

Urban Systems / Regional Development Policy Implication: China's 2010 Census

Douglas Webster, Cai Jianming, Ting Wen, and Larissa Muller

© 2014 Lincoln Institute of Land Policy

**Lincoln Institute of Land Policy
Working Paper**

The findings and conclusions of this Working Paper reflect the views of the author(s) and have not been subject to a detailed review by the staff of the Lincoln Institute of Land Policy.

Contact the Lincoln Institute with questions or requests for permission to reprint this paper. help@lincolninst.edu

Lincoln Institute Product Code: WP14DW2

Abstract

The purpose of this monograph is to explore implications of the results of the 2010 Chinese national population census (especially relative to the 2000 census) in terms of ongoing discourse in regard to policies to shape China's urban system, regional development, and migration policies over the next 10 - 30 years. This monograph complements an earlier monograph, entitled, *A First Glance at China's 2010 Census: Urbanization and Regional Dynamics*;¹ accordingly presentation of data is limited, readers are encouraged to read the companion monograph in conjunction with this monograph.

Keywords: Urban and Regional Planning, Economic Development, Development, Growth Management, Public Policy, Spatial Order, Urban Development, Urban

¹ Douglas Webster,¹ Jianming Cai, Ting Wen, and Larissa Muller,
A First Glance at China's 2010 Census: Urbanization and Regional Dynamics, Cambridge Mass and Beijing:
Lincoln Institute for Land Policy.

About the Authors

Douglas Webster

Professor

Schools of Geographical Sciences and Urban Planning, Sustainability,
and Global Studies and Politics

Arizona State University

douglas.webster@asu.edu

Jianming Cai

Professor

Institute of Geographical Sciences and Natural Resources Research (IGSNRR)

The Chinese Academy of Science

Caijm@igsnr.ac.cn

Ting Wen

PhD student

IGSNRR

Tingwen111@gmail.com

Larissa Muller

Associate Professor

Faculty of Environmental Design

University of Calgary, Canada

Larissa.muller@gmail.com

Acknowledgements

The authors gratefully acknowledge and thank the Lincoln Institute for Land Policy and the Chinese Academy of Sciences Visiting Professor Fellowship (to Professors Douglas Webster and Cai Jianming) for funding this research.

Table of Contents

Introduction.....	1
Context/ Overall Trends.....	2
Policy Issues and Implications	5
Is the Constellation System Effective?	5
Should Coastal Dominance be Accepted?	6
Need for New National Scale Hubs	8
Growth of Second Cities / Accelerated <i>Sorting</i> of Metropolitan Regions.....	9
The Emergence of Very Large Poor Metropolitan Regions	10
Depopulating Interior China	11
Amenity – What Role?	13
A Future of Shrinking Cities.....	15
Conclusions and Recommendations	15

Urban Systems / Regional Development Policy Implication: China's 2010 Census

Introduction

The purpose of this monograph is to explore implications of the results of the 2010 Chinese national population census (especially relative to the 2000 census) in terms of ongoing discourse in regard to policies to shape China's urban system, regional development, and migration policies over the next 10 - 30 years. This monograph complements an earlier monograph, entitled, *A First Glance at China's 2010 Census: Urbanization and Regional Dynamics*;¹ accordingly presentation of data is limited, readers are encouraged to read the companion monograph in conjunction with this monograph.

The context and overall trends revealed by the 2010 census are discussed first, and then a series of policy implications are put forward for exploration by academics and policy makers.

Context/ Overall Trends

The 2010 Chinese national census indicates that:

1. The Chinese urban population is more likely to live in large metropolitan areas (over five million population) compared with global and regional norms. Over 60% of the Chinese urban population live in urban areas of over 5 million and this appears to be increasing. This compares with 22.7% (forecast to be 27.4% in 2025) in East Asia as a whole, and only 14.4% (forecast to be 17.2% in 2025) in Southeast Asia living in metropolitan areas larger than 5 million.²
2. Spatially, the Chinese urban system can best be described as a constellation system, not a corridor system. Demographic and economic growth emanates out from relatively free-standing large metropolitan areas, or sets of neighboring metropolitan systems (megapolitan areas).
3. Coastal China dominates the country regionally, its population is growing faster than all other regions, and this dominance of the coast is likely to continue. Economic dominance of the Coastal Region is even more pronounced than its demographic dominance.
4. China's urban system is hierarchically balanced, that is there are many very large, large, and secondary cities, with no one city primate. However, spatially there is much less

¹ Douglas Webster,¹ Cai Jianming, Wen Ting, and Larissa Muller, *A First Glance at China's 2010 Census: Urbanization and Regional Dynamics*, Cambridge Mass and Beijing: Lincoln Institute for Land Policy.

² East Asian and Southeast data is from the UN World Urbanization Prospects data base. This data base (the only such comprehensive urbanization global data base) separates East-Asia (essentially Northeast Asia, including China) and Southeast Asia. Source: United Nations, *World Urbanization Prospects: The 2011 Revision*: New York: Economic and Social Affairs Division, United Nations, 2012.

balance with all the largest megapolitan areas being along the coast (we include Beijing-Tianjin as a coastal urban system).

5. Nationally initiated regional development policies have more of an economic than demographic impact. Furthermore, national policies influence macro country-wide patterns more than intra-metropolitan and intra-megapolitan development where Municipal Governments are the dominant actor.

Although China's economy has grown at an astonishing rate over the last 30 years, and relatively rapid urbanization has occurred (the level of urbanization in China is now 53%³), the settlement system and regionalization of the country display considerable path dependency during this period. There have not been dramatic declines (relatively or absolutely) in the populations of regions that have experienced severe economic problems, e.g., the dramatic restructuring of the Northeast Region's economy in the 1990s.

What explains this relative strong inertia in China's spatial system? Part of the explanation is simply that overall population growth rates in China are trending downward (see Figure 1) meaning that GDP is a fast growing "pie" whereas the population "pie" is growing much slower. Given forces that favor *in situ* development in China, this relatively slow growing population is likely to remain region bound. Although China has a "floating population" of between 200 and 250 million, this is relatively small compared to the total population of the country, given that China has experienced one of the greatest economic booms in history over the last thirty years.

