

The Pennsylvania State University

The Graduate School

Department of Geography

THE CHANGING LANDSCAPE OF URBAN POVERTY IN CHINA

A Thesis in

Geography

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2007

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ABSTRACT

This research explores one of the most important and yet under-researched topics shaping the contemporary urban geography of China—urban poverty. Since the mid 1990s, despite widely recognized success in economic reform and poverty alleviation, China has seen a rise of urban poverty in absolute numbers and in percentages. A close look reveals that the rise of urban poverty is a result of the state's retreat from urban full employment and welfare provisions, multiplied by the effects of an exceptionally low urban poverty rate in the socialist era due to a manipulated class structure and maintained urban privileges. Along with the rise in rural-urban migration, this spatial relocation of poverty to urban areas has combined with the increasing heterogeneity among the poor, and both poor migrants and native urbanites face growing spatial isolation.

This research responds to the “market transition” debate among sociologists such as Victor Nee and geographers, and it critiques structuralist perspectives on third-world migration and development and regional geographic studies on poverty and inequality. It proposes instead a multi-level and multi-actor approach, to analyze pre-existing socialist institutions and market-oriented changes as structures, and to analyze local governments, communities, and families as agents. This study examines how these structures and agents shape the urban poverty spaces in China. I address three questions: (1) how spatial inequality and deprivation in China are shaped at the national level; (2) how the spaces of urban poverty in China are shaped at the intra-city level by urban policies accompanying market-oriented social and economic reforms; and (3) how the livelihood and life chances of rural migrant family households compare with native urban family households.

Through a national level census data analysis, a case study of Nanjing, and a case study of housing tenure for poor family households based on survey and interview data, this research explains the nature of urban poverty in China at three levels: (1) at the state level, urban poverty is emerging as a form of moving opportunities and relative deprivations across space; (2) at the city level, the (re)location and concentration of urban poverty is due to migration control and urban redevelopment in the local institutional context; and (3) at the community and individual levels, urban poverty is an outcome associated with individual characteristics and individuals' connection with the state, conditioned by family and community-based support.

These findings suggest that urban poverty exists not simply as the consequence of individual incapacity in the face of marketization or due to the existence of biased national policies towards rural migrants, but argues instead that rising urban poverty is largely a reaction to the emergence of transforming institutions characteristic of a hybrid economy with strong state and local interventions.

TABLE OF CONTENTS

LIST OF FIGURES	x
LIST OF TABLES.....	xi
ACKNOWLEDGEMENTS.....	xii
CHAPTER 1 – INTRODUCTION.....	1
1.1 The Fieldwork.....	5
1.2 Theoretical Approach.....	10
1.3 Outline of Dissertation.....	11
CHAPTER 2 – URBAN POVERTY IN THE CHINESE CONTEXT: PRE-REFORM TO POST-REFORM ERA.....	14
2.1 Introduction.....	14
2.2 Urban Poverty in Maoist China.....	16
2.3 Urban Poverty in Transitional China.....	21
2.3.1 What’s New About Urban poverty in China?.....	21
2.3.2 Estimates of Urban Poverty: Is Poverty on the Rise?.....	23
2.3.3 Spatial Characteristics of Urban Poverty.....	30
2.4 New Urban Poverty in China: New Concept and New Characteristics.....	34
2.4.1 Heterogeneity of the New Urban Poor.....	34
2.4.2 Spatial Isolation of the New Urban Poor.....	39
2.4.2.1 The Transforming Urban Spatial Structure.....	40
2.4.2.2 Where Do Rural Migrants Live?.....	41
2.4.2.3 The Segregation or Integration of Rural Migrants?.....	43
2.5 Summary.....	44
CHAPTER 3 – THE INTERPLAY OF CLASS, MIGRATION, AND THE GEOGRAPHY OF POVERTY AND INEQUALITY: THEORETICAL PERSPECTIVES.....	47
3.1 Changing Class Structure and Stratification in China: A Social Dimension Inequality	48
3.1.1 A Classless Society?.....	49

3.1.2 From Destratification to Re-stratification.....	51
3.1.3 New Class Structure in the Making?.....	56
3.2 Rural-Urban Divide and Migration: A Geographic Dimension.....	58
3.2.1 Origins of Rural-Urban Divide.....	58
3.2.2 Migration Selection: Socio-economic, Age, and Gender Differentials.....	59
3.2.3 Residential Selection of Migrants.....	62
3.2.3.1 Structural Perspectives on Migrant Housing.....	62
3.2.3.2 Individual and Household Perspectives.....	63
3.2.3.3 Network Perspectives on Migrant Housing.....	64
3.3 Development, Poverty and Inequality.....	65
3.3.1 Development Paradigms.....	65
3.3.2 Debates inside the Chinese Party-State.....	70
3.3.3 Is Development a Cure for Poverty and Inequality in China?.....	73
3.3.3.1 Development and Poverty Alleviation.....	73
3.3.3.2 Development and Regional Inequality.....	77
3.3.4 Summary: Development, Poverty, and Inequality in China.....	82
3.4 Summary: A Turn to a Structure-Agency Approach to Urban Poverty	83
CHAPTER 4 – CONSTRUCTION OF URBAN POVERTY AT THE STATE, LOCAL GOVERNMENT, COMMUNITY AND HOUSEHOLD LEVELS: A MULTI-LEVEL AND MULTI-ACTOR APPROACH.....	88
4.1 The Changing Role and Organization of the State in China.....	89
4.2 The Rise of Urban Communities in China.....	92
4.3 Introduction to a Multi-level and Multi-actor Research Framework.....	94
4.4 Key Research Questions and Hypothesis.....	101
4.5 A Three-level Empirical Research Design.....	103
4.5.1 Level One: Urban Deprivation across Chinese Cities.....	103
4.5.2 Level Two: Case Study of Urban Poverty in Communities.....	104
4.5.3 Level Three: Case Study of Housing Tenure for Poor Family Households.....	105
4.6 Data Collection.....	107

4.6.1 Population Census Data of China.....	107
4.6.2 Population Census Data of Nanjing City.....	108
4.6.3 Other Secondary Data.....	109
4.6.4 Survey and Interview.....	109
4.7 Research Methods.....	113
4.7.1 Deprivation Analysis across Cities.....	113
4.7.1.1 Variable Selections.....	116
4.7.1.2 Deprivation Index.....	117
4.7.2 Intra-city Analysis of Urban Poverty in Communities.....	118
4.7.2.1 Measuring Stratification in Cities.....	118
4.7.2.2 Variable Selections.....	127
4.7.2.3 Multivariate Methods.....	132
4.7.3 Two-level Regression Analysis of Housing Ownership for Poor Households.....	136
4.8 Summary.....	139
CHAPTER 5 – UNEVEN LANDSCAPE OF URBAN POVERTY: EMPIRICAL ANALYSIS OF DEPRIVATION AT NATIONAL SCALE.....	141
5.1 Interpreting Inequality: From Regions to Cities.....	143
5.2 The Uneven Landscape of Urban Deprivation: Empirical Findings from the 1990 and 2000 Censuses.....	146
5.2.1 Descriptive Analyses: 1990 and 2000.....	148
5.2.1.1 Low Educational Attainment: 1990 and 2000.....	150
5.2.1.2 Disadvantaged Groups: 1990 and 2000.....	150
5.2.1.3 Employment Status: 1990 and 2000.....	151
5.2.1.4 Low-income Occupation: 1990 and 2000.....	152
5.2.1.5 Migrants as Vulnerable Population: 1990 and 2000.....	154
5.2.1.6 Sub-standard Housing: 1990 and 2000.....	155
5.2.2 Additional Descriptive Analysis for 2000.....	155
5.2.3 Deprivation Indices: 1990 and 2000.....	158
5.3 What Contributed to the Changing Dynamic of Deprivation?.....	164

5.4 Summary.....	166
CHAPTER 6 – SPATIAL INEQUALITY AND URBAN POVERTY IN COMMUNITIES: A CASE STUDY OF NANJING, CHINA.....	
6.1 Spatial Inequality and Poverty in Chinese Cities: A Hypothetical Model.....	171
6.2 Empirical Findings from the Case of Nanjing.....	175
6.2.1 Intra-city Stratification Patterns based on Principal Components	
Analysis.....	176
6.2.1.1 Factor I: Socioeconomic Trend	176
6.2.1.2 Factor II: Migrant Presence.....	180
6.2.1.3 Factor III: Employment/Unemployment Status.....	183
6.2.1.4 Factor IV and Factor V: Family Status.....	185
6.2.1.5 Factor VI and Factor VII: Household Type and Sex Ratio.....	188
6.2.1.6 Factor VIII: Housing Ownership.....	189
6.2.1.7 Summary.....	189
6.2.2 A Typology of Urban Poverty in Communities based on Clustering	
Analysis.....	193
6.2.2.1 Low SES, Native Urban Communities.....	195
6.2.2.2 Low SES, Migrant Communities.....	196
6.3 Summary.....	197
CHAPTER 7 – THE DIVIDED LANDSCAPE OF URBAN POVERTY: NATIVE URBAN POOR AND MIGRANT POOR IN NANJING, CHINA.....	
7.1 Comparison of Migrant Poor and Native Poor.....	204
7.2 Housing Tenure for the Poor: A Quantitative Examination.....	210
7.2.1 Descriptive Analysis: Who are the Owners?.....	210
7.2.2 Multilevel Logistic Regression: What Affects Housing Tenure Choice?.....	219
7.3 The Roles of Community and Family Support in Tenure Choice:	
A Qualitative Examination.....	227
7.3.1 Self-selection to Better Communities.....	228
7.3.2 A Family Self-support Strategy.....	234

7.4 Summary.....	236
CHAPTER 8 – DISCUSSION AND CONCLUSIONS.....	240
8.1 Empirical Results.....	243
8.2 Theoretical Interpretations and Discussion.....	246
8.3 Limitations and Future Directions.....	249
8.4 Summary.....	250
APPENDIX A – County-Level Population Census data of china, 1990 and 2000.....	252
A.1 Introduction.....	253
A.1.1 Administrative Division in China.....	254
A.1.2 Definition of Urban Population.....	257
A.2 Data Quality.....	261
A.3 Data Accessibilities.....	263
A.3.1 Census Data 1990.....	264
A.3.2 Census Data 2000.....	266
APPENDIX B – National-Level Descriptive Analysis Tables.....	267
B.1 Selected Variables from the 1990 and 2000 Chinese Population Censuses for Descriptive Analysis.....	268
B.2 Social Economic Indicators for Cities in Three Geographic Regions, 1990 and 2000.....	270
B.3 Social Economic Indicators for Cities at Four Administrative Levels, 1990 and 2000.....	273
B.4 Contingency Table for City Deprivation and City Migration, China, 1990.....	276
B.5 Contingency Table for City Deprivation and City Migration, China, 2000.....	278
APPENDIX C – Nanjing Community-Level Analysis Table.....	280
C.1 Selected Variables from the 2000 Nanjing Population Census for Community-level Analysis.....	281

APPENDIX D – Sampling Disadvantaged Family Households in Nanjing, China.....	284
D.1 Literature Review.....	285
D.1.1 Administrative Division in China.....	285
D.1.2 Sampling Poverty Population in developing countries.....	286
D.1.3 Sampling Poverty Population in China.....	288
D.2 Multi-stage Cluster Sampling versus Multi-stage Random Sampling.....	290
D.3 Questionnaire Design.....	294
D.4 Discussion.....	295
APPENDIX E – Survey Instrument and Interview protocol.....	297
E.1 Survey Questionnaire.....	298
E.2 Interview Protocol.....	304
REFERENCES.....	306

