# China's Regional Development

## Review and prospect

Edited by
Ming Lu, Zhao Chen, Xiwei Zhu, and
Xianxiang Xu

经典中国国际出版工程
China Classics International

ROUTLEDGE

# China's Regional Development

## Review and prospect

**Edited by**
**Ming Lu, Zhao Chen, Xiwei Zhu, and Xianxiang Xu**

常州大学山书馆
藏书章

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2013
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

© 2013 Truth & Wisdom Press
Translated from the Chinese version

The right of Ming Lu, Zhao Chen, Xiwei Zhu and Xianxiang Xu to be identified as the authors of the editorial material, and of the contributors for the individual chapters, has been asserted by them in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

*Trademark notice*: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

*British Library Cataloguing in Publication Data*
A catalogue record for this book is available from the British Library

*Library of Congress Cataloging in Publication Data*
[Zhongguo qu yu jing ji fa zhan. English] China's regional development : review and prospect / edited by Ming Lu, Zhao Chen, Xiwei Zhu, and Xianxiang Xu.
pages cm
Translation of: Zhongguo qu yu jing ji fa zhan. Shanghai : Ge zhi chu ban she : Shanghai ren min chu ban she, 2011.
Includes bibliographical references and index.
1. China—Economic conditions—1976-2000. 2. China—Economic conditions—2000- 3. China—Economic conditions—1976-2000—Regional disparities. 4. China—Economic conditions—2000—Regional disparities.
I. Lu, Ming, editor of compilation.
HC427.92.Z47844813 2013
338.951—dc23 2012051467

ISBN: 978-0-415-52470-4 (hbk)
ISBN: 978-0-203-75810-6 (ebk)

Typeset in Times New Roman
by Cenveo Publisher Services

Printed and bound in Great Britain by
TJ International Ltd, Padstow, Cornwall

# China's Regional Development

China is a large developing economy and it has been deeply involved in globalization since its economic reform and opening-up. Simultaneously, China has seen a significant change in the spatial distribution of economic resources, especially capital and labor. In the past 10 years, economists have made significant progress in both theoretical and empirical studies on related topics.

The book provides an overview of the existing literature and current policy debates on what we have known and what we have misunderstood. It includes an analytical framework of the *New Economic Geography* with political economy to help us understand China's regional development issues. The book of 10 chapters is organized into four thematic sections. Part One is a theoretical discussion on the relationship between economic agglomeration and interregional balanced development. Part Two is a political economy analysis on regional and urban–rural development. Part Three provides a summary on empirical literatures concerning market segmentation and institutional barriers that constrain production factors, including capital, labor, and land use rights, from being reallocated across regions. Part Four consists of four empirical chapters on the relationship between agglomeration and balance, which is the core of relevant policy debates.

The book is a valuable reference for readers who are interested in spatial economics and the Chinese economy, especially China's regional and urban development.

**Ming Lu** is Professor of Economics Shanghai Jiao Tong University and at Fudan University, China. He is also a Research Fellow of Peking University-Lincoln Institute and Hitotsubashi University. He has consulted for the World Bank and Asian Development Bank. He has a Ph.D. in Economics from Fudan University. His recent research covers labor economics (income distribution and migration), regional and urban economics (urbanization and regional development), and social economics (social network and economic development).

**Zhao Chen** is Professor of Economics and Deputy Director of the China Centre for Economic Studies at Fudan University, China. His recent research covers development economics (urbanization, migration, income inequality), industrial economics (industry policy, FDI, outward FDI), and political economy (political connections).

**Xiwei Zhu** is Associate Professor of Economics at the Center for Research of Private Economy, Zhejiang University, China. He obtained his Ph.D. in economics from Zhejiang University in 2005. Currently, his main research interests are new economic geography, industrial organization, and international trade.

**Xianxiang Xu** is Professor of Economics and Chair of the Economics Department at Sun Yat-sen University, China. His recent research covers economic growth and the political elite.

