Introduction

Cities and urban centers have, for the past 30 years, been increasingly focused on the competitiveness of their economies, firms and labor in the context of a global economy that has become extraordinarily integrated and mutually dependent. In the Fourth Industrial Revolution (I-4), of Klaus Schwab and the World Economic Forum, technological advance is giving way to interconnectivity and communication among all of the system’s actors. This newly developing global economy imposes demands on each of the participating urban centers, if they wish to be active participating members. The key element in this economy is the labor force that it demands. These workers differ from their blue collar industrial predecessors in their education, specialized skills, mobility and demands relating to living amenities and lifestyles. They demand schools, public safety, good neighborhoods, recreation and cultural institutions, if only for their children. This has meant that cities must shape their urban spaces to accommodate these skilled workers, or they will move to a more congenial city, be it in another part of the country or to another country or continent – the world is literally at their feet.

It is also true that what the city has in terms of amenities, such as public health and recreation, must be sustainable in the longer term. Global warming is only the most obvious of the challenges they face: the vitality of neighborhoods, the quality of schools, recreation and cultural amenities must also be maintained into the future. Ongoing investments must be made in these institutions, as well as in infrastructure, including highways, rail and air travel facilities. Furthermore, cities feed off each other in terms of new approaches and new ideas that facilitate improvement in all of these areas.

Another more recent demand on competitive cities is the necessity of their being tolerant to workers from all countries, of all races, religions, sexual preferences, genders and ages. All of the truly competitive cities – in this new, I-4 – understanding of the term, must overcome long-lasting lack of tolerance, in one or more of the various ways of being intolerant and discriminatory.

For these elements of competitiveness to be worth pursuing, they must be sustainable in the long run. This is true for both the tangible aspects,
such as facilities, institutions and structures, as well as “softer” ones, including social and governance relations, and tolerance. All economic entities have mobility, to varying degrees, and if the situation in a city becomes less congenial or productive they will simply move elsewhere. Local leaders must always look a decade or two into the future to ascertain, as best they can, whether it is likely that their economy will retain and increase its desirability to the mobile labor, capital and firms that give it its strength today.

The authors of the chapters in this book were convinced that these issues were of sufficient importance that we should choose the interaction of these two themes for this book. We have always found stimulation in the interaction of scholars and researchers from across the world coming together for an intense analysis and discussion of whatever theme was thought to be of importance at that time. We believe that a broader readership in the several parts of the world we represent, as well as those we do not, will find this to be a stimulating and useful volume to have and to study.

While we wrote with our professional colleagues in mind, we are all university teachers and have written our chapters in such a way that they will be accessible to students, such as ours. Issues such as smart technology, inclusive growth, tolerance, branding, innovation, entrepreneurship and sustainable competitiveness are subjects that are currently being studied and discussed both by scholars and by students, as well as being implemented in policy in cities throughout the world.

While knowledge occasionally advances in great leaps, it is almost always the case that it advances with smaller steps. We are convinced that our volume of studies contributes in this latter model. We are convinced that our combination of the two subjects and the geographical variety in the presentations gives our book a character that distinguishes it from the many other books on these topics. We are convinced that it will make a contribution that will be recognized by readers throughout the world.

In Part I of the book, “The Sustainable City,” Leo van den Berg and Luis Carvalho (Chapter 1) conclude from their research that for the modern city, its competitiveness is dependent upon its social cohesion and its environmental quality. So the environmental, the social and the economic are interlocked in the competitive city in a structure that embraces government, universities, not-for-profits, the private sector and citizen groups. Additionally, the interaction between the project level and
the city level create a symbiotic relationship. This is revealed in their analysis of 24 cities in Europe, North and South America, Africa and Asia.

Sustainability and competitiveness now require new working spaces for creative workers; spaces that are examined by Diane-Gabrielle Tremblay and Arnaud Scaillerez (Chapter 2), using the city of Montreal for their analysis. This enhances collaboration, flexibility, improvisation and new possibilities for interaction. These workers now have the ability to rethink continually their specialization and their relationships with workers in related areas of creative activity. A co-working space facilitates the collaboration of independent workers, and frees them from traditional corporate structures, which are confining to many creative workers. It is just one more step to give these workers the opportunity to telecommute and to interact through increasing distances, and to create family and residential situations that are more congenial and productive.

