journey towards a competitive city-region.

Bilbao and the Basque Country assumed its crisis; understood the need for a new, unique way; redefined its own value proposition; drew a connectivity track to the changing world; and translated the new trends into its own strengths and culture. It learned from others but did not copy any model, leading a permanent public-private partnership, allocating resources and facilitating frameworks and road maps, and the time to achieve it. This strategy was based on a comprehensive and complete model, not only defined by but also implemented through economic, political and social policies at the time, redefining the city-region’s governance instruments. This so-called “Basque Model” has been built with a sustainable effort and commitment during a long, 35-year process. Everyone knows that the competitiveness of cities is, by definition, an unfinished path. New demands, new needs, new agents and new aims will come. And, ad hoc evolved strategies must be implemented at any time.

## Monterrey<sup>25</sup>

### Introduction

The Monterrey metropolitan area case study provides insights on how a dynamic and vibrant city has taken advantage of opportunities to build a knowledge-based economy relevant to high-value international supply chains, while facing the challenges of a fragile institutional framework.

Monterrey, the capital city of the state of Nuevo León, and its 12 surrounding municipalities comprise the Monterrey metropolitan area (13 municipalities in total). Approximately 4 million people live in this area, representing 87% of the total population of the state of Nuevo León. Nuevo León has historically been one of the most dynamic economies in Mexico, partly due to the geographical advantage of being 200 km south of the US border (Texas). Its location, combined with a highly dynamic and entrepreneurial population, allowed the development of a strong and diversified industrial structure during the late 19th and early 20th centuries.

Nuevo León contributes almost 8% to the national GDP, 6.3% to the industrial GDP and 10.8% to the manufacturing GDP, with only 4.5% of the national labour force. The GDP per capita in Nuevo León is \$19,900, the highest in Mexico, and is almost double the national average of \$10,200.

### Background

Monterrey was established as a metropolitan city on 20 September 1596. Its geographical location has been an important factor in its development. In the 19th century, Monterrey became an obligatory staging post for stagecoaches on their way to the southern cities of the United States, as well as a rising financial centre that provided temporary safekeeping of money for travellers and capital funds for locals. In that period, the arrival of Jewish immigrants from Europe laid the foundations for an entrepreneurial network that played an important role in strengthening local industrial processes and in the establishment of the first manufacturing activities of the region.

An example is the birth and expansion of the brewing industry, which originated from the cooperation between a German engineer and one of the wealthiest local families. The difficulties in supplying the required inputs from Mexico City made it necessary to produce glass and steel locally for beer bottles and taps. Later, a paper factory was founded for the manufacture of labels and packaging. In addition, given the weather conditions in the region, it became necessary to produce ice. Thus, a production chain was developed, and one of the first manufacturing clusters in Mexico was created.

After World War II, Mexico implemented a closed-economy model in which fiscal and capital incentives were provided to promote and protect national manufacturing companies. At this time, there was an economic boom in industrial cities such as Monterrey and Guadalajara; and, employment opportunities, education and health services attracted a large population to these growing cities.

The economic downturns that affected the growth of Mexico’s GDP in the early 1980s were an incentive for the main industries in Monterrey to enter international markets. The economic liberalization era of the 1990s steered companies towards a vision of internationalization and global investment. In order to play a relevant role in the emerging global knowledge-based economy, the economic and social transformation of the city became a main priority.

The world economic crisis of 2008 and the presence of criminal drug-related groups in the country affected the economic and social activities in Monterrey. Even after being named the safest city in Latin America by *América Economía* magazine in 2005, Monterrey was not spared from organized crime and the resulting effects of insecurity in the country (2010-2012). Public and private leadership, academia and an emerging organized civil society have been working to overcome these difficulties. Positive results are evident; today, Monterrey is in a great position to define the next step to achieve the desired future of the city.

## Four-Part Taxonomy

The high level of competitiveness of the state of Nuevo León, relative to other Mexican states, has been attributed to certain social and economic conditions of the metropolitan area of Monterrey:

- A culture of productive work, personal accountability and social responsibility
- A dynamic entrepreneurial ecosystem that promotes the pursuit of new opportunities, innovation and growth
- A history of strong private and public leaders with the ability, determination, and vision to drive Monterrey's evolution, growth and position within Mexico

Today, however, Monterrey faces an important challenge and apparent contradiction. While economic conditions are strong due to its business and working population, the city suffers from a fragile institutional framework.

Monterrey occupies the highest positions in national competitiveness rankings. Three indexes developed by renowned institutions (Escuela de Graduados en Administración Pública y Política Pública [EGAP], Instituto Mexicano para la Competitividad [IMCO], and Centro de Investigación y Docencia Económicas [CIDE]) agree that Monterrey's economic performance is strong; these same institutions also reflect how the city has been losing ground in "government efficiency", "political system" and "institutional component", relative to other regions of Mexico.

Monterrey's strong economic performance could be negatively affected in the future if its institutional and governmental framework continues to deteriorate.

### 1. How to reform

Throughout the history of the city, private and public institutions have promoted cooperation, education, economic growth and social cohesion. This explains Monterrey's strong structural competitiveness and resilience.

Several initiatives have guided and supported the cooperation between relevant actors in the city. In an effort to promote Monterrey's transformation into a knowledge-based economy, three projects have been launched in the last 20 years, addressing economic, social, urban and government transformation:

- *Monterrey Vision 2020*: Launched in 1996, its objective was to create a city with a high quality of life based on the competitiveness of its business sector and its immersion in high-technology services.
- *Monterrey International City of Knowledge (MICK)*: Developed in 2004, the initiative was intended to create a city of knowledge by focusing on promoting technological development, positioning the education sector internationally, developing the necessary urban infrastructure and reinforcing the competitiveness of the public and private sectors.

- *Monterrey Vision 2030*: Introduced in 2006, the vision sought to develop a city with urban balance, social inclusion, liveability and high quality of life, based on an efficient planning process.

The continuity of these coordination efforts has raised the awareness that actions need to be taken to improve the prospects of the city. A growing number of NGOs, educational institutions and private-sector organizations are emerging as enablers of public participation and drivers of positive change.

As mentioned before, the deterioration of the security indicators from 2008 to 2012; the perception of corruption (80% of the population believes that more than half of the public employees are corrupt); and the increase in the debt balance relative to federal contributions (the third worst in Mexico), among other factors, have created an image of inefficiency and have weakened the citizens' confidence in public institutions.

On the other hand, important coordinated actions have been taken in the area of security in the last couple of years. Since 2012, the security situation in the state has greatly improved, with the deployment of a new police force (Fuerza Civil), which was the result of a coordinated effort from the public, private and academic sectors. According to a survey developed by EGAP on security perceptions, Fuerza Civil proved to be highly trusted by the public. More importantly, after the launch of Fuerza Civil, the incidence of violence declined 43% from 2010 to 2014. This is an important example of how coordinated actions deliver effective results.

### 2. What to reform

Compared to other states in Mexico, Nuevo León ranked 3rd in attracting FDI in 2012 (\$1.58 billion) and 2nd in the period between 2000 and 2012 (\$31.15 billion). Nevertheless, in recent years other cities have performed better on business environment indicators. The *Doing Business in Mexico 2014* subnational report ranks Monterrey 16th nationally (see the Table).

**Table: Topic Rankings for Monterrey**

Source: The World Bank, *Doing Business in Mexico 2012* and *Doing Business in Mexico 2014*

Topic	Ranking		
	2012	2014	Difference
Starting a business	7	10	- 3
Dealing with construction permits	26	27	- 1
Registering property	13	17	- 4
Enforcing contracts	16	10	+ 6
Ease of doing business	15	16	- 1

In spite of not having vanguard regulations for doing business, Monterrey remains as one of the country's main FDI attractors. Education, infrastructure, location, standards of living and an entrepreneurial culture are the strengths that help the city attract foreign investors.

### 3. Hard infrastructure and connectivity

The Monterrey metropolitan area has had a horizontal urban expansion, similar to the rest of the urban areas in Mexico. From 1980 to 2010, the urban population for the Monterrey metropolitan area doubled, and the urbanized area grew fivefold.

An unplanned and uncoordinated urban growth, a growing deficit of green urban spaces, a high dependency on private transportation, and deficient real estate development regulations are deeply affecting the quality of life in the city. Low air quality has become evident in recent times. In 2013, the IMCO stated that the city had the second-worst air quality in the country. In 2014, the situation was confirmed by a study conducted by the WHO, in which Monterrey had the worst air conditions out of nine Mexican cities.

A lack of investment in public transportation systems has created a complex, vicious circle that favours the few. According to the ITDP (Mexico), only 5% of the 2012 federal funds for Nuevo León were used for public transportation solutions, compared to 80% used in automobile infrastructure; this was in spite of the fact that only about 28.6% of the population in the metropolitan area owned a car. This is a very inefficient use of public funds.

The inner-city connectivity is supplied by a system of two metro lines (a third metro line is currently being constructed), with links to both Metrobus and Transmetro bus lines. The public bus system covers around 98% of the metropolitan area; nevertheless, its users constantly question its design, efficiency and service quality. Two bus rapid transit lines (Ecovia) opened in January 2014.

Real estate is also a booming sector. In 2013, the private real estate sector invested \$1.9 billion in Nuevo León, focused mainly on vertical housing and mixed-use developments. This represents 11% of the national private investment in real estate for that year.