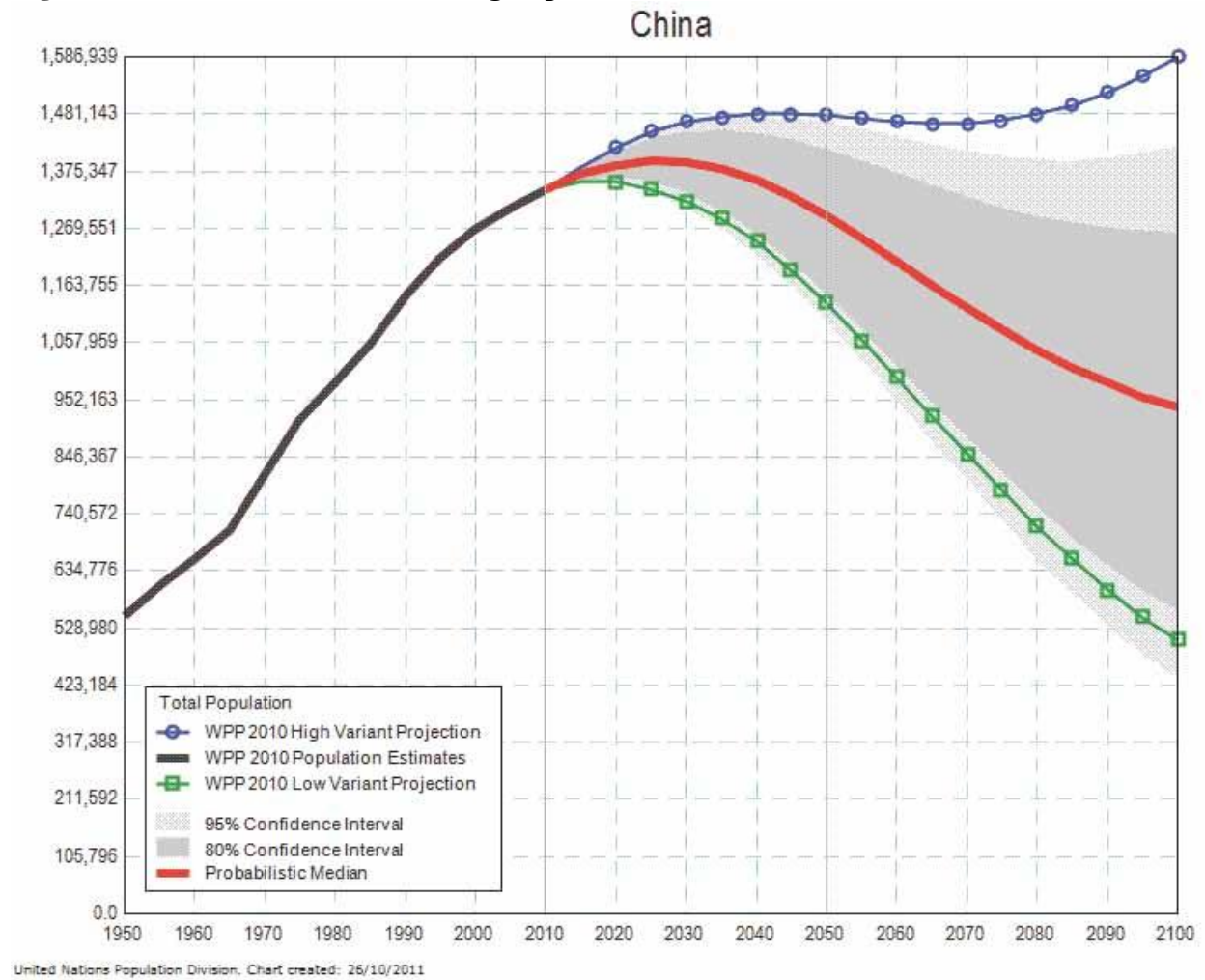
The policy frameworks of the national government, with the important exception of its strong advocacy of rapid urbanization since the Tenth National Development Plan,⁴ are biased toward *in situ* development:

1. Although the *hukou* (local registration) policy is becoming less influential in affecting people's behavior, it still acts as damper on migration.
2. Regional and national economic development policies, e.g., the 1990s restructuring of the State Owned Enterprises (SOEs), may encourage rapid and dramatic industrial restructuring (with significant short-term employment impacts, etc.) but the national government does not encourage, in fact, does not appear to accept, large scale regional demographic decline.

³ This figure is considered to be an undercount because the census count does not include the floating population, who have stayed in cities/towns less than 6 months.

⁴ Accelerated urbanization was first advocated in the Tenth Five Year Plan, i.e. since 2000, although the Ninth Five Year Plan was a benchmark in Chinese planning history, advocating the socialist market system and promotion of quality economic growth. National planning since the Ninth Plan has become more strategic, rather than a set of concrete targets as before. As a result of this change in orientation, the national developmental planning horizon is now 15 years. In this sense, the Ninth Five Year Plan planted the seed for advocating urbanization in China, as its vision that China would become a fairly well-off country, implied the necessity of rapid urbanization (China's GDP more than doubled from 1980 – 2000). The Eleventh Five Year Plan emphasized New Countryside Development, ***while the current Twelfth Five-Year Plan focuses on quality urbanization.***

