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大都市圈建设与城市化的未来:
世界与中国

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Metropolitan Circles Development and the Future of Urbanization:

The World and China

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Keynote Speech: Delivering High Quality Development among Metropolitan Circles
主题演讲：坚持高质量发展　提高大都市圈建设水平

Abstract

摘要

Globalisation and Metropolises

全球化与全球城市

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Saskia Sassen is the Robert S. Lynd Professor of Sociology and Member, The Committee on Global Thought, Columbia University. Her new book is *Expulsions: Brutality and Complexity in the Global Economy* (Harvard University Press 2014) now out in 15 languages. Recent books are *Territory, Authority, Rights: From Medieval to Global Assemblages* (Princeton University Press 2008), *A Sociology of Globalization* (W.W.Norton 2007), and the 4th fully updated edition of *Cities in a World Economy* (Sage 2012). Among older books are *The Global City* (Princeton University Press 1991/2001), and *Guests and Aliens* (New Press 1999). Her books are translated into over 20 languages. She is the recipient of diverse awards and mentions, including multiple doctor honoris causa, named lectures, and being selected as one of the top global thinkers on diverse lists. Most recently she was awarded the Principe de Asturias 2013 Prize in the Social Sciences and made a member of the Royal Academy of the Sciences of Netherland.

Governing Cities: Are There a Real Dilemma Between Centralization and Decentralization?

城市治理陷入集权与分权之间的两难局面？

Prof. Eugenio Guzman
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Governing Cities: Are There a Real Dilemma Between Centralization and Decentralization?

城市治理陷入集权与分权之间的两难局面？

Abstract

The geographic and demographic expansion of cities becomes a central issue on the debate of future economic and social welfare all over the world. Basic problems that go from pollution to political demands for housing and transport solutions have as main scenario cities.If today 55% of the population lives in urban areas it is expected that almost 70% will live in them in 2030. Moreover at least a 18% of this population will live in megacities (over 10 million) in 2030, today is around 12%.

So the debate of the mechanisms to cope with the coordination problem is a central issue, where the centralization-decentralization dichotomy takes a key role. Academics and policy makers long standing have being proposing centralized mechanisms for governing metropolitan areas, let say City Mayors, to undertake old and new emerging issues, however, this approach underestimates the importance of the very nature of certain problems that cities face and also city dynamics, which in some cases decentralized mechanisms are more efficient in combination with central ones to arrive to better solutions.

The present paper wants to focus in this debate and stress the fact that it is a false dilemma to follow one path or another (centralization or decentralization governance designs), taking into account the empirical evidence of the Chilean case, which shows a more complex reality.

摘要

城市用地扩张和人口增长已成为影响世界未来经济和社会福祉的核心问题。环境污染、住房和交通问题的政治需求都存在于城市中。如果今天有 55%的人口居住在城市，那么 2030 年的城市居住人口预计将高达 70%。此外，同年至少有 18%的人口将生活在一线城市中（超过 1000 万），而目前为 12 %。

因此，应对协调问题的机制是一个核心问题，其中集权-分权二分法起着关键的作用。长期以来，学术界和政策制定者一直在提议要把都市区集中机制化，以此处理好新旧问题。然而，这种方法低估了某些问题的本质以及城市动态的重要性。在某些情况下，分散机制与中央机制相结合更有效，由此得到更好的解决办法。

本文着重强调了这样的一个事实：智利的经验证据表明了一个更为复杂的现实：遵循一条或另一条道路（集权或分权治理设计）实际上是一种假两难推理。

Integrating Rural Villages into Metropolitan Circles—through Infrastructural Development and Innovation

通过基础设施建设与创新实现城乡一体化

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汉斯•道维勒教授

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Prof. Hans d' Orville, a German national, served until 31 December 2014 as Assistant Director-General for Strategic Planning of UNESCO, having also been designated in 2010 as Acting Deputy Director-General of the Organization. In 2015, he also was Special Advisor to the Director-General of UNESCO. As Assistant Director-General, his responsibilities included global strategic planning and policy development, establishment and management of biennial programme and budget documents, results-based budgeting, risk management, extra-budgetary resource mobilization and partnerships, least developed countries, institutes and centres under the auspices of UNESCO (category 2) and UN system-wide reform issues, including the post-2015 development agenda. He also chaired the Inter-sectoral Platform for a culture of peace and non-violence and the UNESCO/Nigeria Task Force. As a member of the senior management team, he represented the Director-General in meetings of the UN General Assembly, the Economic and Social Council and various UN system coordination bodies. Since January 2014, he was also directing the Secretariat for the Scientific Advisory Board of the UN Secretary-General, chaired by the UNESCO Director-General. He also was responsible for the organization of the annual International Jazz Day by UNESCO.

He further served as coordinator for UNESCO activities at the Aichi and Shanghai

World Expos. He also has created and directed several successful public-private partnership programmes, including in the areas of culture and development, the creative economy world report, creative cities and culture of peace. For 2013 he was appointed by UN Secretary -General Ban Ki-moon as a member of the Board of Governors of the United Nations System Staff College in Torino, Italy.

For 2011, he was elected as Chair of the Advisory Group at the Assistant Director-Generals level of the UN Development Group (UNDG) and subsequently served throughout 2012 until February 2013 as Vice-Chair of UNDG, presided by the Administrator of the UN Development Programme (UNDP), among others developing and negotiating a global scheme for the cost-sharing of the Resident Coordinator system among all UN agencies and preparing the Rio+20 Conference as well as the post-2015 development agenda.

Prior to joining UNESCO in 2000, Mrd'Orvillewas (1996-2000) Director of the Information Technologies for Development Programme in the Bureau for Development Policy of UNDP and helped present ICTs as a global policy challenge to the G-8 summit in 2000. In 1975 he had been selected through a competitive national examination for appointment to the United Nations Secretariat, where he has held various functions, among others Secretary of the UN Committee on Conferences, later on in UNDP, as Senior Officer in the Office of the UNDP Administrator with responsibility for UNDP's Governing Council, technical cooperation among developing countries (South-South cooperation) and the UNDP Development Study Programme. Between 1987 and 1995, he was Executive Coordinator of the InterAction Council of former Heads of State and Government, chaired by former German Chancellor Helmut Schmidt and comprising more than 30 former world leaders – including Olusegun Obasanjo, Takeo Fukuda, Pierre Elliott Trudeau, Lord Callaghan, Miguel de la Madrid - which held annual summit meetings and engaged in lobbying for joint policy recommendations covering a broad range of political, economic and environmental issues.

Among his many professional affiliations, Mr. d'Orville was a Member/Co-founder of the Africa Leadership Forum, Ota, Ogun State – Nigeria, led by Olusegun Obasanjo and he served on its Executive Committee (1988-2007). He was Advisor to various Governments and bodies, including the President of the Federal Republic of Nigeria, the Independent Commission of Population and Quality of Life, the International Commission on Forests and Sustainable Development, the Organizing Committee for the Guangzhou Asian Games 2010, the Nishan Forum (since 2012) and the annual Eco-Forum Global (EFG) in Guiyang, Guizhou province (since 2009), with subsequent membership since 2014 on the EFG International Advisory Council, chaired by former Chinese State Councilor Dai Bingguo. In 2014, he was appointed as Honorary Professor at South China University of Technology, Guangzhou, China, and as a member of its Institute for Public Policy. In 2015 he was

appointed as Honorary Professor by Guangdong University of Foreign Studies and as Economic Advisor to the Governor of Guangdong Province, Zhu Xiaodan. He holds various advisory functions to the Beijing Industrial Design Center (BIDC), Shanghai, Nanjing and Hangzhou Municipalities as well as Jingdezhen University and the new International Center for Creativity and Sustainable Development (ICCSD), Beijing, a Center under the auspices of UNESCO. He also serves as Vice-Chairman of the Asia-Pacific Exchange & Cooperation Foundation, Beijing and is a Director of the Shenzhen-Qianhai MAH Global Cultural Network Co. Ltd..

In 2014, he was elected a Fellow of the World Academy of Arts and Sciences. He served as member of the board of various cultural associations, such as the International Advisory Council of the Global Initiative for Arts, Culture and Society of the Aspen Institute in Washington, D.C., United States and of the Friends of the German Pavilion at the Venice Biennale. He is a member of the German Association for Foreign Policy (Deutsche Gesellschaft fuer Auswaertige Politik), the Cercle de l'Union Interalliee in Paris, France, and the National Arts Club in New York.

A speaker at numerous international events and conferences since more than 35 years, he is also author and/or editor of a large number of publications and articles on the United Nations and UNESCO, global strategic and financial issues, African development and leadership issues, the (information) technology revolution and its impact, the dialogue among cultures and civilizations, the rapprochement of cultures, new humanism, creative cities, urbanization and sustainable development in the Rio+20 context and the post-2015 development agenda.

Born in 1949, he holds a Dr. rer. soc. (1976) and M.A.(1973) in economics from the University of Konstanz, Germany.

He has been awarded the distinction of Officer of the Order of Niger (OON) of the Federal Republic of Nigeria and of Commander's Cross of the Order of Merit (Grosses Verdienstkreuz) of the Federal Republic of Germany.

Integrating Rural Villages into Metropolitan Circles—through Infrastructural Development and Innovation
通过基础设施建设与创新实现城乡一体化

Abstract

Migration from rural areas to urban centers has rapidly increased and it is expected that by the year 2030 close to 75% of the world population will live in cities. The urban population of the developing world alone will triple over the next two generations. This will have a major impact on metropolitan circles.

The urban industrial centers built between the nineteenth and early twentieth centuries were products of great technological innovations in transport, trade, and communications and a new social division of labor. The same may happen in the present era, though with different features.

Population growth rates in developing countries have surpassed the abilities of their societies to equip cities with adequate infrastructure and provide the population with basic social services.

The latest global economic outlook points to an ongoing restructuring of the global urban system. In relation to sustainable development, the key concern lies in unlocking the transformative power of cities. Thanks to the economies of scale in metropolises, many cities in the developing world today - including even the megacities in the developed world - remain densely populated.

If left unmanaged, issues ranging from market failure, climate change, social inequality and the security dilemma to migration crisis could undermine the long-term sustainable development of global metropolises and their stability.

Be it domestic or cross-border migration into metropolises, it reflects a desire for higher income and better quality of life - essentially an inevitable outcome of market-based resource allocation. Metropolitan core cities tend to shape and promote the coordinated development between small and medium-sized cities in peripheral areas. The metropolitan circles formed around global mega-cities are the world's most densely populated and most dynamic regions as well as major sources of innovation and new technology.

The success of these metropolitan circles has propelled many more countries to build their own metropolitan circles as economic hubs in pursuit of the commanding heights of global competition. This is then often accompanied by a liberalization of city settlement permits, such as the Chinese hokous, for rural migrants.

Today, city cluster development has been set as a priority goal on the Chinese

government's agenda. China's proactive engagement with metropolitan circles development necessitates dialogue with countries and cities experienced in the field.

All Chinese national action complements the UN Agenda 2030 for Sustainable Development, with its 17 Sustainable Development Goals (SDGs) and 164 concrete targets. China is striving to unite the concept of eco-civilization development with that of UN's concept of sustainable development, making a significant contribution to the green and low-carbon development, circular economic development and the combat of climate change. China has thus become an important global torchbearer for sustainable development and eco-civilization. This translates into many dedicated areas of city and rural planning.

The notion of a green economy has entered the mainstream of policy discourse everywhere. China is in the forefront of countries embracing green growth concept. If China accomplishes such transition effectively it will significantly reduce global climate risks. Because its sheer size, China's decisions will matter for all countries. If China succeeds, it could offer a model for other emerging economies.

We are currently witnessing different turbulences which bring uncertainty and unpredictability to global policies. Today's shocks, such as food and water shortages, energy volatility, natural disasters and financial uncertainties, demonstrate that crises are becoming more complex in an increasingly fragmented, yet interdependent world.

There is a strong hope that the digital economy and the fourth industrial revolution can improve the ecological balance and kickstart a new cycle of globalization.

The overriding challenge will be to build sustainable cities with green and more inclusive growth trajectories, mobility and sustainable development globally.

The UN's New Urban Agenda is based and guided by certain interlinked principles – including the eradication of extreme poverty, the leveraging of sustainable and inclusive urban economies and environmental sustainability. Based on these principles, the new metropolitan circles will work towards an urban paradigm shift developing and implementing urban policies at the appropriate level including within local-national and multi-stakeholder partnerships,

While the specific circumstances of cities of all sizes, towns, and villages vary, the UN's New Urban Agenda is universal in scope, participatory, and people-centered.

How can we bring about a sustainable design of future cities, which shall be cities for growth, creativity, diversity and habitable living? The key issue will be whether it will be possible to bring about a transformation toward sustainable and resilient societies in metropolitan circles.

Today, cities are assembling a concentration of material, spiritual and cultural resources which attract people to urban areas in the hope and indeed quest for a better life and creative

and inspiring living. China is currently undergoing a historically unprecedented urbanization process. By 2035, nearly 70% of the Chinese population will live in urban areas.

However, urbanization at such a scale does not only generate positive outcomes. There is a long list of undesirable side effects: patterns of unsustainable development, overburdening and lack of infrastructure, emergence of slums, pollution and other environmental damage, disintegration of the social fabric. They pose enormous challenges for policy-makers and all stakeholders and call for new innovative solutions.

To this end, we must mobilise the wisdom and knowledge, expertise and experience, practice and theory, design and reality. Ultimately, this trend will give rise to a unique global network whose potential power and impact is enormous. The world must be able to cope with and overcome through new cooperative models the congested and unhealthy urban living patterns of today and provide avenues for a new sustainable future.

Cities – especially mega-cities – are unimaginable without culture and their innate creative forces – cultural history, cultural diversity and a dynamic range of cultural offers. Cities are struggling to provide agreeable living for an ever-increasing population, which drives a continuous urban development and innovation.

To achieve a balance between preservation and regeneration, between memory and perspective, it will require openness, wisdom and courage from each and every stakeholder.

Culture is an essential component of human and sustainable development and represents a source of identity, innovation and creativity for individuals and communities as well as a tool for reconciliation and social cohesion and, ultimately peace.

Only in human and culturally rich environments can intellectuals, artists, creators and innovators of all kinds realise their creative potential. This then is at the heart of the notion of creative cities and creative economies – the ever moving and constantly evolving elements of all its parts putting in place an enabling environment.

Today's focus must shift toward a recognition of the pivotal role of culture in all its facets. Promoting cultural diversity in cities establishes a real dynamic in amplifying positive outcomes of urbanization and simultaneously decreasing its negative side.

Cultural heritage shapes the identity of each city and its citizens. It is a significant contribution to its social and economic development, through cultural and creative industries, cultural tourism, cultural cooperation, as well as the fundamental role culture plays in more intangible dimensions.

The emergence of the eco-city concept and of the notion of sustainable cities adds an entirely new dimension to the challenge of urban regeneration.

Policies to protect environmental and cultural endowments in a rapidly urbanizing world are inadequate. The degradation of the urban environment limits the abilities of a growing,

shifting population to establish communities with adequate and decent housing. In the process, we may have to focus on other metaphors, such as ecological responsibility, eco-values, heritage protection, innovation and creativity.

To advance the metropolitan circles' development, we must foster awareness, knowledge and discussion of the world's most pressing economic and ecological issues and the potential of green growth strategies. Cities and stakeholders must be connected with each other and share technical expertise on best practices. Collectively we should identify creative communities and economies in China and other countries – and promote capacity-building and exchange of experience and expertise.

The quest for building green (and blue) economies and societies as well as sustainable eco-cities adds an entirely new dimension. It is only through innovation, education and knowledge that new – and green - jobs can be created and new technologies developed. Scientific and intellectual leadership will be key to creating the low-carbon (footprint), "green" economy of the 21st century.

摘要

随着农村迁移到城市人口的迅速增长，预计到 2030 年，世界人口的 75%将居住在城市。仅发展中国家的城市人口将在接下来两代人的时间里增加两倍，这将对大都市圈的发展产生重大影响。

19 世纪至 20 世纪初，城市工业的中心是交通、贸易、通讯、新型社会分工等重大技术创新的产物。尽管当今时代已与过去不可同日而语，但是过去的情景还有可能会再次发生。

发展中国家的人口增长率超过了其基础设施的建设能力以及公共服务的保障能力。

全球经济新周期正在推动全球城市体系发生重构，如何进一步释放城市的变革力量，更好地实现可持续发展，已经成为世界各国普遍关注的全球性议题。由于大城市强大的规模经济效应，时至今日，处于城市化进程中的发展中国家，甚至发达国家的特大城市都仍然在聚集更多的人口。

如果不对城市化加以规划或管理，公共服务短缺、气候变化、贫民窟和不平等加剧、安全环境恶化、国际移民激增等问题与挑战，也将破坏全球城市的长期可持续发展。

无论是国内还是国际迁移，人口向大城市集中，都体现的是人民对更高收入，更多就业机会和更好生活质量的向往，本质上是市场经济资源配置的必然结果。

一种强调以核心大城市辐射并带动周边中小城市协调发展的大都市圈建设的发展观念，愈加受到世界主要国家的重视。围绕全球特大城市形成世界上人口最稠密，最具活力的地区，也是创新和新技术的主要来源。

全球性特大城市为核心的都市圈，是各自国家人口最密集、经济最活跃、最富有竞争力的地区，也是世界新知识、新技术和新产品的主要创新源地集聚区。这些大都市圈的成功经验，正在激励很多国家相继推出本国的大都市圈建设规划，以此打造所在国家或地区经济发展的枢纽和参与全球竞争的制高点。这通常伴随着城市居住许可的约束力日益减弱。

在新的发展时代下，中国政府已经将“城市群发展”提高到了更加重要的战略高度。中国在大都市圈建设中的积极探索与实践，值得与世界其他国家和地区的先进经验展开对话。

中国政府颁布的国际行动计划可作为联合国《2030 年可持续发展议程》的补充，其中包括 17 个可持续发展目标（SDG)和 164 个具体目标。

中国正努力将生态文明发展理念和联合国可持续发展理念结合起来，为绿色低碳发展、循环经济发展和气候变化作出了重大贡献。因此，中国已经成为可持续发展与生态文明的领先大国。这在很多城乡规划中得到了体现。

绿色经济的概念已经成为世界各地政策话语的主流。作为倡导绿色发展理念的佼佼者，如果中国能有效地实现这一转型，将大大降低全球气候变暖的风险。由于中国领土的庞大，意味着它的决定对世界起着举足轻重的作用。如果中国成功的话，可为其他新兴经济体起到一个示范效应。

我们目前正处于一个动荡的时代，这给公共政策界带来了巨大的不确定性和不可预测性，如粮食与淡水短缺、能源波动、自然灾害以及金融不确定性等。

人们强烈希望数字经济和第四次工业革命能够改善生态平衡、推动“新全球化”。

首先是建立一座可持续发展城市，其具有绿色的和更具包容性增长的发展前景、流动性和全球可持续发展性。

联合国制定的《新城市议程》是以某些相互关联的原则为基础建立的， 其中包括消除极端贫困，利用可持续和具有包容性城市经济以及环境可持续性。基于这些原则，新建的都市圈将致力于实现城市范式的转变，在多层面制定和实施城市政策。

尽管世界各国城市、乡镇和村庄的情况各不相同，但都适用于联合国《新城市议程》，其具有一定的普适性。

我们如何才能实现未来城市的可持续设计，将这些城市打造成具有增长力、创造力、多样性和宜居生活的城市？关键问题是实现大都市圈可持续发展的转型。

城市聚集了大量的资源，是物质财富和精神资源的集散地，吸引着越来越多的人涌入，能到大城市居住成了人们梦寐以求的希望。中国目前正处于史无前例的城市化进程中。到 2035 年，近 70%的中国人口将居住在城市地区。

然而，大规模城市化可引起一连串的负面影响，如非可持续发展的行为、基础设施的缺乏、贫民窟的出现、环境污染以及社会结构的瓦解和动乱等。这些问题给决策者和所有利益相关者带来了巨大的挑战，他们呼吁创新解决方案。

为此，我们必须充分调动有专业知识和经验的专家，提出理论并加以实现。这将加速形成一个独特的全球合作网络。世界必须创造新的合作模式来应对当今拥挤和不健康的城市生活模式，并为其未来可持续性发展作准备。

如果城市缺乏一定的内在创造力，将难以持续发展。城市人口的不断增长显然推动了城市的可持续发展和创新。

为了在人口增长的同时，维护城市发展动态平衡，每个利益相关者需要时候保持开放的心态。

文化不仅是可持续发展的重要组成部分，也是创造力的源泉，甚至是化解社会矛盾，凝结社会力量的重要工具。

只有在文化丰富的环境中，知识分子、艺术家、创新者的创造潜能才能得到更大的发挥。这就是创意城市和创意经济概念的核心 。

当今研究的重点必须转向文化在各个方面的关键作用。促进城市文化多样性，以建立一种真正的动态平衡，这样不仅可使城市化的成果得到进一步扩大，同时还可以减少其负面影响。

文化遗产涉及城市文化的身份认同。文化和创意产业、文化旅游产业以及文化合作等为社会和经济发展做出了积极的贡献。

生态城市概念的出现和可持续城市的概念为城市复兴的挑战添加了一个新的维度。

随着世界城市化进程的不断深入，光靠保护资源环境和文化禀赋的政策是不够的。城市环境的恶化降低了流动人口的居住质量。因此，我们还必须着眼于生态责任、生态价值、遗产保护等隐形的资源，以防止城市环境的进一步恶化。

为了促进大都市圈的发展，我们必须加强对全球最紧迫的经济生态和社会问题以及绿色增长战略的研究和探讨。所有利益相关者必须团结起来，分享他们的实践经历。我们还应该共同促进中国与其他国家创意社区的交流。

寻求建立绿色经济、社会以及可持续智慧生态城市，为社会的发展添加了一个新的维度。只有通过创新、教育和知识，才能创造新型绿色岗位和技术。可以肯定，科学、智能的领导力将是创造 21 世纪低碳“绿色”经济的关键。

Integrating Rural Villages into Metropolitan Circles—through Infrastructural Development and Innovation

Some 100 years ago only 10 per cent of humanity lived in urban areas. In recent years, the migration from rural areas to urban centers has rapidly increased and it is expected that by the year 2030 close to 75% of the world population will live in cities. The urban population of the developing world alone will triple over the next two generations.

The urban industrial centers built between the nineteenth and early twentieth centuries were products of great technological innovations in transport, trade, and communications and a new social division of labor. The legacy of that era can still be experienced in the preserved districts of central cities, which feature period buildings, that is, markers of architectural styles, along with urban parks and cultural institutions.

Developing country cities experienced a later but intense process of industrialization and urbanization. There, population growth rates have surpassed the abilities of their societies to equip cities with adequate infrastructure and provide the population with basic social services.

In the centrally located old neighborhoods of cities in many countries, irreplaceable baroque and neoclassical architecture coexists with later industrial structures-warehouses, sheds, train stations, and terminals - juxtaposed with skyscrapers and office buildings of the modern city.

The latest global economic outlook points to an ongoing restructuring of the global urban system. An era of new metropolises is taking off. In relation to sustainable development, the key concern is how best to unlock the transformative power of cities. Thanks to the economies of scale in metropolises, many cities in the developing world today - including even the megacities in the developed world - remain densely populated. According to the World Cities Report 2016 released by UN-Habitat, the top 600 cities, which are home to almost one fifth of the world's population, make up 60 percent of global gross domestic product (GDP). Mega-cities with a population of over 10 million people have risen from 14 in 1995 to 28 in 2015, 22 of which were in Latin America, Asia, and Africa. The world's largest metropolitan circle, namely the Tokyo metropolitan area, continues to boom while remaining economically dense as the full-fledged mega-cities of London and Paris are successful in turning the tide on population decline. Hence, a new round of global urban expansion offers tremendous potential for economic development. However, if left unmanaged, issues ranging from market failure, climate change, social inequality and the security dilemma of the migration crisis could undermine the long-term sustainable development of global metropolises and their stability.

Be it domestic or cross-border migration into metropolises, it reflects a desire for higher income and better quality of life - essentially an inevitable outcome of market-based resource allocation. As a response to challenges associated with urbanization, the developmental concept that highlights metropolitan circles development is receiving widespread attention globally. It encourages metropolitan core cities to shape and promote the coordinated development between small and medium-sized cities in peripheral areas. The metropolitan circles formed around global mega-cities such as New York, Chicago, Tokyo, London, Paris, Shanghai or Guangzhou are the world's most densely populated and the economically most dynamic regions as well as major sources of innovation and new technologies.

The success of these metropolitan circles has propelled many more countries to build their own metropolitan circles as economic hubs in pursuit of the commanding heights of global competition. This is then often accompanied by a liberalization of city settlement permits, such as the Chinese hukous, for rural migrants.

Whether metropolitan circles can overcome the bottlenecks encountered in urbanization depends on finding practical solutions to urban diseases caused by over-concentration of population and resources while integrating various populations, industries and administrative functions with social life. This requires not only in-depth theoretical research, but also cooperation among countries.

Today, city cluster development has been set as a priority goal on the Chinese government's agenda. The Guangdong-Hong Kong-Macau Greater Bay Area (GHKMGBA) is yet another focus of China's regional development strategy, after the Beijing-Tianjin-Hebei Integration and the Yangtze River Economic Belt. This aims to break through inter-regional geographical, cultural, and political barriers as part of the development of a world-class bay-area based metropolitan circle.

China's proactive engagement with metropolitan circles development necessitates dialogue with countries and cities experienced in the field, in China and elsewhere. This IPP conference strives to enhance the theoretical understanding of metropolitan circles development and contribute wisdom to the enhancement of human welfare through knowledge sharing and mutual learning as well as infrastructural provision.

Let’s have a look at China and the metropolitan circle closest to home: the Greater Bay Area – pooling Hong Kong and Macau together with nine mainland cities to form an economic powerhouse aimed at rivalling Silicon Valley.

Cross-border infrastructure projects such as the Hong Kong-Zhuhai-Macau bridge have been built to international standards. HK has already spent HKD 10.7 billion on the project.

The Chinese Pavilion at the 2018 Venice Architecture Biennale will explore the future of rural development highlighting the country’s focus on “Building a Future Countryside.” The exhibition will present the development of countryside through six episodes: poetic dwellings,

local production, cultural practices, agricultural tourism, community reconstruction, and future exploration.

According to Li Xiangning, Curator of the Chinese Pavilion: "The motivation for this exhibition is more than just xiangchou, a Chinese term that refers to nostalgia for rural lands. We return to the countryside where Chinese culture originated to recover forgotten values and overlooked possibilities; from there, we will build a future countryside."

40 years after China's reform and economic opening up, the fundamental drivers for the creation of new growth engines, poles and opportunities – or indeed new metropolitan circles - for the world economy will be the Industrial Revolution 4.0 driven by digitalization, artificial intelligence and robotics.

The UN's New Urban Agenda shall be guided by the following interlinked principles, relevant in particular for the new metropolitan circles:

(a) Leave no one behind, by ending poverty in all its forms and dimensions, including the eradication of extreme poverty, by ensuring equal rights and opportunities, socio-economic and cultural diversity, integration in the urban space, enhancing livability, education, food security and nutrition, health and well-being; including promoting safety and eliminating discrimination and all forms of violence; ensuring public participation providing safe and equal access for all; and providing equal access for all to physical and social infrastructure and basic services as well as adequate and affordable housing.

(b) Sustainable and inclusive urban economies, by leveraging the agglomeration benefits of well-planned urbanization, high productivity, competitiveness, and innovation; promoting full and productive employment and decent work for all, ensuring decent and green job creation and equal access for all to economic and productive resources and opportunities; preventing land speculation; and promoting secure land tenure and managing urban shrinking where appropriate.

(c) Environmental sustainability, by promoting clean energy, sustainable use of land and resources in urban development as well as protecting ecosystems and biodiversity, including adopting healthy lifestyles in harmony with nature; promoting sustainable consumption and production patterns; building urban resilience; reducing disaster risks; and mitigating and adapting to climate change.

Based on these principles, the new metropolitan circles will work towards an urban paradigm shift that will:

(a) readdress the way we plan, finance, develop, govern, and manage cities and human settlements, recognizing sustainable urban and territorial development as essential to the achievement of sustainable development and prosperity for all;

(b) recognize the leading role of national governments, as appropriate, in the definition and implementation of inclusive and effective urban policies and legislation for sustainable

urban development, and the equally important contributions of sub-national and local governments, as well as civil society and other relevant stakeholders, in a transparent and accountable manner;

(c) adopt sustainable, people-centered, age- and gender-responsive and integrated approaches to urban and territorial development by implementing policies, strategies, capacity development, and actions at all levels, based on fundamental drivers of change including:

i. developing and implementing urban policies at the appropriate level including within local-national and multi-stakeholder partnerships, building integrated systems of cities and human settlements, promoting cooperation among all levels of government to enable them to achieve sustainable integrated urban development;

ii. strengthening urban governance, with sound institutions and mechanisms that empower and include urban stakeholders, as well as appropriate checks and balances, providing predictability and coherence in the urban development plans to enable social inclusion, sustained, inclusive, and sustainable economic growth and environmental protection;

iii. reinvigorating long-term and integrated urban and territorial planning and design in order to optimize the spatial dimension of the urban form and to deliver the positive outcomes of urbanization;

iv. supporting effective, innovative, and sustainable financing frameworks and instruments, enabling strengthened municipal finance and local fiscal systems in order to create, sustain, and share the value generated by sustainable urban development in an inclusive manner.

While the specific circumstances of cities of all sizes, towns, an\

d villages vary, the New Urban Agenda is universal in scope, participatory, and people-centered, protects the planet, and has a long-term vision, setting out priorities and actions at the global, regional, national, sub-national, and local levels that governments and other relevant stakeholders in every country can adopt based on their needs.

How can we bring about a sustainable design of future mega-cities, which shall be cities for growth, creativity, diversity and habitable living? The key issue will be whether it will be possible to bring about a transformation toward sustainable and resilient societies in metropolitan circles.

All national, sub-national, and local governments, as well as all relevant stakeholders, in line with national policies and legislation, shall engage to revitalize, strengthen, and create partnerships, enhance coordination and cooperation to effectively implement the New Urban Agenda

Today, cities are assembling a concentration of material, spiritual and cultural resources

which attract people to urban areas in the hope and indeed quest for a better life and creative and inspiring living. For its part, China is currently undergoing a historically unprecedented urbanization process across the country. Within a few decades, a rural exodus on a scale matching the country's speedy economic development has brought about the influx of hundreds of millions of people to the cities. By 2035, nearly 70% of the Chinese population will live in urban areas, which means over a billion city dwellers most of them in metropolises.

However, urbanization at such a scale does not only generate positive outcomes. Patterns of unsustainable development, overburdening and lack of infrastructure, emergence of slums, pollution and other environmental damage, disintegration of the social fabric...the list of undesired side effects is long. They pose enormous challenges for policy-makers and all stakeholders, as well as architects. Indeed, they call for new innovative solutions to make metropolitan circles sustainable and attractive.

This trend will give rise to a unique global network whose potential power and impact is enormous. The world must be able to cope with and overcome through new cooperative models the congested and unhealthy urban living patterns of today and provide avenues for a new sustainable future. Cities are cradles of cultural, social and economic activity, where the very diversity of interactions breeds and creates new initiatives, new ideas and new synergies. Cities – especially mega-cities - are unimaginable without culture and their innate creative forces. What is impressive is the ability of cities to retain tradition and blend it alongside advanced technology and innovation.

Hence, we need to define parameters for the future evolution of cities with technological dimensions on the one hand and strong culture and heritage dimensions on the other hand. Human and economic diversity represents the central factor for urban life and provides a launchpad for diverse architecture, innovation and design.

Cities are struggling to provide agreeable living and decent jobs for an ever-increasing population, which drives continuously urban development and innovation and vice versa. How can we reconcile the need for urban development with the imperative of preserving our cultural heritage and keep it attractive and not monotonous? We need to achieve a balance between preservation and regeneration, between memory and perspective, between productivity and sustainability.

Culture is an essential component of human and sustainable development and represents a source of identity, innovation and creativity for individuals and communities as well as a tool for reconciliation and social cohesion and, ultimately peace. Culture is pervasive in all our lives. We live in and with our culture; our thoughts and behaviour are conditioned by our culture, we eat according to our culture, our dresses reflect our culture, our musical and artistic preferences are conditioned by our culture and our living environment reflects many

dimensions of our culture. Our consumption patterns are conditioned by our culture and artistic expressions around us are generated by cultural traits and perceptions.

Only in human and culturally rich environments can intellectuals, artists, creators and innovators of all kinds realise their creative potential. This then is at the heart of the notion of creative cities and creative economies.

Today's focus must shift toward a recognition of the pivotal role of culture in all its facets – which is embodied not only in arts, buildings, monuments and landscapes, but also in museums, music, the performing arts, festivals, customs, films, poetry, publishing, design, the crafts.

Culture has proved to be a lubricant for city development besides political and social efforts. Culture is an essential component of human and sustainable development and represents a source of identity, innovation and creativity for individuals and communities. Cities breed and create new initiatives, new ideas and new collaborations.

A city without culture is a city without soul. The preservation and promotion of urban cultural heritage has thus become of particular challenge in the management of the development of metropolises and urban villages.

Cultural heritage is an irreplaceable treasure of a city, but it is also a responsibility for all – a responsibility to preserve, to regenerate and to revitalize this heritage. Regeneration is a natural process of cities.

As with development in general, no single urban model of reference fits all. Any city's future must be rooted in its individual identity. Its urban heritage is always a meaningful starting point for the elaboration of urban policies.

Culture is increasingly recognized as "soft power", nationally and on a world scale. Culture and intercultural engagement have the capacity to bring nations and peoples closer together and to foster their mutual understanding and cooperation. Complementing the economic, political and military dimensions, culture - together with education and the media - has become part of a holistic grand design for the world. The soft power approach denotes the dynamics, synergies and creative force of bringing together people from diverse cultural, linguistic and ethnic backgrounds and making them understand, respect and cooperate with each other for the attainment of higher goods: peace, harmony, sustainable development and prosperity.

Over and over again, cities have to be re-created as attractive and productive places where people will want to live and work and where they will enjoy leisure, cultural pursuits and entertainment. The emergence of the eco-city concept and of the notion of sustainable cities adds an entirely new dimension to the challenge of urban regeneration.

With the acceleration of urbanization, much of the cultural heritage is frequently lost or diluted. We are living in a world were urbanization becomes inextricably linked with

mounting environmental challenges and the daunting impact of climate change. The degradation of the urban environment limits the abilities of a growing, shifting population to establish communities with adequate and decent housing. The predicted increase in global mean surface temperature will give rise to manifold challenges, including public health problems, food supplies, carbon-free mass transportation, water shortages, resort to renewable energies, and housing. Hence the trend towards eco-cities, green economies and eco-civilization.

In the process, we may have to focus on other metaphors, such as ecological responsibility, eco-values, heritage protection, innovation and creativity. City planners must be able to handle density, to uphold the value of public spaces, to promote sustainability and brownfield regeneration and to provide a new attraction for public transport.

Green architecture must become an overriding philosophy and movement where design approaches to modernity and modern living are not merely an aesthetic exercise. They are henceforth an integral element of the soft power of a country and they will have to compete globally.

Today, the role of designers (town planners, architects, transportation planning professionals, engineers) is not just limited to designing towns and cities to build housing and direct traffic, they must also focus on inducing and supporting positive changes in lifestyles of people which must continue to be in sync with cultural traditions, habits and practices.

Sustainability will become a unique challenge for the practice of architecture, city construction and expansion. How can modern designs fit the multiple and diverse expectations of people undergoing migration, new education models and an individual desire for innovation and creativity. Sustainable construction is understood as “the creation and responsible management of a healthy built environment based on resource efficient and ecological principles”. Sustainably designed buildings aim to lessen their impact on our environment through energy and resource efficiency.

Green architecture needs to be concerned with long term environmental, economic and human consequences and costs.

The quest for building green economies and societies as well as sustainable eco-cities adds an entirely new dimension. It is only through innovation, education and knowledge that new – and green - jobs can be created and new technologies developed that will be critical to solving real-life problems. Scientific and intellectual leadership is the key to creating the low-carbon, “green” economy of the 21st century. We must avoid borrowing from the future to live well today.

Future of Urbanization and China's Urban-Rural Dualism

中国未来城镇化趋势与城乡格局

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Future of Urbanization and China's Urban-Rural Dualism
中国未来城镇化趋势与城乡格局

Abstract

China's urbanization has shown a trend of deceleration since 2011. The reasons for this are various. It is expected that by 2033, China's urbanization rate will reach about 70%; by 2050, China's urbanization rate will reach 80%, close to its "ceiling", and the growth and spatial pattern of urban-rural population will stablize. The key task ahead is to further improve the quality of urbanization and achieve quality urbanization. With the slowdown in urbanization, the speed of the transfer of agricultural labor force in China will gradually slow down in the future. In the meantime, China's urbanization will take on a multi-center, netlike spatial pattern based on urban agglomeration, gradually forming a hierarchical structure with three levels of urban agglomeration: international, national, and regional.

摘要

自 2011 年以来，中国城镇化已经呈现出减速的趋势，导致这种城镇化减速的原因是多方面的。预计到 2033 年，中国城镇化率将达到 70%左右；到 2050 年，中国城镇化率将达到 80%，接近城镇化率的“天花板”，城乡人口和空间格局将趋于稳定。今后的重点任务是全面提高城镇化质量，实现更高质量、更加健康的城镇化。随着城镇化的减速，未来中国农业劳动力转移的速度也将逐步减缓。同时，中国城镇化将呈现以城市群为主体的多中心网络状空间格局，逐步形成世界级、国家级和区域级三级城市群等级体系。

Panel II.

Metropolitan Circles Development in North America

美国的大都市圈发展

Moderator: Prof. Eugenio Guzman　　主持人：Eugenio Guzman 教授

Commentator: Prof. Clemente Ruiz Duran　　评论人：Clemente Ruiz Duran 教授

► **Land Redevelopment and Property Conversion in Urban Areas: Dynamics of the Built Environment in the Third Wave Metropolis**

Prof. Allen Scott
University of California, Los Angeles
土地再开发与第三阶段城市建筑环境
Allen Scott 教授　　加州大学洛杉矶分校

► **How Wide Is the Hudson River? The Effect of the State Border on the New York-New Jersey Metropolitan Region**

Prof. Brendan O' Flaherty
Columbia University
哈德逊河有多宽？州界对纽约与新泽西都市圈的影响
Brendan O'Flaherty 教授　　哥伦比亚大学

► **Current Conditions and Future Drivers of Mega-City Regions in U.S., focusing on the Los Angeles Metropolitan Area with a Comparison to China's Metropolitan Circles**

Prof. Hilda Blanco
Center for Sustainable Cities, University of Southern California
美国巨型城市区的现状及其发展潜力——以洛杉矶都市圈与中国都市圈作比较
Hilda Blanco 教授　　南加州大学可持续性城市研究中心

Land Redevelopment and Property Conversion in Urban Areas: Dynamics of the Built Environment in the Third Wave Metropolis

土地再开发与第三阶段城市建筑环境

Prof. Allen Scott
Allen Scott 教授

University of California, Los Angeles
加州大学洛杉矶分校

Allen Scott was born in Liverpool, England in 1938 and was raised in Carlisle. Allen graduated from St John's College, Oxford University in 1961. He holds a Ph.D. degree from Northwestern University (1965). He has taught at the University of Pennsylvania, University College London, Toronto University, University of Paris, University of Hong Kong, and since 1981 at the University of California, Los Angeles where he is distinguished professor with joint appointments in the Department of Public Policy and the Department of Geography.

For the last several years, his research has been focused on issues of industrialization, urbanization, and regional development. This research has involved extensive theoretical and empirical work. On the theoretical front, Dr. Scott has written numerous pieces on the interrelations between industrial organization, technology, local labor markets, and location, with particular reference to the phenomenon of agglomeration economies.

Most recently, he has been researching the origins and development of high-technology industry in Southern California, and the policy predicaments thrown into relief by the recent crisis of the region’s aerospace-defense industry in the post-Cold War era.

Land Redevelopment and Property Conversion in Urban Areas: Dynamics of the Built Environment in the Third Wave Metropolis
土地再开发与第三阶段城市建筑环境

Abstract

In this essay I seek to synthesize a number of different approaches to issues of urban land redevelopment and the built environment. The essay is focused primarily on the peculiar character of these phenomena in the current and third historical wave of capitalist development. I begin by identifying the economic logic of land-use change in general, with explicit reference to both commercial and residential property. I also indicate how, in recent decades, this logic has become intimately intertwined with global finance and how this state of affairs has introduced new elements of fluidity and risk into the built environment. I then deal at length with issues of urban policy and the role of municipal authorities in shaping urban land markets. I show how, in the current political climate, agencies of local government insistently pursue development projects in complex partnerships with representatives of the real-estate industry. In the penultimate section, I illustrate the overall argument by reference to three important trends in regard to land-redevelopment and the built environment in third-wave cities, namely, the economic and architectural renaissance of central business districts, the widespread gentrification of inner-city neighborhoods, and the emergence of a new postsuburban phase of peripheral urban expansion. The conclusion of the essay revisits basic issues of social and political conflict around changes in the built environment.

摘要

文采取综合办法解决城市土地开发与建成环境问题，主要探讨了这些现象在资本主义第三次浪潮中的特殊性。本文首先提供了一套关于土地利用变化的逻辑框架，尤其是提到了商业和住宅物业这两个方面。其次指出，近几十年来，这一套逻辑与世界金融的发展，以及随之产生的流动性及风险因素密切相关。最后，本文具体讨论了城市化和市政当局在塑造城市土地市场方面所存在的相关问题，展示了在当前的政治气候下，地方政府各机构如何与房地产行业的代表建立合作伙伴关系以及共同开展发展项目。本文倒数第二章节详细阐述了第三阶段城市土地再开发和建筑环境的三个重要趋势：1）中央商务区的经济和建筑的兴起；2）城内社区的高档化；3）城市郊区化的出现。本文的结论主要围绕着建成环境的变化，来深化我们对社会政治冲突的认识。

Land Redevelopment and the Built Environment in Third-Wave Cities: Review and Synthesis

Urban Land and Property in Question

This paper takes the form of an extended essay in which I seek to synthesize a number of different approaches to issues of land redevelopment and the built environment in contemporary cities. My objective is to bring several somewhat disparate strands of thought regarding these issues into juxtaposition with one another so as to shed fresh light on the ways in which they operate, their relations to the functional structure of the city, and how they are currently reshaping patterns of urban development.

A complex scientific and political question about the valuation, appropriation and use of urban land and property emerges endemically from cities in capitalist society (Roweis and Scott, 1978). Much of the substance of this question can be discerned within the notion of the urban land nexus or intra-urban space in its substantive character as a mass of functionally interdependent assets such as factories, offices, houses, shopping facilities, public buildings, infrastructures, and so on, arranged in conjoint spatial patterns around a common center of gravity (Scott, 1980; Scott and Storper, 2015). Complex processes of redevelopment, piloted by intermediaries like property companies, real-estate developers and governmental agencies, are constantly in evidence at the interface between this mass of urban *relata* and the wider socio-economic system (cf. Guy and Henneberry, 2002; Hackworth 2007; Topalov, 1974; Weber, 2015) though the broad character of these processes varies significantly from one historical wave or phase of capitalism to another. In the present paper, I am concerned for the most part with these matters in the context of the third and current historical wave of capitalism (with its primary foundations in the new cognitive-cultural economy) in contradistinction to a first wave based on the nineteenth-century factory and workshop system and a second wave in the twentieth-century focused on fordist mass production (Scott, 2017).

Many of the most striking transformations proceeding in the urban land nexus today derive both directly and indirectly from the overall logic of this third wave of capitalism (see also, Hutton 2008; Folmer and Kloosterman, 2017). Among these transformations, as I shall demonstrate below, are the functional and visual renascence of central business districts (cf. Fainstein, 2001; Kaika, 2010), the intensifying gentrification of low-income neighborhoods

in the inner city (Clark, 2005; Lees *at al.*, 2007; Scott, 2018), and the formation of extended polycentric post-suburban spaces (Hall and Pain, 2009; Keil, 2018). These and other recent changes in the urban built environment are in significant ways generated by the peculiar processes of land redevelopment and property conversion that have made their appearance as the third wave has begun to run its course. Local government organizations, too, have been subject to significant restructuring, notably by reason of the spirit of deregulation that has penetrated deeply into contemporary political life. These organizations are hence nowadays much given to an entrepreneurial mode of functioning that differs sharply from the more rigid keynesian-welfare statist orientation of local government in the fordist era (Harvey, 1989; Raco and de Souza, 2018). At the global level, tidal waves of liquid cash have been unleashed by corporate and governmental entities, and are being fed down to the urban level by means of contrived fiduciary instruments managed by financial and property-development interests (Aalbers, 2012; Halbert and Attuyer, 2016). Much of the current ferment in the urban land nexus can be traced directly to these huge infusions of liquidity into the built environment. Caught up in this maelstrom are the lives of ordinary citizens, some of whom benefit greatly from the new state of play but vast numbers of whom pay a heavy price both in terms of their entrapment in the lower reaches of the cognitive-cultural economy and in terms of the displacement and disruption to which they are subject as those in control of the land redevelopment sector pursue their own peculiar version of creative destruction.

Land and Property Investment Decisions

Investment decisions in urban land and property typically revolve around a complex combination of variables including location, land rent, built structures, the costs of any prospective rebuilding or renovation activities, and financial conditions in the economy at large. Investors will also usually want to assess the effects of prospective changes in the urban environment on the eventual resale price of any property that they take over. We now consider these matters by first dealing with the specific case of land dedicated to commercial pursuits and by then treating the slightly more complicated case of land used for residential purposes. The argument that follows is couched in informal and descriptive language, but a more rigorous treatment will be found in the Appendix, and the reader should turn to that section of the paper for a more detailed technical exposition.

Redevelopment for commercial purposes

We begin by building on some elementary ideas about investment in land that date back at least to the time Marshall (1890). The discussion is then partially elaborated by reference

to some ideas drawn from Von Thünen's theory of land use and land rent (Scott, 1976).

Consider a situation where some given parcel of land in the city can be significantly revalorized by means of judicious investment and redevelopment. Let us suppose that an independent development company acquires the parcel. The sale price to the company will consist of two basic quantities, namely, the present discounted value of all future rents that the land commands in its current state of development, and the depreciated value of any existing improvements (Munnneke, 1996; Rosenthal and Helsey, 1994). If the company engages in renovation or construction activities on the site, additional investment of money will be required, including charges for dismantling all or part of the existing structures. Obviously, the prospective resale price of the property after redevelopment must be such as to allow the company to recover at least the total acquisition cost plus all renovation or construction costs. The ability to earn a normal profit on resale is in and of itself sufficient to motivate the company to undertake the project. At the same time, redevelopment may also generate a surplus amount or rent over and above this profit, and any such surplus will be commandeered by the development company as (interim) owner of the parcel.

The surplus itself arises from changes, due to redevelopment, in the quantity of output produced on the land in relation to market prices together with changes in costs of production (see Appendix for details). More precisely, the surplus represents an increment to overall rent originating from the enhanced operational capacity of the parcel after redevelopment. Additionally, the surplus is equivalent to an opportunity cost on redevelopment, and this amount must be greater than or equal to zero before the company will proceed with the project. Redevelopment may also induce a material change of land use, but for the present we will take it that the same type of productive activity continues on the parcel after redevelopment as before. Two generic outcomes are now possible with respect to the use of the parcel. One of these can be designated as "land-use intensification," meaning that redevelopment leads to rising total production or revenue per unit land area. The other we shall refer to as "extensive land-use conversion," a special and – given the stringency of the conditions that render it feasible -- an almost certainly less common type of change characterized as it is by diminished total production or revenue per unit land area (see Appendix). Land-use intensification of any parcel can occur in combination with either falling or – up to a limit -- rising unit costs of production due to redevelopment. Extensive land-use conversion is feasible only where costs of production are falling, and even then, they must fall below a certain threshold level before redevelopment will be pursued. In theory, both types of land-use change can occur at any location in the city. Two main points must now be made.

First, redevelopment via land-use intensification is a common phenomenon across the

whole of the urban land nexus. Even the transformation of agricultural land into urban land is normally an exercise in land-use intensification. However, this type of land-use change typically appears in its most assertive forms at highly accessible locations such as the central city and associated satellite centers. Locations of these sorts already generate high rents per unit of output, which means that any increases in production will yield additional rents at the same high value. In short, any unit of increased output at these locations will earn a rent at the going rate and this will accordingly augment the rent per unit area. Provided that the costs of production can be kept from rising unduly as a result of redevelopment, there will thus be an especially strong incentive to redevelop these locations by expanding their production capacity (notably by means of increases in floor space and building height).

Second, profitable redevelopment by means of extensive land-use conversion can only be accomplished where production costs are sufficiently reduced to compensate for reduced output per unit area. Conditions like these are almost certainly less likely to occur in modern cities than those that encourage land-use intensification, but a hypothetical illustrative scenario might unfold where a property developer succeeds in assembling several individual parcels of low-rent land into a single unit of ownership. Economically viable conversion of the enlarged unit under conditions of reduced output and reduced operating costs might then be possible if the land is equipped with inexpensive single-story buildings, perhaps with substantial open areas for outdoor storage. To the extent that extensive land-use conversion can be observed within the urban land nexus, it is probably confined for the most part to fringe areas where rents are already relatively low and where existing densities of development are minimal so that the costs of conversion are likely to be not too onerous (see Appendix).

Once the intensive or extensive redevelopment of any given parcel of land has been completed, the price of the parcel will be equal to the developer's acquisition cost (see above), plus all expenditures on renovation or reconstruction, plus the surplus or present aggregate value of all future land-rent increases ascribable to redevelopment.

Redevelopment for residential purposes

Redevelopment for the purposes of erecting residential properties for sale or rent is in practice already covered by the argument set out above. But what of the individual householder who is intent on purchasing and rehabilitating a property for purely personal use? As in the case of a company that redevelops a property for commercial reasons, our householder must always, at a minimum, pay the cost of the land as well as the cost of any reconstruction or renovation activities. However, we cannot in this instance identify a

quantity of revenue created by redevelopment, and thus there is a question as to how we define the opportunity cost. The way around this dilemma without invoking the circularity of an argument based on utility maximizing processes is to use the expected resale price of the property after redevelopment as a proxy measure for revenue. We then calculate the opportunity cost by subtracting the cost of acquisition and redevelopment from this amount. The expected price will itself be an estimate based in part on an assessment of the interplay of many different variables, including the quality of the improved property, its overall accessibility, and the assortment of neighborhood externalities that Sampson (2012) refers to as "collective efficacy." Despite the inevitably speculative element in any *ex ante* estimate like this, informed assessments can usually be made by reference to general market conditions. To be sure, there is always the further possibility that the householder, for personal reasons, will invest in the project to the point where the opportunity cost defined in this manner becomes negative. In these circumstances, the full amount of the monetary outlay on acquisition and renovation will be recoverable – if at all -- only at some future date. Against this extra cost we must set the presumably added satisfaction to the householder over the time horizon defined by that future date.

Temporal pathways and capital switching in the redevelopment process

At the best of times, the durability of the urban built environment implies that important leads and lags are likely to make it difficult for actors in the property market to optimize the scheduling of their buying and selling decisions (Brueckner, 1980; Capozza and Li, 1994; Miron, 2017). By the same token, the need to assess the economic viability of any redevelopment project in advance of its actual completion always introduces a degree of speculation into the decision-making process. One notably speculative dimension in this regard concerns the amount of time that is allowed to lapse between purchasing a parcel of land and the initiation or completion of redevelopment operations. Thus, a developer may purchase a parcel at one point in time but may wait to redevelop the site until a later period if future upward shifts of prices in the surrounding urban environment are anticipated. A decision-making strategy of this sort, as Nowlan (1977) has shown, necessitates complex front- and back-end calculations in any attempt to make a finely-tuned assessment of the optimal amount of floor space or the type of building to be installed. One highly successful type of strategy, for example, would be to buy the land when prices are low, but to delay redevelopment until changing market conditions allow the improved property to generate sufficient revenue to sustain its profitable operation. Clearly, the amount of time that is allowed to lapse between parcel acquisition and project completion will tend to vary inversely according to the current interest rate with its direct impact on any carrying costs.

Cities almost always display many physical traces of these calculated delays between parcel acquisition and the completion of conversion activities. Parts of the city adjacent to the CBD are markedly prone to this syndrome in view of their susceptibility to the eventual outward expansion of high-density land use. One of the commonest expressions of this state of affairs is the apparently paradoxical existence of empty spaces close to the CBD that are either boarded up or that serve as parking lots in the interim between land acquisition and redevelopment. The length of the interim itself is partly conditional on the local property-tax regime, and will tend to be prolonged where, as in many American cities, taxes are assessed on the basis of actual rather than potential land use. Alternatively, in cases where the land reserved for redevelopment is already equipped with structures capable of generating at least some level of income, the existing activities on the site may be allowed temporarily to function, and thus contribute to cutting overall costs. Little effort is likely to be dedicated to maintaining these structures, and hence they are liable to deepening blight prior to redevelopment.

The timing of land-acquisition and redevelopment decisions is also strongly sensitive to overall patterns of expansion and contraction in the property market. These patterns typically exhibit strongly cyclical behavior, especially in the office-construction sector (Ball, 1986; Barras, 1994; Maclaren, 2003). In a widely cited publication, Harvey (1985) has proposed a hypothesis that seeks to link this cycle in property development, or what he calls the "secondary" circuit of capital investment, to the changing fortunes of the "primary" sector, i.e. commodity production as a whole. The main thrust of the hypothesis is that new capital investments will be "switched" from commodity production into property development when overaccumulation starts to become evident in the former sector, signaling a looming business downturn. In this manner, the property sector is presumed to act as a sort of safety valve by temporarily staving off a deepening crisis of profitability. As it happens, there has been little empirical examination of this hypothesis, and the few extant attempts to test it focus on symptomatic expressions of switching rather than explicit examination of overaccumulation as such. Beauregard (1994), basing his analysis on comparisons of trends in US real estate markets with the performance of rest of the economy over the 1970s and 1980s, finds little or no evidence in favor of the hypothesis; Christophers (2011), who examines British data on the changing share of real-estate investments in pension funds from 2000 to 2007, claims to have discovered positive evidence in its favor. A counter-argument to Harvey's hypothesis can be constructed on the basis of the literature in general which reveals the existence of a strong if irregular positive relationship between real-estate cycles and the economic cycle as a whole (cf. Barras and Ferguson, 1985; Jadevicius *et al*., 2017; Leamer, 2015) The evident deduction that can be made from this evidence is that the inter-sectoral rebalancing of profit

rates will have occurred long before the appearance of any overaccumulation crisis in the wider business environment. The switching idea remains a bold hypothesis, but there are also reasonable grounds for a degree of skepticism as to its possible ultimate validity.

Real-Estate Markets and Finance

Over much of the period since the end of World War 2, funding for real-estate construction and purchase in the United States was largely undertaken by highly regulated commercial banks and savings and loan institutions via mortgage agreements for prospective property owners. As third-wave capitalism has forged ahead in recent decades, bringing with it the rise of a powerful globalized financial sector, important changes in these funding arrangements have come about with major repercussions on urban structures, above all in the United States but in other parts of the world as well (Aalbers 2012; Christophers, 2015; Haila 2016; Harvey, 2012; Rutland, 2010). In particular, the deregulation of the US banking sector since the early 1980s, combined with snowballing innovation in financial engineering, has unleashed a stream of new investment practices in the built environment, not all of them benign. (Fernandez and Aalbers, 2016). In the United States, one of the first intimations of the potentially negative impacts of these shifts was the savings and loan crisis brought on by relaxation of lending standards in the second half of the 1980s.

The main impetus for this relaxation was the repeal of the Glass-Steagall Act in 1999, and the consequent move to effective banking deregulation. Among the many other effects ascribable to the repeal of the Act was the removal of impediments to the fusion of the business operations of commercial banks and financial institutions. This fusion was then accompanied by a deepening trend towards the engagement of financial institutions in mortgage lending and the financialization of real-estate assets. The overall strategy of financialization was accomplished by means of comprehensive income-generating securities or collateralized mortgage obligations (CMOs) such as mortgaged-backed securities (MBS) and structured investment vehicles (SIVs) based on the aggregation of large numbers of individual mortgages into massive investment pools (Gothan 2012; O'Neil, 2018). The new-found ability to securitize real-estate debt in this way offered enormous windfall profits to financial institutions, including global giants like Bear Sterns, Lehman Brothers, Merrill Lynch, J. P. Morgan, and Wachovia (Crosby and Henneberry, 2016). Institutions like these, in partnership with commercial banks, issued commercial paper that in effect shifted money from the international financial system down to individual real estate purchasers and then transferred the concomitant interest payments back up to holders (many of them insurance companies and large pension funds) of the paper. Financialization was further reinforced by

the increasing availability of real estate investment trusts or REITS acting as both managers of physical properties and as investors in real-estate construction projects. Waldron, (2018), Aalbers (2017) and Gothan (2012), among others, have pointed out how all these different currents have transmuted immobile property into a mirror state of placeless financial liquidity. The deepening integration of financial and real-estate markets and the easy credit that ensued led to an explosion of mortgage debt and property investment not only in the United States but also in other countries that pursued aggressive deregulation after the 1980s. The accelerated pace of land redevelopment that accompanied the resulting property boom had major impacts on the urban landscape. Important symptoms of this trend were rapid upward shifts in rates of home ownership, major expansion of business premises in CBDs, and the flowering of urban mega-projects, many of them in old industrial quarters such as the Zürich West development (Dörry *et al*., 2016), the Docks of St Ouen in the suburbs of Paris (Guironnet *et al*., 2016) and the Bicocca Technocity in Milan (Kaika, 2016). The latter projects illustrate another important feature of third-wave urbanization, namely, the assertive recycling and upgrading of derelict fordist industrial sites in pursuit of property-led urban regeneration.

To many observers in the early years of the twenty-first century, this figurative liquefaction of real estate held out the promise of significant improvements in the operational efficiency of urban property markets and all the more so given its basis in advanced digital technologies. With the aid of these technologies, market makers could supplement their practical capacity to digest vast amounts of information, enabling them constantly to reevaluate changing economic conditions. For a while, it seemed as though property markets might continue indefinitely to operate at this new tempo as they entered into a period of full-blown expansionary thrust after the turn of the twenty-first century, though at the cost of rapidly soaring house prices. The data displayed in figure 1 clearly illustrate the course of the housing-price bubble in the United States over the 1990s and through the early years of the twenty-first century. As shown in the figure, the total value of outstanding mortgages (less farm mortgages) as a percentage of GDP increased from 48.1% in 1980 to 63.6% in 2000, and then, as the global credit boom intensified, rose sharply over the next several years before flattening off in the period 2007-2009 (reaching an absolute peak of 100.3% in 2009) to be followed by a massive and extended downturn. Figure 1 also shows that the relative value of mortgages for one-to-four family residences runs in parallel with these aggregate data. Concomitantly, house prices increased from a value of 92.7 on the Case-Shiller U.S. National Home Price Index in January 1999 (the year the Glass-Steagall Act was repealed) to a peak of 184.6 in July 2006, a total increase of 99.1% or just over 13.0% a year (cf. Kim and Renaud, 2009). From this peak to February 2012, house prices nationwide declined by

27.4%, and the peak itself was not to be surpassed again until December 2016. To compound matters, the collapse ignited a massive and widespread economic crisis, initially in the United States (Ashton, 2009), and then in other major capitalist countries, though at different rates and intensities given national differences in housing markets and housing finance systems (Fernandez and Aalbers, 2016; Kim and Renaud, 2009).

One of the major causes of the breakdown of real estate prices after 2009 can be traced back to the increasingly indiscriminate disbursement of mortgage funds by lending institutions in response to deregulation. As the boom gathered momentum, more and more subprime mortgages were incorporated into commercial instruments that were then sold over financial markets. In earlier times, banks and savings and loan institutions had typically exercised considerable caution in their mortgage-lending practices, but in this new more liberal climate, lenders calculated that by bundling together mortgages issued to a mix of individuals with poor and high credit ratings they could fine-tune risk levels without compromising the marketability of the corresponding financial instruments. Discretionary caution was accordingly relaxed, and commercial banks along with their financial partners greatly expanded their mortgage lending programs while simultaneously tapping into new markets among low-income minority borrowers by means of widespread predatory lending (Dymski, 2012). The application of discriminatory red-lining methods had traditionally limited the degree to which these borrowers could gain access to mortgage funding, but they were now being actively encouraged to take out loans even in cases where their ability to sustain payments over the long run was clearly in doubt. These predatory lending programs remained generally viable as long as interest rates were falling and house prices increasing so that the equity in the hands of individual homeowners continued to rise, but both lenders and borrowers rapidly encountered severe headwinds as reverse trends began to appear. In view of these trends, more and more mortgage holders were unable to meet their debt obligations, and mounting defaults and foreclosures started to exert considerable stress throughout the banking and financial system (Ashton, 2009). In many instances, over-leveraged homeowners, especially in low-income neighborhoods, simply abandoned their houses to their creditors (Halbert and Attuyer, 2016). The end result was widening distress in the housing market and rapid diffusion of recessionary conditions through the rest of the economy.

In response to these and allied problems, the federal government of the United States passed the Dodd–Frank Wall Street Reform and Consumer Protection Act in 2010, in an attempt to improve financial stability, and, by means of Title XIV of the Act, to reign in predatory mortgage-lending practices. The Act also reintroduced elements of the earlier Glass-Steagall legislation by limiting financial speculation on the part of commercial banks. Despite this attempt at remediation, many of the stipulations of the Dodd-Frank Act are

currently under high-pressure attack in Washington, and at least some watering down of the main thrust of the Act seems likely. Even if the Act remains fully in force, the overall trend towards deregulation and financialization of the last few decades has introduced a new and troubling degree of instability into urban real-estate markets, and has contributed significantly to amplifying the gap between the fortunes of those at the top and those at the bottom of the income ladder.