Nuevo León is a border state with the United States (Texas). It is an ideal location for business serving the strong US-Mexican trade relationship, which reached an estimated \$536 billion in 2012. The dynamism, productivity and industrial diversity in Monterrey have attracted more than 2,200 foreign companies in the sectors of appliances, automotive, information technologies, aerospace, electric-electronic and metal manufacturing, among others.

Monterrey is connected by a strong highway network to the US border, the Gulf of Mexico and the rest of the country. Rail freight transport service is provided to the city, the port of Tampico and other parts of the country. The state of Nuevo León has 1,092 km of railroad and two international airports.

Monterrey has a privileged position in the US-Mexican economic relationship. In 2012, the three bridges connected to Texas through this highway system represented 30% of the total trade relationship (imports and exports) between Mexico and the United States.

Finally, public service indicators show a high coverage in the Monterrey metropolitan area. In 2012, 78.8% of households were connected to clean running water, energy and sewage systems; 49.3% owned a computer.

### 4. Strategic soft connectivity

In 2013, Nuevo León had 91 universities, some of them ranking among the best in Mexico. Tecnológico de Monterrey is one of the most prestigious universities in Latin America, ranking 279th in the *QS World University Rankings 2013* and 7th in the *QS University Rankings: Latin America 2014*. In a national survey, Universidad Autónoma de Nuevo León and Universidad de Monterrey ranked 5th and 18th, respectively, among 30 universities in Mexico.

The average number of years of schooling in Monterrey is 11, or 2.4 years higher than the national average of 8.6 years. According to the Programme for International Student Assessment's (PISA) 2012 results, basic education in Nuevo León falls in the average range of the other 65 participating countries. Within Mexico, Nuevo León ranks 2nd in mathematics and science, and 5th in reading. The educational system has a 96% median coverage for basic education, 47% for high school and 78% for higher education.

The Mexican Ministry of Public Education ranked Nuevo León as the state with the fourth-highest number of students enrolled in graduate and postgraduate programmes in the academic year 2012-2013. The state has one of the highest proportions of population with an undergraduate or graduate degree (20%) in the nation. According to the National System of Researchers, Monterrey ranked 5th in number of researchers in 2012 and 2nd in number of patent applications from 1999-2011.

In a study developed by Tecnológico de Monterrey and Instituto Nacional del Emprendedor, the state of Nuevo León reported four key sectors that drive the economy: construction, automotive, machinery and equipment, and electronic-electrical products. This same study identified six promising industrial sectors for the city: medical equipment, medical services, information technologies, logistics, research services and aerospace.

An economic cluster strategy has been developed and has given way to clusters in the following sectors: mechatronics, nanotechnology, health, automotive, aerospace, agriculture and food, biotechnology, appliances, information and communication technologies, and sustainable housing. Recently, the federal government has announced a development strategy focused on energy. Nuevo León has created an energy cluster and launched the Energy Sector State Plan with the purpose of becoming a pioneer in the energy industry.

## Interrelationships and Summary

Throughout its history, the city has overcome natural, security and economic threats due to its entrepreneurial culture, work ethics, and business and political leadership. Strong economic capabilities have been built over decades. Public and private academic institutions have become crucial to the city's progress. Its great location near the US border provides a strong comparative advantage. Finally, a growing understanding that the city needs to productively engage in the global knowledge-based economy, as well as the need to have a more active social sector, has shown positive initial results.

Monterrey has strong social and economic capabilities and is making solid efforts to increase its institutional capabilities and citizen participation platforms. Will the actors and institutions have the strength, flexibility and clarity of vision to create the conditions to regain the leading economic and social position that the metropolitan area of Monterrey used to hold? Is the increasing strength of NGOs and citizens the answer to this situation? Will Monterrey develop the capabilities to productively engage in the innovation and knowledge-based economy of the world?

### What Wider Lessons Can Be Learned?

Monterrey provides lessons not only on how a city in a developing country can build a dynamic and vibrant economy, but also on how it can strive to enhance its institutional framework and achieve coordination among relevant actors in the strategy to build the city's desired future. The lessons include:

- A strong focus on building high-quality private and public academic institutions has been essential for building the competitiveness stature of the city and the strong competencies and work ethic of its population.
- Monterrey's history has been one of social engagement and active public participation, mainly driven by the private sector. A new role for citizens in public-policy-making and public-sector evaluation has recently arisen, and their participation must be acknowledged, treasured and institutionalized.
- Fast and underplanned urban growth is one of the threats to the city's quality of life and capacity to attract and retain talent.
- Leadership in the city has been facing important economic and social challenges. An improved institutional framework, with strong accountability mechanisms and improved means of participation for the private, academic and social sectors, needs to be developed and implemented.

## Ningbo<sup>26</sup>

### Introduction

Ningbo is the second largest city in Zhejiang Province, China, and one of the three major economic centres in Zhejiang. Ningbo has a long historical business tradition, and was an important gateway to the maritime Silk Road. Ningbo also has the characteristic of diversity in its higher-education system, and is a pioneer in smart cities in China.

Ningbo enjoys provincial economic management authority, which provides a good institutional framework for the city in taking the lead in development among many coastal cities. Ningbo was one of the 14 coastal cities that China opened to the outside world in 1984.

Its unique geographical location makes Ningbo stand out above the rest in the process of reform and opening up in China. The city is located in one of the most active areas of the Chinese economy, the Yangtze River Delta region. The straight distance from Ningbo to Shanghai or to Hangzhou is only 150 km. The area, at the intersection of the coastal economic belt and Yangtze River golden belt, is also an important open gateway of China to the Asia-Pacific region.

### Extended Background

Ningbo has a thousand years of history and was an important commercial port in China since the Tang and Song dynasties. Modern industry in Ningbo started after the Opium War in the 19th century. However, it was a poor and backward state because of the long history of destruction in various wars. In the first decades after the founding of the People's Republic of China in 1949, economic and social development of Ningbo experienced a tortuous and slow development. But in 1973, China began to invest in the economic construction and development of the ancient city of Ningbo, which ushered in the dawn of its modern development. After the reforms and opening up of 1978, Ningbo experienced its historic economic and social turning point. In retrospect, this can be seen in a series of phases:

- Pre-reform investments (1973-1976):** Before the reform and open-policy changes, the State Council Leading Group for Port Construction determined the construction of Ningbo's new port in July 1973.
- Take-off period (1978-1992):** After the reform and opening up, the large-scale port development started in December 1978. Ningbo was approved by the State Council as one of 14 open coastal cities, and the national economic and technological development zone was also established. From there, the preliminary pattern of opening up took form, industrial city features began to appear and the market system gradually improved.
- Transformation and leapfrog stage (1992-present):** After Deng Xiaoping's southern-tour speech delivered in 1992, China established a socialist market economic system. Ningbo began a comprehensive transformation for the socialist market economy, and market reform

sped up. After 20 years of development, Ningbo further consolidated its position as a regional-centre city, and has become an influential and modern international port city. The Ningbo regional population reached 5.78 million (of which the urban population is 2.26 million), with up to 4.8 million people working in the city at any given time, demonstrating its great vitality. The GDP per capita of Ningbo was over \$15,000 in 2013, or 2.5 times the national level. In 2013, Ningbo's import and export trade volume exceeded \$100 billion.

## Four-Part Taxonomy

### 1. Institutions (how to reform)

#### *The political and legal systems of city government*

The capacity of city management to promote the city competitiveness of Ningbo has developed through institutional innovation, improving democratization and legalization. Over the years, Ningbo has made full use of the autonomy in local legislation, given full play to the role of local legislation in economic construction and social development, and effectively solved practical problems in economic and social development, as well as management of the city.

#### *Relations with national and state/provincial levels of government*

In 1987, the State Council approved Ningbo's status as provincial authority in city administration, greatly enhancing its vitality and competitiveness. However Ningbo was the second largest city in Zhejiang Province, so one effect was to weaken the linkage between Ningbo and Zhejiang.

#### *Public-private collaboration*

Ningbo put forward the concept of service-type government early in China. Through the establishment of the innovation service platform and public service platform, i.e. the integrated framework for public service and social governance, the government and stakeholders have set up a good cooperative public-private partnership.

#### *Individuals and leadership*

Deng Xiaoping proposed on 1 August 1984 "to mobilize 'Ningbo Group' in the world to construct Ningbo". Many natives of Ningbo living overseas have returned and made important contributions to the city's development; for example, the shipping magnate Bao Yugang, and the Hong Kong SAR "movie king" Run Run Shaw, both of whose leadership in their industries contributed to the success of Ningbo.

#### *Role of ideas ("vision") and the city brand*

Integrity, practice, openness and innovation represent the core values or spirit of Ningbo, and the internal force of the development of the city. East Zhejiang culture and marine culture have contributed to its development. "Ningboport" is the city brand. The construction of a modern international port city has been a great motivation to innovate, develop and enhance competitiveness.

### 2. Policies and regulation of the business environment (what to reform)

#### *Innovation policies*

To implement its innovation-driven strategy, the Ningbo government has implemented innovation policies and measures, such as industry accelerators to speed up a new generation of information technology and creative design services, great project amplifiers to promote the new and high-tech industry clusters, a high-end industrial booster to encourage the development of local headquarters clusters, and start-up incubators to cultivate high-tech enterprise.

#### *Financial policy*

Since 2010, Ningbo has sought to build and optimize financial policy including financial organization, financial markets, financial factoring, financial products and service innovation.

#### *Human resources policy*

Ningbo continues to focus on occupational skills training for migrant workers to provide it with sufficient labour resources, and focuses on higher-education policy to develop high-quality human resources for city competitiveness. Ningbo implements talent projects such as Overseas Engineers, and has attracted more than 4,400 talented people to work in Ningbo, including overseas Chinese. There are also more than 1,500 foreign experts working in Ningbo, which has become one of the most preferred cities in China for overseas talent, entrepreneurship and innovation.