Figure 1: China's Forecast Shrinking Population



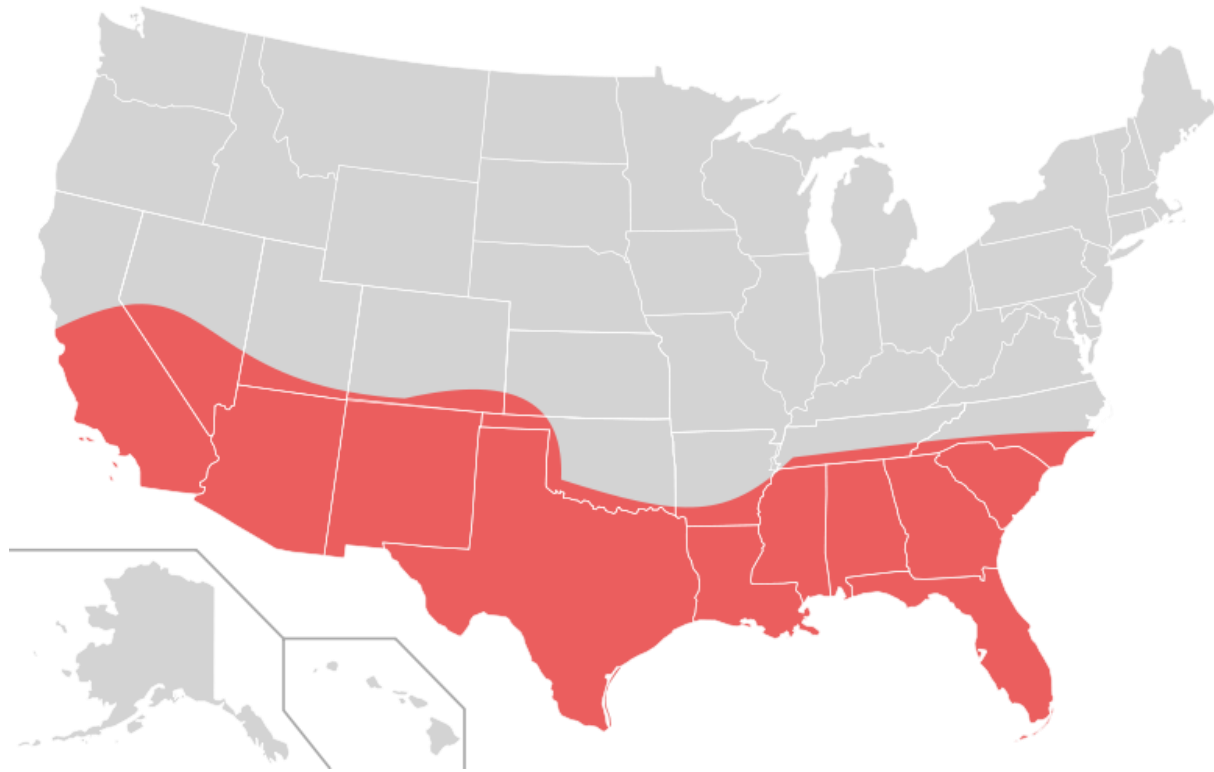
- This contrasts sharply with Western spatial policies, particularly in North America (United States, Canada) where governments accept out-migration of people and capital from depressed regions as a means to deal with economic restructuring. Table 1 describes the massive inter-regional shift in the U.S. population from 1930 to the present, with the industrial belt Midwest declining from 31% of the U.S. population to 28% in 1970 and 22% in 2010. The Northeast, the traditional center of politics and knowledge in the U.S. declined from 28% of the population in 1930 to 24% in 1970, and 22% in 2010. Meanwhile, the proportion of the South and West regions of the United States population rose from 41% in 1930 to 48% in 1970, and 60% in 2010. Using a different regionalization, an amenity climate definition of the U.S. Sunbelt (see Map 1), this region in 2010 accounted for 42% of the U.S. population, compared with 23% in 1930 and 31% in 1970.

Table 1: Regional Population Shifts in the US: 1930-2010

	1930		1970		2010	
	Population	% of US	Population	% of US	Population	% of US
Northeast	34,427,091	28.0%	49,040,703	24.1%	55,317,240	17.9%
Midwest	38,594,100	31.4%	56,571,663	27.8%	66,927,001	21.7%
South	37,857,633	30.8%	62,795,367	30.9%	114,555,744	37.1%
West	12,323,836	10.0%	34,804,193	17.1%	71,945,553	23.3%
Total of Regions	123,202,660	100.3%	203,211,926	100.0%	308,745,538	100.0%

Source: U.S. Census Data, compiled by Larissa Muller

Map 1: The United States Amenity Sunbelt



Source: “The Sun Belt region of the United States, © User: Derfel73; User: Theshibboleth. Used under a Creative Commons Attribution: ShareAlike license.

4. Past (and continuing to some extent) provincial (and even municipal) scale protectionism in China in regard to the movement of goods across administrative jurisdictions has resulted in a poorly integrated national economy. Protectionism reinforces the dominance of large cities, and the smaller cities in their orbit within the same province. This also affects investment. For example, a province, such as Jiangsu, in encouraging low value added or polluting industry to relocate out of major affluent

cities, will still often encourage the firms to move to a more remote location within the same province.

5. Related to the foregoing, China developed its nation-wide expressway system relatively recently (although it is now commensurate in route length with the interstate highway system in the United States); the lack of a national expressway system previously represented a damper on the movement of goods and people. The current fragmented and expensive toll regimes for travel on China's national expressway system continue to act as a damper on surface flows, especially of private vehicles.
6. In addition, China's rough topography (less than one-third of the country can be classified as flat, suitable for cultivation and development), encourages strong large cities, but discourages development of the corridors between them.

Policy Issues and Implications

Is the Constellation System Effective?

Context

As described and explained in the companion monograph, the Chinese urban system is to a significant extent one of strong relatively free-standing metropolitan centers (or sometimes several neighboring metropolitan areas – megapolitan systems) emanating growth outwards from the dominant center(s) rather than corridor development as seen in the Coastal (East and West) and Midwestern United States or Western Europe. For example, the I-95 Corridor is the main street of the U.S. East Coast running from the Canadian border to Miami (and the busiest expressway in the United States) while the I-5 Corridor is the main street of the U.S. West Coast, running from the Canadian border to the Mexican border).⁵

However, the strength (in demographic and economic terms) of the hinterlands surrounding these dominant centers varies widely. For example, Beijing is a relatively “lonely” city with Tianjin being the only large urban systems in its orbit, whereas Shanghai has the wealthiest and most populated hinterland – the Yangtze Delta Region – with several major satellite cities, including Suzhou, Wuxi, Nanjing, Hangzhou and Ningbo. Similarly the Hong Kong – Shenzhen megapolis has a strong hinterland in the form of the Pearl River Delta, particularly Guangzhou-Foshan. In the West, Chengdu is surrounded by large vital satellite cities, e.g., Mianyang, Deyang and Leshan, whereas Chongqing can be grouped in the “lonely” category.

⁵ These expressways (and others in the U.S.) are literally national “mainstreets” and national communities. For example, they have their own websites: www.i5Highway.com and www.i95Highway.com.

The I-95 connects all the major metropolitan areas of the East Coast United States, e.g., Boston, New York, Philadelphia, Baltimore, Washington, Richmond, and Miami. The I-5 serves virtually all the large metropolitan areas of the West Coast United States (with a short connection to San Francisco), e.g., San Diego (connected to Tijuana, Mexico), Los Angeles, Sacramento, Portland, and Seattle (connected to Vancouver, Canada).