Municipal Policy Tools and Initiatives

Public authorities have always played a role in shaping capitalist urbanization processes, and their efforts have always been intensely focused on two main goals, namely, the correction of market failures in the urban land nexus where these produce socially and politically unacceptable outcomes, and the pursuit of collective projects deemed necessary or desirable for urban growth and social order. It follows that municipal oversight of land redevelopment and property conversion projects is typically a major component of these efforts. This oversight also invariably reflects the influence of political demands exerted by different urban constituencies. In American cities in particular, powerful formal and informal growth coalitions repeatedly bring pressure to bear on municipal decision-making, and perhaps most forcefully with respect to issues of real-estate investment and development (Molotch, 1976; Stone 1987)

All that being said, the modalities of governance and collective action in the urban land nexus vary significantly over historical time. In the era of fordism, they were heavily inflected with the spirit of keynesian-welfare statism. In North America and much of Western Europe, this meant that public intervention in issues of land redevelopment and the built environment was heavily directed to urban renewal programs, infrastructure planning, public housing investments, and the provision of sundry social facilities. Large-scale urban renewal in the United States was, of course, initiated by the 1949 Housing Act and was implemented for the most part in order to deal with the urban ravages directly and indirectly brought on by the accelerating flight of industry and employment from central cities (cf. Brenner, 2004). Much public housing was constructed by city governments in inner city areas and elsewhere at this time in order to accommodate working-class families displaced by clearances of blighted neighborhoods.

With the waning of the fordist regime in the late 1970s and early 1980s, and the formation of the early stages of third-wave capitalism, many of these keynesian-welfare statist policy arrangements were severely curtailed and alternative strategies of governance focusing on deregulation and the extension of market order were implemented in their place.

Along with this sea change came a mounting concern with urban economic development issues that was all the more urgent in view of the damage wrought by the collapse of fordism and the spreading influence of global capitalism. Harvey (1989) was an early and astute observer of this turn of events, which he diagnosed in terms of a shift from managerialism to entrepreneurialism in urban governance. Harvey also suggested that a prime symptom of this shift was the rising importance of private-public partnerships involving local government and diverse business interests in the search for increased rates of urban and regional growth. In the three decades that have elapsed since Harvey published these ideas, the creed of entrepreneurialism has continued to extend its hold over the practices of local governments as manifest in a multifaceted array of policy tools and incentives devoted to facilitating private investment in large-scale urban development projects and other ways of promoting urban prosperity and repute, including city branding operations. Iconic building designs by celebrated international architects are a striking symptom of this city-branding urge (Fainstein and Fainstein, 2015), as represented, for example, by the classical cases of the Bilbao Guggenheim Museum inaugurated in1997 and Kuala Lumpur's Petronas Towers, officially opened in 1999. Initiatives of these sorts enrich the stock of built forms of the city while simultaneously serving as beacons that help to guide inflows of capital and skilled migrants from elsewhere.

Land redevelopment and property conversion processes are, of course, deeply intertwined with these issues of urban growth and land-use change, and public agencies work intensely to channel the outcomes into desired configurations. The specific policy resources at the command of these agencies include traditional planning instruments like zoning and land-use regulations as well as more recently devised financial provisions that among other things facilitate the ability of municipalities to operate in customized collaborative relationships with private developers and construction companies. Local governments also typically have selective authority to override rights of private ownership that might otherwise create bottlenecks to urgent or socially imperative tasks of redevelopment. Continued if relatively restrained investment in public housing and other welfare objectives remains an element of the responsibilities of municipal agencies, but much of the most active engagement by these agencies in the matter of land redevelopment and property conversion today is devoted to promoting a dynamic urban economy with strong competitive advantages at the national and global scales. A widespread form of this activity is property-led regeneration, especially in cities with extensive tracts of land that have been left in a state of dilapidation as a legacy from the old fordist regime. Public participation in land and property upgrading for the purposes of regeneration extends across the entire range of land use types from commercial real estate to residential neighborhoods. On the one side, as we shall see

later, public agencies are increasingly involved in subsidizing and promoting land-use changes calculated to boost local participation in dynamic third-wave sectors like business and financial services, the cultural economy, and technology-intensive industries, particularly in parts of the city such as the CBD, decaying warehouse and factory districts, and extensive peripheral areas suitable for business centers and science parks (cf. Kaika, 2010; Ponzini and Nastasi, 2011; Scott, 2011). On the other side, policy measures such as building clearances, rezoning, property-tax increases or the abolition of rent controls are frequently brought to bear on low-income residential districts in efforts to promote neighborhood redevelopment. These measures in turn are apt to accelerate the gentrification processes that are increasingly evident in third-wave cities (Hamnett, 2003; Ley, 1986; Zukin, 1982).

Much of this private-public intervention in the built environment is nowadays coordinated by urban development corporations with wide powers of intervention. Corporations of this type are familiar elements of governance structures in cities in the United States and Britain where they function above all as agencies of property-led regeneration. In France, analogous institutions exist in the guise of government-sponsored *Etablissements Publics d'Aménagement* (EPA), or Public Planning Agencies, whose work is facilitated by long-standing legal arrangements that empower municipalities to designate given tracts of land as *Zones d'Aménagement Concerté* (ZACs) or Collaborative Planning Zones. The powers invested in these French institutions make it possible to establish flexible partnerships between local authorities and private corporations in the tasks of land assembly, infrastructure provision and construction (Bonneval and Pollard, 2017). Financial packages involving both public subsidies and private investments typically play an important part in mobilizing ventures like these.

In addition to the forms of financial support for property development as described earlier, tax-increment financing agreements or TIFs are now widely and increasingly deployed by local governments in the United States as a way of stimulating private intervention in the built environment. TIF-based redevelopment procedures begin with the official designation of a specific site or area in the city as a target of renewal and regeneration. Any actual redevelopment of a given parcel of land can be expected to generate increases in tax revenues, and TIF agreements are designed precisely to securitize these increases. Thus, once a given parcel in the city is designated for rehabilitation under a TIF agreement, the municipality enters into a contract that assigns the tax revenue increases to a developer, or a consortium of developers, in exchange for specified construction and improvement work. "In this way," as Weber (2010, p. 258) writes, "cities obtain capital by turning the rights to their own … property tax base into standardized tradable assets," (see also Pacewicz, 2013; Savini and Aalbers, 2016). TIFs, moreover, not only serve as a technique for subsidizing private

construction operations, but also as a means of keeping the relevant monetary transfers off the municipal budget and hence of depoliticizing at least some of the redevelopment process. The property boom of Chicago that lasted from 1996 to 2007 can in large degree be ascribed to the widespread implementation of TIF agreements, and by 2008, Chicago had 160 different TIF districts covering as much as 30% of the city's land area (Weber, 2010, 2015).

Composite Outcomes: Three Illustrative Vignettes

Each historical phase of capitalism triggers definite kinds of readjustments in the built environment together with definite kinds of social disruption and political contestation. The current expansionary phase of third-wave capitalism has also brought in its train a series of very specific shifts in modalities of physical redevelopment and the character of the built environment. In the discussion thus far I have mostly focused on analysis of the discrete systematic elements that make up these modalities. In the present section, by contrast, I offer an illustrative triad of more synthetic views that seek to bring these elements into mutual interrelationship in complex aggregations of built forms. The argument proceeds with special reference to land-use intensification in CBD areas, gentrification in downtown neighborhoods, and the geography of post-suburbia. These cases illustrate, each in its own peculiar way, how private and public land redevelopment processes both shape and respond to the functional dynamics of cities.

The CBD: Aestheticized land-use intensification

The CBDs of capitalist cities have always been susceptible to insistent redevelopment via land-use intensification, i.e. the multiplication of the ground area of any given site by means of increasing floor space. This multiplication is a direct reflection of the high economic productivity of land in central business districts as indicated by their elevated land rents. The physical signs of this condition are evident in the ever-changing array of high-rise buildings that typify these districts. Homer Hoyt (1933, p.335) recounts that in the Chicago of his day "thirteen story skyscrapers with a structural life of a century or more have been torn down to give room for twenty-two or forty-four-story tower buildings." These processes of property clearance in the CBD and the construction of newer and more efficient structures tend to proceed in a cyclical rhythm, and, as Barras (1994) shows, are usually most apparent at times when the economy is booming.

The buildings of the CBD are almost always the highest, most visible, and most expensive edifices in the urban land nexus. They also house many of the most prestigious business, financial and service functions in the city, forming dense concentrations of

generally high-level professional, managerial and administrative employment. These functions have always dominated CBD economies in capitalist cities, but they have taken on augmented importance in the current cognitive-cultural era where high-level intellectual and affective forms of labor lie at the core of much of the productive system. This combination of visibility and prestige in so many of the buildings in the CBD is conducive to another distinctive feature, namely, the profusion of architectural signs and symbols that adorn these buildings and that testify to their special status as icons of power and wealth. The built structures of the CBD thus tend to embody more dramatically than any other part of the city the distinctive forms generated by the synthesis of prevailing construction technologies and aesthetic motifs (often encoded in ideologies of architectural practice) that reflect the dominating temper of the times (Cuthbert, 2006). Each historical generation of CBD building activity leaves a unique mark of this sort. Consider figure 2, which portrays three different generations of quintessential central-city buildings, each of them imprinted with a historically-specific set of design principles. The chunky Marshall Field Wholesale Store in Chicago with its exterior load-bearing walls is an example of vigorous land-use intensification in the late nineteenth-century and a forthright statement of the doctrine that form should follow function.

The soaring curtain-walled Seagram Building in mid-twentieth-century New York proclaims, for its part, the Miesian doctrine that less is always more. The neo-baroque Swiss Re Building in twenty-first century London exhibits the new construction capabilities opened up by digital technologies in combination with advanced building materials while capturing expressive possibilities appropriate to an icon of global corporate finance. Each of these buildings illustrates how, at different historical moments, the search for profitable self-assertion at the pinnacle of capitalist enterprise gives rise to processes of aestheticized land-use intensification that in turn beget a landscape of robust functionality and high symbolism.

Sklair (2005, 2010) has observed that styles of architectural expression in the cores of major world cities today also convey something of the self-conception of the transnational capitalist class whose members circulate with increasing frequency across the globe from one major bastion of finance, business and culture to another. In addition to the Swiss Re Building already cited, spectacular instances of the monumental structures that constitute these bastions at the cores of major metropolitan areas in North America and Western Europe are One World Trade Center in New York, London's Canary Wharf, and La Défense in Paris, each testifying to the power and influence of governmental agencies in motivating private developmental forces. Burgeoning city-regions of the Global South participate actively in this trend as well, with striking illustrations being offered not only by Kuala Lumpur's Petronas

Towers, but also by the Taipei 101 skyscraper in Taiwan, and the Burj Khalifa in the United Arab Emirates (cf. Schmid *et al*., 2011). Additionally, CBD areas are prime sites for ostentatious cultural projects such as Disney Hall in Los Angeles, the Shanghai Cultural Plaza, London's Royal Opera House or Tokyo's National Arts Center, all of which affirm their individuality by means of assertive symbolic gestures. These projects, in combination with other design-intensive CBD buildings, exert powerful branding effects that endow their cities with a strong global image (Anttiroiko, 2014; Dinnie, 2011).

Gentrification of residential property

Just as the CBDs of numerous major cities are undergoing dramatic transformation via redevelopment and reconstruction in recent decades, so too residential neighborhoods in the inner city and elsewhere are experiencing significant rehabilitation. One of the most common instances of this process is the peculiar form of residential land-use intensification generally referred to as gentrification.

"Gentrification" is a term that has taken on a multitude of different meanings since it was first coined by Glass (1964) in reference to the London housing market in the early 1960s. It is now widely applied to virtually any form of property conversion that entails upgrading, including the redevelopment of commercial properties. In this discussion, however, I restrict the term to its original use as defined by Glass to signify a change of land use such that higher socio-economic groups appropriate and upgrade housing vacated -- compulsorily or voluntarily -- by lower socio-economic groups. Gentrification in this sense is mostly to be found in inner-city neighborhoods that have traditionally been occupied by working-class and low-income families. As such, it entails the replacement or modification of existing buildings and the construction of more capacious and more expensive structures in their stead, a process that is equivalent to land-use intensification. In certain cases, the gentrification of any given neighborhood may proceed in a piecemeal manner by private persons who purchase single properties and renovate or restore them on an individual basis; but in other cases, professional investors and developers operating at a relatively large scale also foster gentrification, notably by redeveloping land for high-rent multiple-family apartment complexes. Municipal authorities often encourage these activities by means of land clearances and the offer of subsidies to developers.

In a series of influential papers, Smith (1979, 1987) claimed that the basic impulse motivating individuals and professional developers to engage in gentrification in US cities derives from the existence of a depression or gap in the urban land-rent surface. According to Smith, this "rent gap" is an observable datum that regularly makes its appearance in low-income residential neighborhoods close to the city center, i.e. in sections of the urban

land nexus where rents are lower than the theoretical level they would achieve if the land were given over to what Hurd (1903) called its "highest and best use." Smith then suggests that the rent gap makes it possible for potential gentrifiers to earn speculative gains by means of property conversion. Certainly, where rent gaps are present, they would tend to reinforce the proclivity to property upgrading, and yet it must also be pointed out that rent gaps are neither necessary nor sufficient for gentrification to occur (cf. Hamnett, 1991). This claim can be validated at once by reference both to the earlier discussion of the economic rationale behind land redevelopment and to the more analytical argument presented in the Appendix. In brief, the incentive to redevelop property is not just a function of the rent or price of the land, but also, and critically, of two other variables, namely, the monetary value of the existing improvements on the land, and, more importantly, the projected value of the land and its improvements once reconstruction and/or renovation have been accomplished. Moreover, if the opportunity cost is positive, even initially high-rent land is susceptible to redevelopment or gentrification (as exemplified by land that is sufficiently densely occupied by low-income families as to command a high rent per unit area). Incidentally, this is not an argument against the empirical existence of rent gaps as such, and in fact there is much evidence of their presence in American cities (Scott, 2018); but it is an argument to the effect that rent gaps are not, as Smith (1979) avers, the *sine qua non* of gentrification.

In order to close the analytical circle, we need to inquire as to why it is that opportunity costs on gentrification are currently positive at many given inner-city locations whereas the same locations remained impervious to gentrification in earlier decades, with or without the presence of a rent gap. In this regard, there is now a mounting body of theory and evidence suggesting that the essential logic of inner-city gentrification can be captured by reference the changing employment structures of third-wave cities. To begin with, there has been a very marked increase, both absolutely and relatively, in the numbers of white-collar workers in major cities as the cognitive-cultural economy has grown apace and significant proportions of the employment opportunities for these workers are concentrated in CBD areas. Concomitantly, residential neighborhoods possessing high levels of accessibility to these areas are becoming more and more attractive as foci of housing for white-collar workers (Hamnett, 2003; Ley, 1986; Scott, 2018; Zukin, 1982). The *zeitgeist* of contemporary society is also undoubtedly influential in these matters, given the increasing disenchantment of many middle-class individuals with traditional suburban life in contrast to the widening appeal of central cities as hubs of cultural consumption and associated amenities (Bridge, 2001; Clark, 1992).

Then again, gentrification is rarely, if ever, a purely neutral or apolitical affair, not only because it frequently results in involuntary displacement of families from traditional

low-income communities, but because even when the departure of these families appears to be purely voluntary they are often driven to leave by locally rising land values, rents and taxes. Renters, above all, can be easily evicted on the termination of their lease. The use of physical threats and eviction on the part of unscrupulous landlords, eager to reap the benefits of higher property values, has also been widely documented. And, as analysts like Slater (2006) and Wacquant (2008) have shown, city councils intent on fostering property upgrading and increasing the tax base within their jurisdictions are often all-too-willing to participate in measures that favor gentrification in deprived neighborhoods at the expense of long-standing residents. Policy measures that function in these ways include the abolition of rent controls, the tightening of building codes, rezoning for single-family houses, increases in property taxes, and the offer of subsidies to first-time house purchases in "under-served" areas. It is no surprise, then, to note that when municipal agencies, private households, or development companies begin to gentrify a given neighborhood, the predictable outcome is political mobilization and protest on the part of low-income residents who are typically at risk of being penalized by this turn of events (see, for example, Blomley, 2003 and Lees *et al*., 2015).

Suburbia, postsuburbia and sprawl

For a century and more, the expanding suburban fringe of American cities has been a prime terrain of land redevelopment by both public and private interests. The suburbs in the early decades of the twentieth century were principally given over to low-density residential communities where much of the growing white-collar fraction of fordist society lived, though life in these communities was never as homogeneous as it is sometimes claimed to have been. The suburbanization of white-collar residential activity was a locational arrangement that offered effective geographic and social distance from the predominantly blue-collar neighborhoods of the inner city combined with a hospitable environment in which to satisfy what were then taken to be the domestic needs of the white-collar fraction, including detached and semidetached housing in spacious lots. With increasing urban population and ever-rising rates of car ownership the suburbs expanded relentlessly outwards, a trend that was facilitated more often than not by the policies of compliant municipalities in support of the acquisition and conversion of agricultural land and investment in basic infrastructure.

By the late 1940s, large property-development companies were also assertively facilitating suburban expansion. Levittown, built between 1947 and 1951 outside New York, was a pioneering large-scale planned community in the suburbs, as was Lakewood, built between 1949 and 1953 in Los Angeles County by the Lakewood Park Company. These two projects were archetypes of post-War mass-produced suburbs in America with their low costs

per residence made possible by economies of scale based on the synchronized redevelopment of extensive tracts of land. Analogous developments proceeded in Britain and France in the 1950s and 1960s via both suburban housing construction and the development of new towns to accommodate the expansion of London, Paris and other major urban centers. In France, much of this suburban expansion took the form of high-rise, rent-subsidized HLMs (*Habitations à Loyer Modéré*) constructed by private-public partnerships set up within the framework of the ZAC legislation (Preteceille, 1973). High-rise construction in the French suburbs made it possible not only to achieve economies of scale in construction but also to achieve relatively high levels of efficiency in infrastructure provision by means of augmented population density at designated sites.

Despite the role of public authorities in North America and Western Europe in helping to accelerate the pace of suburbanization in the decades following World War II, selectively remedial attempts were also made to restrain the outward expansion of cities and to limit the negative effects of sprawl. Perhaps the most ambitious but also one of the most controversial remedial efforts in this direction was the British Greenbelt legislation, first formalized in the Town and Country Planning Act of 1947 and subsequently imitated in a number of other countries. Greenbelt regulations are normally designed to preserve the countryside in designated swaths of land around the city by severely limiting the amount of space that can be converted to building use. In more recent times a variety of so-called smart-growth policy measures have also sought to curtail suburban sprawl by such means as regional transport plans that put constraints on car usage while encouraging the expansion of rapid transit systems. These and other anti-sprawl measures are currently subject to forceful debate between partisans of high-density urban development and a growing body of critics who argue that anti-sprawl policies are driving up property prices in many cities, thereby creating a crisis of affordable housing and hampering economic growth (cf. Cheshire *et al*., 2014).

Notwithstanding widespread attempts to limit the outward expansion of cities, sprawl continues to advance steadily outwards, typically in a leapfrog fashion wherever obstacles are put in its way. The outward expansionary thrust of the urban periphery is accompanied and complemented by the growing heterogeneity of land uses in the suburbs as exhibited by the growing social variation of residential neighborhoods together with the continued growth and diversification of industrial, office and retail activities. In addition, some of the most ambitious cases of recent land redevelopment in the suburbs are focused on major recreational and tourist attractions with global appeal such as the Disneyland parks and resorts (descendants of the original Disneyland in suburban Los Angeles) that have been established in Marne-la-Vallée, Hong Kong, Shanghai, and Tokyo. The expansive technology and software parks, university and college campuses, malls, shopping plazas, and upscale

gated communities that now thrive in suburban areas, too, represent advanced elements of this developmental model in the peripheries of global city-regions. Indeed, so great is the contrast between much of suburbia in this third wave of capitalist development and its classical form in the pre-War period that it is nowadays often referred to as a *postsuburban* phenomenon (Keil, 2018; Kling *et al*., 1991; Phelps, 2015). In many ways, the evolving built environment of postsuburbia with its emergent polycentric structures and its deepening internal socio-economic differentiation is increasingly coming to resemble a sort of fractal echo of the city as a whole.

The Contradictory Logic of Urban Redevelopment

I have argued in this paper that the fountainhead of much of the turbulent land-redevelopment activity that is proceeding in the urban land nexus today coincides with the restoration of rapid but uneven urban growth in the twenty-first century in the context of the distinctive socio-economic dynamics of third-wave capitalism. These dynamics are physically expressed in and partially fashioned by the built forms that constitute the exoskeleton of social and economic life in this version of capitalism. The structures of agency directly involved in the production of these forms are the property development sector itself, the financial institutions whose business operations have penetrated much of the built environment, and local government organizations with their growing preference for entrepreneurial-interventionist procedures. These trends are most visible in North American cities, but they are apparent in many other areas of the world as well, including Western Europe and parts of Asia, including a rapidly urbanizing China. To be sure, there is currently much debate about the validity of cross-cultural referencing in urban studies, and, in a recent paper, Wu (2016) has correctly pointed out that China's very particular institutional and political character inscribes many unique features on its cities (see also, Roy 2009). Contrariwise, and in purely formal terms, China's cities are evidently coming to display at least some of the developmental trends described in this paper, such as aestheticized land-use intensification, gentrification, and postsuburban growth (see, for example, He, 2010; Lin and Zhang, 2017; Liu *et al*., 2018; Wu and Phelps, 2011; Zacharias and Yang 2016). This is not the place to attempt to resolve this debate, except perhaps to say that as capitalism extends its hold over the far-flung cities of the new global order, so basic urban processes come to share important genomic attributes. The continuing diversity of institutional and cultural contexts from one city and one country to another means that these processes typically play out in very different kinds of empirical detail, but more in the way of speciation within a wider generic category than as symptoms of absolute incommensurability (cf. Scott and Storper,

2015; Storper and Scott, 2016)

Land redevelopment is, and always has been a highly lucrative sector of the economy. In third-wave cities, in particular, enormous profits and rents are being extracted from the multiple opportunities for property construction and conversion in the urban land nexus. The monetary gains acquired in this manner have served to swell the coffers not only of banking and financial institutions, but also property owners, development corporations, building contractors, real-estate investors, land assembly agencies, and the like. At the same time, significant elements of the risks that these parties face are socialized by governmental agencies, which, in the current conjuncture, are prone to offer generous subsidies and other cost-reducing incentives for redevelopment activities. The benefits that flow from these arrangements are almost never apportioned out in socially equitable ways. Equally, vast numbers of low-income families have paid a heavy price as inner-city neighborhoods have been redeveloped to make way for residential gentrification and new commercial ventures. Many low- and medium-income families, too, have been severely disadvantaged by the sub-prime mortgage-lending fiasco in the first decade of this century. The social dislocations wrought by these events are compounded by the escalating property values and the persistent shortages of affordable housing in large urban areas at the present time. Municipal authorities may offer grudging remedial measures in response to these dislocations, but in the absence of root-and-branch reform, the profit-driven evolution of the urban land nexus seems destined to pursue its customary logic through endless endemic predicaments and conflicts. In the same way, third-wave cities are to all intents and purposes locked into a *modus operandi* that systematically endows some portions of intra-urban space with cachet and glitter while others are condemned to dilapidation and decline (Currid-Halkett and Scott, 2013).

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APPENDIX: The Elementary Principles of Property Redevelopment

In order to simplify matters, the discussion here will be limited to considerations of decision-making in regard to the upgrading of purely commercial non-residential property.
Consider any parcel of urban land that yields the quantity x of a given type of output every year. The annual rent earned by *each unit of output* from the parcel is

$$r = \pi - c, \tag{1}$$

where π is the market price and c is the unit production cost including normal profit; c also incorporates any location-dependent costs such as charges on external transactions.
The market value or acquisition cost, R, of the land (net of any improvements) will be equal to the discounted present value of all future rents accruing to the parcel, i.e.,

$$R = \rho/i = xr/i, \tag{2}$$

where ρ is annual rent *on the whole parcel* and i is the rate of interest (Williams, 1997).
Now let V be equal to the current (depreciated) value of all existing improvements on the land. The aggregate acquisition cost of the land *and* its improvements will therefore be

$$C = R + V. \tag{3}$$

Suppose that the land and its existing improvements are destined for redevelopment. Let Y equal the cost of redevelopment operations. For present purposes, Y can range from the expense of simple renovation to the cost of wholesale clearance of the land and the erection of new built structures. We can take it that Y also includes carrying costs on the land between its initial acquisition and its resale. Accordingly, the total capital advanced to purchase and redevelop the land will be

$$K = C + Y = R + V + Y. \tag{4}$$

We will temporarily assume that redevelopment entails only change in the quantity of physical output from the parcel, but no change in the nature of the output itself. After redevelopment, then, total annual output can be identified as $x^* = x + \Delta x$ and its unit production cost as $c^* = c + \Delta c$. These changes are equivalent to a switching of production techniques *à la* Sraffa (1960) with important implications for land rent.
In formal terms, redevelopment of the land is economically feasible only when the total rent generated on the converted parcel exceeds the total rent earned on the parcel in its original

condition. The difference between these two quantities (assuming that the market price, π, remains unchanged) can be written as

$$\Delta\rho = x^*(\pi - c^*) - x(\pi - c) = \quad x^*r^* - xr, \tag{5}$$

where r^* is rent per unit of output after redevelopment. As it happens, $\Delta\rho$ is also the overall opportunity cost on redevelopment, and the developer has an incentive to proceed with the project if this quantity is positive. Given that x^* and c^* must necessarily be estimated *ex ante* the decision to develop will always comprise a speculative element.

Equation (5) can be re-written in a way that explicitly identifies the relationship of $\Delta\rho$ to Δx and Δc, i.e.

$$\Delta\rho = \Delta x\,[\pi - (c + \Delta c)] - x\Delta c. \tag{6}$$

Consider figure 3, which traces out three isolines, $\Delta\rho_1$, $\Delta\rho_2$, and $\Delta\rho_3$, each of each represents a constant opportunity cost as a function of Δx and Δc. Note that $\Delta\rho_1 < \Delta\rho_2 < \Delta\rho_3$. The isoline labeled $\Delta\rho_2$ is equal to zero and hence passes through the origin of the figure. Therefore any combination of Δx and Δc defining a point that lies above the line $\Delta\rho_2$ yields an opportunity cost that is negative; and any combination defining a point that lies below yields an opportunity cost that is positive. The points α, β and γ, as shown in the figure all represent combinations Δx and Δc that give positive opportunity costs and that represent viable redevelopment opportunities. Point γ identifies a situation where output increases and production cost declines after redevelopment, and in this case the incentive to redevelop is positive with respect to *both* Δx and Δc. Points α and β represent more complex situations. In the case of point α, total output from the parcel *increases* after redevelopment, but this advantage is partly offset by increases in production cost; in the case of point β, output *declines* but this is more than matched by a decline in cost.

These remarks now take us directly to issues of intensive and extensive land-use redevelopment. Whenever redevelopment of a given parcel results in $x^* > x$, land use per unit area becomes by definition more *intensive*, and where $x^* < x$ land use becomes more *extensive* (with the proviso in both cases that the feasibility of redevelopment presupposes that x^*r^* is greater than xr). Intensive redevelopment and extensive redevelopment are in principle possible at any location in urban space. However, the more stringent conditions governing the economic feasibility of extensive redevelopment mean that it is almost certainly less likely to occur than intensive redevelopment. Further clarification of these issues turns on an analysis of the interaction between changes in output, production cost and rent relative to intra-urban location.

First, any feasible increase in total output via redevelopment at any given location – typically

by building further upwards -- will generate an increment to total rent per unit area. Provided that the value of c^* (= $c + \Delta c$) can be kept within identifiable limits (so that the opportunity cost is positive) there will be an inducement to intensify land use at the same location. Given that land lying towards the center the city virtually always commands high rents per unit of output in advance of any specific redevelopment action, intensification on this land will thus be especially profitable to the developer.

Second, it is also possible in theory to pursue profitable redevelopment projects by means of a strategy that lowers both output per unit area and its production cost. In this case the new level of output will be $x^* = x - \Delta x$, and the new unit production cost will be $c^* = c - \Delta c$. The rent differential or opportunity cost on redevelopment will again be given by equation (5), and, if this is positive, redevelopment will be cost-effective. In view of the fact that extensive land-use redevelopment entails *joint* reductions in output and unit cost, this is evidently apt to be a rather special case.

In both of these cases, the optimal amount of floor space to be installed by redevelopment is given where the values of x^* and c^* are chosen to maximize the value of x^*r^*.

Once redevelopment of any land parcel is complete, its price to the next purchaser is determined by the original capital invested by the developer and the current value of all future increments to annual rent yielded by redevelopment, that is,

$$K^* = R^* + V + Y = K + \Delta R, \tag{7}$$

where R^* is the full value of the capitalized rent of the parcel after redevelopment; R^* is defined explicitly as:

$$R^* = R + \Delta R = R + \Delta\rho/i = R + [(x + \Delta x)\Delta r + r\Delta x]/i. \tag{8}$$

The quantity R^* will be appropriated by the developer in the sale price of the improved parcel because its constituent elements (R and ΔR) are attributable to the land and the building, both of which are under the developer's control before resale takes place.

It is an easy matter now to generalize the analysis by allowing for land-use change to occur not only with respect to density but also to type of output. Variations in market prices due to changing volumes of output as redevelopment diffuses through the urban land nexus can at this stage also be entered into the analysis (cf. Scott, 1976). As indicated in the main part of the paper, dynamic extensions of the model are possible.

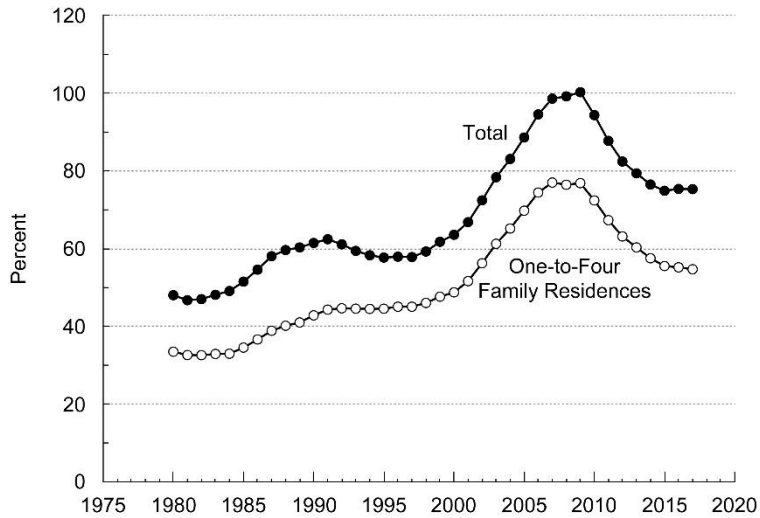


Figure 1. Total mortgage debt (omitting farm mortgages) and mortgage debt on one-to-four family residences in the United States; both series are expressed as a percentage of US GDP. Sources: Federal Reserve Board and Bureau of the Census.

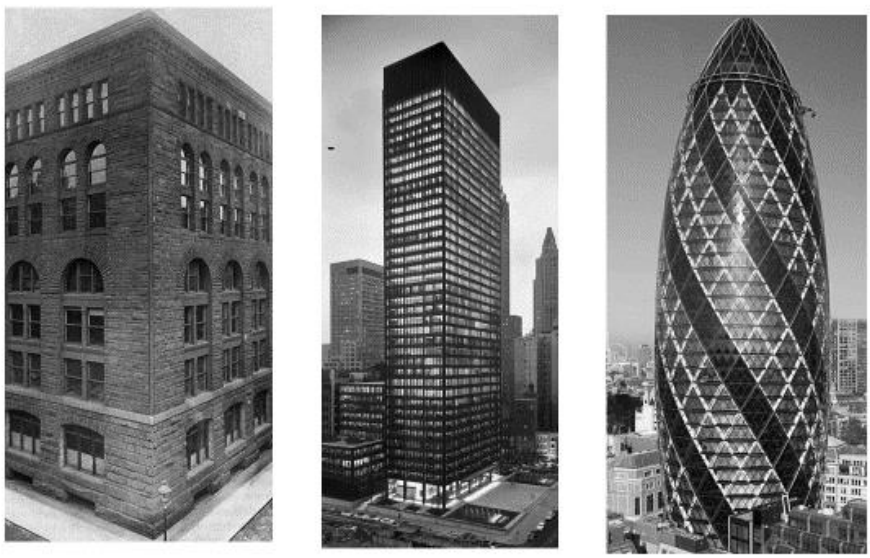


Figure 2. Three generations of land-use intensification and architectural form. From left to right: (1) Form follows function: Marshall Field Wholesale Store, Chicago, Henry Hobson Richardson, (1887). (2) Less is more: Seagram Building, New York, Mies van der Rohe, (1958). (3) Twenty-first century global icon: Swiss Re Building, London, Norman Foster and Partners, (2003). Illustrations by courtesy of the Creative Commons.

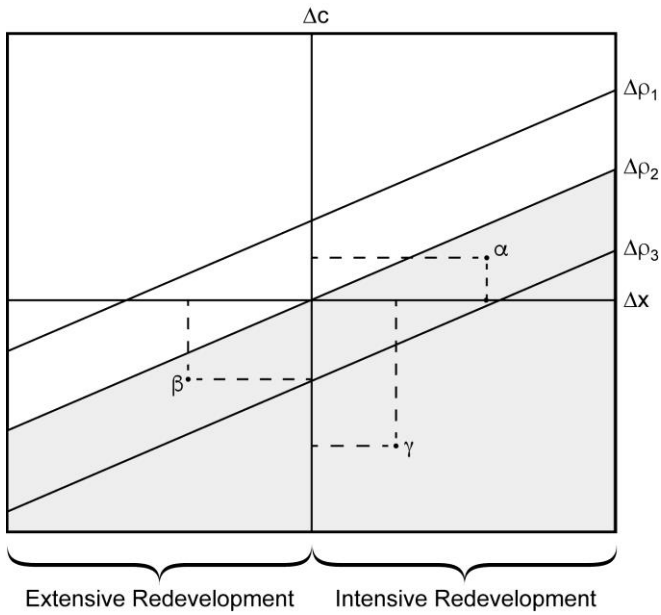
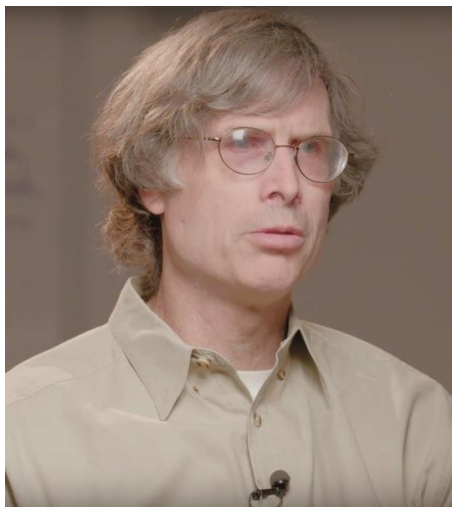


Figure 3. Opportunity costs on land redevelopment as a function Δx and Δc. The horizontal axis of the figure is defined by Δx and the vertical axis by Δc. The isolines $\Delta\rho_1$, $\Delta\rho_2$ and $\Delta\rho_3$ represent different levels of opportunity cost. Note that $\Delta\rho_1 < \Delta\rho_2 < \Delta\rho_3$. The shaded area represents all possible combinations of Δx and Δc that yield positive values of Δρ.

How Wide Is the Hudson River? The Effect of the State Border on the New York-New Jersey Metropolitan Region

哈德逊河有多宽？州界对纽约与新泽西都市圈的影响



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Brendan (Dan) O'Flaherty is a professor of economics at Columbia University, where he works on urban economics, crime, homelessness, and race. He is also the director of graduate studies for the Department of Economics His most recent book is The Economics of Race in the United States (Harvard University Press, 2015). His next book, Shadows of Doubt:Crime, Stereotypes, and the Pursuit of Justice, co-authored with Rajiv Sethi, will be published in spring 2019. Current accepted papers awaiting publication are about the philosopy of race, panhandling, the use of information in administering programs for the homeless,and Newark in the 1970s. Dan is a native of New Jersey, and still lives there. He has been an aide to the mayor of Newark, New Jersey, and chief financial officer of the City of Newark, and maintains many connections to Newark's civic life. He is a member of the executive committee of the Newark History Society and the board of directors of Unified Vailsburg Services Organization.

How Wide Is the Hudson River? The Effect of the State Border on the New York-New Jersey Metropolitan Region

哈德逊河有多宽？州界对纽约与新泽西都市圈的影响

Abstract

Although the Lenape and the Dutch recognized no political distinction between the two banks of the Hudson River, when the English conquered the region in 1664, they made the river a political boundary with New York on the east and New Jersey on the west. This border has persisted to this day, and will probably persist into the indefinite future. The border solves no modern problem and is an artifact of regicide and restoration in 17th century England. Lee (2005) has shown that the border creates a barrier between the states equivalent to a 15-20 km wide empty zone. The border makes markets in privately produced goods less thick than they would otherwise be, and causes governments to under-invest in transportation and other infrastructure that would allow more people to live and work in the region. Without the border, the New York-New Jersey metropolitan region would be more productive, denser, and bigger.

摘要

在英国人到来之前，莱纳佩人和荷兰人都没有对哈德逊河的两岸进行政治划分。直到 1664 年, 英国人征服该地区，并把哈德逊河作为其政治边界。它东临纽约，西临新泽西，一直被沿用至今，并可能继续沿用下去。然而它无法应对任何现代性问题，17 世纪英国进入了王政复辟时期，这条边界便是这个时代的产物。研究指出，这条边界在两州之间形成了一道屏障，相当于一块 15 至 20 公里宽的空旷地带。它不仅影响了私人产品市场的规模，而且使得政府对这一地区的交通和其它基础建设投资不足，从而阻止了外地人前往这里生活和工作。如果这条边界不存在的话，纽约与新泽西都市圈的生产力将得到更大的提高，人口和城市规模会更大、更密集。

L How Wide Is the Hudson River? The Effect of the State Border on the New York-New Jersey Metropolitan Region

New York rose to prominence in the early 19th century as the primary port through which trade between the United States and Europe was conducted; it was the main connection between the United States and Europe. Since then the New York-New Jersey metropolitan region has grown to worldwide stature as one of the most productive regions anywhere. Throughout this process, and even today, the region has been fragmented by a political boundary, the border between the states of New York and New Jersey. This border emerged from a grant in 1664 by James, Duke of York, the younger brother of King Charles II, and was confirmed after the United States was founded as a confederation of states in 1776 and became a federal nation in 1787. States are not subsidiaries of the federal government; they are the federal government's shareholders. In the 241 years since the Constitution was written, state borders have been added--some states have split off from other states (the most recent being West Virginia in 1863)--, but no state border has ever disappeared.

The main question for this paper is what difference has this seemingly indelible line made to the development of the New York-New Jersey metropolitan area. How would things be different today if the Duke of York had rewarded his courtiers in some other fashion in 1664? The parallels with the Guangzhou-Dongguan-Shenzhen-Macao-Hong Kong region are obvious.

I begin with a brief political history of the border. The main point is that the border is an anachronism that solves no modern problem. Then I look at how trade economists have measured border effects. The third section is about border effects in urban economics, and it includes an estimate of the size of the effect of the border between New York and New Jersey.

Throughout the paper I refer to the Hudson River as the border between New York and New Jersey. I use this expression for brevity; the border is actually more complicated. The east-west border begins in the north in the Hudson River where borough of Tappan in New York is adjacent to the town of Alpine in New Jersey. The border then continues south in the Hudson until the river (it's actually a tidal estuary) runs into Upper New York Bay. In Upper New York Bay, 90 percent of Ellis Island and all of the waters surrounding the Statue of Liberty are in New Jersey (Liberty Island is an exclave of Manhattan). At Staten Island,

the border turns west and runs through the Kill Van Kull, and turning south again, through the Arthur Kill to Tottenville (in Staten Island) and Perth Amboy (in New Jersey). It then continues through Raritan Bay, between Staten Island and the New Jersey Bayshore, to Sandy Hook and the Atlantic Ocean. The Hudson River section between Manhattan and Bronx on the east, and Bergen and Hudson Counties in New Jersey on the west, is the best known and most heavily populated.

1. Why is there a border in the Hudson River?

In this section, I will argue that the border between New York and New Jersey is an historical artifact that does not correspond to any underlying fundamentals. It was not present before English rule, and was put in place by the Duke of York for reasons unconnected with the development of what later became the metropolitan region.

The Lenni Lenape were the first inhabitants of the New York-New Jersey region for whom we have some information. The area that they lived in, which they called Lenapehoking, extended from Delaware Bay north through much of the Hudson Valley. See figure 1. They were divided by dialect, with Munsee predominant north of the Raritan River in New Jersey and Unami predominant south of Trenton. The Munsee region is a decent approximation of today's metropolitan region.

The first Europeans to settle in Lenapehoking were Dutch and Swedish. In 1626, the Dutch West India Company, having obtained a patent from the Dutch government, sent settlers to Manhattan, and "purchased" it from the local Munsee-speaking clans. They called the island New Amsterdam, and called the surrounding region New Netherlands. Soon there were Dutch settlements on both sides of the Hudson.

The Swedes settled in Unami territory on both sides of the Delaware River in 1638, and established New Sweden. The Dutch Republic conquered New Sweden in 1655, during the Second Northern War, and incorporated it into New Netherlands. Thus by 1655 New Netherlands approximated Lenapehoking.

New Netherlands came to an end in 1664. In England, after the restoration of a high church monarch in 1660, the new king, Charles II, planned to assert his power in North America. He made his younger brother James, the Duke of York, head of the royal navy, and gave him a patent for New Netherlands. As part of the Second Anglo-Dutch War in August 1664, four English warships sailed into New Amsterdam harbor, and the Dutch there surrendered. (The Dutch briefly re-conquered New Netherlands in the Third Anglo-Dutch in 1673, but they did not hold it long.)

On June 24, 1664, before the warships sailed into New Amsterdam harbor, the Duke of

York granted the part of New Netherlands east of the Delaware River and west of the Hudson River to his friends, Sir George Carteret and John, Lord Berkeley, in recognition of their service to the monarchy during the civil war. Carteret had served as governor of the isle of Jersey at the outbreak of the civil war, and had made it the last monarchist holdout. So the Duke of York named the land he gave to Carteret and Berkeley New Jersey. Carteret and Berkeley were "the Proprietors": they owned the land and they were the government. Neither ever set foot in North America.

Not everyone approved of the Duke's beneficence. The royal governor of New York strongly objected almost immediately, and in 1697 65 inhabitants of Elizabeth-Town in East Jersey also petitioned the crown to unite East Jersey with New York. But nothing came of these protests. In 1680 and 11682, the Duke of York reaffirmed the separateness of New Jersey, and in 1702 Queen Anne made New Jersey a royal colony (Klett 2014).

New Jersey continued as a separate colony for the rest of the colonial period. The Declaration of Independence in 1776 was issued by "United Colonies" which thereupon called themselves "United States." After the revolution, representatives of the new states met to establish some form of central government, first under the Articles of Confederation and then through the Constitution of 1787. Article IV, section 3 of the Constitution states: "New states may be admitted by the Congress into this Union, but no new State shall be formed or erected within the jurisdiction of any other State; nor any State be formed by the junction of two or more States, or parts of States, without consent of the Legislatures of the States concerned as well as of the Congress." And so the border established by James, Duke of York, to reward his friends, none of whom ever set foot on the North American continent, remains to this day. It is not a border that anyone on the ground—either the Lenape or the Dutch or the Swedes—ever used.

If this border in the Hudson River is such a bad idea (as I seem to be implying), why couldn't people have gotten rid of it before now? Doesn't its survival indicate that it was never to everyone's advantage, once compensation was paid, to get rid of the division and create a colony or state like Lenapehoking, or the Munsee-land?

I have two answers about why "unfit" borders can survive. The first is that in colonial times, the border probably caused so little harm, if any, that revising it was probably not worth the trouble. Given the technology of the time, the Hudson was a formidable barrier, especially in poor weather; New York was a village that did not generate huge agglomeration economies; and commerce was slow and halting, even without borders. Taking over New Jersey would have been gratifying to Governor Andros, who governed New York before the Glorious Revolution of 1688, but whatever Andros would have gained, Carteret and Berkeley, or their successors, would have lost; and the potential losers had good connections in court

(James succeeded his brother to the throne). There was no great surplus that Andros could have used to compensate them if a deal had gone through.

After independence, the situation was different. Redrawing borders might well have generated surplus that winners could have used to compensate losers. But as Coase (1960) has famously argued, mutually advantageous deals cannot happen without a legal system that permits them. Many people who would need to be compensated probably could not receive any credible promise of compensation.

For instance, begin with Congress, which would have to approve. Adding or rearranging states changes the partisan balance in the Senate because, for instance, the voters in the new state of Munsee could not credibly commit to do something like elect a Republican senator every 18 years. In the 19th century, the balance was sometimes maintained (with great difficulty) by pairing the admission of a slave state with the admission of a free state (in the Missouri compromise of 1820, for instance). Ultimately, this structure fell apart with the Kansas-Nebraska Act of 1850 and the *Dred Scott* decision of 1857. Even then, this strategy for maintaining balance could work only for Senate votes where a simple majority was required, but for many important Senate votes, three-fifths or two-thirds are required. It is impossible to maintain balance at majority, three-fifths, and two-thirds simultaneously.

Each existing state legislature would also have to approve. In the US system, states retain a considerable degree of sovereignty, and legislatures find it hard to bind future legislatures and judges, especially those of different states. For instance, the reason why the *Dred Scott* decision ended the 19th century system of horse-trading on new states is that it ruled (in part) that Congress could not prescribe the laws on slavery that a state could establish. So the agreements needed to revise the New York-New Jersey state border and set up a new state of Munsee would be in great danger of not being enforceable.

The transaction costs of changing state borders today would also be huge, and borne by many people. Many of the rules that people live by—lawyers, teachers, police officers, barbers, plumbers, boiler operators, architects, and lead abatement technicians, to name just a few—are set by states, and are not standardized. Drivers' licenses are issued by states, and states write the laws governing driving, accident liability, and insurance. States govern marriage, too, and the issuance of birth and death certificates. Each individual's cost of switching may not be great, but the aggregate is, and finding a way to pay compensation is hard.

State borders are thus an example of what David (1985) has called path dependence. The QWERTY keyboard is David's main example of path dependence. QWERTY refers to the letters in the upper left row of almost all Western keyboards. This keyboard was

designed in the 1870s by Christopher Sholes and Remington, Inc. engineers to reduce the problems of jamming with the original mechanical keyboards. The keys would jam If two letters close to each other were struck in quick succession, and so the keyboard was designed to separate the letters that commonly follow each other in American English. Today, QWERTY is still almost the only keyboard that any Westerner uses, even on computers, which do not have keys and cannot jam. Other keyboards have been designed that are about 10 percent more efficient, but almost nobody uses them (Norman 1990). In David's story, Remington produced some of the first commercial typewriters, and people learned eight-finger touch typing on the QWERTY keyboard. Firms therefor purchased QWERTY typewriters so they could hire QWERTY typists, and aspiring typists learned QWERTY because firms had QWERTY typewriters.

If we were to start fresh today, we would probably not use QWERTY. But we are not starting fresh today, and the costs of switching to another keyboard would be very large, possibly larger than the gains to people living today, and there is no feasible way for people not yet born to compensate people living today. That is the meaning of path dependence.

QWERTY, railroad gauges, and seven-day weeks are some of the world's most stable practices, and they are all examples of path dependence. So are American state borders. They are extremely stable, too, with no serious changes since the Civil War over 150 years ago. But as with all path-dependent practices, stability is not evidence of ex ante optimality today. The Duke of York had no idea of what the New York-New Jersey metropolitan area would look like when he decided how to reward his friends in 1664. And his actions have shaped the metropolitan area ever since.

2. Do borders matter? The view from trade economics

What difference does it make today that a border runs down the middle of the Hudson River? Trade economists were the first to explore this question. Clearly borders with walls to prevent the passage of people or goods are going to have real effects, as will those that are fortified with high tariffs and tight quotas. The interesting question is what difference relatively open borders like those between Canada and the US, Mainland China, and Hong Kong, or New York and New Jersey make.[1]

Engel and Rogers (1996) is the seminal paper in this literature. They look at the prices of tradable goods in different cities on both sides of the border between the US and Canada. Their chief concern is the volatility of the relative prices of these tradable goods, which they

[1] Article I, section X, of the US Constitution prohibits states from imposing tariffs on imports from other states without Congressional approval, and article 1, section VIII clause 3 reserves to Congress the power to "regulate commerce with foreign nations, and among the several States, and with the Indian tribes."

take as a measure of market integration. For many reasons, a tradable good should not be expected to have the same price in two different cities with perfectly integrated markets, but price changes should be fairly well correlated: when the price of toothpaste goes up 10 percent in Guangzhou, it should also go up close to 10 percent in Nanjing so that the relative price of toothpaste between Guangzhou and Nanjing would not move very much. So Engel and Rogers compute the standard deviation of two-month changes in the log relative price of toothpaste between Guangzhou and Nanjing over a period of time. They do this for many goods, and many pairs of North American cities. These relative price volatilities are their main dependent variables (price —they are measures of market integration.

Then they ask what determines how well integrated the markets of two cities are. They use two variables to explain market integration: distance and the US-Canada border. Within a country, they expect only distance to matter: the further apart two cities are, the greater the cost of transporting goods, the harder it is to move, and the less price information is likely to be available. So as the price of toothpaste in Harbin is buffeted by different shocks, the arbitrage mechanisms to bring it into line with the price of toothpaste in Fujian are very weak, and so the relative price should be very volatile. But the relative price between Guangzhou and Dongguan should be fairly constant, because, for instance, if the Guangzhou price of toothpaste rose sharply against the Dongguan price, consumers would flock to Dongguan and wholesalers would steer clear of Dongguan, and so the relative price would quickly move toward its former position. A border may also make relative prices more volatile. Some movements may be impeded, different currencies may be used, and information may diffuse more slowly.

Engel and Rogers regress price volatility between pairs of cities on the log distance between them, a dummy indicating whether they are on opposite sides of the border, and commodity and city fixed effects. Cities that are further apart have markets that are less integrated, and of pairs of cities that are the same distance apart, those separated by a border are less well integrated. They summarize their result by estimating the "distance" that a border adds to the physical distance between two cities: 121,000 kilometers. Seattle seems to be very far from Vancouver.

Gorodnichenko and Tesar (2009), however, argued that Engel and Rogers had not specified their equation correctly and so had mistaken differences in intra-national relative price volatility (Canadian relative prices are less volatile than US relative prices, holding the distance between two cities constant) for the border effect.

To see this, follow Gorodnichenko and Tesar and assume that the effect of distance is known and the same over any interval. Then our observations are distance-corrected relative price volatilities σ_{ij} between city *i* and city *j*. There are three kinds of pairs: both

cities are in the US (and so we say $UU_{ij}=1$); both ciities are in Canada (and so we say $CC_{ij}=1$); and one city is in each country and a border is between them (and so we say $UC_{ij}=1$). Then the true model is

$$(1) \quad \sigma_{ij} = \beta UC_{ij} + \gamma_u UU_{ij} + \gamma_c CC_{ij} + \sum_{s=1}^{N} \alpha_s D_s.$$

In this equation, β is the border effect, ¥$_u$ is the within-US effect, , ¥$_c$ is the within-Canada effect, and α_s is the fixed effect for city *s*. There are *N* cities and D_s is a dummy variable for city *s*. The first *k* cities are in Canada and the remainder are in the US.

This equation cannot be estimated because of collinearity. Specifically two identities hold

$$CC_{ij} = -\frac{1}{2} UC_{ij} + \frac{1}{2} \sum_{s=1}^{k} D_s$$

$$UU_{ij} = -\frac{1}{2} UC_{ij} + \frac{1}{2} \sum_{s=k+1}^{N} D_s$$

For the Canadian identity, if both cities are in Canada, CC_{ij}=1 and UC_{ij}=0 and $\frac{1}{2}\sum_{s=1}^{k} D_s = 2.$ If one city is in Canada, CC_{ij}=0 and UC_{ij}=1 and $\frac{1}{2}\sum_{s=1}^{k} D_s = 1.$ If no cities are in Canada, CC_{ij}=0 and UC_{ij}=0 and $\frac{1}{2}\sum_{s=1}^{k} D_s = 0.$ So for all possibilities the Canadian identity holds. Similar reasoning works for the US identity.

In contrast to the true model (1), Engel and Rogers estimate

$$\sigma_{ij} = \beta UC_{ij} + \sum_{s=1}^{N} \alpha_s D_s.$$

Substituting the two identities into (1), Gorodnichenko and Tesar obtain

$$\sigma_{ij} = \left[\beta - \frac{1}{2}(\gamma_u + \gamma_c)\right] UC_{ij} + \sum_{s=1}^{N} \alpha_s D_s.$$

Thus the Engel-Rogers estimate is not the cross-border effect β, but difference between the cross-border effect and the unweighted average of the two within-country effects, which are the omitted variables.

Gorodnichenko and Tesar point out that adding either are a UU_{ij} term or a CC_{ij} term to the Engel-Rogers equation, but not both, changes the coefficient on the UC_{ij} term in an interesting way. If a UU_{ij} term is added, then CC_{ij} becomes the omitted variable, and the coefficient on UC_{ij} becomes $[\beta - \gamma_c]$: the difference between the cross-border effect and the within-Canada effect. Adding a CC_{ij} term instead makes the coefficient on UC_{ij} the

difference between the cross-border effect and the within-US effect.

Which term should be added? It makes a difference: the border is 47 kilometers wide from the US perspective, and 108 million kilometers wide from the Canadian perspective. Gorodnichenko and Tesar solve a structural model that suggests that adding the term for country where the within-country effect is smaller (Canada in this case), and making the larger within-country effect the omitted variable will usually get closer to the true effect. The Engel-Rogers effect is too big.

Notice that if Canada has only one city, there is no CC_{ij} effect, and the Engel-Rogers equation (with city fixed effects) is the only alternative (with UU_{ij} the implicit omitted term). This is relevant to estimating a cross-border effect for Hong Kong.

Of the many papers that have been written following Engel and Rogers, the most relevant three are Wolf (2000), Yilmazkuday (2012), and Fan et al. (2016). Wolf and Yilmazkuday both try to estimate the border effect between US states, but they use the Engel-Rogers methods (Yilmazkuday cites Gorodnichenko and Tesar, but does not apply their conclusions). Wolf uses commodity flows and finds considerable home bias. Yilmazkuday uses methods very similar to Engel and Rogers, but has a sample of primarily Midwestern and southwestern states; he estimates a state border effect of 3300 kilometers, which is probably far too big.

Fan et al. is the only paper of these three that takes Gorodnichenko and Tesar seriously, and since the main comparisons involve a border with only one city on one side, the estimates should be taken seriously. They estimate the width of the border between Hong Kong and Mainland China at 266 kilometers.

Thus the international trade literature involving prices and commodity flows of tradable goods indicates noticeable border effects on many fairly open borders, but a credible study of the New York-New Jersey border for tradable goods has not yet been done. There is credible evidence of a border effect between Hong Kong and Mainland China.

3. Do borders matter? The view from urban economics

While the trade literature concentrates on market integration for tradable goods, borders within metropolitan areas can also affect how non-tradable goods are produced and distributed. In this section, I look first at goods for goods that have markets, and then goods that do not have markets.

Market goods

Many non-traded goods are regulated by states, and these state regulations often differ.

A person in one state often cannot purchase a good or service from another state, or purchase it on the same terms as others. The law of one price does not hold across state borders.

Licensed occupations are one source of these trade barriers. About a quarter of full-time prime age US workers are licensed—that is, they must have a document issued by a state board saying that they meet the state's requirements for training, knowledge, and good character for the occupation in which they work (Nunn 2016). Licensing is most prevalent in health care, legal, and educational occupations, but is not confined to these: beauticians and barbers, for instance, are licensed in many states, including New York and New Jersey. Some states recognize licenses issued by other states, but for barbers and beauticians neither New York nor New Jersey recognizes the other state's licenses. State-specific licensing is a barrier to the law of one price: beauticians are earning higher wages in Staten Island in New York than they are in Avenel in New Jersey, Avenel beauticians cannot simply cross the Arthur Kill to move Staten Island wages down and Avenel wages up. They would have to do additional training, meet the New York requirements, and pay fees to New York. (Staten Island consumers could go to Avenel instead, but it is less expensive for one beautician to cross the Arthur Kill than dozens of customers. Round-trip tolls on the bridges across the Arthur Kill are at least $10.50.)

Some institutions are likewise authorized to operate in particular states. Certain banking and insurance companies are chartered and regulated in particular states, and cannot extend their operations into other states without special permission. Health care facilities like hospitals, nursing homes, and ambulatory surgery centers are also licensed by states, and so movements across state lines are impeded. Although hospital mergers within each state have been frequent in the last decade, no cross-state mergers have occurred yet, and the presence of New York hospital systems in New Jersey is meager. Universities are also regulated by states. Neither Columbia nor New York University operates any facility in New Jersey, and Princeton and Rutgers have none in New York.

The burden of learning codes and regulations themselves, even when they do not explicitly prohibit someone from working in another state, is also an impediment to inter-state commerce. The legal requirements for French drains and toilets, for instance, differ between the two states, and contractors who are proficient in one state are likely to make mistakes working in the other unless they make significant investments in learning new codes.

Some commodities are legal in one state but not in the other. New Jersey prohibits sale of raw milk, but New York allows it on farms under certain conditions (ProCon, 2016). New York allows self-service gasoline and alcohol in supermarkets, but New Jersey does not. New Jersey is likely to legalize recreational marijuana before New York does, but New York

legalized needle exchange before New Jersey. In the world of consumer fireworks, New York permits cylindrical fountains but New Jersey does not. The opposite is the case for metal wire sparklers (American Pyrotechnics Association 2018).

Finally, differing tax rates and tax systems also introduce wedges between prices in the two states, for both tradables and non-tradables. Suppose barbers are charging $30 for a haircut in Staten Island in New York, and Joe in Staten Island is willing to pay only $25 for a haircut at this time. Suppose further that barbers in Avenel across the Arthur Kill in New Jersey now get $20 for a haircut but that Joan in Avenel, who is licensed in New Jersey, works only a few hours a week because her reservation wage is $23 per haircut. Then Joan will never cut Joe's hair if she has to go through licensing in New York and Joe will never pay the toll to go to Avenel to get a haircut. But both Joe and Joan would be better off if Joan's New Jersey license were recognized in New York and she could go to Staten Island and cut Joe's hair and the hair of many people like him. Since these wedges affect areas like housing, health care, and education that account for a large proportion of consumer spending in a large and rich metropolitan area, the deadweight losses are probably not trivial.

But there is a further problem that urban economists pay attention to. Cities exist because of agglomeration economies, either within industries (localization economies) or among many industries (urbanization economies). Agglomeration economies arise from many different sources, and state trade barriers can interfere with several of these sources.

For instance, specialization is a major source of agglomeration economies, and state trade barriers can reduce specialization. As Adam Smith wrote, specialization is limited by the extent of the market, and so the larger markets that larger cities offer allow more people to specialize in ever narrower areas, and become even more proficient in them. A small city can support only a few lawyers, all of whom are generalists (jacks of all trades but masters of none), but a large city can support family lawyers, patent lawyers, entertainment lawyers, tax lawyers, divorce lawyers, estate lawyers, and so on. The border in the Hudson River, however, with its differing bar associations and legal systems, makes specialization hard, and so deprives the metropolitan area of some of the agglomeration economies it could bring.

Consider a legal area like judicial misconduct, defendant side. Only large cities can support lawyers who specialize in this area, but to become a defendant-side judicial misconduct specialist for the entire New York-New Jersey metropolitan area would require qualifying for two separate bar associations and learning two separate bodies of statutes and precedents. Nobody does it. Instead, the relevant markets are either New York by itself or New Jersey by itself, and both of them are smaller than the combined metropolitan area. As a result, fewer lawyers specialize and they specialize less deeply than they would if there were no border in the Hudson River.

Demand smoothing is another agglomeration economy that barriers to trade can impede. Suppose there is no border and the New York-New Jersey metropolitan area can support two craftspeople who repair a particular type of Victorian stained glass window. Demand for their services varies stochastically and so sometimes neither is working, and sometimes both are working and a homeowner with a broken window is waiting, at some cost, until one of the craftspeople is free. Both have informative websites, however, and so it is never the case (in a world without borders) that a homeowner is waiting to get a window fixed at the same time that a craftsperson is idle.

Now install a border and suppose that one craftsperson works in New York and one works in New Jersey, and that licensing rules make it hard for either to cross over to the other's state. Then it will be possible for a homeowner to be waiting for repairs while a craftsperson is idle, something that was impossible with open borders: if the waiting homeowner is in New Jersey, for instance, and the idle craftsperson is in New York, or vice versa. Thus the border reduces the timeliness of service for homeowners and the remuneration for craftspeople—and so discourages specialization. The metropolitan area would be more productive, given its size, without the border.

Avoiding monopolies is a final agglomeration economy. Continue with the Victorian stained glass window example. Without a border, the two craftspeople compete, and consumers benefit from low prices and good service. With the border, each craftsperson is a monopolist in her own state, and will charge a higher price. This is good for the craftspeople, but bad for the consumers, and, as is well known, the loss to consumers is greater than the gain to craftspeople (some windows that would have been repaired at competitive prices will be replaced or boarded up at monopolistic prices, even though everyone would have been better off if they had been repaired).

For all these reasons, then, the border makes the New York-New Jersey metropolitan area less productive. Were we to revert to the borders of the Munsee-speakers or Lenapehoking or New Netherlands, its productivity would increase. That would also make it bigger.

Publicly produced goods

The effect of borders on publicly produced goods may be greater than that on privately produced goods. A metropolitan area divided is unlikely to build the type of infrastructure that will serve an optimally sized area. Population and infrastructure in one part of the metropolitan area produce external benefits for other parts of the metropolitan area, but governments that represent only pieces of the metropolitan area have inadequate incentives to recognize the external benefits. This is especially true when agglomeration economies: a government that increases population in its small area increases the population of the

metropolitan area, which makes everyone in the metropolitan area more productive, and so raises wages and land prices everywhere.