#### *Foreign economic policy*

With its long historical tradition of foreign trade, Ningbo has now become one of the most developed foreign trade cities in China. The city's total outflow of FDI exceeded \$15 billion. Among notable examples is the Geely Group, which acquired the famous automobile brand Volvo. Ningbo is also one of the most active cities in China in terms of use of foreign capital. The total inflow of FDI exceeded \$33 billion. Ningbo has set up sister-city relationships with 32 foreign cities, such as Houston (USA), Aachen (Germany), Rouen (France), Nottingham (United Kingdom), Barcelona (Spain), Vienna (Austria) and others.

### 3. Hard connectivity

#### *Transport (rail, road and air)*

After 30 years of reform and opening up, Ningbo gradually built up a comprehensive, multidimensional transportation network system combining railway, highway, surface, air and other modes of transport, which has become an important support for Ningbo to take the lead in realizing modernization and promoting international competitiveness.

In 2013, Ningbo port cargo throughput ranked 3rd in China, and 4th in the world; container throughput reached up to 16.77 million twenty-foot equivalent units (TEUs), ranking 3rd in China and 6th in the world. A railway of 309 km links Ningbo into the two-hour traffic circle of the Yangtze River Delta. The city's total road mileage reached 10,892 km. Ningbo Lishe International Airport mainly serves as

a domestic aviation port in Ningbo, which has very few carriers and direct connections with Europe and America.

Ningbo has a good public transport system. At present, the Metro Line has begun trial operations; Lines 1 and 2 are expected to be completed by 2015, with five lines and a 173-km rail transportation network to be put in service by 2020. To advocate green travel, an intelligent public bike system has been completed with initially 200 service points.

### *Smart city construction*

Ningbo has been a pioneer in China in developing smart city systems. In recent years, Ningbo's smart city construction has made remarkable achievements in information infrastructure, information resource integration, intelligence application system and smart-city-related industries. Ningbo has won the China City Informatization Excellence Award, the China Smart City Champion Award, and was one of China's Top 10 Smart Cities in 2012, which reflects the next emerging phase of Ningbo's development of city competitiveness.

### *Logistics systems*

Ningbo is one of the 21 nationwide logistics node cities promulgated by the State Council. Ningbo Logistics Systems has been formed which, as the leader, focuses on port logistics with initiatives related to manufacturing logistics, urban and rural delivery logistics, and aviation and specialized logistics as supplements. The added value of the logistics industry amounted to CNY 66 billion in 2013. Ningbo's Smart Logistics Project was listed as Zhejiang Smart City Demonstration Project.

## **4. Soft connectivity**

### *Education*

Since 1999, Ningbo has accelerated the development of higher education and has explored diversified modes of higher-education institutions. There are three undergraduate universities, each with more than 10,000 students on campus; two adult colleges and nine different types of higher vocational colleges, with 80,000 students on campus. Cooperating with the University of Nottingham (United Kingdom), Ningbo co-founded The University of Nottingham Ningbo China, a pioneer for universities in Chinese-foreign cooperation.

### *Culture*

With economic development has come a rebirth of cultural activities. As the region that was a birthplace of culture dating back 7,000 years (the Hemudu site), and that helped give rise to the splendid ancient civilization of China, it is only appropriate that culture is playing a more enhanced role in Ningbo, with various forms of the fine arts being developed and contributing to the city's competitiveness.

## **Summary, Challenges and Prospects**

Thanks to the policy of reform and opening up, the export-oriented development strategy and its unique geographical advantage, Ningbo has experienced high growth in the past 30 years. Like other cities in China, Ningbo's story of success happened in the transition period of China, from planned economy to market economy. In general, three important factors need to be addressed. The first is the extremely important role of government, especially in the early stages of the transition and development. The second is the role of foreign investment; foreign capital brings not only capital, but also the technology, management and the market. The third is flexible policy. Ningbo's provincial authority makes it possible to report directly to the central government rather than through the province.

The main problem with Ningbo's economic development is that quality and differentiation in the city's industries have yet to be attained. Industrial, homogeneous competition is very intense. Many enterprises are in a low position on the value chain, and their capabilities in R&D, design and marketing are very weak. Industrial structure still needs to be adjusted to that featured by highly value-added and knowledge-based industries. New materials, new energy, software and service outsourcing, medical and healthcare equipment, and other emerging industries have not yet been developed on any large scale. The manufacturing industry mainly assembles goods. Wastewater and exhaust emissions are far greater than in developed countries. Saving energy and reducing consumption are still great challenges.

With the development of the Chinese market economic system, markets will play an even more decisive role in the future. This is a huge challenge for the government. Ningbo needs to further improve the system and the technological intensity of economic development, enhance the value chain, and make economic and social development more reliant on knowledge production, diffusion and utilization.

## **Surat<sup>28</sup>**

Surat is an excellent case study of a turnaround by a once-important city, besieged by bad luck and circumstance, hitting rock bottom due to a public health disaster, which in turn forced the city to clean up its act – literally. It is now regarded as one of the best cities in India on several metrics, including quality of life.

### **Early History**

Surat, a city historically known as Suryapur, including in the ancient epics, is the second largest city in Gujarat, one of the fastest-growing states in India and one that *The Economist* described as the Guangdong of India. It is a port city, approximately 270 km north of Mumbai, India's commercial capital. It was, in fact, the most important port city of western India well into the late 1600s, benefiting from the silting of the harbour in Cambay, another important port in the region. The Battle of Swally (anglicized from Suvalli) in 1612, which marked the end of the Portuguese commercial monopoly in India and the beginning of the British East India Company, was fought in and around Surat. King James

I of England then ordered the diplomat Sir Thomas Roe to approach the court of the Mogul emperor, Jahangir, to procure trade concessions as well as protection for the factories of the East India Company in Surat. Around the same time, Surat also emerged as a major centre of the shipbuilding industry.

Unfortunately, Surat lost its position to Bombay as the most important western port, due to relentless attacks in the second half of the 17th century by the Maratha Empire, which in turn drove its prosperous trading communities south to British-ruled Bombay. The East India Company itself moved its presidency to Bombay around the same time. Interestingly, Bombay passed from Portuguese to British hands when King John IV of Portugal offered the city as a dowry at the time of the marriage of his daughter, Catherine of Braganza, to King Charles II of England. With the slow takeover by the British Crown, cities like Calcutta, Bombay, Delhi and Madras became the important centres of power, business and trade, and cities like Surat faded to relative insignificance.

#### The Present

Over the past few decades, however, Surat has regained its prominence as an important urban centre. Its population, which stagnated for long, has seen its fortunes revive sharply since the opening up of the Indian economy in 1991, as captured in Figure 2. Since then, the population has tripled, making it the eighth most populous Indian city in the 2011 census – and the fourth fastest-growing city in the world by some measures. In terms of size, Surat occupies an area of 326.5 square km after repeated city-boundary expansions.

In the recent past, the city has become an economic dynamo, mainly known for its diamond and textile industries. Surat handles 90% of the world's diamond-cutting and polishing business, and accounts for 90% of India's diamond exports. Estimated city GDP in 2011 was approximately \$40 billion, with most analysts expecting GDP to surpass \$100 billion by 2025, which may well be a conservative estimate.

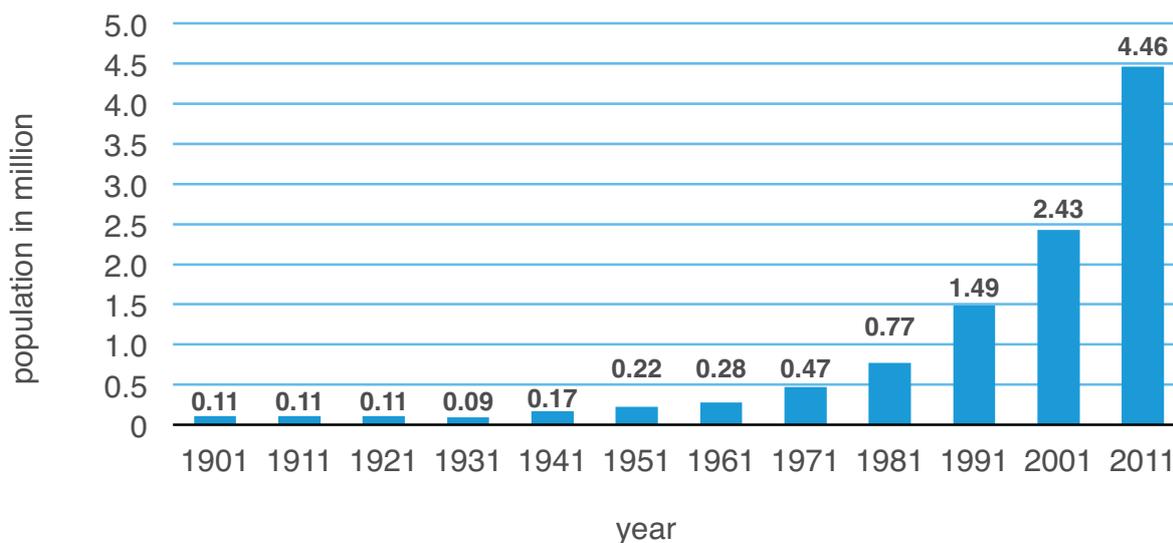
#### The Crisis

If a series of accidents led to both the rise and fall of Surat, another accident led to the revival of its fortunes. Surat is situated on the banks of the Tapti River, not too far from the river's mouth that empties into the Arabian Sea. There are several dams nearby, which leads to occasional floods. In 1994, Surat received very heavy rains during the monsoons which, combined with blocked drainage systems, led to massive waterlogging in the city. This created terrible conditions, with numerous stories of, among other things, uncollected animal carcasses, which provided the ideal situation for an outbreak of the plague, a disease that had been eliminated in large parts of the world centuries ago. As expected the disease hit peripheral slums and shanty areas the hardest and killed about 50 people, creating an environment of fear and panic. A large part of the population migrated out of the city from fear.