One would expect China to develop a more Corridor oriented urban settlement pattern now that most of its national expressway system has been completed. However, inefficient expressway toll pricing, and more importantly, the near completion of a national High Speed Rail (HSR) system are counter drivers. The HSR system represents a quantum change in surface transport of people, which reinforces existing nodes and works against corridor development because of the limited number of stops. Only China (and arguably Europe) has developed continental scale HSR Systems.

As indicated by data in the accompanying monograph, provinces without a major city (of national influence) effectively lack an economic growth pole and thus, as indicated by the 2010 census, tend to be growing slower demographically, reflecting slower economic growth. That is, the constellation system rewards Provinces and Regions with a dominant metropolis, while at the same time creating demographically slow growing “backwaters” within the country.

Discussion

We argue that the constellation system is effective, reflective of next generation transport technology. It creates nodality within the national settlement system, driving a national city system in which a higher percentage of people live in larger cities, and where a major portion of the second and third tier urban population lives within the hinterland of the dominant or constellation cities.

However, a case can be made for highly selective public intervention to strengthen a small number of aspiring cities in provinces or regions that suffer developmentally from the lack of a strong growth pole, e.g., Haidong city in the East of Qinghai Province. Haidong City will act as an important node in the development corridor from Lanzhou in Gansu to Xining in Qinghai. The urban settlement system is still a work in progress in frontier areas, e.g., Xinjiang, and thus is malleable in terms of development of new dominant cities. Intervention to create growth poles that would anchor constellations should respect market forces. Only cities of high potential from a market perspective should be identified and leveraged, essentially a hybrid (market and regional development objectives) form of selective settlement system intervention.

Should Coastal Dominance be Accepted?

Context

As indicated in the accompanying monograph, surprising to many, despite policy interventions to improve the developmental performance of non-coastal China (i.e., the West, Central, and Northeast Regions), the Coastal Region continues to increase its demographic dominance, growing faster than other regions. This reflects high levels of innovation, a shift to higher value economic activities, etc., in the Coastal Region, which creates millions of new jobs and attracts ambitious, upwardly mobile workers and entrepreneurs from across the country, who are in search of better career opportunities, better pay, richer markets, and better business networks. This is unlikely to change. Firstly, China has only one coast (unlike other continental-sized countries such as the United States, Canada, Australia, Russia, India), which essentially gives the

Chinese coast a monopoly geo-strategic advantage within the national system. Secondly, like coastal systems almost everywhere, China's coastal region is much more cosmopolitan than the country as a whole, benefiting from historical and contemporary easier access to global influences. Thirdly, constellations along the Chinese coast have reached a stage where they may be a self-perpetuating innovation systems. For example, although manufacturing is, and will continue to, shrink in terms of economic share in most coastal constellations, new higher value activities will replace it, building on the knowledge base / creative class that is in place.⁶ Virtually all very high value activities, such as high-order business, producer, knowledge, and cultural services are much more concentrated within the Chinese spatial system than manufacturing and retailing/personal services (which tends to correlate with the spatial distribution of purchasing power in China, as elsewhere). Thus the coast (including the Beijing – Tianjin constellation) is likely to increase its dominance in the Chinese national settlement / regional development system, just as has been the case of the coasts in the United States (particularly the West Coast). In China, this will occur, even if manufacturing is significantly shifted inland through a mix of market and policy initiatives and some manufacturing moves to other countries chasing lower costs. (Justin Lin, a former Chief Economist at the World Bank, estimates that as many as 85 million manufacturing jobs are at risk in China to move to other countries; of course, it is unlikely that many will actually be lost.⁷)

However, China's Coastal Region will not increase its dominance in a homogenous, across the board manner. Rather, there will be significant shifts in the demographic and economic importance of different constellations along the Chinese Coast. This process is already well underway. As indicated by the 2010 census, although the Pearl River Delta (PRD) remains the demographically fastest growing region of China, the gap, in terms of population growth rates, with the Yangtze River Delta is rapidly narrowing. As is common knowledge, the PRD has a vulnerable relatively low value ("factory of the world") economy that may or not be able to restructure sufficiently to enable it to retain its current high-ranking position in the Chinese economy, compared with the Yangtze River Delta, Beijing-Tianjin and other smaller constellations. Also, amenity factors will play a more significant role in driving the spatial distribution of high-end activities along China's coast, with high-amenity places, in terms of climate and urban livability, such as Qingdao, Hangzhou and Xiamen becoming increasingly attractive to creative talent, and eventually attracting retirees.⁸

⁶ An analogy is the Silicon Valley in California, the most innovative region in the United States. Its success is not based on one industry, but rather a cosmopolitan knowledge-based learning system that innovates economic clusters, sheds them, and moves on to another cluster. For example its economy has evolved through defense, integrated circuits, personal computers, and now the internet.

⁷ Source: "What a Waste: How India is Throwing Away the World's Biggest Economic Opportunity, London: *The Economist*, May 11 2013, pg. 12

Justin Lin is now Professor at Peking University.

⁸ The cosmopolitan megacity is an amenity in its own right in terms of the richness of experiences (food, shopping, entertainment, etc.) that are available. Creative talent are generally more attracted to urban amenities (hip places, e.g., New York City) than natural ones. As such, urban amenity is contributing to China's continued coastal dominance. That said, as discussed in this monograph, some second tier cities in China that have combined strong job growth with natural amenity (e.g., Chengdu compared with Chongqing) have performed quite well demographically, especially compared to the previous census period.

Discussion

China should accept the coastal dominance of the country as its most populated and economically sophisticated region, which will mean continued demographic dominance. This position is not inconsistent with strong policies to move manufacturing to the interior, and to leverage the development of selected second and third tier cities, as discussed in this monograph.

However, in accepting coastal dominance of the economy, policy makers will need to closely monitor shifts within the Coastal Region, adjusting investments, particularly for infrastructure, to align with the significant economic restructuring which is ongoing. The case of the PRD is of particular concern; it is possible it will require significant restructuring support, as occurred in the Northeast during the 1990s. The new PRD economy which is emerging is likely to display an altered spatial configuration with the less export dependent west side of the region, e.g., Shunde, performing better than the east side, e.g., Dongguan.