We can see how this works in a simple urban model where we use transportation investment as an example of infrastructure investment. Consider a long, narrow metropolitan area. All production takes place (on land of measure zero) in the central business district (CBD) and workers live along a line from the CBD. Each worker lives on one unit of (one dimensional) land. The line segment between 0 and $c>0$ is the responsibility of one government (call it New York) and the half-line between c and infinity is the responsibility of another government (call it New Jersey).

The job of each government is to install transportation in its territory. Various kinds of transportation are available. Some is rudimentary, like an unpaved footpath, and some is more proficient, like bullet trains that run every minute. No one can live in a place without transportation to the CBD. So government j chooses a cost per unit distance d_j that a worker traveling through its territory will bear. The cost includes time. The cost to the government per unit distance is $S(d_j)$, where $S'>0, S''>0$. Unpaved footpaths (large d_j) are cheap; bullet trains are expensive to build.

Output produced in the CBD is sold in the world market at price one. Workers earn their marginal value product w, which in general depends on the size of the city:

$$w = \alpha + \beta L, \alpha > 0, \beta \geq 0. \quad (2)$$

In this equation, L is the labor force (population) of the metropolitan area. If $\beta > 0$, we say that there are agglomeration economies. (The discussion about privately-produced goods indicated that borders may reduce both α and β.) For exposition purposes, we will solve without agglomeration economies first.

All workers are identical. We assume an open city with reservation utility u. Worker utility is wage minus rent minus travel cost. Each worker rents land from competitive landlords, whose rents are completely taxed away by local governments. In New York, rent at distance t is

$$w - u - d_y t$$

and in New Jersey rent at distance t *is*

$$w - u - d_y c - d_j(t - c).$$

The two governments maximize land rent (their revenue) minus the cost of transportation. Assume that the metropolitan area is sufficiently productive (α is large enough) that New York will always build some transportation for the entire length of the city. Then the New York government maximizes

$$V_y(d_y, d_j) = \int_0^c (w - u - td_y)dt - S(d_y)c = c\left(w - u - \frac{c}{2}d_y\right) - S(d_y)c.$$

The populated land in New Jersey, and hence the population of the metropolitan area depends on both how much transportation New Jersey builds and what its quality is. Since L is the population of the metropolitan area, it is also the distance from the furthest worker's residence to the CBD. Hence

$$(3)\quad L - c = \frac{1}{d_j}(w - u - cd_y).$$

Hence the New Jersey government maximizes

$$V_j(d_y, d_j) = \int_c^L (w - u - cd_y - (t - c)d_j)dt - S(d_j)(L - c)$$
$$= \frac{1}{2d_j}(w - u - cd_y)^2 - S(d_j)(L - c).$$

First, I assume no agglomeration economies. Then $w = \alpha$ and transportation investments have no effect on productivity or wages. Suppose that governments choose their transportation investments independently. Since New York's objective function depends only on d_y, its first order optimization is

$$-S'(d_y) = \frac{c}{2}.$$

Given New York's transportation investment, New Jersey's first order condition is

$$-S'(d_j) = \frac{1}{2d_j}.$$

These are not the investments a planner who controlled the entire metropolitan area and maximized total surplus would make. Such a planner would maximize $V_y(d_y, d_j) + V_j(d_y, d_j)$, and take account of the effect that New York's transit investment has on New Jersey's population. For the efficient case, New Jersey's first order condition is the same, but New York's is:

$$-S'(d_y) = \frac{c}{2} + \frac{w - u - cd_y}{2d_j}.$$

The second term of the right-hand side of this equation is positive by assumption, and so the efficient investment for New York is larger than the investment an independent New York would make. Better New York infrastructure increases the value of New Jersey land, but an independent New York government does not take this external benefit into account.

The inefficiencies are even greater when agglomeration economies are present. Because better infrastructure creates more population and more population creates higher

wages and rents, to be efficient both governments have to invest more than they would independently (especially if they consider wages parametrically), and more than a planner would invest in the case without agglomeration economies.

To see this, we need to solve equations (2) (think of this as an inverse demand curve for labor) and (3) (think of this as a supply of labor condition) simultaneously to see how transportation investments affect population and hence wages. The resulting equilibrium relationship is

$$L = \frac{1}{d_j - \beta}\{\alpha - u - c(d_y - d_j)\}.$$

Stability of this equilibrium requires $d_j > \beta$ and $\alpha > u$, which we assume. Hence

$$\frac{\partial L}{\partial d_y} = \frac{-c}{d_j - \beta} < 0,$$

And

$$\frac{\partial L}{\partial d_j} = \frac{-1}{(d_j - \beta)^2}\{-\beta c - (\alpha - u - cd_y)\} < 0.$$

From (1), for any variable *x*, $\partial w/\partial x = \beta\, \partial L/\partial x$. Hence the derivatives of wages with respect to both transportation investments are also negative. Moreover, since $\partial V_i/\partial w < 0, for\ i = y, j$, it follows that

$$\frac{\partial w}{\partial d_i}\left(\frac{\partial}{\partial w}\left(V_y(d_y, d_j) + V_j(d_y, d_j)\right)\right) < 0\ for\ i = y, j.$$

Thus the first order conditions for efficient transit investments are:

$$-S'(d_y) = \frac{c}{2} + \frac{w - u - cd_y}{2d_j} - \frac{1}{c}\frac{\partial w}{\partial d_y}\left(\frac{\partial}{\partial w}\left(V_y(d_y, d_j) + V_j(d_y, d_j)\right)\right)$$

$$-S'(d_j) = \frac{1}{2d_j} - \frac{1}{2 - c}\frac{\partial w}{\partial d_j}\left(\frac{\partial}{\partial w}\left(V_y(d_y, d_j) + V_j(d_y, d_j)\right)\right).$$

So for both governments, optimal investment with agglomeration is greater than optimal investment without agglomeration and, *a fortiori*, greater than the investment independent governments would make.

Thus the border makes the metropolitan area too small. This result would be even stronger if I had somewhat complicated the model by allowing density to vary as well as the distance from the CBD. Density depends on land rent because fundamentally it reflects a trade-off between using land and using capital. Better transportation raises land rents, and so raises density. So the border reduces density below the optimum, also.

Empirical

Lee (2005) tests the proposition that the border in the New York-New Jersey metropolitan area matters in the way that I have described above, and finds for support for this interpretation. Population density, the density of worker residences, and the density of the residences of Manhattan workers all fall discontinuously at the state border. They also fall discontinuously at the city border within New York State: city borders act like "the border" in the model because deals between municipal governments are difficult, but for municipalities within the same state, the state budget and state authority may internalize some of the external benefits.

Specifically, Lee (table 6) looks at the densities of populations, workers, and Manhattan workers, and how they vary with distance from Manhattan and political borders. She regresses the log of these densities on distance from Times Square, distance squared, and dummies for whether the area observed is outside New York City but within New York State—the city border effect—and whether it is outside New York State—the state border effect. For all three categories she finds large border effects, with the largest being for Manhattan workers (for whom the density gradient is also steepest). To translate these effects the way that trade economists did: the Hudson River is about 15-20 kilometers wide (physically, the river is about 1.4 kilometers wide around Midtown Manhattan, and the Kill Van Kull and Arthur Kill are about 300 meters wide). The city border effect is also significant, but only about half the size of the state border effect.

What causes these border effects? The obvious candidate explanation is transportation. The city has better transportation, especially to Manhattan, than the suburbs, and the New York suburbs have better transportation than the New Jersey suburbs. The model in the previous sub-section is a story about why this should be so.

The subway operates only within New York City, and together with Staten Island Rapid Transit covers the entire city. For automobiles, there are two tunnels under both the Hudson River (from New Jersey, and the East River (from Long Island in New York State and Queens and Brooklyn in New York City), but there are four bridges over the East River (possibly five, if you count the Triborough) and only one over the Hudson (the East River is between 0.2 and 1.2 kilometers wide, 0.5 kilometers at the Brooklyn Bridge).

Railroads are perhaps where the difference that the state border makes is most stark. Under the Hudson there is one railroad tunnel and two subway tunnels, but one railroad tunnel and 15 subway passages (tunnels or bridges) span the East River. New Jersey Transit carries about 308,000 passengers on an average workday (including those coming and going from Philadelphia and workplaces in New Jersey), while the New York commuter railroads (Long Island Rail Road and Metro North) carry a combined 655,000 (Wikipedia 2018).

New Jersey Transit has 164 stations (including those in South Jersey), while the New York commuter railroads have a combined total of 246. Since New Jersey covers almost everything west of Manhattan and the two New York railroads cover almost everything east of Manhattan, you would naively expect New Jersey Transit to be the same size as the Long Island Railroad and Metro North combined. But it is not.

Bi-state agencies

One alternative to uniting the states or writing contracts would be for New York and New Jersey to set up a bi-state agency to act in the best interests of the metropolitan area rather than any particular state. In fact, three bi-state agencies have been established: the Palisades Interstate Park Commission (1900), the Port Authority of New York and New Jersey (1921), and the Waterfront Commission of the Port of New York (1953). Each has a circumscribed domain of influence, and none has made progress in reducing any of the large inefficiencies we identified in this paper.

The Waterfront Commission was set up to reduce corruption in the port, and whether it has done so is unclear, but it does not address a major concern of this paper. Since almost all port activities are now concentrated in New Jersey while a large share of the costs of port corruption would be (or are) borne by New York businesses and residents, the commission may help make New Jersey regulate the waterfront to serve the interests of both states. Recently, New Jersey has moved to abolish this commission.

The Palisade Interstate Park Commission's goal is to run a park on the rock formations on the Hudson's west bank, roughly north of the George Washington Bridge. Thus it provides a public good that both states benefit from, and successfully internalizes some of the recreational and scenic externalities. The primary impetus to establish it came from New Yorkers who wanted to halt quarrying operations in New Jersey, and much of the park's growth was financed by John D. Rockefeller. So like the Waterfront Commission, the Palisades Park Commission is primarily a way to constrain New Jersey from letting its businesses harm New Yorkers.

The Port Authority was established when escalating congestion in the harbor and a series of legal disputes led both states to believe that they needed some way to bring order to the chaos. At that time, most freight railroads terminated in New Jersey, and huge numbers of barges criss-crossed the Hudson and the harbor at the same time that ocean-going vessels had to come and go from piers on the Hudson, the East River, and Brooklyn.

In keeping with this mission, the Port Authority built the Union Inland Terminal on Eighth Avenue in Chelsea, a massive 15-story warehouse and exhibition building that was until 1963 the largest building in New York City by floor area. As shipping moved away from Manhattan to New Jersey, the Port Authority first concentrated its offices in the building,

and then sold it. Google now owns the building and makes it its New York headquarters.

Soon after its establishment, the Port Authority became involved in constructing automobile crossings between New York and New Jersey, and by the early 1930s had two tunnels (Holland and Lincoln) and four bridges (George Washington, Bayonne, Goethals, and Outerbridge). These crossings are its main revenue source. In the 1960s, the Hudson Tubes, a small subway system linking New Jersey and Manhattan, went bankrupt, and the Port Authority took it over, renaming it PATH (Port Authority Trans Hudson). Starting in the late 1930s, the Port Authority started operating airports. It now operates three major airports (Newark, LaGuardia, and Kennedy) as well as several smaller ones. It also operates major seaports at Port Newark-Elizabeth and Port Jersey in New Jersey, and the Howland Hook container terminal in Staten Island. New York's major bus terminals, the Port Authority Bus Terminal in midtown and the George Washington Bridge terminal uptown are also operated by the Port Authority.

Finally, it operates real estate projects in several cities, most famously the World Trade Center.

Like the other bi-state agencies, the Port Authority is governed by a board on which half of the members are appointed by each governor. Each governor also has explicit veto power over the board's minutes. The Port Authority does not have tax or police power; its revenue comes from tolls, fees, and rents—which for some projects are abundant.

The Port Authority operates as a vehicle by which the two governors can come to agreement on specific projects. For the past half century, at least, the agreements have not been long term, apparently because governors have no power, beyond specific bond issues, to bind their successors. So, for instance, when the governor of New York wanted to build the World Trade Center, no long term deal was possible and the only way New Jersey would go along was for the Port Authority to acquire the PATH, too, simultaneously. By unwritten law, the executive director is selected by the governor of New York and the governor of New Jersey selects the chair of the board.

Thus the bi-state agencies have resolved some of the problems that the border has created. They have provided important infrastructure and public goods that benefit the entire metropolitan population. But they have not resolved all of the border problems.[1] Because these agencies—the Port Authority especially—are accountable solely to the two sitting governors, they are both too powerful and not powerful enough. They are too powerful in the sense that they can easily indulge activities of personal benefit to the governors or to their staffs—witness, most recently, the Bridgegate incident. They are not

[1] For instance, before Uber, New York taxis could take passengers from Manhattan to Newark airport, but they could not pick passengers up there and so had to return empty.

powerful enough in that they have no way of addressing border problems that do not require revenue-producing construction or that require ongoing monitoring by involved voters.

4. Conclusion

Although the Hudson River is about 1.4 kilometers wide around midtown Manhattan, the state border makes it act like a barrier at least 15-20 kilometers wide. Credible national border width estimates (after Gorodnichenko and Tesar) are probably an order of magnitude larger, usually several hundred kilometers, and so this may seem small. But land in the New York-New Jersey metropolitan area is worth about a thousand times as much as land near the Canadian border in the western US.[1] Land value measures the value of access, and so the cost of the state border may be considerably greater than the cost of the national border.

Does this mean that New Jersey should be abolished? Of course not. Even when Engel and Rogers estimated the width of the US-Canada border at 121,000 kilometers, they did not call for the abolition of either country. But state borders may have to re-thought soon in the US for other reasons: by 2040, current projections are that 70 percent of Americans will live in only 15 states, and so have only 30 percent of the votes in the US Senate (Bump 2017). In the meanwhile, it is good to remember that now, over 350 years later, colonialism still has costs.

[1] Suburban New Jersey land is now about $40-50 per square foot, or $1.7-2.2 million per acre. Undeveloped land in Montana appears to be about $1000-2000 per acre.

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Figure 1: Map of Lenapehoking.

Source: https://upload.wikimedia.org/wikipedia/commons/0/08/Delaware01.png.

Current Conditions and Future Drivers of Mega-City Regions in U.S., focusing on the Los Angeles Metropolitan Area with a Comparison to China's Metropolitan Circles

美国巨型城市区的现状及其发展潜力——以洛杉矶都市圈与中国都市圈作比较

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Hilda Blanco holds a Master and Ph.D. degrees in City and Regional Planning from the University of California, Berkeley. She held tenured appointments at Hunter College Dept. of Urban Affairs (1988—1996); and the University of Washington (1996—2009), where she chaired the Dept. of Urban Design and Planning (2000—2007), and is currently an Emeritus Professor. From 2010—2016, she was a research professor and Interim Director of the Center for Sustainable Cities at the University of Southern California, and is currently the Project Director of the Center for Sustainable Cities. Her research areas include sustainable and livable cities, urban growth management, cities and climate change, water policy, and renewable energy policy. In the area of urban land management, Dr. Blanco developed the first versions of New Jersey's urban growth management plan (1987—1988); collaborated with researchers at the Chinese Academy of Social Sciences in the early 1990s to evaluate China's urban land reforms that took place in the 1980s; chaired the scientific advisory group for a major EU research project on European sprawl (PLUREL 2008—2011); and was a Planning Commissioner for the City of Seattle (2005—2007). More recently focused on cities and climate change, Dr. Blanco contributed to the IPCC 5th Climate Assessment, as a lead author for Working Group III—Mitigation, Chapter 12, on Human settlements,

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Current Conditions and Future Drivers of Mega-City Regions in U.S., focusing on the Los Angeles Metropolitan Area with a Comparison to China's Metropolitan Circles
美国巨型城市区的现状及其发展潜力——以洛杉矶都市圈与中国都市圈作比较

Abstract

This paper begins by first reviewing the characteristics and recent trends in the largest metropolitan areas in the U.S., profiling the Los Angeles Metropolitan Consolidated Area—the 2nd largest in the U.S., after New York City's—and draws comparisons with the 3 largest metropolitan circle areas in China. It discusses the concerns and efforts to manage urban growth in the U.S., the governance issues related to urban growth, and briefly discusses the differences in managing urban growth between the U.S. and China. This is followed by a discussion of how issues of metropolitan form and transportation are linked to motor vehicle travel, air pollution, especially, CO2 emissions, and, thereby, to climate change mitigation efforts. It also presents and discusses the outcomes of recent research syntheses on this linkage between urban form/transportation, motor vehicle travel, and CO2 emissions.

The second part of the paper focuses on two major future drivers of metropolitan form and land uses in the U.S. and globally: technological changes in information technology, e.g., the impact of e-commerce on retail, and the automation of work; and the need to respond to climate change impacts, including higher temperatures and more frequent heat waves, and sea level rise. After discussing the research and findings from these strands of literature, the paper draws implications of these major near-future drivers for future metropolitan development.

摘要

本文首先回顾了美国第一大都会区的特点以及近期发展趋势，其次分析了美国第二大都会区（洛杉矶都会区），并与中国的三大都会区进行了对比。它主要讨论了美国对城市发展相关的治理问题所作的努力，并简要地分析了中美城市发展管理模式的差异。随后讨论了城市形态和交通问题与机动车行驶，空气污染以及与二氧化碳排放量的关系，以此强调减缓气候变化的重要性。它还突出地介绍和分析了最近关于城市交通和二氧化碳排放之间联系的综合研究成果。

本文的第二部分重点介绍了美国和全球大都市区的发展模式和土地利用的两个未来的主要驱动因素：信息技术变革，例如电子商务对零售业的影响、工作自动化以及应对气候变化影响的必要性。最后，本文将阐述这些主要的大城市未来发展驱动力的影响和启示。

Panel III.

Metropolitan Circles Development in Europe

欧洲的城市圈

Moderator: Assoc. Prof. Ren Xuefei　　主 持人：任雪飞副教授

Commentator: Prof. Brendan O'Flaherty　　评论人：Brendan O'Flaherty 教授

► **Metropolitan Circles: Experience from the UK**

Prof. Cliff Hague
Professor Emeritus of Planning and Spatial Development, Heriot-Watt University
英国大都市圈建设的经验
Cliff Hague 教授　　英国赫瑞-瓦特大学规划与空间发展荣休教授

► **The Importance of the Circular Economy for Circular Metropolitan Cities in Europe**

Prof. Mehri Madarshahi
V. Chair of Asia' Pacific Exchange Cooperation Foundation
循环经济对欧洲都市圈的重要性
Mehri Madarshahi 教授　　北京亚太交流与合作基金会副主席

► **The European SUMP Method Linked to Paris and Strasbourg Metropolitan Circle Scenarios**

Prof. Cristiana Mazzoni
National Superior School of Architecture of Paris-Belleville
以欧洲 SUMP 方法探索巴黎和斯特拉斯堡等探索性大都会情景
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Metropolitan Circles: Experience from the UK

英国大都市圈建设的经验

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Abstract

The metropolitan circles concept has not been explicitly applied as policy in the UK, though a case is made that the development of London and the South East of England bears some similarities. The paper reviews the development of that region, but also of two other regions with the potential for more integrated, infrastructure-led economic development. These are Greater Manchester and its potential connections to other cities in the North of England; and then Central Scotland (Glasgow/Edinburgh).

The concept of agglomeration economies is used to interpret the dynamics behind the growth of major urban centres. The idea of polycentric development is also introduced as a component of European Union thinking which cold shape public policy making. For each of the three regions, the role of public policy is analysed, at different spatial scales, to explore how economic geography and policy choices shape tendencies towards metropolitan growth.

The analysis is conducted within an overarching framework which suggests that spatial policy making is the outcome of a set of mutual relationships between ideology, constraints and evidence. The findings are that agglomeration is a factor everywhere, but that public policy responses have varied between the three regions, though in each case macro-economic policy of the UK government has been a key factor.

Key words: Metropolitan circles; polycentric development; spatial planning; London; The Northern Way; Greater Manchester; the Central Belt of Scotland; agglomeration; transport infrastructure; connectivity.

摘要

虽然伦敦和英格兰东南部的发展有着一些相似之处，但是“都市圈”的概念还未被明确地定位为政策。本文回顾了英国东南部大都市圈的发展情况，以及大曼切斯特地区和苏格兰中部地区（格拉斯哥/爱丁堡），该地区有望实现更全面的以基础设施为主导的的经济发展。

集聚经济的概念解释了主要城市中心增长过程中的动态变化。多中心发展的概念也作为欧盟思想的一部分被引进，并潜移默化地影响着公共政策的制定。本研究在不同的空间尺度上，分析了公共政策在上述三个地区起的作用，以此探索经济地理学和政策选择是如何塑造都市发展趋势的。

本研究的分析是在一个总体框架内进行的。该框架表明，空间政策的制定是意识形态、制约因素和证据之间相互作用的结果。研究结果表明，集聚效应是各地常见的现象，但三个地区的公共政策反应各不相同。无论在哪一种情况下，英国政府的宏观经济政策都是一个关键因素。

Metropolitan Circles: Experience from the UK

Introduction

The term "metropolitan circles" is not familiar in the UK, and there is no practice that demonstrates and develops the concept. However, it is possible to look at metropolitan region planning and development in the UK from the perspective of the Chinese experience. Of course, there are many differences of scale, institutions and history; path dependency means that it would be naïve to expect a simple similarity or even convergence between these very different urban systems. Rather, we should be using some underlying features of the Chinese practice to gain new insights into what has – and has not – happened in the UK. At the same time we can also recognise that debates about urbanisation and appropriate policy responses have now become global, in a way that they were not even a decade ago. In particular the New Urban Agenda, adopted at the United Nations summit meeting in Quito in 2016, provides what is intended to be a catalytic document for urban policy makers everywhere. In summary, this is a good time to look at urban development in one country through the lens of practices and policies in other countries.

In seeking to describe, but also to better and more critically understand, recent patterns of urban development in any situation, we must incorporate both the insights provided by the New Economic Geography, but also the way that policy makers interpret those findings. The emergent form of urban and regional development is the outcome of that interaction: policy shapes geography, but geography also constrains policy.

The paper begins reviewing the re-evaluation of urbanisation that has taken place over the past two decades, noting key ideas and agendas, including China's metropolitan circles, and the wider context of UN and European Union thinking about management of urban growth. The next section develops a framework through which to investigate how spatial policy making is undertaken, focusing on the interplay of ideology, constraints and evidence. This is then used to analyse policy and development in respect of three highly urbanised UK regions. These are London and the South-East of England, the cities of the North of England, and then the Central Belt of Scotland (Glasgow-Edinburgh). Finally conclusions are drawn about spatial planning as a public policy process.

Agglomeration, metropolitan circles and polycentricity: new urban agendas

In 2009 the World Bank published its 31st World Development Report. "Reshaping Economic Geography" sought to reframe "the policy debates on urbanization, territorial

development and regional integration", with a particular focus on the rapidly urbanising countries, and to "stimulate a much needed discussion on 'balanced growth' which has proved elusive" (p.xiii). It explained at length and in some detail why production and people tend to concentrate in big cities, and how this can be a route to prosperity and innovation. The simple, but telling, statistic given was that half of the world's production takes place on just 1.5% of the land (p.xiii).

In explaining the nature of agglomeration economies, the first example cited in a Box was Dongguan, midway between Guangzhou and Shenzhen: once occupied by 400,000 people mainly involved in fishing and farming it had become "the factory of the world", home to 7 million people and achieving annual economic growth rates of 20%. Economies of scale and agglomeration effects enabled knowledge spillovers and reduced logistics costs, with the telecommunications, electronics, and computer components cluster a notable beacon.

While jettisoning the idea of "perfect competition", one of the strong messages of the report was that policy makers tend to underestimate the power of market forces. Cities "deliver agglomeration economies to producers and workers. So city administrators (should)…help it do this well" (p.128). Thus a key argument was that agglomeration is a self-reinforcing process that planners and policy makers should further facilitate. However, diseconomies of agglomeration were also noted and attributed largely to land shortage or frictions on conversion of land to higher value uses. These blockages can be resolved by better transport networks and more permissive planning policies.

These policy prescriptions, and in particular the idea of embracing urban growth, have been pursued in (and influence by) China: the World Bank has been systematically studying China's urbanisation since 1999. Shanghai now vies with Tokyo as the world's leading metropolitan circle, and is particularly notable for the very high densities in its central districts (China Daily, 2016). Similarly, densities in central Beijing are greater than in Tokyo or New York, though on the fringes of the cities they are lower (Zhou Xian, 2017). The Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei region are China's three metropolitan circles, in each case building on geographic advantages. Together they house some 100 million people. There are also ten smaller circles. Together these are the drivers of China's national economy.

Zhang Laiming (2015) has explained the concept: "In a metropolitan circle, congregation and systematization have gone beyond the scope of a single city related to population, industry, social activities and governance, but are the result of in-depth integration of cities of different sizes with different features and functions in a larger space. Similar to cities that inject vigour to economic and social development of a country, metropolitan circles can integrate and optimize various national resources and promote

national vigour and competitive edge to a higher level." Zhang Laiming continues "people hope that while creating material prosperity, metropolitan circles can also keep sustainable environment and resources, with a fair and social order and a well-managed city governance, so as to improve the living standard and quality of residents and enhance their sense of happiness. More importantly, there are objective rules to follow for the formation and growth of cities, the optimization of urban spatial structure and the development and application of advanced technologies in cities."

While this paper does not attempt to discuss in depth China's urbanisation strategies, or its metropolitan circles (each of which have their own special features, e.g. the "circular" nature of estuaries), some aspects should be noted as a preface to the discussion of the UK experience. Chaolin Gu, Wu Lia and Cook (2012) in a very wide-ranging overview of research on China's urbanisation make a number of important points. In particular they note how, after the Asian financial crisis of 1997, China used state investment in urbanisation and infrastructure to restore domestic demand and economic growth. This meant that "the role of urbanization in promoting national economic and social growth was recognized by government leaders and policy makers" (p.108).Thus urbanization featured as part of the Tenth Five Year Plan in 1999 and again in the Eleventh Plan (2005). Even before this period, during the reforms of the 1980s, Chaolin Gu, Wu Lia and Cook (2012) show that research demonstrated that government policies, rather than economic growth itself, wee the prime factor in moving people into the cities (p.115). While many factors have driven the growth of China's metropolitan circles, from macro-forces such as globalisation, technological change to specific local geographies, it is clear that public policy interventions, at different scales, have been crucial, and that those policies have been informed by evidence and supported by state investment in infrastructure.

In the European Union (EU), the idea of polycentric urban development, which had its origins in Germany and in France (Nordregio et. al., 2005, p.35), gained ground in the 1990s, as Europe moved towards creating a single market, and sought to enhance its global competitiveness. Development of "a polycentric and balanced urban system, and strengthening the partnership between urban and rural communities" was promoted in the European Spatial Development Perspective (ESDP) (Commission of the European Communities, 1999, p.19). This aspiration was seen to require "Strengthening of several larger zones of global economic integration in the EU, equipped with high quality global functions and services, including the peripheral areas, through transnational spatial development strategies" (Commission of the European Communities, 1999, p.21). At the time Europe was perceived as having only one such zone. It was called "the Pentagon", because it was defined as the area between five major cities – London, Paris, Milan, Munich and Hamburg – as shown in Figure 1. The zone defined by the Pentagon produced roughly

50% of the then EU's GDP, and housed 40% of its citizens in 20% of its land area: in other words it was agglomeration at a continental scale.

While this formulation recognised the importance of cities as economic nodes and service providers, even in the peripheral and rural parts of Europe, and argued that polycentric development would boost competitiveness, it stopped short of endorsing the idea of agglomerations as the preferred development path for Europe. Thus, from the outset there was ambiguity about just what polycentricity meant (Kloosterman and Mustard, 2001; Davoudi, 1999). The ambiguity in the concept probably helped to forge political acceptance: the Pentagon could continue to grow, while growth of other regions would create "balance"; an agglomeration could itself claim to be (internally) polycentric. At the heart of the polycentric idea was the notion that cities could cooperate as well as compete, and have complementary roles, linked to specialisations. The French Presidency (2000) further elaborated the potential development of Global Economic integration Zones in Europe, as shown in Figure 2.

Figure 1: The European "Pentagon". Source: Faludi, 2002, p.28.

Advocacy of the policy came before the evidence to support it. As Faludi and Waterhout (2002) showed, the intention had been that an European research observatory would be set up to inform the preparation of the ESDP, but technical and legal obstacles resulted in the observatory, the European Spatial Planning Observation Network (ESPON), being delayed until after the ESDP had been published. Meanwhile, the delivery of spatial planning was not a competence of the EU, but rather continued to reside with the member states. Once ESPON began to produce research findings it two things became clear about polycentric development. Firstly, the morphological dimension was easier to define than the notion of functional integration which it implied. Secondly, there were issues of scale: to increase polycentricity and balance at pan-European scale, the capitals and other major urban areas of the countries joining the EU in 2004 and later needed to grow, thereby narrowing the gap between them and the big cities of the previous 15 EU member states. However, such growth made those newer member states less polycentric internally, as capital cities boomed while small towns and rural regions suffered significant out-migration (Nordregio et.al. 2005).

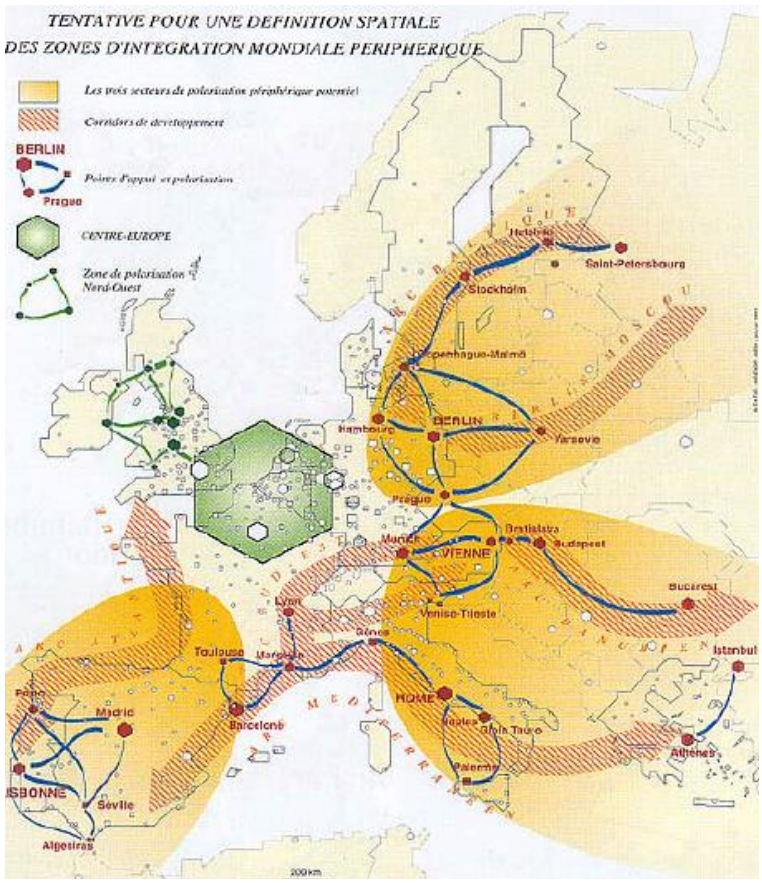

Figure 2: Possible New Global Economic Integration Zones in Europe. Source: French Presidency (2000) in Faludi (2002).

Despite the enthusiasm to promote Global Economic Integration Zones, as Pain and Vinciguerra (2012, p.1) noted "the role of agglomeration and the specialized functions associated with their city-based business services clusters have largely been overlooked in EU spatial development initiatives." The European Commission produced a State of the Cities report in 2016. Tellingly it stated that one aim was "to change the perception of cities from being a source of problems to places with potential" (European Commission / UN-Habitat, 2016, p.9). A further objective was to promote more evidence-based policy making (p.11). The report set European cities in a global context. It recited the advantages that cities offer, while also noting some of the challenges they face. It was produced along with the Urban Agenda for the EU (Informal Meeting of EU Ministers responsible for Urban Matters, 2016), in which the idea of polycentric development received only passing reference.

In summary, a body of research has developed that highlights the significance of agglomeration as a factor in boosting competitiveness. This has been reflected in the promotion of metropolitan circles within China. In Europe, a policy of polycentric development was advocated through the EU from the 1990s, with the promise of delivering both balance and competitiveness, leading to the growth of zones of global economic integration. Ambiguities exist within the concept of polycentricity, and China's three metropolitan circles can be interpreted as polycentric regions internally, while at national scale ensuring that China is not monocentric. Thus a set of ideas and practices have existed to inform policy makers of the ways in which planning of urbanisation can contribute towards building prosperity. This theme has then been taken up in the New Urban Agenda (Habitat III, 2016).

A way to analyse spatial planning as public policy making

The previous section has shown that research findings from economic geography have been promoted by international agencies to decision makers to inform policy and practice. However, the EU experience demonstrates that policy making can precede evidence and be shaped by a desire to achieve political acceptance. Furthermore, translating abstract ideas into practice can expose ambiguities and contradictions within those same concepts. So can we develop a framework through which to analyse the way that public policy decisions are made?

While scientists may advocate an evidence-based approach to policy making, it seems clear that evidence is only one of the factors that shapes decisions. In part, this may be because evidence can be interpreted in different ways, and not all findings will be accorded

equal weight. Decisions are likely to be influenced by the values and ideologies that have inspired politicians or other decision-makers, and these may even cohere into institutional cultures which frame thinking and prioritise performance criteria, whether explicitly or implicitly. Furthermore, decisions are taken within constrained contexts. Constraints can take several forms. The inherited urban system is one of them, as is the unique topography of any particular urban situation. Another obvious constraint is economic: urban development and provision of infrastructure is an expensive undertaking, and what is desired may simply be unaffordable and beyond reach. There can also be institutional constraints, notably in terms of having an agency with powers to act at metropolitan scale.

As Figure 3 attempts to show, the three factors identified are relational, not sequential or hierarchical. In other words, they exist in relation to each other and shape each other. Thus, values and ideology filter the collection and interpretation of evidence and constraints, but are also influenced by those factors. Collection and presentation of evidence is itself subject to constraints, such as the availability or cost of collection. In turn, evidence may reveal the extent to which constraints are real, or constructs of ideology.

Using this framework suggests that the advocacy of polycentric development in the ESDP drew somewhat on evidence, in so far as zones of global economic integration have a basis in reality, and the idea of growth poles has a long history in spatial policy and practice. Constraints were also a factor. These included the legacy of uneven development across the European space, and in particular the development gap between the “pentagon” and the countries in central and eastern Europe that in the late 1990s were on their way to accession to the EU. A further and related constraint was the move towards the single market within EU which was recognised as pointing towards more intensified competition. In these circumstances, the advocacy for polycentric development (and the ambiguous nature of the concept) can be seen as being most strongly influenced by ideology. However, the ideology was not of the traditional “Left” or “Right” kind: rather it was an ideology of building a cohesive EU after the collapse of the USSR and the consequent intensified stage of globalisation.

During the long period of growth from 1993 -2007 (the Asian crisis of 1997 had relatively little impact in the EU) this ideology was not seriously tested. The 10 states that joined EU in 2004 were able to enjoy strong growth immediately, albeit driven mainly by their capital cities. As late as 2008, the ambiguity at the heart of the polycentric policy could be sustained. The Green Paper of that year argued that the way to territorial cohesion lay in “avoiding excessive concentrations of growth and facilitating the access to the increasing returns of agglomeration in all territories” (Commission of the European Communities, 2008, p.6). However, the 2007-08 crisis triggered a change of direction. This was first evident in the

Barca Report (2009) which presented polycentricity as a descriptive tool rather than a prescription for policy.

The framework advanced here can be criticised as loose, overly descriptive and lacking explanatory power. However, its strength is that it can accommodate the complexities and particularities that characterise the making of spatial planning policy and decisions in any situation, and in an international context can guard against reductionist and uncritical transfers of ideas and practices. It will now be used to examine the development (and non-development) of metropolitan circles in the UK.

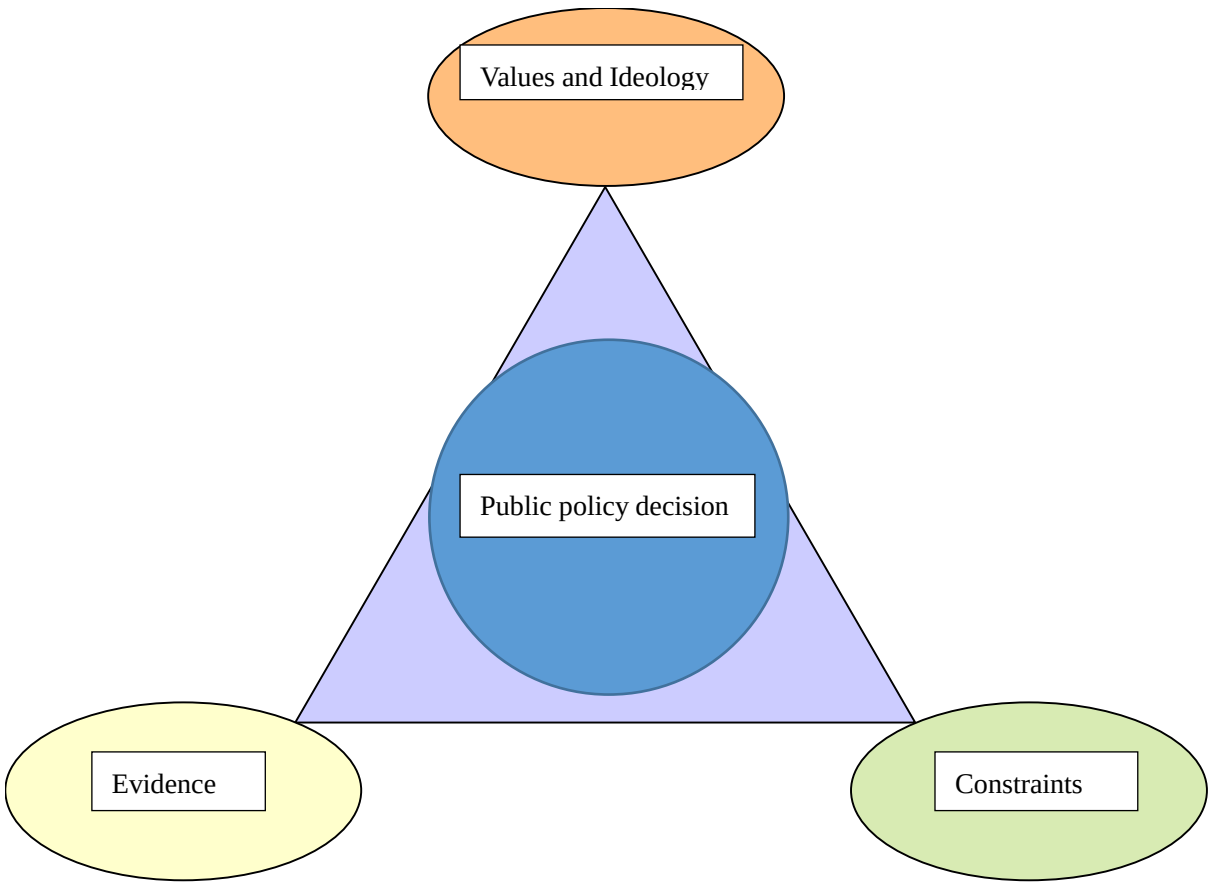

Figure 3: The factors shaping public policy decision-making

UK geography and institutions: constraints and path dependency

In relation to China or the USA, the UK is small, both in terms of its population numbers (65 million) and land area (242,000 square kilometres). Its level of urbanisation is high (around 83%), and the urban system is long established. Even London, with a population of around 10 million, only ranks at 28 in the list of global urban agglomerations (Eurostat, 2016, p.10).

Nordregio et.al. (2005, p.5) put the UK in a middle ranking on an index of polycentricity: although there were plenty of cities and adequate connectivity, by EU norms, the concentration in one part of the country, London and the south-east of England, reduced the UK's polycentricity score. Looking in more detail, the ESPON study led by Nordregio devised a category which they called "MEGAs" – Metropolitan European Growth Areas. These were the 76 Functional Urban Areas (FUAs) that scored best on a combination of indicators: population, transport connectivity, tourism, manufacturing, knowledge, and decision-making in the private sector (business headquarters) and decision-making in the public sector. A further sift compared the MEGAs with each other in terms of mass (population size and size of the economy), connectivity (number of airport passengers and multi-modal accessibility), competitiveness (GDP per capita and the headquarters of Europe's 500 largest companies), and knowledge base (% of the population with higher education and the share of the workforce working in research and development).This led to a further division of the 76 into four categories of relative e significance. On this basis London and Paris were identified as Europe's largest, best connected and most competitive cities. This analysis put 17 other cities in category 1, none of them from the UK. Manchester was placed in the second category, along with seven other cities -Athens, Dublin, Geneva, Gothenburg, Helsinki, Oslo and Torino. These were described as "relatively large, competitive and often with a strong knowledge basis", but as having "one or two qualities that are notably weaker than the others, usually relating to either mass or accessibility." Three other UK cities – Edinburgh, Glasgow and Birmingham – made category 3, and Southampton was placed in category 4.

The dominance of London as a metropolitan region is thus a significant feature of the geography of the UK. Eurostat (2016, p.92) reveals that the next largest metropolitan region, that based on Manchester, has less than 20% of London's population, while the third region in UK, the West Midlands, based on Birmingham has only 17.5%. The only European similarity to these wide differences is in France: elsewhere the population of the next largest metropolitan region usually exceeds 40% of that of the capital city region.

Thus it can be argued that the challenge facing UK policy makers is to sustain the leading global role of London, while also seeking to grow the other metropolitan regions so that they can achieve the mass and connectivity to compete globally. In the context of the ESDP, and more especially the French Presidency (2000) the "Zone de polarisation Nord-Ouest" required a promotional approach to connecting and developing around the growth poles of Birmingham, Cardiff, Dublin, Belfast, Glasgow, Edinburgh, Liverpool, Manchester and Leeds, as shown schematically in Figure 2.

So what constituted the institutional context to address the potential creation of something approximating to "metropolitan circles" in the UK? The UK is a unitary, not a federal state, though in 1999 a separate tier of government was created in each of Scotland, Wales and Northern Ireland with (differing) powers over fields important to spatial planning and regional development. These include transport, environment, housing, and spatial planning itself. In England, the UK government retained overall power on all matters. A metropolitan scale of local government had been established in six areas of England in the 1970s, but this was abolished in the 1980s. However, the election of a New Labour government in 1997 not only brought the devolution of powers to Scotland, Wales and Northern Ireland mentioned above, but also the creation of regional development agencies, only for these to be abolished when a change of government came in 2010.

The effect of these shifts in policy has been to further constrain the capacity for decisive public policy engagement at the metropolitan scale, at least outside London (where a more powerful city-wide scale of administration has survived). In addition the financing of UK local government has also been exceptionally centralised, with city-level councils only raising about 15% of their incomes from local taxes. Central government sets the budgets for more local levels of government to a large degree. How, in these circumstances, has the development of three contrasting metropolitan regions been undertaken over the past 20 years? The paper now turns to this question, focusing first on London, then on the cities in the north of England, of which Manchester is arguably the centre, and finally looking at the relationship between Glasgow and Edinburgh in Scotland.

London and the South-East of England

As noted above, London's global role and capital city status makes it pre-eminent within the UK. Hall and Pain (2006) analysed the growth of the South-East of England as a mega city region.

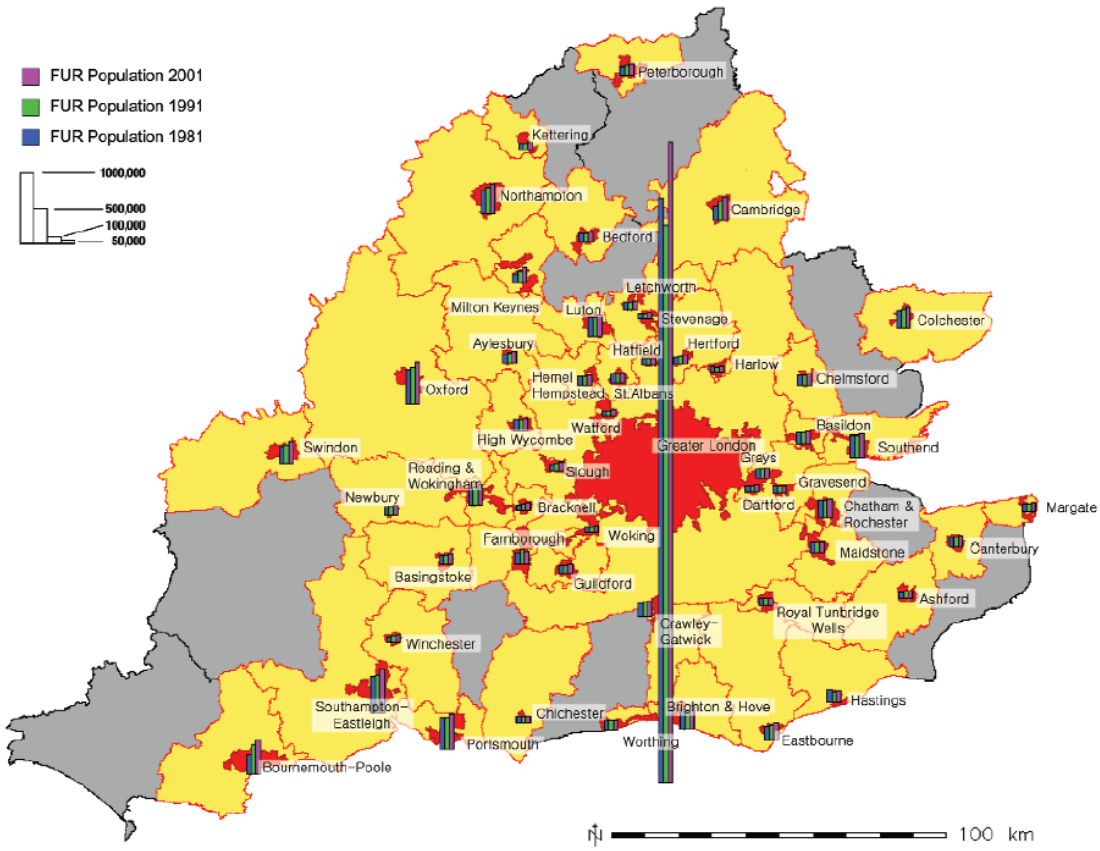

Figure 4: The growth of the South-East of England as a mega-city region 1981-2002. Source: Hall and Pain (2006, p.24).

As Figure 4 shows the influence of London extends beyond its administrative boundaries, leading Hall and Pain to describe the region as functionally polycentric. While the city itself lost population between 1981 and 1991, there was a sharp increase from 1991 to 2001. In addition, a number of the "outlying" cities – e.g. Milton Keynes, Swindon, Oxford and Cambridge – which have functional connections to London in the key field of financial services, experienced strong demographic growth from 1999 to 209 (Centre for Cities, 2011). A key feature of the work of Hall and Pain (2006) and Pain and Vinciguerra (2012) was to undertake a network analysis of the advanced producer services that connected London globally, and which were so significant to its growth. This revealed the particular importance of banking and financial services within advanced producer services in general, and that London's strongest links in this sector were with New York and the financial hubs of East Asia, Hong Kong, Singapore, Tokyo and Shanghai. Within Europe, London's strongest linkages were with Milan, Madrid, Brussels, Frankfurt, Warsaw, Amsterdam and Zurich. In addition the research explored the nature of clustering within London's advanced producer

services. This demonstrated a strong degree of clustering for banks, auxiliary financial services and insurance. Pain and Vinciguerra (2012, p.3) summarised their findings: "The international and multi-sector constitution of the City of London cluster means that transnational interactions and transactions are taking place within the space of the City which is a node for flows of labour, information, business, capital etc…. This means that this dense space has developed a critical mass of commercial office real estate for international corporate businesses and an international investment asset."

Thus, London's mega-region demonstrates in practice many of the propositions advanced by the new economic geography. The benefits of agglomeration and connectivity, along with the dynamics of clustering fuel a growth economy of international significance. The scale and spontaneity of the growth is notable, but it is important to understand the contribution of public policy. In 1979, the new UK government abolished exchange controls, thereby hugely enhancing the mobility of capital into and out of the UK. Then in 1986, during its second term in office, the government of Mrs. Thatcher further de-regulated the financial industry through what was known as the "big bang". This was ahead of similar moves elsewhere in Europe and resulted in London becoming a magnet for international banks and other financial traders. Within London, the UK government established the Docklands Development Corporation, with powers to acquire land and subsidise and promote major property development. While Development Corporations were established in other cities, nowhere else were they combined with the kind of market pressure generated by the "big bang", and nowhere else did they generate such spectacular outcomes.

By the late 1990s, average incomes in London were 15% above the national average (Townroe, 1999). Meanwhile, for the 2000-2006 funding period the UK was the only EU country, apart from Finland, where there was an increase in the number of people living in regions eligible for Objective 1 funds, i.e. living in regions where average GDP per capita was less than 75% of the EU average. Merseyside and South Yorkshire (traditional urbanised industrial regions) and West Wales and the Valleys along with Cornwall and the Scilly Isles were these regions. However, the metropolitan growth in London and the South East was supported by major UK government investment in transport infrastructure. The Channel Tunnel opened in 1994, providing a fast rail connection from central London to Paris and Brussels. Airports serving London at Stansted and Luton were expanded, and a new airport was created in London Docklands. Combined with the leading role already played by the other London airports, Gatwick and Heathrow, these investments further increased the dominance within UK of London's infrastructure for air travel and global transport connectivity.

To boost the development of the then relatively isolated London Docklands, the

Docklands Light Railway was constructed in the 1980s, connecting the area to the London underground network. The Piccadilly line tube train had been extended in 1986 to connect to Heathrow, and in 1993 work began on extending the Jubilee line (opened in 1979) to connect east and west London. The idea for mainline rail connections to join up the routes entering London from west and east had long been promoted. This scheme, called Crossrail, was supported by the Conservative government in the early 1990s who hoped that it could be financed by private investors. However, a financial crisis in 1993 put the scheme on hold, and it soon became clear that the private sector would not pick up all the costs. Eventually in 2000, the New Labour government under Mr. Blair included Crossrail in its 10-year national transport plan. After protracted consultation and evaluation, work began in 2009 on a scheme that is jointly funded by the UK government, Transport for London and the private sector. Then there came the 2012 Olympic Games, which further channelled large amounts of government investment into the development of the capital city. Provision of infrastructure for metropolitan growth of the London region has continued with plans for a high-speed rail connection to Birmingham, and a decision to allow further expansion at Heathrow through development of a third runway.

None of these huge investments, with all their implications for where economic growth is being fostered, have been part of any formal national spatial strategy, whether for the UK as a whole or for England. No such strategy has ever been published. Indeed back in the 1980s Hall, Breheny, McQuaid and Hart (1987) demonstrated how growth of hi-technology industries along the M4 corridor west of London had been driven to a significant degree by UK defence investment, and other public infrastructure developments such as the M$ motorway itself, rather than as part of a considered national strategy. Similarly, the various big projects described above also have emerged in piecemeal fashion, usually through transport sector plans, and often with long delays between the original advocacy for the scheme and its realisation. All the schemes have been subjected to forms of cost benefit analysis, and strong technical cases have been presented to justify them. In moving towards decisions, policy makers have therefore had copious supplies of evidence, though usually that evidence has been contested by opponents of the particular scheme. Part of the argument has often been about how adequately, or otherwise, negative externalities such as air pollution, airport noise levels, loss of countryside or damage to communities has been assessed. Decisions (and non-decisions) have also been shaped by constraints. In this respect, the decision to defer Crossrail after the 1993 financial crisis was significant in comparison to the way that China used investment in major infrastructure to combat the effects of international economic downturns. This demonstrates how constraints are interpreted through ideologies, while the 1980s commitment to reconstruction of the Docklands arguably

demonstrated ideology trumping evidence and constraints. Other constraints have been political, with local Members of Parliament opposing the Heathrow extension and the high speed rail line, to give just two examples. While I have been writing these paragraphs a government Minister has resigned in protest at the Heathrow runway go-ahead (Guardian, 2018)!

Provision of housing to keep pace with needs across the metropolitan region has proved to be another difficult challenge. This in part reflects the ideology of both Conservative and New Labour governments who both relied on volume house building companies to meet demand, regardless of the business models of such companies that rely on capturing land value increase, sustaining a surplus of demand over supply, and building out sites in a phased fashion so as to minimise fluctuations in requirements for labour and materials over time, and to avoid flooding the market with their products. However, a further constraint has been the opposition of local planning authorities to releasing land in the volumes and locations preferred by developers. This again reflects the political pressure placed on local elected politicians by their constituents. The result has been a chronic squeeze on access to affordable housing, particularly within London itself.

At a more local level, there was no strategic planning authority for London between 1986 (when the Government abolished the Greater London Council) and 2000 (when the New Labour Government set up the Greater London Authority and an elected mayor). The legislation creating the GLA required the plan to address three concerns: the health of Londoners; equality of opportunity, and its contribution to sustainable development in the UK. The first London Plan was then published in 2004. It celebrated London's economic success and sought to sustain it by further infrastructure investment: "The London Plan cannot realistically reverse these strong, deep-rooted factors driving change, nor does the Mayor wish it to do so" (p.3). Thus the plan endorsed increased plot ratios and higher densities in the hope of capturing as much as possible of the growth within the boundaries of the administration. Subsequent iterations of the plan, under very different Mayors, have taken a similar stance. The latest iteration of the plan (Mayor of London, 2017) notes the predictions of a 70,000 annual increase in population to 2040, and aspires to "Good Growth", claiming to break with previous plans by seeking community cohesion and social integration. "Growth at any cost… for too long has been the priority"(p.xiv).

Overall it appears that the growth of the UK's only real equivalent to a "metropolitan circle", the region of the South-East of England centred on London, is best explained by the macro-economic policy of national government which, by deregulation in the 1980s, facilitated the boom in advanced producer services, which have then been driven forward by their own clustering and agglomeration economies. However, while lacking in coordination

or an explicit national spatial strategy, the region has been supported by a series of seemingly separate major infrastructure projects: although some of these include private capital, the investment and underwriting role of the national state has been crucial to their delivery, albeit there have often been delays due to perceived financial or political constraints. The 2004 London Plan (p.2) noted "Lacking its own strategic authority, London's economy developed and its population grew, without a clear vision of their place in the UK economy, without effective strategic planning, and without a clear assessment of the resources and policies required to deal with renewed growth".

Last, but not least, we need to recognise the significance of the 2007-08 banking and finance crisis – and the UK government's response to it - for the growth of the London region. As is well known, the government opted to bail out the banks to avoid a complete breakdown of the system after the collapse of Lehman Brothers, and the chain reaction that it triggered. The UK Government spent some £1.1 trillion between 2008 and 2011 in rescuing the banks, though some of the money has been recovered (National Audit Office, 2018). In spatial terms the chief beneficiary of this was London, where, as shown above, banking and finance is highly concentrated. The debt incurred has been the basis for a decade of austerity which has seen deep cuts in public spending, especially at local government level: in other words a transfer of resources has taken place that has benefitted London disproportionately, at the expense of other regions.

Greater Manchester

As noted above, Britain's second largest metropolitan region is based on Manchester, some 180 mile north of London. However, as with London and the South-East, the definition of the boundaries of the region is not clear. From 1974 to 1986 (when it was abolished by the UK government) there was a Greater Manchester Metropolitan Council, that covered the area of 10 lower-tier District Councils, and even then the more affluent commuter suburbs were not part of the GMMC. Most of these District Council areas centre on a town that was once physically free-standing, and based on the cotton industry. Twentieth century suburban growth and the collapse of the textiles industry created what could be seen as an "accidental metropolitan area". The boundaries of the administrative city of Manchester itself are tightly drawn, and the city's population is only around 500,000, though the total population of the 10 Districts combined is around 2.5 million, with about another half million in the southern suburbs. The functional commercial area at the heart of the metropolitan region straddles the boundaries of Manchester, Salford and Trafford.

Rees and Harding (2010) analysed the agglomeration economies in this metropolitan

region. From the 1960s to the 1990s the area in general suffered from decline in its traditional industries, with de-industrialisation particularly severe in the 1980s. It was not until the late 1990s that the growth of service jobs began to create positive employment growth overall. Rees and Harding found that this service-led growth, and in particular financial services, was most evident in the regional core area of Manchester-Salford-Trafford, and that elsewhere employment growth was "modest or negligible" (p.14). A north-south divide began to consolidate within the conurbation. This continued after the financial crisis of 2007: as in London the financial services sector which looked most immediately at risk actually fared much better than expectations, while recovery was hardest for the outlying former manufacturing towns. A more fine grained analysis by the same authors found a number of "hot spots" that dominated the regional economy. This is illustrated in Figure 4. Furthermore, this detailed analysis, supported by interviews, revealed that there did appear to be agglomeration advantages to service sector firms operating in the metropolitan core, and to a lesser extent close to Manchester International Airport. However, while there was clustering of high value activity in these locations, it did not lead to a ripple effect of lower value service growth in more peripheral locations. Growth in the engineering sector was much lower, but also more widely distributed, with locations close to transport infrastructure a key factor.

Thus, market-based agglomeration effects did assist the core of the metropolitan region to recover from the deep problems experienced in the 1980s, which themselves had been in part triggered by macro-economic policies of the UK government (high exchange rates as oil began to flow from the North Sea). In addition the concentration of higher education institutions in the core benefitted the core cities as the UK government supported an expansion of higher education in the1990s and as the role of universities in regional development became more significant in a knowledge economy.

Public sector policy makers at levels within the metropolitan area had little direct control, but their supporting role should not be overlooked. As Williams (1995), Quilly (2000) and Rees and Harding (2010) recount, the politicians and city administrators in Manchester were very pro-active in developing local actions, taking advantage of UK government programmes, and even in initiating city-region development arrangements. The precise chronology and listing of institutions is too extensive to describe here, but the city of Manchester built pragmatic partnerships with the business community and had good links with the New Labour UK government (1997-2010). In particular, starting from an improbable bid to host the Olympic Games, they were able to receive government funding to restore derelict and polluted inner city land for a stadium for the 2002 Commonwealth Games, which is now the home of Abu Dhabi-owned Manchester City Football Club.

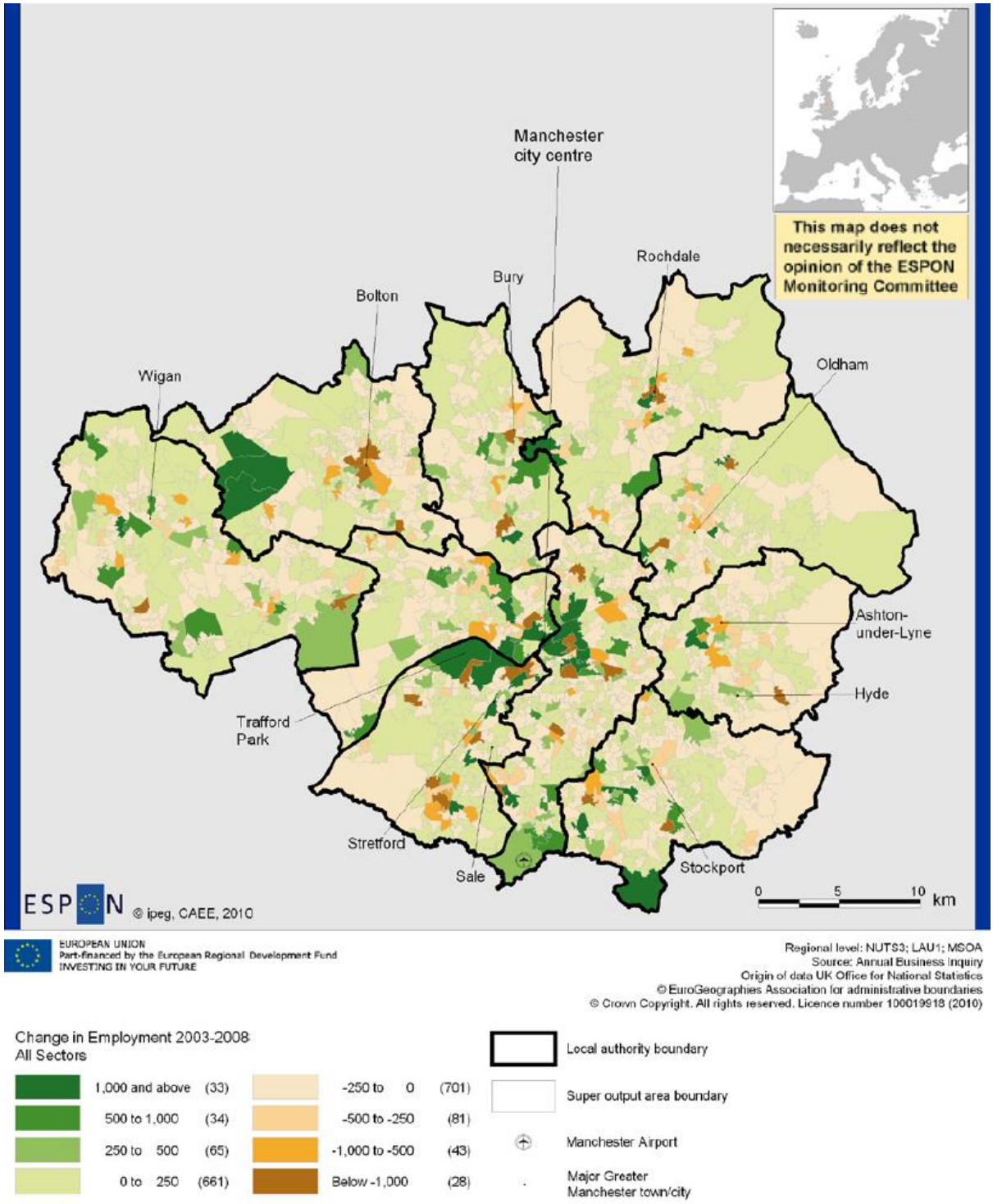

Figure 4: Greater Manchester Employment Change 2003-2008. Source: Rees and Harding (2010, p.16).