Nonetheless, India was just emerging from its cocoon as a protected economy, with the economic reforms of 1991 exposing it not only to trade and investment flows, but also to the unforgiving glare of global media. That a country announcing its arrival on the world stage could see an

**Figure 2: Population of Surat, 1901-2011 (in million)**

Source: [http://en.wikipedia.org/wiki/Surat#cite\\_note-censusindia2-27](http://en.wikipedia.org/wiki/Surat#cite_note-censusindia2-27)



outbreak of the plague at the far end of the 20th century proved to be extremely embarrassing. The loss to the exchequer came not only from Surat, but also from business lost to the country and the curbs placed on travel. Surat had hit rock bottom.

## Turning Surat Around

In the aftermath of the plague epidemic, it became clear that Surat needed to clean up its act quickly. Floods were something the city had to live with, given its proximity to the river. However, the filth and lack of cleanliness was obviously something that could be addressed. It took a combination of visionary leadership and strong executional skills to turn the city around.

## Leadership

Since its formation in 1960, Gujarat state had been ruled by the Congress Party. In 1995, the opposition Bharatiya Janata Party (BJP) came to power. The state government appointed S.R. Rao, the joint managing director of the State Industrial Development Corporation, as commissioner of the Surat Municipal Corporation (SMC), an unelected but powerful role and, effectively, the chief executive of the city. He came with the reputation of having successful stints previously in the Gujarati cities of Rajkot and Bharuch. Ex post, it is clear that his leadership was the key explanatory variable for Surat's turnaround.

As the first part of his job, Rao made major structural changes in the SMC, which was too unwieldy to handle the responsibilities of a large and fast-growing metropolis. He strengthened the division of the city into six zones, each of which had a zonal officer in charge and with whom the buck stopped. Earlier, all problems had to be sorted out in a "city hall" environment, whereas the new delegation of powers ensured that citizens could get easier and more local redress of their problems. Given the immediate context of a major public health scare, the SMC also subdivided each of the six zones into 52 sanitation wards, with a sanitary inspector, two subinspectors and three supervisors, who in turn employed round-the-clock cleaning staff. They ensured that the city would never again experience the level of filth that preceded the plague.

Rao also did an excellent job of motivating his staff, using a carrot-and-stick approach. Given a hierarchical society like India, he felt it was important to let the lower rung know that they mattered, and removed artificial barriers between the staff. He also instituted what he called a shift from "AC" to "DC", or from air conditioning to daily chores. What this implied was that senior staff could no longer sit around in their plush offices, but had to hit the field to get a first-hand experience of the problems citizens faced. Besides, this had the dual effect of letting lower-level workers know that those senior to them were also trying to solve the same problems. The presence of the superior officers in the field ensured a greater degree of accountability.

However, it was not all carrots. Rao realized that there were many workers who were simply coasting on a government job and salary. Disciplinary action was taken against 1,200 workers, from sweepers to senior staffers, some of whom were also asked to take voluntary retirement. The trade unions, which had been taken into confidence, understood the resentment ordinary citizens felt towards SMC workers, and did not appear to be much of an obstacle. It is worth mentioning here that the SMC did an excellent job of media management; transparency with the press ensured the citizens supported even the most controversial of SMC moves.

The bureaucratic layers between the various zones and administrators were slashed, with lateral communication now possible instead of going up and down a hierarchy. Though many silos were eliminated to enable greater cooperation, ultimate responsibility was pinned to a senior individual to avoid any passing of the proverbial buck. Steps were taken to ensure smooth communication between senior officials, especially between elected and unelected city officials. Such consultation and meaningful delegation of decision-making powers was empowering to middle management.

In addition, to improve the experience for citizens, the SMC introduced a tiered system of complaint redressal, with each department having between 24 hours and one week to respond to problems ranging from drainage overflows to repair of potholes.

## Enforcement

It is often said that India suffers not from a policy deficit, but from an implementation deficit. Most Indian cities are examples of such implementation deficits, as well as those affecting enforcement. Laws are broken willy-nilly, especially by those well connected, and there is often little or no check on them, which leads to massive welfare losses to the city. Surat was no different when Rao took over as SMC commissioner.

As property prices soared across the country, illegal encroachments became the norm. Builders built either more than they were entitled to, or for purposes other than those sanctioned by the government. Land availability, even for public purposes like building roads, became a nightmare. Under Rao, the SMC began a campaign of demolishing illegal construction, including construction that was in the way of road widening. Many of the losers tended to be small businesses, which were traditional supporters of the BJP, causing political problems within the SMC. In addition, the real estate lobby had powerful political connections, and tried everything from threats to political pressure to stop the demolitions.

On the public health front, laws for food establishments began to be seriously enforced. In a city that prided itself on its food, this struck a chord, because unhygienic conditions around food establishments were a major worry for citizens. Data on food quality was made available via the media. Such a crackdown had an immediate impact on the quality of food, and incidents of food and water-borne diseases declined.

Once average citizens realized the commissioner was merely sticking to the law without showing favour to the rich, poor or any other lobby, they became his biggest bulwark against political pressure. Be it eateries with unhygienic conditions, slum upgrading, solid waste management or indeed preventing encroachment by developers, the SMC was merely enforcing the law and thereby improving the lives of people in the short to medium term.

## The Turnaround

In 1994, when the plague hit, Surat was known as the Indian city floating on sewage. Covered drainage systems, which were introduced in the 1950s, were intended for 300,000 people and could not keep up with the vast expansion in population. At the time, only 30% of the city's population had access to the sewage system; 60% of the slum population had no access, and less than 2% had any access to private toilets, while three-quarters were openly defecating.

Since then, the turnaround under Rao's leadership has been nothing short of miraculous, and has had an enormous, positive impact on the economy as well. In the two years after the turnaround began, Surat was ranked as the second cleanest city in India after Chandigarh, and has retained approximately the same ranking in more recent surveys. Most people are surprised when they visit Surat, and realize the "plague city" is now one of India's best cities to live in. In fact, in 2013, the Annual Survey of India's City Systems, conducted by Janaagraha, a widely respected NGO, ranked Surat the best city in India, and ranked it as having the best quality of life in the country as well. In addition, the city has won a variety of awards, ranging from Excellence in Financial Reporting, to the Confederation of Indian Industry award for Excellence in Solid Waste Management, and the National Award for Efficient Water Management given by the Indian government.

### Surat's Competitiveness

The single biggest advantage that Surat enjoys is that it is the second largest city in the economically dynamic state of Gujarat. From 2005 until fiscal year 2011-2012, the state GDP grew by 10.08% per year. A couple of states recorded faster growth rates in the same period, but unlike Gujarat, they were growing from a low base. Gujarat's rapid growth is helped by a high urbanization rate; 43% of the population lives in urban areas compared to 31% nationally. Looking at publicly available data, Surat recorded 11.5% growth in GDP between 2001 and 2008, when the financial crisis hit.

As mentioned earlier, Surat has benefited from its legacy as a trading port. In addition, residents of Gujarat have a long and storied history of being among the best traders and entrepreneurs in the world, be it in Gujarat, other parts of India, East and southern Africa, North America or South-East Asia. Given that Surat was their most important port, it was inevitable that the city could occupy pole position, if it could fix its governance issues.

Today, Surat's industrial competitiveness rides on the back of diamond polishing, textiles and basic industries. Along with Antwerp (Belgium), Surat is the diamond hub of the world. In 2012, it accounted for about 90% of India's \$22 billion worth of diamond exports, and employed about 800,000 people in the industry, directly and indirectly. According to Wikipedia, "Surat is the biggest centre of man-made fibre in India. It has a total of 381 dyeing and printing mills and 41,100 power loom units ... Surat produces 9 million metres of fabric annually, which accounts for 60% of the total polyester cloth production in India." Similarly, Surat is home to some of the biggest industrial giants in the country, especially in the oil and gas, cement and shipping industries.

## Continuing Problems

Though most of Surat's public health worries have been fixed, and the city enjoys a relatively good quality of life, there are still problems, mostly to do with hard connectivity and soft issues like diversity. The city is fairly close to both the commercial capital of India, Mumbai, as well as the commercial/political capital of Gujarat, Ahmedabad/Gandhinagar, and the road networks between them are decent. Nonetheless, the city has poor air travel connectivity, with a bad airport and very few flights (no international flights). Embarrassingly, until 2007 this city of 4-million-plus inhabitants had no airport at all. Even today, a quick search reveals one direct flight daily between Mumbai and Surat, and two between Surat and Delhi. Similarly, a quick internet search reveals that the city does not have a single five-star hotel or indeed any hotel belonging to one of the well-known international hotel chains. All of these issues contribute to an insularity and a lack of cosmopolitanism and sophistication, in spite of the city's storied history as a trading port which all the great empires of the world visited to do business. This is bound to hurt the city's competitiveness, especially as it attempts to migrate up the services value chain.