LIST OF FIGURES

Figure 2-1	Regional Pattern of Urban Poverty in China, 1998	33
Figure 2-2	Provincial Pattern of Urban Poverty in China, 1998	33
Figure 4-1	A Multi-level and Multi-actor Framework for Urban Poverty in China	96
Figure 5-1	Distribution of Urban Deprivation in China, 1990	163
Figure 5-2	Distribution of Urban Deprivation in China, 2000	163
Figure 6-1	Location Map of Nanjing City, China	170
Figure 6-2	Hypothetical Scenarios for Residential Clusters in Chinese Cities: From Pre-existing Institutional Context to Market-driven Context	174
Figure 6-3	Spatial Distribution of Factor I Scores	181
Figure 6-4	Spatial Distribution of Factor II Scores	182
Figure 6-5	Spatial Distribution of Factor III Scores	184
Figure 6-6	Spatial Distribution of Factor IV Scores	186
Figure 6-7	Spatial Distribution of Factor V Scores	187
Figure 6-8	Spatial Distribution of Factor VI Scores	190
Figure 6-9	Spatial Distribution of Factor VII Scores	191
Figure 6-10	Spatial Distribution of Factor VIII Scores	192
Figure 6-11	Distribution of Communities based on Two Factor Scores	194
Figure 6-12	Community Types, Nanjing	200
Figure 7-1	Distribution of Sample-Surveyed Households, Nanjing, 2004	203
Figure 7-2	Homeownership for Low and Lower-Medium Income Families by household Income in Nanjing, 2004	211
Figure 7-3	Homeownership for Low Income Families by Hukou Profile in Nanjing, 2004	212
Figure 7-4	Homeownership for Low Income Families by Householder Age in Nanjing, 2004	214
Figure 7-5	Homeownership for Low Income Families by Householder Education in Nanjing, 2004	214

LIST OF TABLES

Table 2-1	Composition of Urban Poor Households in China, 2000	23
Table 2-2	Estimates of Urban Poverty in China, 1978-1999	25
Table 2-3	Regional Distribution of Urban Poverty in China, 2000	31
Table 2-4	Regional Pattern of Urban Poverty in China, 1998	32
Table 2-5	Provincial Pattern of Urban Poverty, 1998	32
Table 2-6	Changing Official Registered Unemployment in Urban China, 1985-2001	37
Table 2-7	Poverty Rates for Rural Migrants and Locals in Selected Cities, 1999	38
Table 5-1	Variables Used to Construct the 1990 and 2000 Deprivation Indices	161
Table 5-2	Component Loadings for 1990 and 2000 Indices (varimax rotation)	162
Table 6-1	Rotated Factor Loadings with Factor Identities	178
Table 6-2	Cluster Identities	194
Table 6-3	Comparison between Type 3 and Type 4 (means)	196
Table 7-1	Composition of Surveyed Households, Nanjing, 2004	203
Table 7-2	Eligibilities for Major Welfare and Social Security Programs in Urban China	205
Table 7-3	Housing Types and Availabilities in Urban China	206
Table 7-4	Comparison of Subgroups in Disadvantage in Nanjing, 2004	209
Table 7-5	Comparison of Low-income Subgroups by Hukou Profile	209
Table 7-6	Characteristics of Low-income Renter and Owner Family Households	215
Table 7-7	Characteristics of Householders of Low-income Renter and Owner Family Households	218
Table 7-8	Descriptive Statistics for Level-1 and Level-2 Variables	220
Table 7-9	Results of Two-level Logistic Regression Model of Housing Tenure Data	223

ACKNOWLEDGEMENTS

This dissertation could not have been finished without the help and encouragement that many people have given me over the past years. My deepest gratitude goes to Dr. Amy Glasmeier, my friend, role model, mentor, and committee chair, who has given me much advice on academic and professional development, and has helped me adjust to a new culture. I thank the other members of my dissertation committee for their time and valuable advice on this work and in other areas of professional growth: Chris Benner, Leif Jensen, and Lakshman Yapa. I also give my thanks to other people at Penn State and other universities who have contributed to my development as a researcher, teacher, and writer at different stages of my Ph.D. program: David O'Sullivan, James McCarthy, William Easterling, Roger Downs, David Johnson, Sherilee Carpenter, and Elizabeth Gross.

I owe the greatest debt to the Department of Geography and the College of Earth and Mineral Sciences, which endowed me with a graduate fellowship award and several research awards; without them I would not have started this project in the first place. The survey and interview work for the dissertation was mainly funded by the Mellon Foundation-funded Urban China Research Network (UCRN) at SUNY, Albany led by Dr. John Logan. The UCRN also funded my travel to its conference in Hong Kong to present part of my survey results. Dr. Roger Downs and the Department of Geography at Penn State facilitated funding at different stages of my program to support my research and travel to conferences both in the U.S. and abroad (through the Erickson Fund in Geography). Dr. Deryck Holdsworth and the Department of Geography at Penn State

provided funding for me to access the 2000 Population Census Data of China. Dr. Amy Glasmeier and the World University Network provided funding in support of my travel to China.

Last but not least, my thanks go to the friends and institutions who facilitated my fieldwork in China: Aihua Shi, Haixian Xu, Xiaofeng Yi, Wei Liu, Chaoling Gu, Fuhong Rui, Yuting Liu, Shayila, Guili Liu, the Nanjing Civil Affairs Bureau, the Guangzhou Civil Affairs Bureau, and the Ministry of Civil Affairs in Beijing. My special thanks go to the student team at Nanjing University who facilitated my survey and interview work: Shaojun Qiu, Yuanhang Hu, Ying Sun, Chen Ye, Xuejing Li, Yu Song, Yun Huang, Bin Song, Yu He, Qiang Zhou, and Cuizhen Zhang. I thank all the households who participated in the interviews and provided responses to the survey.

This dissertation is dedicated to my parents and sisters, for their love, and to Junyan, for keeping up my spirits and accompanying me throughout this long, yet wonderful journey.

Chapter 1

INTRODUCTION

The last two decades of the twentieth century saw tremendous transformations on the old mainland of China, a country that suffered political, economic and cultural setbacks for most part of the century. In the late 1970s, Deng Xiaoping initiated economic reform and an “open door” policy, followed by a number of reform packages in the 1980s. The direct result is clearly expressed in numbers: while nearly 70 percent of Chinese lived on less than one dollar a day in the 1970s, only 16.6 percent lived on less than one dollar a day in 2001¹.

When China’s economic momentum started to take off twenty years ago, several noticeable trends were already underway around the world. *First*, since the end of the Cold War, globalization has become the defining feature of the world economy. Regional economic integration has been accompanied by a confluence of economic ideologies—a steady trend since the collapse of the socialist bloc. “Market triumphalism” is the term used to summarize these economic changes in a number of developing countries and former socialist bloc countries. *Second*, while few foresaw these effects and consequences of globalization, states and regions have remained important determinants of national economic growth and political affairs. The increasing global and regional

¹ According to the 2005 World Development Indicators prepared by the World Bank’s Development Research Group, 63.8 percent of people in China lived on less than one dollar a day in 1981. Following a dramatic decrease to 28.5 percent in 1987 and a slight increase to 33 percent in 1990, the number steadily decreased to 16.6 percent in 2001.

economic interdependence has made convergence across national borders in social, political and economic policies more crucial than ever. However, the role of states as regulators of economic activities has been accentuated in both developing and developed countries.

A concurrent trend that has also emerged is the growing concern among policymakers about inequality across countries and within countries. Economic liberalization in itself does not translate into prosperity for all, and a series of economic practices informed by the ideology that “the market will sort it out” have failed in some countries and regions, and have entailed rising inequality and worsening social conditions. China used to be an exception, given that the country had sketched its own pathway to economic reform with a minimum of help from international organizations and had achieved a certain level of success lifting hundreds of millions out of extreme poverty. Its geography and population size has made it easier for the gigantic economic machine to run by itself with a few changes in tradition and some capital from expatriate ethnic Chinese. Yet since the early 1990s, many aspects of the outcomes of China’s reform and ensuing development have started to unravel, and poverty and inequality, among other problems, have risen to become the main social concerns in Chinese cities.

The success of China in alleviating poverty has been widely recognized by international organizations such as the World Bank, which recently states in a report that “China’s success against poverty since the reforms that began in 1978 is undeniable.” Whether adopting international poverty lines or national poverty lines, studies have shown that China pulled at least four hundred million people out of absolute poverty. Yet more recent work have indicated that (1) there were periods of setbacks in poverty

alleviation throughout the last two decades of the twentieth century; (2) about half of the decline in poverty happened in the first few years of the 1980s; and (3) rising inequality has caused difficulties for further reduction of poverty as the lower population tiers tend to gain less from overall economic growth.

Different from the estimates of rural poverty and absolute poverty, urban poverty has been difficult to estimate in China, due to (1) disagreement over poverty measures, (2) the lack of national-level quality survey data on urban poverty; (3) the often changing definition of urban population, and (4) the failure to include migrants and non-agricultural suburban dwellers among the urban population.

Based on previous studies, urban poverty rates fluctuated during the last two decades of the twentieth century in China. However, most scholars would agree with two trends associated with urban poverty — the relocation of poverty from rural to urban areas, and the increase in urban poverty since the mid 1990s. What makes urban poverty more prominent are two factors: the historic number of rural migrants on the move, and the sharply rising income inequality in Chinese cities.

While the numbers of poor are changing, the geographic locations of the poor are also changing. Currently, absolute poverty largely concentrates in remote rural areas and minority counties in the middle and west. By contrast, urban poverty has emerged in almost every city, in city core areas and suburbs, among former state workers and non-state workers, rural migrants and urban natives, and the jobless and retirees.

The Chinese are not unfamiliar with material deprivation, which had characterized most of the Maoist era. What makes poverty today different from twenty years ago in China is not simply the changing composition of the poor. Both the

mechanism underlying the new inequality structure and the spatial dilemmas faced by current poverty groups in urban China are new.

My dissertation research takes a fresh and critical look at the so-called process of “marketization” in the former socialist country, China, from the late 1970s to the late 1990s, focusing on one of the spatial consequences of ‘marketization’: rising urban poverty in China since economic reform. Many expected the former socialist countries’ transition to a market economy via privatization and liberalization to be followed by the benefits of their greater integration into the global economy. However, many of these countries experienced periods of economic contraction rather than economic expansion. Inequality across regions and between social groups has been enlarged, and marketization has benefited insiders rather than outsiders. China, where economic reform was self-initiated and orchestrated by the state, has experienced continual economic growth with a gradual approach toward a market economy. Despite this movement, poverty persists in rural and urban areas. I approach the study of poverty not from solely a social and economic perspective that focuses on explanations for employment and social capital. I believe that cultural and political processes are as important as social and economic ones. The major assumption in my study is that the state as an embodiment of institutions has played an important role in shaping and reshaping the structure of inequality and the spaces of poverty. While market-driven forces have created shortcuts to prosperity and upward mobility for segments of the population, former socialist institutions (e.g., the *hukou*, or family registration system) continue to block others’ way to “average” citizenship. By comparing pre-existing state policies and post-economic reform, I examine the role of the state in the shifting structure of inequality and develop a

multi-level and multi-actor framework for understanding the different roles of the central government, local governments, urban communities, and families in aggravating, reinforcing, or undermining the effects of economic transition for less advantaged groups. By analyzing the census data for the country and the case city, I conclude that market-driven forces in conjunction with the effects of institutional factors have increased inequality across regions and have also created new spaces of poverty within the city. The analysis of my survey and interview data suggests that family strategies such as investing in housing, or tapping directly into community resources, can cushion family households against poverty by helping them (re)attain financial stability and residential stability. Taking these actions further increases families' chances of gaining benefits from the economic opportunities unevenly distributed in geographic space.