Two steps in this story are worth mentioning. One was the way Manchester led the idea

of city-region governance, not only within its own hinterland, but nationally within England. As Rees and Harding noted, the promotion of the city drew on its leading role in football and in popular music in the early 1990s, but soon embraced spatial assets beyond its boundaries, notably the attractive countryside of Cheshire which forms its southern suburbs and ex-urbs. Manchester also played a significant role in Core Cities, effectively an alliance of seven other English cities, plus Cardiff (the main city of Wales) and Glasgow. Core Cities have made an evidence-backed case to the UK government for place-based development and more devolved funding (see, e.g. Core Cities, 2015). In addition, they were able to engage with key Departments of the UK Government, putting the case based on agglomeration economies and clusters (without using those terms, though mentioning polycentric development) for the role of cities as drivers of regional economic growth (Office of the Deputy Prime Minister, et.al., 2003).

The early years of the new century saw the peak of UK Government interest in regional development, spurred by the cities of the north of England, with Manchester playing a leading role. In 2004 the Government launched The Northern Way, an initiative which came about as a political reaction from local governments and regional development agencies in the North to the announcement of £440M government money for the Thames Gateway (i.e. the estuary area of the Thames adjoining London to the east) and further £170M to address housing demand in the South East of England. The aim was for a 20 year project that would take a pan-Northern view, bringing together three regional development agencies across the region, and creating city region plans based on eight major conurbations, including Manchester. Transport improvements were central to the vision, with priorities to improve connections to airports and sea ports and between the conurbations themselves (Northern Way Secretariat, no date). Following a critical review of its performance, the Northern Way was restructured in 2008, to give it a stronger focus and less ambitious objectives – to change negative perceptions of the North rather than to narrow the productivity gap between the North and the South-East. Although progress was reported by 2010 (SQW, 2011), the Conservative/Liberal Democrat government under David Cameron elected that year closed down The Northern Way.

Almost a decade on, the UK has agreed a City Deal with the Greater Manchester Combined Authority, the amalgam of the eight local authorities (though still not including the more prosperous areas in Cheshire to the south of the city, which are certainly part of the functional urban area). City Deal has been replicated in other parts of the UK, but the Manchester agreement was the first. It gives the Combined Authority greater discretion in the way it spends money from the central UK government. The fact that the eight authorities had agreed a Strategy "developed through a robust process, including analysis led by an independent panel of world-class experts" (Greater Manchester Combined Authority, no date,

p.7) was identified as a reason why the government entered the agreement. Thus it appears that evidence played a part in the public policy making process. However, it is also clear that constraints and ideology were also present: "The strategy demonstrates the critical link between economic growth and competitiveness and public sector reform: without addressing the latter and reducing the economic drag of dependency Greater Manchester will not achieve its full potential" (Greater Manchester Combined Authority, no date, p.7). Taking the wider and more long term view, Rees and Harding observed that "The enormous legacy of economic decline facing Manchester was crucial in focusing energy amongst city leaders" (p.48): in other words the path they followed from the 1980s was constrained by the circumstances in which the city found itself.

Despite its strengths, endeavours and successes, the Combined Authority still has limited capacity to redress deep rooted weaknesses in internal connectivity and transport infrastructure. While the High Speed 2 train line from London is planned to reach Manchester in 2033, reducing the journey time by an hour from the current 2 hours and 8 minutes, heavy rail connections within the conurbation and between Manchester and the other northern cities are widely recognised as being inadequate. The fastest rail journey from Manchester to Leeds takes 49 minutes for a distance of round 40 miles; the 31 miles in the opposite direction to Liverpool takes an hour or more. The North West of England, which includes the Greater Manchester Combined Authority, was getting £680 per capita for transport investment in 2016/17; while this was better than other parts of the North of England, the London figure was £1940 (Institute for Public Policy Research, 2017).

Glasgow-Edinburgh

The final UK case study looks at the Central Belt – the traditional industrial heartland – of Scotland, with the cities of Glasgow (600,000) and Edinburgh (485,000) the poles separated by 45 miles. Between them are smaller towns that once were industrial centres, but now largely serve as commuter settlements, though there is also a planned New Town, Livingston (56,000) which has manufacturing and distribution employment, and is only about 15 miles from Edinburgh. The total population of the city region based on Edinburgh is about 1.4 million. There are also planned new towns at East Kilbride (75,000) and Cumbernauld (50,000). All three new towns were originally established to help improve housing and living conditions for people from Glasgow and the surrounding urban areas on Clydeside, though Livingston is closer to Edinburgh and was also intended to be a growth pole within the declining industrial area of West Lothian.

Edinburgh's economy has long been based on public services, education, financial services and tourism. The financial services industries are closely linked to the legal profession, and the fact that the Scottish legal system is different from that in England has

helped to glue these sectors to the city. The compact physical form of the city, together with its strong educational institutions has helped to create a situation where clusters can develop: for a long time the finance and legal services sectors were concentrated in the 18th century New Town in the heart of Edinburgh, but the advent of cabling and the availability of key sites saw a shift to a new hub just to the west of the city centre. The Chief Executive of Scottish Financial Enterprise, the sector's organisation, stated that "From my office I can, within a 20-minute walk, meet most of our members" (Ballantyne, 2017). Bailey, Docherty and Turok (2002, p.144) commented, "The concentration of employment in financial services reflects the general agglomeration economies for this sector and the prestige that many of the major Scottish financial institutions attach to an Edinburgh location". More recently, there have been signs of the development of "fintech" clusters, with cross-overs between the financial services and high technology sectors, in a small city where there are also many people working in finance and asset management.

Glasgow, as Scotland's largest city and the core of a larger conurbation of around 1.8 million, has always had a significant role in consumer services. However, until late in the twentieth century its reputation was as an industrial city, and from the 1930s onwards it was seen as an industrial city in decline. The number of jobs in manufacturing in the city of Glasgow fell from 73,200 in 1981 to 30,300 in 2000, and as in Manchester the 1980s was a particularly severe period (Scottish Executive, 2002, p.35). As production was shifted to cheaper labour locations globally, the inter-firm linkages in sector supply chains unravelled. The loss of jobs in heavy industry was shared across the conurbation, and in addition the planned New Towns attracted new firms and skilled workers, and contributed to a steep demographic decline, which was therefore significantly influenced by public policy. The population within the city of Glasgow itself had fallen from 1.14 million in 1961 to roughly 600,000 by the end of the century, though much of the movement was to elsewhere in the city region (Scottish Executive, 2002, p.24).

Finch and Cann (2013) summarised the contrasts in economic structures. Wider Edinburgh was found to be strongly specialised in creative industries, life sciences, financial services, tourism and higher education; whereas Wider Glasgow was most specialised in the sectors of energy and food and drink. This points to a potential complementarity, in line with the arguments advanced to support polycentric development. However, it could equally be read as an obstacle to growing business to business linkages.

The idea that a metropolitanisation strategy could connect Edinburgh and Glasgow to create an urban region with critical mass on a European, if not a global scale, has been suggested at intervals, but never commanded serious public policy support. The reorganisation of Scottish local government in 1975 produced regional scale authorities,

including Strathclyde Region based on Glasgow and Lothian Region, with Edinburgh much the largest city. However, the regions were competing with each other for finance from the UK government, rather than cooperating to produce better integration. Then in 1996 all Scotland's regional councils were abolished by the UK government, creating instead a system of 32 single-tier local councils. In 1997, the New Labour UK government passed legislation to devolve some internal affairs powers to an elected Scottish parliament. Though that Parliament has not changed the local government structure it inherited it did provide for city region strategic plans in 2006 legislation, though by 2017 it was seeking to abolish the requirement for such plans.

The regional structure plans produced by Strathclyde and Lothian between 1975 and 1996 did not prioritise stronger integration between their regions. Each adopted a restrictive green belt policy to contain the spread of the urban areas, a policy in line with planning policy set for Scotland by the UK government (and continued under the Scottish governments to the present). Then in 2002 the Scottish government set up a review of Scotland's cities. This included work by an Academic Panel, whose members were well versed in the research on agglomeration economies. Our report (Scottish Executive, 2002, p.11) argued that "as a hangover of last century thinking, we are currently underestimating and inhibiting the significance of cities for Scotland." However, its main focus was on functional regions and advocacy of the city-region as a unit, with discussion of cross-boundary integration limited to local government boundaries within the identified city regions. The political response was to provide some ring-fenced additional funding to five city regions (Scottish Executive, no date).

The Scottish governments have produced three National Planning Frameworks – a form of national spatial strategy – in 2004, 2009 and 2014. Over that period they have developed with a stronger focus on infrastructure and major developments, but have not aspired to develop a "metropolitan circle" based on Glasgow-Edinburgh. One issue has been the constraints of geography and politics: Scotland has large rural areas, and this makes competition for transport infrastructure investment particularly problematic, since the Central Belt, just by its centrality and urbanisation enjoys much better connectivity than other parts of the country. Noone (2007, p.4) argued that scale was increasingly important for international competitiveness, and could be "engineered", adding that "collaboration can reduce local 'zero sum game' competition by raising the growth prospects of all parties by focusing on complementary assets", a statement echoing ideas of polycentric development. However, the reality has contradicted these sentiments – Scottish urban policy has been seen as a zero-sum game, and the potential to better integrate the Glasgow and Edinburgh city regions has not been seriously addressed.

Edinburgh's (unpaid) "Design Champion", the distinguished architect Sir Terry Farrell,

had told the Scottish Parliament in 2004 that "If Edinburgh and Glasgow can get their acts together, it could become the UK's second most important region after London" (Noone, 2007, p.5). He continued this advocacy calling for a "spatial framework approach" (Farrell, 2008).

There was a Glasgow:Edinburgh Collaboration Initiative, which looked at the evidence base for better cooperation and experience from elsewhere in Europe. It was initiated by Scottish Enterprise, Scotland's national economic development agency, in 2006 and had the city councils of Edinburgh and Glasgow as partners, and was funded by money earmarked for the cities by the Scottish Executive after the Cities Review. The Chief Executive of the Initiative was quoted as saying "To catapult the combined metro region of Glasgow-Edinburgh into Europe's first league of metropolitan regions, additional investments in transport infrastructure will be key, i.e. high-speed trains between Glasgow and Edinburgh supplemented by a thoroughly improved metro mass transit system leading to better connectivity also for sub-regions" (Jamieson, 2014).

The Initiative commissioned research, which found that 1.8% of Wider Glasgow's workers commuted from Edinburgh, while commuting in the other direction contributed 4.3% of Edinburgh's labour market. Furthermore the researchers concluded that the quality of the transport network between the two cities was not hindering economic linkages between them, though in the longer term structural economic change and increased specialisation of labour was likely to increase pressure on road and rail capacity (Finch and Cann, 2013). However, Noone (2007, p.7) had argued that "a return journey by rail represents a considerable business time cost (up to half a working day when waiting times and connections at either end are considered), and the journey itself is slower and more prone to overcrowding than in the 1970s."

Over a decade later similar criticisms are still voiced frequently, and the train journey between the two city centres takes about an hour. A prominent Scottish journalist summed up what happened: "Meetings were held, papers produced, framework documents flourished and strategy agendas waved. It all fizzled out. Plans for a high-speed rail link foundered" (Jamieson, 2014).

Though a research case was made for growing Glasgow-Edinburgh as a metropolitan region, his idea has not been taken forward into public policy. Undoubtedly, the costs of dramatically improving the infrastructure were a constraint, especially after the onset of the 2007 financial crisis, and the subsequent imposition of austerity by the UK governments after 2010, since the finance for the Scottish government comes largely from the UK government as a percentage of UK-wide public expenditure. However, in contrast to what happened in Greater Manchester, the local level of government remained lukewarm about the scope for formal cooperation. Edinburgh, like London and even more than Manchester benefited from the UK government's bail out of the failed banks in 2008: the Royal Bank of Scotland, headquartered

in Edinburgh was bust. The taxpayer-funded rescue has meant that over the past decade Edinburgh has continued to be an affluent city, where most residents enjoy a high quality of life: rather than seeking growth through becoming part of a Glasgow metropolis, the public mood in the city is to keep things as they are.

The election of a Scottish National Party government, as a minority administration 2008-12 and after 2016, but with a majority 2012-16, was a factor in stalling pressures for Glasgow-Edinburgh metropolitan strategies. In 2008, the SNP heartland was in the north-east of Scotland, where constituents perceived the Central Belt, long the heartland of the previous Labour-led Scottish Executive, as being unfairly favoured in government spending.

Conclusions

The three case studies from the UK illustrate both general points but also important differences. In all three cases there is evidence of clustering and more general agglomeration economies. In each case, researchers or commissioned consultant reports have made persuasive cases to public policy makers that they should seek to accept and even promote agglomeration so as to grow the economy and enhance national and international competitiveness. The evidence appears to have had most impact in Greater Manchester, where it was used both to draw the eight councils into agreeing to a Combined Authority, and also to help convince the UK government that the Authority had a robust approach to public policy making. In Scotland, somewhat similar advocacy through the Cities Review and the Glasgow Edinburgh Collaboration Initiative, had some impact, in so far as the Scottish Executive set up a Cities Growth Fund and reinstated a city-region scale of spatial planning after 2006. However, the Glasgow City Region and the Edinburgh City Region remain separate entities and both are smaller in population than the Greater Manchester City Region, even if the latter does not include some affluent commuter areas to the south of the main conurbation, largely for political reasons. The truly metropolitan scale of London and the South East of England has precluded the need for advocacy of creating a metropolis. Research and evidence instead has largely been directed at making the (usually successful) case for specific infrastructure projects.

The idea of polycentric development, which was advocated by the European Union during the 1990s and into the new century, was picked up by researchers in the UK and spatial planning policy makers were also familiar with it. However, ambiguities within the concept itself and the lack of a strong evidence base, meant that it never gained much traction in the UK, and after the financial crisis and the 2010 change of UK government, it virtually disappeared, along with England's Regional Development Agencies and the Northern Way. In none of the three case studies has a spatial strategy played a decisive role in shaping metropolitan growth: the spatial dimension of the case for agglomeration has more usually

been subsumed by arguments about skills, productivity or business/tourism promotion.

Ideology has filtered the evidence, and also shaped perceptions of constraints. London, Manchester and Edinburgh all had local administrations which in the 1980s stood out militantly against the ideology and actions of the Thatcher governments. A generation later they all had administrations that were "business-friendly" and pragmatic in tone. In Manchester this conversion was central to the attempts to grow through creating market-friendly conditions (agglomeration) rather than through replacing the market with municipal interventions.

Ideology was vital to the interpretation and creation of constraints. Firstly, there were the actions of the Thatcher governments in creating the deregulation of finance that opened the way for "Big Bang" and the opening of London's Docklands to global capital through the work on the ground of the Development Corporation. Then came the New Labour era, which showed more interest Europe and in regional issues, and restored a strategic authority to London, creating Regional Development Agencies in England and the City Growth Fund in Scotland. Most crucially New Labour opted to bail out the banks in the financial crisis, a move that most directly supported the largest urban areas, and was then followed after 2010 by austerity policies which held back infrastructure investment in Greater Manchester and in Central Scotland, while also marginalising the role of strategic spatial planning. Similarly, the very centralised nature of the UK state, and of the Scottish government, has ensured that the power of local level governments to drive their own development agenda is very weak, compared to cities in Europe or North America.

However, not all constraints are rooted in ideology. History and geography have deeply defined the trajectories followed by our three case study regions. Thus we have one truly global city metropolitan region based on London, where successive governments have seen major investment in infrastructure as in the national interest. In Greater Manchester and the wider Northern Way, we have a city region, which is not completely a functional region and lacks connectivity to other city regions that could make them together a counter-pole to London within the UK. Then in Scotland we have two relatively small city regions, where only a spatial planning function in each separately defines them as city regions at all, and the government is proposing to abolish the requirement for such Strategic Development Plans,

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The Importance of the Circular Economy for Circular Metropolitan Cities in Europe

循环经济对欧洲都市圈的重要性

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For 26 years, **Ms. Madarshahi** served at the United Nations Secretariat in New York in various capacities, including as Senior Economist; External Relations Officer; as a member of the UN Secretary-General's Task Force on the Decentralization of Economic and Social Issues; as a Management Policy Analyst; as a Senior Advisor to the Executive Secretary of the Reform and Efficiency Board of the UN and as an elected President of the UN Coordination Committee of International Staff Unions and Associations (with 26 thousand staff world-wide).

She was the Paris Correspondent of Maxims News and the United Nations Diplomatic (UNDIP) newspaper. She was elected as a Member of the Supervisory Board of the credit union bank in Luxemburg.

She found in 2004 the "Melody for Dialogue among Civilizations" Association, with branches in France, Switzerland, Hong Kong and New York. The Association has organized and produced mega multi-cultural concerts for advocacy and awareness on pressing social and economic issues working closely with UNESCO, UNEP, HABITAT, CERN and academia, Northeastern University in Boston, New York University and American University

in Paris.

To promote environmental policies through cultural diplomacy, she founded “Global Cultural Networks (GCN)”, and the MAH, Shenzhen-Qianhai Global Cultural Consulting to assist in the organization of pertinent international conferences and fora. In collaboration with UNESCO and the City of Shenzhen, GCN has organized the international conferences on digitalization of books and the future impact on the book industry (2013), the international conference on the future urbanization and the creation of “Smart Cities” (2014), and the international Conference on digital publications and future technologies (Nov. 2015)

She is a contributing author to many publications and speaker at major international conferences, among them, Nanjing Youth Festival, World Water Day (SEE, Beijing) UNESCO IPP, South China University for Technology, International Day of Peace (Milan), World Culture Forum (Bali, Indonesia, December 2013), the Forum on Arts and the City as well as Beijing Creative Cities Network Summit (October 2013). She is also a regular speaker at the Guiyang Eco-Forum Global (see www.cltureisglobal.org).

For her innovative approach to international dialogue through music, she was awarded by UNESCO, the Marrakesh Environment Association, the City of Guangzhou, and the Aspen Institute in Washington. At present, she is an Advisor to the Guiyang Eco-Forum Global (EFG), the Visiting Professor in the IPP, University of South China in Technology and the Vice Chair of the Economic Forum for Asia and Pacific in Beijing.

The Importance of the Circular Economy for Circular Metropolitan Cities in Europe
循环经济对欧洲都市圈的重要性

Abstract

Historically cities have been engines for economic growth and political power, and hubs for innovation and change. Today, Cities present a sustainability conundrum. While they are the most efficient means of service distributions, they remain large-scale consumers of water, energy natural and processed products. Above all, they account for more than 80% of the world's greenhouse gas emissions, Urban administrators in most countries face huge challenges from traffic jams to inefficient infrastructure, to social inequality, to housing and energy inefficiencies. The world's population will grow to 9 billion by 2050 or earlier, which will have another detrimental impact.

Intensified population growth and increasing pressures on urban systems call for an urgent shift to a new paradigm by rethinking the linear economic model upon which cities operate today. The circular economy offers cities a systemic framework to address some of their most pressing challenges and create new opportunities for building resilient and prosperous communities.

A circular city embeds the principles of a circular economy across all its functions, establishing an urban system that is regenerative and restorative by design. These cities aim to eliminate the concept of waste, keep assets at their highest utility at all times, and are enabled by digital technology

Not many cities at the present time have either the capacity or inclinations to convert to circular systems. The City of Amsterdam in the Netherlands Europe is one of the few outstanding examples in this regard.

摘要

自古以来，城市都是经济和政治发展的重要推动力，亦是创新和变革枢纽。然而，如今城市面临着可持续发展的难题。城市不仅作为服务分配最有效的途径，亦拥有最大的水、能源、天然产品和加工产品等大规模消费群体。最关键的是，城市所产生的温室气体占世界总量的 80%。大多数国家的城市管理部门面临着交通拥堵、基础设施不完善、

贫富差距、住房以及能源分配不均等各种严峻挑战。到 2025 年，世界人口预计将达到 90 亿，这将进一步加剧城市问题。

随着城市人口的不断增长以及城市系统压力的不断加剧，我们迫切需要转变当今城市运作所依据的线性经济模式。循环经济为城市提供了一个系统框架，以应对最为迫切的挑战，以此建立富有韧性、繁荣的社区。

循环城市在行使其各项职能时嵌入循环经济原则，规划建立一个可再生、可恢复的城市系统。这些城市依靠数字技术驱动，旨在消除浪费观念以及保持资产的最高利用率。

当前许多城市并不具备转换循环系统的能力或者向其转换的倾向。在这此方面，荷兰的阿姆斯特丹则是最突出的例子之一。

The Importance of the Circular Economy for Circular Metropolitan Cities in Europe

Cities present a sustainability conundrum. While they are engines for economic growth, political power, hubs for innovation and change and the most efficient means of service distributions, they remain, large-scale consumers of water, energy, natural and processed products, and account for more than 80% of the world's greenhouse gas emissions. Urban administrators in most countries, face huge challenges from traffic jams to inefficient infrastructure to social inequality to housing and energy inefficiencies. These problems are complex and call now for rethinking the metropolitan centers planning as well as operations and their present practice of linear economic models upon which cities operate.

Today, cities need to shift to a new paradigm. The circular economy offers cities a systemic framework to address some of the most pressing challenges and create new opportunities for building resilient and prosperous communities through a systematic approach to participatory economic governance and by reconciling social, cultural and environmental pillars of the cities. Technology and innovation, are critical components to drive economic growth in circular cities and therefore, the inter-linkages between design and technology are considered key to future sustainability of circular cities. In those, the air is clean and the environment is pleasant and green and all the vital needs of citizens and users of the city are met. Circular cities of the future are fully adapted to the consequences of climate change. They aim to eliminate the concept of waste and keep assets at their highest utility at all times, enabled by digital technology. They produce and promote use of renewable energy, introduce infrastructure adapted to the needs of the city and its citizen. and plan eco-mobility to move from points A to B. A circular city embeds the principles of a circular economy across all its functions, establishing an urban system that is regenerative and restorative by design.

A vision and roadmap for the city and region provide guidance to municipalities regarding potential steps towards increased circularity.

Europe is light years ahead in the race to circularity, with exemples sprouting up in Amsterdam, London, Paris and Cremona, Italy, to name a few.

These cities aim to eliminate the concept of waste, keep assets at their highest utility at all times, and are enabled by digital technology.

While many cities have introduced share-ride systems, London has taken the sharing model one step further, creating a "Library of Things", where people actually share electronics and appliances. This is a genius concept extending the useful life of many assets and vastly reducing the amount of new products purchased and eventually discarded.

Cremona, Italy is focusing its circular efforts on waste management, piloting door-to-door collection and citywide second-hand markets. The city has also introduced a tariff on any waste that cannot be collected. In just two years, Cremona has increased recycled waste from 53% to 72%.

This initiative is part of a larger roadmap that explicitly connects with and builds on the many plans that are already being or will be implemented.

Amsterdam's focus is on urban transportation, community development, and the integration of the built environment with smart concepts for the connection of mobility, energy generation, storage and exchange. Through various experimentations Amsterdam has identified that redesigning product and material supply chains can save the city 85 million Euros per year in construction costs and 150 million Euros per year through the use of organic residual streams.

The design for a metropolitan circle in Amsterdam entails moving towards radial sectors and belts via pathways into areas known as circulars or rings. Circular belts then subdivide the radial sectors which extend outward from a central point forming a widening circular grid structures. As the circle widens, more circular belts follow until the perimeter is reached where the environment is allowed to return to wild nature without any form of sprawl. In such a circular city every person will be within a reasonable distance to access every facility the city has to offer. The proposed circular shaped city ensures that no access point on the circle is ever further away than half the circumference of the circle itself which is an important design consideration for emergencies.

In such design, resources that drive human activities are by definition regenerative rather than linear or degenerative: be it energy, water, materials, nutrients or clean air. Therefore, the focus shifts from gradual destruction of resource-value - "take, make, waste" – to value-creation through models based on cascades and cycles.

Research programs are an essential part of such planning. Their focus is on three, strongly interrelated subthemes: materials & buildings, nutrients recovery and urban energy systems. Each subtheme has its own research priorities, informed by the interplay between city, society and science. They are rooted in the definition that circular cities are cities that understand, establish, monitor and control circular economy principles in an urban context, whilst realizing the vision of a resilient, future-proof city.

An important focus within the theme of materials & buildings is on materials temporarily stored in built constructions for diverging periods of time, including the question how to streamline supply, demand and conversion processes of those materials, components and buildings. The second theme concerns nutrient recovery from (waste) water streams. At stake are methods and systems to better reutilize nutrients, materials and energy in water flows, as well as the integration of wastewater treatment systems on different scales

in urban regions. The third theme centers on the transition to renewable energy sources and its infrastructural implications, dealing with increased variability in consumption, storage and production at multiple scales. This theme accentuates innovation in systems engineering & integration, energy storage, and information technology, adopting a citizen perspective.

The impact on how cities are conceived, materialized and operationalized in a circular framework can hardly be overstated. Owing to complexity of cities some impacts can be imagined and others at best have to be anticipated. The implications of a circular agenda are thus significant, and we only just begin to fathom its magnitude.

In addition, the proliferation of various interpretations of the meaning of circularity and its new value systems by cities and citizens also has created difficulties for urban planners. Some interpretations are essentially linear processes to be made more efficient, such as in Cremona, Italy. Other interpretations may seem 'too holistic' such as the proposed plan for Amsterdam where not only the formation of the city will change from linear to circular but where also the whole value system of citizens as well as their economic practices will be revamped.

Nevertheless, the present urban environment around the globe is in dire need of a different approach. Resource depletion and waste generation are two phenomena that, due to their non-regenerative and polluting character, hinder healthy and sustainable development of urban environments. The transition to renewable energy sources requires smarter energy infrastructures and grids that are able to deal with increased variability in consumption, storage and production at multiple scales. Reliable and sustainable energy systems for the urban environment can have also the potential to reduce CO2 emissions and improve the urban quality of life. A shift from linear to circular resource management could, therefore, offer a potential solution for the present models of metropolitan planning and operations. It is important to review systematically all design processes so as to address the behavior and accessibility of systems and objects over time as well as to assess whether digital mechanisms for city infrastructure - such as waste management, water, sanitation and power supply - can be better designed for future platforms.

Urban design and architecture must also follow trends of new visions and lifestyles. Planners must reserve space for future development such as infrastructure and public facilities and so on.

New technologies and research findings can assist to make an urban center more livable and beautiful. In order to link cultural policy with industrial policy, urban planning, and environmental policy, the vertical administrative structure must be made horizontal, ordinary bureaucratic thinking must be eliminated, and organizational culture must be changed.

A long road lies ahead but the difficulties are not insurmountable.

The European SUMP Method Linked to Paris and Strasbourg Metropolitan Circle Scenarios

以欧洲 SUMP 方法探索巴黎和斯特拉斯堡等探索性大都会情景

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She directs several research project funded by the French Ministry of Environment (MEDDE) and the French Ministry of Culture (MCC) on the topics of: 1. Metropolitan development, regional planning and urban design, innovative and integrated mobility, railway infrastructures and railway stations; 2. Historical courtyards blocks in European heritage cities; 3. Architectural and urban European theories (20thCentury). She edited several scientific publications (books, thematic magazines and articles). Recent English publications: "Designing the "energy city": future scenarios for European and Asian metropolises", with Andreea Grigorovschi, Urban Design Journal, Tsinghua University, Beijing, n°12, 2017, p.

42-53; "The industrial and commercial harbors of Strasbourg: wasteland territories in transition towards a sustainable cross-border metropolitan core", with A. Grigorovschi, H. Antoni, in HISTORY, URBANISM, RESILIENCE. Change and Responsive Planning, International Planning History Society Proceedings, Delft, v. 03, 2016, p. 91-98; "Strasbourg Eurom étropole, a cross-border conurbation towards new sustainable mobility patterns", with Andreea Grigorovschi, Spatium n °33, 2015, pp. 18-25.

In 2008 she founded with Yannis Tsiomis the Atelier CMYTstudio and she is the Senior Adviser of CMYT R&Dfor innovative research in urban architecture and mobility. The research and professional works of the studio are exposed in the Venice Biennale of Architecture 2018 (Palazzo Bembo, "Time, Space, Existence" program), entitled "The Power of urban architecture".

The European SUMP Method Linked to Paris and Strasbourg Metropolitan Circle Scenarios

以欧洲 SUMP 方法探索巴黎和斯特拉斯堡等探索性大都会情景

Abstract

The European SUMP method and the exploratory metropolitan scenario: Paris and Strasbourg as case of study

Integrated mobility strategies and efficient connectivity with particular focus on public transports are today central issues for a sustainable metropolitan development and for a balanced correlation between urban cores and metropolitan circles.

In this frame, many studies have identified in the direct relation between urban density and transports patterns the key challenge factor for successful and sustainable metropolitan environment. These studies, which mainly focused on quantitative indicators, have highlighted that a reduction in urban density (sprawl) corresponds to an increase in private car trips and less efficiency of the public transport network. The TOD (Transit Oriented Development) paradigm was developed as a logical consequence in an attempt to define an ideal urban model/pattern. Linked to both quantitative indicators and qualitative metropolitan markers, more recent studies have focused on the SUMP (Sustainable Urban Mobility Planning) method and on the exploratory scenarios strategy their objectives. These approaches highlight not only the smart but also the human factors (quality of live, multi-actors governance, transversal policies) in the relation between urban density, integrated public transports and metropolitan development.

Whilst this relation was extensively examined and explained in the European context, a closer look to specific case of study in the French context shows very different situations. This paper analyse the SUMP method as a new general approach for European metropolitan areas and focus on the scenario phase the essential key point for integrated mobility strategies. It suggests that, for Paris and Strasbourg, there are very different key factors that interplay in urban public transports and that are shaping the identity of metropolitan areas (cores and circles) as well as their mobility patterns.

We argue that qualitative factors besides quantitative ones are actually explaining the gap between the two realities of Paris and Strasbourg, including: the history of urban infrastructures, the local settlement patterns, the urban fabric structure, the accessibility to public transports, the housing styles preferences, the implementation of policies/planning strategies, the environmental policies and goals, etc. In a moment in which the debate around light rail seems to have in part lost its attractiveness, due to the need of massive infrastructural investments, radical innovative systems and practices are emerging. Comparing the urban development history, urban structures, policies, governance, which led to such different approaches and outcomes, the paper will try to identify possible future trajectories and innovation patterns for the sustainable development of an efficient urban

mobility at the scale of metropolitan cores and circles.

摘要

如何把公共交通与综合移动战略相结合，平衡都市圈与城市群的发展以及提高大城市可持续发展的潜力，都是当今世界的重要议题。

研究表明，城市密度和交通模式之间的直接关系是营造可持续大都市环境的关键挑战因素。这些主要侧重于量化指标的研究强调，城市密度的降低意味着私家车出行的增加以及公共交通网络效率的降低。“公共导向型发展”模式是为了定义理想的城市模型/模式而开发的。最近的研究主要集中在城市交通可持续发展规划和情景策略探索上。这种发展模式不仅突出了城市密度和综合公共交通与大都市发展之间的密切关系，而且突出了生活质量、多方治理、横向政策等人为因素。

虽然学术界对这种发展模式在欧洲的运用已进行了广泛的研究和解释，但在法国范围内运用却出现了不同的结果。本文分析了欧洲发展大都市区的一种新的通用方法,即“可持续发展的城市交通规划”，以及综合移动战略的关键要点。本文认为，巴黎和斯特拉斯堡的城市公共交通中存在着不少可形成大都市区的有利因素。

除定量因素外，这实际上解释了巴黎和斯特拉斯堡之间的现实差距，包括：城市基础设施的发展史、当地的定居模式、城市结构、公共交通可达性、住房偏好、城市规划战略，环境政策等。由于急需大规模的基础设施投资以及激进的创新体系和实践的兴起，围绕建设轻轨的辩论正逐渐失去关注度。通过比较城市发展史、结构、政策以及治理等方面，本文尝试探索未来城市化的发展轨迹和创新模式，以便在都市群和都市圈内实现有效的城市交通可持续发展。

The European SUMP Method Linked to Paris and Strasbourg Metropolitan Circle Scenarios

1. Introduction – European SUMP and poly-SUMP method for planning mobility systems

Actually, one of Europe's main objectives is to overcome the negative externalities of 20th Century urban mobility especially in metropolitan areas and to move towards sustainable policies for a democratic mobility transition focused on integrated strategies and efficient connectivity. To achieve this goal, the European Commission has attempted "to draw together the maximum of the available information and intelligence": according to the "study to support an impact assessment of the urban mobility package" (October 2013, EC DG MOVE), the benchmark on sustainable urban mobility concluded on a lack of general coordination and undefined targeted policy actions. The European Commission has therefore actively promoted the "SUMP concept": guidelines were established, which provide local authorities with a clear framework for the development and implementation of a general planning method. Through the on-going Horizon 2020 research-actions programs (H2020) Member States are driven to adopt those method and practices at national level and to ensure the right legislative and support conditions for their local authorities.

What is SUMP exactly? SUMP is the acronym of Sustainable Urban Mobility Plan derived from the 7th European Commission research and research-actions programs. It was defined in the 2000s and adopted by several local authorities as an experimental method for draw together information and intelligence, organize cooperation across different policy areas and sectors, across different levels of government and administration and in cooperation with citizens and other stakeholders. The aim was to develop a plan derived from a common vision for the future of the metropolitan territory, with people and mobility systems as the focus.

More recently poly-SUMP (polycentric Sustainable Urban Mobility Plan) is adopted as new acronym for a planning concept adapted to the "diffuse city". Planning urban mobility is a complex task for any city, but it is even more complex when urban functions, people and mobility are spread in different urban cores such in the polycentric regions of the new metropolitan circles. In these regions, the "diffuse city" concept is related to the pattern of concentration versus distribution of the population, facilities, and jobs, who generate daily mobility flows in disparate sectors.

Planning daily mobility in the new metropolitan circles characterized by alternating dense and sprawl urbanity requires to coordinate policies and services of many actors – transport and urban planners, local and regional policy makers, urban and interurban public transport providers – within and across different administrative boundaries. Without any such common strategies and planning, people are almost obliged to take the "do it yourself"

solution of individual car use for any daily mobility purpose. This is increasingly problematic for large portions of the population living in these polycentric metropolitan circles.

Exploiting the "diffuse city" concept, the European Commission launches on 15 April 2012 the poly-SUMP / Intelligent Energy Europe project, which runs until 15 October 2014. Coordinated by Regione Marche (Italy), the project is implemented by a consortium of regional authorities and experienced consultants and research institutes in urban transport planning across Europe – Marche (IT), Central Alentejo (PT), Central Macedonia (GR), Rhine Alp (AT), Heart of Slovenia (SI) and Parkstad Limburg (NL). The aim of this poly-SUMP project is to develop a polycentric sustainable mobility planning methodology, testing concrete planning processes based on the Future Search Workshop, organized in the six participating regions of Europe, and checking the transferability of the approach to other metropolitan regions. The expected outcome of the project is detailed guidelines to develop and implement mobility planning experiences in the polycentric European regions. A particular focus is done on public transports as a central issue for a sustainable metropolitan development and for a balanced correlation between metropolitan cores and circles.

2. Future Search Workshops and Explorative Scenarios: state of the art and methodology

Since the 1990s American studies have identified in the direct relation between "diffuse city" and transports patterns the key factor for a successful and sustainable metropolitan environment. These studies, which mainly focused on quantitative indicators and a top-down approach, have highlighted that a reduction in urban density (sprawl) corresponds to an increase in private car trips and less efficiency of the public transport network. The Transit Oriented Development (TOD) paradigm is developed as a logical consequence in an attempt to define an ideal urban and metropolitan pattern (Calthorpe, 1993). The creation of compact, pedestrian-oriented, mixed-use communities is mostly centred on regional high quality train systems and stations. This makes it possible to live a lower-stress life without complete dependence on a car for mobility and survival (Cervero, Ferrell and Murphy, 2002).

The concept of transit-oriented development is rarely used in Europe, although many European cities have historically been built around transit systems, before for pedestrian and horses ways, then including train systems and at least cars-way and highways (Dupuy, 1995). Since the 1990s, European cities such Copenhagen in Denmark, Hamburg in Germany or Rotterdam in Holland, stress the idea of integrated mobility solutions and focus their mobility policies on bottom-up frameworks defining qualitative metropolitan markers as new solutions to the serious and growing problems of "diffuse city" (Indovina, 1991) and of "in-between" territories in metropolitan circles (Siewerts, 2004).

Based on this experiences and linked to both "high technology" and "soft" solutions, the European SUMP method highlights not only the smart but also the human factors (quality of live, multi-actors governance, transversal policies) in the relation between urban density,

integrated public transports and metropolitan development, by creating denser communities linked to regional and high speed trains systems. This is why, for its first step – the "preparing well step" -, the SUMP method is focused on the German *Zukunftswerkstatt* ("Workshop of the Future") which was created and engineered at the beginning of the 1980's with this objective: allow ordinary citizens to participate in urban planning in order to achieve a "democratization from below" from such metropolitan processes. The Workshop of the Future is a three days meeting involving 60 to 100 people who share a common purpose. It is a learning laboratory for getting everybody improving whole systems. It rests on four main conditions for success (Mission Publique, EC) :

• Get the "whole system" in a room: this means that all parties having a stake in the outcome should be invited and motivated enough to come so that the working group represents a significant cross-section of the stakeholders;

• Think globally, act locally: starting by exploring the larger context before seeking to fix any part and get everyone talking about the same world;

• Be sure to put the common ground and the future in the focus of the work, while treating problems and conflicts as information, not action items;

• Encourage self-management and responsibility for action by participants before, during, and after the future search.

Therefore, the SUMP method adopt for its "preparing well" phase this "future search" method following three main purposes: to create a shared action plan for an organization, network, or community; to enable all stakeholders to act on common ground and take responsibility for their own plans; to help people implement an existing vision that they have not acted on together.

This methodology enables organizations and communities to learn more together than any one person can discover alone and helps to extend traditional processes of change and organizational/policy development in new directions. The key word is "shared": bringing the "whole system in the room" helps to make a shared encounter with complexity and uncertainty feasible, leading to clarity, hope, and action. When we explore common ground with others, we release creative energy, leading to projects that all value and none can do alone.

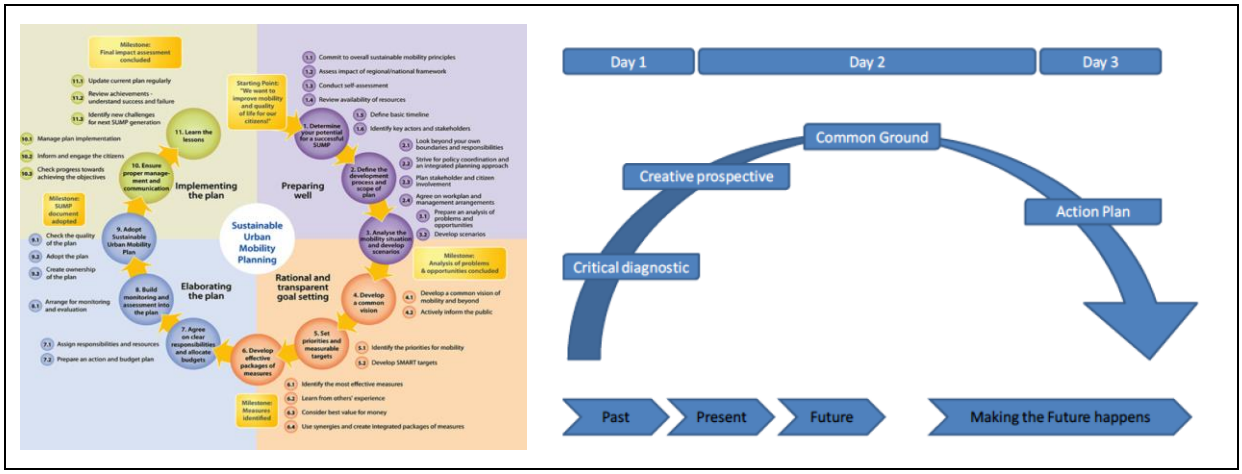

Fig. 1. The SUMP method and the 3 days' Workshop of the Future related to the "preparing well phase".

The result of such a collaborative workshop is not only a document with actions (what stakeholders are going to do) and task forces (who from the workshop is going to do it), but also a common vision shared by the actors. Related to a "possible future", this vision is represented trough several "explorative mobility scenario" (Börjeson, et al., 2006). By this way, the explorative scenario tool favours an inductive mode of thinking in search of "making the future happens". Unlike other ways of scenario development (predictive or normative), the explorative scenarios support the idea that it is impossible to predict what will really happen as well as to try to define and then reach an ideal configuration. This scenario approach aims the exploration of the future by unfolding a range of possible consequences (risks, strengths, gaps, etc.) without trying to predict probable futures, nor to find the most preferable one. In other words, explorative scenarios inquire possible futures on the "what" and "why" levels – What can happen? and Why would it be interesting/risky/damaging for it to happen? – whereas the revealed possibilities are meant to evolve and further trigger the "how" level – How could this be possible? Published in 2006 by Martin Borjeson (Swedish strategist, scenario developer and futurist) and his colleagues within the field of Future Studies, this approach is based on different concepts of future – probable, preferable and possible. Within our disciplinary field, regarding the question of scenarios as a tool for envisioning possible territorial futures, we refer mainly to Paola Viganò (2012).

In this way, explorative scenarios are conceived as a tool to stimulate and enrich the collective reflexion and debates on the metropolitan development (Mazzoni, Grigorovschi, 2015). They are not to be confused with action-oriented proposals as in a range of choices for decision-making. Explorative scenarios gives the stakeholders a chance (at least during their initial development) to fly free of any on-going political trends and directives, escape the institutional constraints and administrative perimeters and set aside the question of governance.

Moreover, this should not be confused with utopian or romantic approaches, since the

scenarios' baselines are always attached to territorial realities, as in geographical and landscape features, local landmarks, cultural representations, and ways of living and sharing this metropolitan space. Thus, scenario developments as experienced in a "future search" rely on quantitative and qualitative data in order to cover and explore not only explicit features, as physical layouts and ways in which the territory functions, but also implicit ones, such as mental constructions related to the former. This implies both a spatial and a conceptual exploration of possible futures during scenarios' development (Grigorovschi, 2016).

3. Revealing possible futures for Strasbourg and Paris metropolitan circles though the explorative scenario approach

In a comparative analysis between several cities, explorative scenario can be meant as a tool to stress different planning orientation and objectives related to both the metropolitan territory and the local situation. In fact, even though the results of the SUMP's "preparing well phase" can be considered naïve or "immature", unfinished and sometimes even incredible, this inductive and bottom-up method is able to point out real topics and objectives coming from the background of each situation. Raising awareness to possibilities, rising technical or political question marks in terms of governance, legal frameworks, practical implementation, the scenarios become a tool for sharing knowledge at different scales: local, metropolitan and European ones and moving forward in seeking innovative ideas for a synergic metropolitan development.

A closer look to specific cases of study of Strasbourg and Paris shows different situations related to mobility strategies for a sustainable metropolitan development and for a balanced correlation between urban cores and metropolitan circles. Between Strasbourg and Paris, there are very different key factors that interplay in urban public transports and that are shaping the identity of metropolitan areas (cores and circles) as well as their mobility patterns. Qualitative factors besides quantitative ones are actually explaining the gap between the two realities of Paris and Strasbourg, including: the history of urban infrastructures, the local settlement patterns, the urban fabric structure, the accessibility to public transports, the implementation of policies/planning strategies, the environmental policies and goals.

a. Explorative scenarios for Strasbourg

In the French context, Strasbourg is an exemplary case study for its sustainable metropolitan development and its tension between the local and global: Strasbourg represents a "balanced metropolis" with a strong symbolic border dimension to its regional claims. These local and regional components were developed in the long term after the polycentric "Rhineland model" of German and Swiss cities. Furthermore, geographical and cultural proximity to Germany - and its *Energiewende* - also makes the Strasbourg area an interesting case study when it comes to energy transition and its impact on the territorial development

(Mazzoni, Grigorovschi, 2015).

In addition, Strasbourg has recently become a local authority with special status – the Eurométropole[1] – replacing the former local authority, the Communauté Urbaine de Strasbourg-CUS. Supposed to "enhance metropolitan economic functions, transport networks and academic resources, research and innovation, in a spirit of regional and interregional cooperation and with a desire for balanced development of its territory" (LOW 2014-58), the newly created Eurométropole is thus a key actor for the future metropolitan development. This is a major challenge, especially in the particular context of Strasbourg, where the concept of metropolitan development territory includes the metropolitan system of the Upper Rhine along with the idea of innovative governance of the projects, shared between several institutional actors referring to multiple scales and diversified skills. In this perspective, one of the best ways for Strasbourg to prepare itself for the developement of the Eurométropole is to combine city and university into forming a cluster of excellence actors working on the new meaning of sustainable metropolitan development and governance.

The concept of Metropolitan development territory refers to the complex interdependencies between regional dynamics and worldwide challenges, in particular climate change and energy provision, which were considered as prominent issues with potential effects on spatial structures and dynamics. Even if there is a growing agreement that the challenges of the metropolitan and transnational territories are important, it is not always clear for the local stakeholders in what ways they can build and represent these structures and dynamics (Mazzoni, d'Emilio, 2014). The competences necessary to act directly – and coherently – through an integrated metropolitan and transnational perspective on spatial dynamics are to be known and reinforced.

In the field of sustainable urban planning and urban design, AMUP laboratory (Architecture, Morphology/Morphogenesis and Project) in Strasbourg explores this kind of articulation between various spheres, including that of multi-modal infrastructure planning and that of governance at the scale of the metropolis. Within this structure, the goal of the research-actions is to create collaboration with the local authorities on metropolitan mobility planning. Such partnerships have been initiated through national researches between 2000 and 2015 (supported by the French Ministry of the Culture-MCC and the French Ministry of Environment and Energy-MEDDE). In 2014, the cooperation between AMUP laboratory and Eurométropole of Strasbourg (former CUS) resulted in the creation of a new framework, the "Atelier des mobilités métropolitaines" (IMM Chair/AMUP-Eurométropole Strasbourg, 2014). Since the beginning, the Atelier focuses mainly on experiencing new methods for the construction of common objectives and knowledge, shared between researchers and stakeholders. This framework was enlarged further in 2014 through the "Atelier Franco-Chinois des mobilités métropolitaines" (ENSAS - Tongji University in Shanghai). The aim is to study the realities of the metropolitan governance in these agglomerations, in

[1] According to the French law on cities (LOW) of 27 January 2014.

particular regarding aspects of integrated mobility and slow-mobility systems[1]. The researches refer to one specific form of urban mobility: the tramway. However, the idea is not to limit the research to the discussion of the pertinence and feasibility of a light-rail/rail infrastructure in Strasbourg, but rather to explore a whole set of solutions that innovatively articulate different scales (inner city/metropolitan circles/metropolitan region) and different transportation modes in order to facilitate the development of sustainable transportation and urban planning configurations. The light-rail/rail infrastructure for which Karlsruhe has become a model is used as a starting point in order to study the relationship between transport infrastructure, decision-making processes, and the nexus between urban and transport planning. This innovative transport solution is analysed in the context of challenges (e.g. economic, social, environmental) that the metropolitan area of Strasbourg is confronted with.

According to German experience, developing a "slow mobility" strategy is a process with substantial involvement of citizens and stakeholders who often have strongly divergent interests. Local authorities have to be able to moderate diverging interests and bring them to a productive end, i.e. produce decisions that will be beneficial to the community as a whole and its long-term development. Once the mobility strategy has been formulated there will again be very controversial discussions to establish the necessary projects. And again, after the projects have been decided upon, more controversial discussions will ensue as to the projects' exact designs and refinements including the permission and building processes. In order to be able to carry out these tasks and decisions, local authorities have to be strengthened with respect to both their general expertise on the relevant issues and their capabilities to moderate the decision processes. They need help to find new strategies and processes along the whole decision-making chain.

From the territorial development viewpoint, the Karlsruhe experience in the matter became a reference. The public transport system in Karlsruhe and its surroundings were managed by the Karlsruher Verkehrsbund GmbH (KVV), which is the third largest public transport system in the Federal State of Baden-Württemberg. The KVV provides services on 931 km rails and its coach lines have a cumulated length of 2,300 km. In 2013, 177 million passengers used the transport system, and the overall revenues of the service providers were

[1] The team already researches these topics within several national and international projects (selection): *Tram-train, ou l'énergie des courtes distances dans Strasbourg Métropole. Acteurs, logiques et processus du projet*

métropolitain durable, research programme « Ignis Mutat Res. Penser l'architecture, la ville, le paysage au prisme de l'énergie », MCC/MEDDE, 2013-2015; *Strasbourg: la démocratie locale pour construire un récit sur la métropole durable*, research programme « Plateforme d'observation des projets et stratégies urbaines » (POPSU), MEDDE, 2011-2013. Also, recent international seminars and round tables were further discussing these issues: *Urban Public transport*, round table coordination (C. Mazzoni, ZHUO Jian), 7th Forum of Sino-French Sustainable Urban Transport Systems (THNS), CAUP-Tongji, Shanghai, November 1st, 2014; FabLab on Urban mobility France-China; *Nanjing and Strasbourg, new tramway projects*, seminar-workshop (coordination C. Mazzoni, ZHUO Jian), Urban Institute of Shanghai, November 30th, 2014.

133 million Euro. In order to provide more attractive routes from the city to the surrounding regions without changing trains, the city of Karlsruhe has implemented a tram-train system – the so-called Karlsruhe Model. In 1992, the first two-system-tram was introduced. Nowadays the tram-train traffic uses the railway network of the city of Karlsruhe as well as the railway network of Deutsche Bahn in the surrounding areas. The system also features flexibility in the choice of electrical concepts. The wide range of the tram-train system is remarkable and this is partly due to the fact that cities and villages of the surrounding region wished to be integrated into it and also contributed to the required investments.

For Strasbourg, the explorative scenario approach has been chosen as key feature, among other conceptual and methodological trends and weak signals by the researchers and technicians team. In this regard, for the "Atelier des mobilités métropolitaines", explorative scenarios became one of the main tools for inventing and questioning the future metropolitan circle. The approach favours an inductive mode of thinking in search of possible futures for the "city of short distances".

a. 1) The integrated mobility scenario: spatial exploration

Initiated by AMUP laboratory's researchers, PhD students and interns, scenarios developed within the Atelier are conceived as a way to stimulate and enrich the collective reflexion and debates on the metropolitan development territory in Strasbourg[1]. The Integrated mobility scenario is one of the first created by the team. Its starting point is the idea that the essence of Strasbourg, as a metropolis of "short distances", could be a light-rail/rail infrastructure associated – on a very local scale (e.g. the neighbourhood scale) – with a soft mobility network. For this scenario, the upstream preparation requested a proactive scientific watch on the current mobility issues and debates within the metropolitan context of Strasbourg, a micro data mining regarding railway network's use, as well as a "stocktaking" cross-border cartographic work.

The hypothesis is questioned and articulated on three different scales: the Upper Rhine metropolitan region, Strasbourg's metropolitan circle and the metropolis' urban cores. Each of these frameworks was determined by geographical and urban configurations as well as human practices within the territory, and they all focus on the cross-border dimension. Also, two different timeframes are considered: the middle run, settled in 2030, and the long-term horizon of 2100. This is mainly due to the fact that some developments require restoring several abandoned rail corridors and the construction of new railway sections, for which the investments would be impossible to obtain within a short period of time. The scenario envisions a denser network of regional express train lines (RER/S-BAHN), which, on one hand, consolidates the North-South urban development of the Upper Rhine territory and introduces transversal East-West, cross-border connections, on the other. On the scale of Strasbourg's metropolitan circle, several express lines (RER) highlight the "30 minutes

[1] This section of the paper was published in Mazzoni, C., Grigorovschi, A. (2015). The article shows the different scenarios drawing by the team.

cross-border metropolis" since they are almost all diametrical (passing through the city center) and their maximum travel time between the termini is about 1 hour long. Moreover, certain lines crossing the Rhine are connecting Strasbourg's hinterland to their German neighbours, without breaking bulk or change in the mode of transportation. In the same way, most of the sites of high economic, cultural and touristic value of the metropolitan area, such as airports, airfields, leisure parks, as well as typical villages and resort towns, are connected to this express network which makes them easily accessible from both sides of the Rhine.

Even though most of the lines rely on the existing railway infrastructure, there are also a few new sections to be built (as a second step) in order to increase the network coverage and improve accessibility. This would also enhance the attractiveness and thus the urban development of some areas, which for the moment are only covered by the regional bus services or only accessible by car. Finally, regarding the metropolis' urban cores, it is interesting to outline that although the railway connection between the main cities of Strasbourg and Offenbourg already exists, the fact that they stop being termini stations (the RER lines disserving further destinations within the scenario) gives a new status to the territories situated in-between. An accelerated urban development is thus to be expected for this area.

At the inner city level, a cross-border tram-train draws a city-ring-line defining a bigger center district in-between the main railway stations of Strasbourg (France) and Kehl (Germany), which offers a direct connection to the European Quarter. Passing trough the harbour area (on the French side), the city ring could also be used for urban logistics, covering the "last mile" delivery, particularly during nighttime. This line would use both rail and light-rail infrastructure (tramway); therefore, two interconnection platforms would be needed.

All these express and tram-train connections create the conditions for increasing the urban density in the districts surrounding the stations. On this local scale, it is also interesting to imagine "soft"/ "slow mobility" solutions, such as an extended cycling and pedestrian network, which would finely further irrigate the territory around stations.

a. 2) The integrated mobility scenario: conceptual exploration

From a conceptual viewpoint, the scenario questions the mental constructions of the territory. On a large scale, the Upper Rhine metropolitan region, currently set out as two North-South parallel axes along the river, acquires a new East-West dimension by reinforcing and increasing the cross-border connections. A new structuring image appears, that of a territorial skeleton supported by the Rhine as a backbone.

Symbolically, this image tells the story of two parallel urban systems (which used to function independently one from another) coming together and turning towards the Rhine in the process. Previously seen as their dividing line, the river emerges as a shared valuable element, keeping them together.

Furthermore, Strasbourg's metropolitan area becomes coherent and recognizable throughout another territorial figure – the diametrical beams. In fact, by analogy, the concept of beams recalls the human energy flow drained by the new express lines envisioned within the scenario. Their diametrical nature is really the key point for understanding this image, highlighting the fact that metropolitan cores become truly central for the entire metropolis, French and German sides jointly. The metropolis' territory comes together as a whole since the beams pass trough the cores and continue their journey towards the opposite metropolitan fringe. However, the diametrical aspect is not to be confused with a circular configuration per se. It is rather the symbolic interpretation behind the circle that gives more meaning to this image as it implies the idea of unity. Indeed, put together, these diametrical beams reveal and structure the wide surface of the new "30 minutes cross-border metropolis" (Figure 5).

Last but not least, on a smaller scale, another conceptual image synthesize the architecture of the metropolis. The Dual-Core braiding offers an alternative mental construction for the whole metropolis and especially for the territories in-between the cores. The metaphor of the Dual-Core stands for the two main central cities of Strasbourg and Offenburg connected to each other and working together. Without really merging into one single metropolitan center, the two cores continue to co-exist, each with its own autonomy, but together they mark a central part of the new metropolis throughout this single integrated mobility network. The braiding suggests precisely the intertwining between the rail, light-rail, cycling and pedestrian networks irrigating the territory and structuring it on different levels, scales, speeds. Although the image of braiding applies within the whole metropolitan area, the Dual-Core braiding narrates the development of this new metropolitan cross-border centrality (Figure 6).

Besides the above-presented version of the integrated mobility scenario, other possible futures are envisioned through this exploratory approach: alternative developments regarding later timeframes or even completely different visions are thus explored. From a methodological point of view, we also question the ability of the common graphic representations (especially maps and plans) to synthesize and communicate the multiple messages and meanings developed within the think tanks. In this sense, our research team also explore different ways of optimising graphical and visual communication tools, like aerial oblique viewpoints and moving maps.

To conclude, the "Crossing borders" urban design competition co-organized in 2012 by the Eurometropolis of Strasbourg (France) and the City of Kehl (Germany) was for the researchers and professionals team the occasion to question this scenario approach within a highly complex cross-border urban situation, bringing together the German and French approaches of land use planning, financing and operational governance. Divided between three countries (France, Germany and Switzerland), the Upper Rhine valley appears to be a territory of complex and interactive mobility systems that have existed throughout history, regardless of administrative and political borders. In the last decades these synergies converge towards the Rhine and tend to concentrate and intensify within specific places

inside the biggest Upper Rhine metropolises (Strasbourg, France; Basel, Switzerland; Karlsruhe, Germany). Explorative scenarios for Strasbourg, which we have done with master students and PhD candidates and in the frame of CMYT Studio, stress the high potential and yet underexploited harbour's and Central train station's areas. The planning history of Strasbourg, considered through the harbour's and train station's relation to the city, shows that both territories has always played a key role in defining a "sustainable" and "long term" planning practice. Since the nineteenth century, Strasbourg essentially initiated a "life-cycle" based urban process. Furthermore, ever since the historic establishment of trade routes along the Rhine, the "long-term" urban planning school of thought seems to characterize not only the development of Strasbourg, but also of all the cities within the Upper Rhine valley. This "long term" urban development contributes to the development of the polycentric urban network of the valley, structured by a very dense communication system, over both short and long distances. Ports and railway stations represent the strategic nodes of this system, sustaining its proper functioning and ensuring lasting durability.

The design competition of 2012 focused on such a strategic cross-border site located on both sides of the river Rhine next to Strasbourg and Kehl harbours. The site is also one of the most important sectors of the metropolitan circle of Strasbourg unified and structured along a new cross-border tramline. The explorative scenario we have designed explored the possibility of this trans-border new urban core by attentively observing it on several scales, questioning the dense spatial and symbolic story not only of its present relations but also of the past (Mazzoni, Grigorovschi, 2017).

b. The Great Paris metropolitan design process

What we experienced in Strasbourg would not have been possible without the projects and the theoretical debates that took place since the 1980s in the Paris region. Indeed, it is possible to affirm that the debate on the Greater Paris of the late 2000s has definitively put into crisis the theoretical and practical approach based on urban design as asserted since the 1980s, and has opened new questions on the tools, objects and topics of the architectural project on the metropolitan scale. A fundamental double fact emerged from the debate on the Greater Paris and above all from the outcome of the international competition *Le grand Pari(s) de l'agglomération parisienne* (2009): on the one hand, the "urban design approach" as practiced in France since the 1980s has encountered a theoretical stagnation in the disciplinary sphere and has become, since the 1990s, a political instrument of control and pacification of conflicts according to a top-down sectorial practice; on the other hand, the emergence of a "metropolitan design approach" imposed a new vision and new instruments of dialogue between the stakeholders, without which the technocratic vision would have slowed down the emergence of a real interdisciplinary debate (Secchi, 2000; Lussault, 2007; Mongin, 2008). We will explain in the following paragraphs these two questions.

b. 1) The Plaine St. Denis project as first example of French "urban design" project

In the Paris region's planning, the Plaine Sanit-Denis project has often been mentioned for its exemplary French urban design approach. The story of this project is linked to three municipalities in the northern metropolitan circle of Paris - Saint-Denis, Saint-Ouen and Aubervilliers - and three communist mayors who decided, in the early 1980s, with the financial help of the Ile-de-France Region, to invent a new process for the conversion of their industrial sites: 750 hectares occupied by factories, warehouses and storage hangars for goods, and cut by a network of railway lines and local roads for the distribution of working-class patio homes. At the beginning of the project and during five years (1985-1990) a group of experts - sociologists, economists, philosophers, and anthropologists - tries to define the "identity" of this territory starting from the articulation between quantitative data and qualitative analysis. The difficulties were related to the specificity of the site: the largest French territory occupied from heavy industry, which has welcomed, since the 1930s, a large number of Spanish refugees and, since the 1970s, new immigrants from Central Africa. Following the crisis of 1973 and the closure of the factories, in the early 1980s the area was presented as a set of disused land, surrounded by decrepit housing and with an extremely high rate of unemployment. Despite these negative factors, the analysis results of the research team highlights the social, economic and landscape potential of the site and makes it possible to launch an innovative conversion process.

In fact, the story of the Plaine Saint-Denis project is also a theoretical one, written and designed by the architects and landscapers - Pierre Riboulet, Yves Lion, Christian Devillers - who have defined with the experts and the politics a series of guiding principles for the theory and teaching of the "urban design approach" and have verify them on a concrete way, articulating on the site historical, geographical, political, economic, sociological and morphological issues. They founded the Hyppodamos group and set up an Atelier located in the core of the Plaine Saint-Denis territory, animated by weekly meetings with the population.

The urban design project was published in 1993: it comprises about a hundred written pages and drawings that highlight the qualities of this new urban core situated on the north of the firs metropolitan circle of the Great Paris territory. Michel Corajoud describes in it the characteristics of the landscape and highlights the quality of the voids as public spaces and their relationship at different scales with the existing junctions, roads, rails and canals.

The lesson coming from this experience is, first of all, the role of the urban design project as a tool able to organize the knowledge of the territory and the dialogue between stakeholders - technicians, politics and citizens - and, linked to this first point, the fact that this tool was born from the meeting between both practitioners and politics. In the case of the Plaine Saint-Denis project, politics launched the first ideas and gave to practitioners the main research axis for the project. Linked to the new phenomenon of decentralization and to the new role of municipalities in urban and territorial planning, the Plaine Saint-Denis project was therefore born as an alternative to traditional urban planning based on a general urban plan and a cascade implementation plans, with top-down approaches. In fact, the French

technocratic planning vision of the 1950s-1970s, based on a deterministic approach, could no longer be able to propose tools and frameworks taking into account the profound changes in the social, economic, political and morphological reality of the metropolitan territory. The urban design project needed a theoretical debate that overcomes the gap between the different fields of competence of the territory and saw architects, town planners and landscapers involved together in the definition of theoretical-operational tools able to overcome the quantitative approach, and to impose new visions of the territory starting from contrasting and dialectical positions.

However, France excels in experimentalism but then always finds a way to bring everything back to the norm, to top-down and hypothetical-deductive approaches that have always been its strength. A seven years pause from the design of the Hyppodamos urban design project to the implementation of the first Zone d'aménagement concerté (ZAC) allowed the creation of a new political institution - Plaine commune - with full powers to define the transition from the urban design project to its management. And this institution was not able to transform the analyses and researches that led to the preparation of the project into tools and procedures adapted to the new dimensions of the metropolitan question. The following sectorial projects were built within the framework of the rigid regulations of the ZACs, in which the famous "consultation" served to transmit to the citizen the decisions already defined previously by technicians and architects and certainly not to bring the decision-making power closer to the citizen.