Despite all these negatives, Surat still represents a great story of how a once-important city in a very poor country used a crisis to its advantage to orchestrate a leadership-driven turnaround – and become one of the most important cities and economic engines of India. Clearly, this is a story that should give hope to many cities in rapidly urbanizing Asia and Africa.

# 6. Conclusion: A Checklist of What to Reform and How to Reform

Drawing on the full and mini case studies – 33 in all – allows for distilling conclusions on city competitiveness. The conclusions are in the form of a how-to-reform, what-to-reform checklist based on the four-part taxonomy (institutions, policies and regulation, hard connectivity and soft connectivity), while keeping an eye out for interactions between parts of the taxonomy. The Box contains a short summary of the checklist.

## Box: City Competitiveness: A How-to-Reform, What-to-Reform Checklist

- **Institutions** (governance or decision-making framework)
  - Display leadership and vision – have a clear, far-sighted view of where cities should head, and a single-minded, practical will to ensure they get there; the power of mayors as chief executives.
  - Build up institutional strength gradually through successive phases of development.
  - Take maximum advantage of decentralization of powers, coordinate across jurisdictions where necessary and promote public-private collaboration.
  - Look out for windows of opportunity – often during a political or economic crisis – to push through a critical mass of decisive reforms.
- **Policies and regulation** of the business environment
  - Get the basics right, i.e. stable and prudent macroeconomic policies, efficient and simple taxation, a flexible labour market, openness to trade and foreign direct investment, simple and transparent domestic business regulation. Keep policy simple for producers, consumers and citizens.
  - Develop own foreign economic policies on trade, foreign direct investment, tourism and attracting global talent, and go global as far as possible.
  - Be spatially neutral at the national level – don't discriminate against cities.
- **Hard connectivity** (core physical infrastructure)
  - Have a mix of planning and organic growth -- they are complements, not substitutes. Avoid the extremes of over- and underplanned cities.

- Plug the big hard-connectivity gaps. This requires massive investments, especially in emerging-market cities.
- Promote urban density, including “building tall” in city centres, and avoid urban sprawl.

### – **Soft connectivity**

- Support education as the ultimate soft connectivity.
- Facilitate digital infrastructure to support human-computer interfaces that empower individuals and take full advantage of hard connectivity.
- Make cities more liveable, especially for upper-middle-income and high-income cities.
- Learn from soft-connectivity failures.

## 1. Institutions (How to Reform)

### Leadership and Vision: Creating and Sustaining a City Brand

Many of the case studies highlight the vital role played by important personalities in charge of cities, who were in the right place at the right time. Their vision and leadership were often critical – a clear, far-sighted view of where their cities should head, and a single-minded, practical will to ensure they get there.

One of the most impressive examples of such leadership is Singapore's Lee Kuan Yew, once described as a “political superman, albeit in charge of a metropolis”. In the 1960s, Lee's vision was to take the poor, vulnerable city state, whose survival most pundits doubted, and turn it into a stable, prosperous, world-class city that would leapfrog other cities around the world. He and his close allies accomplished this in just over one generation.

Dubai is another example of visionary leadership, followed by excellent examples of execution. It started with Sheikh Rashid, the former ruler, who envisioned a multidimensional metropolis rather than an oil-dependent city. Relatively modest oil revenues were invested wisely to diversify the economy. His son, Sheikh Mohammed, enlarged this vision and steered Dubai to become the Middle East's entrepôt and global city.

For Bilbao, the collective vision was to turn a decaying city, reliant on heavy industry and driven by political violence, into a stable, vibrant, multicluster metropolis plugged into Europe and the wider world. This sparked a 30-year process of regeneration. In Medellín, Mayor Sergio Fajardo's vision

was to transform a violent city at the mercy of drug cartels into an education and tech-intensive hub. In Surat, S.R. Rao's vision was all about efficient administration and policy implementation. After he was appointed to take charge of Surat Municipal Corporation, becoming the city's de facto mayor, he instituted far-reaching organizational changes and made sure existing laws were implemented without fear or favour.

But there are also negative examples – of poor leadership that took cities in the wrong direction. Detroit stands out: decades of very poor leadership contributed mightily to its vertiginous decline. Successive mayors rode the treadmill of expanding external debt and political patronage, without a coherent plan to tackle a single-industry culture (total reliance on automotive manufacturing), legacy costs, racial conflict and inner-city blight. Buenos Aires is a Latin American analogue: what was an economic and cultural icon a century ago is now beset by urban decay and sprawl, pollution and massive income disparities. Chandigarh's municipal leaders have lacked the vision to diversify a totally planned city, designed to be an administrative hub and not much else.

The positive examples shown here reflect the power of mayors as chief executives – even in the guise of a city state's prime minister or an emirate's ruler. Pragmatism, business-friendliness and can-do policy entrepreneurship – these are their hallmarks. But negative examples show what to avoid.

City governance has an impact on leadership. In some cities, leaders have grabbed power or been appointed, rather than elected. In other cities, elections may lead to sizeable shifts in the pendulum of leadership and governance. In still others, city councils are strong and leadership may be more collective and continuous, if at times less inspired, with mayors acting as chief executives of boards. This leads to a discussion of political and legal systems.

### **Political and Legal Systems: Institutional Strength, Decentralization, Coordination and Public-Private Collaboration**

Cities, like nations, can grow and prosper despite having weak institutions. Consider the rampant corruption of New York's Tammany Hall in the 19th and earlier part of the 20th century. Monterrey and Cebu also suffer from weak political and legal systems as they grow and develop. But that can only continue for so long, usually in a catch-up phase of growth. Fragile institutions eventually become a drag on a city's competitiveness, and even endanger previous gains. In Monterrey, this concerns corruption, lack of transparency and lack of public trust. With no legal and policy framework for a coherent strategy across different municipalities, a crying need exists for *coordinated* solutions that bring together the public sector, business, NGOs and universities. Cebu's institutional challenges are not dissimilar.

Singapore is an excellent counter-example of strong institutions that have been continuously replenished during successive phases of its growth. One of Lee Kuan Yew's

greatest legacies has been to build institutions that can outlive him to serve future generations of Singaporeans. However, Singapore, now one of a handful of truly global cities, faces new and complex challenges. Its institutions have to adapt politically, economically and socially – to face the rising expectations of a mostly affluent, middle-class society; to cope with rising inequality; and to accommodate a more plural, contestable political space.

Dubai, another global city, has grown exponentially in what was, only a few decades ago, a purely feudal system of government. Power remains centralized in the ruler and the royal family, and translates into the state's extensive role in city affairs. But Dubai's institutions will have to adapt, because the logic of a sophisticated global city demands more independent institutions with checks and balances, transparency and accountability.

To summarize: **strong institutions** – including clean and efficient government and public services, the rule of law, impartial enforcement of property rights and contracts – are a major part of city competitiveness. Preferably, a strong focus on institution-building needs to be made at the outset, although in some circumstances cities can enjoy catch-up growth for some time, even with weak institutions. Eventually, robust institutions matter much more to safeguarding and sustaining progress, usually at middle-income levels of development.

Many of the case studies display the advantages of **decentralizing** decision-making powers to the municipal level. Devolution in post-Franco Spain enabled Bilbao and the Basque Country to put their vision into practice. Ningbo has taken full advantage of its provincial status, reporting directly to the central government rather than to Zhejiang Province. On the other hand, this has created coordination problems with the province. Busan is also a self-governing metropolitan authority, and Penang is a state in Malaysia's federation. Dubai is subject to the UAE's federal laws, but it has its own system of laws and courts that has full autonomy in several policy areas. Singapore has the luxury of being a city and a nation at the same time, exercising national as well as municipal powers. Nearly all other cities have little or no input on policy, be it, for example, at the national macroeconomic (monetary, fiscal and financial) or foreign economic (external trade, foreign direct investment and migration) level.

Decentralization has its advantages, but lack of **coordination** has its disadvantages. Monterrey and Chicagoland are cases in point. Overlapping powers and lack of coordination among different jurisdictions create transport bottlenecks and skills mismatches. The Chicagoland Chamber of Commerce is trying to remedy this by bringing together different state, city and local bodies.

However, Bilbao is a positive example of successful coordination between the city and its surrounding Basque Country region. They form a cohesive "city-region". Chicagoland, Monterrey-Neuvo León, Ningbo-Zhejiang and Zhuhai-Greater Pearl River Delta are just a few examples of other city-regions in the sample. While they have varying degrees and contrasting records of city-region coordination, they illustrate how important it is.

Strong **public-private collaboration** is highlighted in several of the case studies. Bilbao and the Basque Country's public strategy benefited from private-sector input, and even more so from private-sector collaboration in policy implementation, notably in infrastructure projects. Public-private partnerships have played a major role in Guadalajara's ascent to become Mexico's high-tech hub. They have been central to Medellín's transformative policies since 2004. In Wrocław, they have been particularly strong in ICT, biotechnology and nanotechnology.

In summary, decentralizing power to municipal authorities is generally positive, but that often still leaves coordination problems among municipal, provincial (state) and national authorities. Coordination within a city-region is especially important. Finally, the case studies show several examples of successful public-private collaboration.

### **Windows of Opportunity: Taking Advantage of Crises and Creating Turning Points**

The *timing* of reforms is often critical. Major episodes of policy reform usually take place in an atmosphere of crisis – either political or economic, or both at the same time. Leszek Balcerowicz, the architect of Poland's "economic miracle", says a crisis has the effect of suspending "normal politics" and presenting a "window of opportunity" to push through a critical mass of large reforms. That establishes a bridgehead to further, incremental reforms when the crisis is over and normal interest-group politics resumes. While Balcerowicz was thinking of nations, the same lesson applies to cities, with three examples standing out.