1.1 The Fieldwork

In order to examine how the Chinese urban landscape has changed due to market reforms, I conducted approximately six months of fieldwork in China in the winter of 2001, the winter of 2002, the winter of 2003, and the summer of 2004. My fieldwork encompasses all interest groups affected by urban poverty, from low-income and disadvantaged household headers to local communities, local city governments, and the state government. In order to understand how the landscape of urban poverty has been shaped at multiple geographic scales, I interviewed native urban and migrant households, community cadres and workers, local officials in the Urban Construction and Housing

Bureau and the Civil Affairs Bureau in Nanjing and Guangzhou, and state government officials in Beijing.

Since the dissertation results from a long time interest and a continuum of work from my master's thesis, my first three winter fieldworks were mainly conducted in the city of Nanjing, the capital city of Jiangsu province in east China. This preliminary research enabled me to investigate the socioeconomic changes in Nanjing and the transformation of several urban communities within the city that I had visited frequently over the past years. During these trips, I also was able to acquire the latest census data of the city for an intra-city analysis in my dissertation.

During the summer of 2004, I conducted two-months of fieldwork in the city of Nanjing. I also traveled to Guangzhou, Shenzhen and Beijing, cities in south and north China. I made short visits to the City Construction and Housing Bureau and the Civil Affairs Bureau in Guangzhou, and the China Urban Planning and Design Institute and the Ministry of Civil Affairs located in Beijing. A substantial part of my time in Nanjing was spent interviewing 280 households with questionnaire surveys and interviewing thirteen household headers in depth. I also spent time interviewing cadres, elected leaders, and voluntary workers from over thirty eight communities in Nanjing. The questionnaire survey in Nanjing was completed with the assistance of twelve undergraduate and graduate students from Nanjing University in Nanjing, China. Since I am a native speaker of Chinese, no local guide was necessary to accompany our visits to the communities; however, I did seek community cadres' prior approvals for access to rosters for sampling purposes, as well as their approvals for our entry into the communities. Interestingly, at times, the experience was not significantly different from non-native researchers' in

China and other developing countries, where locals' accompaniment greatly assisted their entry into local communities. As a result, in several communities, local community workers and cadres accompanied us throughout the whole household interview process, despite our fluency in Chinese. And in one relatively up-scale community, we were denied the chance to interview households by the cadres, although they allowed the access to general household information. Generally, in more urban and richer communities, the community leaders play a stronger role as gate keepers and the surveillance level is higher.

I chose the city of Nanjing as the main fieldwork site for several reasons. *First*, the city has a considerable population, including migrants, that suffices it to be considered as a research site. It is currently among a handful of “super large”² cities in China, with a population of three million in the city core, and a total of nearly seven million in the city proper. Located in the Yangtze Delta, one of the two most economically prosperous regions in China, it receives a considerable number of migrants every year. *Second*, it has a relatively complex, yet not atypical history of urban development. Between 1927 and 1949, as the then-capital city of China under the Nationalist Government, Nanjing was among several large cities with the highest levels of income inequality. It was a city for elites, bureaucrats, merchants, workers, proletariats, and vagrants. After a period of underdevelopment in the Socialist era, the city was designated as one of the earliest open cities on the coast of China in the 1980s, and has

² There is some disagreement on the classification of large cities in China. The Chinese government classifies the cities into four groups: very large, large, medium, and small. However, some scholars further divide the “very large” group into “super-large” and “very large”. With the former criterion, 48 cities fall into the “very large” or top category in 2005. If the latter criterion is adopted, there are 16 “super-large” cities and 32 “very large” cities.

since experienced a new wave of post-reform urban development. However, Nanjing, like many other cities in China, had pursued a less avid attempt at urban (re)development than cities such as Shanghai until recently, and hence has kept a mixture of post-reform, pre-reform and even pre-revolution physical structures. As a result of its development history, both urban poverty and newly created wealth are visible. *Third*, being a regional center in the Yangtze River Delta and a prefecture-level city in China, the city is not as egregiously large as the four large municipalities³ in China, which has made the field work manageable. It ranked as the ninth largest city and the fourth largest provincial capital city among the 661 cities in China in 2005. *Finally*, the frictions it has experienced over the course of recent development, especially the fervent urban redevelopment that has resulted in massive household relocations, have gained the city a certain level of publicity. In 2003, the city particularly received some unsolicited media attention nationwide because of a news report on a tragic incident that happened to a local resident who resisted relocation⁴.

Nanjing should not be treated as a representative case for all cities in China, not even for the other large cities on the east coast of China. Chinese cities differ greatly in their level of marketization and the degree of the involvement of local governments in public services, due to various levels of economic autonomy they enjoy as a result of

³ In mainland China, municipalities are directly controlled by the central government, with status equal to that of the provinces. They can be quite large in both geographic area and population size. The four municipalities in China include: Beijing, Tianjin, Shanghai, and Chongqing.

⁴ According to “Relocation leads to Self-immolation in Nanjing”, People’s Daily (online version), September 17 2003, on August 22, Weng Biao doused himself with 20 litres of gasoline, which he bought on his way to the local resident relocation bureau in the city of Nanjing, Jiangsu Province. There he got into a heated argument with the office personnel and threatened to set himself on fire. Security guards tried to restrain him, but in the scuffle his lighter was somehow ignited. Both Weng and a guard were seriously burned. Weng died 15 days after the incident.

their administrative ranks, sizes, histories and geographies. Their economic capacities, levels of autonomy, and connections with the state have greatly affected the abilities of local governments to actively engage in provisions of welfare support, affordable housing, formal and informal job opportunities, and community assistance to low-income groups. For example, the city of Guangzhou is an old southern port and one of the earliest “open” cities in China, with around ten million in population and five million in the city core, putting it close to only Shanghai, Beijing, Tianjin and Chongqing in size; it is now home to a migrant population of over two million, year round. As a commercial and industrial hub in south China, the frontier of economic reform, Guangzhou also is characterized by its relatively high level of city governance and societal participation in welfare provision, so much so that much of the recent work on welfare reform in China is centered on the city. Guangzhou is also well ahead of other Chinese cities in housing commodification and has established an effective multi-tier housing market based on municipal housing, commodity housing, and welfare housing, which has captured the attention of scholars. A contrast is present in Beijing, which is under the direct administration of the central government. Home to over fourteen million residents, including four million migrants, Beijing has a housing market that is more segmented between municipal and commodity housing. Its local government has a less progressive role in welfare reform and housing reform compared to either Shanghai or Guangzhou. Interesting work has been done on the unique migrant enclaves formed outside of the city core in Beijing, and questions have been raised on whether the city should adopt more stringent policies against migrants in order to keep it sustainable; however, much less has been published on low-income housing and welfare policies in the city. The municipality of Shanghai, on

the other hand, with a similar population size, has a more progressive and active local governance than any other city in China. The city actually initiated the community-based welfare program in the early 1990s and set an example of welfare reform for the other cities in China. However, the sheer size of the city and the level of autonomy it has enjoyed since the 1950s have made it an exceptional case that is hard to follow by others. These three cities (Guangzhou, Beijing, and Shanghai), illustrate the idiosyncrasies of Chinese cities, especially among the several largest cities, and indicate the importance to separate the experience of Nanjing from the experiences of these cities.

1.2 Theoretical Approach

The theoretical approach of my dissertation takes up the “market transition” debate among sociologists such as Victor Nee and geographers and proposes a multi-level and multi-actor approach that expands their discussion to include local governments, communities and families as agents shaping the urban poverty spaces in China. Previous studies on rural migrants and inequality had largely been informed by structuralist perspectives. These perspectives have been criticized either for their theoretical irrelevance to major ongoing debates in economic geography and urban studies, or for the idea of “internal orientalism” that simplifies poverty and inequality in China as a direct consequence of biased national policies. Instead, the multi-actor and multi-level approach specifically addresses two perspectives: the impacts of state and local institutions on individual well-being, and the active responses of families and communities to the changing role of the state and local governments in the distribution

and redistribution of resources. My research highlights the nature of urban poverty in China not simply as the consequence of individual incapacity in the face of marketization or due to the existence of biased national policies towards rural migrants, but argues instead that rising urban poverty is largely a reaction to the emergence of transforming institutions characteristic of a hybrid economy with strong state and local interventions. It is a person's connection to the evolving state at multiple levels that largely explains their access to urban benefits.

Due to the interdisciplinary nature of this topic on urban poverty, I have employed a mixed methodology involving quantitative and qualitative approaches that include intensive field work, household questionnaire surveys and in-depth interviews, and spatial statistical analyses of census and survey data.

1.3 Outline of Dissertation

The dissertation is organized into eight chapters. Chapter 2 lays out the historical, political and geographical settings of the research by introducing the changing perceptions, numbers, compositions, and spatial representations of urban poverty in China. Chapter 3 reviews the literature on class, migration, poverty, and inequality, in light of how they contribute to the understanding of the mechanism, source, and spatial representation of poverty and inequality in the context of "market transition". Chapter 4 develops a multi-level and multi-actor approach to urban poverty that explains how pre-existing institutions and current institutional changes, sustained and reinforced by various agents, affect the life chances of individuals and groups in urban China. It also

introduces the argument of the dissertation and the empirical research design for this dissertation.

Chapter 5 focuses on the national landscape of urban poverty in China based on a principal components analysis of all Chinese cities from 1990 to 2000. Chapter 5 finds that high deprivation gravitated slightly towards the middle and east regions, which are the major sending and receiving regions for migrants. While relative deprivation in most cities was alleviated during this period, more cities joined the group of relatively high deprivation, partly due to the mushrooming of county-level cities in the 1990s. Further analysis indicates that migration has to a certain extent narrowed the gap across cities in socioeconomic conditions, and suggests that deprivation occurs in cities with relative abundant economic opportunities as well as distressed cities.

Chapter 6 focuses on the intra-city landscape of inequality and poverty in the city of Nanjing based on a hypothetical model that predicts four stages of residential differentiation while China goes through economic transition. The findings from the analysis of the principal components of Nanjing's city census data show digression from previous understandings of spatial stratification in a socialist city defined by demographic and distributive characteristics (i.e., age, family size and housing quality). Instead, socioeconomic status and institutional factors such as *hukou* status emerge as primary factors. On the basis of these findings, the spatial tendencies for two major types of poverty spaces, migrant and native poor communities, can be identified with regard to socioeconomic condition and *hukou* status.

Chapter 7 draws on the data from a household survey and householder interviews conducted in Nanjing. A descriptive analysis and a multilevel regression analysis on

housing ownership by the poor reveal that although migrants in general are disadvantaged as a group in urban welfare and affordable housing, migrant families are not significantly disadvantaged by their migratory status, but rather by individual and household characteristics such as income, party membership, employment status, and the unavailability of low-cost housing in the communities where they choose to reside. Qualitative data further indicate that housing ownership reflects a long term, self-help family strategy by disadvantaged groups. These families operate within a context of limited rental supply and restricted self-built housing in inner cities, and within an underdeveloped community-based welfare system where the state ceases to provide them welfare despite their relative low means and connections with the state and other distributors of resources.

Finally, chapter 8 evaluates the main findings of the empirical study in light of the theoretical issues outlined in chapters 3 and 4. It then discusses the strengths and weaknesses of the research and points out future research directions.