Therefore, if in France, the tool of urban design as developed in the 1980s, has contributed to creating new bottom-up approaches in the "preparing well" phase of the project (the first step), its management was intended as a top-down implementation, led by the public administration and has compromised the theoretical debate.

At the beginning of the 2000s, the questions that the metropolitan territory, with its circles and cores, proposes to the organisation of the projects were new and disruptive and it was impossible to translate it into general norms. This is why the term of metropolitan design emerges in the latest 2000s: this approach should not only highlight the articulation between the first step design phase and the implementation phases, but also include, in the relationship between territorial planning and urban design, a critical analysis of uncertainties and risks. It should underline, through the project, the local complexity - social, political, geographical, economic, and topographical - and its link with the global complexity of the metropolitan territory.

b. 2) The Greater Paris "figures" as explorative scenarios for the metropolitan design approach

Which is interesting to note here with regard to the Paris region planning in the first 2000s is the question of the gap still existing between urban planning and urban design, due to the mutual reference to distinct objects: on the one hand the regional and metropolitan territory, planned and managed at the level of the national public administration and its

engineers, on the other the municipalities, with their neighbourhood and city cores, designed according to the local practices of the ZAC. What the Italian culture of the metropolitan planning and urban design has highlighted during the 1960s and which constitutes the great difference with respect to French culture, is the need to find a valid articulation between their different levels of reflection and management and to synthetize it in a new dimension: the metropolitan design dimension. This dialectical articulation between metropolitan planning and urban design has been and continues to be in Italy the subject of debate and disciplinary reflection (Mazzoni, 2013).

As far back as 1960, the architect and urban planner Ludovico Quaroni emphasized in its conferences and papers the new dimensions of the polycentric metropolitan territory: it offers an interpenetration of several levels and experiences; in it the space multiplies and expands, brought closer by speed. Its inhabitants are no longer just citizens of a single place, and not only from this place they are trained culturally (Indovina, 1991). The polycentric metropolitan territory, composed by its circles and cores, is a space in which people multiply, and relationships between them are enriched, development processes are accelerated and with them human exchanges. And, if in the dense city alleys, courtyards, hallways, passages, arcades, roads, articulate the path according to a system that seems so regular, spontaneous, without hardness, in the metropolitan circles the dimensions multiply and the boundaries expand to such an extent that you cannot perceive any more the separation between the spaces, and prevails a strong sense of disorientation. Its characteristic is that of an unitary but not homogeneous organism, formed by several cities, juxtaposed, superimposed, distant, at times enemy to each other, and yet inseparables. This new, limitless metropolitan territory, which consists of many cores, has to be planned on two levels. The first one, that of the metropolitan planning will serve to define the great ideas without which urban design projects, sectorial, and belonging to the second level, can not find a deep meaning and will flow into purely technical-normative projects.

On the first level, the idea of metropolitan planning as expressed by the Italiens indicates, as is well known, the directions of growth, the links between economic planning and spatial planning, mobility infrastructures and lines, the location of ports, airports, major stations, motorway junctions, etc. But, at the same time, the metropolitan planning has to emerge as metropolitan *design*. It has to put these elements as a series of structural hypotheses and express them through the graphic formulation of a design, both in the creative sense of the term and in the sense of the transmission of a vision that it presupposes. Plans, models and other works will be the graphic formulation of an idea, born rationally far from architecture, that architecture begins to become through the signs, which presuppose the new structure of the city cores.

These signs are evoked rather than represented; they are almost “ghosts of cities”. The important attitude, again according to Quaroni, is to stay away from the idea of a top-down normative planning and close to the idea of a bottom up design. It is evident that at the metropolitan scale, the plan cannot represent the form for the city, giving the word form the

meaning of architectural envelope, of contour lines. However, it will be possible to design at the metropolitan scale the general form of the city, meaning by this the non-expressive figures that refer to its essence. And it is precisely this idea of "figure", which involves both the underlying idea and its representation through drawings that constitutes the core of the question. In this metropolitan design approach, the figure of the territory, born endogenously from the territory itself, allows us to grasp its essence and lay the foundations for the development of sectorial projects that have a clear and explicit link with the ideas expressed on a large scale.

In this sense, most of the plans and drawings for the Greater Paris, linked to the international competition *Le grand Pari(s) de l'agglomération parisienne* (2009), exceed the size of the urban design project and refer above all to a vision, an idea which interprets and translates the metropolitan dimension trough several figures: "linear metropolis" and "polycentric metropolis" connected by mobility networks were proposed by Antoine Grumbach, Roland Castro and Christian de Portzamparc, and the "porous-city" by Secchi-Vigano Studio. In parallel of the architects' plans, the analysis of Michel Lussault and Michel Collot, close to the disciplines of human geography and landscape, is the theoretical background of this new metropolitan design approach. Their analysis stress the importance of raising awareness of the landscape and its multiple dimensions and articulations, the importance of the individual perception of space, it different scales and living times. Linked to Merleau-Ponty's phenomenological theories, this drawings and theories underlines the necessity of finding an overall design that links the various sectors together and allows to perceive the dialectic between the circles and the cores, the larges voids, the natural and infrastructural corridors, the wastelands and constructed parts. An overall design based on the figurative relationship between the different parts, understood not only in a visual way, but also and above all as pieces of the human city that lives, acts, struggles. In fact, the metropolitan territory can suggest strong emotions even through an oil refinery or a heavy infrastructure: "It is precisely in the strong contrasts, which we find on the edge of industrial areas, in the ports and in certain suburbs rich in slovenly infrastructure of the nineteenth century, that we can perhaps touch the idea of the whole modern city thinking" (Quaroni, 1967). The transition zones, the fringes and limits of the new metropolitan circles suggest the violent condition of the current city, with its energy, complexity, strong contrasts, and the needs of integration of a human scale.

To conclude, we can point out that one of the elements of great interest linked to the international consultation for the Great Paris of 2009 was precisely the fact of having experimented several conceptual figures for the metropolitan design project, linked to the Italian Tendenza's theories. These conceptual figures didn't generate homogeneous top-down models: they have been able to generate global visions of the whole metropolitan territory resulting from several fragments, which emerge from the territory, and at the same time they have been able to express its geographical, social, economic and cultural contents, leaving the doors open to a "unexpected future". The great challenge of the urban architecture discipline, linked to the development of the contemporary condition of metropolitan circles and cores, is

to be able to invent, in dialogue with other disciplines, new figures of the territory that allow an inductive vision of sustainability through representations and projections into the future that can be instruments of dialogue not only between politicians and technicians but also with individuals who practice it and live it daily (Mazzoni, Tsiomis, 2012). From these figures it is easy to articulate the large and small scale. For instance, for the "Reinventing Paris" competition in the Porte d'Aubervilliers sector (2014), several questions guided our team for the metropolitan and urban design process: how should the explorative scenario rethink this fragmented and marginal territory in the first Parisian circle and articulate them with the natural elements and corridors of the whole metropolitan territory? How could the mobility system bring new connections for the city cores? In fact, the planning history of this north part of the first metropolitan circle of Paris is very different to the "long term" strategies of Strasbourg. The historical "rue de Paris" connecting by horse-drawn carriages the centre of Paris to the cathedral of Saint-Denis was scarified during the XIX et XX Centuries and replaced by a complex node of larges railways parks and lines, highways, heavy industries, artisan area, etc. In the design competition of 2014, our explorative scenario stresses the necessity to redefine the public urban space, organised around a central public square, crossed by a linear people mover and a bimodal electric-car system: a slow mobility based accessibility articulating the entire functional program. This new dense city core developed along the rails, in the north part of the first metropolitan circle of Paris offers to the inhabitants an open urban space, rich and flexible from a functional viewpoint and capable of adapting to evolving mobility technologies. The landscaping of the site connects the different parts of the metropolitan territory, and interacts with the evolving implementation of the neighbourhoods.

Conclusion

Given the complexities of actors, temporalities and scales, the actual metropolitan project cannot follow established models and templates. Related to German, Italian and French theories and practices of the recent 50 years the European Commission's SUMP method introduce correlated top-down and bottom-up approaches able to organise a sustainable metropolitan development for a balanced interconnection between urban cores and metropolitan circles, with particular focus on public transports, integrated mobility strategies and efficient connectivity.

The examples of Strasbourg and Paris, linked to reconquering and recycling brownfields and industrial wastelands in their first metropolitan circles trough new mobility patterns show that the explorative scenario is an emerging tool related to the urban and metropolitan design. It reveals a narrative of collective actions gathered and structured in coherent ways trough the SUMP method. Each scenario is a "possible future" that integrates partial stories – mobility systems, local geography, topography, socio-economics inputs - into a whole. In this way, the SUMP method is able to respond to the current impossibility of integrating in the metropolitan development the multiplicity of challenges and uncertainties characterizing the

contemporary condition. The SUMP scenario tool, including inductive exploratory approaches, is able to question the urban sprawl in the metropolitan circles, to explore the increase of public transport ridership and transit efficiency, to imagine compact mixed use development in new urban cores, reducing car energy consumption and emission rates, stimulating local economic development and job growth, revitalising declined urban districts, and improving quality of life as bottom-up strategies. Thus, the SUMP scenario tool based on an inductive and figurative method should give a shared vision of the new metropolitan condition with its circles and cores. It should propose a balanced articulation between the global level and the sectorial projects. It can become a reinvention of spaces starting from the different perceptions, practices and ways of life of citizens, a narrative of the primordial geographical components of the landscape - land, water, slopes .... –, and their relation to architecture.

These are the materials on which to build a theoretical-disciplinary debate on metropolitan design. A debate that shows how the metropolitan project can highlight the reciprocity between the local dimension and the global strategic dimension, becoming an opportunity for comparison and clarification of conflicts without being reduced to a set of technical-practical rules dropped from above on the individual places and on the territory. If we believe the words of Paolo Virno expressed in his *Grammar of the Multitude* (Virno, 2001), with the hypothetical-deductive approach lowered from above we risk suffocating the creative thrust, rich in new energies, that comes from below, from the multiple places of the territory and from the "multitude" that inhabits it and enriches it with the strength of its "impersonal and transversal" thinking, which is also "unique and unrepeatable".

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Keynote Speech:
The Great Guangdong-Hong Kong-Macao Bay Area and Southern China Common Market

主题演讲：粤港澳大湾区与中国南方共同市场

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Keynote Speech: The Great Guangdong-Hong Kong-Macao Bay Area and Southern China Common Market

主题演讲：粤港澳大湾区与中国南方共同市场

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Keynote Speech: The Great Guangdong-Hong Kong-Macao Bay Area and Southern China Common Market

Panel IV.

Metropolitan Circles Development in China

中国的城市圈发展

Moderator: Prof. Hans d' Orville　　主持人：Hans d' Orville 教授

Commentator:Prof. Yang Baojun　　评论人：杨保军教授

► **Beijing "Economic Circle" and Beijing-Tianjin-Hebei Urban Agglomeration**

Prof. Xiao Jincheng
Former director, Chinese Academy of Macroeconomic Research
首都经济圈与京津冀城市群
肖金成教授　　国家发改委国土开发与地区经济研究所前所长

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樊杰教授　　中国科学院科技战略咨询研究院副院长

Beijing "Economic Circle" and Beijing-Tianjin-Hebei Urban Agglomeration

首都经济圈与京津冀城市群

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Beijing "Economic Circle" and Beijing-Tianjin-Hebei Urban Agglomeration
首都经济圈与京津冀城市群

Abstract

Metropolitan circles are a form of regional central cities. They rely on central cities' agglomeration- and diffusion mechanisms by the use of advanced communication technology to lead neighboring cities and villages toward integrated development. Globally, many countries, led by their capitals, have formed a "capital circle" through cross-administrative resource integration and functional cooperation. In 2015, the CPC Central Committee and the State Council approved the planning outline for "Coordinated Development of Beijing, Tianjin and Hebei", which aims to build a world-class urban agglomeration with extraordinary features such as: 1) a capital circle; 2) a healthy ecosystem; 3) a developed economy; 4) and a harmonious and stable society. The problems in the Beijing-Tianjin-Hebei urban agglomeration are generally reflected in "urban diseases", such as a lack of a proper urban system or balanced regional development. Therefore, in order to facilitate the development of Beijing-Tianjin-Hebei urban agglomeration, we should: 1) uphold the division of labor theory; 2) exploit core cities' comparative advantages to the full; 3) encourage the integrated development of neighboring cities; 4) define the role of each city; 5) optimize metropolitan urban systems; 6) foster new economic growth poles; and 7) strengthen policy support to Hebei's economic transformation.

摘要

都市圈本质上是区域中心城市的一种形式，依托中心城市的集聚与扩散机制，利用发达的联系通道，辐射、带动圈域其它城市及农村并实现一体化发展。从全球范围看，许多国家以首都为龙头，通过跨行政区域资源整合和功能协作形成“首都圈”。2015年，中共中央、国务院批准了《京津冀协同发展规划纲要》，建设以首都经济圈为核心、生态环境良好、经济文化发达、社会和谐稳定为目标的世界级城市群。京津冀城市群的问题主要表现在北京“大城市病”比较严重、城镇体系不合理、区域发展差距较大等方面。因此，需要从政府与市场分工、发挥核心城市辐射带动力、促进相邻城市同城化发展、明确城市群各市的功能分工、优化城市群城镇体系、培育新的经济增长极和加强对河北转型的政策支持等方面入手，推进京津冀世界级城市群的建设。

首都经济圈与京津冀城市群

京津冀协同发展是中国“十三五”时期重要的区域发展战略。京津冀地区包括北京、天津两个直辖市和河北省全域。北京是中国的政治、文化中心，天津是重化工业、装备制造业和高新技术产业基地，河北省环绕京津，既拱卫京畿，又为京津提供能源、原材料和农产品，还是京津的生态屏障。通过京津冀一体化发展，将形成以首都经济圈为核心，具有国际影响力和竞争力的世界级城市群。

一、首都经济圈的内涵与特征

首都经济圈，顾名思义就是以国家首都为核心的都市圈。都市圈的概念最早源于20世纪初美国政府提出的大都市区（Metropolitan Area），后来在日本被广泛应用，并将其称为都市圈，它是指以规模很大实力雄厚经济发达的中心城市为核心，与周边城市、城镇和农村形成的比较紧密的经济联系的区域[1]。作为都市圈，一方面要求核心城市必须拥有强大的辐射力，另一方面要求外围地区也必须具备一定的接受能力。此外，还要求都市圈的核心城市与外围地区在经济、社会、文化、空间形态等诸多方面具有比较紧密的联系，往往表现为彼此间高强度的人流、物流、资金流、信息流等。

都市圈需具备以下6个基本特征：

①至少有一个经济发达并具有强大辐射力的核心城市；

②核心城市具有较大的经济腹地；

③具备比较完善的交通基础设施；

④核心城市与腹地之间具有密切的经济联系；

⑤不是行政区的简单迭加，而是经济区、社会区、生态区的综合集成；

⑥具有较高的城镇化水平。

与一般都市圈相比，首都圈的特殊性在于其核心城市是首都而非一般意义的大城市。首都具有一般大城市所不具备的特殊的城市功能，如政治、科技文化、国际交往等。首都经济圈的基本功能是优化提升首都功能和辐射带动周边地区，关键是处理服务首都与首都服务的关系。

打造首都经济圈，有利于北京充分发挥首都优势，加快建设现代化世界城市；有利于促进首都经济圈内各城市之间形成紧密的经济联系，发挥北京市对周边地区的辐射带动作用；有利于带动京津冀乃至北方地区的发展，推动我国南北方和东中西的区域协调

发展。

二、都市圈的发展演化规律

都市圈的产生要远远晚于城市的产生，它是城市地域空间形态演化的高级形式，也是大城市发展到一定阶段所出现的一种空间现象。

都市圈核心城市从本质上说是区域中心城市的一种形式，依托中心城市的集聚与扩散机制，利用发达的联系通道，可以辐射、带动圈域其它城市及农村并实现一体化发展。在都市圈形成与发展过程中，各种要素在核心城市的集聚与扩散是最基本的前提。形成初期，核心城市的集聚效应占主导地位，区域内人流、物流、资金流和信息流等迅速向核心城市集聚，极化效应明显；随着都市圈的不断发展，产业结构出现升级换代，金融等高端服务业逐步向核心城市集聚以获得规模集聚效益，空间替代的结果是推动制造业由中心向外不断扩散，而核心城市“集聚—扩散—再集聚—再扩散”的产业空间重组模式，正是都市圈的发展演化模式，即由核心城市集聚转向周边腹地扩展的圈层式空间发展结构。都市圈的发展一般遵循“雏形期—成长期—成型期—成熟期”的演化规律。[2-4]

——雏形期。工业化初期，相对于农业社会的封闭，不断修建的铁路使孤立的城市之间以及城市与农村之间建立起相互联系，随着资源的不断发现和开发利用，工业成为区域城市经济社会组织的主导。城市不断扩展，其影响力逐渐突破了行政区的限制，出现了以城市为中心按生产要素接近原则形成的城镇组合，广大农村成为生产要素净流出的边缘。伴随交通工具由马车向机动车的转变，开始出现“卧城”，形成都市圈的雏形。处于雏形期的都市圈，其空间结构呈现核心—放射状，城市沿主要轴线扩展，一般不具备圈层扩展的能力，都市圈的圈层结构不甚明显（图 1-2a）。

——成长期。随着工业化不断推进，城镇等级体系在工业大生产组织的作用下发生重构，城市规模继续扩展，大城市逐步形成并在区域经济发展中占据了主导地位，放射性快速交通系统形成，城市由向心集中转为放射状的向外扩展，产业和人口向郊区转移，郊外区域性中心标志即副中心的出现，都市圈进入成型期。此阶段核心城市扩散作用明显，从轴向扩展为主转向圈层扩展为主，扩展面形成并不断得到强化，副中心城市出现，都市圈呈现出典型的核心—圈层结构（图 1-2b）。西方国家的大都市多在 20 世纪 20 年代进入这个发展阶段，人们开始追求休闲的生活方式，出现土地开发和抢购的热潮，都市圈表现为空间蔓延和低密度开发，尤以美国最为典型。

——成型期。随着经济与技术的进步以及城市化进程的加快，大城市人口规模迅速增加。城市人口膨胀、地价上涨、交通拥挤、居住环境恶化等问题日益严重，城市与郊区各自的比较优势被认识，郊区的生态价值以及经济价值被发现。伴随着交通通讯技术的发展，以及高速公路和基础设施的建设，人们的就业范围扩大，居住与就业岗位向郊区分散与转移，都市圈进入全面发育时期。都市圈以圈层扩展为主，中心城市发生结构和功能的重组，重化工业和制造业发生外移，在新的产业区集聚，其对劳动力的需求

导致副中心逐渐强大并形成新的圈域，空间一体化联系加强，并出现多个生长点，都市圈开始成型（图 1-2c）。

——成熟期。1980 年代以后，全球化浪潮席卷全球，信息通讯技术发展，高新技术产业强盛，生产性服务业崛起。借助于网络型高速路网和发散式轨道交通，一种城乡交融、地域连绵的区域空间日渐形成。空间结构由单中心向多中心转变，都市圈与都市圈进行联合、融合、改造，在更高层次上提升发展，以都市圈为核心通过外延扩展演变为一种新的区域形态——城市群，表现为多中心网络化的空间结构（图 1-2d）。

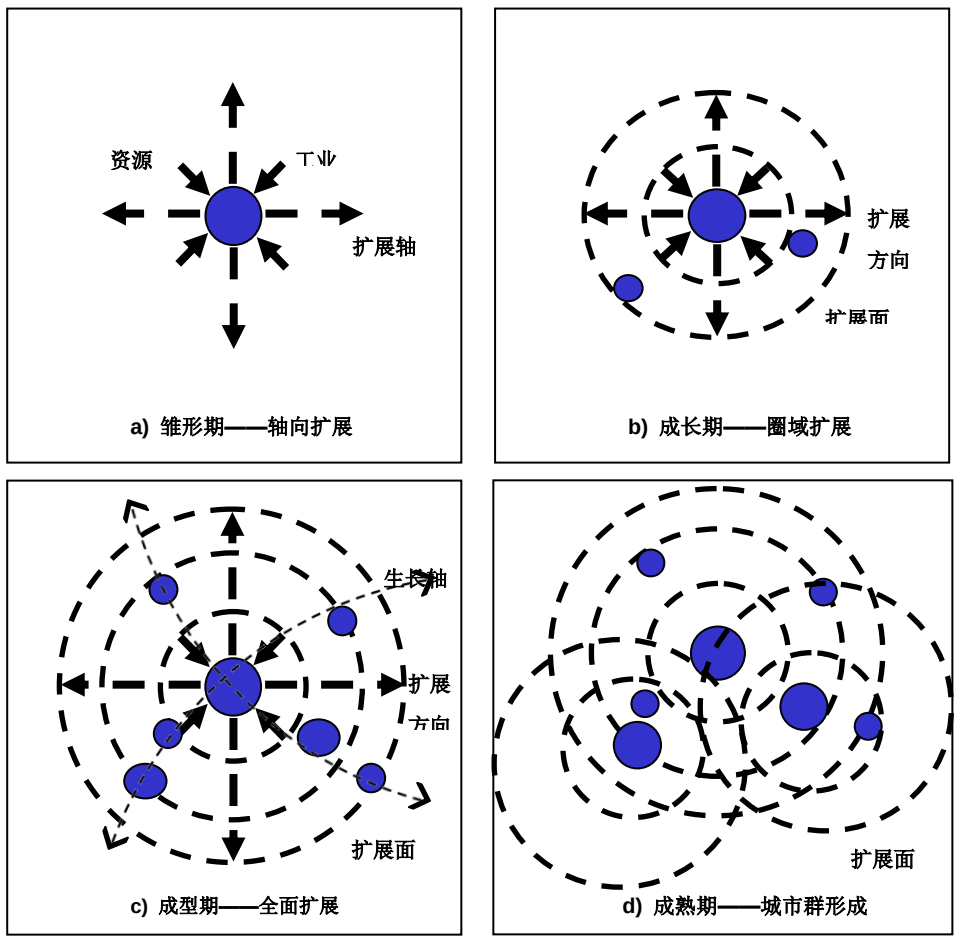

图 1　都市圈空间成长过程示意图

在经济全球化与区域经济一体化背景下，以核心城市为龙头的都市圈已经成为全球经济最活跃的区域，成为国家参与全球竞争和国　际分工的重要载体。从全球范围看，许多国家以首都为龙头，通过跨行政区域资源整合和功能协作形成“首都圈”，不仅有效缓解了由于功能过度集聚而带来的城市问题和社会问题，实现了首都城市综合服务功能提升和区域可持续发展，而且充分发挥了首都资源的效能，辐射带动了周边区域共同

发展，形成了巨大的协同效应和经济势能，成为参与国际竞争的战略区域。

三、北京首都经济圈的形成

北京是首都经济圈的核心城市。20 世纪 60 年代至 80 年代末，北京进行了大面积的居住区、地铁、二环路和三环路的建设，首都经济圈核心区域由北京城区开始向近郊扩张。1958 年后的外围组团建设进一步加快了郊区化的进程。1982 年的北京城市总体规划重申坚持“分散组团式”布局原则，调整市区布局结构，形成以旧城为核心的中心城区和相对独立的 10 个边缘集团。按照“旧城逐步改建、近郊调整配套，远郊积极发展”的方针，主要在近郊通过用地调整建设一批新居住区及相应配套设施，并于北郊建设国家奥林匹克体育中心和亚运村。北京以黄村、昌平为建设重点，开展了远郊卫星城市规划建设。城市空间开始了从“近域空间增长”向“远郊空间增长”的转变。1992 年，北京城市总体规划明确提出调整产业结构，大力发展高新技术产业与第三产业，城市发展实行两个战略转移，即发展重点逐步从市区向郊区转移，市区建设从外延扩展向调整改造转移。明确城市东部和南部地区为城市发展的主要区域。1993 年，国务院对《北京城市总体规划（1991-2010）》做出批复，进一步明确了北京建设 14 个卫星城、29 个中心镇的设想。1994 年北京的第三产业比重首次超过第二产业，占总产值的 48.92%。2004 年北京城市总体规划提出：“两轴—两带—多中心”、“优化城区、强化郊区”的建设方针，并确定向天津、保定、唐山、承德和张家口 5 个轴向发展的区域空间结构。2010 年，北京的第三产业生产总值占北京 GDP 总量的比重超过 75%。与此同时，高新技术产业园区迅速扩大，形成了中关村一区多园的空间格局。高新技术产业拓展至昌平、亦庄、丰台等地。

伴随经济全球化和北京市的去工业化过程，北京周边的河北地区一方面开始承接产业转移，另一方面也在利用发展机遇积极进行功能区建设。1994 年年底，廊坊、涿州、燕郊、固安，凭借自身的区位优势，接纳吸收了中央各直属部门的机关、企事业单位和一部分从内地迁来的国有大中型企业。也吸引了北京一批国有大中型企业投资，接纳了首都部分工业企业的搬迁，出现了竞争力较强的廊坊开发区、燕郊开发区、香河开发区、霸州开发区、高碑店开发区等。北京与周边地区的空间一体化联系加强，北京市的功能开始由集聚向周边地区扩散，首都经济圈由成长期向成型期转变。

首都经济圈处于内蒙古高原、太行山脉向华北平原的过渡地带，整体地形特征是西北高，东南低。地形差异显著，地貌类型复杂多样，高原、山地、丘陵、平原、盆地、湖泊等地貌类型齐全。主要地貌单元可以分为：西北部和北部地区以坝上高原、燕山山区为主、西部地区为冀西北山地盆地、太行山山区、东南部地区为滦河下游冲积平原，南部地区则为华北平原。高原和山地丘陵地区占区域内国土面积的比例超过 50%，可利用的土地资源有限。地处暖温带大陆性季风气候带，区域内年平均降水量偏低，地表径流不丰富，水资源短缺，多年平均水资源总量为 290 亿立方米左右，人均水资源量约为

300 立方米，仅相当于全国平均水平的 1/7。大体上可以将首都经济圈划分为 3 个自然地理单元：西北部山地丘陵区，东南部平原区和东部滦河中下游及滨海区[12]。自然地理格局极大地影响了本区域的人口分布及其经济活动。

因此，首都经济圈的人口分布、经济总量和土地利用受自然地理格局约束极为明显。人口和经济总量的高值区域中，人口和经济的制高点出现在北京城六区，张承地区和西部山区则呈现低值带。首都经济圈的特殊自然地理格局意味着本区域的发展必然需向东南沿海平原地区集聚，城市的发展需以提高空间利用率为原则。

图 2　首都经济圈地形

2010 年 10 月，河北省提出环首都经济圈的概念，后改为环首都绿色经济圈。2011 年 1 月，环首都绿色经济圈写入河北省“十二五”规划纲要。其范围包括环绕北京的张家口、承德、廊坊、保定 4 个地级市中与北京直接相邻的 14 个县（市、区），总面积 3.01 万平方公里，与北京加起来比东京圈还大 1 万多平方公里。2010 年总人口为 517.6 万人，区域 GDP 为 1257.8 亿元。简称“十四县一圈四区六基地”。“一圈”即“环首都绿色经济圈”，“四区”即高层次人才创业园区、科技成果孵化园区、新兴产业示范园区、现代物流园区。“六基地”指养老基地、医疗健康健身基地、休闲度假基地、观光农业基地、绿色有机蔬菜基地、宜居生活基地。“环首都绿色经济圈”欲借助独特的区位优势，打造一批战略性新兴产业基地，通过增量快速带动全省产业结构优化升级，进而减少与首都经济发展水平的落差，对于实现京津冀协调发展具有重要的意义。

图 2　河北省环首都经济圈范围图

首都经济圈作为一个区域系统，客观上要求将周边地区的资源配置、产业结构及区域布局作为一个有机的整体来考虑，每个城市的发展计划必须经过调整与联合体的规划协调起来，从而确保首都经济圈的健康发展。首都经济圈规划不仅要与本区域内已有的规划实现有效对接，还要站在区域统筹的角度上，因地制宜，综合考虑，最大限度的发挥首都经济圈内部各城市的优势，并实现与周边地区的协同发展。

三、以首都经济圈为核心形成京津冀城市群

城市群是在特定的区域范围内拥有相当数量的不同性质、类型和等级规模的城市，依托优良的自然环境和交通条件，以一个或几个都市圈为主体，城市间的经济联系不断强化，共同构成的相对完整的城市“集合体”。一般来说，城市群涵盖若干都市圈或城市圈，如日本东海道城市群就涵盖了东京首都圈、名古屋都市圈和阪神都市圈。

京津冀位于我国北部沿海地区，面向渤海，背靠太行山和燕山，携揽“三北”。在京津周围有 11 个人口超过 50 万的大中城市。2015 年，《京津冀协同发展规划纲要》获得中共中央、国务院批准。建设以首都经济圈为核心、生态环境良好、经济文化发达、社会和谐稳定的世界级城市群成为纲要明确的京津冀协同发展的重要目标。

京津冀城市群由北京市、天津市、石家庄市、唐山市、秦皇岛市、廊坊市、保定市、沧州市、衡水市、邢台市、邯郸市、张家口市、承德市的大中小城市和小城镇组成。共有 33 个城市，其中超大城市 1 个，即北京；特大城市 1 个，即天津；大城市 4 个，即石家庄、唐山、保定和邯郸；中等城市 6 个，即秦皇岛、廊坊、沧州、邢台、张家口、承德；小城市 11 个。另外还有 103 个县城和 1331 个城镇。

京津冀无论是区域整体的产出水平，还是城市整体的产出水平，都明显比全国平均水平高出很多。京津冀区域面积 21.60 万平方公里，占全国国土总面积的 2.3%。2015 年，地区生产总值 70294.37 亿元，占国内生产总值的 10.3%。常住人口 11142.4 万人，其中城镇人口 6987.5 万人，城镇化水平高达 62.7%，高出全国 6.6 个百分点。

表 1　京津冀各行政区概况

（2015 年）

省级区划	地级及以上城市（个）	市辖区（个）	县级市（个）	县城（个）	建制镇（个）
北京市	1	16	0	0	143
天津市	1	15	0	1	121
河北省	11	42	20	102	1067
合计	13	73	20	103	1331
全国	338	921	361	1397	20515

数据来源：国家统计局网站。

但京津冀城市群存在较为严重的问题，主要表现在北京“大城市病”比较严重、城镇体系不合理、区域发展差距较大等方面。京津两市过于“肥胖”，周边城市过于“瘦弱”、大中城市偏少，城市规模结构“断档”问题突出。京津冀城市群内部的城市规模等级结构呈“哑铃”型，超大城市过大，小城市过多，中等城市数量较少、发展不足，不仅限制了大城市辐射带动中小城市加快发展，而且造成经济要素进一步向核心城市过度集聚，导致“大城市病”、贫富差距拉大等问题的发生。

京津冀城市群人口超过一亿人，在经济规模上也已经具有世界级城市群体量，但在经济联系与功能分工上，不仅与国外世界级城市群存在很大差距，而且与国内的珠三角和长三角城市群相比也存在不小的差距。区域内低水平重复建设、无序竞争现象依然存在。各种交通运输方式之间缺乏有机衔接，城市之间经济联系度并不高。

城市群的理想场景是：现代服务业在核心城市集聚，制造业扩散至外围地区，中心城市依托外围地区获得持续繁荣，外围地区通过参与分工实现振兴；由于核心城市与外围地区的分工，使得区域能够实现规模经济和多样化发展，建构区域内部合作的经济基础，从而更有效地参与全球化背景下的区域竞争。北京作为京津冀城市群的核心城市，未来应大力发展现代服务业，将更多的生产制造环节转移至周边地区，并服务周边天津、河北的制造业而实现服务功能的提升；天津应重点发展与制造业相关领域的科技研发、航运业、金融业和国际贸易等行业，实现由制造向服务经济的转型，并进而带动整个区域的开放与创新发展；河北各城应积极承接北京、天津两市的制造业转移，积极承接其科技研发成果在本区域的转化，最终形成以北京为服务中心，以天津为创新、开放服务基地，以河北为生产制造集聚地的分工格局，实现城市群规模效应与分工效应的最大化。

应大力推动京津周边城市的发展，提升其在公共服务、产业发展方面的功能，使之成为引导人口产业的“反磁力中心”，截流原本向京津集聚的人口，达到缓解北京过度拥挤的目的。沿京石邯、京津塘等主要发展轴线培育节点城市，做大城市规模，提升其对本地和外来人口的吸纳能力。最终形成超大、特大、大城市、中等城市和小城市相互支撑发展的良好局面。

四、优化首都经济圈建设京津冀城市群的对策建议

按照《京津冀协同发展规划纲要》的要求，推进京津冀世界级城市群建设，需要从政府与市场分工、发挥核心城市辐射带动力、促进相邻城市同城化发展、明确城市群各市的功能分工、优化城市群城镇体系、培育新的经济增长极和加强对河北转型的政策支持等方面入手，推进京津冀世界级城市群的建设。

（一）以雄安新区为龙头，培育新的经济增长极

2017 年 4 月 1 日，中共中央和国务院宣布设立雄安新区，这是以习近平总书记为核心的党中央做出的一项重大历史性战略决策。雄安新区是继深圳经济特区和上海浦东新区之后又一具有全国意义的新区。

长期以来，河北中部由于缺乏大城市，促使该区域人口与生产要素大量流向北京、天津两个城市，在加剧两个特大城市“大城市病”的同时，也削弱了河北内生发展的动力。通过培育雄安新区这一新的区域增长极，使之成为北京的“反磁力中心”，促进全国、全世界的经济要素资源向雄安新区集聚，有效带动雄安新区周边区域的发展，进而推进京津冀空间格局的优化。

雄安新区通过集中承接北京非首都功能，吸引企业总部、教育培训、医疗卫生、科研单位等高端机构入驻，为建设世界级城市群提供支撑。通过创新引领区建设，进一步吸纳各种创新载体，集聚京津及全国创新要素资源，培育发展高端高新产业，推动河北传统产业向高端转型；通过开放发展先行区建设，打造与国际投资贸易通行规则相衔接

的制度体系，提升河北省的开放水平和市场化水平，进而改善营商环境，创造区域开放合作竞争新优势。

除了雄安新区之外，应在河北选择一些具有区位优势和发展潜力的地区作为战略性功能区，通过打造产业发展平台，改善投资环境，吸引产业聚集。可在河北省已设立的正定新区、北戴河新区、渤海新区、冀南新区选择一至两家升级为国家级新区，国家给予强有力支持，必将在京津冀协同发展中起到重要的引领和支撑作用。

（二）发挥京津双城的引擎作用，提升对河北各市的辐射带动力

北京、天津两城市是京津冀协同发展的主要引擎，应进一步强化京津联动，全方位拓展合作广度与深度，加快实现同城化发展，共同发挥高端引领和辐射带动作用。北京主要通过分散疏解来实现对河北各市的高端引领和辐射带动；而天津主要通过产业链条的延伸和创新、改革、开放功能的延伸来发挥其对河北周边地区的带动作用。

对于集聚发展要求较高的产业或生产环节，主要采取集中疏解方式，发挥规模效益和集集聚经济效益。对于集聚发展要求相对较低的产业，采取分散疏解方式，在北京周边的河北境内规划建设特色小镇，打造“微中心”，有序疏解北京非首都功能。天津要按照中心城市与周边地区实行垂直分工、中心城市之间实行水平分工的方式，推动产业链条向河北的延伸。探讨专业化协作、集团化发展的新路子，形成与河北各市相互依存、衔接紧密的产业链条；推进港口合作，天津港应加强与唐山港、沧州港、秦皇岛港等港口的合作，通过相互参股、合作建设，使之成为利益共同体，提升港口经济竞争力。推进天津自贸区向唐山曹妃甸和沧州黄骅的全覆盖，并使之成为自贸区一部分，推动河北的市场化进程。

（三）扩大河北省的城市规模，构建合理的城市体系

京津冀城市群规模结构存在明显的“断层”。未来应重点推动石家庄、唐山、保定、邯郸等重点城市加快发展，增强其他节点城市要素集聚能力，可适当增设地级市。同时，对具备条件的县有序改市（区），培育中小城市和特色小镇，形成定位清晰、分工合理、功能完善、生态宜居的现代城镇体系。

（四）加快建设沿海城市带，优化空间开发格局

依托秦皇岛北戴河新区、唐山曹妃甸区、天津滨海新区、沧州渤海新区等战略功能区的开发建设，加强津冀沿海港口规划与建设的协调，优化配置区域港口资源。加强港城互动，促进临港开发区与城市的有机融合。

（五）推进京津周边市县区与京津同城化发展

推进北京大兴、天津武清与河北廊坊的同城化发展；推进北京通州、廊坊北三县（三河、香河、大厂）、天津宝坻区的同城化发展；推进昌平、延庆、怀来、赤城的同城化

发展；打通断头路，减少关卡。河北省应支持廊坊、保定在全面放开外地人落户的同时，提升廊坊、保定等距离京津较近地区的教育、医疗等公共服务水平，为吸纳人口、产业向廊坊、保定转移创造条件。

（六）加强推进交通基础设施一体化

加快京津冀城际铁路的规划与建设，提升河北各市的通达能力。通过修建城际铁路，加强京津冀 13 个城市之间的联系。

将石家庄作为重要的交通枢纽和冀中南的核心城市进行规划与建设。石家庄是北京南部将京沪铁路、京广铁路、京九铁路、同蒲铁路连接在一起的枢纽城市，未来可作为京津冀的物流基地和北京的配送中心。

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Striking Balance through Agglomeration: Pearl River Delta Region and Yangtze River Delta Region

在集聚中走向平衡：以珠三角和长三角为例

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Abatract

This paper concludes from the logic of spatial equilibrium that if “urban disease” is dealt with by controlling the population of cities, the three aims in term of growth, harmony, livability could not be achieved simultaneously. Meanwhile, the empirical results show that a larger population scale at city level hasn’t caused serious pollution and congestion. In addition, the optimal city size estimated using data of Chinese cities is always below the potential size because of distortion from city planning, migration barrier and land policy. However, all three aims of growth, harmony, livability can be achieved by supply-side reform to improve infrastructure and public service and to help the immigrants to be integrated into urban society.

摘要

本文从空间均衡的逻辑出发提出，如果用控制城市人口规模的方式来治理城市病，那么，城市的增长、和谐、宜居三个目标就不能同时实现。另一方面，实证结果发现，人口规模增加并没有带来严重的污染和拥堵问题。而现实出现的情况是，由于规划、人口流动障碍、土地政策带来的扭曲，将导致最优城市规模低于潜在水平。如果在城市加强基础设施和公共服务的供给侧改革，加快外来人口的市民化，则可以同时实现经济增长、社会和谐和城市宜居三个目标。

Striking Balance through Agglomeration: Pearl River Delta Region and Yangtze River Delta Region

在集聚中走向平衡：以珠三角和长三角为例

一、引言

党的十八届三中全会提出，要使市场在资源配置中起决定性作用。在城市化和城市发展的过程中，一个重要的市场力量表现为，每个人为了更美好的生活选择在不同的地点就业和居住，人口流动最终会达到空间均衡。

流行的观点认为，当城市人口增加时，就不可避免地会出现高房价、污染和拥堵等“城市病”，因而在政策上会形成以控制人口数量来治理城市病的思路。本文将从理论上说明，增长、和谐、宜居是城市发展的三个目标，也是调节人口流动的三个机制。在空间均衡的机制下，如果控制城市人口，将出现增长、和谐、宜居这三个目标之间的矛盾。

即使通过控制城市人口能够减缓城市病，也需要从实证上考察城市人口规模与城市病之间的关系。如果控人对经济增长和社会和谐的负面影响严重，而城市病与人口规模之间的关系并不强，那么，通过控人来缓解城市病就将是得不偿失的决策。由于大量研究已经显示出，人口集聚能通过规模经济效应而促进城市经济增长（陆铭，2017），同时，户籍制度、公共服务歧视等造成的社会不和谐严重（陈钊、陆铭，2015），因此，本文将重点讨论城市人口规模与污染、拥堵之间的关系。

当人口流入城市同时带来正、负两方面效应时，就会在理论上存在最优城市规模。然而，本文将指出，在供需错配的土地政策、人口流动障碍、规划滞后等约束条件下，在实证研究中看到的最优城市规模是低于潜在的最优城市规模的，因此，必须从供给侧对导致大城市规模不经济的因素进行检讨。本文将从理论和实证两个层面说明，如果加强基础设施和公共服务的供给侧改革，能够使城市人口在接近潜在最优规模的路径上实现经济增长、社会和谐和城市宜居三个目标的共赢。

本文分为五个部分：第二部分分析人口流动的空间均衡以及控制城市人口政策的后果；第三部分给出污染和拥堵与城市人口规模关系的证据，说明由人口规模本身带来的城市病并不严重；第四部分讨论最优城市规模研究中的一些误区，并分析土地、户籍、规划等一系列政策对城市规模不经济的影响，提出经济增长、社会和谐和城市宜居三个目标共赢的城市发展路径；最后是结论和政策含义。

二、人口流动的空间均衡

关于城市病的治理是控人还是治病，我们先从一个小模型开始思考，这是一个非常简化的空间均衡模型。城市化不管是从农村进城，还是从小城市到大城市，或者反过来，其实都是人的选址问题。选址最基本的逻辑就是，只有当流动人口在这个国家的任何地方生活效用都一样时，流动才会停下来。这个状态，我们叫做空间均衡。我们用下面的简化模型来刻画这个过程：

$$\frac{F(T)}{P-U}=A(U)\cdot\frac{U^{\alpha}K^{1-\alpha}}{U} \qquad (1)$$

$$\frac{F(T)}{P-U}=A(U)(\frac{K}{U})^{1-\alpha} \qquad (2)$$

模型（等式（1））左半边可以理解为农村，右半边理解为城市，左右两边经济的差别在于它们的比较优势有区别。左边区域偏向于发展资源受限产业，产出记为 $F(T)$。其中，T 代表这个行业制约 GDP 增长的要素，比如说对于农业来讲代表土地，对于旅游业来讲代表风景、客流容量，对于资源行业 T 就代表拥有的自然资源，这些产业的总产出（分子）很难增加。分母中的 P 代表总就业人口，U 代表城市就业人口，$P-U$ 就是在农村的就业人口。等式左边就是一个农村的人均收入，同样，左边也可以理解为一个小城市的人均收入。右边则是现代经济，可以理解为一个城市（相对于农村）或者大城市（相对于小城市），这个现代经济用一个非常简单的生产函数表示。A 代表技术水平，$A(U)$ 表示存在规模经济，随着人口增加，这个城市的技术水平可以不断地提高。技术 A 乘以由劳动 U 的 α 次方和资本 K 的 $1-\alpha$ 次方形成生产函数，再除以城市总就业人口 U，右边的式子就代表现代城市部门的人均收入。将等式（1）的右边式子做一个简单的数学变换就变成了等式（2），从这里可以清楚地看到右边城市的人均收入取决于两个因素，一是技术水平，二是人均资本量，它们驱动这个城市（地区）的人均收入水平不断地提高。无论是技术进步还是人均资本量，两者的增长都是无限的，只是速度快慢的问题。

在空间均衡模型里人可以自由选址。等式（1）左边这个地区的经济总量、人均收入都受到核心投入品 T 的制约，但是右边地区的收入水平在不断地提高。在这种情况下，左边地区如何提高收入水平，让两边保持等式（1）的结果？只有左边地区不断地减少劳动力（分母）。而这个不断减少分母的过程就是 U 不断变大的过程，$P-U$ 不断减少的过程。一言以蔽之，只有持续提高城市化水平才可以提高农村居民的人均收入水平。如果把这个模型理解为小城市和大城市之间的关系，则只有人口不断向大城市集中才可以让小城市和大城市的人均收入趋同。这就解释了为什么截止到目前为止，人类发展的现

状和规律都是农村居民不断向城市集中，小城市人口不断向大城市集中。同时，我们特别强调，在这个人口不断集中的过程中，恰恰是人口的自由流动，保证了城乡间和地区间的收入差距在人均意义上是均等的。

但是，并不是说上述人口集中过程是无成本的。如果我们考虑人口不断向右边地区集中的成本，那么模型（1）右边需要减去成本 C。这个成本也与人口相关，人越多成本越高。如等式（3）所示：

$$\frac{F(T)}{P-U} = A(U)(\frac{K}{U})^{1-\alpha} - C(U) \qquad (3)$$

这里的成本有两种形式。一种是在中国特殊的背景下形成的制度成本，比如户籍制度就会使人口流入到城市（尤其是大城市）时承担受制度歧视的成本。另一种与城市治理有关，在技术水平、管理水平给定的情况下，等式右边的城市随着人口的增加会出现高房价、污染、拥堵等问题，以至于在该城市生活，虽然收入水平更高，但是必须要承担高房价、污染和拥堵，实际生活质量并没有那么高。这两个成本都在调节空间均衡状态，也决定了有多少人愿意移动到城市或者是大城市去。

这是一个非常简单的模型，但是只要这个模型所揭示的规律存在，我们就会发现，在控制人口的政策思路之下，将存在一个城市发展的“三元悖论”，即如果要控制城市人口，以下三个目标将不可能同时实现。这三个目标同时也是调节人口流动的机制：第一，增长，如果等式右边所代表的城市没有经济增长，那么，人口就不会流到右边城市；第二，和谐，如果加大制度成本，加大歧视，也可以减少人口流动，但是社会和谐就无法实现；第三，宜居，如果一个城市不搞宜居建设，放任城市拥堵、污染，或者不建足够的房子，房价高涨，它也会调节人流动。在空间均衡状态下，如果要把城市人口控制住，那么，增长、和谐和宜居这三个目标就必须要放掉一个：等式右边所代表的城市没有增长可以减少人口流入；不宜居也可以减少人口流入；如果城市既需要增长，又想要宜居，建设卓越的全球城市，还想让人不来，那就只有加大制度成本，那么社会和谐的目标就难以实现，而且这样做牺牲了平等和公正，是违反社会主义核心价值观的。另外，我们需要特别强调，通过行政手段来控制人口，结果一定是城乡间收入差距扩大，或者是地区间收入差距扩大。如果潜在的流动人口是农村贫困人口的话，那么，他们流动到城市工作，就可以脱贫。反之，如果流动到城市的制度成本巨大，就需要加大扶贫的力度。

三、人口规模导致的城市病并不严重

虽然城市人多会带来城市病，但是实证结果显示，由人口增加带来的环境污染和交通拥堵问题并不像人们想象的那么严重。这也意味着，如果等式右边所代表的城市经济有增长，而人口增加带来的成本并不高，那么，如果要控制人口，城市必须极大地增加制度成本。其实，如果城市人多真的带来很严重的城市病，就不需要通过行政手段来控

制人口了。

首先，对于城市人口规模带来的后果，我们的第一个印象就是人多加剧污染。我们收集了中国城市层面的污染数据，在城市统计里有八个指标，图 1 的纵轴就是八个污染指标，横轴是城市人口规模，用常住人口总量代表。这八个指标除了生活废水与人口规模的关系是正的，且比较显著之外，其他几个关系都很弱，且相关系数不大。生活废水一定与人多有关，但是即便如此，相关系数也只有 0.85，即人口增加 1%生活废水增长 0.85%，说明生活废水的排放有规模经济。这也意味着同样的一个人，在保持生活水平不变的情况下，居住在大城市时生活废水排放反而是更小的（陆铭、郑怡林，2017）。

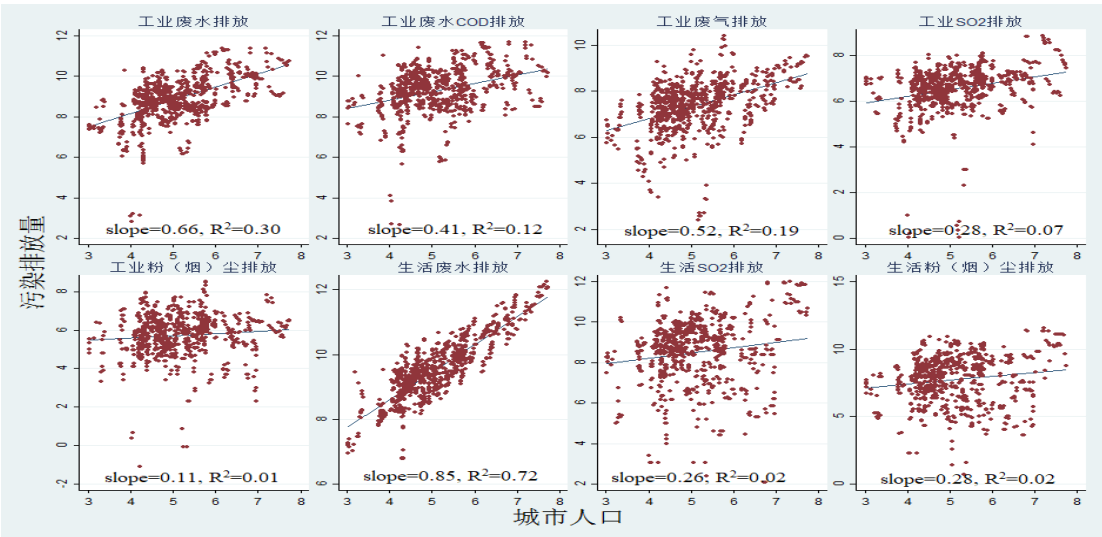

图 1 城市人口规模与环境污染

更重要的是，图 1 展示的仅仅是两个变量的简单相关性，如果在回归方程里控制城市 GDP 和产业结构等指标，人口规模对污染排放的影响便全部都不显著了，包括生活废水排放量。也就是说，即使在散点图里看到人多会增加生活排污，其实也是因为人多的地方 GDP 的总量更大，在模型中已经包括人口规模的情况下，GDP 总量代表经济发展水平，是它带来污染排放，而不是人口数量（陆铭、郑怡林，2017）。人多会带来严重的环境污染或排放，这是一个大家脑子里存在的并不正确的假象。

其次，我们常常觉得城市人多会带来拥堵，但是我们的研究结果显示，人口带来的拥堵并非如此严重。图 2 的横轴是城市人口规模，为了便于与美国的结果比较，我们用城市二三产就业人口来表示，纵轴是根据“2010 年全国城镇住户基本情况抽样调查”数据计算的每个城市的上班平均通勤时间。可以看到，拟合线非常平坦。大城市的确人均通勤时间更长，但是一个城市的人口翻一倍，人均通勤时间仅仅增加 2.23 分钟（李杰伟、陆铭，2018）[1]。而且这个系数在美国也几乎是一样的，为 2.2 分钟（Anas，2014）。

[1] 2.23 为“人均通勤时间的水平值”与“城市二三产就业人口对数值”的单变量回归结果。

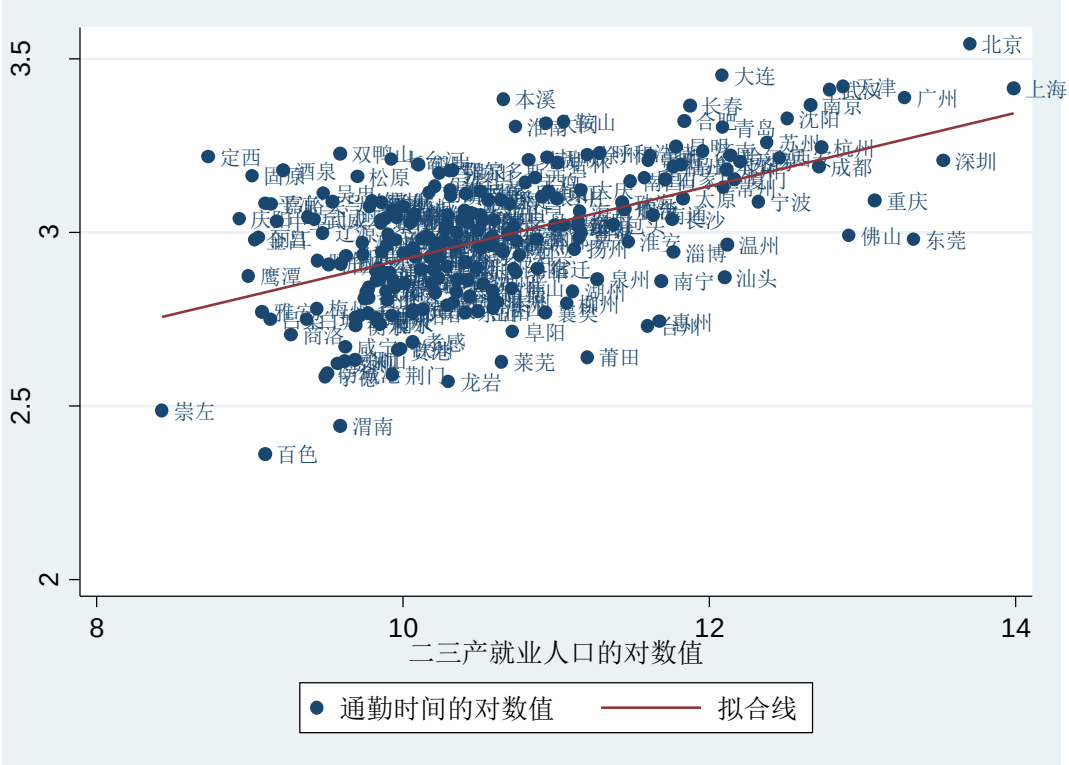

图 2 通勤时间与城市人口规模的关系

图 3 表示的是拥堵与人口规模之间的关系。纵轴是高德公司发布的拥堵延时指数，意思是上下班高峰时期“出行旅行时间/自由流旅行时间”，比值越高说明拥堵越严重，这里是用 2016 年三季度到 2017 年二季度日均拥堵指数计算的平均值。[1]横轴是用就业人口总数表示的城市人口规模。拟合线同样很平坦，系数只有 0.041，意味着就业人口增加一倍，拥堵指数只增加 98 个主要城市拥堵均值的 2.5%（0.041÷1.64）。也就是说，如果平均而言，一个城市在拥堵时期同样路段的通勤时间是非拥堵时期的 1.64 倍，那么，就业人口翻倍，这个倍数仅增加到大约 1.68 倍（李杰伟、陆铭，2018）。而且图中出现了三个高点——济南、哈尔滨、北京，如果把这三个“奇异点”拿掉，这条线将变得更平。由此可以推断，济南、哈尔滨、北京的拥堵一定是由别的原因所导致，如果把拥堵都归结到人多这个问题上，并且大幅度减少城市人口数量，并不能减少多少拥堵。出现拥堵的大城市要找各自的原因，这就需要具体研究这个城市的特征。比如济南是一个狭长型的城市，而且济南为了保护地下泉水，至今没有通地铁。北京则是出现了严重的职住分离、公共服务与居住分离、道路设计不合理、汽车数量未及时控制等诸多问题。同时，这几大城市都是首都或省会，有大量短期商务人口，加剧了通勤需求。每一个城市的拥堵有每一个城市具体的原因，当把这些问题简单归结为人多的时候，可能找错药方了。数据说明，通过控制人口去治理城市不能有效缓解拥堵，只会增加社会不

[1] 数据来源于 http://report.amap.com/index.do。

和谐。

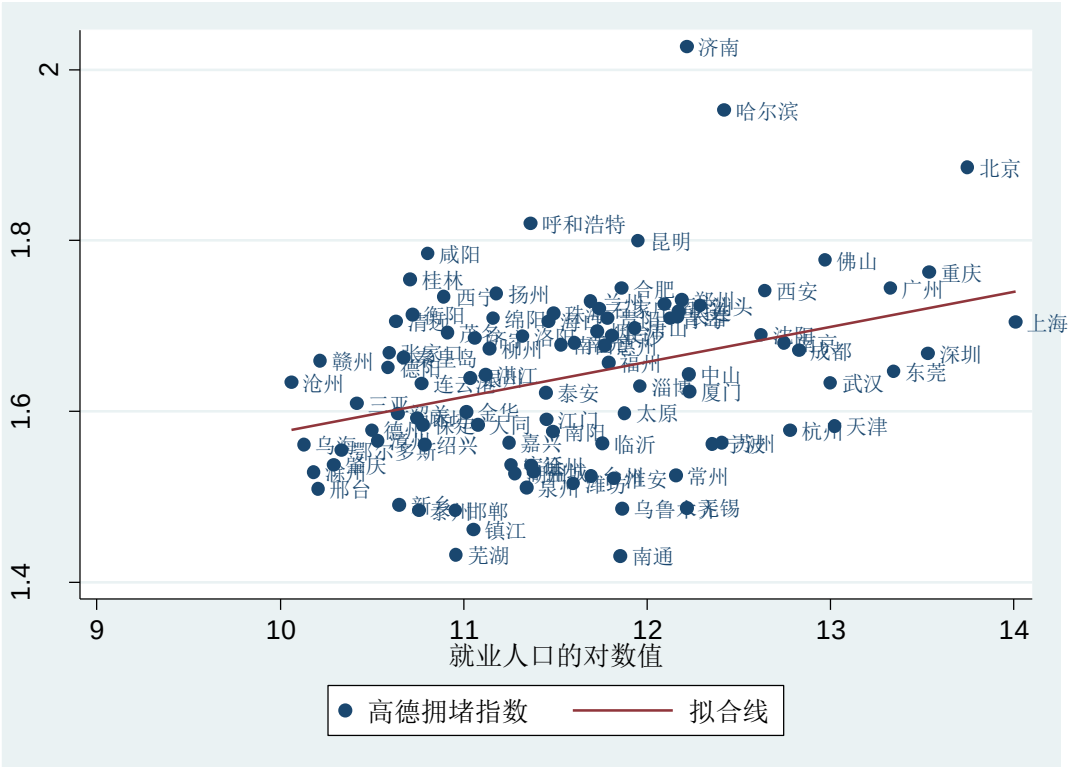

图 3 交通拥堵与城市人口规模的关系

四、城市的供给短缺和并未达到最优的城市规模

当人口流入城市同时带来正效应和负效应时，就会涉及到最优城市规模问题。理论上一个城市因为人口规模增加，会同时出现由于规模经济带来的正效应和由于污染、拥堵等问题带来的负效应。人口规模增长初期，正效应超过负效应，劳动生产率上升。但是，随着人口规模继续增加，规模经济的边际收益递减而污染、拥堵的边际成本递增，两者相等时，劳动生产率到达顶点，这时城市达到最优规模。到达顶点后，随着人口规模继续增加，负效应增加的速度超过正效应增加的速度，劳动生产率开始下降，城市规模超过最优。Au and Henderson (2006)的文章指出，城市最优规模不是给定的值，而是和产业结构相关，当一个城市的服务业比重提高时，城市最优规模是上升的。因为服务业在发展的过程中更加需要人口集聚带来的正效应，需要人与人之间进行面对面的交流；同时服务业是环境友好的，碳排放少，所以人口规模带来的坏处下降。这样，就要求有一个更高的人口规模跟城市的产业结构相适应。

如果用中国的数据来拟合城市规模的倒 U 型曲线，会发现中国城市人口和劳动生产率的关系刚好就是倒 U 型的（王小鲁、夏小林，1999；Au and Henderson，2006；柯善咨、赵曜，2014；陈杰、周倩，2016；王垚等，2017）。于是，一些学者得到结论，支

持对“超过最优规模”的超大城市采取控制人口的政策。但是，这类研究忽视了很多重要的问题。首先，研究发现，大城市的幸福感比小城市更高（Jiang et al.，2012；孙三百等，2014）。其次，即使考虑了物价、房价的因素，大城市的实际收入仍然比中小城市更高（高虹，2014）。基于前文所述的空间均衡逻辑，这是可以理解的，大城市有更高的收入和更高的幸福感，吸引了更多人流入。同时也说明，所谓的超大城市，规模并没有太大。

更加重要的问题是，如果不考虑供给侧的因素，直接将中国的数据应用于拟合城市规模最优理论，将得到误导性的结论。虽然我们见到了城市规模的倒 U 型曲线，但是利用中国的数据拟合时，我们看到的不是图 4 中的这条实线——我们称之为“潜在最优城市规模曲线”，而是下面的这条虚线。因为中国的大城市历来存在的一个问题，就是规划远远滞后于实际人口增长。并且，即使在规划人口目标之下，很多公共服务也是根据户籍人口，而不是常住人口来提供的，其中最典型的就是教育。当基础设施和公共服务都按照人口规划提供，而规划又严重滞后于实际人口增长的时候，在每一个实际人口规模达到的水平上，公共服务和基础设施的短缺都会让城市的劳动生产率更低，所以，我们看到的最优城市规模曲线是虚线。

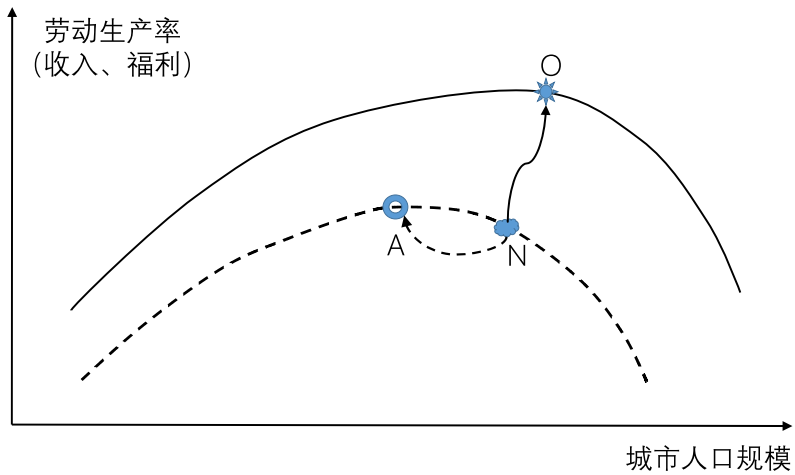

图 4 现实与潜在的最优城市规模

超大城市的规划往往滞后于实际。以上海为例，上世纪 90 年代末制定过一次 2020 年规划，当时规划的人口是 1850 万，而今天还没到 2020 年上海已经有 2400 多万人了。虽然常有人说总规并不具有约束力，历史上都是被突破的，但是，总规公布以后，基础设施、公共服务往往都是按照总规中的人口规划的。如果人没有控制住，但是公共服务、基础设施控制住了，我们就会在城市里到处看到由于人口事先没有被准确预测而留下来的城市管理后遗症。比如上海的地铁 6 号线，车体短而窄，几乎开通第一天就开始拥挤，这不能不说与规划滞后有关系。