# Figures


| | | |
|---|---|---|
| 1.1 | Dispersion forces, agglomeration forces, and transportation costs | 7 |
| 1.2 | Regional gap and transportation costs | 8 |
| 1.3 | The HHI for mainland China regional gross product and gross industry output value by province (1978–2009) | 20 |
| 1.4 | Cross-country comparisons of *per capita* GDP and degree of economic agglomeration | 24 |
| 1.5 | Policy regulations and changes in the interregional gap | 28 |
| 2.1 | Number of papers concerning regional development | 42 |
| 2.2 | Economic growth of the 29 Chinese provinces, autonomous regions, and municipalities from 1978 to 2008; (a) Real GDP (hundred million yuan). (b) Real GDP *per capita* (yuan) | 47 |
| 2.3 | Economic growth of Chinese provinces in global context. (a) 1979–2008 average annual gross product growth rate. (b) 1979–2008 average annual *per capita* gross product growth rate | 48 |
| 2.4 | Economic disparities of Chinese provinces (1978–2008) | 50 |
| 2.5 | Each province's ratio of interprovincial trade (1985–2007) | 51 |
| 2.6 | International comparisons of Guangdong and Zhejiang's economic take-off | 54 |
| 3.1 | Cross-country comparisons of economic development and level of urbanization | 93 |
| 3.2 | China's level of industrialization and urbanization (1980–2009) | 94 |
| 3.3 | Historical industrialization and urbanization levels for various countries. (a) Russia, (b) Brazil, (c) Mexico, (d) South Korea, (e) Bangladesh and (f) India | 96 |
| 3.4 | The impact mechanism of Hukou on individual trust | 104 |
| 3.5 | The change in food production and primary industries' value-added since "reform and opening" | 106 |
| 3.6 | Chinese urban–rural *per capita* income ratio (1981–2009) | 107 |
| 3.7 | Contribution of urban–rural disparities to regional disparities | 108 |
| 4.1 | 1995–2000 Main direction and flow of interprovincial migration | 145 |
| 4.2 | Growth of university graduate ratio (1982–2000). X-axis: 1982 university graduate ratio; Y-axis: 2000 university graduate ratio-1982 university graduate ratio | 154 |


此为试读,需要完整PDF请访问: www.ertongbook.com

4.3 Urban population growth (1982–2000). X-axis: (a) 1982 urban university graduate ratio (%); (b) log (1982 population (in millions) +1); Y-axis: log (1982–2000 population growth (in millions) +1) 156
5.1 Foreign trade in China's three economic regions between 1978 and 2008, in 100 million US dollars ($US) 171
5.2 Regional trade of different types in China's three main regions between 2002 and 2008, in 100 million $US 173
5.3 Exports of China's three regions over HS 2-digit products in 2008, in 100 million dollars 174
5.4 Export proportions of foreign enterprise in China's three economic regions from 1992 to 2008 175
5.5 June 2003 to June 2005 Chinese exports, interprovincial trade and intraprovincial trade 188
5.6 2003–2005 Foreign exports and interprovincial outflow proportion of Chinese regions 189
6.1 Fixed asset investment and transportation, warehousing, and postal investment proportion of China's GDP 216
6.2 Transportation infrastructure investment proportion of GDP: China, India, and US 216
6.3 Transportation, warehousing and postal new facility investment and upgrade investment proportion of GDP 217
6.4 Road, railway and waterway length (log values) 217
7.1 Provincial distribution of total Chinese manufacturing output value (2008) 242
7.2 Proportion of total textiles output value by province (1980 and 2008) 248
7.3 Proportion of total electronics and communications equipment output value by province (1980 and 2008) 249
7.4 Proportion of total ferrous metals metallurgy output value by province (1980 and 2008) 250
7.5 Proportion of total transportation equipment output value by province (1980 and 2008) 251
7.6 Trend in the Gini coefficient of Chinese manufacturing (1990–2008) 253
7.7 Trend in geographical agglomeration of different industries (1980–2008). (a) labor intensive industries; (b) resource intensive industries; (c) capital and technology intensive industries 255
7.8 Distribution of Chinese manufacturing output value by province (1980) 258
8.1 Evolution of eight regions' industry share (1998–2007) 269
8.2 Evolution of the seven most agglomerated provinces' industry share (1998–2007) 271
8.3 Trend of interprovincial *per capita* GDP coefficient from 1978 to 2008 274