Need for New National Scale Hubs

Context

At present, Beijing, Shanghai and Guangzhou are the dominant Mainland hubs in terms of passenger flows, both air and inter-city rail, in China, acting as the gateways to different areas of China. Their dominance as transport hubs exceeds their population dominance, and even their economic dominance. This is because many of the passengers arriving in Beijing in particular are not visiting the city, but changing planes or trains there. This transport hub dominance is especially the case in aviation, but also in passenger rail (although to a somewhat lesser extent, e.g., emergence of Wuhan as an important hub on the HSR network). This situation is very different from the United States or Western Europe where several high-volume hubs exist, spread throughout these continental-sized systems. For example, in the United States, Atlanta, Chicago, Los Angeles, Dallas-Fort Worth, Denver and New York (ranked by passenger volumes) are all major hubs serving 50 million or more passengers per year. In Western Europe, London, Paris, Frankfurt, and Amsterdam (ranked by passenger volumes) are major airport and train hubs.

Discussion

If China were to develop a few (a maximum of three initially) additional “mega” transport hubs, it would relieve unnecessary congestion, particularly in Beijing. Wuhan and Chengdu would be leading candidates for new hubs because of their relatively central locations, possibly also Kunming (with its new airport about 60kms north of the city center), the latter to serve Southeast Asia and parts of the Indian subcontinent.

Growth of Second Cities / Accelerated *Sorting* of Metropolitan Regions

Context

The demand for world cities is very low – even a country as populated and economically powerful as China can support less than five metropolitan regions that play a key role on the world stage. (And even within global cities, most high-order global functions need occupy no more than two square kilometers of space).⁹ At the same time, as countries become more developed, demand for platforms for urban activity of a more routine nature grows rapidly. In the most economically developed countries, a sorting of metropolitan region functions occurs, whereby large metropolitan regions play understood differentiated economic roles, and attract talent and workers differentially. Highly creative, high talent attracting cities exhibit very high housing and living costs, whereas other cities play more of a “work horse” role, exhibiting lower housing and living costs. The high living costs of creative (including world) cities discourage in-migrants that are less capable of earning high salaries while the lack of cosmopolitanism of “workhorse” cities discourages in-migration of ambitious, career-oriented professionals, including highly talented creative individuals. This dynamic is most mature in the United States, and has been documented thoroughly in the work of Richard Florida.¹⁰

In China, a subset of secondary metropolitan areas (for example in the Yellow River Band, cited in the technical monograph, such as the Economic Zone of Ningxia and the Hohhot-Baotou-Erdos-Yulin Megapolitan Region), are emerging rapidly in demographic terms, many of them increasingly playing more specialized economic roles. For example, in the West, Chongqing’s economy is dominated by manufacturing, whereas Chengdu plays more of a knowledge and services role, although Chongqing is slower growing than Chengdu. In the Central Region, Zhengzhou has emerged as the fastest growing large metropolitan region, fueled by in-migrants to new manufacturing enterprises such as Foxconn. The national government has played a part in defining the profile and roles of secondary cities, e.g., discussing the location of major investments with leading multinational corporations and domestic investors, such as Intel, Foxconn, and Sinopec.

Discussion

As China’s economic restructuring continues at a fast-pace, there is need for realism in the aspirations of secondary cities, reflected in their vision statements, marketing, and investment choices. A mature continental-sized urban system requires only a very few world cities, and many more “work horse” cities. Furthermore, an efficient, productive, and innovative national urban system is one characterized by a wide variety of cities in terms of function.

At present, many, if not most, Chinese university graduates feel that to “make it”, they need to live in Beijing, Shanghai, Guangzhou, or a limited number of other high profile, coastal cities. In

⁹ As recognized by Singapore, who reversed their decision to decentralize service employment when they recognized their prime role was global in the 1990s. Now, Singapore is attempting to create a super CBD that incorporates high-end services, government, accommodation, hospitality and services.

¹⁰ Florida, R., *Who is Your City: How the Creative Economy is Making Where to Live the Most Important Decision of Your Life*. New York: Basic Books, 2009.

the future, it is likely that the population will sort themselves across the urban system to a much greater extent, many choosing secondary cities, such as Chengdu or Wuhan to pursue careers and as places to live because the overall urban package facing young “city shoppers” includes housing cost, cost-of-living, and increasingly amenity (climate, environmental quality, vitality, entertainment, etc.), as well as career opportunities. To many, second and even third tier cities will prove to offer a more attractive living package than China’s world cities. The working class in China already has understood this equation, and acted on it, accounting for a trend toward shorter migration, as more young workers increasingly prefer to migrate to the nearest large city, rather than China’s very largest metropolitan regions.¹¹

The policy implication of the foregoing is that secondary cities need to be made more attractive through appropriate investment, local governments need to develop realistic development and city building aspirations, reflected in their formal vision statements and strategies, based on their comparative and competitive advantage. There is a need for second and third tier cities to focus more on people-oriented development, not just economic infrastructure in these cities. Creating pleasant, safe living environments, urban amenities, etc., is important to change perceptions.

Nationally, there needs to be more awareness of the advantages of living in secondary metropolitan regions, and measures should be taken to increase the status of living in secondary cities. In terms of the latter, for example, secondary cities can be portrayed positively in movies and television series, e.g., “soap operas”. As in most economically developed countries, ranking of the most desirable places to live, could be helpful both in terms of improving quality of life and aiding consumer choices in deciding where to live.

The Emergence of Very Large Poor Metropolitan Regions

Context

In the past, the most populated cities in China, Beijing, Shanghai, and Guangzhou were also the richest; this remains the case. However, very large metropolitan regions are growing quickly demographically, attaining (or soon to attain) populations in excess of 10 million (city proper) that are much poorer, in household income terms, e.g., Zhengzhou and Hefei. In part, this rapid growth of poor large cities is the result of more regionalized migration in China, as indicated by the 2010 census, which reflects both changing preferences of migrants and investors chasing more available and less expensive labor, as well as other factors of production, such as reliable energy. (As the working age population in China declines from 2013 forward, the labor availability factor is more important than the cost factor in the case of large-scale manufacturing enterprises.) The national government has taken action to increase the profile and employment bases in these large poor cities, e.g., having Chongqing play a lead role in the “Go West” program, facilitating Foxconn’s move the Zhengzhou, and supporting Hefei as a key destination for the movement of industry inland (the Coastal Industrial Transfer/Relocation Demonstration Program). However, given the fact that these cities anchor highly populous hinterlands of low income households (almost 100 million people in the case of Zhengzhou in Henan Province) and have large numbers of poor households within the cities themselves, they will need substantial investment in *practical* facilities and services to avoid social tensions (and possible social unrest)

¹¹ “Changing Migration Patterns: Welcome Home, London: *The Economist*, February 12 2012, pp. 34-36

and to contribute to reducing inequity in household income across cities. Although it is forecast that the current large income gaps among large metropolitan regions will decline in terms of household income,¹² commensurate investment in public sector facilities and programs will be needed to ensure that both income gaps and service gaps are addressed.