In Singapore, Lee Kuan Yew and his senior ministers took full advantage of the city state's crisis during the mid- to late 1960s. Using the rhetoric of survival, Lee and his colleagues pushed through several critical reforms, leading to very high rates of growth over the next three decades. The government established "growth legitimacy" with Singaporeans, ensuring their support for reforms.

Surat also stands out. In 1995, it hit rock bottom when flooding combined with a decrepit sewage system caused an outbreak of the plague. Fear and panic ensued, but this was the opportunity to appoint S.R. Rao as the city's chief executive. He pushed through crucial administrative and policy reforms that turned the city around and led to expansion.

The third example, Detroit, comes with a huge question mark. At the time of this report's writing, the city is in crisis: it is the largest municipal bankruptcy in US history. With its back currently against the wall, Detroit has a once-in-a-generation opportunity – perhaps the last – to turn itself around. The State of Michigan's governor has appointed a new city manager with extraordinary powers, and a new mayor has taken office. Moreover, a new city plan exists to clean up its finances and tackle legacy costs, among other things. Will Detroit really take advantage of this opportunity?

## **2. Policies and Regulation of the Business Environment (What to Reform)**

### **Getting the Basics Right: Simplicity, Transparency, Predictability**

"Getting the basics right" is the primary lesson for good public policy – for a regulatory environment that maximizes competitiveness. Once again, this applies to cities as well as nations. But what does this lesson mean? The focus is on three aspects of economic policy: fiscal policy, regulations for doing business, and foreign economic policy.

From the 1960s to the present, Singapore has provided some of the best examples of getting the basics right. Stable and prudent macroeconomic policies, efficient and simple taxation, a flexible labour market, openness to trade and foreign direct investment, simple and transparent domestic business regulation, a safety net that protects the most vulnerable – these are all parts of a long-standing policy mix.

One of the main takeaways from the Singapore story is that getting the basics right is fundamentally about *simplicity*. Really good policy is about keeping it simple for producers, consumers and citizens. Simplicity is also the best form of *transparency* and *predictability*. Often, complex policies – all sorts of specific measures on a myriad of matters, tax breaks here and subsidies there, discriminating in favour of company A at the expense of company B – are a recipe for bureaucratic overreach, incompetence, corruption, low productivity and low growth.

The sample of case studies has several other instances of getting the basics right. The US-city success stories show the benefits of cutting red tape, keeping corporate taxes low, attracting foreign direct investment and upgrading infrastructure. This has enabled the cities to escape post-industrial decline and specialize in high-value niches: Chattanooga in automobile manufacturing and internet-based start-ups, Pittsburgh in advanced materials, St Louis in high-tech industries and Oklahoma City in energy-related manufacturing and services. Manisa's business-friendly industrial zones have enabled it to diversify into agricultural, industrial and service niches. Ahmedabad has taken full advantage of both India's market reforms since the early 1990s and Gujarat's rapid development under Narendra Modi, the current Prime Minister of India. It has built on its long history in commerce, industry and international trade to expand in textiles, pharmaceuticals and automobile manufacturing.

But plenty examples of "getting the basics wrong" can be cited. Detroit again comes to mind, with its legacy costs, complex tax code, exceedingly powerful unions and labyrinthine permitting regulations. Lagos is a stark case of metropolitan failure in the developing world, with its corruption, power outages, rapid rural-to-urban migration, and poor healthcare, education, water and transport services.

## Foreign Economic Policy: Urbanization and Globalization, Hand-in-Hand

One of this report's highlights is the globalization of cities. Being as open as possible to and integrating with the world -- through trade, finance, foreign direct investment, tourism and the attraction of foreign talent -- are vital for city competitiveness. This is the fast track to getting embedded in regional production networks and global value chains.

Besides Hong Kong SAR, Singapore is the world's other free-trading city state. External openness has been critical to Singapore's success in every phase of its post-independence development -- from attracting MNC-investment for cheap-labour assembly operations to higher-value electronics production, diversification into pharmaceuticals, assorted services and high-value niche manufacturing, and now to becoming a global-city-hub for finance, regional HQ operations for MNCs, education and other services.

Also standing out is Dubai, which is subject to the UAE's relatively low federal restrictions on imports and inward investment. But it has created a sort of "mini Singapore" with its free zones. The latter have duty-free treatment, up to 100% foreign ownership, no foreign-exchange restrictions, full repatriation of capital and profits, zero corporate and income tax, simple licensing procedures and ready-made infrastructure. Note that 95% of Dubai's population is foreign.

The sample of case studies contains several other cities that have excelled in attracting foreign direct investment (e.g. Manisa, to diversify its economy). Ahmedabad and Hyderabad have done so in automobile manufacturing and IT services, respectively. Ningbo has exploited its history (as a trading port with widespread overseas links) and location (in the Yangtze River Delta, close to Shanghai and Hangzhou) to attract large-scale FDI. Its challenge is to attract higher-value FDI, going beyond assembly operations for export, and to diversify into services. The other three Chinese cities covered -- Zhuhai, Changsha and Guilin -- face a similar challenge. This demands a "decisive" shift to the market, to use the language of the Chinese Communist Party's third plenum in November 2013 -- privatizing state-owned enterprises, deregulating service sectors, simplifying licensing regulations, easing restrictions on land use and on labour movement, strengthening private property rights, welcoming private-sector participation in infrastructure projects and opening up further to FDI. These are all policies that should be easier to experiment with at the municipal level before they are rolled out nationally.

Cities need their own foreign economic policies -- they should not simply leave them to national governments. As a city state, Singapore (like Hong Kong SAR) is exceptional in conducting its own foreign economic policies; other cities covered in the report, with the partial exception of Dubai, are constrained by policies set at the national level. To become global players, however, they should still use what leeway they have to the maximum degree.

## Spatial Neutrality: Cities Don't Need Handouts, but Don't Discriminate Against Them

This might seem like an obvious point, but it is often honoured in the breach. People are flocking to cities, so they do not need government subsidies that favour cities over suburban and rural areas. But *national* policies are often skewed in favour of the latter; examples include agricultural subsidies, petrol subsidies that favour long-distance car driving, and mortgage-interest tax deductions that favour large suburban homes over rental apartments in city centres. While we recognize that cities do need a well-developed hinterland to thrive, these policy distortions retard urbanization and the benefits it brings.

### 3. Hard Connectivity

#### Urban Planning and Organic Growth: Complements, Not Substitutes

Public authorities have to play a leading role in establishing a city's core physical infrastructure -- its "hard connectivity". That is at the heart of urban planning. But there is a divide in urban planning: at one extreme is the planner's tendency to "overplan" (Brasilia and Chandigarh are two examples); at the other extreme are those favouring totally decentralized market solutions -- organic growth that can result in an underplanned mess.

Cities need a mix of planning and organic growth. The borough of Manhattan in New York City is an excellent example. Its famous street grid, drawn up in 1811, established general rights of way -- roads, public transport, water and sewage systems -- as well as public spaces such as parks and squares. The city authority must own these rights of way and find a way to pay for core infrastructure. But the rest of the city's (expanding) space was allowed to grow organically. The grid made "room for expansion", according to Solly Angel at New York University's (NYU) Urban Expansion initiative. It is a great model for new emerging-market cities facing fast-paced urbanization.

Many cities in both rich and poor countries have **hard-connectivity gaps**. The largest gaps are in cities in poor countries -- Lagos; Jakarta (Indonesia); Dhaka (Bangladesh); Karachi (Pakistan); and Cairo, among many others. They urgently need low-cost housing, clean streets, rapid transit systems, reliable electricity, reliable and clean water supplies, and good waste management. MGI estimates that annual infrastructure spending will have to increase to \$20 trillion by 2025 to cope with urbanization trends. Without this ramping-up of infrastructure, cities will hit barriers to sustainable growth and be stuck with sprawl, congestion, pollution and inadequate public services. This is true of cities across Asia, the Middle East, Africa and Latin America. Even Santiago and Monterrey, two of the most advanced and competitive cities in Latin America, suffer from traffic congestion and inadequate public transport. Surat, one of India's most competitive cities, still has glaring hard-connectivity gaps.

Chinese cities have hugely improved their hard connectivity very quickly. Ningbo has invested massively in its port, the third largest in China, and in port logistics. Guilin has expanded its airports and is extremely well connected to other Chinese cities by rail, including high-speed rail. Zhuhai will soon be connected to Hong Kong SAR and Macau by a triangular bridge. The other side of the coin, however, is China's tendency to overplan its cities. Planning at the expense of organic growth has robbed many Chinese cities of their distinctive character and look. As a result of frenzied state-directed overinvestment, some cities have ended up as ghost towns with few inhabitants, such as Ordos in Inner Mongolia. As Jane Jacobs has pointed out, cities must have a soul. They need neighbourhoods, outdoor life and places where people can cluster together.

### Urban Density: Building Tall versus Building Sprawl

Edward Glaeser, one of the world's leading urban economists, argues strongly for urban *density*. Concentrated building in city centres is good for business and innovation, for the arts and culture, and generally for urban living; it is also environmentally friendly. Suburban and rural living, in contrast, is environmentally less friendly because people have to drive cars more and thereby emit more carbon per person. These are powerful arguments for urban density and against urban sprawl. Hence, Glaeser argues for radically reducing height and land-use restrictions in city centres.