图 4 两条曲线有完全不同的政策导向。如果我们只想到图 4 中的虚线，用中国的数据拟合后，相应的城市最优规模是 A，此时如果超大城市在 N，政策导向就是控制超大城市人口，图 4 中对应的就是从 N 往 A 走。但是如果将图 4 的虚线和实线结合起来，其实还有另外一条路径，一方面增加公共服务和基础设施的供给，让虚线往实线走，与此同时 N 往 O 走。此时，城市不仅有了经济增长，而且因为公共服务和基础设施都在增加，尽管人口增加，城市的宜居程度也是提高的。城市的短缺问题得到解决，社会和谐也得到了，不需要有歧视性制度，不需要控人。换句话说，城市发展的三大目标，效率（或者是增长）、和谐、宜居可以同时实现。相比之下，如果采取从 N 到 A 的路径，似乎可以通过控制人口减少城市病，但是增长没有了，和谐也没有了。最近有文献证明，当城市在供给侧加以改善时，城市最优规模的倒 U 型曲线就可以往右上方移动（王佳，2017），与刚才的理论推断完全一致。

除了人口规划滞后之外，还有很多因素导致最优城市规模低于潜在水平，这些因素表现为中国城市化和城市发展中的各种扭曲。首先，中国城市建设用地指标由中央配置，而土地的用途是由城市规划决定的。中国在 2003 年之后，在人口流入地有意识地收紧土地供应量，同时，大量的土地供应给工业园的建设（陆铭、向宽虎，2014）。土地内部用途方面，即使住宅价格昂贵，地方政府仍然更加愿意相对多地提供工业用地和商业地产，因为后者可以带来持续的税收增长，前者只能一次性收取住宅用地的土地转让费。城市出现工业用地密度低和商业地产过剩，而住宅相对不足，按照市场逻辑就应该改变土地用途，但是既有的制度不允许[1]。第二，由于户籍和社会保障、公共服务等挂钩，劳动力流动事实上不够自由，结果出现了东部地区劳动力短缺。人口流入受限，特别是低技能劳动力流入受限的时候，会使得高技能劳动力的辅助岗位或生活服务供给不足，制约生产率的提高和城市发展（梁文泉、陆铭，2015）。通俗地说，你越是制约低技能劳动力，他的劳动成本就越高，结果，那些高技能劳动力本来可以雇保姆打理生活，剩下的时间去学习或者工作，而当劳动力短缺的时候，高技能劳动力自己带孩子，自己做饭，劳动生产率就下来了。同时，户籍制度严格的地方还损失一块消费，因为外来劳动力人口即使在城市里挣钱，但长远来看未来还是要回家乡居住，所以就会减少在所在城市的消费。当地的消费会因此而减少，进而会影响当地服务业从业人员的收入，并转化为劳动生产率的损失（梁文泉，2018）。第三，国家补贴中西部，给中西部大量的建设用地指标和转移支付。但是，越是补贴中西部，劳动力越是滞留在生产率较低的家乡，越不倾向于到发达地区工作，结果沿海地区的劳动力成本上升更快（陆铭等，2015）。第四是规划和管理的问题。除了上文所讲的地方政府相对更愿意提供商业地产，而不愿

[1] 2016 年《国务院办公厅关于加快培育和发展住房租赁市场的若干意见》第十二条显示，允许将商业用房等按规定改建为租赁住房，土地使用年限和容积率不变，土地用途调整为居住用地，调整后用水、用电、用气价格应当按照居民标准执行。但是除了 2018 年 1 月 5 日，上海市召开的促进房地产市场健康发展联席会议显示上海将推动商住同权、商改住的发展之外，相关制度并没见到实质性的改变。

意提供住宅之外，北京和上海还在做人口疏散，因为我们通常觉得交通拥堵是由于市中心人口太多导致。结果，北京、上海越是疏散市中心人口，越会导致居住和公共服务之间的分离，以及居住和就业岗位之间的“职住分离”问题（Chen et al.，2017；Lu et al.，2017）。这些问题是由不当的规划和管制所导致的，不是因为城市人口太多。

除此之外，还有几个规划的原因可能会直接或间接地影响大城市的人口政策，而这几个原因都是站不住脚的。首先是关于上海的土地开发强度问题。在上海有一个广为引用的数据，即“上海建设用地总规模已达到陆域面积的46%，远高于伦敦、巴黎、东京等国际大都市20%-30%的水平。”[1]用以说明上海土地开发强度太高，应该要控制建设用地规模。我们查阅到这个数据的来源，发现纽约和新加坡的土地开发强度是表示没有信息的横线；香港的土地开发强度是21%，但是香港大约70%是山地，与上海不具有可比性。更加值得注意的是东京，东京的土地开发强度为29%，对应的是1350万人口。[2]稍微有一点常识的人就知道，1350万人是指东京都，而东京都仅仅相当于上海三分之一的面积。如果打开东京的卫星地图，我们就能看到，东京都的土地开发强度远远不只30%。退一步讲，如果这个数据是对的，那么，很容易算出，在东京都的建成区上人口密度已经达到了2万/平方公里（＝1350万人/(2188平方公里*29.4%)）。而在上海2035的规划里，作为对比的东京分了三个圈层，即使在半径小于20公里的中心圈层，人口密度都仅有13092人/平方公里。也就是说，规划所用的数据是自相矛盾的。[3]

其次是关于北京的“以水定城”。北京市统计年鉴的数据显示，北京从2001年到2015年人口增长60%，GDP几乎翻了7倍多，但北京全年供水总量是下降的。为什么用水会下降？因为工业用水大幅度下降，农业用水也大幅度下降，这两个是用水大户，同时北京地下水开采量也正在大幅下降。目前，北京的水大量来自于南水北调，再生水的数量比南水北调的水更多，这说明用水的量和结构是技术和管理的问题。我们可以算一笔很简单的账，假设目前北京的用水总量不变，也不考虑未来还有可能海水淡化——其实海水淡化成本仅略高于北京的自来水价格——就目前水的总量，如果北京不发展农业，按目前北京居民的人均用水量，北京农业用水量就可以再容纳800万人。也就是说，即使认同北京的水总量不能增加，仅以目前的水“以水定城”，那么科学的结果应该是北京可以容纳3000万人口，更不要说未来可以运更多的水进来，可以有海水淡化，可以有节水的技术，可以让水价涨一点，提高水的利用效率。

第三，关于超大城市存在公共服务短缺的问题。超大城市有些公共服务（主要是中小学教育）并没有按照常住人口规划，这种短缺完全是供给方造成的。从图 5 和图 6 可以看到，北京和上海的中小学数量是在下降的；中小学的招生人数一度曾经上升，从

[1] 参见《上海市城市总体规划(2017-2035 年)》。
[2] 参见《求索超大城市创新转型发展之路》，上海人民出版社，2017 年。
[3] 参见《上海市城市总体规划(2017-2035 年)》。

2013 年提出严格控制超大城市人口后也是下降的。在学校和招生人数都在下降的时候，我们不能把超大城市存在教育资源的短缺作为控制人口的理由。现实的情况是，即使企业愿意提供外来人口子女的教育，愿意开办学校，地方政府也不允许。这样做的后果是，今天大城市在制造留守儿童。根据魏东霞的估算，北上广深四一个线城市贡献了中国留守儿童数量的五分之一。[1]这里是全中国最富裕的地方，既存在大量对于外来人口的需求，同时也应该最有责任和义务解决留守儿童问题，事实上我们做得非常不够。

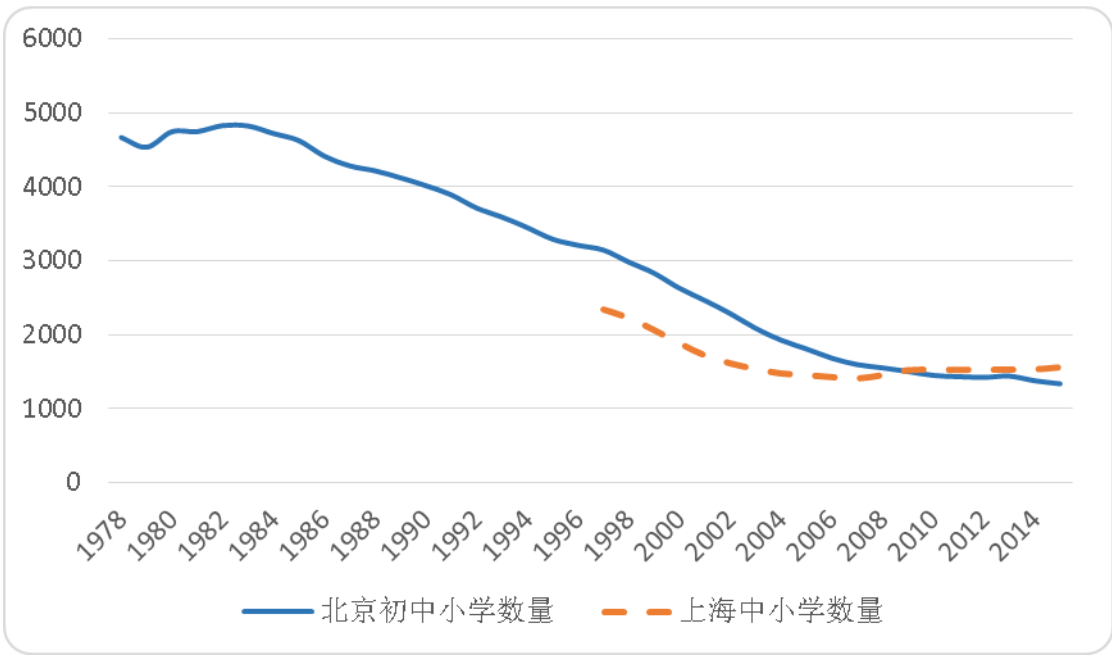

图 5　北京和上海的中小学数量

数据来源：《北京统计年鉴》和《上海统计年鉴》相应年份。

[1] 感谢魏东霞提供数据。

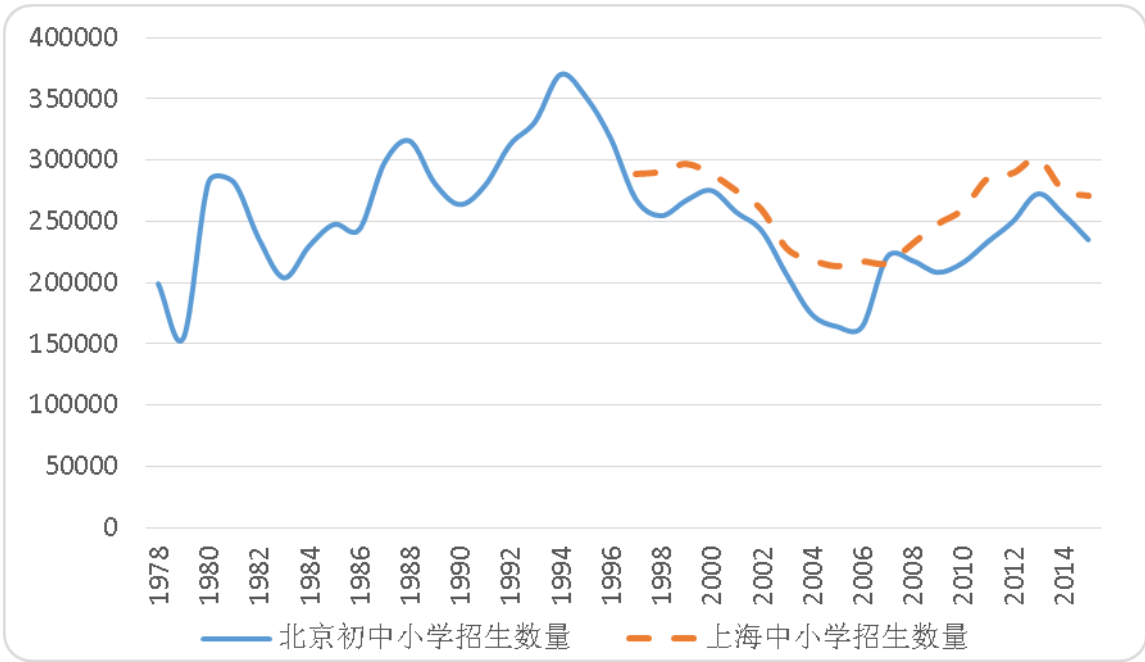

图 6　北京和上海的中小学招生数量

数据来源：《北京统计年鉴》和《上海统计年鉴》相应年份。

五、结论

本文的核心观点是，有病治病，无需控人。出现城市病，不需要把病和人一起清理掉，治理即可。而且，根据前文的逻辑和数据，当我们没有看到人口规模和交通拥堵、环境污染这些问题有非常强的关系时，恰恰说明这些城市病是可以治理的，虽然不能完全消除。相反，正是因为人口规模和交通拥堵、环境污染这些问题没有非常强的关系，如果强行控制人口，可能城市病没有得到有效缓解，反而使城市牺牲了经济增长和社会和谐。

因此，本文提出几条政策建议，既可以有效地缓解城市病，又可以破解城市发展的“三元悖论”，实现发展、宜居、和谐三个目标的共赢：

第一，更为科学地预测城市人口增长趋势。为此，应打破城市“承载力”的传统思维，抛弃武断的人口数量控制目标，而代之以更为科学且柔性的人口预测数量。

第二，以科学的实有人口规模预测为基础分配城市建设用地总量，并根据实际需要动态调整土地供给总量，适度允许土地用途动态调整。土地用途调整应该以市场信号为引导，适度允许工业用地、商业用地和住宅（包括租赁住房）用地之间的相互调整。

第三，以科学的实有人口规模预测为基础，规划交通基础设施、学校、医院等公共服务的数量和结构，通过供给侧的结构性改革，来满足城市发展的需要，同时缓解城市病。在融资方面，允许民间资本进入基础设施和公共服务提供领域。为外来常住人口提供更为平等的公共服务，特别紧迫的是，应允许外来人口随迁子女在父母所在城市就学。

第四，逐步降低大城市人口落户门槛。各种技能的劳动力如果能够在城市中工作，那么他们就在为城市的发展做出贡献，就应该平等地享受公共服务。当前一些城市将落户机会与教育水平挂钩，在本质上仍然是对低技能劳动力给予歧视性待遇的做法。未来，逐步降低人口落户门槛，直至取消教育水平的要求，是实现公正平等的价值观，构建社会主义大城市的必须。

第五，通过市场和政府多种力量，共同为低收入群体提供更多安居条件。在城市中，低成本居住场所既是很多新流入劳动力和低技能劳动力的栖身之所，也是创新创业的孵化器。所以，在不妨碍城市发展的前提下，城市应该为低收入群体保留一些原本合法的建筑，无论是老旧建筑还是地下室。同时，需要通过建设保障房、廉租房等为城市新移民创造低成本居住的安居条件。这一做法也有利于保持城市活力，降低城市生活成本，提升城市竞争力。

最后，关于城市治理，本文认为还需要强调两个基础的问题：第一，人口流动恰恰反映的是人民对于美好生活的向往。这个人口不仅包括本地户籍人民，而且应该包括全体中国人民。美好生活的向往不是由精英定义的，而是由人民用脚投票选出来的。 第二，人口流动现象反映的是市场成为配置资源的决定性力量，而政府是要更好地使市场发挥作用。政府应该科学决策，跟市场的积极力量一起，把人民对美好生活的向往作为努力工作的目标。政策的制定和实施要符合“自由、平等、公正、法制”的社会主义核心价值观。

只有充分认识到上述问题，才能够理解全球范围内人口向大城市集中的机理，以及世界各国治理城市病的政策思路。也只有在理论和国际经验的指引下，实施基础设施、公共服务等方面的供给侧结构性改革，才能在城市治理中有效地缓解“人民日益增长的美好生活需要和不平衡不充分的发展之间的矛盾”，实现经济增长、城市宜居和社会和谐三大目标的共赢。

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Urban Sustainability of Western China

西部中国都市圈的可持续性讨论

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Urban Sustainability of Western China
西部中国都市圈的可持续性讨论

Abstract

Having analyzed Western China's natural resources and environment and its urban development as part of Major Function Oriented Zoning (MFOZ), this paper presents four key issues regarding the urban sustainability of Western China: 1) regional differences in the natural environment upon which Western China's urban development is based should be dealt with on a case-by-case basis. Apart from Guangxi and Sichuan provinces, natural constraints imposed on the sustainability of metropolitan circles in Western China are higher than the national average. Achieving a balance between population economics and resources and environment is central to the urban sustainability of Western China; 2) with strong resources and environment constraints, the spatial form of metropolitan circles in Western China demonstrates that the centripetal forces tend to be limited at the national level, concentrated at the provincial/regional level, and larger between cities (often displayed as a core-rim structure). Therefore, an equal allocation of resources and environment is particularly acute; 3) promoting healthy urbanization in Western China is of local and national significance, especially in the sense of carrying out important sustainability strategies such as poverty alleviation, regional coordinated development, military-civilian integration, etc; 4) while resource-oriented industries and their future prospects have a great impact on the urban sustainability of Western China, talent loss will soon be a hard nut to crack, driven by technological innovations and transformations.

摘要

在分析中国西部资源环境本底条件和开发现状的基础上，结合全国主体功能区划对西部地区城市化空间发展定位的讨论，提出了西部中国都市圈可持续性的核心问题：（1）西部城市化依托的自然环境的区域差异性，应区别对待。除广西和四川外，自然条件对西部各省区都市圈可持续性的强约束较全国平均水平都明显要高，注重人口经济与资源环境的均衡协调是西部中国都市圈可持续性的关键。（2）具有资源环境强约束的西部都市圈，空间形态上普遍呈现出中心集聚能力有限、省区范围内趋于集中分布的态势明显、集中区内城市间距离偏大且呈现集中-边缘的空间结构形态，资源环境的空间合理配置意义尤为突出。（3）西部中国都市圈在推进健康城市化进程中地方性作用和全国意义都十分显著，特别是对履行扶贫攻坚、区域协调发展、军民融合、可持续发展等重大战略承载着复合功能。（4）尽管资源指向型产业及其未来发展前景对西部都市圈可持续性影响很大，但随着科技创新转型驱动又因西部人才流失而成为西部越来越突出的可持续性难点问题。

Panel V.

Urban Development in Asia

亚洲城市发展

Moderator: Prof. Mehri Madarshahi　　主持人：Mehri Madarshahi 教授

Commentator: Prof. Chu Yunhan　　评论人：朱云汉教授

► **Thriving Tokyo and Declining Osaka: The Role of the Local Governance System**

Prof. Yoshihisa Godo
Meiji Gakuin University
地方治理体系在东京与大板的经济中所扮演的作用
Yoshihisa Godo/神门善久教授　　日本明治学院大学

► **Planning Megaregions in China and India**

Assoc. Prof. Ren Xuefei
Michigan State University
中印超级区域的规划
任雪飞副教授　　密歇根州立大学

► **The Two Faces of Mega-Urban Region Formation in South Korea**

Assist. Prof. Yu-Min Joo
National University of Singapore
韩国巨型都市区域的形成及其两面性
Yu-Min Joo 助理教授　　新加坡国立大学

Thriving Tokyo and Declining Osaka: The Role of the Local Governance System

地方治理体系在东京与大板的经济中所扮演的作用

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Thriving Tokyo and Declining Osaka: The Role of the Local Governance System
地方治理体系在东京与大板的经济中所扮演的作用

Abstract

For years, Tokyo and Osaka were two leading cities in the Japanese economy. However, this situation has changed over the past 50 years. While Tokyo continued to thrive, Osaka's position in the Japanese economy has declined. As a result, the so-called "Tokyo Centralization" has developed. What made the difference between Tokyo and Osaka? This paper focuses on the differences between Tokyo and Osaka's local governance systems as one of the key reasons. Tokyo's unique local governance system, whereby Tokyo Metropolitan Government is endowed with strong administrative power, has been efficient in stimulating economic growth. However, Tokyo's system has disadvantages from the viewpoint of democracy. Osaka's local governance problems are different from Tokyo's, that is, the relationship between the Osaka City Government and the Osaka Prefectural Government is so unsystematic that they often fail to coordinate with each other in many administrative activities. This has negative effects for Osaka's economy. How to reform Tokyo and Osaka is related to the overall revision of Japan's local governance system, and is one of the most debated issues in Japanese politics.

摘要

多年来，东京和大阪一直引领着日本经济的发展。然而，这种情况在过去 50 年中发生了变化。在东京蓬勃发展的同时，大阪在日本经济中的地位却逐步下降，由此产生了所谓的“东京中央化”发展趋势。究竟是什么原因导致了这一现象?本文重点关注东京与大阪地方治理体系之间的差异，总结其为两城市发展不平衡的一个重要原因。东京独特的地方治理体系赋予了东京都政府强大的行政权力，从而有效地刺激了其经济的增长。但是从民主的角度来看，东京的制度也存在着弊端。与东京不同的是，大阪市政府与大阪地方政府之间的关系不成体系，在许多行政事务中往往无法相互协调，这对大阪的经济造成了负面影响。如何改革东京和大阪的地方治理体系不仅关系到日本地方治理体系的全面改革，也是日本政治中最受争议的议题之一。

Thriving Tokyo and Declining Osaka: The Role of the Local Governance System

1. Introduction

Tokyo leads today's Japan. The central government offices, leading research institutes, popular theaters and museums, headquarters of famous companies, and major entertainment facilities cluster in Tokyo — the mecca of cultural and economic activities.

However, this is not a time-honored situation. Japanese society used to be more diversified. In particular, Osaka had been a formidable rival for Tokyo. Osaka is placed near the sea and developed as a commercial city. Osaka's nickname is *Tenka No Daidokoro*, which means "the Nonpareil Kitchen of the Nation." Throughout the Tokugana Shogunate period (1608-1868), Osaka was more advanced than Edo—which was renamed Tokyo during the Meiji Restoration of 1868—in economic and cultural activities. Japan's top-level merchants lived in Osaka and fostered its own culture.

For years, Osaka and Tokyo formed the "Big Two" of the Japanese economy. During the postwar high growth era, many big manufacturing companies such as Daihatsu, Daikin, Matsushita (renamed Panasonic in 2008), Yamaha, and Yanmar emerged in Osaka. Its GDP grew faster than any other area in Japan throughout the 1950s and 1960s. However, since the Oil Price Crisis of 1973, Osaka's economic performance has been poor. As a result, today's Osaka suffers from low per-capita income, a high unemployment rate, and large numbers of per capita welfare recipients and homeless people.[1] Osaka has lost its leading position in the Japanese economy. In contrast, Tokyo continues to thrive, and the so-called "Tokyo Centralization" is in progress. What made the difference between Osaka and Tokyo? There are various discussions on this question. One of the key points is the difference in the local governance systems of Osaka and Tokyo. Indeed, Tokyo has a unique local governance system, which is not seen in any other cities within or outside of Japan. Recently, there have been fierce debates about whether Osaka's local governance system should be reformed into a system similar to Tokyo's.

This paper conducts a comparative study on the local governance systems of Osaka and Tokyo. Section 2 reviews the contrast in economic performance between Osaka and Tokyo,

[1] Sakaiya, Taichi, Shin-ichi Ueyama, and Eiji Hara (2012), *Osaka Ishin towa Nanika* (Initiatives from Osaka), Tokyo: Togensha.

based on statistics. Section 3 sketches general information on the relationship between Japan's central and local governments, and Section 4 describes details of Tokyo's local governance system. Sections 5 and 6 discuss the necessity of local governance system reform in Osaka and Tokyo respectively, while Section 7 concludes.

2. Comparison of Osaka and Tokyo's economic performance

Japan consists of 46 prefectures (including the Osaka Prefecture) and one metropolis (the Tokyo Metropolis). The Osaka Pa refecture is the largest in GDP and population among the 46 prefectures. Figure 1 shows Tokyo's and Osaka's population as percentages of Japan's total population. As can be seen, these two percentages increased in the early postwar period, and have been almost constant since the early 1960s. This means that the migration from rural to urban areas were almost complete around 1960.

Table 1 shows Tokyo's and Osaka's GDP as percentages of Japan's GDP. As can be seen, Tokyo's percentage remained almost constant during these fifty years. In contrast, Osaka's percentage increased until 1970, but declined since then.

Figure 2 compares the per-capita GDP of Tokyo, Osaka, and the national average, and clearly depicts Osaka's unfavorable economic performance over a 50-year period. Osaka's per-capita income had been the highest among the 46 prefectures up until 1983. However, it is now less than the national average level.

"Tokyo Centralization" became a popular political buzzword in the late 1980s. For example, Noboru Takashita formed the cabinet in 1987 under the slogan of "Overcoming Tokyo Centralization and Vitalizing the Local Economy." However, Figures 1 and 2 as well as Table 1 imply that, instead of "Tokyo Centralization," "Osaka's Decline" is a more appropriate description of what happened during this period.

3. Japan's local governance system

The Local Governance Act (LGA) stipulates the legal framework of Japan's local governance system. Tokyo's local governance system is unique and different from other areas. It is useful to review Japan's local governance system for non-Tokyo areas first.

There are two layers of local government. The administrative system of the first layer of governance is known as "municipality," and is the basic unit of local governance. Japanese citizens living within the boundaries of these administrative units must register as residents of that area with the municipal government, and must provide details of their residence to their

registry. Municipal governments are responsible for providing basic public services, such as operating public elementary schools and granting pension payouts/allowances to the elderly.

The administrative unit of the second administrative layer is called a "prefecture." The prefectural government supports the municipal governmental units within its jurisdiction by providing public services that require special knowledge, additional resources, and/or that cover a broader scope than a municipality. For example, the prefectural government is responsible for constructing the main roads, granting approval for and providing guidance to public nursing-care organizations, and constructing and operating wide-area sewerage facilities.

A municipality can be classified into three categories (village, town, and city) according to its population size. If the population of a municipality is less than a certain number (usually designated in most municipal units as approximately 8,000) stipulated by the prefectural order, the municipality will be termed a "village." In excess of this figure, the municipality qualifies as a "town." When the excess surpasses 50,000, the municipality is considered a "city."

If the population of a city exceeds 500,000 and the Prime Minister's Office recognizes the city office as having a high level of administrative ability, the city qualifies to become an "ordinance-designated city."[1] By this definition, there were 181 villages, 739 towns, and 768 cities (20 ordinance-designated cities and 748 ordinary cities) in the 46 prefectures of Japan as of June 2018.

Traditionally, an overwhelming majority of municipalities were villages. For example, when the LGA was established in 1952, more than 80% of the municipalities were villages.[2] However, many villages have become towns and cities since then due to population growth and merging of municipalities, leading to a sharp decline in the number of villages.

Administratively, towns and villages are treated equally by the LGA. As the word "village" suggests, villages are comprised of agriculture-oriented, traditional societies. A "village" becomes a "town" after it has undergone modernization symbolically and in real terms, though there is no actual change in the role of the municipal government when the former becomes the latter's unit.

[1] The system of ordinance-designated cities started in 1956. Five cities, namely, Yokohama, Nagoya, Kyoto, Osaka, and Kobe became ordinance-designated cities. At that time, the minimum population size for an ordinance-designated city was 1,000,000 instead of 500,000. It should be noted that Kyoto is only 40 kilometers northeast from Osaka, while Kobe is only 30 kilometers west from Osaka. The area comprising Kyoto Kobe, Osaka, and their neighboring cities is popularly called the Keihanshin Metropolitan area, which is the second biggest metropolitan area next to the Tokyo Metropolitan area. Osaka is the center of the Keihanshin Metropolitan area.

[2] For details, see the Ministry of Internal Affairs and Communications' website at http://www.soumu.go.jp/gapei/gapei2.html.

However, when a "town" becomes a "city," it implies greater autonomy for the municipality unit. For example, in providing social benefits, the municipality governments, which exist in units defined as "cities," can decide on the groups in their jurisdiction that are needy individuals; in towns and villages, this decision rests with the prefectural governments instead of the municipal governments.

An ordinance-designated city government has far greater autonomy than an ordinary city government. For example, while an ordinary city government needs the approval of the prefectural government to design a city development plan, an ordinance-designated city government can make its own decisions.

With an increase in population, effective communication between the municipal government and citizens becomes more difficult. To overcome this, ordinance-designated cities have a unique administrative system called the "ward" system. The area of an ordinance-designated city is divided into wards, each with its own office, which provides the basic services to the residents in the ward.

Every citizen of an ordinance-designated city comes under the purview of the ward, for example, in terms of paper work, residential registration, and marriage registration; a seal certification service is provided at the ward office of the applicant's residential area for resident applicants.

Each municipal or prefectural government has its own head and assembly. The heads of a municipal government and a prefectural government are called the "mayor" and "governor," respectively. Residents older than 18 years have voting rights in the elections of the municipal mayor, the prefectural governor, and members of the municipal assembly and prefectural assembly.

In the municipal assembly elections of villages, towns, and ordinary cities, the boundaries of a single constituency (i.e., for the whole area of a municipality) are drawn up and an elector votes for a single entry, even though the number of assembly members is more than one.

For the prefectural assembly election, the prefecture is divided into plural constituencies. The total number of assembly members varies according to the constituencies: some are single while others are plural. Whichever the case, an elector may only vote for a single entry.

As in the case of an ordinary city, an ordinance-designated city has a single mayor and a single assembly. However, unlike the case of an ordinary city, the assembly member's election in ordinance-designated cities takes place in plural constituencies that use each ward as a constituency. The number of assembly members for a ward is determined by the city ordinance.

The basic unit of local governance is not a ward but an ordinance-designated city. The head of each ward is appointed by the mayor of the ordinance-designated city (not by election). This is because the head of a ward is responsible for administrative matters alone, and not for making political decisions.

5. Tokyo's unique local governance system

Similar to the 46 prefectures, Tokyo's local governance system also comprises two layers of administration. However, the upper layer is called a "metropolis" instead of a "prefecture." There are eight villages, five towns, and 26 cities (all of which are ordinary cities) in the Tokyo Metropolis, which also has another type of municipality unit (i.e., in the lower layer of administration) called the "special ward."

Unlike the wards in ordinance-determinant cities, a special ward is recognized as the basic unit of local governance in Tokyo. The head of each special ward is elected by residents who are above 18 years old, and each special ward has its own assembly, with members who are elected by voting procedure in a single constituency system.

There are 23 special wards in Tokyo. The administrative activities/powers of a special ward government are limited compared to the other municipality types (i.e., village, town, and city). The Tokyo Metropolitan Government oversees some of the activities often conducted by ward-level municipal governments in other municipality types.

For example, while the public bus system is usually operated by the municipal government, it is operated by the Tokyo Metropolitan Government in the 23 special wards of Tokyo. The taxation powers of special ward governments are also limited. The imposing and collection of asset taxes in the 23 special wards is within the purview of the Tokyo Metropolitan Government, but is usually done by the municipal governments.

A portion of the asset taxes imposed on special wards that is collected by the Tokyo Metropolitan Government is transferred to the 23 special ward governments. Every year, the Tokyo Metropolitan Government and the 23 special ward governments negotiate on the allocation of duties to provide basic services to residents and to divide the tax revenues.

As for prefectures, the Tokyo Metropolitan Government has its own assembly, with a head that is denoted by "governor." Residents older than 18 years have voting rights in the elections for the Tokyo Metropolitan Governor and the Tokyo Metropolitan Assembly. The election for the Tokyo Metropolitan Assembly takes place within the 42 constituencies.

In 12 of the relatively large cities and in 23 special wards, the municipality forms a constituency for election to the Tokyo Metropolitan Assembly. The other 14 cities, five

towns, and eight are grouped into seven constituencies. The total number of assembly members from a constituency varies among constituencies: some are single and others are plural. In either case, an elector votes for a single entry alone.

Figures 3 and 4 depict the two types of local governance systems. In Figure 3, the area of the ordinance-designated city government overlaps with that of the prefectural government, indicating that the ordinance-designated city government is qualified to perform more functions than other types of municipal governments.

In Figure 4, the Tokyo Metropolitan Government enters the administrative purview of special ward governments. This reflects the fact that budgets and activities of special wards are dependent on the Tokyo Metropolitan Government.

5. Local governance problems in Osaka

The Osaka Prefecture has one village, nine towns, and 33 cities. Osaka City and Sakai City are ordinance-designated cities and have 24 and seven wards, respectively. Osaka City contributes 70% of the GDP of the Osaka Prefecture.

In the prewar period, Osaka City constituted 70% of the Osaka Prefecture's total population.[1] However, based on the development of the public transportation system in the postwar period, the population of individuals who live outside Osaka City and commute to Osaka City for work has increased; in particular, an increasing number of high-income families moved to luxurious residential areas that sprouted during the postwar period.

This has led to various problems. A typical example is the Osaka Municipal Subway (OMS), operated by the Osaka City Government, which is the biggest subway system operated by a local government in Japan.

A limitation of the OMS is that it only operates within the jurisdiction of Osaka City, while 60% of passengers of the OMS live outside Osaka City.[2] The Osaka City Government has constructed new subway lines based on its own city development plan. However, the plan may not be suitable for the neighboring municipalities. As a result, the overall layout of the railway network in Osaka Prefecture turned out to be inefficient.[3]

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[1] Historical data on the population in Osaka are available at http://osaka-salon2.seesaa.net/article/371363001.html.

[2] Ueyama, Shin-ichi and Kida, Kao-ru (2015), *Kensho Osaka Ishin Kaikaku* (A Review on Osaka Reform), Tokyo: Gyosei.

[3] OMS was privatized on April 1, 2018. However, there has not been any significant change in the railway operation system to date. It may be too early to judge the economic effects of this privatization.

In addition, an increase in the size of the commuting zone has had negative effects on the fiscal condition of the Osaka City Government. The aged and/or the jobless, who need social benefits from the municipal governments, tended to stay in the traditional residential areas in Osaka City.

Further, the Osaka City Government faces a problem with its water utility service. The Osaka City Water Works Bureau (OCWWB), a bureau of the Osaka City Government, manages the water utility services for citizens in Osaka City. In the other 42 municipalities in the Osaka Prefecture, water utility services are provided by a special local public entity called the Osaka Water Supply Authority (OWSA), jointly founded by the Osaka Prefectural Government and all 42 municipal governments.

The OCWWB and the OWSA constructed independent water pipelines. A lack of coordination led to complicated and inefficient pipeline layouts. For example, some areas in Osaka City were better served when the water supply was supplied via the OWSA instead of the OCWWB. There is potential room for improvement in the water utility service system of the Osaka Prefecture.

Local governance experts assert that Osaka's water utility service will be more efficient if the OCWWB is merged with the OWSA.[1] However, for fear of losing their jobs after the merger, public servants of the OCWWB—who form a powerful section of the labor union of public servants of the Osaka City Government—raised their opposition.

Duplicate investments by the Osaka City Government and the Osaka Prefectural Government also present a significant problem. Each invests in its own libraries, sport facilities, and schools without coordination.

In sum, the Osaka City Government and the Osaka Prefectural Government is so unsystematic that they often fail to coordinate with each other in many administrative activities. This is unfavorable for promoting the private sector's economic and social activities.

In such a situation, Toru Hashimoto, one of the most popular opinion leaders, launched the "Osaka Metropolis Plan" in January 2010 to change the framework of local governance. This plan aims to convert the Osaka Prefecture to the Osaka Metropolis, and to convert Osaka City and its neighboring nine cities to 20 special wards; it modelled the Osaka Metropolitan Government and the governments of the 20 special wards on that of the Tokyo Metropolitan Government and the governments of the 23 special wards in Tokyo.

[1] Ueyama, Shin-ichi (2012), *Kokyo Keiei no Saikouchiku* (Public Management Reform), Tokyo: Nikkei BP.

Hashimoto believed that planning would be made more consistent and innovative by concentrating decision-making procedures of the entire area that makes up today's Osaka Prefecture in the hands of the Osaka Metropolitan Government. Hashimoto also believed that the relationship between citizens and the local government would become closer and more accountable by re-zoning today's Osaka City and its neighboring cities into a more reasonable layout for resource allocation, and by introducing elections for the heads of special wards.

Arguments exist both for and against the Osaka Metropolis Plan. One of the most compelling counterarguments to Hashimoto's assertion is that the Osaka Metropolis Plan may invite serious conflicts between special ward governments and the Osaka Metropolitan Government.

Hashimoto and his followers have been conducting a campaign to implement the Osaka Metropolis Plan. However, facing fierce counterarguments, the plan has not yet gone into effect.

6. Local governance problems in Tokyo

The evaluation of Tokyo's local governance system differs among people. The current system is efficient in stimulating economic activities, because it enables the Tokyo Metropolitan Government to conduct comprehensive urban planning. However, the current system also has problems, for example, the Tokyo Metropolitan Government and the 23 special ward governments often cannot agree on the allocation of budgets and administrative power/tasks, making discussions fruitless and time-consuming. As such, special ward governments in Tokyo occasionally advance the idea of converting special wards to cities.

It should be noted that the basic structure of today's special ward system was established in 1943 for military reasons. Until then, Tokyo City existed as the basic unit of local governance for the central part of the Tokyo Metropolis. However, the central government found that the mayor of Tokyo City did not respond fast enough in developing the air defense infrastructure that was necessary for the Pacific War. Thus, the central government dissolved Tokyo City into special wards, and implemented direct control. The Governor of the Tokyo Metropolis became responsible for appointing heads of special wards.

Following defeat in the Pacific War, Japan was democratized under the sovereignty of the General Headquarters of the Supreme Commander for the Allied Power. Accordingly, a system of free election for the head of a special ward was implemented in 1947. However, the Tokyo Metropolitan Government retained a major part of the administrative power at

special wards. Reflecting such actual circumstances, the free election system for the head of a special ward was abolished in 1952. By this abolishment, a special ward assembly and the governor of the Tokyo Metropolitan Government became responsible for appointing the head of a special ward. However, such a system was severely criticized as being undemocratic. In response to civic groups' request for democratization, the election system for the head of a special ward was re-instituted in 1975. In 2000, the central government presented a new agenda for transferring important aspects of administrative power from the Tokyo Metropolitan Government to the special ward governments.

7. Conclusion

This paper finds that "Osaka's Decline" instead of "Tokyo Centralization" represents a more accurate description of the current situation of the Japanese economy. The inefficiency of Osaka's local governance system is one of the major reasons for "Osaka's Decline." While reform-minded politicians raised a reform plan called the "Osaka Metropolis Plan," it is unsure whether this plan provides a proper prescription.

This paper also finds that Tokyo's unique local governance system is effective in stimulating economic growth in Tokyo. However, it is not favorable from the viewpoint of democracy.

It is the time for Japan to review its entire local governance system (not only for Osaka and Tokyo). In fact, the Japan Federation of Economic Organization—one of the most influential business groups in Japan—is active in promoting a local governance reform plan called "A 'state and county' system," whereby the present regional administrative structure of prefectures, cities, towns, villages are combined into larger administrative units. As such, Japan's local governance system is now at a crossroads.

Table 1. Tokyo and Osaka's GDP as percentages of Japan's GDP (%)

Year	Tokyo				Osaka			
	2015 standard	2005 standard	1990 standard	1980 standard	2015 standard	2005 standard	1990 standard	1980 standard
2014	18.5				7.4			
2001	18.2	16.9			7.8	7.7		
1990		17.0	16.9			8.5	8.0	
1975			16.8				9.0	
1970				17.1				10.2
1955				16.9				7.4

Source: Report on Prefectural Accounts produced by the Cabinet Office

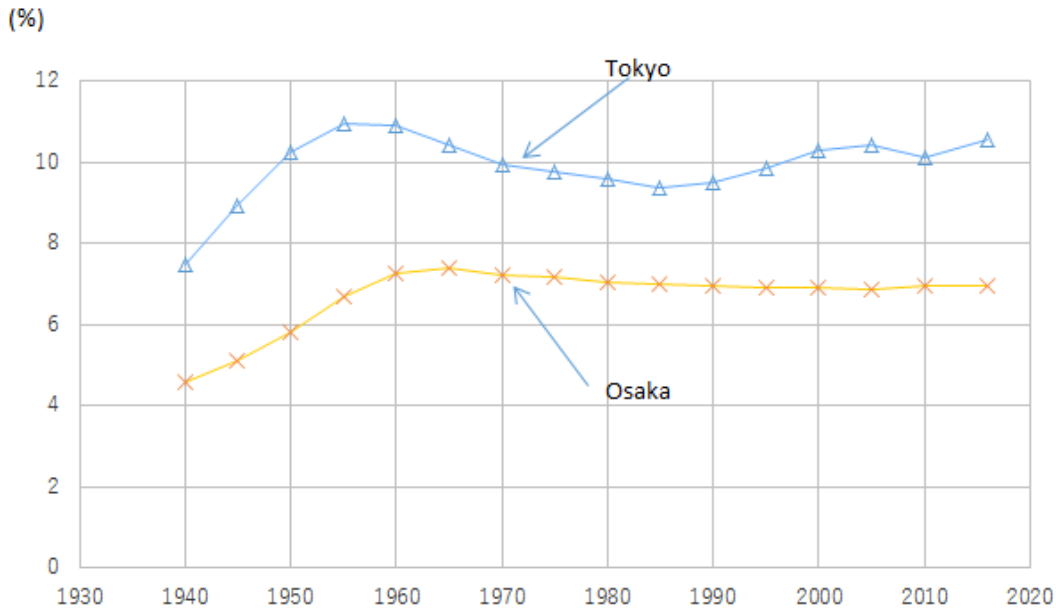

Figure 1. Tokyo and Osaka's population as percentages of Japan's total population

Source: Report on Prefectural Accounts produced by the Cabinet Office

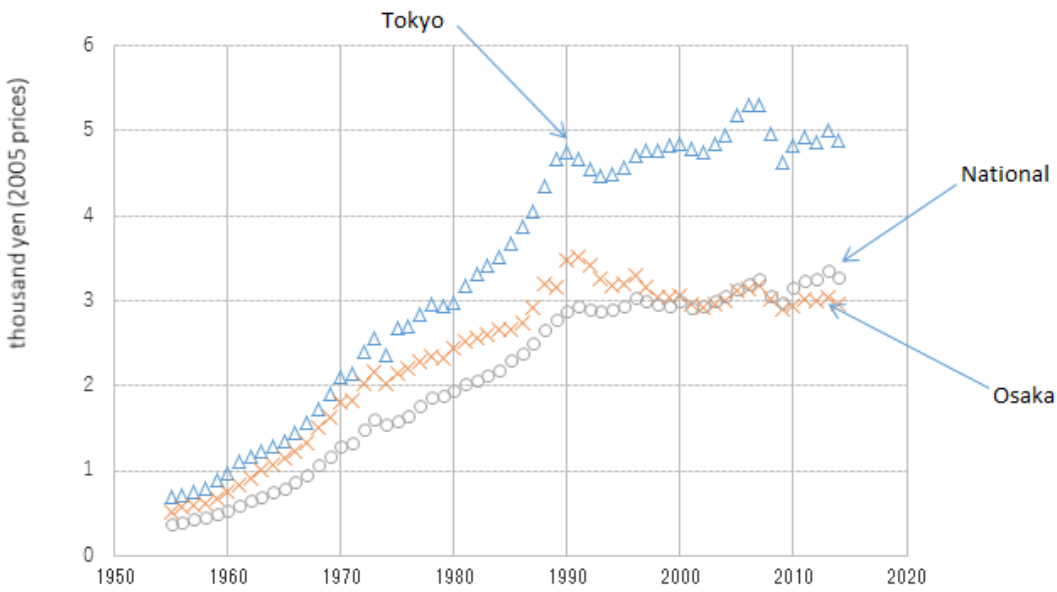

Figure 2. Comparison of per-capita income

Source: Report on Prefectural Accounts produced by the Cabinet Office

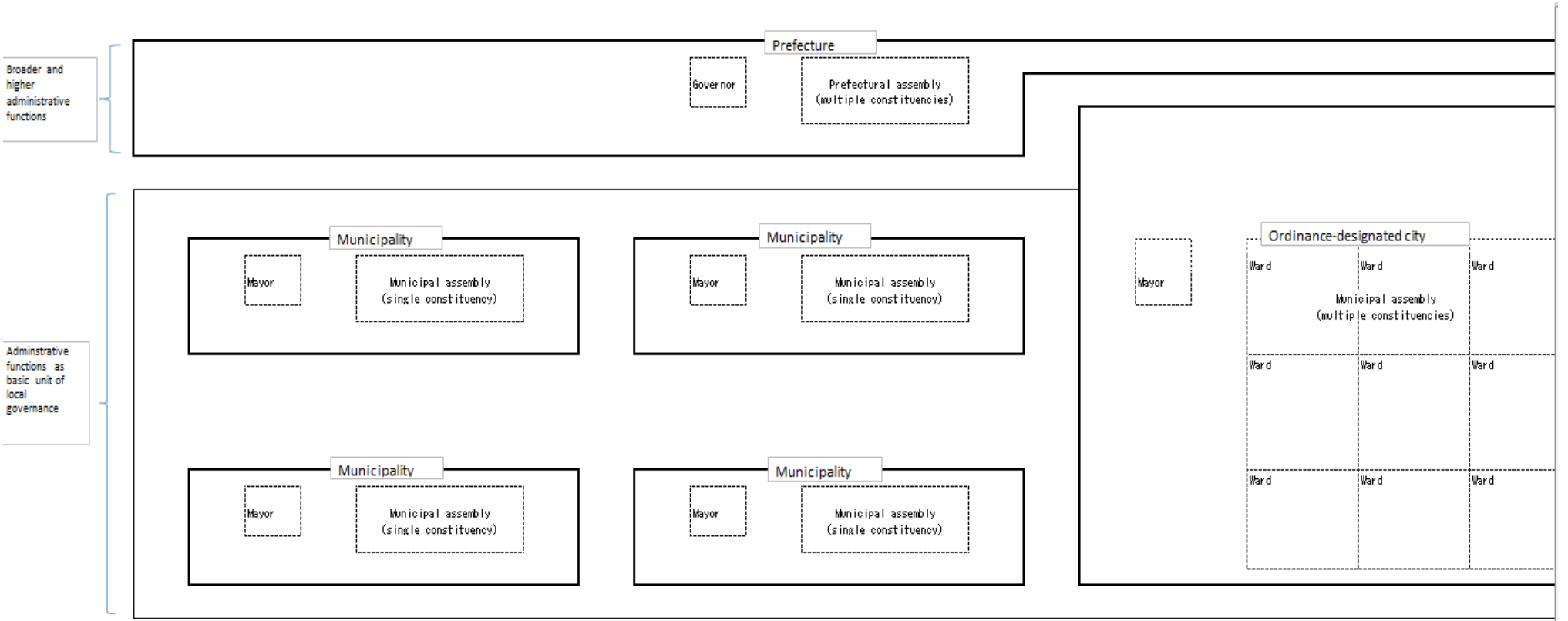

Figure 3. Local governence in 46 prefectures

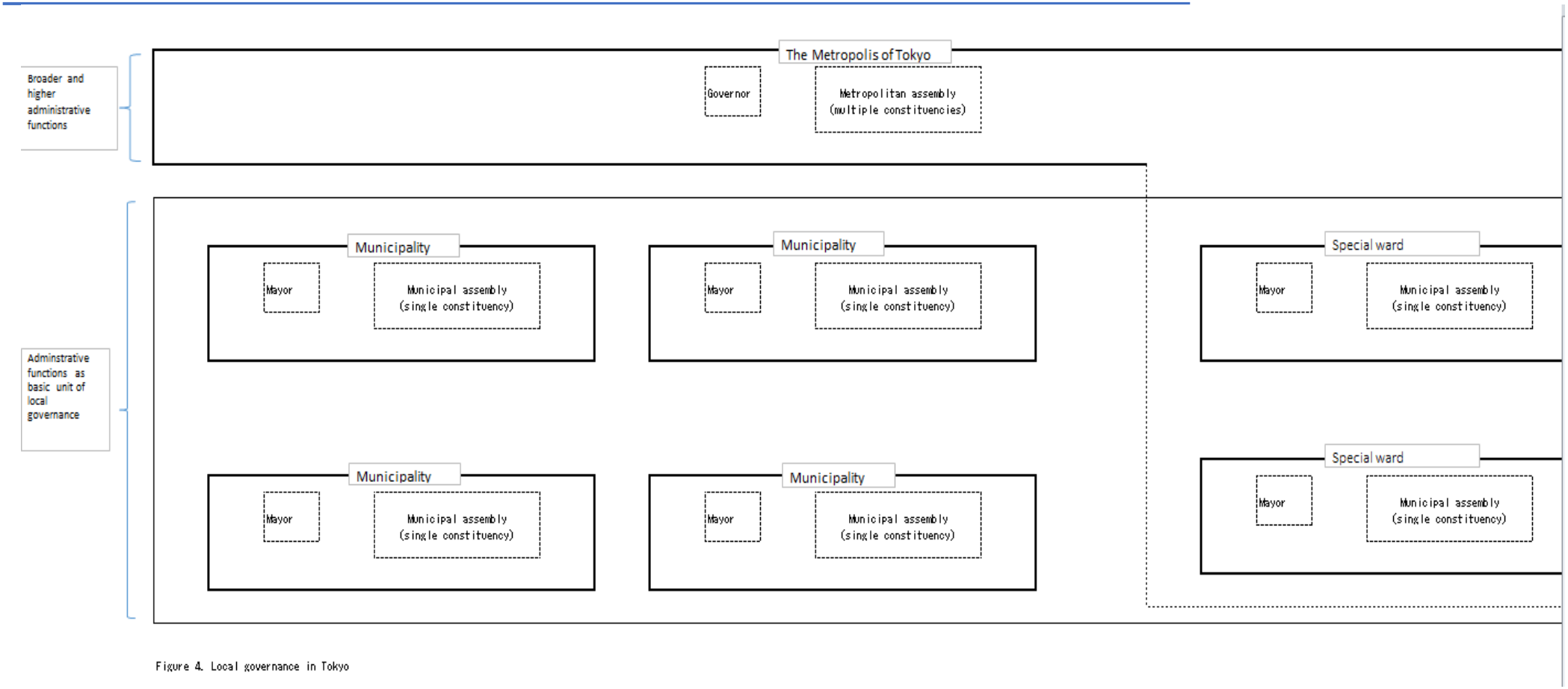

Figure 4. Local governance in Tokyo

Planning Megaregions in China and India

中印超级区域的规划

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Planning Megaregions in China and India
中印超级区域的规划

Abatract

China and India have become the epicenters of the world's urbanization. Driven by migration and in-situ urbanization, the two countries have seen rapid growth of cities of all sizes, and also the emergence of megaregions of densely networked urban clusters. Megaregion planning in China and India has significant consequences, not only for national economic development, but also on the quality of life and social welfare of hundreds of millions of residents. This paper compares megaregion planning and governance in China and India. It finds that in spite of the different regime types, the planning of megaregions in both countries features a top-down approach, with the central governments taking the lead. In India, the current initiatives of megaregion development are part of the "Make in India" campaign launched by the Modi administration, with the aim of promoting manufacturing. In China, megaregion planning is led by the central government through strategic plans, and it serves multiple goals such as promoting regional competitiveness, environmental sustainability, and preventing race-to-bottom competition among cities. At the subnational level, however, the implementation of megaregion development initiatives is carried out through distinct mechanisms: in India, state governments appoint new agencies to supervise project implementation, often bypassing municipal governments, whereas in China, municipal governments are the key players for implementing major initiatives of megaregion development. The Guangzhou-Shenzhen Innovation Corridor and Delhi-Mumbai Industrial Corridor are used as two examples to illustrate how centrally-led megaregion planning is differently implemented in China and India, its promises, and major obstacles.

摘要

中国和印度已成为世界城市化的中心。在移民潮和本土城市化的推动下，两国各种规模的城市数量都在快速增长，从而构成了密集、网络状的城市群。大都市圈规划对中印两国国民经济的发展、生活质量和社会福利都有重大影响。本文对中印两国的大都市圈规划和治理进行了比较。研究发现，尽管中印两国政治体制不同，两国都是以中央政府牵头，采用自上而下的方法进行大都市圈规划。不同的是，发展大都市圈的举措是莫迪政府发起的"印度制造"倡议的一部分，旨在促进印度制造业发展。而中国大都市圈的发展是根据中央政府的战略规划所进行，旨在提升区域竞争力、加强环境可持续性以及防止城市间的恶性竞争。在地方一级，大都市圈的发展则是通过不同的机制进行的。

在印度，市政府会任命新的机构来监督项目的执行。而在中国，市政府是实施大都市圈发展的关键参与者。本文以广州—深圳创新走廊以及德里-孟买工业走廊为例，阐述了中央主导的大都市圈规划在中印两国在实施方式、目标和困境等各方面的差异。

Planning Megaregions in China and India

Introduction

In June 2018, the *Economist* magazine ran an article about China's emerging megaregions—large clusters of urban agglomeration sprawling over thousands of square kilometers and housing hundreds of millions of residents.[1] These megaregions are engines of China's economic growth and they could transform the country into an affluent, innovative powerhouse (Figure 1). Some of the megaregions are more organically integrated, such as the

Yangtze River Delta and the Pearl River Delta, some are less integrated, such as the Jing-Jin-Ji

(Beijing-Tianjin-Hebei) region, and yet others are not yet formed and it is the central government's hope that these will develop into more integrated megaregions in the near future, such as the urban clusters of Wuhan-Changsha-Nanchang in central China, and Xi'ning-Lanzhou in western China. The same article also highlights some of unique features of Chinese megaregions: besides its gigantic scale—large population and vast territories, Chinese megaregions also feature strong top-down intervention by the central government, as seen in the massive investment in high-speed rail that seamlessly links cities together, the building of newtowns such as Xiong'an outside Beijing (Zou and Zhao, 2018), as well as various strategic plans promoting coordinated megaregional development.

[Figure 1. Megaregions in China]

The scale of urbanization in China might be unprecedented, but the top-down approach to developing megaregions is not unique to China. China's largest neighboring country, India, has also launched ambitious programs in recent years to develop economically competitive megaregions. In the mid-2000s, the central government of India announced to build strategic industrial corridors that link India's major metropolitan cities such as Mumbai, Delhi, Chennai, and Bangalore, in order to improve infrastructure, promote manufacturing, and

[1] https://www.economist.com/china/2018/06/23/china-is-trying-to-turn-itself-into-a-country-of-19-superregions, accessed on July 5, 2018.

attract investment. The leading initiative, Delhi-Mumbai Industrial Corridor (DMIC), is the largest infrastructure project in the world, and if completed, the Delhi and Mumbai metropolitan regions will be merged into one megaregion, with two dozen smaller (but not small) manufacturing cities and newtowns built along the 1,500 kilometer stretch in-between the two metropolitan areas, attracting hundreds of millions of new urban residents. Since 2014, the Delhi-Mumbai Industrial Corridor has also been incorporated as part of the Modi government's "Make in India" campaign, the aim of which is to boost the country's manufacturing capacity and attract foreign investment. It is not unthinkable that Delhi-Mumbai Industrial Corridor will one day become a megaregion the size of China's Yangtze or Pearl River Delta, with a dense cluster of networked

cities.

Since the last quarter of the 20th century, China and India have experienced rapid urban growth. The combined urban population in both countries has topped 1 billion, and today one out of 6 people in the world lives in urban areas in China and India. Driven by migration and in-situ urbanization, the two countries have seen rapid growth of cities of all sizes, and also the emergence of megaregions of densely networked urban clusters (Figure 2 and 3). Megaregion planning in China and India have significant consequences, not only for national and regional economic development, but also on the quality of life and social welfare of hundreds of millions of residents. This essay compares megaregion planning and governance in China and India, by focusing on three major questions identified in the scholarship, that is, the rationale, key actors, and mechanisms of megaregion planning (Harrison and Holyer, 2014). First, why has megaregion development become a top priority for the national government of China and India in recent years? Second, who are the key decision-makers in mega-region planning and governance? And third, through what mechanisms are policies and projects of megaregion development implemented in each context? I will use the Delhi-Mumbai Industrial Corridor and Guangzhou-Shenzhen Innovation Corridor as examples to illustrate how China and India differently plan and govern their megaregions.

[Figure 2. NASA nightlight image, China]
[Figure 3. NASA nightlight image, India]

The comparative analysis finds that in spite of the different regime types, that India is a democracy and China is not, the planning of megaregions in both countries features a strong topdown approach, with the central government taking the lead and dominating major decisionmaking regarding when, where, and how to develop megaregions. In India, the new initiatives of megaregion planning focus on manufacturing, while in China, megaregion planning serves multiple goals of industrial upgrading, promoting regional competitiveness,

minimizing intercity competition, and promoting environmental sustainability, as envisioned by the central government. At the subnational level, however, the implementation of mega-region initiatives assumes two distinct trajectories, reflecting the different central-local governmental relations in the two countries. In China where significant dencentralization has taken place over the four decades of the market reform, municipal governments are vested with significant power to implement the central government's strategic plans for coordinated regional development; by comparison, in India where the devolution of power and authority from state to municipal governments has not advanced much, municipal governments are sidelined, and instead, state governments create new agencies comprised of public and private partnerships to supervise megaregion planning and project implementation. Both models are unlikely to produce the ideal megaregions that central planners in China and India are hoping for: competitive clusters of cities linked by efficient transportation infrastructure, which complement on each other's strength and together they provide good business climate and also high quality of living for residents. In China, despite the government rhetoric over "coordinated development"(协调发展), jurisdictional fragmentation and inter-city competition will continue to be the norm because of the lack of regional governing bodies with real power, authority and control over budgets. In India, not empowering municipal governments will turn megaregion planning into industrialization projects led by state governments, and the new residents of megaregions will suffer from the old problem of poor infrastructure and service deliverty if without an elected local government with substantive fiscal capacity.

I will briefly review the literature on megaregion planning and governance in the next section. Then I will discuss the different trajectories of urbanization and governance in China and India, focusing specifically on the uneven processes of decentralization and intergovernmental relations. This is followed by two case studies of megaregion planning—the Delhi-Mumbai Industrial Corridor and Guangzhou-Shenzhen Innovation Corridor, with which I will examine the how megaregion planning is implemented differently in the two countries. The concluding section compares the governing structures, rationale and mechanisms of megaregional planning and discusses what the current approaches to building competitive megaregions mean for the quality of life of urban residents.

From Megalopolis to Megaregions

The phenomenon of sprawling urban landscapes comprising of interconnected metropolitan areas can be traced back to at least the mid-20th century. In his classical urban planning textbook, Jean Gottman coined the word "megalopolis"—derived from Greek, meaning very large cities—to describe the urbanized landscape of the East Coast in the

United States that extends from Boston to Washington, DC (Gottmann, 1961). The megalopolis of the mid-20th century presented a new kind of economic scale of multiple metropolitan areas of central cities and their surrounding suburbs (Figure 4). After the 1980s, a number of other terms have been invented to describe the phenomenon of clustered urban networks and the role they play in the global economy, such as global city-regions, mega-city regions, and megaregions (Harrison and Hoyler, 2015). While global city-regions (with more emphasis on their function) and mega-city regions (with more emphasis on their large population) refer to metropolitan areas of single urban systems—such as New York or Tokyo metropolitan region, megaregions are often used to describe clustered urban networks of two or more urban systems, such as the Rio-Sao Paulo, Seoul-Pusan, and Tokyo-Osaka megaregions (Harrison and Hoyler, 2015). In this sense, megaregions are similar to what Jean Gottman had in mind when coining the term

"megapololis." In China, planners frequently use "urban clusters" (城市群) or "metropolitan circles" (都市圈) to denote megaregions of two or more urban systems interconnected by transportation, infrastructure, and flows of people, capital, and economic activities. The largest megaregion in the world is the Pearl River Delta in south China, comprising of 9 major cities and more than 120 million residents (Xu and Yeh, 2011a). In India, policy makers and planners more often use metropolitan areas or mega-cities than megaregions, partly because it is a relatively new thinking, on the part of the central government, to connect metropolitan areas with targeted infrastructure planning and turn them into continuous megazones of city-regions.

[Figure 4. Megalopolis, Jean Gottman]

If the phenomenon of continuous clusters of networked cities is not new, why have megaregions attracted increasing policy and research attention in recent years? At least three reasons can be identified. First, in many countries, megaregions are the engines of the national economy and they account for the majority of the national total economic output. This was the situation in the 20th century but in the early 21st century, the economic contribution of megaregions to the national and global economy has become even more prominent. Yangtze River Delta, for example, occupies less than 6 percent of the national land, but produces more than 35 percent of China's GDP. Second, because of their increasingly powerful economic output, the stakes seem to be higher too, as many national governments are more involved in megaregion planning, often with multi-billion-dollar investment plans in infrastructure alone. Third, besides economic significance and central government intervention, some argue that the megaregion has also become a "new spatial format" of globalization, i.e., a particular scale at which the global economy operates (Sassen,

2009). In the introduction to a recently published book entitled *Megaregions: Globalization's New Urban Form?*, geographers John Harrison and Michael Hoyler point out that megaregions are the "latest episode in the long-running politicaleconomic drama that is the search for a post-national spatial/scalar fix for globalized capital accumulation and organizing (inter)national space economies" (Harrison and Hoyler, 2015, p.4). Megaregions have attracted increasing attention, from both policy makers and academics, precisely because they present a novel scale and strategic terrain for global capital accumulation and state intervention (Xu and Yeh, 2011b).

Many believe that planning at the megaregion level can be a silver bullet serving multiple ambitious goals. These include strengthening regional competitiveness, attracting investment, planning integrated infrastructure, ensuring environmental sustainability, improving urban quality of life, as well as strengthening democratic values (Scott and Storper, 2003; Hall and Pain, 2006; Jonas and Ward, 2007). The advantage of megaregions is not only about the agglomeration economy—bigger scale, more of the same, but rather, it is also because they contain a mixture of cities with different strengths, so that global firms can allocate their operations in these different cities to take advantage of what they can offer, for example, affordable housing market, lower manufacturing and labor costs in less developed cities and advanced producer services and availability of a highly educated labor force in the more developed cities (Sassen, 2007). Sassen (2009) argues that global firms do not have to outsource more labor-intensive work to overseas if they can allocate their operations in smaller, cheaper cities or rural areas in megaregions in the United States. In other words, the megaregion scale can connect "winners and laggards," and therefore, it can have some equalizing effect that the global scale does not have (Sassen, 2009).