Chapter 2

URBAN POVERTY IN THE CHINESE CONTEXT: PRE-REFORM TO POST-REFORM ERA

2.1 Introduction

Since the economic reform of 1978, China has achieved remarkable success in reducing abject poverty. China's official estimates of income poverty show an extraordinary drop in the poverty population from 260 million in 1978 to 42 million in 1998⁵. In contrast, until the latter half of the 1990s, due to the low rate of urbanization and lack of public attention, urban poverty had long been ignored as a social problem in China. However, various estimates have shown an increase in urban poverty rates since the mid 1990s. According to National Bureau of Statistics (NBS) survey data (Wang 2002), the number of urban poor living below the official poverty line totaled about ten to fifteen million. In 2002, the State Minimum Standard of Living Security System, which keeps track of all participants in the Community-based Social Assistance Program, estimated the urban poverty population to be 12.35 million persons, an increase of eight million since 2001. Chinese sociologists argued as early as the late 1990s that the number of urban poor in China already exceeded ten million (Li 2000). One recent estimate concludes that approximately 10 percent of China's urban population (twenty to thirty million urban residents), are living in poverty (Sun 2002). According to a report in the

⁵ Using a higher poverty line, the World Bank estimated that in 1998 the poor numbered more than 100 million.

China Daily, half of the country's sixty million poor and needy people are in urban areas now (China Labour Bulletin 2002).

Recent literature on Chinese urban poverty suggests that the urban poor are composed of a highly differentiated cohort of disabled persons, laid-off and low-paid workers, and rural migrants (World Bank 1997; Qian and Wong 2000). The literature tends to treat the experience and outcome prospects for these disparate groups of individuals as approximately the same. However, migration research suggests rural migrants are a select group of individuals and that the life course outcomes of urban migrants will not necessarily be the same as those of the abject urban poor in China (Goldstein and Goldstein 1991; Zhang 1998). Deprivation from opportunities, lack of social ties and marginalized status set poor urban residents apart from rural migrants.

Why is there such a sea change in the absolute number and perception of urban poverty in China? Wasn't China a poverty-stricken country before reform? Has poverty shifted in geographic space? Which places are sending and receiving poverty? What is unique about the increasing heterogeneity of the poverty group in urban China? Research on urban poverty in China is unusually limited compared to that found in other developing countries. This chapter attempts to answer these questions through both literature reviews and empirical analyses.

This chapter is organized into four sections. In the ensuing text, words and phrases such as "socialist era" and "transitional" might appear to be interchangeable, but "socialist era" is used to refer to the general period since 1953 when China officially announced its "transition to socialism", while "transitional" or "transforming" refers to the period since 1978 when China initiated its Open Policy. I first introduce the current

state of understanding about urban poverty in pre-reform, or Maoist urban China, with a specific focus on the cultural and structural explanations of poverty. Then I cite major research findings and discuss the changing incidence and spatial distribution of urban poverty after reform, and situate the discussion within the broader concern of the interrelationship between the economic transition after 1978 and the changing composition of the poor in China. Finally, I compare the life experiences of the “traditional poor”, or the “three nos” (people without income, working ability, or family support) and the “new urban poor”, and focus on the spatial characteristics of the emergent new urban poverty groups, including migrant poverty groups, and the factors that have contributed to the spatial isolation of the poor in cities where affordable housing has become a scarce commodity.

2.2 Urban Poverty in Maoist China

Before the 1990s, poverty in China was characterized as absolute poverty because of the characteristics of the poor. There were several reasons for this characterization. *First*, the incidence of absolute poverty as estimated by the World Bank was very high. In 1978, the majority of the Chinese population, approximately 82.1 percent of the total 963 million population, still lived in rural areas with an average per capita income of 134 Yuan. Thirty-three percent of the rural population and 4.4 percent of the urban population lived in poverty (World Bank 1992). *Second*, the class structure under Mao suppressed the feeling of comparative disadvantage in the mass population. In 1926, Mao Tse-tung himself listed six classes and decomposed them into twenty-four strata. However, his

class analysis was less an outcome based on property ownership or stage of production by individuals, and instead was politically motivated by the socialist state. In other words, the major questions he asked were, “who are the enemies” and “who are the friends?” (Wortzel 1987). Even in the late 1970s, the rhetoric about class still emphasized the antagonistic relationship between the capitalists, including new capitalist owners engendered by a small commodity economy, and socialist workers and peasants. In addition, the differences among the non-capitalists, such as intellectuals, cadres and peasants, were blurred. *Third*, socioeconomic stratification in Maoist China was low by international standards. This was largely attributed to the role of the state in inhibiting the expression of income differentiation in terms of differentiated life-styles and consumption patterns. The state also promoted social equality by maintaining dated political labels that emphasized the so called struggle between “old classes” (pre-1949 elites) and “new classes” (post-1949 officials and technocrats) (Whyte 1975). *Fourth*, low inequality amongst groups was particularly evident within villages, towns and cities. As Vermeer (1979) summarized, China has seen a decrease in income and social services differentials within each village and town since 1949, accompanied by larger disparities in development and income between agrarian regions. Drawing mainly from factual evidence, he attributes the low inequality to a number of social political restrictions, including (1) limited mobility, compartmentalization, and regional seclusion, (2) the lack of open repudiation and criticism of restrictive policies, and (3) the obligatory political attitudes, dress and life-style the population was required to pursue. However, sociological research on China over the 1980s altered markedly the perceptions of social change after the 1949 revolution.

In China, it is traditional to perceive poverty as a cultural phenomenon. This is attributable to both the pre-revolutionary legacy and the socialist experience. *First*, throughout Chinese history, the family system occupied a revered place as the core unit of society. Nothing could be more unfilial than remaining single and breaking up the blood line. Concepts of mutuality were an integral part of Confucian thinking. But the concepts differed from their Western counterparts. The entitlements and obligations were extremely ordered and confined within local community and common occupations, resulting in localism. Also, ecology-based values were strong in rural areas, explaining the emphasis on self-reliance and hard work in Chinese society. *Second*, these factors gave rise to the traditional institutional framework in China. For example, the role of government emphasized the provision of a macro-framework for social order, stability and prosperity over engagement in direct social aid. *Finally*, a large proportion of these factors persisted through the socialist era. Negative images were associated with *les misérables*, namely, people without kin and the ability to work, poverty-stricken households, the disabled and victims of natural disasters (Wong 1998).

In contrast to the notion that poverty in China was a cultural phenomenon there are indeed structural reasons for the existence of poverty and inequality during the Maoist era. *First*, the antagonistic relationship between “new classes” and “old classes” actually created a new dimension of differentiation in socialist China. Within the “class status system”, class labels were not supposed to be inherited; however, family origin, or class origin (landlord/rich peasant, middle peasant, or poor and lower-middle peasant) remained, especially in the countryside, the main determinant of an individual’s social economic position. As Whyte, Vogel and Parish, Jr. (1977) point out, the distinctive

features of stratification in China are characterized by a group of fairly stigmatized families discriminated against for having divergent class interests a generation ago, and a separate and self-perpetuating stratum of “new class” elites. *Second*, it has been argued that cadres have become a class with particular advantages in the socialist and transitional eras. *Third*, the “rural bias” and “urban bias” intrinsic to the Maoist regime created new regional inequality. It is still open to debate whether Chinese socialist development favored urban or rural areas (Nolan and White 1984), since urban and rural forces are not as clear-cut as they were supposed to be. On the one hand, there were considerable “urbanist ideological themes” in the country’s Maoist era development policy. On the other hand, there is evidence that the state retained strong rural elements in terms of policy, personnel, etc. For example, the Cultural Revolution was an example of the state’s effort to divert resources from town to countryside. Nevertheless, the income disparity between rural and urban areas widened during this period. This is evident in Walder’s (1989) work on social stratification in China. He concludes that income distribution within Chinese cities in the 1970s was more equal than in developing countries with market-based economies, because migration policy could be used to keep out the rural poor. Compared with other socialist states, China affords fewer privileges to professionals and officials in housing and consumption of commodities. However, certain inequalities were exacerbated by the Maoist pattern of development. As intra-rural and intra-urban inequalities were low, the urban-rural income gap grew from the mid-1950s to the late 1970s.

The structural aspects of inequality and poverty should be treated carefully, however. *First*, it is important to note that as the political and economic regimes changed,

the old structures that shaped old inequalities were replaced by new structures that shaped new inequalities. The Chinese social stratification of the Maoist era was characterized by the preponderate impact of shifting state policies on individual life chances, through dramatic alterations in opportunity structures, the status of structural locations, and the nature and value of political and human capital (Zhou, Tuma and Moen 1996). *Second*, even during the socialist era, there were vicissitudes in the policies and programs. One of the most radical programs, the Cultural Revolution, is regarded not only as an attempt to narrow the gap in material well-being between the haves and have-nots, but also an effort to invert the old class order and break the chain of inheritance between privileged fathers and privileged children. According to Parish (1984), this appears to be true, given that before the 1960s class was declining as an indicator of educational attainment. However, this trend was drastically altered by the Cultural Revolution, when class origin became one of the criteria for university admission. The children of new elite cadres began to receive the most education. *Third*, after the 1970s, China was expected to experience a transition from destratification to restratification given the increasing role of property and wealth in the intergenerational transmission of status and political privilege. However, it is unknown which process played the greatest role in shaping the new stratification order. It is unclear whether political positions still translate into higher socioeconomic status in the market economy — or, in other words, whether current or former cadres benefit from current reforms in China (Szelenyi and Kostello 1996). There have been various attempts to predict the transformational mechanism of stratification, including Nee's (1989) "market transition theory", which claims that market mechanisms have predictable implications for inequality. *Finally*, it is unclear to what extent and in what fashion social

stratification responds to changing policies. Historical evidence shows that there has not always been a quick shift in society following each move in national policy. Some old mechanisms are entrenched despite policy intervention. For example, in the early years of the Maoist regime, peasants and workers remained the least advantaged groups in terms of education and occupational opportunity. Educational differences among those from different classes did narrow quite quickly when the urban residents of peddler, worker, and peasant origin began to achieve educational levels attained previously only by the formerly dominant capitalists. But the rank order of educational accomplishment remained the same, with the exception of the children of elite cadres. Workers, peasant, and peddler children continued to attain fewer years of education. Meanwhile, the children of workers and peasants obtained the worst jobs, or none at all. When the youth were sent to the countryside, it was often the worker and peasant children with poor academic records who were sent first (Parish 1984).

2.3 Urban Poverty in Transitional China

2.3.1 What's new about urban poverty in China?

Until the late 1980s, there were no official estimates of urban poverty. There were no official urban poverty lines until the early 1990s (Ahmad and Wang 1991). Until the early 1990s, poverty in China was perceived as almost entirely a rural and regional phenomenon (World Bank 1992; Guan 1995; Gustafsson and Li 1998; Yao 1999). The World Bank (1997) data indicate that no urban residents in China had incomes below the

absolute poverty line from 1990-95. In 1995, just 0.1 percent of the registered urban population lived below the higher poverty threshold. This was down from a peak of 1.8 percent in 1989. Yet since 1978, when 80 percent of its total population survived on less than one US dollar purchasing power a day, the nation made great efforts to alleviate poverty among the bulk of its rural population. In part due to the pervasiveness of rural poverty, and in part due to the intentionally maintained rural-urban divide, urban poverty in China has long been a negligible problem. As the World Bank (1992) reports, “superior income levels, complemented by annual consumer food subsidies of at least Y200 per urban recipient” leave the urban population “much better nourished than their rural counterparts”(p. 27). The urban poor were mainly comprised of the “three nos”--- those without income, working ability, or family support. They were regarded as “Civil Relief Targets”, which was a slightly derogatory term during the pre-reform era (Wong 1998).

