

Guest editors' introduction to “urbanization and spatial development of China”

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China's dramatic economic growth and increasing integration into the world economy over the past 40 years has stimulated much academic research. Tremendous changes in institutions and regional variations allow a dramatic backdrop for topics to be analyzed using the approaches of regional science, and regional, urban and spatial economics. A focus on regional and local issues is likely to provide academe with special insights for several reasons. First, China is an enormous country of over 1.3 billion people in the process of fast urbanization, where the spatial structure of economic activities is particularly important. China's population is now 56% urban, over three times the 16 percent share that was urban in 1960.¹ The process of urbanization in China usually involves the migration of a huge population from rural to urban areas often separated by very long distances, i.e., from the western provinces to coastal regions like the Yangtze River Delta and Pearl River Delta. Second, regions in China differ in their stages of development as well as business environment and institutional background. That is to say, during urbanization migrants not only benefit from higher wages in non-agricultural sectors but also from their unique experiences in coastal regions. Third, there also exist policy barriers to migration during China's urbaniza-

¹ Current data is for 2015 and is taken from the World Bank, World Development Indicators web-sites <http://data.worldbank.org/indicator/SP.POP.TOTL?locations=CN> and <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>. Accessed February 1, 2017.

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tion process, among which the *hukou* system is the most important one. Governments in mega cities such as Beijing and Shanghai have been controlling their population size through the *hukou* system, i.e., those without local *hukou* have limited access to local public services such as children's education. Last, China's energy production and consumption heavily relies on coal, a major source of air pollution and carbon emissions. Coal burning for home heating, manufacturing and energy production are the norm; for example, in 2013 over 75% of electricity production came from coal.² The propensity to use coal, along with rapid and uneven economic growth, has led to regional disparities in China's environmental quality for air and water (Zheng and Kahn 2013). Altogether, the economic and social milieu of China provides us with unique opportunities to examine research questions in regional, urban and spatial economics.

In order to increase the visibility of regional science, regional economics, urban economics, and spatial economics in China and to develop a stronger research network for top-level Chinese scholars, the international workshop on "Regional, Urban, and Spatial Economics in China" has been sponsored by scholars and journal editors every year from 2012. The 3rd workshop (RUSE-3) was hosted by the China Center for Economic Studies at Fudan University in 2014 with *Annals of Regional Science*, *Journal of Regional Science* and *Papers in Regional Science* as organizers. Nearly 50 papers were presented during the workshop, and finally four papers were included in this Special Issue after submission and the usual double-blind peer-review process. The four papers all try to answer important research questions in the context of the Chinese economy and help us better understand China's urbanization and industrialization in multiple dimensions based on individual, firm-level or regional data.

Given the fact that urbanization involves rural-to-urban migrants of about 20% of the total population (in 2014), researchers have studied the consequences of migration using measures such as happiness or consumption (Knight and Gunatilaka 2010; Chen et al. 2015). In this Special Issue, the paper "Lose to Win: Entrepreneurship of Returned Migrants in China" by Li Yu, Xundong Yin, Xiang Zheng and Wenwei Li, investigates the impact of migration on migrants' entrepreneurship after they returned back to their original home location. The authors take advantage of the multidimensional heterogeneity in China's urbanization. They compared return migrants who worked within their home province to out-of-province migrants as well as to return migrants in eastern, middle and western regions. The authors speculate that return migrants who worked in a province other than their home province might gain new social networks, human capital and financial capital, which may enable them to enter entrepreneurship more easily. The authors do find empirical evidence of the entrepreneur effect, and it is statistically significant mostly in the eastern regions, where return migrants accumulated more human capital and social capital and have more self-financed funds.

China's economic growth and industrialization have caused quite serious pollution problems which continue to draw research attention from environmental and urban economists (Zheng and Kahn 2013). Empirical evidence shows environmental regulation or policies may induce unintended consequences due to local governors'

² From the World Bank, World Development Indicators website, <http://data.worldbank.org/indicator/EG.ELC.COAL.ZS>. Accessed February 1, 2017.

promotion incentives as well as economic geography (Cai et al. 2015; Kahn and Zhao 2015; Chen et al. 2016). The Special Issue paper "Air Pollution, Economic Spillovers and Urban Growth in China" by Daxuan Zhao and Tien Foo Sing, tries to identify the interactive effects of air pollution and economic spillovers in Chinese cities. They take into account factors such as provincial administrative boundaries and wind direction to disentangle the effect of air pollution emissions and economic spillovers across cities. They find negative air pollution externalities as well as positive growth spillovers from neighboring cities. A policy implication may be for more regional coordination, that is Chinese cities could benefit from spatial economic spillovers by coordinating economic policies with neighboring cities.

If negative air pollution externalities exist as suggested by Daxuan Zhao and Tien Foo Sing's paper, then one city's energy efficiency improvement will not only decrease its own pollution but could also hasten its neighboring cities' development. A related paper "Energy Efficiency in the Chinese Provinces: A Fixed Effects Stochastic Frontier-Spatial Durbin Error Panel Analysis" by Lei Jiang, Henk Folmer, Minhe Ji and Jianjun Tang, investigates the energy efficiency improvements of Chinese provinces. The authors find that on average energy efficiency increased during the time period 2003–2011, but with heterogeneous performance by different regions. Coastal regions in the east outperform western regions in energy efficiency improvements. According to their analysis on the determinants of energy efficiency, coastal regions' outperforming could be explained by their higher per capita income, more foreign direct investment, higher population density and lower share of state-owned enterprises (SOEs) in the own province and their neighbors. The findings imply the importance of further reform and opening up in order to ensure to a cleaner China.

The last paper "What Sustains Larger Firms? Evidence from Chinese Manufacturing Industries" by Canfei He, Qi Guo and David Rigby, investigates the determinants of the survival of large firms in China 1998–2005 using global, regional and local perspectives. Large firms—defined by the authors as firms with annual sales revenues greater than 5 Million RMB—are particularly important to China's economy in that they produce over 90% of gross industrial product. The authors focus on three types of firms, SOEs, private firms and foreign-owned firms, and examine the relative roles of institutional and geographical factors on large firm "sustaining" (surviving with annual sales above 5 million RMB) in the context of China's regionally decentralized authoritarian (RDA) system. Results show that market-oriented institutions and market potentials are crucial to the survival of large businesses in China, especially for private and foreign firms at the provincial level. Agglomeration economies and local government support at the prefecture (city) level are found to increase the survival of large firms in the overall sample, but have no effects on the SOEs when SOEs are examined separately. The authors' work provides insight into the workings of a transitional economy, where firms face both intensive market competition and institutional uncertainties and government not only creates pro-business regimes but also directly supports businesses.

In summary, this special issue contributes to our understanding of the urbanization and spatial development of China using regional science perspectives. These papers can be viewed as a hint of what is to come: There are many more issues about China waiting examination by urban, regional and spatial economists.

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