In China, all of the problems of competitiveness and sustainability are exacerbated by demography. Shen Jianfa (Chapter 3) tells us that between 1982 and 2010, China’s urban population tripled, with the largest increase being due to temporary migrants from rural areas. These migrants have no permanent status and lack access to basic services such as housing, sanitation, water, schools and health care. They lack skills and are used in the most menial types of work; they are one of the principal problems for urban areas. The situation is magnified by the application of advanced technology such as artificial intelligence (AI), robots and Internet communication. To resolve this problem, Shen argues for a regional approach to planning that will combine improvement of the economic life in smaller cities and towns along with planning for sustainable urbanization. The Hong Kong community of Ma On Shan offers a guide to this approach to the future of China’s urban areas.

Australian Edward Blakely (Chapter 4) argues that the traditional elements of regional science focused on location and local assets, the comparative advantage of place of Christaller, and the competitive advantage approach have been supplanted, to a significant degree, by the concept of global innovative places. A truly innovative space is one that is inclusive of disadvantaged communities, and competitive spaces as suggested by Tremblay; creative entities need proximity, government must serve as a facilitator and utilize planning and financial levers in support, public–private partnerships are vital, and government also needs to facilitate data-driven solutions to pressing urban challenges.

In Korea, Hyun-Woo Kim and Gi-Chan Kim (Chapter 5) study the many natural disasters that have befallen Korea’s major cities. They study the resiliency of local disaster planning of seven of the largest cities and find...
that the planning varies dramatically in the degree to which the city has an effective plan in place. They evaluate the seven cities according to a set of four consequences: health/well-being, society/economy, environment/infrastructure and leadership/strategy, and 72 indicators, and find that, to varying degrees, the cities did not fully utilize residency principles in their planning. Unfortunately, leadership/strategy appears to be the least effectively implemented although Seoul does considerably better than the others. Seoul is the highest ranked in the second and fourth categories, Busan in the first, and Gwangju in the third. Resiliency enables the city to minimize damage from disasters and promotes sustainable planning and developments, hence cities must plan their policy responses to all categories of disaster in advance and be prepared to implement these measures at very short notice.

Part II of the book, “The Competitive City,” begins with a study by Cho Dong-Sung (Chapter 6) of one of Korea’s largest cities, Incheon. This city has just passed 3 million in population, its airport is regarded as one of the best in the world, and Songdo is a district that is considered to be a “smart city.” Incheon National University (INU) is one of the key elements in the strategy of the city for its future development. In addition to its current campus, INU plans to build a research campus, to support a curriculum that is based on biotechnology and its linkages to virtually all disciplines taught. The objective is to prepare students for the coming AI economy in which many traditional jobs will disappear. INU aims to be attractive to international students, with financial packages that make it a place they can consider; in part due to the expected decline in the number of Korean students. The city itself aspires to be the hub of north-east Asia, based on its transportation assets – the airport is ranked 8th in the world for passenger traffic and 2nd in international freight – the technology that is based on the Songdo smart city, and the biotechnology that is centered on INU.

Robert Huggins and Piers Thompson (Chapter 7) elaborate upon the importance of psychocultural behavior and economic competitiveness and development. Behavioral economics highlights the limitations of the rational-choice approach in explaining economic decision-making actions. In this approach they elaborate the role of individual and collective behavior and socio-spatial community culture in determining outcomes. This is far from being a static situation, since one set of personality patterns and behaviors that were eminently suitable for a blue collar manufacturing economy are quite inappropriate for the contemporary skill-based I-4 economy. In this transition from yesterday to tomorrow, a strong work ethic is still important; however, social cohesion is counterproductive as it leads to reduced openness to new ideas and
people. Places with high cultural diversity and extraverted individuals have relatively high levels of competitiveness. Tolerance is highlighted in the next contribution (Chapter 8).

This necessity of inclusion is amplified by Peter Karl Kresl’s (Chapter 8) observation that in the United States (US) the most competitive urban areas are linked to tolerance: tolerance of individuals of various religions, sexual preferences, ages, genders, races and national origins, as well as the homeless and the disabled. The increased competitiveness of cities in the US South and West is significantly linked to movements into historically intolerant places of skilled younger workers from centers of technology such as Boston, Pittsburgh, Seattle, Silicon Valley and San Diego, as well as from university centers such as Chicago, Minneapolis and Philadelphia. This has been exacerbated by development of the I-4 Economy of the World Economic Forum. Modern transportation and communication have opened these hitherto intolerant cities to these inflows of modernity and competitiveness in a sustainable way.