Since the mid-1990s, poverty gradually urbanized as a result of the bankruptcy of State Owned Enterprises (SOEs); the retreat of the state from welfare provision and regulation; and the increasingly lax migration policy that enabled significant rural-urban migration. Accompanying the rise in urban poverty is the increase in the rural-urban disparity and intra-urban inequality that otherwise was low during the pre-reform era. As such, the World Bank estimates and the official poverty measurements are now only capable of identifying fractions of the urban poverty-stricken population. The traditional “three nos” are now a small fraction of the urban poverty population, which includes laid-off workers, long-term unemployed people, early retirees, and rural migrants living in the city (see Table 2-1). The increasing volume and the changing demographic

composition of the urban poor challenge traditional understandings of poverty in China and also serve to pose a series of questions of significant geographic interest.

Table 2-1: Composition of Urban Poor Households in China, 2000

Household Type	Head Count (10 thousands)	Percentage (%)
Laid-off Workers	415	30
Unemployed	235	17
Working Poor	207	15
Retirees	124	9
“Three Nos”	83	6
Non-employed, Disabled, and Students	318	23
Total	1382	100

Source: Ministry of Civil Affairs (2002), based on the national MLSS (Minimum Living Standard Scheme) data.

2.3.2 Estimates of Urban Poverty: Is Poverty on the Rise?

A significant feature of poverty in China is the great variation between estimates based on absolute and relative poverty levels, and the difference between a nutrition-based and an income/expenditure-based absolute poverty line. These measurement problems also characterize urban poverty estimates (see Table 2-2).

The notion of the official poverty line has been harshly criticized as a whole by an array of scholars (Wong 1995; 1997; Gustafsson and Zhong 2000; Park and Wang 2001) because it is believed to underestimate actual poverty given its austere threshold, the neglect of regional differences in prices, costs of living and inflation rates (Khan and Riskin 2001), and its sensitivity to local financial capability (Hussain 2003). The

Rural/Urban Household Survey as a sample survey of poverty estimates is also criticized for its low level of representativeness, exclusion of the illiterate population, rural migrants in urban districts and inclusion of rural/township residents with urban *hukou*⁶ who actually should be excluded from the survey, and so forth (Bramall 2001; Hussain 2003).

In general, the Chinese government uses a relative measure to estimate urban poverty, with each province defining its own poverty line (World Bank 1992). The way China monitors urban poverty is through the Urban Household Survey (UHS) conducted by the National Statistical Bureau (NSB). The UHS, together with the RHS (Rural Household Survey), combines urban and rural samples and includes more than 100,000 households over the course of a year. Respondents selected through a stratified sampling procedure are required to keep a daily expenditure diary for a full twelve-month period. The survey data are then collected and coded by local statistical bureaus (Gibson, Huang and Rozelle 2001). The UHS data set is so comprehensive that “there are 1,500 entries for each household including details of household composition, income and expenditure”; however, the state did not effectively use the data to calculate a nationwide urban poverty line until the 1990s. As Hussain (2003) documents, a number of Chinese organizations, including the NSB, started to calculate an urban poverty line in terms of expenditures needed for a socially acceptable subsistence level. However, the national poverty lines

⁶ *Hukou* is Chinese for household registration. According to Zhang (1998), permanent migration in China is defined as a change of place with *hukou* registration. Otherwise, migration is considered as temporary (officially called “floating population” or *liudong renkou*), regardless of the actual duration of movement.

Table 2-2: Estimates of Urban Poverty in China, 1978-1999

Sources	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Ahmad & Wang (1991)																						
50 % of mean incomes																						
% of households				1.96	1.35	1.75	2.02	9.02	5.60	6.71	7.77											
% of population								11.9		7.92	9.12											
Y375 adjusted for inflation																						
% of households				11.2	8.9	8.1	4.7	9.87	5.42	5.30	7.29											
% of population								13.0		6.24	8.57											
Y300 adjusted for inflation																						
% of households				3.05	1.91	1.66	1.50	7.89	4.33	3.52	5.84											
% of population								10.4		4.17	6.86											
World Bank (1992)																						
% of population				1.9	0.9	0.6	0.3	0.4	0.2	0.2	0.2	0.30.	0.40.									
% of households				1.5	0.6	0.5	0.2	0.2	0.1	0.2	0.2	2	3									
Khan (1996)																						
Extreme Poverty:																						
% of population				20.1				12.7				7.42	7.39	4.73			5.90					
Ren & Chen (1996)																						
% of population														5.8	4.5	5.1	5.7	4.4				

Table 2-2 (continued)

Sources	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Khan & Riskin (2001)																						
Broad Poverty											6.7							8.0				
Deep Poverty											2.2							4.1				
Extreme Poverty											1.1							2.7				
Chen & Wang (2001)																						
\$ 0.75 per day													0	0	0.3	0.3	0.3	0.2	0.2	0.0	0.2	
\$ 1.00 per day													1.0	0.8	0.7	0.9	0.6	0.5	0.5	1.0	0.5	
\$ 1.50 per day													8.6	3.9	4.2	4.6	3.0	2.6	2.7	3.4	2.2	
Fang, Zhang & Fan (2002)																						
\$ 1.00 per day															2.09	2.73	1.65	1.69	2.00	2.06		
\$ 1.50 per day															13.7	13.2	10.3	8.41	9.21	8.86		
Official poverty line															2.48	2.90	1.68	1.76	2.44	2.13		
World Bank															0.83	0.86	0.61	0.46	0.53	0.98		
Hussain (2003)																						
Income p/h																						4.73
Expenditure p/h																						11.9

vary greatly across institutions. The ones currently in use fall in the range of Y1, 700 to Y2, 400 per year per head.

For the practical purposes of providing social relief or assistance to the urban poor, each province sets its own poverty line. Methods to determine individual provincial poverty lines vary greatly across provinces. Prices, the consumption pattern, and average income per capita differ widely across localities. Furthermore, the poverty line determines the “Minimum Living Standard Scheme” (MLSS), principally financed by each city government. The variation may reflect both the disparity in prices and living standards and the ability of the public to finance social support payments across cities of different sizes (Hussain 2003).

The NSB survey data are only accessible to a handful of institutions and scholars. Alternative estimates based on the data set do not greatly vary from the official estimates, except for an estimate based on the NSB grouped data for income distribution (Khan 1996). For example, with the UHS data collected from urban Sichuan and Liaoning, Yao (1999) uses two official absolute poverty lines and concludes that the incidence of urban poverty in the two places was very low (less than 1 percent) in the period 1986-1993. However, he surmises that the number would change dramatically given the reform of State-Owned Enterprises and the limitations in his data that do not include migrant workers in urban areas. Taking a 19 percent sample from the UHS parent data, Khan and Riskin (2001) use their own series of poverty lines---Urban Broad Poverty, Urban Deep Poverty, and Urban Extreme Poverty in terms of Head Count (HD), Proportionate Poverty Gap (PPG), and Weighted Poverty Gap (WPG) indexes--- and estimate that in

1988 the HD indices for the three lines were 6.7, 2.2, and 1.1 percent of urban population, respectively, and increased to 8.0, 4.1, and 2.7 percent, respectively, in 1995.

The World Bank (1992) has used the minimum nutrition intake of 2150 calories per day as the absolute poverty line to measure the incidence of urban poverty in China. They found that from 1983 to 1990, less than 1 percent of urban residents lived in absolute poverty. Even the poorest 5 percent of urban residents earned an average income of Y689, more than double the absolute urban poverty line (World Bank 1992). An alternative to the calorie-based absolute poverty line is the 1 USD per day measure initiated by the World Bank for cross-country comparisons. Chen and Wang (2001) have used the 1 USD per day as a measurement and found that the urban poverty incidence was 1 percent in 1998 for China. However, Fang et al. (2002), using both the 1 USD and the 1.5 USD per day poverty lines in 28 provinces, found that under the 1 USD poverty line, about 2 percent of urban residents were poor in 1998, a number that barely changed from 1992. When using a poverty line of 1.5 USD, the measure changes to 9 percent in 1998, dropping from 14 percent in 1992. Both measures show an increase from 1996 to 1998. Furthermore, their estimates are significantly higher than both Chen and Wang's and the World Bank's estimates. There are two reasons for this difference: (1) the data sets examined and (2) the way the 1 USD poverty line was operationalized.

Alternative measurements have been used in individual research on urban poverty in China. However, due to the variation in poverty thresholds used and the time periods examined, it is difficult to compare these estimates. Furthermore, as Khan and Riskin (2001) argue, most Chinese poverty thresholds do not represent an income with unchanged purchasing power over time. Nevertheless, a number of estimates based on

relative poverty lines give us a rough estimate of the discrepancies based on absolute and relative poverty measurements. Ahmad and Wang (1991) use a set of expenditure-based poverty lines, including an absolute urban poverty line of 1985 at an income level of approximately 50 percent of mean urban income and a relative poverty line that equals 50 percent of yearly mean urban income. Using these cut-off points, they found that during the 1980s much higher levels of urban poverty (8.75 percent and 9.12 percent, respectively, in 1988) than the official level and the World Bank estimates. Wong (1995) uses the median income-based international poverty line in his early case study of Guangzhou and suggests that approximately 13 percent of survey respondents were reporting household income less than half of the median income and were conspicuously less well off than others. He later sees widening urban income inequality and an Engel Ratio below 0.6---two requirements that justify the usage of the relative income-based measurement in third-world countries like China, and estimates of 12 percent poverty in the Shanghai population in 1996 (Wong 1997). On the basis of national statistics provided by the NSB, Fan (1996) estimates that urban poverty was as high as 18.5 million or approximately 7.8 percent of the urban population in 1993, rising to 20 million in 1995. This is definitely higher than the official Chinese estimates.

In summary, due to discrepancies in the data, time frames, and poverty measures used by scholars and international organizations, it is difficult to get a clear picture of the rise and fall of urban poverty in China between the early 1980s and the late 1990s. However, several trends are noticeable. (1) Urban poverty rates were fluctuating during the last two decades of the twentieth century in China. (2) Both nutrition-based and

expenditure-based measures suggest that urban poverty has increased since the mid-1990s, despite a period of decrease in the later half of the 1980s.

2.3.3 Spatial Characteristics of Urban Poverty

Another characteristic of urban poverty is the wide regional disparity in the extensiveness and intensity of its experience. In 1987, the World Bank (1992) identified six provinces in which the poorest 5 percent of city dwellers averaged Y400 per capita or less. These provinces were contiguous and extended from Xinjiang to Jilin. There also are intraprovincial differences in average income. According to the World Bank, those inter- and intra- provincial spatial patterns reflected the national and provincial power in granting city status to urban areas and urban residency status to individuals, and the distribution of investment in the State Owned Enterprises (SOEs), the major employer and care taker for most urban residents (World Bank 1992).

The 1990s saw an even greater concentration of poverty in China's western and some central provinces (World Bank 2001). This pattern also was evident in the report from the Ministry of Civil Affairs (MOCA, 2002). As Table 2-3 demonstrates, the percentage of the urban population that regularly receive social assistance in the west is almost quadruple that found in the east coast. These numbers might even underrate the real disparity given the poor financial capacities of the western provinces.