8.4 Each industry's contribution to the interprovincial *per capita* GDP Gini coefficient (1978–2008) 274
8.5 Structural dissection of 31-province *per capita* GDP Gini coefficient changes from 1978 to 2008 275
8.6 Endogenous mechanism for large geographical scale industry agglomeration 277
9.1 Spatial distribution of Beijing commodity housing projects 314
9.2 Lines showing spatial distribution of Beijing commodity housing prices 315
9.3 Spatial distribution of Chengdu commodity housing prices 316
9.4 Price distribution curve of Chengdu commodity housing projects 317
9.5 Spatial distribution curve for an average area of Chengdu newly constructed commodity housing units 318
9.6 Spatial distribution of Beijing land sales 319
9.7 Spatial distribution curve of Beijing land sale prices 320
9.8 Spatial distribution curve of Beijing land sales floor-to-area ratio 320
9.9 Three-dimensional distribution graphs of population density in major world cities 322
9.10 Two-dimensional distribution graph of population density in major cities 323
9.11 Contour line graph of Beijing land price spatial distribution 328
9.12 Three-dimensional Beijing land price simulation graph 329
9.13 2001 and 2004 Beijing urban districts employment population distribution graph 331
9.14 Graphs on employment density changes along certain Tiananmen directions. (a) 2001, (b) 2004 332
9.15 Subcenter size and firm costs 333
9.16 Residential and employment clustering area analysis. (a) Employment location. (b) Residence location. (c) Residential—employment agglomeration area difference analysis 335
9.17 Theoretical analysis framework for the determining mechanisms of commuting time 343
9.18 Residence distribution of Zhongguancun employee sample 344
9.19 Interactive relationship between urban land use and transportation system 353
9.20 Graph of spatial distribution of residential communities 356
9.21 Relationship between private vehicle velocity and energy consumption per unit distance 357
9.22 Paths through which land use and transportation produce environmental impact 359
9.23 Conceptual framework of integrated studies on land use, transportation, and the environment 360

10.1 Categories of transfer 377
10.2 Historical transfer and proportion 378
10.3 2002 County and county-level municipality transfer (billion RMB) 382
10.4 County level *per capita* fiscal expenditures Lorenz curve 383
10.5 Lag and cumulative effect of national and western region transfer 388
10.6 Trends in Chinese market segmentation 389
10.7 Number of governmental bureaucrats (per 10,000 people) 393
10.8 Number of people sustained by fiscal budget and fiscal transfer (2005) 394

# Tables


| | | |
|---|---|---|
| 1.1 | Spatial Gini coefficient distribution of 18 major industries in mainland China | 21 |
| 1.2 | Chinese industry spatial concentration comparison with developed countries | 22 |
| 1.3 | Population distribution of cities with over 100,000 population in 142 countries in 2000 | 24 |
| 3.1 | Major events and changes in New China's Hukou system | 111 |
| 4.1 | Scale of rural labor migration (1985–2005) | 144 |
| 4.2 | Comparison between migrant and non-migrant samples | 148 |
| 4.3 | Difference between network effect and neighborhood effect | 160 |
| 5.1 | The top three trade partners of each China province and the proportion in 2008 (%) | 176 |
| 5.2 | The proportion of interregional trade of each province and their top three trading partners | 186 |
| 5.3 | Distribution of each region's "total output" flow direction by sector (1997) | 187 |
| 5.4 | 2002 Chinese surveyed firms export and domestic market entrance observation value distribution | 190 |
| 5.5 | 1980–2008 Specialization index of mainland Chinese provinces | 194 |
| 5.6 | Barriers of firms' sale of products | 197 |
| 6.1 | The length and density of roads and railroads in each Chinese dynasty | 215 |
| 6.2 | All types of transportation proportion of total fixed assets (%) | 218 |
| 6.3 | 2004–2008 Transportation, warehousing and postal actual fixed asset investment (unit: hundred million yuan) | 218 |
| 6.4 | Comparisons of transportation infrastructure density between China, India and the US | 223 |
| 7.1 | Representative papers that study the measurement and influencing factors of Chinese industrial agglomeration | 237 |
| 7.2 | Current situation of the geographical agglomeration of Chinese manufacturing (2008) | 241 |
| 7.3 | 27 national level specialty industry bases in Wenzhou, Zhejiang | 244 |