In spite of the potential advantages, planning and governing at the megaregion scale has often been a challenge. In the United States, Regional Plan Association (RPA) launched *America 2050* project in 2005, identifying 11 megaregions as prototypes for balanced and sustainable growth for the first half of the 21st century (Figure 5). The background for the initiative was lack of federal funding for large-scale transportation infrastructure, and by citing international examples such as high-speed rail investment in Europe and China, the Regional Plan Association made policy recommendations on investing in high-speed rail in some of the identified megaregions with large ridership (Ross, 2009). However, more than a decade has passed since the launch of *America 2050*, the RPA's recommendation still stays at the proposal stage, as there are no signs of any commitment from the federal government in megaregion infrastructure planning.

[Figure 5. Megaregions in the United States, by *America 2050*]

Some argue that integrated megaregions as strategic actors in the U.S. are unlikely to emerge. Instead, we will continue to see sprawling, polycentric urban areas internally fragmented under various jurisdictions (Wachsmuth, 2015). The critics of megaregion governance point out that the quotidian demands of American families—for jobs, healthcare and quality schools— make megaregion planning rather abstract and that local communities are unlikely to show support for any initiative of planning at the megaregion scale (Glass, 2015). Yet, others question the many virtues afforded to megaregion planning, such as environmental sustainability. Wheeler (2015) wrote that, "rather than being seduced by megaregional analysis and technologies such as high-speed rail, the need is for policymakers to develop visions of a sustainable society at all scales of planning. Megaregion should remain a small player… and the emphasis should be on local and regional" (p.114). Overall, the critics point out, on one hand, the lack of any institutional structure in the U.S. that is capable to plan at the megaregion scale (Schafran, 2014), and on the other hand, the neoliberal and boosteristic rhetoric in the discourse on megaregion planning that often prioritizes economic competitiveness, increased mobility, global integration over qualify of life for local communities. Uncritical development of infrastructure, some critics warn, will lead to more urban sprawl and even social and climate catastrophe (Hess, 2015; Wheeler, 2015).

Compared to the United States, megaregion planning is much less abstract in Europe and Asia, where there is a stronger tradition of spatial planning at the supranational and national scale. In Europe, international spatial planning has long been legitimized and the concern over balanced regional growth, as exemplified in the notion of polycentric development, continues to dominate the discussion in spatial planning (Faludi, 2009). In Asia, many central governments actively intervene in forging competitive megaregions, by formulating strategic plans and allocating funding for infrastructure investment (McGee and Robinson, 1995; Douglass, 2000; Yang, 2009; Li and Wu, 2012a; Park, 2013). One early example from the 1960s is Tokyo-Osaka megaregion, linked by high-speed rail and producing much of Japan's national economic output. More recent examples are China and India, both of which are trying to forge their own competitive megaregions with state-of-the-art infrastructure that will hopefully become the magnets for global investment.

Can China and India build their dream megaregions with balanced division of labor among cities, as Sassen (2007, 2009) articulated, megazones that can provide different advantages for global firms to locate their various operations? Different from the U.S., metropolitan areas in China and India present a very different portfolio of cities, from global cities with significant agglomeration of advanced producer services, to less developed cities with cheaper land, housing, and low-wage labor. But in order to forge a competitive megaregion, it is not enough just to have different kinds of cities, and what is also needed is

to build innovative governing frameworks at the megaregion level. The current inter-governmental relations in both countries present significant challenges for any governing framework at the megaregional level to emerge—in China, municipal governments have too much power, and in India, they have too little power and it is the regional state governments that control urban affairs including megaregion planning. The next section will examine in more detail the intergovernmental relations in each country, which provide the large context for the challenges of megaregion planning and governance.

Urbanization and Governance in China and India

Both China and India have witnessed significant restructuring in urban governance in the last few decades, with the central government devolving substantial power and authority to the subnational governments. But devolution in China took place under the single-party system and it has advanced much more than that in India. After the market reform was launched in China in 1978, decision-making power and authority has been gradually but steadily shifted from central ministries to local territorial authorities, especially municipal governments. By comparison, in India the central government devolved power and authority to the regional state governments, but the state governments did not relinquish or share power with their municipal governments. As a result, urban affairs—including infrastructure, land, and housing development—are still firmly under control of state governments. The difference in the extent and degree of devolution provides the larger contexts for understanding why megaregions in China and India are planned and governed differently and what specific challenges they face.

In the socialist period (1949–78), the Chinese governing regime was organized along a vertical system of government ministries and horizontal territorial authorities, such as provinces, prefectures and cities. This system, widely referred to as “tiaotiao-kuaikuai” (条条块块), constituted the basic administrative grid that governed from the socialist period through the reform period (Lieberthal, 2004). In terms of territorial authorities, China’s administrative hierarchy was characterized by a two-level structure composed of central and local governments. All major national policy decisions were made by the central government. The local encompassed a wide range of administrative ranks from provinces, prefectures and cities, to counties, towns and villages. During the socialist planned economy, local governments had little real power even in the decision-making of development policies in their own territories.

In the market reform era beginning in 1978, the reorganization of state power has

gradually taken place along both vertical and horizontal administrative lines. The central government shifted decision-making and financial responsibilities away from central

ministries to lower levels of state administration, although it still maintains control over local governments though legislative and personnel appointing systems. The central government gave municipal governments more autonomy over urban policy so that they can attract investment and promote local economic development. From the 1980s, many empowered municipal governments began to annex their surrounding rural counties, through mechanisms such as "converting counties to cities", "city-administering counties" and "turning counties into urban districts" (Ma, 2005; Shen, 2005, 2007). The annexation of rural counties opened new frontiers for municipal governments to promote property development, generate more revenue through land leasing, and also tap into the resources of their hinterlands. It also facilitated the development of megaregions as cities extend their industrial, construction, and other activities from the central districts to the urban periphery.

Despite similar efforts made by the Indian central government to devolve power to municipal governments, the authority and resources required for urban development remain in the hands of state governments. In 1992, the central government adopted the 74th Amendment to the Indian Constitution, in order to devolve substantive power and resources to municipal governments. Yet India's municipalities and metropolitan regions remain largely disempowered. Although the framers of the Indian Constitution identified federalism as one of the five core elements of the independent Indian nation state (along with sovereignty, democracy, socialism and secularism), the three-tier federalist structure was left incomplete, defining responsibilities only for the central and state governments (Corbrige and Harriss 2000; Tummala 1992; Verney 1995). Concerned about regional fragmentation along religious, ethnic or linguistic lines, they granted considerable power to the regional states, in part to hold the union together (Stepan, 1999). Urban development—including housing, infrastructure, economic development and poverty alleviation—was a field to be financed and implemented by the regional states. Although regional states could choose to devolve power and resources to municipalities, most did not. The competitive stance between regional states and municipalities arises in part from inter-party competition. While devolution in China is simplified by the unified party structure, the rescaling of power in India often entails the handing of power from one political party to another. But some observe that even when state and municipal governments are ruled by the same party, statelevel politicians still jealously guard their power and are unwilling to share power with lowerlevel municipal governments (Ren and Weinstein, 2013).

The political weakness of India's municipal governments also stems from colonial legacies and an inherent fear of the local. Prior to independence, municipalities were organized to carry out basic service-delivery functions, while the more substantive powers were retained by the colonial (presidency) government, particularly the land use powers and industrial policy, which would directly impact the colonial economy. When power was

handed from the British Raj to the independent Indian nation state in 1947, the real authority over urban municipal bodies was transferred from the colonial presidencies to the regional state governments, while municipalities remained primarily service-delivery bodies (Pinto and Pinto 2005). The decision not to empower the local scale was also a deliberate one, rooted in an anti-local bias. Although Gandhi famously asserted that India "lives in her villages", most of the English-educated delegates to the Constitutional Assembly, including the first Prime Minister, Jawaharlal Nehru, perceived India's villages to be backward, archaic and inherently corrupt. They believed that local elites (in both villages and cities) organize power on the basis of communal sentiments, rather than on enlightened democratic principles. The less local the political system, the more democratic many believed it would be (Corbridge and Harriss 2000).

Beginning in the 1980s, however, the pressure to devolve authority and resources to the local level began to emerge from two disparate corners: pro-democracy social activists and proliberalization economic reformers. In the mid-1980s, development economists and social activists began making the connection between India's rampant inequalities and the lack of political representation at the local level (Dr èze and Sen 1995, 2002; Plummer 2000; Heller 2005). Democratic deepening, it was argued, would ensure political participation and more equitable resource allocation. In the wake of India's adoption of economic liberalization reforms in 1991, the political movement to empower India's municipalities was reinvigorated; this time recast as a component of structural adjustment. Included in the package of reforms advocated by the IMF, political decentralization was identified as a precondition for liberalization, diminishing the authority of the central government, introducing a greater role for the private sector and enabling more openness to foreign investment. With support from these strange political bedfellows, the 73rd and 74th Amendments, defining a wider scope of authority for rural localities and urban municipalities, were adopted in 1992. Yet with the central government merely encouraging implementation of the amendments, few regional states have chosen to enact the reforms. This is particularly true in the domain of urban development, where regional states have chosen to retain the budgets and many key powers associated with land, housing and infrastructure schemes (Ren and Weinstein, 2013).

The different processes of state rescaling—power reshuffling among different scales of the state—are also shaping how China and India plan and govern their megaregions. In China, with decision making power and authority over urban affairs largely concentrated in the hands of municipal governments, municipal governments are the key actors that implement the central government's strategic plans for coordinated megaregional development. When the interests of specific cities are not well represented, or in conflict with the central government's strategic plans, municipalities often refuse to incorporate the central government's spatial policies in their own municipal plans. In India, with state governments

as the leading actors for megaregion planning, municipal governments are sidelined and excluded from major decision making. The next section will use two case studies to examine how the top-down approach to developing megaregions in China and India is differently implemented.

The World's Largest Infrastructure Project: Delhi-Mumbai Industrial Corridor

The Indian government launched a number of industrial corridor projects in the mid2000s, to promote export-oriented manufacturing, improve infrastructure, and attract foreign investment. With an estimated investment of 90 billion USD, the Delhi-Mumbai Industrial Corridor (DMIC) is the largest industrial corridor planned in India, and also the largest infrastructure investment project in the world.[1] The project aims to build a series of industrial clusters, residential newtowns, and logistic hubs in a buffer zone of 150-200 kilometers on the either side of the Western Dedicated Freight Corridor linking Delhi and Mumbai, two of the most developed metropolitan areas in the country.[2] The corridor expands over six states, including both economic powerhouses such as Gujarat, Maharashtra, Haryana, and some less developed states such as Uttar Pradesh, Rajasthan, and Madhya Pradesh (Figure 6). One of the major goals of the project is to create a competitive manufacturing belt to attract global capital investment, by utilizing the comparative advantages of the fast-growing states and laggard states. The DMIC is the flagship program of Modi's "Make in India" campaign launched in 2014. It is introducing a new scale of urban settlement in India, that of megaregions. With 24 industrial zones and 8 smart cities currently under planning, it will accommodate an additional urbanized population of 231 million by 2030 (Mukhopadhyay, 2017).

[Figure 6. Delhi-Mumbai Industrial Corridor]

The industrial corridor projects are the latest attempts by the Indian government to foster manufacturing capacity to attract investment. Following the East Asian model of export-oriented manufacturing, India has long been trying to improve its manufacturing sector to enhance its economic competitiveness. In the early 2000s, it experimented with Special Economic Zones (SEZ), following the footsteps of China and other Asian countries, but SEZs in India did not deliver the results of boosting export-oriented industrial production, as hoped by planners and policy makers. One major hurdle was land acquisition, which was

[1] Other industrial corridor projects in India include Bangaluru-Mumbai, Amritsar-Kolkata, ChennaiBengaluru, East Coast, and Vishakapatnam-Chennai Industrial Corridors.

[2] http://dmicdc.com

left for private developers and investors and the process was often wrought with difficulty and contention (Chakrovorty, 2013; Ren, 2017; Balakrishnan, forthcoming). To address the issue of land acquisition, the central government decided to have state governments take the lead of land provision, and the industrial corridor projects emerged from this context, with state governments, instead of private sectors, in charge of land acquisition. Some are critical of the industrial corridor projects, as the critics argue that India cannot really compete with China and other East Asian countries in exportoriented manufacturing, and it also faces new rivals such as Vietnam and Bangladesh that offer competitive labor costs for low-end manufacturing; India should certainly grow its manufacutirng capacity but the target should be the domestic instead of the global market (Rajan,

2014). But in spite of the critics, the central government is determined to proceed with the industrial corridor projects and a few major industrial townships are already under construction as part of the DMIC.

The governing structure of DMIC features two layers of the central and state governments (Figure 7). At the central level, the Department of Industrial Promotion and Policy and the Ministry of Commerce and Industry take the lead and they decide the scope of investment and locations of the planned investment areas in each of the six states. In spite of the rhetoric of promoting urbanization, the Department of Urban Development is not included as a supervising agency for the DMIC (Anand and Sami, 2016). A Special Purpose Vehicle (SPV)— DMIC Development Corporation—has been set up and acts as the nodal agency overseeing the planning and implementation of the project. The DMIC Development Corporation is a public private partnership, comprising of the Department of Industrial Policy and Promotion, Japan

Bank—Japan is a major donor for the project, Housing and Urban Development Corporation,

India Infrastructure Finance Company, and Life Insurance Corporation of India as shareholders (Figure 7). Different state governments have appointed special agencies to supervise project planning and implementation within their states, such as the Gujarat Infrastructure Development Board, the Bureau of Investment Promotion in Rajasthan, and the Maharashtra Industrial Development Corporation. The central government provides seed funding to finance the first phase of the development, and it is hoped that subsequent stages of development will be financed with land value appreciation.[1] International consultants and private-public partnerships play important roles too, becoming new partners in the emerging governance structure, and the central and state governments have to engage and coordinate with these new actors (Anand and Sami, 2015, 2016).

[1] Ibid.

[Figure 7. The Governing Structure of the Delhi-Mumbai Industrial Corridor]

This two-layered institutional framework does not leave much space for including municipal governments in the decision making. There is little coordination between state governments and the cities that will be affected by the DMIC project. As most decision-making takes places at the central and state level, planners and policy makers in individual cities located within the DMIC are often not aware of how they are going to be affected. Local planning authorities did not modify their master plans anticipating the impact of DMIC (Anand and Sami, 2015, 2016). To avoid the difficulty with land acquisition, much of the investment is directed to greenfield sites. When new cities are planned on greenfield sites, no elected governments are formed and it is the regional development authorities, with their members appointed by the state governments, which oversee the investment and construction activities in these new cities developed along the industrial corridor (Anand and Sami, 2016). City-level Special Purpose Vehicles are set up, acting as a single window for facilitating approvals required from private investors and developers, but these SPVs are also controlled by state governments.

Dholera, a newly planned Special Investment Region in Gujarat, illustrates how the twolayered governance structures works. Located in the Ahmedabad district, Dholera was designated by the central government in 2009 as a Special Investment Region and a global manufacturing hub is going to be constructed here with world-class infrastructure. Dholera is also hailed as India's first smart city, and at the 2013 Vibrant Gujarat Investors Summit, Prime Minister Modi commented that Dholera would be developed better than Delhi and six times bigger than Shanghai.[1] The nodal supervising agency in charge is the state-level Gujarat

Infrastructure Development Board (GIDB) headed by the Chief Minister. Core functions of the GIDB include approvals of land use plans, town planning schemes and development plans of the

Special Investment Region. Under this apex authority, the Dholera Industrial City Development Ltd—a Special Purpose Vehicle of public private partnership—was set up to supervise investment and project implementation. The central government provides seed funding and the state government is responsible for land acquisition. The projected development period is from

2016 to 2024, during which dozens of infrastructural projects such as ports, airports, expressways will be constructed within an area of 920 square kilometers. In its glossy brochure, it states that the joint venture company between central and state governments will also be "vested with municipal powers" and "eventually mature into a full fledged local body

[1] https://www.dholera-smart-city.com

for the city."[1] This implies that there is little effort to establish an elected local governing body for the new city, and the state-level nodal agency will continue to manage all aspects of urban affairs in this India's first smart city. Megaregion planning, as illustrated in this case, is purely an undertaking by the central and state governments, and municipalities are largely absent, in a paradoxical way, from the planned urban megaregion of the Delhi-Mumbai Industrial Corridor.

Building China's Silicon Valley: The Guangzhou-Shenzhen Innovation Corridor

Similar to India, there has been growing interest in China for megaregional planning since the mid-2000s. But different from India where manufacturing is the main focus for the planning of industrial corridors, in China, megaregional planning serves multiple ambitious goals, such as upgrading the economy from low-end to advanced manufacturing, coordinating regional economic development, minimizing inter-city competition, and promoting environmental sustainability (Wu and Zhang, 2007; Wu, 2016). Such interest for planned megaregional development is especially strong in the Yangtze River Delta (YRD) and the Pearl

River Delta (PRD), the two largest megaregions with densely networked clusters of cities. Compared to the Yangtze River Delta (Zhang, 2006), where cities fall under different jurisdictions such as Shanghai municipality, Jiangsu, Zhejiang and Anhui provinces, all major cities in the Pearl River Delta are in the same Guangdong province, and being under the same provincial leadership has made it easier to plan and coordinate economic activities within the PRD megaregion. The PRD has thus become the pioneer in megaregion planning in China and its various strategies for coordinating regional development have been well studied (Xu, 2008; Xu and Yeh, 2010; 2011a; Ye, 2013, 2014; Zhang, 2015).

The central government and municipal governments are the two leading actors in megaregion planning in the PRD. Through formulating and approving strategic plans, the central government is interested not only in enhancing the competitiveness of the region, but also in regaining some control over regional economic development, especially regarding land use planning (Xu, 2008). In 2008, the State Council approved is the "Outline Plan for the Reform and Development of the Pearl River Delta 2008-2020" (Guangdong Provincial Government, 2008), which identifies a list of key projects aimed for regional integration and coordinated development—ranging from transportation infrastructure investment, environmental protection, urban-rural development to service delivery (Ye, 2013, 2014).

[1] Ibid.

Different from the central government, municipal governments are more concerned with economic growth within their jurisdictions, but they are incentivized to follow the Outline Plan, because this way they can garner support from the central government for various development projects in their cities. High-speed rail construction is such an example—transportation planning is an integral part of most strategic plans for megaregional development, and local governments compete with one another to seek the central government's support to link their cities with the national high-speed rail network. To implement the Outline Plan, a special task force was set up at the provincial level, with members including the provincial chief and all of the nine prefecture-level city mayors in the PRD. Time-bound targets were set up and city officials are evaluated annually by provincial-level officials over the progress of implementation of the key projects in their cities (Ye, 2013).

What is missing from the two-tiered governance structure is a set of regional governing institutions with substantive decision making power and control over budgets. Without such regional-level institutions, integrated megaregional development is unlikely to be achieved. But under China's current administrative hierarchy, neither the central government nor municipal governments are willing to concede power to any regional-level governing institutions even if they are set up. As there is little interaction and information exchange between cities, local governments tend to fall back to the old norm of competition instead of collaboration (Luo and Shen, 2008; Cheung, 2012; Li and Wu, 2012b).

The Guangzhou-Shenzhen Innovation Corridor (GSIC) is the latest attempt of promoting regional competitiveness by coordinating urban development in the PRD. The project illustrates the leading role of municipal governments in implementing the centrally-approved strategic plans. At the 19th Plenary Meeting of the Chinese Communist Party (CCP) in 2017, Xi Jinping identified innovation as the driver for sustainable national economic development in the coming years. Xi used the word "innovation (创新)" more than 50 times in his three-hour speech, emphasizing the importance of science and technology in the transitioning of the Chinese economy—from a high-speed to a high-quality phase anchored on advanced manufacturing and services. Since the 19th Plenary, innovation has become the new buzzword in the national and local strategic planning documents. Following Xi Jinping's call for innovation, in 2017 Guangdong provincial government acquired the approval of the central government to develop an innovation corridor linking three major cities in the PRD—Guangzhou, Shenzhen, and

Dongguan (Figure 8)—in the period of 2017-2030 (Guangdong Provincial Government, 2017; Ye, 2018). The rationale behind the innovation corridor project is to upgrade the regional economy from labor-intensive to advanced manufacturing, in order to maintain the

competitiveness of the PRD region in the global manufacturing chain. The three cities of

Guangzhou, Shenzhen, and Dongguan occupy 0.1% of national land, but 6% of the national GDP, and their per capita GDP has exceeded 20,000 USD. They also concentrate 78% of the high-tech companies in the PRD region, including the high-tech giants such as Huawei and

Tencent. The three cities are already linked by Guangzhou-Shenzhen expressway, as well as Guangzhou-Shenzhen-Hongkong high-speed rail and intercity rail. Building on the existing advantage, the goal of the innovation corridor project is to develop 11,836 square km area covering the three cities and their in-between regions into China's Silicon Valley—a competitive region of R&D, innovation, and high-tech manufacturing, which can compete with San Francisco bay area and Boston area.

For each of the three cities, the 2017 Plan identifies its advantages and specifies its function in the innovation corridor: Guangzhou, because of its numerous universities and research institutes, will become a "national innovation urban center and international science and technology hub"; Shenzhen, with its agglomeration of high-tech companies, will become an "international innovation city and base for high-tech manufacturing," and Dongguan, with its advantage of cheaper labor and land costs, will be the major manufacturing base for various high-tech companies (Guangdong Provincial Government, 2017). The Plan also specifies the targets to be achieved by 2020 and 2030 in various sectors, such as the percentage of R&D investment in GDP and the percentage of high-tech manufacturing in the total industrial output. Following the spatial layout of "one corridor, ten centers, and multiple nodes," ten centers such as science and technology parks are planned along the corridor, together with multiple nodal projects of smaller scale. As for funding, the provincial government will provide funding and city governments will provide additional matchup funds—the three cities are encouraged to put aside special funds and pool resources together for the development of the innovation corridor, and to further attract private investment. Under the initiative, the three cities are actively seeking support from the national government to invest in inter-city transportation infrastructure, so that all nodal projects can be connected within an "one-hour economic zone."

[Figure 8. Guangzhou-Shenzhen Innovation Corridor]

The GSIC project exemplifies many of the key characteristics of how megaregion planning is carried out in China. The central government identifies the direction of regional development, provincial governments provide funding and policy guidance, and local governments take the lead in the implementation of various projects endorsed by the

higher-level governments. The overarching goal is to enhance regional competitiveness, and specifically, in the sector of high-tech and innovation, in this case. With a strong top-down approach, the central government specifies the functions of each of the three cities in the corridor with input from the provincial government, hoping to minimize race-to-bottom competition and utilize their comparative advantage. The three city governments are incentivized to implement the 2017 Plan for GSIC, as this can further promote economic development within their boundaries. Informal governing frameworks are encouraged, such as mayors' forums, but no formal governing institution will be set up to supervise the implementation of the innovation corridor. Without formal channels for interaction, exchange, and coordination among cities, however, it remains to be seen how the three cities will cooperate (instead of competing with one another for funding and resources) in the making of China's Silicon Valley in the next decade.

Building megaregions in China and India: A discussion

The comparative analysis demonstrates that megaregions are not only competitive nodes of capital accumulation for global firms, but are also products of diverse processes of state intervention, which leads to different outcomes in geographical, social and institutional terms (Xu and Yeh, 2011b). This section revisits the three questions raised at the beginning of the essay, and compares who is constructing the new urban space of megaregion in China and India, what are the rationales behind, and how these new urban spaces are produced.

In spite of the different regime types, in both China and India, the central government plays a leading role in the planning of megaregions in order to boost regional competitiveness. In India, the primary goal behind the central government's industrial corridor projects is to enhance the national capacity of manufacturing and to attract global investment, just like what the Special Economic Zones did for East Asian countries. In China, megaregional planning in the PRD region is also to boost competitiveness, but by way of upgrading the economy from low-end to high-tech manufacturing and developing the technology sector. In spite of the different emphases on the industrial sectors—manufacturing vs. science & technology, both countries adopt a topdown approach to forge globally competitive megaregions of densely networked cities.

At the subnational level, however, China and India differ in the ways by which megaregional planning is implemented. In India, state governments take full control of implementation, and by setting up Special Investment Vehicles, state governments directly supervise the construction of newly planned industrial and residential townships. Existing municipalities on the industrial corridors are not invited in the decision making, and new

townships will not have locally elected governing bodies anytime soon. In China, provincial governments provide funding and policy guidance for megaregional planning, but the implementing bodies are municipal governments, which are highly incentivized to participate if they can benefit from the central government's initiatives for coordinated regional development, and are likely to resist if they do not benefit. In both cases, we do not see any innovative forms of governing arrangements emerging at the megaregional scale yet, and existing forms of governance continue to characterize megaregion planning. This can be explained by the reluctance toward power sharing—in India, from state governments, and in China, from municipal governments. With the top-down approach, neither the state government-led nor the municipalities-led megaregional planning is conducive to building horizontal ties and fostering collaboration and exchange between cities, which is crucial for balanced regional development with networked cities complementing each other's strength.

Which localities are included or excluded from the emerging megaregions? The leading megaregional planning initiatives have targeted the most advanced regions, such as the DelhiMumbai corridor in India and the Pearl River Delta in China. Although the idea behind the coordinated regional development is to link winner cities with laggard cities (and states, in the Indian case), economically powerful cities and states are likely to benefit more from infrastructure investment brought by megaregion planning. In the Indian case, previous studies have shown that more affluent states can better negotiate with the central government on the location choices of DMIC-related projects (Anand and Sami, 2016), and in the Chinese case, the latest attempt for coordinated development in the PRD targets the two most developed cities— Guangzhou and Shenzhen. Thus, in spite of its rhetoric of balanced development, megaregional planning in China and India is likely to lead to more uneven development both within the megaregions and across the country at large.

Finally, if we shift the lens to local communities, it is questionable how ordinary residents are likely to benefit from the ambitious megaregional planning initiatives. In both China and India, ambitious megaregional projects such as the industrial and innovation corridors will impact the lives of tens of millions of people. Land acquisition, undertaken by the state in order to build industrial townships, newtowns, and science and technology parks, will continue to be contested by current landowners and users in rural areas. For the middle class, the "worldclass" urban living is not guaranteed in the residential newtowns being constructed on the DelhiMumbai corridor, without locally elected municipal governments with control over budgets and service delivery. For middle-class residents in the Pearl River Delta, they will likely benefit from the better connectivity between major cities with the intensified investment in transportation infrastructure, but beyond faster trains and shorter travel time to the airports, the benefits of projects such as Guangzhou-Shenzhen innovation

corridor remain unclear for the everyday life of residents. If the project succeeds, and the corridor indeed becomes China's Silicon Valley, then the soaring housing prices will make the region one of the most unaffordable places to live in the country—just like the Bay Area in the United States. In both China and India, megaregional planning emphasizes building competitiveness and attracting investment, and does not invite local input and ignores quality of life questions. To truly achieve sustainable development, in both social and environmental terms, it seems that the ambitious plans for building China's and India's megaregions have to consider quality of life issues, and they need to coordinate with planning at the scales of the city and community.

Figure 1. Megaregions in China

Source: Economist.

Figure 2. NASA nightlight image, China

Source: NASA, 2016.

Figure 3. NASA nightlight image, India

Source: NASA, 2016.

Figure 4. Megalopolis, Jean Gottman

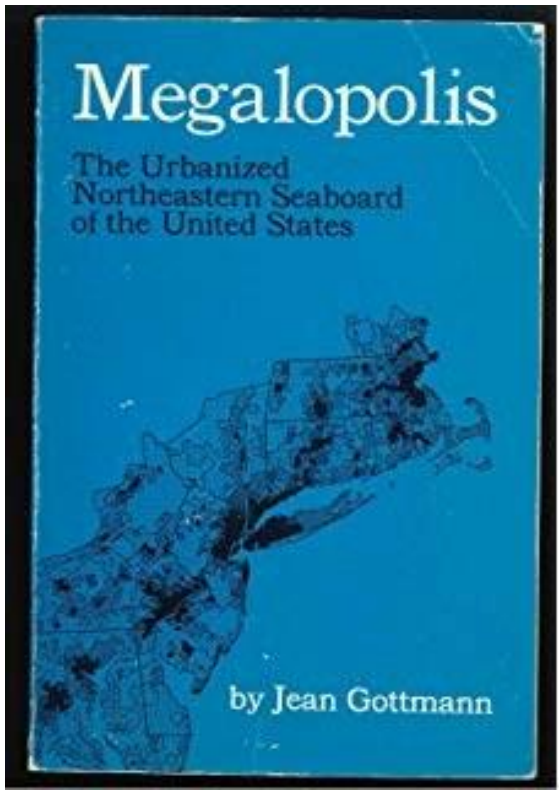
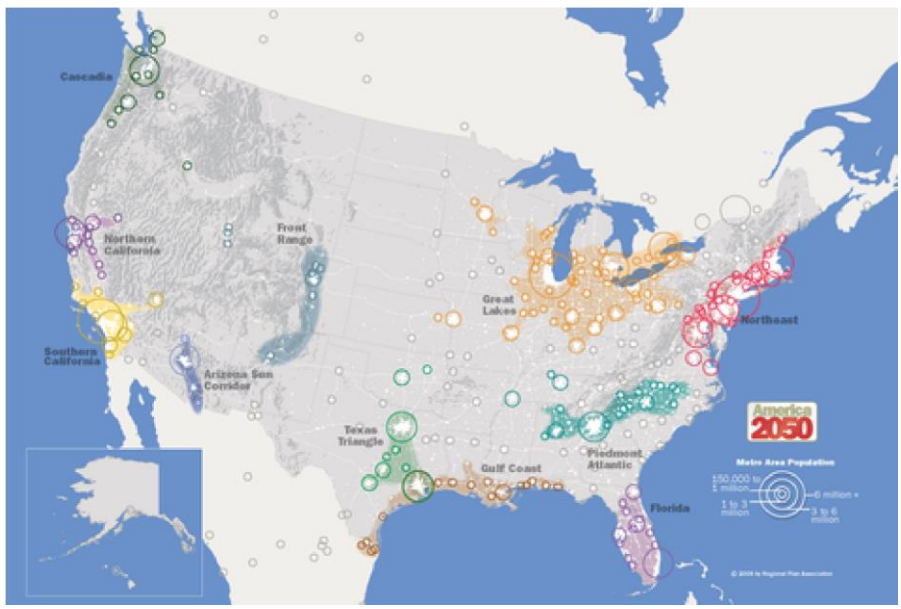
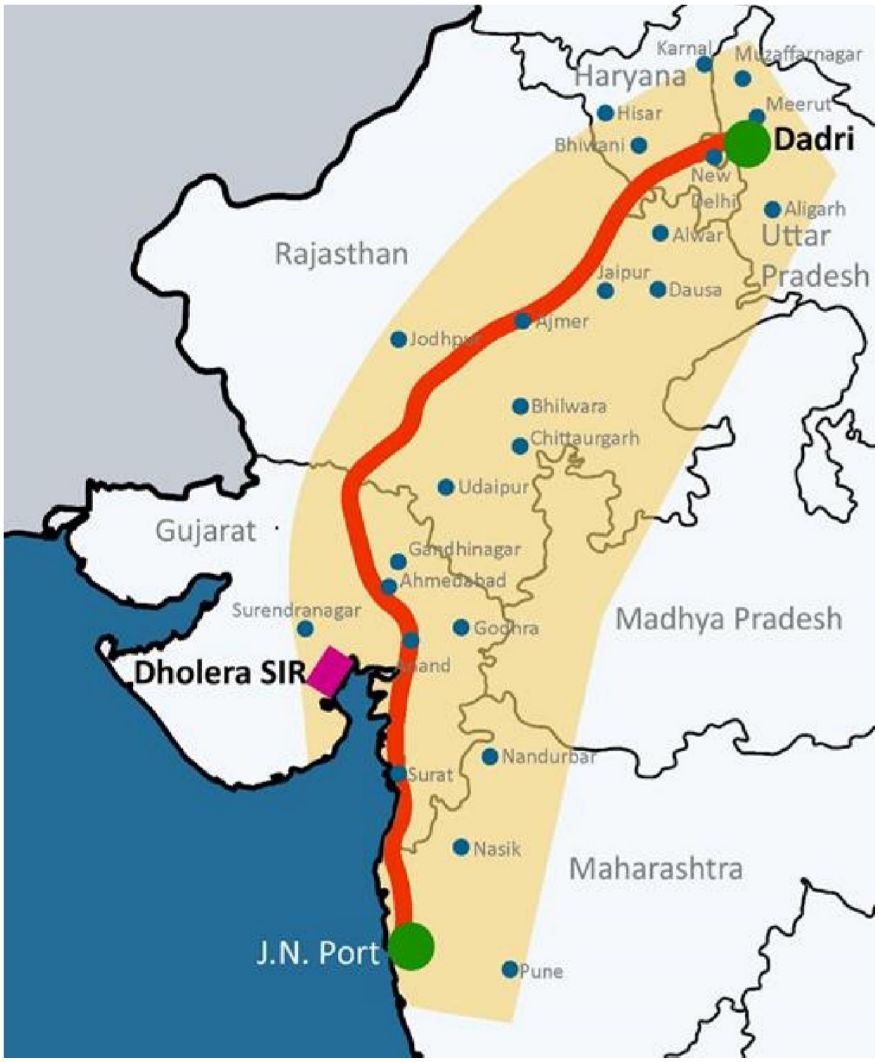


Figure 5. Megaregions in the United States, by *America 2050*



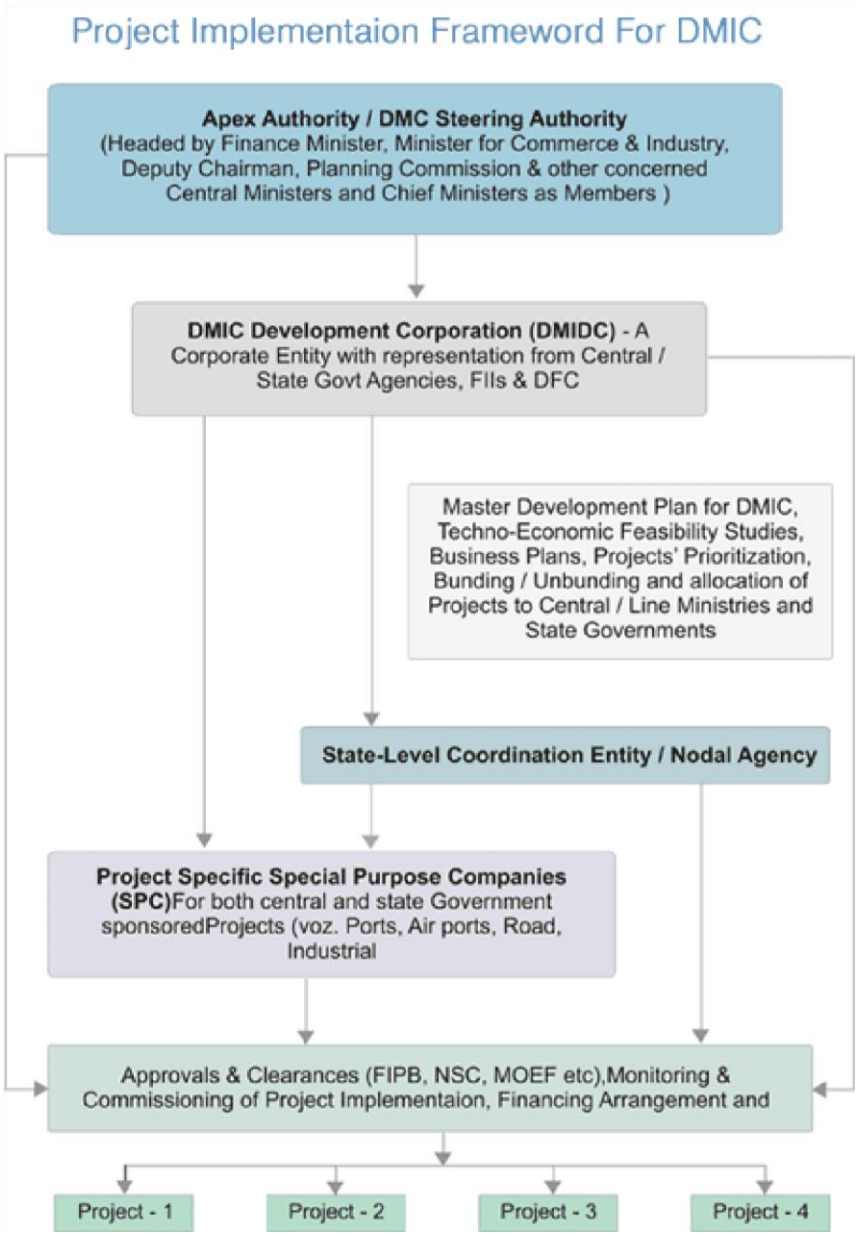
Source: Regional Plan Association.

Figure 6. The planned Delhi-Mumbai Industrial Corridor



Source: DIPP

Figure 7. The Governing Structure of the Delhi-Mumbai Industrial Corridor



Source: DMIC Development Corporation

Figure 8. Guangzhou-Shenzhen Innovation Corridor

Source: Guangdong Provincial Government (2017)

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The Two Faces of Mega-Urban Region Formation in South Korea

韩国巨型都市区域的形成及其两面性

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韩国巨型都市区域的形成及其两面性

Abstract

The South Korean government has long see-sawed between restricting and promoting the growth of Seoul, since its early industrialization in the 1960s. On the one hand, the country is one of the few cases outside the UK, where the greenbelt policy has been successfully implemented to physically restrict the growth of metropolitan cities. It has also imposed other stringent policies to constrain Seoul over the years, while at the same time promoting development in other regions, seeking to spread economic development. On the other hand, the state has built a series of new towns (or new cities in terms of scale) on the outskirts of Seoul with extensive infrastructure development, further supporting and boosting the growth of Seoul as a metropolitan area. The see-sawing between the two opposing policies, in fact, reflects the two sides of mega-urban region formation. As the gateway to the global economy, the competitiveness of Seoul and the capital region has been deemed critical for the country and, indeed, the region now accounts for approximately half of South Korea's population and GDP. While such key mega-urban region is highlighted for its necessary role as a competitive and globally-connected national "node," the lopsided development also creates more difficulties for the rest of other regions in the country that struggle to find their niche in the global economy. This paper traces the mega-urban region formation of South Korea along its development and urbanization processes, and discusses its policy implications.

摘要

韩国政府自 20 世纪 60 年代实行工业化以来，就一直在首尔城市规模的问题上摇摆不定。一方面，韩国是除了英国以外成功实施绿化带政策，以限制大都市规模的少数案例之一。多年来，它还制定了其他严格的政策来限制首尔规模的扩大，同时又积极促进其他地区的发展，以求推进经济的全面发展。另一方面，韩国政府在首尔的郊区建立了一系列新城市，基础设施建设也得到了广泛发展，进一步促进了首尔都市圈的发展。事实上，两种对立政策之间的摇摆不定反映了大都市区形成的两个方面。韩国政府一直认为，作为全球经济的门户，首尔和首都地区的竞争力至关重要。事实上，该地区目前约占韩国人口和国内生产总值的一半。尽管他们的竞争优势得到了重视，但这种不平衡的发展也给该国其他地区带来了更多的困难，使其难以找到有利于自己发展的市场。本文追溯了韩国大城市区的形成过程，并探讨了其政策含义。

Panel VI.

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Urbanization in Africa: Commonalities and Departures

非洲城市化的共性与差异

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Urbanization in Africa: Commonalities and Departures
非洲城市化的共性与差异

Abstract

Today Africa is dubbed as one of the most rapidly urbanizing region in the world, followed by Asia. It is expected that by 2050 about 56 percent of the African population will be urban (UNDESA 2014).

However, the rate of urbanization differs across countries and regions. Whereas countries with an urbanization level of less than 30 percent experience an average of 4.68 percent growth in urbanization, most of the urbanized economies grew at an average rate of about 2.23 percent.

Also there are regional variations in the pace and level of urbanization in Africa, with North African countries displaying the highest level of urbanization, while East African countries display a low level, but a rapid rate of urbanization.

The objective of this paper is three-fold. Firstly, to review the literature on the role of cities in the context of agglomeration economics, as hubs for economic development and structural change. Secondly, to analyze the nature of urbanization in Africa, with a view to identify the commonalities and departures, when compared to other regions of the globe. Thirdly, to discuss the challenges posed due to the high rate of urbanization, while analyzing the coping mechanisms by policy makers and planners that are either in place or have to be embarked up to address the challenges.

Ultimately, a set of recommendations to address the challenges is inevitable. These range from poverty, joblessness, infrastructure provision, to environmental resilience. In a nutshell, these demand effective planning and management of cities. However, this can only happen if issues of urbanization were mainstreamed in a country's socio-economic and environmental development visions and plans.

摘要

如今，非洲成为了仅次于亚洲的城市化发展最快的地区。据联合国经济和社会部发布的《2014 全球城市化发展报告》，预计到 2050 年，非洲城市化率有望达到 56%。

然而，非洲城市化的发展速度在不同国家和地区间存在着巨大差异。城市化水平较高的城市平均增速为 2.23%；而一些城市化率不足 30%的国家，其城市化率增速却高达 4.68%。

同时，城市化的区域差异较为明显。相比城市化水平最高的北非地区，东非国家城市化程度较低，但其城市化发展速度较快。

本文主旨分为三个部分。首先，回顾有关聚集经济背景下城市职能的文献资料。其次，分析非洲城市化的基本特点，通过比较研究全球城市化进程，探寻其共性与个性。

同时，讨论城市化快速发展所带来的挑战，并分析现有的应对机制。

最后，就应对城市化进程中面临的各项挑战，包括贫困、失业、基础设施供给以及环境韧性等问题，提出一系列建议。总而言之，解决这些问题需要有效的城市规划和管理。只有将城市化议题纳入国家社会经济与环境发展规划的主流，才能实现这一目标。

Urbanization in Africa: Commonalities and Departures

1.0 Introduction

Today Africa is dubbed as one of the most rapidly urbanizing region in the world, followed by Asia. It is expected that by 2050, about 50 percent of the African population will be urban (UNDESA 2014).

However, the rate of urbanization differs across countries and regions. Whereas countries with an urbanization level of less than 30 percent, experience an average of 4.68 percent growth in urbanization, most of the urbanized economies grew at an average rate of about 2.23 percent.

Also there are regional variations in the pace and level of urbanization in Africa with North African countries the highest level of urbanizing, while East African countries display a low level, but a rapid rate of urbanization.

The objective of this paper is three-fold. Firstly, is to review the literature on the role of cities in the context of agglomeration economies as hubs for economic development and structural change. Secondly, to analyze the nature of urbanization in Africa with a view to identity the communities and departures, when compared to other regions of the global. Thirdly, discuss the challenges posed due to the high rate of urbanization, while analyzing the coping mechanisms by policy makers and planners that are either in place of have to be embarked up to address the challenges.

Ultimately, a set of recommendations to address the challenges is inevitable. These range from rural-employment coordination poverty, joblessness, infrastructure provision to environmental resilience. In sum, these demand effective planning and management of cities. However, this can only happen if issues of urbanization were mainstreamed in a country's socio-economic and environmental development visions and plans.

2.0 Conceptual and Theoretical Framework

Urbanization is a process through which rural population become urban. It mainly

features migration of people from rural areas into cities, development of secondary and tertiary urban industries, more and larger cities, and changing urban landscapes, including changes in consumption patterns. In this regard, urbanization is a social development phenomenon that emerged in the industrial era. And since then, it has undergone four waves. According to Jianwen (2015) whereas the first wave was led and associated with UK's industrial revolution during the 19th century and lasted more than 200 years, the second wave was led by the USA in the mid-to-late 19th century, and lasted for nearly 100 years,

The third wave was dominated by two sets of countries, those from Latin America (Brazil and Mexico) on the one hand, and Asian countries (Japan and Republic of South Korea on the other. The urbanization in these regions began around after the World War II (WWII). The fourth wave, which began around the 21st century swept across certain developing in Asia and Africa, notably China and India, being the leaders.

It is important to bear in mind that the four phases of urbanization were driven by a number of factors. Whereas the drivers of the first three waves were; industrialization, colonial expansion, development of service industries and technological changes, the fourth wave, which is on-going, has been propelled by economic globalization, free trade, and trans-border capital flows. Accordingly, this current phase is expected to reach maturity in 2050 (UN, 2010).

The theoretical framework of urbanization is underpinned by economies of agglomeration which underscores the benefits of "sharing", "matching" and "learning" (Harvey, 2009; AfDB, OECD and UNDP 2016). Sharing occurs when firms and urban inhabitants share indivisible facilities and achieve joint economies of scale in local infrastructure, service, risks and the production of specialized inputs and final goods. Matching arises from larger pools of employees, firms, buyers and supplies, which helps each firm or individual find specific attributes demanded. Learning is promoted by cities as density of economic actors, facilitates the diffusion of knowledge and technology (Duranton, 2009).

There are many ways to describe and categorize the benefit arising from agglomeration economies. Usually, a distinction is made between urbanization economies. That is, benefits from clustering of diverse economic activities. And localization of economies, those from clustering firms in the some sector. These mechanisms of agglomeration economies usher in three outcomes: they generate increasing returns to scale that arise from geographical concentration and co-location (clustering of firms and workers is central) via cumulative causation, people and firms are attracted to places where there is already a concentration of activities, thus reinforcing and propelling existing agglomerations, and path-dependency: a single firm or producer will not find it profitable to move from an

existing cluster (Overman and Venables, 2005).

Further, agglomeration economies deliver a productive advantage to firms and spur innovation. In this regard, large and diverse cities in particular, facilitate the sharing of knowledge entrepreneurship and competition. Thus, playing a "nursery" role and enable firms to incubate while some firms succeed and grow, the less productive firms close, allowing for capital and labour to be reallocated to more productive activities. Consequently, creative destruction and the churning process of firms and factors of production under the role of cities as engine of growth and development of countries (Duranton, op.cit).

Apart from the economic benefit of urbanization, cities offer many social benefits in terms of enhancing human development through improved access to education, health, water and sanitation. Empirical studies show that provision of cum access to these services is typically high in urban than rural areas, and such provisions are less costly to provide in an urban setting because of economies of scale (UN-Habitat, 2010b; UNDP, 2015).

Environmentally, urbanization does offer benefits by reducing travel distances and preservation of land. However, urban agglomerations and industrial concentration in cities generate environmental costs and negative externalities. According to Khan (2006), at low levels of development or per capita income, cities lack the resources to invest in environmental amenities. Therefore, households and firms only begin demanding high environmental quality when they have reached a specific threshold of per capita income, high enough to afford paying for environmental amenities. Indeed, fast economic growth, as observed in Chinese cities can harm the environment. However, these impacts can be mitigated or even prevented if urbanization is well managed and planned.

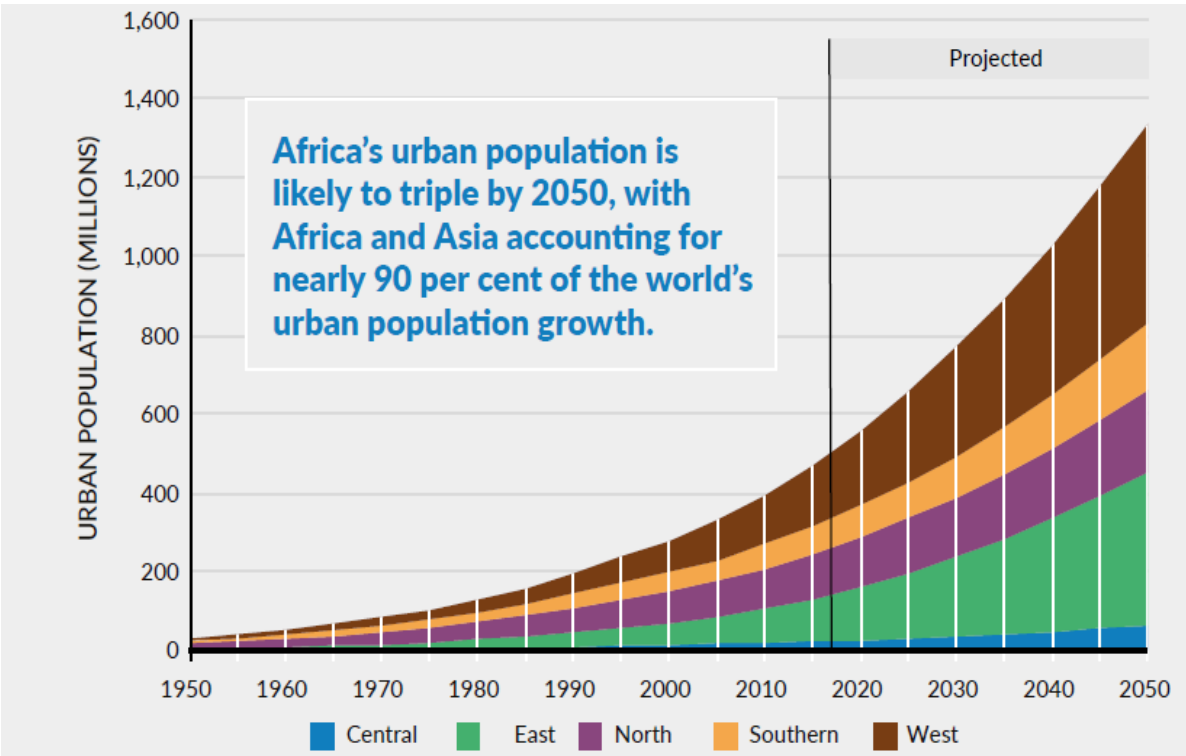
Furthermore, both theoretical and empirical analysis, identify four drivers of urbanization; rural-urban migration, international migration, national population growth (reflecting mortality and fertility rates) and reclassification of rural towns to urban areas. The existence of these drivers in turn creates strong linkages between rural and urban in terms of the need to improve agricultural productivity, not only as a means for boosting productivity and competitiveness of urban sectors, but also as a strategy of triggering structural transformation of a country's economy. In other words, structural transformation or industrialization is associated with a faster rise in agricultural productivity and a faster decline in the share of agricultural output and labour force within the economy, leading to a more developed, higher productivity and more urban economy (Timmer and Akkus, 2008).

3.0 Urbanization in Africa: Trends, Patterns and Drivers

Today Africa is dubbed as one of the most rapidly urbanizing regions in the world,

followed by Asia. It is expected that by 2050, above 56 percent of the African population will be in urban areas. Indeed, urbanization was rapid in the post-independence period, slowed in the 1990s and picked up again in 2000s (UN-Habitat, 2010). Urbanization in Africa, excluding North Africa, rose from 15 percent in 1960 – around the same time as Europe in the 17th century - to 38 percent today which in higher than South Asia. The number of urban residents in Africa nearly doubled between 1995 and 2015 and is projected to double again by 2035 (Barofsky, Siba and Grabinsky, 2016).

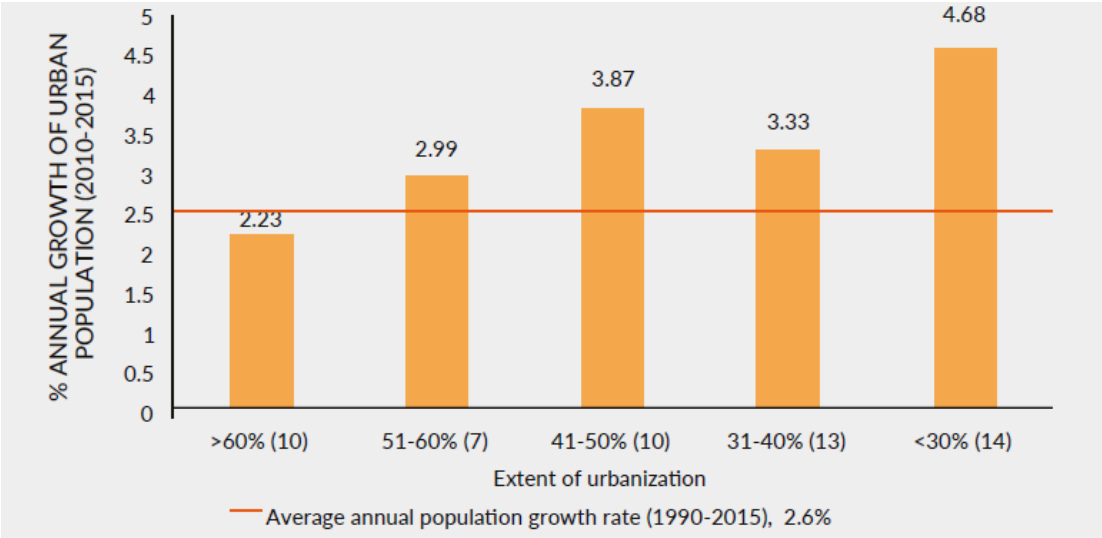
Figure 1: Urban Population by African sub-Region, 1950-2050



Source: UNECA (2017)

African sub-regions and countries are urbanizing at different speeds, as displayed in figure 2. For example, East Africa is the least urbanized and urbanizing fastest, while Southern Africa is the most urbanized and moving more slowly. Eight countries are largely rural with less than one quarter of their populations living in urban areas. However, the least urbanized countries are forecast to double their urbanization in 35 years *UNDESA, 2014). In contrast, a few countries are experiencing slow and even negative urbanization. These include Mauritius, Swaziland and Zimbabwe.

Figure 2: The Pace of Urbanization and the Extent of Urbanization



Source: UNDESA, (2015b)

The above figure illustrates that countries with low level of urbanization are urbanizing faster than those with higher levels of urbanization. It was observed that countries with an urbanization level of less than 40 percent, experience an average of 46.8 percent growth, while the most urbanized countries grew at an average of about 2.23 percent (ECA, 2018).

African countries differ in their spatial pattern of urban growth. Most of them have a higher share of their urban population in their largest city ("urban primary") than other regions of the world, and a few have faster growth in their largest city than in their other urban areas, such as Burkina Faso, Cameroon, Republic of Congo and South Africa. However, quite a few countries display most urban growth outside the largest city, with a decreasing trend in primary. This trend is observable in Benin, Gambia, Liberia, Rwanda and Sierra Leone.

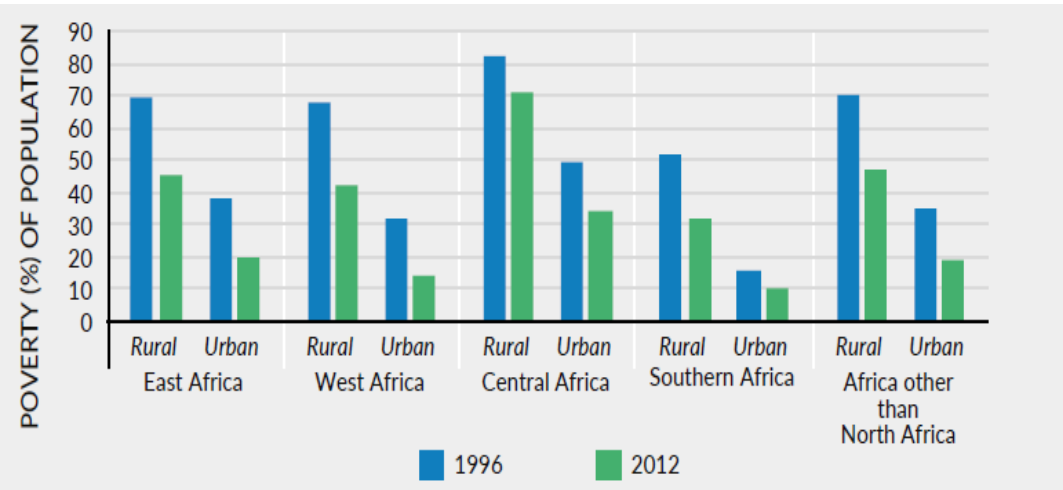
Studies show that the main drivers of Africa's urbanization are basically demographic factors, while rural-urban migration's contribution has been decreasing overtime. During 1990 and 2000, on average it accounted for 1.07 percent. (Dyson, 2009), Fox, 2014; Jedwab, Christiaensen and Gindelsky, 2014. However, this phenomenon needs to be interpreted with caution given that heterogeneity exists among countries. It needs to be underscored that the "chaotic" nature of rural –urban migration is, to a larger extent, fuelled by poverty and inequalities which happen to be higher in the rural than urban areas. Another driver of the urbanization process is reclassification. For example, Uganda had 33 districts in 1986, but currently the number has risen to 111 districts, and each of them has an administrative and a commercial town (Awumbisa, 2014).

4.0 Africa's Urbanization Characteristics: The Departures

The objective of this section is to search for commonalities and differences (departures) of Africa's urbanization process with a view to show how the continent's specific characteristics have influenced the results and outcomes of urbanization.

First and foremost, the economic growth in many African countries, in the last couple of decades, and especially since the early 2000's, has had less of an impact on poverty than expected. Whereas the continent's poverty headcount ratio declined from 56.3 per cent in 1990 to 41 percent in 2013, the absolute number of people in poverty is stagnating at the 2002 level, to the extent that more than 50 percent of the world's poor in 2013 were in Africa. This notwithstanding, in 1996 - 2012 poverty declined in all sub regions and faster in urban than rural areas, except in Southern Africa, which witnessed a marginal declined in rural poverty, as shown in the figure 3 below.

Figure 3: Poverty by Sub Regions in Africa



Source: World Bank, (2016b)

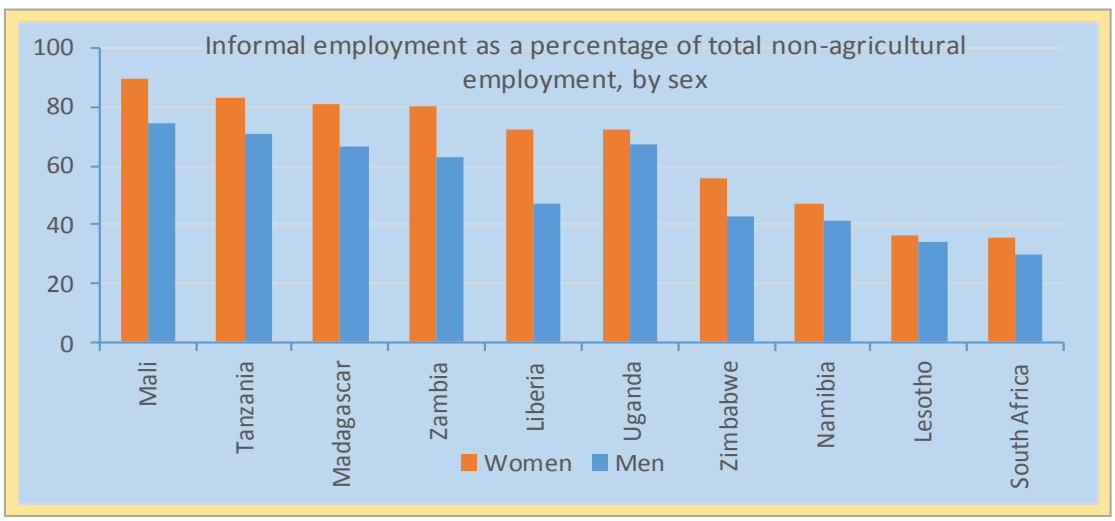
The economic grown in Africa has not been inclusive for a number of reasons; ranging from the depth of poverty, high initial inequality, mismatch between sectors of growth and employment, to rapid population growth and delayed demographic transition. The implication of this phenomenon, with regard to the relationship with urbanization, is that with weaker incomes, then other parts of the world, generates of a narrative of "urbanization without growth" (World Bank, 2001: Fay and Opal, 2000). In this context, and in comparison with Asia, which has similar urbanization rates at higher incomes, Africa is

urbanizing while poorer (Freire, Lall and Leipziger, 2014).

The second characteristic is that the experience of many African countries structural transformation has been unfavorable. Globally, the share of manufacturing in total output tends to rise with per capita income. However, in the case of Africa manufacturing and urbanization were moving side by side during the early post-colonial period of 1960-1975 but manufacturing then declined, inhibiting structural transformation. Since mid-1990s, growth has rebounded, but without strong employment growth in manufacturing (de Vries, Timmer and de Vries, 2014). Ultimately, most African countries recorded a decline in their share of manufacturing value added in GDP, averaging 2.3 percent during 2000-2015. The unfolding deindustrialization process led to movement of labour from high sectors to low-productivity sectors, basically informal activities and services (Mc Millan and Rodrick, 2011).

The continued trend of urbanization in face of deindustrialization has a number of implications. First, it resulted in cities with poorer populations and informality. It needs to be recalled that 61 percent of men and 74 percent of working population in non-agricultural sectors are informally employed to the extent that, globally the share of informal employment is the highest in Africa, excluding North Africa. A survey of seven Francophone African cities revealed that the average income of workers in the formal enterprises is three times higher than those in informal enterprises, pointing to a wide productivity differential (ILO, 2009).