Based on smaller regional groupings, Hussain (2003) provides a finer-grained picture of the regional pattern of urban poverty in 1998. Interestingly, his research reveals little coincidence between the location of rural and urban poverty, with the northwest

being the worst affected region of urban poverty and the southwest experiencing a below average urban poverty rate (Tables 2-4 and 2-5). In general, the three regions that have a greater incidence of urban poverty than average are: the northeast, north and northwest. The three regions with urban poverty lower than average are: the east, southeast, and southwest (see Figure 2-1). The provinces with the highest urban poverty rates are: the Henan province in central China, and Shaanxi, Ningxia and Tibet in west China (see Figure 2-2).

The regional and provincial patterns of urban poverty should be carefully evaluated. Middle and west China have the greatest proportions of county-level cities, which is often an indication of a history of rural county-converted cities containing populations with relatively low incomes. A closer look at poverty rates in provincial-level cities reveals that the highest poverty rates for locals (or natives) are found in western, central and northern cities where the state economy has a strong presence, and the highest poverty rates for migrants are found in east-coast cities such as Nanjing, Shanghai and Jinan, as well as in northern, central and western cities (Hussain 2003).

Table 2-3: Regional Distribution of Urban Poverty in China, 2000

Region	Number (10 thousands)	Non-agriculture Population (10 thousands)	Percentage (%)
East coast ^a	154.7	8952	1.7
Middle ^b	897.7	16796	5.3
West ^c	329.6	5470	6.0
Total	1382	31218	4.4

Source: Ministry of Civil Affairs (2002).

a: East coast region includes Beijing (Independent Prefecture), Shanghai (Independent Prefecture), Shandong, Jiangsu, Zhejiang, Fujian, and Guangdong Provinces.

b: Middle region includes Tianjin (Independent Prefecture), Liaoning, Jilin, Heilongjiang, Shanxi, Inner Mongolia, Hebei, Henan, Hubei, Hunan, Guangxi, Hainan, Anhui, and Jiangxi Provinces.

c: West region includes Chongqing (Independent Prefecture), Xinjiang, Tibet, Ningxia, Qinghai, Gansu, Shaanxi, Sichuan, Guizhou, Yunnan.

Table 2-4: Regional Pattern of Urban Poverty, 1998

Regions	Poverty Rate (%)	Share of the National Headcount of the Poor (%)
Northwest	8.80	12.89
Northeast	6.75	21.37
North	5.22	14.70
Southwest	4.52	10.12
Southeast	4.26	22.72
East	2.97	18.19
National	4.73	100.00

Source: Hussain (2003).

Table 2-5: Provincial Pattern of Urban Poverty, 1998

Low 0-2%	Below Average 2-4%	Average 4-6%	Above Average 6-8%	High to Severe >8%
Beijing	Anhui	Guizhou	Gansu	Henan
Jiangsu	Fujian	Chongqing	Hainan	Shaanxi
Zhejiang	Guangxi	Hebei	Heilongjiang	Ningxia
Guangdong	Hunan	Hubei	Inner Mongolia	Tibet
	Jiangxi	Qinghai	Liaoning	
	Shanghai	Shandong	Jilin	
	Yunnan	Sichuan	Shanxi	
			Tianjin	
			Xinjiang	

Source: Hussain (2003).

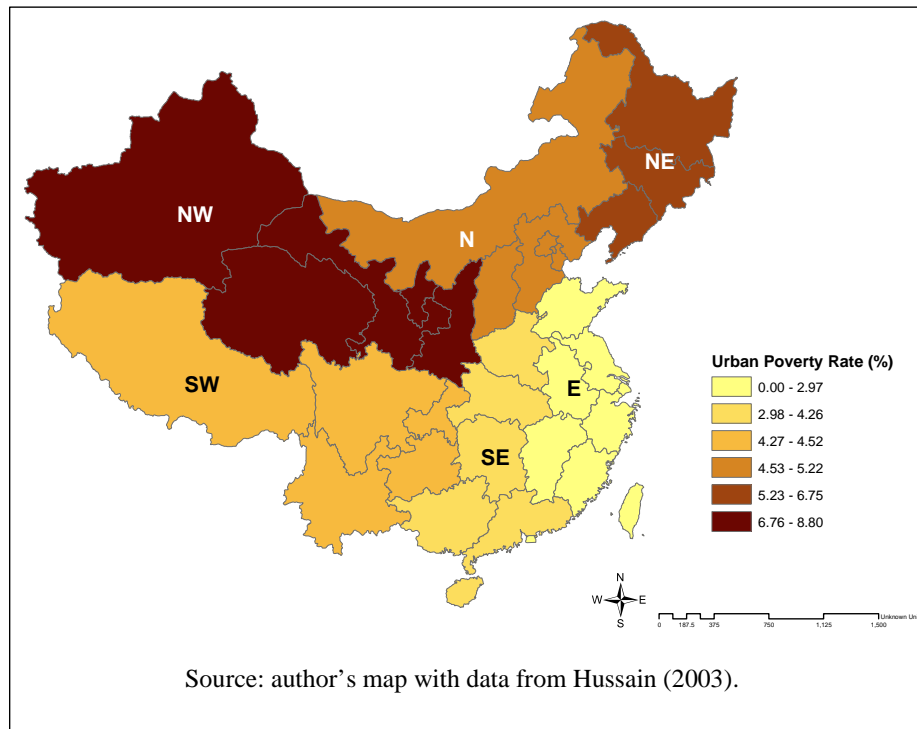


Figure 2-1: Regional Pattern of Urban Poverty in China, 1998

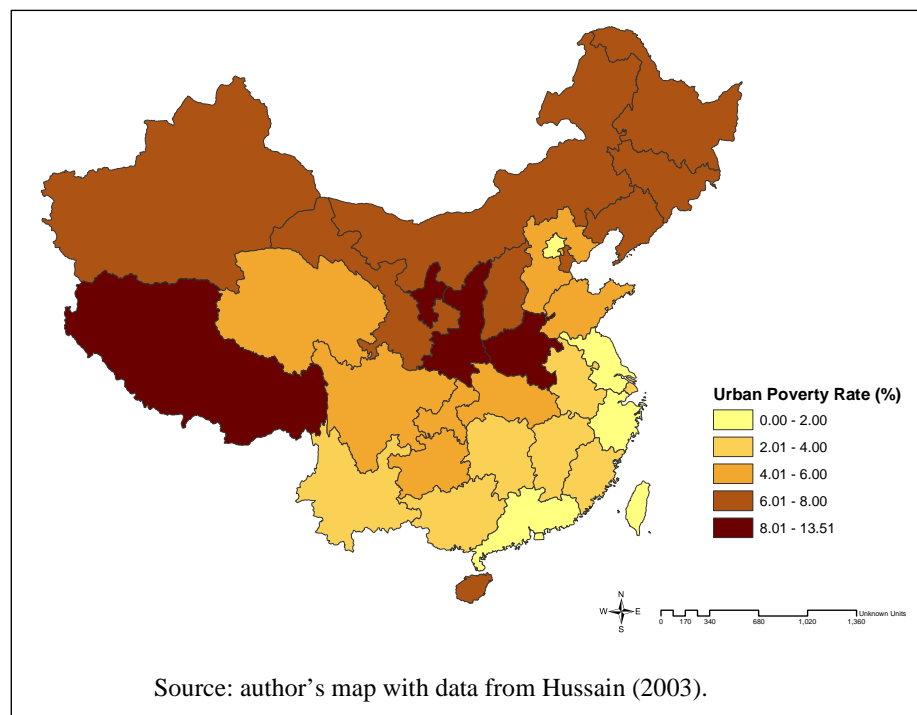


Figure 2-2: Provincial Pattern of Urban Poverty in China, 1998

2.4 New Urban Poverty in China: New Concept and New Characteristics

2.4.1 Heterogeneity of the New Urban Poor

Despite relatively inconsistent measurements of urban poverty and discrepancies in the estimates of urban poverty changes from the 1980s to the 1990s (Khan and Riskin 1998), there is general agreement that there was a significant reduction in urban poverty between the late 1980s and the mid-1990s (Khan 1996; Khan and Riskin 2001), followed by an increase in urban poverty since the mid-1990s (World Bank 1997; Leung and Wong 1999; Wang 1999; Qian and Wong 2000; Park and Wang 2001). Two recent studies using absolute poverty measures support these trends (Chen and Wang 2001; Fang, Zhang and Fan 2002).

More importantly, the new urban poverty differs from the traditional urban poverty that is composed of the “three nos”. A few studies have focused on urban poverty and income distribution, with a primary interest in the livelihood of poor urban residents, including recession-stricken workers, unemployed and laid-off workers, retirees, low-wage workers, and welfare dependants (Qian and Wong 2000). Others pursue a historical and structural analysis of urban poverty and recognize that the urban poor are mainly poorly paid state workers, the unemployed, and migrants from the countryside (World Bank 1997; Leung and Wong 1999). Zhu (1997) suggests that the urban poverty-stricken population is composed of three main categories of households: the traditional government relief targets, or the “three nos”; the low-income families; and the unemployed. Here the findings from urban China are not dissimilar from those in other

developing countries (Shaw 2003). In general, the new urban poor do not constitute a homogeneous interest group. Instead, they are separated by many factors, including socioeconomic status and conditions that include age, gender, education, employment, and occupation, and institutional factors such as *hukou* status and length of stay in the city.

A number of terms used to categorize various urban poverty groups help to illustrate the above point. According to Zhu (1997) the “*three nos*” are composed of the childless elderly and disabled people who either have no ability to work or no family support. This traditional notion of poverty was well accepted in both urban and rural areas and was directly linked to social relief projects. In 1991, Ahmad and Wang (1991) characterized poverty before the urban reforms of the 1990s.

The characteristics of a typical poor household are illustrated by an example in Jiangsu. This was a household of three unemployed adults, headed by a disabled worker, aged 64. They subsisted on a disability pension equivalent to Y984 a year paid by the head’s prior employer, a SOE. (p. 250)

In addition to the 3 million claimants in the “five guarantee system”⁷ or *wu bao*, composed mainly of widows, orphans, and the elderly without family support and primarily in rural areas, Ahmad and Wang (1991) further distinguish two groups of potential risk populations: the 51.6 million disabled persons nationwide and the 100

⁷ According to Wong (1998), the ‘five-guarantee’ scheme has been the foundation of the rural relief programme. Originally, the ‘five guarantees’ consisted of food, fuel, clothing, education, and burial. There were upgrades to contents, but generally the beneficiaries were and are still confined to the elderly, disabled and young orphans who have no family support, work ability or means of livelihood.

million victims of natural disasters. The *wu bao* in rural areas and the “three nos” in urban areas were the largest groups to receive regular relief from local civil affairs departments. According to Wong (1998), the “three nos” were conceived as part of China’s *les misérables*, namely, people without kin or the ability to work, poverty-stricken households, the disabled, and victims of nature disasters. The negative image attributed to these people stemmed from the fact that in Chinese society, where family and work status are the benchmarks of social identity, deprived persons are virtual pariahs. However, the “three nos” have become a numerical minority among the poor in cities since the 1990s. It is estimated that in 1995 the “three nos” only accounted for 0.5 percent of the 18.5 million urban poor (Zhu 1997).