Cities can contribute to the mitigation of some of the world economy’s principal problems relative to degradation of the environment, through imposition of policies to safeguard the ecosystem, in the analysis of Shaleen Singhal and Meenakshi Kumar (Chapter 9). The traditional method of resource use involved extraction, making a product and then disposing of the waste and often, ultimately, the product itself – referred to as “take, make, dispose.” The result is inefficient resource utilization and production that leads to environmental degradation. Cities can participate in the creation of an economy that results in a more sustainable utilization of resources through energy management in all buildings, more effective waste management and recycling, more energy-efficient approaches to design and construction of buildings, facilities, and transportation equipment and systems. A nature-based economy is clearly needed as we enter the 21st century, in view of resource availability and the need to integrate all members of society in consumption of the products that are created with these resources. Solar and wind power and other renewable energy sources have been the first step in this effort. We now speak of “smart cities,” robotics and artificial intelligence as components in the creation of the economy that the world needs, and cities have a central role to play in its development.

We close this book with three chapters on aspects of cities and regions in Mexico. Jaime Sobrino (Chapter 10) examines Mexico’s evolution during the past half-century and links competitiveness with demographic change. One of the primary features of Mexican economic development during this period has been population deconcentration and economic decentralization. As is the case with many larger urban centers, Mexico
City has seen its periphery grow in relation to the city’s historic center; however, in the recent period Mexico City’s growth in relation to other categories of cities has been greater than during the earlier period. Furthermore, while national population growth between 1980 and 2015 was 70 percent, the country’s 15 urban agglomerations tripled their populations. Within Mexico, the greatest growth was in the Center region, with the North growing the least. Regional growth was clearly linked to the dynamism of the regions’ dominant industries: manufacturing exports in the North, automobiles and electronics in the West, and the slow-growing petroleum sector in the South. One of the striking features of this growth was the lack of effective local or regional planning activities on the part of the levels of government. Sobrino argues that this is a powerful requirement for Mexico and its regions and cities in the coming decades.

Clemente Ruiz Durán (Chapter 11) focuses on two major industries – automobile and pharmaceuticals, and two minor industries – pharmaceuticals and medical devices, and shows how the development of interaction in global production networks and global value chains (GVCs) has increased interaction between regions and cities and has led to positive complementarities with activity in nearby towns. Automotive production is concentrated along the US border and down the center of Mexico to Puebla. Electronics is located in Baja California and Chihuahua in the north and then in the center, principally in Jalisco, and the south of Mexico. Pharmaceuticals and medical devices are far less developed and are concentrated in the areas around Mexico City, to the east in Jalisco and along the US border. The challenge for smaller cities and regions is to insert themselves into GVCs in these industries and to develop growth in interactions among the larger cities.

Our final contributor, Isela Orihuela (Chapter 12) shows how urban competitiveness and sustainability are linked to urban planning and alliances. This is examined in a context in which a premium is placed on development of innovative industries during the two decades 1993–2013. Innovative industries are, of course, those that are dependent upon knowledge, learning and technology, with less reliance on traditional capital and labor. In Mexico, traditional manufacturing and innovative industry grew similarly during 1993–2008 but in the final period, 2008–2013, innovative industry stagnated. However, while innovative industry growth slowed in the largest cities, it experienced a substantial growth in smaller cities, especially those that are in proximity to larger cities that give access to an airport. Furthermore, the aeronautics industry develops city–university–enterprise networks, while other industries such as automotive goods tend to function more in isolation. Obviously the
spread effects throughout a region are greater in the former than in the latter industry. The innovative industries, such as the aeronautical industry, are most closely linked to their regional social, legal and environmental structures.

OVERVIEW

This is a wide-ranging set of contributions, but they all treat the policy options and experiences of cities and urban areas in East Asia, North America and Western Europe with regard to what is necessary for the successful functioning of these entities in the years to come. On the one hand, there is a set of soft issues, such as social cohesion, environmental quality, cultural diversity, tolerance, regional planning and alliances. On the other hand, there are hard elements, such as suitable working spaces, demography (including rural to urban, age distribution and deconcentration of population), innovative work spaces, smart cities, innovative industries, robots and communications.

Both soft and hard elements have roles to play, and the interaction between them is of great interest and importance. The wide array of cities that are included in these chapters afford the reader the opportunity to see how these elements are operative in cities of different structures, systems of governance and administration, aspirations, population sizes, histories and geographic locations. This is not a book that attempts to conclude that one city or one approach is superior, but rather considers how city leaders and social groups can intervene in a way that works for the longer-term benefit of the residents of that city. There is clearly no one objective goal or end, nor is there a single “best way.”