Discussion

National and locally, it should be recognized that several of China's very largest cities are not elite cities, in fact, relative to the Coastal urban system, they are poor. Thus they should be the target of large scale practical investment needed to create and support efficient workhorse cities. Such investment would include affordable housing, health and education facilities, etc. Large, poor metropolitan regions could also serve as sites for experiments in *hukou* reform, given that their present social support systems are generally lower in cost (and benefits) than in the large cities (thus there is less fiscal risk), and the fact that in-migration to these cities is largely regional shields them from overwhelming national scale in-migration, as could occur in the case of cities such as Beijing. In fact, Chongqing is already experimenting with *hukou* reform to better integrate migrants into that relatively poor city. There is a need to truly integrate migrants into these poor cities as quickly as possible so that migrant children can be well-educated, migrants have access to credit for housing, etc.

Depopulating Interior China

Context

As indicated in the companion technical report, much of Interior China (see map 2), is hollowing out demographically, experiencing absolute population decline. This is especially true in the southern part of the Interior, i.e., along the Upper-middle Yangtze, relative to the north, along the Yellow River. This hollowing out is not surprising, paralleling the US experience over the same 2000-2010 period where most counties in the Interior of the country are experiencing absolute population decline, as indicated by map 3.¹³ The same pattern can be seen in Canada and much of interior Asia and Europe.

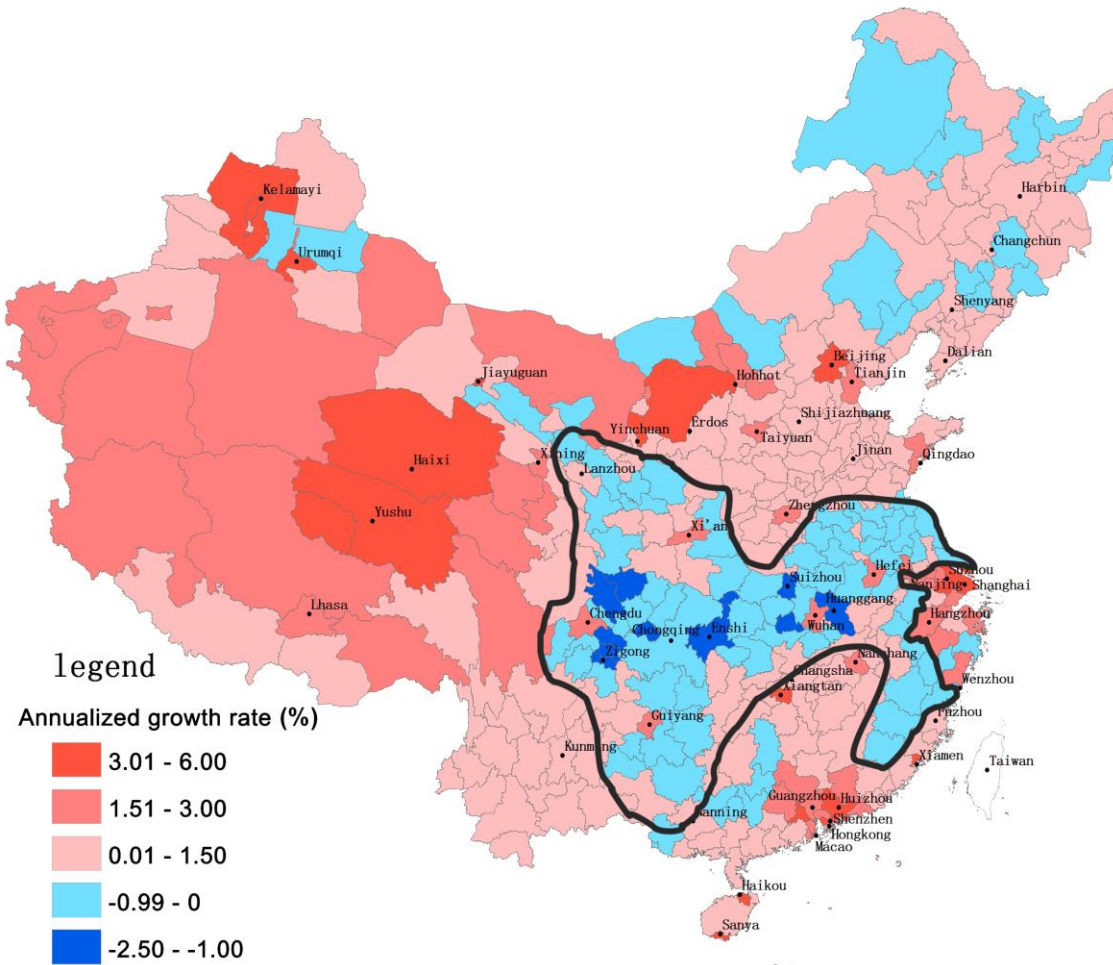
Discussion

The demographic hollowing out of Interior China should not be viewed as a major problem. However, as discussed in this monograph, there may be a case for one or more strengthened urban centers in the region to capture some of this ongoing outflow. To some extent this is already happening: Wuhan, Hefei, Xi'an and Zhengzhou are pockets of fast growth within this depopulating zone.

¹² "CHAMPS: China's Fastest Growing Cities", London: The Economist Intelligence Unit, 2010