The official number of *unemployed* is unusually low and presents a partial picture of unemployment in urban areas due to its restricted coverage (see Table 2-6). It only includes the registered unemployed and excludes two categories of persons: “laid-off” employees who are still formally attached to their work units; and the unemployed rural migrant residents living in urban districts for six months or more (Hussain 2003). Among the *unemployed* or those in the *Shiye* category, there is further differentiation. After having carefully examined the data sources on unemployment and joblessness, Solinger (2001) concludes that the statistical judgment about China’s current unemployment, especially that drawing upon official statistics, is fundamentally flawed. The reasons lie in inconsistent state statistics; flexible, disaggregating definitions; and multi-layering of the laid-off and jobless. She further argues that there is an implicit rank-ordering of workless laborers in terms of benefits and treatment. At the very peak are “those furloughed workers who were formerly employed in firms that remained relatively

healthy, and whose leaders have reported their existence to the authorities.” Resting at the bottom are those temporary workers and the peasantry from outside the city, who are eking out a living despite an ever-increasing hostility toward outsiders.

Table 2-6: Changing Official Registered Unemployment in Urban China, 1985-2001

Year	1985	1990	1995	2000	2001
Registered Unemployment (millions)	2.39	3.83	5.20	5.95	6.81
Registered Unemployment Rate (%)	1.8	2.5	2.9	3.1	3.6

Source: National Bureau of Statistics of China (2002).

Rural migrants are regarded as part of the urban poverty population only figuratively. Few statistics or studies are available to convey a rough understanding of the number of migrant poor in Chinese cities today. The reason lies in the complex nature of rural migrants’ life in urban China. As a result, the World Bank suggests that “when considering the place of these people in urban poverty it is useful to divide them between short term, often seasonal, migrants and long term migrants.”(World Bank 1992, p. 30) The reasoning is that although both groups face disadvantages unknown among the native urban population, the short-term poor are regarded as at less risk than the long-term poor (World Bank 1992). Hussain (2003) points out that the problem is not who should be included in the urban poor but rather who the urban population are now. He indicates the need to incorporate long-term migrants into the urban population in any type of poverty analysis, while it is far from obvious whether short-term migrants should be considered as part of the urban or rural population. He also compares the incidence of urban poverty

among rural migrants and that among permanent residents using a NSB survey from 1999 (Table 2-7). The analysis presents strikingly high poverty rates in some cases: for example, among locals in Huhot, Shenyang and Xian and among rural migrants in Huhot, Nanjing, Jinan, Zhengzhou, Yinchuan and Urumqi.

Table 2-7: Poverty Rates for Rural Migrants and Locals in Selected Cities, 1999

City	Poverty Rates			City	Poverty Rates		
	Locals (a)	Migrants (b)	Ratio (b/a)		Locals (a)	Migrants (b)	Ratio (b/a)
Beijing	4.6	10.3	2.3	Nanchang	12.8	19.0	1.5
Tianjin	3.5	11.9	3.4	Jinan	11.0	39.3	3.6
Shijiazhuang	5.1	13.3	2.6	Qingdao	16.8	12.1	0.7
Taiyuan	14.9	17.4	1.2	Zhengzhou	11.2	20.5	1.8
Huhot	23.0	28.7	1.2	Wuhan	6.3	15.1	2.4
Shenyang	22.9	15.0	0.7	Changsha	8.4	5.0	0.6
Dalian	14.1	14.3	1.0	Guangzhou	9.2	15.0	1.6
Changchun	8.3	8.1	1.0	Shenzhen	0.0	16.9	NA
Harbin	7.1	7.6	1.1	Chengdu	17.2	10.7	0.6
Shanghai	5.8	18.3	3.1	Chongqing	16.9	9.4	0.6
Nanjing	9.5	29.0	3.1	Xian	27.5	17.9	0.7
Hangzhou	7.1	7.8	1.1	Lanzhou	8.6	12.5	1.5
Ningbo	3.7	5.7	1.5	Xining	16.2	9.8	0.6
Hefei	12.2	10.9	0.9	Yinchuan	11.4	22.7	2.0
Fuzhou	3.8	2.7	0.7	Urumqi	14.2	54.0	3.8
Xiamen	8.2	2.0	0.2	All Cities	10.3	15.2	1.5

Source: Hussain (2003).

Note: The poverty lines for the 31 cities are calculated from the 1998 annual urban household survey by NSB and are not adjusted for price changes between 1998 and 1999.

The above information leads us to pose questions about how to incorporate the rural urban divide into research on urban poverty. When peasant workers and farmers are regarded as a quasi caste in China, how do notions of class and socioeconomic stratification interplay in the formation of new urban poverty? Research shows that rural

migrants, although disadvantaged in a number of ways due to limited access to basic services, nonetheless are highly selective, having considerable social ties and support from close-knit family networks. In contrast, unemployed or laid-off urban residents are often portrayed as desolate individuals, lacking social and human capital and often suffering a decline in socioeconomic status.

2.4.2 Spatial Isolation of the New Urban Poor

Another aspect of the new urban poverty is their differentiated access to urban benefits, including housing. Here we focus on the migrant poor as a group whose situation is, if not worse than, quite different from the native urban poor residents. In western societies, income disparity translates into households' bidding. For many African and Asian cities, race has declined in importance in residential segregation compared with the colonial era. Instead, urban authorities zone their cities according to income and housing density. "African and Asian cities are moving closer to the pattern, long apparent in Latin America, whereby income determines where people can live" (Gilbert and Gugler 1992, p. 134). But is a residential segregation process occurring in contemporary China?

2.4.2.1 The Transforming Urban Spatial Structure

To answer this question, it's necessary to review the urban structure of Chinese cities before and after the economic transition. In the socialist era, Chinese cities

resembled other socialist cities, which were designed to reflect the ideal of a “classless society” (French and Hamilton 1979; Yeh and Wu 1995). Among the socialist urban policies are (1) a commitment to central planning at the national level; (2) an eradication of the land market; (3) the elimination of social-class divisions; and (4) the creation of neighborhood units that provide all the necessities and minimize the distance to work (French and Hamilton 1979; Hu and Kaplan 2001a). Since the economic reform, the traditional socialist urban spatial structure based on functional land use has been changing (Gaubatz 1995; Yeh and Wu 1995). Chinese cities are increasingly differentiated based on population density, education, employment, housing quality, and household composition (Yeh, Xu and Hu 1995). Research in Beijing suggests that a similar pattern of differentiation is emerging along the lines of education, employment, occupation, age and type of household (Sit 2000). Furthermore, something unique to China, which distinguishes it from other post-socialist economies and developing countries, is the long-term *controlled* inequality between urban areas and rural areas (Chan 1996; Solinger 1999), and therefore the controlled status difference between inveterate urbanites and temporary urbanites, or the so-called “floating population”(Solinger 1995).

Ever since the economic reform, there are new patterns of consumption, industry, transportation and residence in urban areas. The social activities and informal reciprocal ties in traditional communities are either disappearing or decaying. As Solinger (1999) put it, while the socialist state had the capacity to determine both the allocation of the goods of daily life and the roster of membership in the urban community, it is starting to change now with the incursion of markets. Former homogenous urban communities are

challenged and are thereby being reformed with the spatial relocation of market elements, such as capital, real estate, and employment within cities.

2.4.2.2 Where Do Rural Migrants Live?

Correspondingly, empirical studies show the connection between market mechanisms and the concentration of peasant residences in the city. The socio-spatial segregation process has created contrasting landscapes in urban China (Gu and Kesteloot 2002). Migrant enclaves are presented as examples of segregation in the city of Beijing, where 60 percent of migrants choose to live in the suburbs. In contrast, the “new elite” are spatially concentrated in the north and the east, where gated “affluent neighborhoods” flourish (Hu and Kaplan 2001a). Simultaneously, in Guangzhou, the old Chinese southern gate city, the distribution of migrants is found to be strongly correlated with the location of the “*chu zu wu*”, such as apartments and houses for lease mainly built by the farmers on their remaining collective land (Taubmann 2002).

Various theories and models explain migrant residential patterns and behaviors in developing countries, most derived from the experience of Latin American cities. According to Turner (1968), three variables determine the residential location of low-income migrants: tenure of housing, proximity to unskilled employment opportunities, and priority for modern shelter. It also specified a two-stage process of residential movement. At first, most low-income migrants will live as renters in the inner city and then move as owners into peripheral low-income settlements (Gilbert and Ward 1982).

In China there is a growing amount of research on migrant settlements. Generally, it has been argued that institutional factors such as the Chinese housing market and household registration or *hukou* system are limiting migrants' access to urban housing. In China, housing, which is strongly associated with *hukou*, remains difficult to attain for migrants. It has been argued that although urban housing reforms have been implemented, the old institution of work units still plays an important role in housing distribution by funding the construction and purchase of public as well as commercial housing (Zhou and Logan 1996; Bian et al. 1997). Migrants who do not even have access to state job opportunities are totally overlooked by housing reforms.

The circular nature of migration determines most migrants' type of housing ownership. Temporary migrants might be less willing to invest in substantial housing, similar to third-world immigrants in developed countries. Surveys of Shanghai and Beijing indicate that rentals remain the best opportunity for migrants without local *hukou* and more than half of them are renters (Wu 2002b). The second choice is institutionally provided dormitories. In addition, a new type of housing called "migrant housing complexes" that are managed by sub-district and township agencies is now available in cities.

As to where migrants choose to live in cities, several factors play important roles in such decisions. First, the availability of rental housing is a key factor. The bulk of rental housing is private housing located in suburban or even rural areas. In some places, only rural residents have been allowed to build private housing. This housing is made available to migrants when the owners are automatically converted to urban residents during urban expansion and land acquisition by the urban municipality. Second, the

employment opportunity, as indicated by Turner, is a factor. Given the availability of employment opportunities on the outskirts of built-up areas, which is mostly comprised of construction jobs, migrants are not making random choices about residence. Last, but not the least, chain migration also impacts the choice of residential location (Gu and Liu 2002). This is particularly prominent in Beijing, where migrants from the same province form “migrant enclaves” in suburban areas where rental housing is available (Wu 2002b), and where job opportunities can be found in both informal sectors and heavy industries recently relocated to the periphery of the city (Jie and Taubmann 2002).

2.4.2.3 The Segregation or Integration of Rural Migrants?

For rural migrants, the process of integration is believed to be a slow one. According to Solinger (1995), at least eight features of the receiving society determine the life chances of migrants: (1) the nature of the class structure in the city (clearly a function of state policy in the Chinese case); (2) the pattern of property ownership; (3) the type of labor market; (4) the political system; (5) the patronage networks available to the migrants; (6) the urban educational system and access to it; (7) housing opportunities in the cities; and (8) the attitudes of the receiving community. Judging from the above features, Solinger (1995) provides a gloomy picture of a “new two-class structure” in Chinese cities, within which the urban dwellers are privileged by entitlement to such benefits as jobs, housing, education, cheap goods, and medical care, while rural “outsiders” must scramble for these goods or do without. She also predicts that the current economic transition is not a guarantee of the assimilation and integration of rural

migrants into current urban life. For the floating population, there has not been a full “withdrawal of the state” from maintaining the old barriers.

In any case, given the still stringent policy on *hukou* status changes (Wu 2002b), the dominant role of government in urban renewal and real estate practices is slow to integrate rural-migrants. It is reasonable to predict that the integration is likely to take place at the periphery of the city (Jie and Taubmann 2002; Wu 2002c), or even outside the city (Gu and Liu 2002), rather than near the urban center. However, the spatial pattern of migrant residence varies with different cities and economic and institutional factors (Smart and Smart 2001). Differentiation also is based on the age, gender (Roberts 2002), and education (Meng 2001) of migrants, which might enable upward social mobility of certain sub-groups of migrants while making other groups linger at the lowest stratum of society.