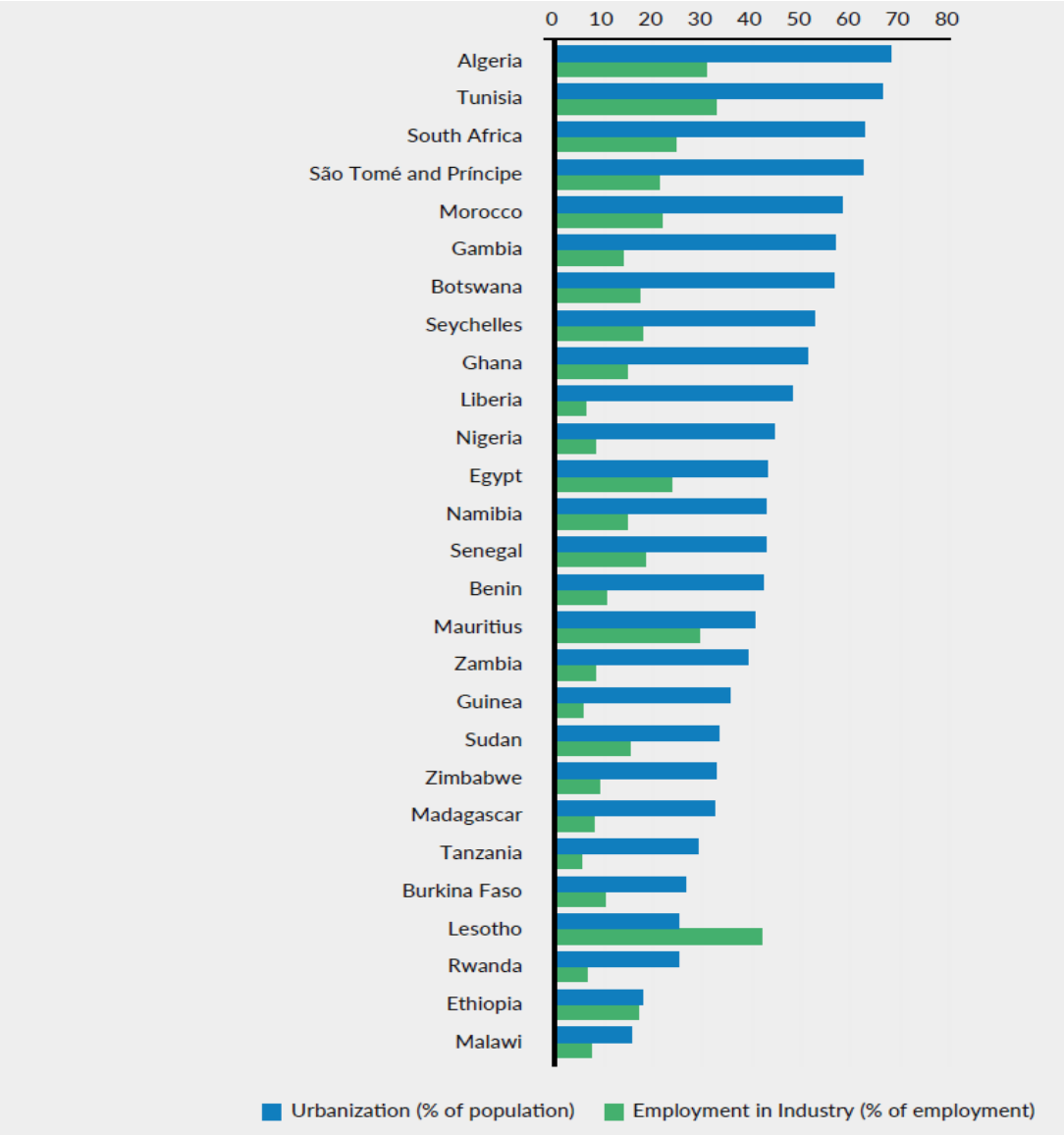
Figure 4: Informal employment is high in Africa



Source: Sinha (2018).

Secondly, decoupling urbanization and industrial development is problematic because industrialization is the most efficient path to sustained growth and economic convergence (AfDB, OECD and UNDP, op.cit). Thirdly, given the prominence of agriculture sector in African economies, in terms of household's livelihoods and contribution to GDP, its low level of productivity, at less than 56 percent of global average, weakens its supply and demand value chain links to the process of urbanization, to the extent that the urban-rural divide is widened rather than narrowed.

Figure 5: Urbanization and industrial employment, 2007 – 2015



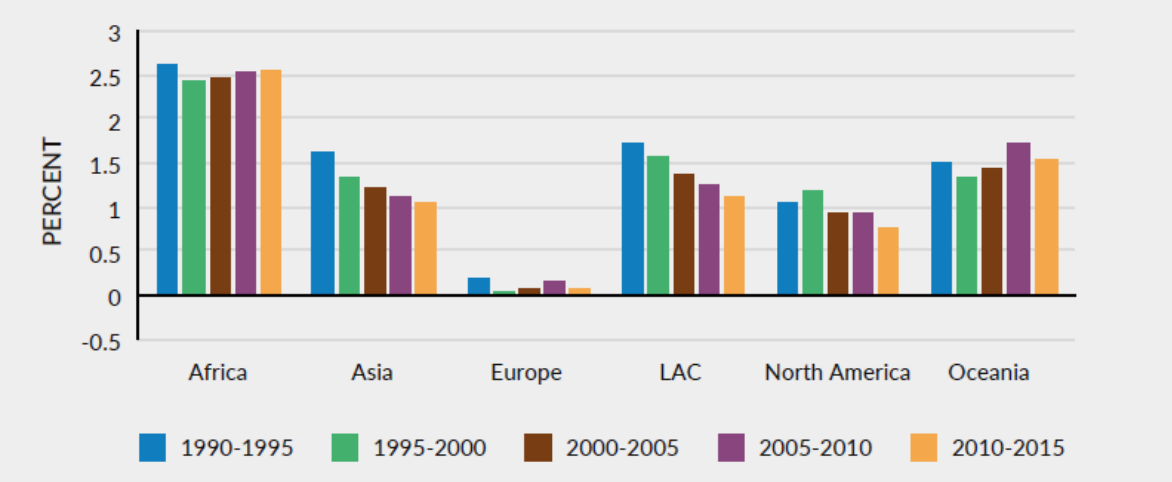
Source: World Development Indicators (2015)

The third characteristic is that most of African economies are rich in natural resources and therefore these constitute the major exports. McMillan, et al, (2011) claim that there is a very strong and negative association between a country's reliance on primary products and the rate at which structural transformation contributes to growth. Indeed, countries that specialize in primary products are at a distinct disadvantage. This is due to the Dutch disease, where low productivity labour of non-processed exports crowds out employment in higher value added sectors. This disadvantage associated with resource endowment, coupled with colonial histories, tend to high resource rents for African countries with better economic performance at a given level of to the urbanization (AfDB, et.al; op.cit).

At the city level, natural dependency feeds into disconnect between urbanization and structural transformation in prompting the term "consumption cities (Jedwab, 2013; Gollin, Jedwab and Vollrath, 2014). Consumption cities not only a product of premature urbanization, but also of shifting workers from tradable to non-tradable sectors. In the absence of job-rich industrial sector, Africa has yet to generate decent jobs to address the challenge of youth unemployment. It is important to note that consumption cities are very expensive, more so than cities in countries at similar income levels by a margin of up to 31 percent (Nakamura, et al, 2006), sweeping aside any assumption that industrial development in Africa will benefit from cheap labour and land. Further, the indirect costs of poor infrastructure provision puts Africa firms at a competitive disadvantage, with many firms in South America and East Asia paying 50 per cent and 70 percent less, respectively, for inland transport of imports and exports to and from ports, while African firms are losing up to 13 per cent of their working hours owing to electricity outages (Larossi, 2009).

Africa's rapid population growth is the subject of the fourth characteristic. The continent's population grew at an average of 2.6 percent annually in 1990-2015, more than twice the world average (UNECA and UNFPA, 2016). In the same, period Asia and Latin America and the Caribbean achieved rapid declines in annual population growth. Not only was Africa's annual growth rate the world's highest, but it has remained in the range of 2.4 – 2.6 percent since 1990. This state of affairs is unlikely to change in the short-run.

Figure 6: Average Annual Rate of Population Change, 1990 – 2015

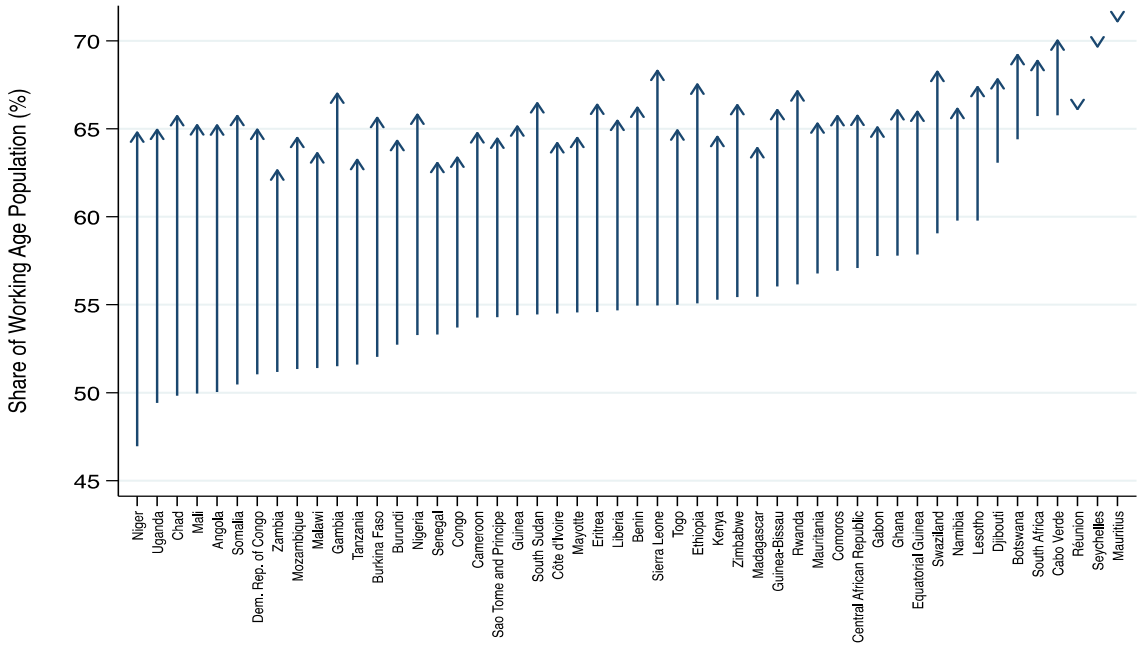


Source: UNDESA, (2015b)

The implication of the above is that, Africa's urbanization is driven more by natural growth than migration. Indeed, the continent's roles of migration peaked in the 1960's, declining after that. Unlike the experience of the United Kingdom during the industrial revolution, where natural urban population growth was lower in cities due to high death rates, contrary to the falling mortality rates in African cities (Annez and Buckley; 2009; Fox, 2014).

Notwithstanding the seemingly demographic dividend, African countries face an enormous challenge in creating a number of decent jobs for the young and expanding workforce to realize this dividend. Whereas the youth (15-24 age cohort) constituted about 35 percent of the working-age population in 2015, they represented three-fifths of those who were unemployed. In most countries, the youth unemployment is more than twice that of adults; in Nigeria, for example, the youth rate is more than five times the adult rate. In Botswana, the Congo and South Africa, more than one third of young people are unemployed, and the average youth unemployment rate is about 30 percent in North Africa, compared to the world average of 14 percent (UNECA, 2018).

Figure 7: Current and Peak Share of the Working Age Population in Sub-Saharan Africa, 2015-2100



Source: Bhorat (2018)

The last characteristic of Africa's urbanization is with regard to "rank-size" rule. In many African countries the concentration of industry is predominantly in a single urban centre. This in turn leads to the creation of an urban system that is dominated by a primary city ("primacy"). Usually, systems of cities in developed economies tend to follow the "rank-size" rule, with cities decreasing in size by a common ratio (O'Sullian, 2007). Whereas nearly all countries globally have cities with various sizes, African countries are characterized by unbalanced systems where economic activities and administrative functions are concentrated in the capital or largest city, more than expected under the rank-size rule. This tendency is contrary to what is observed in rest of the globe. Moreover, the average share of population in the average country's largest city in Africa, excluding North Africa, is higher than the corresponding city in other regions.

One commonly cited explanation for Africa's excessive primary is centralization of power and favoritism in resource allocation, which can negatively affect the quality of life, including child mortality and education in towns and cities outside the capital (Henderson, et.al; 2001). In such systems small and medium-sized cities play little role in hosting rising urban populations and urban investments, unless they reach a minimum competitive size threshold or unless large cities become unlivable (ibid).

Figure 7: Cost of living, Africa's 15 most expensive cities

RANK IN AFRICA	CITY	GLOBAL RANK	COUNTRY GDP PER CAPITA ($)	MORE EXPENSIVE THAN...A
1	Luanda, Angola	2	4,102	Zurich, Switzerland ($80,215)
2	Kinshasa, DRC	6	456	Shanghai, China ($7,925)
3	N'Djamena, Chad	9	776	New York City, United States ($55,837)
4	Lagos, Nigeria	13	2,640	Seoul, Republic of Korea ($27,222)
5	Victoria, Seychelles	16	15,476	London, United Kingdom ($43,734)
6	Abuja, Nigeria	20	2,640	Dubai, UAE ($40,438)
7	Brazzaville, Congo, Rep.	23	1,851	Copenhagen, Denmark ($52,002)
8	Libreville, Gabon	28	8,312	Chicago, United States ($55,837)
9	Conakry, Guinea	36	531	Washington, DC, United States ($55,837)
10	Djibouti, Djibouti	40	1,813	Paris, France ($36,248)
11	Accra, Ghana	47	1,381	Milan, Italy ($29,847)
12	Yaoundé, Cameroon	50	1,251	Vienna, Austria ($43,439)
13	Abidjan, Côte d'Ivoire	56	1,399	Amsterdam, Netherlands ($44,433)
14	Douala, Cameroon	70	1,251	Doha, Qatar ($74,667)
15	Cairo, Egypt	91	3,615	San Jose, Costa Rica ($10,630)

Source: Mercer (2016); World Development Indicators (2015)

It needs to be underscored that the presence of primary cities, is not a problem in itself. This is because large cities are important to the urban system due to their role in spurning growth by engendering innovation and entrepreneurship, among other advantages. However, there are both benefits and costs to large cities, and both increase with size. The same forces that drive clustering of businesses and people in cities also push cities to be too large (Annez and Buckley, 2009), assuming that cities have an optimum size, a diverse national system of cities seems to be preferred, since it allows firms to select a large city with good urbanization economies or a smaller city with lower economies of agglomeration but also lower costs and congestion. This being the case, the optimal location will vary by type and maturity of firm. Therefore, having a functioning economic system of cities will go a long way in improving the chances of firms to maximize the matching of their location-based requirements.

5.0 The Way Forward

This section attempts to chart the way forward by proposing a set of policies, strategies and measures that need to be taken on board, by national development planners, with a view

to unlock the growth and development potential embedded in urbanization, while addressing the observed challenges of that process.

The starting for ensuring that the urbanization is well planned and managed is to mainstream the process in national and regional development agenda. This stance is informed by the recognition that urbanization is irreversible and has immense potential for economic diversification and rural transformation. Currently, most of the African countries have visions and plans to promote industrialization as a way of achieving structural transformation of their economies, as well addressing the challenges of poverty reduction, inequalities and joblessness of the youthful population. This being the case, urbanization becomes an indispensable vehicle for achieving such visions. However, in order to attain the goals and objectives embodied in the in the visions and development plans issues of urbanization have to feature more conspicuously and compressively in the formulation of implementation strategies. These will be discussed briefly hereunder.

First, to the extent that rural-and urban development are complementary, given that there are multi-faceted economic and social linkages between the two areas, it crucial to ensure that both areas are accorded their deserved attention in the allocation of resources. It needs to recalled that well-functioning urban economies have benefits for rural areas too. Likewise, well performing rural economies are suppliers of agricultural products and labour to cities, while at the sometime they are markets for industrial products. This symbiotic relationship between the two areas, if adequately exploited, would definitely lead to a balanced growth. Currently, this is yet to happen given the urban-bias development model adopted by most African countries as evidenced by the low agriculture productivity and low provision of infrastructure, as well as economic and social amenities in rural areas. Indeed, the allocation of requisite resources to the rural areas will have positive spillover effects, not only in reducing rural poverty and inequalities, but also curb unplanned migration to urban areas.

Second, in appreciation of the economic potential of cities as drivers of structural transformation in general, and industrialization in particular, African countries should place undue importance on the quality and form or urban development. However, this must be addressed early enough to avoid severe economic, social and environmental challenges in the long-run. In this regard, policies should aim at making cities, both primary and secondary, efficient and competitive, both domestically, regionally and globally. Indeed, having such policies in place will reconnect the link between urbanization and industrialization, which is currently missing in Africa's urbanization trajectory.

Third, in analyzing issues of urbanization emphasis has been placed on a single sector or specific challenge facing cities. This form of approach tends to ignore the bigger picture, both in terms of policies and strategies, and ultimately fails to address the fundamental problem(s)

facing cities, in the context of urban development. In the future, the approach to be adopted is that of a broader or holistic picture cum lens which is underpinned by understanding the complexity and interplay of different urban sectors, including the public and private sector's roles, as well as the economics and social aspects of the urban development. However, in order for the adopted approach to be effectively implemented, it has to be informed by a development paradigm which appreciates the critical role played by both governments and the private sector (free market) in the creation and promotion of efficient cities. Further, in order to effectively manage the complexities, putting in place a cross-sectoral coordination mechanism becomes an imperative

6.0 Concluding Remarks

Globally, the role of urbanization as an engine of growth and development is highly acknowledged. Specifically, urbanization is closely linked to structural transformation, industrialization and rural development. The paper has attempted to analyze how Africa's urbanization has been unable to benefit from or tap the opportunities embedded in that process. In that regard, the analysis focused on identifying the main characteristics of Africa's urbanization process which have hindered or muted the realization of the continent's aspirations of economic diversification, industrialization, social development and enhanced per capita incomes, when compared to other regions in the world. The characteristics are in fact the departures which distinguish Africa's urbanization when compared to other regions. Indeed, there are also some areas of convergence with other parts of the globe, such as the imperativeness of the process.

The findings show that Africa, to a greater extent has failed to unlock the opportunities of urbanization for a number of reasons. These range from premature urbanization, poor planning and management of the process, deindustrialization, disconnection between urban and rural development, to the predominance of primary cities. These departures have not only resulted in delayed structural transformation of African economies, but also in jobless economic growth, poverty ridden and expensive cities. Moreover, and in most cases, such cities lack the basic economic and social infrastructure.

These deficiencies, notwithstanding, and due to the fact that urbanization is an unstoppable force which will continue to change Africa's landscape, putting in place an effective urbanization planning and management becomes an imperative. The framework should not only address issues of urbanization in a more holistic manner, but also enhance coordination and integration of economic, social and environmental issues in the urban development agenda.

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Chile As a Case: Latin America Urban Development and Provision of Sustainability

以智利为例分析拉丁美洲城市发展与可持续发展能力

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Chile As a Case: Latin America Urban Development and Provision of Sustainability
以智利为例分析拉丁美洲城市发展与可持续发展能力

Abstract

Every Governments in the world are wary of a rapid urbanization because of the economic benefits that cities bring, but at the same time produce tension between the strategy to privilege the economic growth and a many of people will left behind. In the Sustainable Development Goals, who is part of the 2030 Agenda, a lot of countries have committed themselves to balanced development that integrates economics, social and environmental goals, and pledged that "no one will be left behind".

A lot of scientific literature about Latin America cities is emphasis on the development of the metropolitan area of Buenos Aires, I will analyze the consequence of that development, because the result of that process is causing a paradoxical scenario. In the one hand the implementation of the urbanization policies was successfully reduced the income inequality but in the other hand, they produce the increasing of inequality in access to the city and its goods, service and opportunities.

In this presentation I will analyze the Chilean case with the resume history of Chilean urbanization process and its housing policy. The core of the presentation is to analyze an ability of Chile to improving living conditions of urban population and in provision of sustainability.

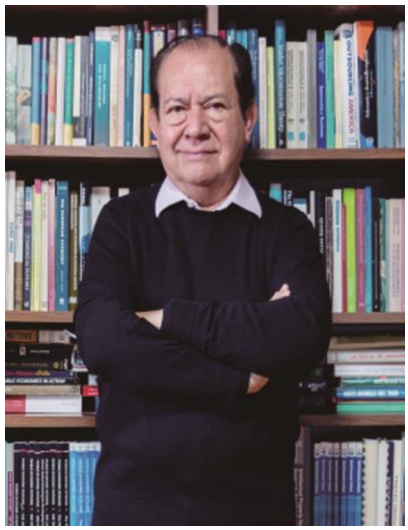
摘要

世界上各国政府都担忧急速城市化带来的后果。尽管城市能够带来极大的经济利益，但过于偏重经济发展可能意味着国家将无法顾及到绝大多数人的利益。为此，在2030年可持续发展目标中，许多国家承诺了平衡发展、融合经济、社会和环境等目标。

许多关于拉美城市的科研文章着重于研究布利诺斯艾利斯都市圈的发展。本文将分析城市化发展所带来的后果。一方面，城市化政策有效缓解了收入不平等问题，但另一方面又造成了商品、服务和机会不平等的加剧。在我的演讲中，我将结合智利城市化进程的发展史以及其住房政策，着重分析智利提高城市人口生活水平的能力及其可持续发展的能力。

Mexico: Metropolitan Circles Development, Interactive Cities and Future of Urbanization

墨西哥：都市圈开发、交互式城市与城市化的未来



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Mexico: Metropolitan Circles Development, Interactive Cities and Future of Urbanization

墨西哥：都市圈开发、交互式城市与城市化的未来

Abstract

Population projections indicate that the tendency to concentrate in urban areas will increase throughout the world, especially in countries where there is a greater margin for it. Mexico will continue to be ranked number eight in 2050, with 134 million people residing in these types of settlements (with an expected total population of 151 millions), however, nations with higher volumes will change in some cases: China, India and the United States will have the first three places (without changes of position), Nigeria (with an impressive jump), Indonesia (same placement), Brazil (two fewer places) and Pakistan with a considerable increase will follow (United Nations, 2014a). When comparing these projections with those of the total population, Mexico occupied in 2015 the tenth place among the most populated countries in the world, with 127 million (United Nations, 2015). In 2015, the 74 Metropolitan Zones (MZ) concentrated 75.1 million inhabitants, equivalent to 62.8 percent of the total population of the country. The 2015 delimitation reiterates the consolidation of the country as a metropolitan country, the 74 metropolitan areas comprise 417 municipalities in the 32 states, with a population concentration that slightly exceeds six out of ten Mexicans. The evolution since 1960 indicates that the number of metropolitan areas has increased six fold, its population has multiplied by eight, the amount of territorial demarcations and municipalities has increased more than six times and its participation in the national population has grown little more than double.

Metropolitan circles development has been linked to manufacturing restructuring that was led by different forces: on the macro level the stimulus came through the cost mechanism of low wage paradox, with an improvement of the education level. What is interesting is that promotion of investment, did not came from a sophisticated central office, but rather by a mix of federal and state level promotion. Debt crisis pushed federal government to promote state and local government support for the promotion of industrial clusters. This process became official with the creation of a Board of State Governors Conference (CONAGO) in 2002. This process led to the emergence of planning process at State level. Governors became active agents for promoting planning and one of the main features was that they became responsible to develop business environment and attract foreign investors into their territory, in some cases they were supported by a long-term planning.

Institutional development led to a broad policy of promotion to attract foreign investors through a policy of land use, supported by infrastructure development in industrial parks; businessmen created the Association of Industrial Parks that today hosts more than 538 parks in the country, that has enabled new financial tools to promote new developments as is the

case of the trust funds for industrial real estate denominated FIBRAS, and special funds managed by State governments.

This policy mix led to an uneven process of promotion in the regions, where Federal, State and local governments became involved, with the participation of local businessmen to promote foreign investors into their territories. This sort of policy was successful attracting investments in transport equipment, computers and electronics devices, chemical and pharmaceutics, among others. The whole process was developed by stages and by regions. In the first phase came in the Northern Border States where electronics took advantage of the Tijuana/ San Diego border crossing point for electronics and electro domestic, next was the auto industry in Sonora and Chihuahua (Ford Corporation) Chrysler took advantage of Nuevo León and developed the Coahuila network, that latter combined the Daimler Benz operation and GM, this was at the last decades of the 20th Century. Border states led exports with 50 percent of total.

Second wave of investment developed in the Western Central area, where the aim was to push new industries, Guadalajara became the pioneer in the digital-electronic industries, led by IBM and Hewlett Packard, promoting digital businesses that led to creative industries, and also embedded software developments linked to the auto industry . This attracted the Japanese to set up a Honda Plant for exports and in the neighboring state of Aguascalientes led by Nissan one of the largest network was developed in different stages, Guanajuato vicinity attracted Toyota, Mazda, Volkswagen. Economies of scope led to develop auto parts industries also in Querétaro and San Luis Potosí where not only auto industries were developed, but also the Canadian Bombardier set up an assembling plant, BMW is building a very large facility for the new series 3 cars, domestic complex was build there with national business that attracted later to Samsung to the region. All the process led to a coprosperity area, growing at 5 percent a year, well above national growth.

Third area of clustering was the traditional industries platform, in the vicinity of Mexico City and the neighboring states, here was the first auto industries installed, some of them move to the North, but some others refurnished their facilities, i.e. Ford corporation transformed its Cuautitlan plant from traditional fuels operation to the new generation of electric cars, Nissan in Cuernavaca is assembling the New York City taxis, Volkswagen and Audi had developed new facilities in Puebla. Mexico City has attracted also large pharmaceutical and medical device corporations, combined with research developed in the University Centers of Mexico.

Clustering led to a density process that pushed innovations and interactions among regional suppliers, all this brought in economies of scope at different levels and modalities. In the western central area of Mexico interactions increased among relatively medium size cities, pushing for a new sort of economic development, giving birth to interactive cities, that instead of increasing in size took advantage of economies of scope that allowed them specialization in different segments of the industry. What seems interesting is that clustering went beyond traditional agglomeration and brings in the new geography of cities and they interaction with other cities.

Discussion will be based how the interaction of industrial development in Mexico has led to enlarged Metropolitan development that in some cases has become interactive, as in the case of central region, where complementarities has developed through economies of scope that allows interaction among Metropolitan Zones, that has reduced the expansion of traditional MZ and consolidate intermediate MZ.

摘要

人口预测数据表明，全球人口向城市地区集中的比率将持续上涨。2050 年，墨西哥将拥有 1.34 亿城市居民，仍持续位列世界第八。然而，中国、印度、美国将名列前茅，随后是尼日利亚、印度尼西亚、巴西和巴基斯坦。如果我们将这些预测数据与世界总人口的预测数据进行相比，墨西哥在 2015 年成为世界第十人口大国，达 1.27 亿。2015 年，墨西哥 74 个都市区总计拥有 7510 万居民，相当于该国总人口的 62.8%。尤其是自 2015 年墨西哥进行行政区域重新划分以来，再次突显了墨西哥大都会的形象，其 32 个州的 74 个都市区中共有 417 个市政府，其都市区的人口约占总人口的 3/5。自 1960 年，墨西哥都市区数量增长了 6 倍，人口数量增长了 8 倍，地域界线和市政府数量增长了 6 倍，城市人口略翻了一番。

都市圈发展与制造业重组息息相关。在宏观层面上，激励因素来源于低收入制悖论，并随着教育水平的提高而产生的。有趣的是，促进投资的举措不是出自联邦政府，而是联邦政府与州政府的联合举措。债务危机促使了联邦政府推动州政府与地方政府对产业集群的扶持。2002 年国家理事会创立之后，这一举措得到了进一步的肯定，从而使联邦政府的计划进入到了州一级的层面。各州州长也是联邦政府计划的积极推动者，主要负责打造营商环境，以吸引外资的进入。

制度发展带来了适用范围较广的土地使用政策，并吸引了大量的外国投资者，这离不开工业园区基础设施的发展；由商人建立起来的工业园协会如今已囊括全国 538 个工业园区，极大地促进了融资工具的发展，如 FIBRAS 工业房地产信托基金以及州政府特殊基金。

然而，由于各地区的政策推广程度不一，联邦、州和地方政府以及地方商人也开始积极设法吸引外资。这带动了交通设施、计算机与电子设备、化工与制药等领域的投资。该过程是分区域分阶段实施的。第一阶段首先从北部边境开始，电子设备公司利用蒂华纳-圣地亚哥边界的优势使墨西哥的电子电器产业得到了巨大的发展。随后，索诺拉州、奇瓦瓦州的汽车行业，克莱斯勒利用新莱昂州的优势建立了科阿韦拉网络，后来与奔驰和通用汽车公司进行了业务合并。边境各州占墨西哥出口总额的 50%。

第二轮投资热潮在中西部地区兴起，IBM 与惠普公司成为推动瓜达拉哈拉数字电子产业的先驱，由此也带动创意产业和与汽车产业相关的嵌入式软件的发展，受到了许多日本商人的青睐；日本汽车企业在阿瓜斯卡连特斯州建立了其最大的产业网络；瓜那华

托州周边地区吸引了丰田、马自达、大众等知名汽车企业。范围经济也带动了克雷塔罗州和圣路易斯波托西州汽车零部件产业的发展，庞巴迪也在该地区设立了组装厂；宝马正在建设一座巨型厂房；大型建筑群拔地而起，不仅促进了国内企业发展，也吸引了三星的投资。这些发展带来了区域的共同繁荣，每年经济增长率约高达 5%，远超全国平均水平。

产业集群化的第三个地区位于墨西哥城的周边地区。他们率先设立了汽车产业，其中一些企业后来迁至北部地区，而另外一些企业则翻新了生产设备，如福特公司改造了其位于库奥蒂特兰州的厂房，从生产传统燃油汽车转型为电动汽车；东风日产的库埃纳瓦卡州厂房负责组装即将出口到美国纽约市的出租车；大众与奥迪已在普埃布州拉增设了新的厂房。不仅如此，墨西哥城吸引了大型制药与医疗器械公司，墨西哥大学城的相关研究也随之兴起。

产业集群所产生的密度效应促进了创新，也增进了地区供应商之间的互动，并带来了不同层次与模式的范围经济。中西部地区中型城市之间的互动推动了新型经济的发展，催生了互动型城市的发展，并使其各个行业的不同领域变得更加专业化。更为有趣的是，产业集群超越了产业聚集，城市间的高度互动性重新定义了城市的地理意义。

杜兰教授将围绕着墨西哥工业发展与墨西哥都市圈的互动关系进行探讨；城市的发展扩大在一些情况下是具有互动性的。范围经济发展带来的互补性使各都市区更好地互动，减少了传统都市区的扩张，从而加强了中小型都市区的发展。

Metropolitan Circles Development, Interactive Cities and Future of Urbanization

Introduction

Population projections indicate that the tendency to concentrate in urban areas will increase throughout the world, especially in countries where there is a greater margin for it. **Mexico** will continue to be ranked number eight in 2050, with 134 million people residing in these types of settlements (with an expected total population of 151 millions), however, nations with higher volumes will change in some cases: China, India and the United States will have the first three places (without changes of position), Nigeria (with an impressive jump), Indonesia (same placement), Brazil (two fewer places) and Pakistan with a considerable increase will follow (United Nations, 2014a). When comparing these projections with those of the total population, **Mexico** occupied in 2015 the tenth place among the most populated countries in the world, with 127 million (United Nations, 2015). In 2015, the 74 Metropolitan Zones (MZ) concentrated 75.1 million inhabitants, equivalent to 62.8 percent of the total population of the country. The 2015 delimitation reiterates the consolidation of the country as a metropolitan country, the 74 metropolitan areas comprise 417 municipalities in the 32 states, with a population concentration that slightly exceeds six out of ten Mexicans. The evolution since 1960 indicates that the number of metropolitan areas has increased six fold, its population has multiplied by eight, the amount of territorial demarcations and municipalities has increased more than six times and its participation in the national population has grown little more than double.

Metropolitan areas growth

A study by the Ministry of Social Development (Sedesol, 2011) identifies that the greatest increase in the urban surface occurred between 1980 and 2000. In the Valley of Mexico, while the population grew 1.42 per percent in the period 1980-2010, the surface did it 3.57 times; in Guadalajara was 1.98 and 3.82 times, respectively, and in Monterrey 1.98 and 4.95. In the group of cities with more than 450 thousand inhabitants there were huge increases in the area of Villahermosa MZ (30.13), MZ de Toluca (26.28), MZ of Cancun (25.79), MZ of Pachuca (21.14) and MZ of Tuxtla Gutiérrez (16.95). Of the 93 cities to which it refers in only one MZ the population growth was higher than the surface: La Paz

(2.35 versus 2.07). The largest increase occurred in Cabo San Lucas (76.38 times).

The incorporation of urban land is associated with the construction of new developments, not only in the peripheries of many cities but also in more distant places and disconnected from the central area, which it is where employment is usually concentrated. This has increased labor mobility, and given that it is often done without planning, derives in the consequent increase of vehicular traffic, of the times of transfer, of pollution; In summary: in the loss of quality of life for MZ population. It has also influenced this expansion pattern the construction of other urban elements such as shopping centers, roads, industrial parks, etc., that have consumed new areas, as never happened before.

TABLE 1. METROPOLITAN ZONES GROWTH 1960 TO 2015

INDICATOR	1960	1980	1990	2000	2005	2010	2015
METROPOLITAN ZONES	12	26	37	55	56	59	74
DEMARCATION AND METROPOLITAN LOCALITIES	64	131	155	309	345	367	417
FEDERAL STATES WITH MZ	14	20	26	29	29	29	32
POPULATION (MILLIONS)	9.0	26.1	31.5	51.5	57.9	63.8	75.1
% OF NATIONAL POPULATION	25.6	39.1	38.8	52.8	56.0	56.8	62.8

SOURCE: CONAPO

The delimitation 2015 reiterates the consolidation of the country as a metropolitan, the 74 metropolitan areas comprise 417 municipalities in the 32 states, and with a concentration of population that slightly exceeds six out of ten Mexicans. The evolution since 1960 points out that the number of metropolitan areas has increased six-fold, its population has multiplied by eight, the amount of territorial demarcations and municipalities has increased by more six times and its participation in the national population has grown little more than double.

To support metropolitan areas coordination a Fund was created at Federal level to promote infrastructure development among the counties in the MA. “The Metropolitan Fund will have the purpose of granting resources to infrastructure programs and projects; which demonstrate to be viable and sustainable, oriented to promote the adequate planning of the regional, urban development, the public transport and the non-motorized mobility and of the ordering of the territory to impel the economic competitiveness, the sustainability and the productive capacities of the metropolitan zones, contribute to its viability and to mitigate its vulnerability or risks to natural disasters, environmental phenomena and those fostered by the demographic and economic dynamics, as well as urban consolidation and the optimal use of the competitive advantages of regional, urban and economic functioning of the territorial space of metropolitan areas” [1] The budget is quite limited $175 million dollars, that gives little space for restructuring.

One of the main problems is that there has not been a proposal for Metropolitan

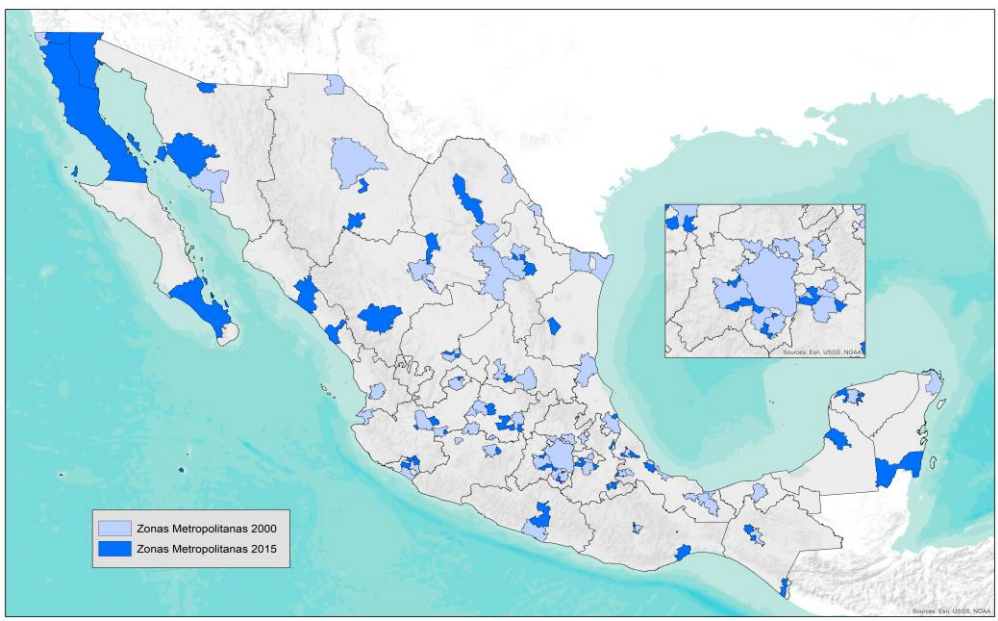
[1] http://dof.gob.mx/nota_detalle.php?codigo=5511862&fecha=31/01/2018

governments. Federal Government has defined the Metropolitan areas with a commission of different Ministries of Central Government. The working group has included multiple counties that in some cases are in different Federal States so coordination among them becomes quite complex, as they might be of different parties, as is the case of the Valley of Mexico Metropolitan Area with governments of different parties (PRI and Morena). A second step beyond the definition of MA will be the design of governance mechanisms that allow them a better coordination.

Location of Metropolitan Areas

Metropolitan areas are spread in the territory as map 1 shows; though they have evolved in different stages, in the first place the Valley of Mexico that has historical roots kept the pace of expansion well into the 21st Century, transforming it from a bureaucratic – industrial conglomerate into a service and financial spot. Guadalajara and Monterrey kept their industrial profile but expanded their service structure bringing in the digital divide and a financial network; what has been more interesting is how other metropolitan areas growth has been pushed by the development of transnational corporations expansion under the North American Free Trade Agreement, that is the case of northern Mexico where in bond electronics and auto industry reshaped the area, or the building of an auto export platform in Central Mexico, other areas that had emerged in the South as MA, don ŧ have a clear cut scheme of forces driving metropolization.

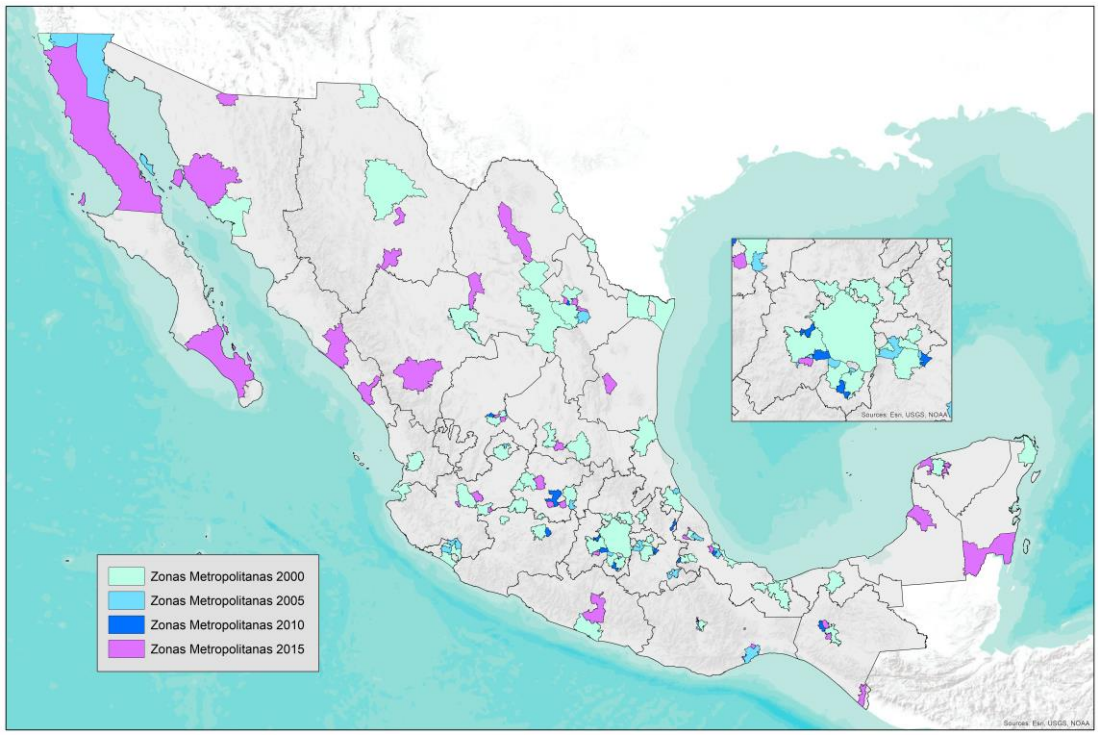
Map 1. Mexico: Expansion of the metropolitan areas, 2000 - 2015.



Source: INEGI

Expansion was not homogenous through all the period; traditional MA has mixed with a process of intermediate MA emerging, mixed with incorporation of more localities into already existing one in the period 2005 – 2010, growth in the period 2010 – 2015 was the emergence of new areas pushed by the emergence of new industries.

Map 2. Metropolitan areas delimitation by 2000, 2005, 2010 and 2015.



Source: INEGI

Growth forces that pushed MA expansion

Metropolitan circles development has been linked to different forces, one of them has been manufacturing restructuring led by different forces: on the macro level the stimulus came through the cost mechanism of low-wage paradox and with the improvement of education level that was stronger in large cities, promoting technical and University degrees.

What is interesting is that promotion of investment, did not came from a sophisticated central office, but rather by a mix of federal and state level promotion. Debt crisis pushed federal government to promote state and local government support for the promotion of industrial clusters. This process became official with the creation of a Board of State

Governors Conference (CONAGO) in 2002, that led to the emergence of planning process at State level. Governors became active agents for promoting planning and one of the main features was that they became responsible to develop business environment and attract foreign investors into their territory, in some cases they were supported by a long-term planning. Institutional development led to a broad policy of promotion to attract foreign investors through a policy of land use, supported by infrastructure development in industrial parks; businessmen created the Association of Industrial Parks that today hosts more than 538 parks in the country, enabling financial tools to promote new urban settlements, as the case of the trust funds for industrial real estate denominated FIBRAS, and special funds managed by State governments.

Table 2. Industrial Parks as a source of MA expansion

	State Name	1986***	2018**
1	Baja California	6	92
2	Nuevo León	8	64
3	Jalisco	6	47
4	Chihuahua	11	39
5	Coahuila de Zaragoza	7	38
6	Edo. México	11	34
7	Sonora	15	33
8	Guanajuato	4	23
9	Tamaulipas	8	23
10	Puebla	4	19
11	Querétaro	6	13
12	Sinaloa	2	12
13	Hidalgo	5	11
14	San Luis Potosí	1	10
15	Aguascalientes	3	9
16	Tlaxcala	1	9
17	Veracruz de Ignacio de la Llave	3	9
18	Yucatán	4	8
19	Ciudad de México	0	7
20	Michoacán de Ocampo	2	7
21	Campeche	3	5
22	Durango	2	5
23	Morelos	2	3
24	Oaxaca	1	3
25	Tabasco	1	3
26	Zacatecas	2	3
27	Chiapas	1	2
28	Guerrero	1	2
29	Quintana Roo	2	2
30	Baja California Sur	2	1
31	Colima	2	1
32	Nayarit	2	1
Total		128	538

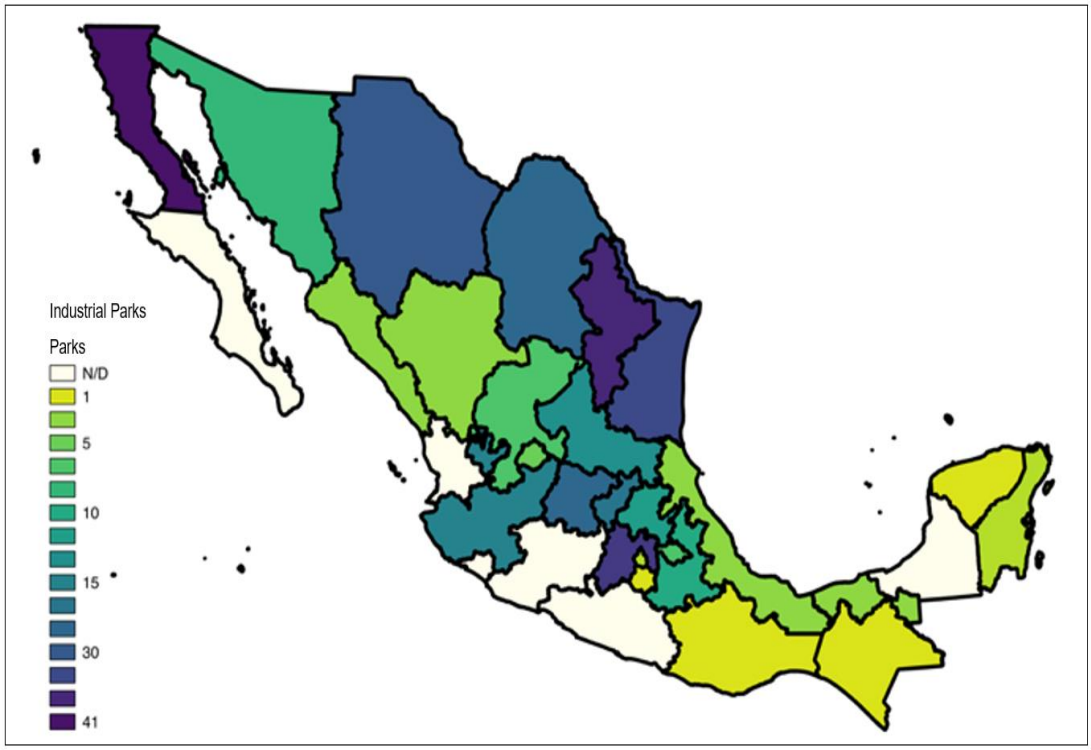
Source: Gustavo Garza (1992) impacto regional de los parques y ciudades industriales, Estudios Demograficos y Urbanos ***; AMPIP (2018) Parques Industriales

This policy mix led to an uneven process of promotion in the regions, where Federal, State and local governments became involved, with the participation of local businessmen to promote foreign investors into their territories. This sort of policy was successful attracting investments in transport equipment, computers and electronics devices, chemical and

pharmaceutics, among others. The whole process was developed by stages and by regions.

- In the first phase came in the Northern Border States where electronics took advantage of the Tijuana/ San Diego border crossing point for electronics and electro domestic, next was the auto industry in Sonora and Chihuahua (Ford Corporation) Chrysler took advantage of Nuevo León and developed the Coahuila network, that latter combined the Daimler Benz operation and GM, this was at the last decades of the 20th Century. Border states led exports with 50 percent of total.
- Second wave of investment developed in the Western Central area, where the aim was to push new industries, Guadalajara became the pioneer in the digital-electronic industries, led by IBM and Hewlett Packard, promoting digital businesses that led to creative industries, and also embedded software developments linked to the auto industry. This attracted the Japanese to set up a Honda Plant for exports and in the neighboring state of Aguascalientes led by Nissan one of the largest networks was developed in different stages, Guanajuato vicinity attracted Toyota, Mazda, Volkswagen. Economies of scope led to develop auto parts industries also in Querétaro and San Luis Potosí, where not only auto industries were developed, but also the Canadian Bombardier set up an assembling plant, BMW is building a very large facility for the new series 3 cars, domestic complex was built there with national business that attracted later to Samsung to the region. All the process led to a prosperity area, growing at 5 percent a year, well above national growth.
- Third area of clustering was the traditional industries platform, in the vicinity of Mexico City and the neighboring states, here was the first auto industries installed, some of them move to the North, but some others refurnished their facilities, i.e. Ford corporation transformed its Cuautitlan plant from traditional fuels operation to the new generation of electric cars, Nissan in Cuernavaca is assembling the New York City taxis, Volkswagen and Audi had developed new facilities in Puebla. Mexico City has attracted also large pharmaceutical and medical device corporations, combined with research development linked to universities research.

Map 3. Mexico: Concentration of industrial parks



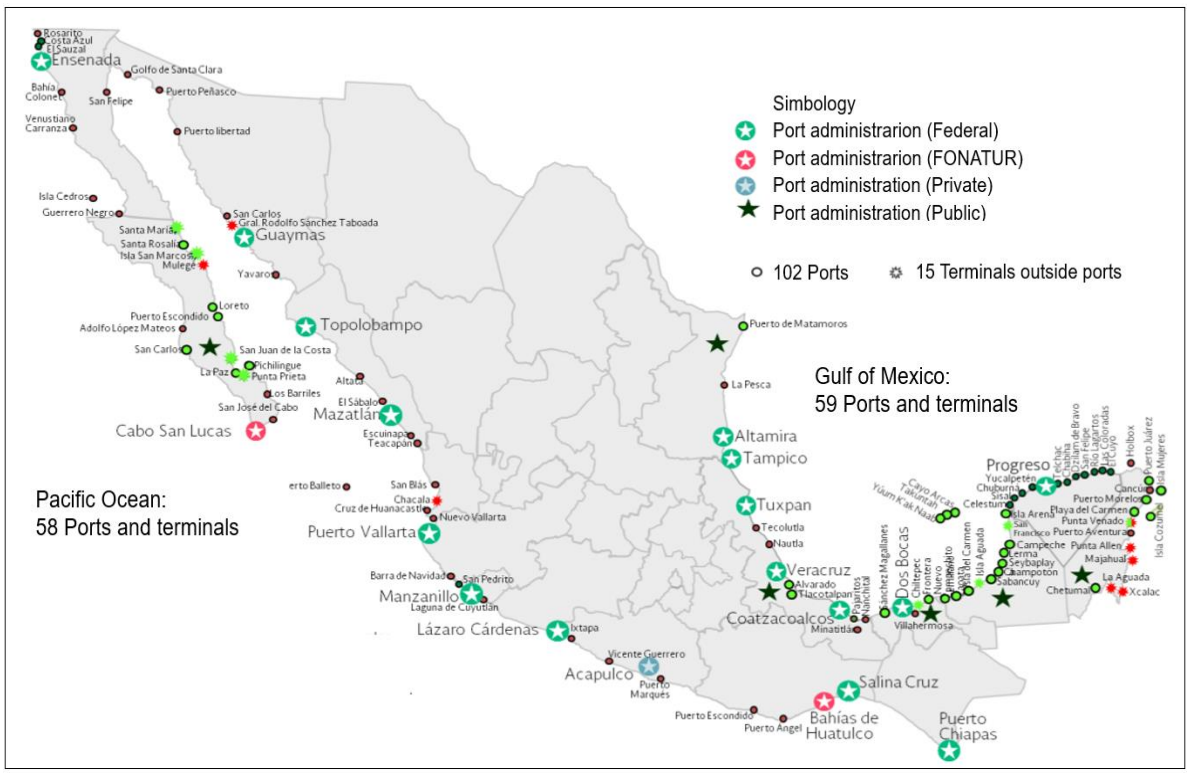
Source: Own elaboration based on AMPIP

- Industrial development was *export oriented* and led to the growth of localities linked to the process, mainly border cities in the North with US, the main metropolitan areas that had become binational are: Tijuana/San Diego, Ciudad Juárez/El Paso, Reynosa/Mc Allen, Matamoros/Brownsville, Mexicali/Calexico, Nuevo Laredo/Laredo, Nogales/Nogales, Piedras Negras-Nava/Eagle Pass, San Luis Rio Colorado/Yuma, Ciudad Acuña/Del Río, Agua Prieta Naco/Sierra Vista, Ojinaga/Presidio and in the South Tapachula.
- Migration was an additional factor of the growth of population in binational Metropolitan Areas population and land use, flows were not only from inside Mexico, but also from Central America, so growth of MA in this case has multiple factors, trade, migration and population growth and connection to other local areas.
- Foreign trade also affected the growth of Metropolis in the coastal areas, most of ports became metropolitan areas, there was a combination of ports focused on merchandise trade (Guaymas, Topolobambo, Mazatlán, Manzanillo, Lazaro Cardenas,

Puerto Chiapas, Tampico, Veracruz and Progreso) and others on oil trade (Altamira, Coatzacoalcos, and Dos Bocas and Salina Cruz).

- An additional factor of growth of MA in the coastal area was tourism in the Pacific Ensenada, Los Cabos, Mazatlán, Puerto Vallarta, Manzanillo, Ixtapa-Zihuatanejo, Acapulco and Huatulco, in the Gulf and the Caribean, Veracruz, Progreso, and the region of Cancun/Cozumel. Mexico has become one of the main cruise ships destination with 6 million persons in 2017.

Map 4. Mexican port system



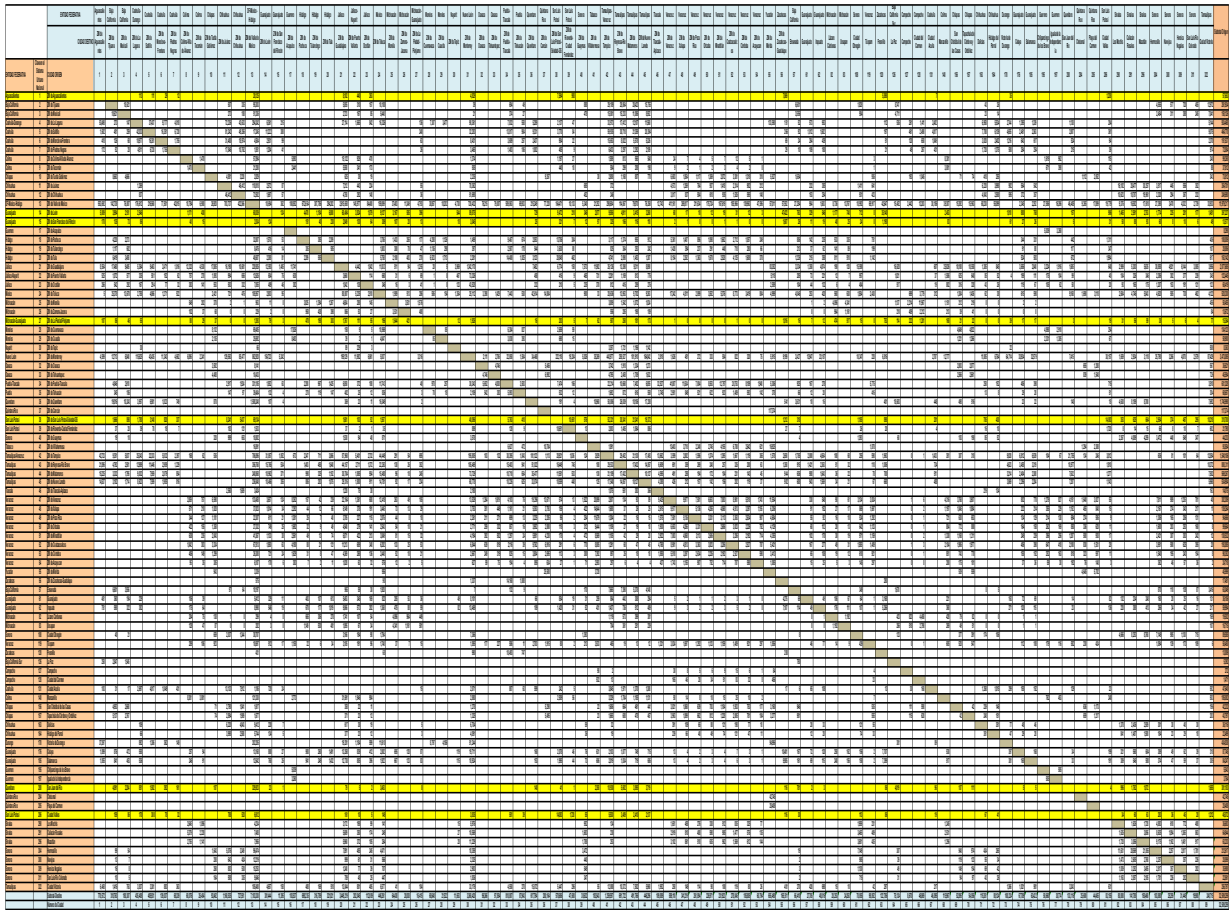
Source: Ministry of communications and transport

Emergence of interactive Metropolitan Areas

Clustering led to a density process that pushed innovations and interactions among regional suppliers, all this brought in economies of scope at different levels and modalities. In the western central area of Mexico interactions increased among relatively medium size cities, pushing for a new sort of economic development, giving birth to interactive cities, that instead of increasing in size took advantage of economies of scope that allowed them specialization in different segments of the industry. What seems interesting is that

clustering went beyond traditional agglomeration and brings in the new geography of cities and they interaction with other cities.

To measure interactions, we used the methodology of Sanchez Almanza (2016) transport annual survey to find out interactions among cities, below is the matrix of interactions derived from this analysis. Most of the interactions have developed following Global Value Chains interconnections, as explained in the input-output matrix, where was possible to identify that auto industry, electronics and electric industries, pharmaceutical and medical devices observed the largest supply/demand interactions, through backward and forward linkages. Spatial relations developed around them as producers take advantage of economies of scope due to producers' agreement to share the same factors of production (i.e. auto manufacturers have taken advantage of Delphi plants in different cities in Mexico to supply them with harnesses for their auto production). Introducing location of the plants is possible to measure the degree of interaction, that has allowed suppliers to provide harness from the same suppliers. This sort of interactions reduces expansion in Metropolitan areas as complementary is developed.



Future of Metropolitan areas in Mexico

Main problem of analyzing the future of Metropolitan areas in Mexico is the lack of planning, a first step in this direction has been the effort for updating the Metropolitan Areas Structure by CONAPO, INEGI and the Secretary of Territorial Development. But there is a lack of coordination of how to address the problem of Metropolitan areas, new government elected proposal is to decentralize Federal Government bureaucracy, but not specific program has been published of what are the expected effects.

Up today cities growth has been given to the market, with some guidelines from government, so the system of cities in Mexico has developed unevenly and concentrated within the framework of the economic models adopted. The guidelines have been the programs for industrialization, in mid 20th century the import substitution model (ISM) favored a hierarchical model of cities with urban centers that accumulated capital, concentrated infrastructure and services or specialized in some manufacturing, extractive or tourist activities.

At the turn of the century the model of export promotion and the North America Trade Agreement opened up options for the emergence of networks of cities that have taken advantage of exports, which grew with the maquiladora, manufacturing and services industry connected to global circuits, although with low economic growth and weak integration of regional production chains. Some cities and states, especially in the center and north of the national territory, have advanced in the cluster, with economies of agglomeration and positive externalities.

However, several challenges remain, it has to be understood that a planning process for urban development is required and macro policies should focus in fostering growth, with special attention to the industry, but that requires that Federal Government resources increases through a rise in taxes and a budget to provide resources for urban planning, specifically Metropolitan Areas.

In the territorial sphere, the socio-economic inequality in the structure and dynamics of the national urban system has been deepened. It is important to avoid widening the development gap between north, center and south. Among the measures to be implemented, it is important to promote regional development with several measures, such as greater cross-connectivity with corridors that facilitate the attraction of investments, the integration of productive chains and the movement of people, goods and services within the Mexican regions. and favor a greater socio-spatial balance. There are three connections to strengthen: the one on the northern border that connects the cities of Tijuana, Mexicali, Nogales, Ciudad

Juarez, Piedras Negras, Nuevo Laredo, Reynosa and Matamoros; that of Mazatlán-Matamoros, from Sinaloa to Tamaulipas; and that of the Isthmus of Tehuantepec that could support a better integration in the South.

Finally, the national urban system has been transformed from a hierarchical primitive model with high concentration towards the formation of networks of cities, taking advantages of the interactions that had developed at some regions through economies of scope. The challenge is to promote a model of territorial convergence by taking advantage of the positive factors of openness, but with an urban-regional planning that allows achieving the central objective of development, which is to improve the level of well-being of the population anywhere in the country.

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The Growing Megapolis of Indonesia: Jakarta's Development and Its Future

印尼大城市雅加达的发展与未来

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Prof. Dr. der Soz. **Gumilar Rusliwa Somantri** was born on March 11, 1963 in Tasikmalaya, Indonesia. He received his Bachelor degree in Sociology at Universitas Indonesia (1989) and his Doctorate in Sociology from Bielefeld University, Germany (1995). He later took the IDEAS executive training program at MIT's School of Management (2008-2009).

Prof. Somantri has held a number of important positions at the university. He was the secretary of Board of Trustees UI (2001-2002) and the Dean of Faculty of Social and Political Sciences, UI (2002-2007). He has served as the Rector of the university (2007-2012) and was considered one of the most progressive and dynamic leaders the university has ever had. Beside works as professor of sociology at UI, Prof. Somantri is member of expert team to Minister of Defense and member of Board of Commissioners of PT Antam Tbk.

As a prominent scholar in urban sociology, Prof Somantri has received numerous awards. He received Honorary Doctorate Degrees in Science from Loughborough University, UK (2010) and Honorary Doctorate Degrees in Political Science from Chonbuk National University, Korea (2011). He was accorded the Highest Award in Philosophy and Culture by the Soka University, Japan (2009).

Prof. Somantri has authored several books and published numerous articles in the field of urban sociology, economic sociology, and education (higher education). In addition, Prof Somantri has been a regular visiting scholar and keynote speaker in a number of countries and areas: United States, UK, Japan, Netherlands, Germany, France, Australia, South Korea, Chinese Taiwan, Burgaria, Malaysia, Singapore, Thailand, and India. He also gives presentation in a range of international seminars and other academic events.

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The Structure of Capability in Poverty: An Explanatory Framework

The Growing Megapolis of Indonesia: Jakarta's Development and Its Future
印尼大城市雅加达的发展与未来

Abstract

Jakarta is the capital city of Indonesia. This "primate" city grows rapidly across the time following massive integration of Indonesia into the scaffolding of the world economy. The nearby and smaller cities like Bogor, Depok, Tangerang and Bekasi have been also impacted by the dynamic development of Jakarta. Nowadays, the surrounding cities of Jakarta have been integrated socio-economically into the city and forms a mega-city. This development is clearly goes beyond the limit of the politico-administrative boundaries. It reflects the continuity of the historical form of urban development of Jakarta since the colonial period. In the future, we predict that the integration of the cities will even more massive and solid. This will be supported by the present of modern interconnected infrastructures, a single governmental authority, progressive role of industries as well as businesses, and an active role of civil societies. However, the megapolis will face a delicate problems concerning pollution, relative poverty, and migration influx that needs a very strong policy efforts to overcome.

摘要

随着印度尼西亚大规模地融入世界经济，首都雅加达，这个“原始”的城市逐渐蓬勃发展起来。雅加达周边的小城市，如茂物、德波、坦格朗和勿加泗，受其迅速发展的影响，如今已经融入到了雅加达的社会经济中，形成了一个“特大城市群”，逐渐摆脱行政区划边界的约束。这反映了雅加达城市发展的历史持续性。我们预测，城市一体化将进一步扩大、稳固。现代基础建设、统一的行政管理体系、工业和企业的进步以及公民社会的积极推动力，都将有利于推动这一进程。然而，这将面临诸多问题，如环境污染、相对贫困和人口流动等。为此，政府有必要制定强有力的政策措施以便解决这些问题。