7.4 Spatial autocorrelation Moran's *I* coefficient of distribution of Chinese manufacturing 246
7.5 Proportion of total textiles output value by province (1980 and 2008) 248
7.6 Proportion of total electronics and communications equipment output value by province (1980 and 2008) 249
7.7 Proportion of total ferrous metals metallurgy output value by province (1980 and 2008) 250
7.8 Proportion of total transportation equipment output value by province (1980 and 2008) 251
7.9 Trends in Chinese manufacturing Gini coefficients (1980–2008) 253
7.10 Extreme and average values for Gini coefficients of Chinese manufacturing 254
7.11 Gini coefficient and change of manufacturing output value by industry 256
7.12 Top four provinces in each manufacturing industry and corresponding changes 260
7.13 Regional distribution and change of manufacturing output value (unit: %) 262
8.1 Difference of each region and province's proportion of industry at major time points (1998–2007) 270
8.2 1997 RMP average value and composition for eight major regions 282
8.3 List of empirical studies on large geographical scale industry agglomeration 285
8.4 Evolution of manufacturing distribution at prefectural level and above municipality during 1998–2008 (Theil index) 289
8.5 Weighted average county-level EG index's trend of change (1998–2007) 290
8.6 Comparison of EG index of county-level, four-digit manufacturing industries and values from existing studies 291
8.7 Weighted average of county-level industry Gini coefficient (1998–2007) 293
8.8 Two-digit industry county-level Gini coefficient and changes (1998–2007) 294
8.9 List of relevant representative studies on technological externalities 298
9.1 Estimates of population density gradient for several cities 324
9.2 Spatial evolution of Tokyo employment and housing distributions 337
9.3 Comparison of resident one-way commuting distance before and after moving (unit: kilometer) 339
9.4 Estimation results of Beijing private vehicle carbon emissions 356
9.5 Sub-models of "land use–transportation–environment" integrated spatial model 361

9.6 Currently mature urban spatial simulation models 362
10.1 Revenue-sharing and transfer reforms since the 1990s 380
10.2 2007 center to local transfer 381
10.3 Rank changes in relative government size (1995–2007) 391
10.4 Rank changes in *per capita* fiscal transfer (1995–2007) 392

此为试读,需要完整PDF请访问: www.ertongbook.com

# Contributors

**Zhao Chen** is Professor of Economics and Deputy Director of the China Center for Economic Studies at Fudan University, China. His recent research covers development economics (urbanization, migration, income inequality), industrial economics (industry policy, FDI, outward FDI), and political economy (political connections).

**Jianyong Fan** is Professor of Economics and Director of the Center for Industrial and Regional Economic Studies at Fudan University, China. His recent research covers regional and urban economics (urbanization, regional development, and New Economic Geography).

**Ziying Fan** is Associate Professor of Economics at Huazhong University of Science and Technology, Wuhan, China. His recent research covers public finance (intergovernmental transfer and tax policies) and development economics (the Chinese Great Famine).

**Yuanhua Gao** is a Ph.D. candidate at Sun Yat-sen University, China.

**Canfei He** is Professor of Economic Geography and Deputy Director of Peking University-Lincoln Institute Center for Urban Development and Land Policy at Peking University, China. His recent research includes industrial agglomeration, multinational corporations, and regional and urban development.

**Jiuli Huang** is Associate Professor of Nankai University, China. His fields of interest include international trade (foreign trade of China, especially) and regional economics (regional development and industrial agglomeration).

**Fangwen Li** is a research fellow at the Center for Industrial and Regional Economic Studies at Fudan University, China. His recent research focuses on urbanization and regional development.

**Zhigang Li** graduated from University of California, San Diego, with a Ph.D. in Economics. He is now the Senior Economist of BBVA (Banco Bilbao Vizcaya Argentaria). His research area covers the taxation system, infrastructure investment, and real estate markets of China.

**Ming Lu** is Professor of Economics and Director of the Center for China Development Studies at Shanghai Jiaotong University, and Professor at Fudan University, China. His recent research covers labor economics (income distribution and migration), regional and urban economics (urbanization and regional development), and social economics (social interaction and economic development).

**Fenghua Pan** is Assistant Professor of Economic Geography at Beijing Normal University, China. His recent research includes industrial agglomeration, finance geography, and regional development.

**Yongliang Tao** is a Ph.D. candidate in School of Economics, Zhejiang University, China. His research focuses on provincial protectionism and industrial agglomeration in China.

**Xianbing Wang** is Assistant Professor of Economics at Guangdong University of Foreign Studies, China. His recent research covers economic growth, and the political elite.

**Xianxiang Xu** is Professor of Economics and the Chair of the Economics Department at Sun Yat-sen University, China. His recent research covers economic growth and the political elite.