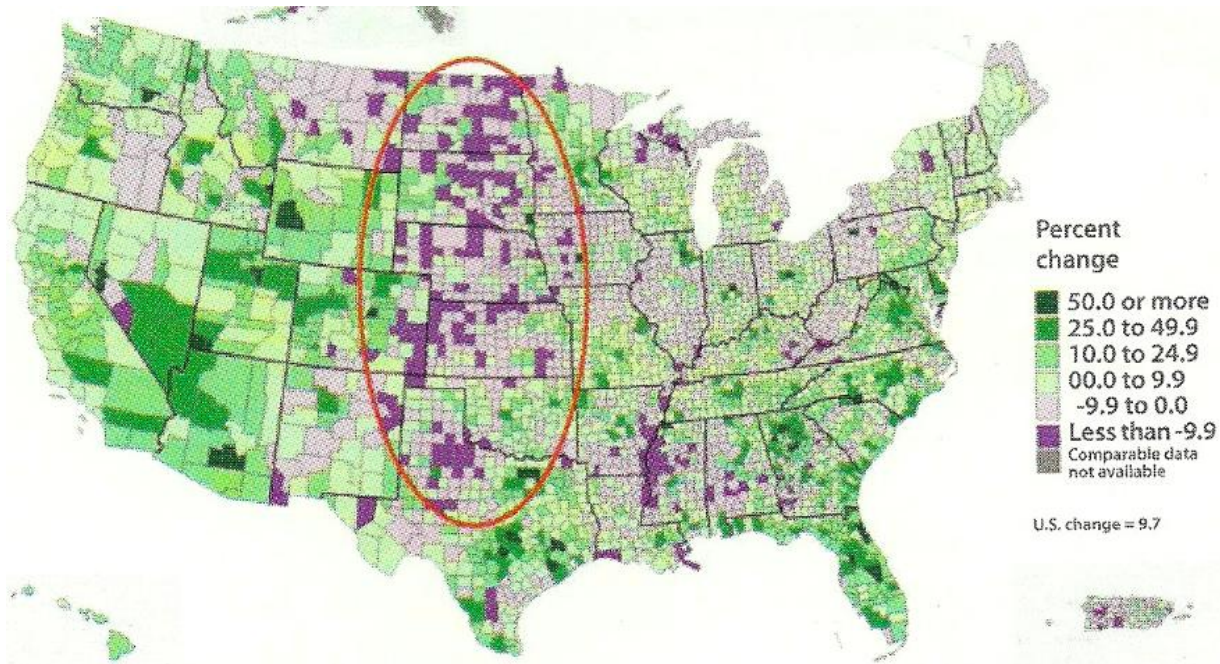
¹³ Williamson, C. and Moran, T., "Census 2010: Back to the Future: Good News and Not-So-Good News from the Decennial Count", *Journal of the American Planning Association*, July 2011, pp. 26 –

Map 2: The Hollowing Out of Interior China



Note: Bold Line Indicates Zone of Population Decline.

Map 3: Percentage Change in US Population by County



Source: US Census Data, compiled by Christopher Williamson and Timothy Doran

Amenity – What Role?

Context

Amenity refers to the attractiveness of natural and human-made environments, both urban and rural. Urban amenity can be simply defined as the attractiveness of a city.¹⁴ Almost invariably, worldwide, as populations become wealthier and better educated, they value amenity higher, driving amenity migration, tourism in attractive areas, purchase of second homes in such environments, etc. To date, there is no evidence of large-scale amenity migration in China to areas of natural amenity. Rather, to the extent amenity is a factor in Chinese migration and shaping the settlement system, it is the urban - amenity pull that has been most important. Middle class and affluent Chinese households are increasingly attracted to environments offering a richness, sophistication and range of experiences – food, shopping, entertainment, special events, lifestyle choices – features that typically are available only in the largest and most cosmopolitan cities in China.

However, there are initial signs of growing value being placed on other types of amenity – distinctive lifestyles, warmer climes, good environmental quality, historical and natural attractions (e.g., beaches, mountains). For example, locations that combine a reasonably strong, diversified economy with amenity outperform their economic peers, e.g., Qingdao, Xiamen. Much of Chengdu’s superior economic performance, relative to nearby Chongqing, appears to be

¹⁴ This includes a city’s climate, environmental quality, urban design, cuisine, vitality, entertainment, public facilities, formal and informal culture.

attributable to amenity factors. (High-end services and higher value MNCs prefer to locate in Chengdu.)

Amenity migration to areas with less diverse economies, but strong amenity qualities is beginning to emerge in China. Hainan Province, and Sanya District in particular, pioneered tourism driven regional economic development. Now, amenity migration beyond being a tourist or serving tourists is starting to take off. For example, second home purchases are increasing in amenity areas, e.g., Lijiang. The phenomenon of pioneer amenity migrants, particularly to Yunnan Province is being picked up on Chinese social media,¹⁵ as well as in the Western media. *Bloomberg Businessweek* recently published an article on amenity migrants to Yunnan (mainly from Beijing and Shanghai),¹⁶ and property developers following them, e.g., Lijiang Derun Real Estate is investing \$161 million USD to build 400 high-end villas for amenity migrants in Lijiang. The chief motivation of Chinese amenity migrants to distinctive, often remote areas, such as south-western China, is work stress and pollution in the large cities; the chief drawback noted is the poor quality of schools in places such as Lijiang.

Discussion

The national government needs to understand that amenity factors could substantially drive large-scale migration in China in the future, creating a situation of very fast growing and stagnant cities existing concurrently; as has been the case in the United States for several decades. Part of this movement could be migration of increasingly affluent retirees to amenity regions as China ages. Another factor will be the fact that China's young are increasingly individualistic (as indicated by several polls, e.g., Pew and Gallup) and thus will be more likely to seek out amenity in their cross-city locational decision-making, respecting obligations to the extended family less.

At the local level, local officials need to better understand that the quality of life in a city is a very important driver of economic growth. To date, local officials have focused on manufacturing, GDP growth, and housing construction, responding to the incentive system they face for promotion. Attracting talented people drives development as much as attracting investors; and talent will be increasingly sensitive to urban amenity.

The current hukou system, whereby benefits, such as health and pensions, are tied to residence, discourages retiree migration. However, to the extent that there is *hukou* reform and social safety net programs become increasingly national in scale (as is being recommended by experts, e.g., the World Bank), retiree amenity migration is likely to increase.

A Future of Shrinking Cities

¹⁵ An account of a Beijing husband and wife's decision to leave Beijing and move to Lijiang was one of the top posts on Sina Weibo, China's micro-blogging site, in late February.

¹⁶ Roberts, Dexter, Stressed Chinese Head for the Hills, *Bloomberg Businessweek*, May 6 -12 2013, pp 12-14

Context

Although not yet discussed widely, China's population will peak shortly (see figure 1); with China currently being 53% urbanized, the rural-urban transition in China is now more than 50% complete. Urban population decline, as a wide spread phenomenon, will occur first in the cities of the Northeast and many urban centers of the Interior Region. However, McKinsey indicates that even Beijing will be shrinking demographically by 2040.¹⁷ This urban shrinkage will contribute to an increased differentiation in urban growth rates across cities, as is now occurring in Eastern Europe and Japan. Furthermore, it will end the current housing affordability crisis in leading cities, with only children inheriting as many as five housing units.