Hong Kong SAR and Singapore are great examples of urban density and tall buildings, knitted together with first-class roads and public transport, and dotted with vibrant street life and green spaces. Downtown building expansion has played a big part in Chicago's renaissance. Mumbai is a glaring counter-example of very bad urban planning: land-use and height restrictions have inflated housing prices, expanded slums and increased congestion, sprawl and corruption. In 30 years, Monterrey doubled its population but increased its urban area fivefold. Chinese cities, with much better hard connectivity, could also do with reducing land-use and labour-movement restrictions to reduce sprawl and promote urban density.

### Intelligent Choices in Infrastructure: From Transport to Global Value Chains

The case studies have many best practices in hard connectivity. With its good public transport, Ahmedabad is an exception among Indian cities. Singapore's electronic road-pricing system in the downtown area helps to ensure smooth traffic flow. Outside the sample, Hong Kong SAR has possibly the best public transport system in the world, including a very good network of buses and a superb mass transit railway (MTR) that is both super-efficient and profitable. This MTR is corporatized; the government is the leading shareholder but management is autonomous. While government provides the land for the MTR to develop subway stations and track, the MTR builds and leases out condos, office blocks and malls around and on top of the subway stations, which pays for its transport services and makes an additional profit. This is being used as a model; in fact, the HK MTR now runs subway systems in other cities, including London and Beijing.

Other best-practice examples concern direct links to global value chains. Busan has made a huge investment in its port and port logistics, and is now a transshipment hub and magnet for global shipping companies. To reduce dependence on water imports from Malaysia, Singapore has developed advanced water treatment, making it a world leader in water technology.

Many city competitiveness metrics include hard-connectivity data on transport, communications and energy. This helps to understand how hard connectivity leads to productivity and to a city's insertion into global value chains. Less well understood is the interaction between hard connectivity and soft connectivity, the subject now covered.

## 4. Soft Connectivity

### Soft Connectivity: Vital for Cities in the 21st-Century Knowledge Economy

In the industrial age, the hard connectivity of canals, ports, roads, railroads, cold chains, transport hubs and choke points transformed cities like Manchester (United Kingdom), Detroit, Chicago and Buenos Aires into the economic powerhouses of their day. Hard connectivity is still important, but in the knowledge economy of the 21st century, soft connectivity is equally so.

As the city's social capital, soft connectivity refers to the knowledge, connections and relationships that enable people to be productive and cities to prosper. Even more broadly, it concerns the characteristics of an "open society": tolerance, freedom of expression and cosmopolitanism. This is the "seedbed" for ideas, entrepreneurship, innovation and growth.

But often, the line gets blurred between hard and soft connectivity. When hard connectivity is intelligently and imaginatively planned, results in soft connectivity can follow. In Chattanooga, a visionary energy company decided to make incremental investments to provide abundant bandwidth and fast internet connection to households. Curitiba and Medellin provided hard-infrastructure investments for inclusive transport systems that, in turn, supplied readier access to job locations for low-income communities. Gothenburg (Sweden) redeveloped its waterfront from industrial shells to knowledge and service hubs, with a pleasant water-taxi service along the river. Indeed, rivers that were transport arteries for goods in the industrial age have become the setting for "liveable spaces" for tourists and knowledge workers in the post-industrial age.

### Education: The Ultimate Soft Connectivity

It is not coincidental that Boston, with the highest density of universities and students in the United States, also has knowledge-intensive industries such as life sciences, finance, consulting and IT; the city seems able to constantly reinvent itself. The Indian cities of Bangalore, Hyderabad and Ahmedabad have benefited enormously from their world-class institutes of technology and management. And yet, the link between world-class education and competitiveness

is not direct or automatic. Even best-in-class universities cannot carry the burden of city competitiveness alone. Caltech (USA), a science and engineering research and education institution, alone has not transformed Pasadena, although several engineering companies and at least one innovation incubator call this suburb of Los Angeles home. And, Johns Hopkins University (USA) alone cannot resurrect the city of Baltimore.

Successful cases of post-industrial renewal, such as Boston, Pittsburgh, St Louis and Gothenburg, seem to stress education and connectedness in strongly linking their educational institutions to the wider city and the wider world. Even the unique city of Medina is trying to connect thought leaders around the world to its Knowledge Economic City. Singapore's focus on education has paid dividends, bringing it from a per-capita average of only three years' schooling in the 1960s to its high graduation rates and test scores in recent years. It emphasized primary and secondary education in previous phases of catch-up growth, and since the 1990s has also concentrated on tertiary education, with a significant expansion of universities, polytechnics and technical institutes. Monterrey's historically strong focus on high-quality private and public academic institutions has been essential for its competitiveness. Santiago, on the other hand, flashes a warning signal: while it may be one of Latin America's most competitive cities, it could face a drag on its future competitiveness from a perceived lack of access to affordable, good-quality education.

### **Soft Connectivity: Through Digital Infrastructure and Connectedness**

Soft connectivity also refers to an environment of *connectedness* for citizens and entrepreneurs. It concerns the ability of citizens to connect with their local governments, express their opinions, get access to services and feel connected to their communities. In addition, it concerns the ability of entrepreneurs to connect with each other and to a wider innovative system. New technology can and does emancipate and empower individuals as producers, consumers and citizens. It enables connectedness and is an important driver of an open society.

Ultimately, technology (and, more broadly, soft connectivity) needs to translate into increased productivity and better living for people. In an increasing number of cities, populations live in an environment of mobile communications and cloud computing. Computing is turning ubiquitous, and digital experiences span devices. Billions of sensors, screens and devices – in conference rooms, living rooms, cars, phones, parks and many other spaces – are forming a vast network and allowing for streams of data that simply disappear into daily life. This computing power will digitize nearly everything in society, and will derive insights from all of the data being generated by interactions among people, and between people and machines. Soon, more than 3 billion people will have internet-connected devices – from a farmer in a remote part of the world with a smartphone, to a professional user with multiple devices powered by cloud-service-based apps spanning work and life.

In this world, soft connectivity will be increasingly centred in human-computing interfaces that empower individuals and take full advantage of hard connectivity when planned properly. This has the power to significantly increase the productivity of people and organizations. Cities need to think

hard about deploying the *digital infrastructure* to support this process. They need to strike the right balance between using data to create intelligent personal experiences and maintaining security and privacy. And, they should think of every citizen as a potential “dual user” of city services – people who use technology for their work but also use it intensively in their personal lives. Increasingly, all of these experiences will become more interconnected. For example, today an “assistant” application on a smartphone merges data from highway sensors and a personal calendar to remind users to leave work and arrive at their children's sports games on time. In the future, soft connectivity like this will be even more intelligent, as digital personal assistants take notes, provide real time assistance on traffic and public safety scenarios, and even help to book a family vacation.

The city case studies provide plenty of examples of applying new technology to city services. For example, Bilbao was among the first European cities to develop a smart city concept. Dubai has a smart city plan with six pillars and 100 initiatives. Buenos Aires has launched its *ciudad moderna* (modern city) plan to use technology to improve government services for the public and for SMEs, though it still has a long way to go to reform institutions and improve hard connectivity.

### **Soft Connectivity: For Liveable Cities**

Vancouver (Canada) is renowned for having created a wonderful urban environment in a naturally beautiful setting with its narrow, tall buildings and abundant green space. Its quality of life and economic vibrancy, however, owe at least as much to the country's liberal immigration policy, which has enabled the city to attract educated, skilled and sometimes well-to-do immigrants from China and elsewhere.

As Vancouver shows, attracting talent through quality of life has become an important aspect of competitiveness for many high-income cities. In the United States, Portland (home to Nike) and the Seattle area (home to Microsoft, Amazon and Starbucks) are other North American examples. In Europe, Wroclaw and Leipzig have built on their heritage by investing heavily in the arts and culture to attract investors and talent. Busan in Asia is trying hard to add soft connectivity to its hard-connectivity strengths by, for example, sponsoring an international film festival. Singapore and Dubai, as global cities, appreciate that they have to expand and diversify their educational, cultural and recreational facilities to attract top global talent. Lee Kuan Yew's “City in a Garden” concept in Singapore, going back to the 1970s, emphasized “building tall” in order to maximize green space in a dense urban environment with limited available land.

Curitiba, an example of “planned liveability”, is often cited as having the highest quality of life in Brazil, and is one of the top cities on this score in Latin America. The city plan, designed by Jaime Lerner and colleagues 50 years ago, still inspires the city's development initiatives today. Barcelona combines an attractive location by the sea with its cultural legacy of Gaudi architecture, as well as urban-renewal initiatives such as “22@”, which refers to the postal code of a former blue-collar, run-down neighbourhood now being transformed into a hotspot for innovation.

## Soft Connectivity: Its Failures Are Also Instructive

Chandigarh is an example of initially good hard connectivity that has not led to soft connectivity, especially in education and skills upgrading. Surat, a much more successful city, still has big soft-connectivity gaps. Lagos is a more extreme example, where neither hard nor soft infrastructure has been able to accommodate a booming population. Finally, Chicagoland is now struggling to retain talent and to coordinate across many overlapping government jurisdictions.

## Summary

Four observations are made in conclusion. The *first*, from Jane Jacobs, is that successful cities are those that are flexible and adapt quickly to changing conditions. They must find their niches, but they have to be open and diverse enough to avoid the single-industry legacy and monocultural decline that has befallen Detroit and many other cities.

*Second*, while it is hoped that city leaders will draw useful lessons from each component of the four-part taxonomy, they should not think of them in isolation. Rather, the interaction of all four parts is important. The planning of new digital infrastructure, for instance – an essential part of soft connectivity – has fundamental implications for hard connectivity, regulating the business environment, delivering public services and municipal decision-making.