**Siqi Zheng** is Associate Professor at the Hang Lung Center for Real Estate, and the Deputy Head of the Department of Construction Management at Tsinghua University, China. Her fields of specialization are urban economics, and the housing market. Her research interests include urban spatial structure, green cities, housing supply and demand, housing price dynamics, and low-income housing policies.

**Xiwei Zhu** is Associate Professor of Economics at the Center for Research of Private Economy, Zhejiang University, China. He obtained a Ph.D. in economics from Zhejiang University in 2005. Currently, his main research interests are New Economic Geography, industrial organization, and international trade.

# Foreword

Economic activities are not concentrated on the head of a pin, nor are they spread evenly over a featureless plane. On the contrary, economic activities are concentrated in a fairly limited number of cities and regions that account for a sizeable share of the wealth produced in developed and emerging countries. Contrary to widespread belief, we do not live in a world where distance and location no longer matter. Recent empirical and theoretical work in the new economic geography and urban economics shows a very different reality. New forces, hitherto outweighed by natural factors, are shaping an economic landscape that, with its many barriers and large inequalities, is anything but flat. The aim of the new economic geography is to identify the main channels that generate peaks and troughs in the spatial distribution of wealth and people. Unlike earlier contributions in spatial economics, the acting centripetal and centrifugal forces are market-based and endogenous.

The conclusions of Krugman's ground-breaking paper are well known and have given rise to controversy. Unlike new trade theories that do not consider factor mobility, allowing for the migration of workers may lead to the emergence of large economic agglomerations and regional imbalance. In view of the political and social implications of this conclusion, it is important to assess its robustness. Indeed, the core-periphery model disregards several major factors that lead to less pessimistic conclusions. Above all, the high housing and commuting costs households must bear for living in large cities deter the continuing concentration of activities in a few giant cities. Thus, if economic integration can indeed initially foster a more intensive agglomeration of economic activities, its continuation is liable to generate a redeployment of activities that could lead to a kind of geographical evening-out. In short, one may expect the process of spatial development to unfold according to a bell-shaped curve.

The new economic geography appears to be especially well suited to the study of a fast-growing and large economy, such as China. China experiences widening regional disparities—with 67.9 percent of its GDP being produced by 42.8 percent of its population over 13.5 percent of its area in 2007, as well as a rapid urbanization—its rate of urbanization now slightly exceeds 50 percent. Both processes have, and will continue to have, a major impact on the way economic activities unfold across the Chinese space-economy, with immense social and

political consequences. The research agenda involves an impressive list of key questions. Are Chinese cities too small or too big? Are internal trade borders still high within China? Will the development of large transportation infrastructures promote convergence or divergence across Chinese provinces? Will the West of China catch up with the East? These are just a few examples of issues that should be explored by Chinese scientists in cooperation with their foreign colleagues.

This book, written by leading young Chinese economists, is a very important contribution that will help both Chinese and international readers to understand what is going on in China's regional and urban development.

Jacques Thisse
CORE
Université catholique de Louvain
2013

# Contents

*List of figures* vii
*List of tables* xi
*List of contributors* xiv
*Foreword* xvi

**PART I**
**Economic agglomeration and interregional development** 1

1 Agglomeration and regional coordination 3
XIWEI ZHU AND YONGLIANG TAO

**PART II**
**Political economy and analysis** 39

2 The political economy of regional development in China 41
XIANXIANG XU, XIANBIN WANG, AND YUANHUA GAO

3 The political economy of urban and rural development in China 91
ZHAO CHEN

**PART III**
**Segmentation and integration** 135

4 Labor mobility and laggard urbanization under institutional restrictions 137
MING LU

5 Foreign trade, interregional trade, and regional specialization 169
JIULI HUANG

6 Transportation infrastructure investment and economic development 213
ZHIGANG LI

**PART IV**
**Agglomeration and balance** 229

7 The trends in geographical agglomeration of Chinese manufacturing industries 231
CANFEI HE AND FENGHUA PAN

8 The impact of spatial agglomeration on Chinese manufacturing 266
JIANYONG FAN AND FANGWEN LI

9 Urban spatial structure: housing, jobs, and related urban issues 312
SIQI ZHENG

10 The equalized intergovernmental transfer in China 372
ZIYING FAN

*Postscript* 405
*Index* 407

此为试读,需要完整PDF请访问: www.ertongbook.com