Discussion

Because the majority of China's cities will be shrinking demographically by mid-century, large-scale urban investments need to be undertaken with caution from now (2013) forward. For example, leap-frog development, often associated with ring road development, should be avoided, as future growth may not be realized to fill in gaps in the urban fabric. Urban transport investment in many cases should involve investment in increased efficiency rather than new routes. For example, capacity can be added to subway routes through adding more rolling stock and improving automated signaling / operating systems, rather than building new routes. At the national scale, overinvesting in national infrastructure is a risk, such as high speed rail along less popular routes, airports in smaller cities, etc. Instead, national authorities should be looking for opportunities to share/consolidate infrastructure among cities, based on informed forecasts of the likely demographic – spatial future of the Chinese urban system.

As noted, the end of demographic growth in China means that metropolitan regions will need to compete more skillfully and aggressively for population, thus amenity will be more important. In terms of function, smaller cities do not necessarily mean lessened functional importance. High-amenity smaller cities populated by highly educated creative people can play important roles, including global roles in some cases. For example, Frankfurt, Germany (city: 704,000 in 2012; metropolitan area: 2.3 million) is very small by international standards, but is a global financial and aviation center.

Conclusions and Recommendations

Based on the foregoing rapid assessment, our conclusions and recommendations are as follows:

1. China's constellation urban system, although a product of the past, is consistent with next generation, HSR influenced, urban systems. It should not be regarded as inferior to corridor-based systems, but as a developmental asset that capitalizes on nodality.

¹⁷ *CHAMPS: China's Fastest-growing Cities*, London: Economist Intelligence Unit, 2011, p 9 (Report: Access China Service)

However, to the extent that there are gaps in the system, both in frontier areas, such as Xinjiang, and in certain key provinces lacking a growth pole, there should be selective urban strengthening to create new urban poles, if consistent with market forces.

2. As a major open global economic power, China needs very large cities to interact with the world. The current and forecast future dominance of China's urban system by very large metropolitan, and megapolitan, regions (relative to much of the world, including Southeast Asia) is an asset. Furthermore, large metropolitan regions are potentially much more resource conserving and sustainable than smaller cities,¹⁸ thus China's urban system rank-size pattern represents an excellent platform to achieve increased urban sustainability.
3. China's national government can do a better job of aligning investment to national economic restructuring and spatial priorities. For example, large cities in the interior identified as industrial relocation sites require additional technical assistance and investment in practical infrastructure. On the other hand, wasteful investment should be avoided, e.g., extension of the HSR system to far reaches of western China.¹⁹ Investment should be spatially targeted to areas of rapid population growth, particularly poor cities; and areas of rapid economic restructuring, and to connecting city-pairs with the most traffic (passenger and freight).
4. Conversely, where heavy investment is made, e.g., flood protection for large areas, population and private sector investment should be encouraged in such areas, to effect a higher return on the investment. For example, if Binhai is flood-proofed (against rising sea level), high investment within the flood protected area should be encouraged to amortize the investment.²⁰ Areas near HSR stations represent very high accessibility environments (among the most accessible in the world) and so should be developed accordingly. (The Hongqiao transportation hub development in Shanghai is an excellent illustration of application of this principle.)
5. China's national and local governments, and its private sector, should prepare itself for somewhat less path dependency in its spatial system. Breaks from past patterns could occur quickly given that China is undergoing its most dramatic economic restructuring since the 1980s, has a rapidly changing demographic structure (with working age shrinkage underway and overall shrinkage on the horizon), and is experiencing rapid change in personal values which will fuel amenity migration. The shift toward high-order services and a creative economy will result in increased concentration of high-order economic activity in constellations along the coast (including Beijing), while increased importance of amenity will favor the south and southwest regions of the country. Urban population shrinkage will result in some cities experiencing fast demographic decline. Combined with the fact that the urban population of the northeast is the oldest demographically in China, and that much of the Central Region is already losing population in absolute terms will lead to a future settlement pattern that will be characterized by:

¹⁸ Because of higher densities, increased nodality driven by high ridership transit, more fiscal resources, lower unit infrastructure costs, less conversion of surrounding farmland per population unit increment, etc.

¹⁹ Japan "wasted" much public investment by not aligning large-scale investment to its economic restructuring, e.g., "building bridges to nowhere".

²⁰ This is analogous to the Transit Oriented Development (TOD) rationale. In the TOD case, high densities and investment are encouraged at transit stops, to amortize the investment.

- Shrinking urban populations in the northeast and small cities of the Central Region,
 - Continued demographic dominance of the Coast and enhanced dominance in terms of the high-end creative economy
 - Growth of several very large metropolitan regions in the West and Interior based on relocation of the factory of the world, e.g., Hefei, Zhengzhou, Chongqing, and Wuhan.
 - Emergence of new transport hubs that compete with Beijing and Shanghai, probably Wuhan; possibly Chengdu and/or Kunming.
 - Shift of population to urban centers that are more livable than competitor cities and to regions of high scenic and/or climatic amenity, e.g., Hainan (sub-tropical, beaches), Sichuan and Yunnan (mountainous areas), the south-west coast (climate), etc. For cultural reasons, we expect amenity migration to be more urban-focused in China than in the West, where rural or “rurban” regions, e.g., Provence, Napa Valley are very important amenity migration and investment destinations.
6. Given that China’s urban system appears on the verge of exhibiting less path dependency than it has in the past, the national government may wish to lessen, but not abandon, its emphasis on *in situ* regional development. For example, some demographic decline in many cities of the Northeast and Central Region should be accepted. Urban demographic decline is not necessarily correlated with economic decline. Different economic activities are increasingly becoming more differentiated in terms of labor intensiveness. In particular, manufacturing will become much less labor intensive with the introduction of robots and other productivity improvements; thus some manufacturing regions may become wealthier, while at the same time losing population.
 7. There is a need to define China’s official megapolitan regions (see map 5 in, *A First Glance at China’s 2010 Census: Urbanization and Regional Dynamics*) more realistically. Currently most are too large, not corresponding to actual interaction (flows) on the ground. For example, Chengdu – Chongqing have relatively little interaction, in fact they are competitors. Beijing and Tianjin are highly inter-related, as are Shenyang and Dalian, but the larger Bohai Megapolitan Region in which both pairs are officially located is unrealistically large.