The *third* observation is a differentiated one: the right mix of priorities requires tailoring to specific conditions and stages of city development. Some lessons from the case studies apply generally. Cities need leadership and vision. They should take advantage of decentralization, coordinate across jurisdictions where necessary and promote public-private collaboration. They need to gradually build up institutional strength; should look out for windows of opportunity to advance a critical mass of decisive reforms; and should get the basics of policy right on public finances, globalization and regulation of the business environment. Hard connectivity and elements of soft connectivity, especially education, skills and using new technology, are important. But, at the same time, priorities will have to differ based on different endowments, starting points and levels of development.

To begin with, the six megatrends identified in this report require differentiated levels of focus in different cities. That translates into a differentiated application of the taxonomy. The leading megatrend, urbanization, is closely related to levels of development, since it is and will remain overwhelmingly a phenomenon of developing countries. Generally, cities in the West have fairly stable populations. Many have to grapple with sluggish growth, ageing populations, unemployment, high levels of unfunded public debt and inner-city blight. Many emerging-market cities, on the other hand, are enjoying high catch-up growth or have that potential. Their populations are expanding fast, and their priorities are to expand life-chances for the poor and those who aspire to the middle class. Above all, they have to get the basics right. As these cities become richer – as many in emerging markets already have – they can think of building state-of-the-art university campuses, skyscrapers and museums, enlarging and beautifying green spaces and riverfronts, and otherwise improving urban quality of life. But it has to be recognized that such “Vancouverism” is not necessarily the right blueprint for most emerging-market cities in their present position.

A related contextual point is that cities have huge differences in their natural, institutional and policy endowments. Some have ready access to natural resources, but others do not. Some, like Singapore, Dubai and Ningbo as strategically located ports with long overseas trading histories, are the exception, not the rule. Singapore and Dubai are outstanding at governing their own affairs fully or to a very large extent. But other cities, to a much greater degree, are “policy-takers”. They are subject to national laws and policies – in some cases bad governance, profligate and unstable macroeconomic policies, external protectionism, regulatory red tape and poor infrastructure – that have a detrimental effect on their competitiveness. Thus, they must compensate by being maximally effective in areas they control directly.

The *fourth* and final observation is to bite the bullet and undertake radical reform when the opportunity arises. As history and the recent track record shows, when reform at the national level is difficult or impossible, it can be done at the municipal level. Urbanization trends in the 21st century enlarge these possibilities; Paul Romer, Professor of Economics at NYU, is thinking along these lines with his vision of “charter cities”. William Penn’s charter for Pennsylvania in the 17th century gave birth to a great new city, Philadelphia; and, centuries later, China’s market reforms started in Shenzhen, at one time a small fishing village and now a boom town of 7 million. Shenzhen and other cities in China’s first special economic zones set examples that soon spread across the country. In Romer’s ideal of “charter cities”, such a city’s charter or constitution would give individuals freedom of choice and movement. It is his way of affirming the hallmarks of the open society – tolerance, free expression, diversity and inclusiveness – that have enabled cities to flourish throughout history. In one sense, the essence of the idea is to experiment with rules and put reform on a fast track.

The time is opportune for a much stronger focus on the competitiveness of cities. The aim is for the analytical framework and global survey of cities herein to be of use to city leaders and others who wish to contribute to city competitiveness. The cities reviewed are so different, yet many of their successes, failures and challenges have things in common. It is hoped that readers will take this report not as the final word, but as a point of departure to create new strategies and policies relevant to the realities and complexities of cities around the world.

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## Endnotes

1. Landes, D.S. *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor*. New York: W.W. Norton, 1998.
2. Four of the five mini case studies of US cities – Chattanooga, Pittsburgh, Oklahoma City and St Louis – were written by Deborah L. Wince-Smith, President, Council on Competitiveness, USA, and President, Global Federation of Competitiveness Councils, with research assistance from Michael C. Anthony, Program Manager, Council on Competitiveness. Wince-Smith served as the first US Senate-confirmed Assistant Secretary for Technology Policy, Department of Commerce, USA, and as Assistant Director for International Affairs, the White House, USA. She is the Vice-Chair of the Global Agenda Council on Competitiveness.
3. This case study was written by Kevin X. Murphy, President and Chief Executive Officer, J.E. Austin Associates, USA, and President, Partners for Sustainable Development. Murphy is co-author of the World Bank guide *Clusters for Competitiveness*, an adviser to competitiveness initiatives in 15 countries, and a Member of the Global Agenda Council on Competitiveness.
4. This case study was written by Jose Antonio Torre Medina, Undersecretary for Competitiveness and Business Regulation, Ministry of Economy of Mexico (2011), and currently Director, Urbanism and Infrastructure, Monterrey Institute of Technology and Higher Education (ITESM), Mexico, in collaboration with Rogelio Cortes and Jorge Tadeo Lozano (both ITESM), and Leonardo Pineda from Universidad de Bogotá. He is a Member of the Global Agenda Council on Competitiveness.
5. This case study was written by Jose Antonio Torre Medina, Rogelio Cortes and Marcia Campos, Adviser for Government and Public Policy and Professor, EGADE Business School, Tecnológico de Monterrey, Mexico.
6. Centro de Investigación y Docencia Económicas (Economics Research and Teaching Center).
7. Instituto Mexicano para la Competitividad (Mexican Institute for Competitiveness).
8. This case study was written by Jose Antonio Torre Medina, in collaboration with Rogelio Cortes.
9. See: <http://www.worldcapitalinstitute.org/makciplatform/2013-curitiba-brasil>.
10. This case study was written by Stephanie Heier, Director, Emerging Markets, Microsoft Corporation, USA, and associates, with Orlando Ayala, Chairman, Emerging Markets, Microsoft Corporation, USA, a Member of the Global Agenda Council on Competitiveness.
11. Ibid.
12. This case study was written by Kevin X. Murphy.
13. This case study was written by Margareta Drzeniek Hanouz, Director and Lead Economist, Global Competitiveness and Benchmarking Network, World Economic Forum.
14. This case study was written by Arancha Gonzalez Laya, Executive Director, International Trade Centre (ITC), Geneva, the joint agency of the United Nations Conference on Trade and Development (UNCTAD) and the World Trade Organization (WTO), and Chief of Staff, WTO (2005-2013), where she helped establish the Aid for Trade initiative. She is a Member of the Global Agenda Council on Competitiveness.
15. This case study was prepared by the Economic Policy Research Foundation of Turkey (TEPAV).
16. This case study was written by Kevin X. Murphy.
17. This case study was written by Stephanie Heier and associates, with Orlando Ayala.
18. This case study was written by Kevin X. Murphy, on the basis of primary research and interviews with Nigerian and Lagos city leaders.
19. The mini case studies for Ahmedabad, Chandigarh and Hyderabad, India, were authored by Amit Kapoor, President

and Chief Executive Officer, India Council on Competitiveness, and Kevin Stolarick, Research Director, Martin Prosperity Institute of the Rotman School of Management, University of Toronto, Canada.

20. The case studies on Changsha, Guilin and Zhuhai were written by Stephanie Heier and associates, with Orlando Ayala.
21. The three case studies from Malaysia, Philippines and Republic of Korea (Penang, Cebu and Busan, respectively) were written by Janamitra Devan, Independent Adviser, Strategy and Leadership, USA. He is a Member of the Global Agenda Council on Competitiveness.
22. This case study was written by Ghassan Hasbani, Chief Executive Officer, Graycoats, Lebanon. He is a Member of the Global Agenda Council on Competitiveness.
23. This case study was written by Razeen Sally, Visiting Associate Professor, Lee Kuan Yew School of Public Policy, National University of Singapore, and Director, European Centre for International Political Economy, Brussels. He is also Chair of the Global Agenda Council on Competitiveness.
24. This case study was written by members of the Detroit Regional Chamber, USA (Sandy Baruah, President and Chief Executive Officer; Ben Erulkar, Vice-President; Angela Ladetto, Director; and Christyn Lucas, Analyst) and Thomas Gray, Urban Policy Analysis and Management, Graduate Student, The New School, USA.
25. This case study was written by Jon Azua, President and Chief Executive Officer, Enovatinglab, Spain, who was Deputy Prime Minister of the Basque Country (1991-1995), and Chief Executive Officer, Bilbao Stock Exchange (1988-1991). He held numerous leadership positions in Bilbao during the implementation of the competitiveness strategy described here, and is a Member of the Global Agenda Council on Competitiveness.
26. This case study was written by Jose Antonio Torre Medina and Rogelio Cortes, with the collaboration of Elvira Naranjo, Armando Villareal, Marcia Villasana and Marcia Campos, all at Tecnológico de Monterrey.
27. This case study was written by Gao Changlin, Deputy Director-General, Exchange, Development, and Service Center for Science and Technology (STTC), People's Republic of China. He is a Member of the Global Agenda Council on Competitiveness.
28. This case study was written by Reuben Abraham, Chief Executive Officer and Senior Fellow, Infrastructure Development Finance Company (IDFC) Institute, India. He is a Young Global Leader and a Member of the Global Agenda Council on Emerging Multinationals.





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World Economic Forum  
91–93 route de la Capite  
CH-1223 Cologny/Geneva  
Switzerland

Tel.: +41 (0) 22 869 1212  
Fax: +41 (0) 22 786 2744

[contact@weforum.org](mailto:contact@weforum.org)  
[www.weforum.org](http://www.weforum.org)