2.5 Summary

This chapter is an introduction to the concept and phenomenon of urban poverty in China. In it, I state explicitly that poverty is not new to China by introducing the structural and cultural roots of poverty in Maoist China before the economic reform. Urban poverty was a negligible issue during the socialist era due to prevalent rural deprivation, urban privilege, low intra-urban inequality, suppressed expression of income inequality, and a class rhetoric that emphasized political labels rather than economic differentiations. A traditional cultural system that places value on the hard-working and self-reliant while freeing the government of direct social obligations to the poor further

explains why poverty was not perceived as a critical issue in materially deprived Maoist China and the early reform period. A structural perspective on poverty explains that certain aspects of society were responsible for the inequality in the Maoist era, and in particular the two class systems that purposely subjected pre-1949 elite families to disadvantage while keeping the new elites in advantage. However, the structural view falls short in explaining the existence of the poor, especially the urban poor, many of whom had experienced a nominal, if any, change in their real-life opportunities in the socialist and early transitional eras.

As China moved onto an Open Policy rectification, major changes in poverty were noted in rural and urban areas. An initial decrease in rural-urban inequality due to agricultural reform, stringent control of rural-urban migration and urban subsidies to registered urbanites contributed to an exceptionally low incidence of urban poverty. Yet poverty soon became a new social concern in the cities in the early 1990s, when the major urban employer, the State Owned Enterprises, faced bankruptcy and rural migrants were increasingly on the move despite restricted urban entitlements. In contrast to the “traditional poor”, or the “three nos”, who were cared for by the state, the “new poor” included an increasingly heterogeneous group of laid-off workers, early retirees, long-term unemployed and migrants who were either outside the new system or had suffered long-term neglect in the old system. The interplay of migration and urban reform has led to this outcome: while rural poverty is increasingly concentrated in remote areas in the western and central provinces, urban poverty tends to prevail in central and western cities as well. Yet the overall estimates fail to indicate the fact that the greatest proportion

of the poor live in the east and southeast, and that a sharp inequality between migrants and natives exists mostly in eastern cities.

Another new observation about urban poverty today is that the spatial location of the poor creates differentiated conditions for access to urban benefits. When the controlled rural-urban inequality, intra-urban equality and urban space are broken by the incursion of market, cities in China undergo a significant spatial reorganization. Migrants and poor native urbanites do not necessarily benefit from it. While the native poor who lived in neighborhood units now face involuntary relocation and marginalization during the process of urban redevelopment, the rural poor competes for increasingly limited stocks of affordable rentals proximate to work and social ties, due to strict control of self-built housing and squatters in China. Both groups are faced with spatial isolation as the pro-ownership housing reform in China has not replaced affordable housing at a pace comparable to the rate at which the old housing was removed.

Chapter 3

THE INTERPLAY OF CLASS, MIGRATION, AND THE GEOGRAPHY OF POVERTY AND INEQUALITY: THEORETICAL PERSPECTIVES

Recent literature on Chinese urban poverty suggests that the urban poor are comprised of a highly differentiated cohort of disabled persons, laid-off and low-paid workers, and rural migrants (World Bank 1997; Qian and Wong 2000). The literature tends to treat the experience and outcome prospects for these disparate groups of individuals as approximately the same. However, migration research suggests that rural migrants are a select group of individuals and that the life course outcomes of urban in-migrants will not necessarily be the same as that of the native urban poor in China (Goldstein and Goldstein 1991; Zhang 1998). Deprived of opportunities and lacking social ties, the poor urban residents are at a higher risk of permanent poverty in urban society compared with rural migrants. Preliminary analysis of these data suggest that rural migrants, although totally excluded from urban social welfare programs, neglected by public services, and marginalized in the housing market, have greater social mobility than the traditional poor. These findings contradict theories which suggest that rural migrants are a severely segregated poverty group in contemporary Chinese society.

To explore the landscape of urban poverty and the mechanisms shaping the new poverty and inequality, multiple domains of research need to be consulted. This chapter serves as an overview of major theoretical findings that have informed the study of poverty and inequality in China. The first section focuses on the changing mechanisms of class structure in China because class differences form the social dimension of inequality.

China is no exception despite once having alleged to be a “classless” society. The second section is dedicated to the geographic differences and population movement over geographic spaces that have served as a source, condition and outcome of spatial inequality in China. The third section examines the development theories and regional studies that have shed light on the trend and geography of poverty and inequality. The last section is a summary of the inadequacies and deficiencies of relevant theories in the context of transitional China. Here, I suggest a direction for a structure-agency theoretical approach that can effectively capture both the structural factors and multiple actors at various geographic scales in a transitional economy with strong state intervention.

3.1 Changing Class Structure and Stratification in China: A Social Dimension of Inequality

Class in Maoist China has been an important research area for those who seek to understand subsequent social change during the economic reform period (Vermeer 1979; Kraus 1981; Watson 1984; Wortzel 1987; Li, Yang and Wang 1991). The transformation moved from a rigid status hierarchy under Mao Zedong, to an open, evolving class system in the post-Mao period (Bian 2002). Since the late 1980s, the central debate has focused on the “economic transition” thesis offered by Victor Nee (Nee 1989; 1991a; Bian and Logan 1996; Nee 1996; Nee and Matthews 1996; Xie and Hannum 1996; Zhou, Tuma and Moen 1997; Nee 2000; Raymo and Xie 2000; Wu 2002d; Zang 2002). This thesis emphasizes the role of the market rather than the state in the allocation and distribution of material goods. This concern was later diverted toward a broader array of issues related to the changing mechanisms of social stratification, socioeconomic

inequalities and social nobility. The “market transition” thesis has gradually receded to institutional research (Nee 1992; Nee and Matthews 1996; Szelenyi and Kostello 1996; Walder 1996; Cao and Nee 2000; Gerber 2002).

3.1.1 A Classless Society?

Research on class and class relationships in Maoist China presented an exceptional case of socialist states that requires a revision of classical Marxist social theory as an analytical framework⁸. Kraus (1981) notes that Mao's revival of class theory, unpopular now, has a considerable heritage in Chinese political life. He finds that the Chinese bureaucrat is not a class in the same way that the bourgeoisie are in capitalism. The political apparatus used to destroy old inequalities has given rise to a new set of social distinctions. This does not disqualify class concepts from applications to contemporary China, but does certainly demand the fashioning of more sophisticated theories of class. From a broader historical perspective, Watson (1984) argues that there have been two distinct processes of class formation in urban China since 1949: one based on the principles of accommodation (of the intellectuals), which prevailed until the late 1950s (in the wake of the Hundred Flowers campaign), and the other guided by the principle of confrontation until the late 1970s. Since the end of Cultural Revolution, central authorities appear to have abandoned the rhetoric of confrontation in both urban

⁸ See Mao (1975), p. 13-22. In Maoist China, the Communist Party subtly transformed the concept of class into one that emphasized stratification. Mao Tse-tung himself listed six classes and decomposed them into twenty-four strata. The six classes are landlord class and comprador class, middle bourgeoisie, petty bourgeoisie, semiproletariat, proletariat, lumpenproletariat.

and rural areas. Given the nature of politics in China, it is impossible to predict whether the emerging class system will continue to develop according to the non-conflictual principles of accommodation. Watson has come to a conclusion similar to that in Kraus's work—that in Maoist China, the state could intercede and take control of local affairs by changing the rhetoric of class relationships. Moreover, Marxist theory could be adapted to the needs of an incipient class of socialist bureaucrats that subverts the political theory of classical Marxism by altering the relations between the economic base and the political superstructure. As such, class and class relationship was under the direction of the political apparatus rather than responding to competing social economic controls over material goods.

Scholars continue to question the viability of the Marxian concept of class as an ordering concept for stratification in contemporary China. Having seen the early results of economic reform in China, Wortzel (1987) hypothesizes that the nature of political and economic power in China still has a class content; that class relations are still, and may continue to be, antagonistic; and instead of being a dictatorship of the proletariat, the CCP (Chinese Communist Party) has evolved into a new ruling class that has its own interests. In particular, he suggests that orthodox Marxist theory must be revised to analyze the forms of authority embodied in the control (functional ownership not legal ownership) of the means of production. Thus, "economic ownership" is borrowed to characterize the form of control over the means of production exercised by senior enterprise managers. Facilitated by the term "economic ownership" and empirical evidence, he concludes that CCP membership provides only a necessary condition and not a sufficient condition for access to an improved lifestyle and certain perquisites. Only

selected Party members move into positions in which they may control the allocation of commodities, housing, or work — acting as economic owners of the means of production. In a much vaguer tone, Li et al. (1991) point out the similar relationship between the structure of social stratification in China and the situation of the nation's direct ownership and distribution of social resources. In other words, in building the “identity system”, “unit system”, and “administrative ranking system”, the nation has imposed the distribution of social positions throughout the entire society, and thus has shaped the basic structure of social stratification in socialist China.

3.1.2 From Destratification to Restratification

As mentioned earlier, class, although defined by Mao in a different way, did exist and play an important role in shaping inequality in socialist China. However, there was little socioeconomic stratification in Maoist China by international standards. This was largely attributed to the role of the state in inhibiting the expression of income differentiation in terms of differentiated lifestyles and consumption patterns, while promoting social equality by maintaining dated and political labels and the so-called struggle between “old class” and “new class”. As Whyte, Vogel and Parish, Jr. (1977) point out, these two distinctive features of stratification in China both created a group of fairly stigmatized families discriminated against for divergent class interests a generation ago, and a separate and self-perpetuating stratum of “new class” elites. Similarly, in an early attempt by Vermeer (1979) to summarize social development in communist China, he concludes that China has seen a decrease in income and social services differentials

within each village and town since 1949, accompanied by greater disparities in development and income between agrarian regions. Drawing from mainly factual evidence, he attributes the low inequality to a number of social political restrictions, including (1) limitations in mobility, compartmentalization, and regional seclusion, (2) lack of open repudiation and criticism on restrictive policies, and (3) an obligatory political attitude, dress and lifestyle required of the population. However, as sociological research on China accumulated over the 1980s, perceptions of social change after the 1949 revolution altered markedly. In 1989, Walder (1989) accessed the official survey and reexamined social stratification in China. He concluded that income distribution within Chinese cities in the 1970s was more equal than in developing countries with a market economy, largely facilitated by its ability to keep out the rural poor. Compared to other socialist states, China affords fewer privileges to professionals and officials in housing and commodity consumption. However, certain inequalities were exacerbated by the Maoist pattern of development. Since intra rural and intra urban inequalities were low, the urban-rural income gap grew from the mid-1950s to the late 1970s. Clearly, another dimension that characterizes Chinese social stratification in the socialist era is the preponderate impact of shifting state policies on individual life chances, by dramatically altering opportunity structures, the status of structural locations, and the nature and value of political and human capital (Zhou, Tuma and Moen 1996).

In post-revolution China, socioeconomic stratification was comparatively low and varied across historical periods as state policies changed; however, it was predicted that the years after the 1970s would see (1) a transition from destratification to restratification and (2) the increasing role of property and wealth in the intergenerational transmission of

status and political privilege. Concurrently, the country opened its doors in the late 1970s and data collection, including surveys, became possible. China turned out to be an ideal case in which to test a number of sociological theories about socioeconomic transformation. Among these research attempts, studies on social stratification in contemporary China flourished during the early stages of economic reform.

In the late 1980s, following previous critiques of the Marxian class concept on contemporary stratification in China, scholars hypothesized about the changing mechanism of socioeconomic stratification from state redistributive inequalities to the inequalities generated by how individuals and groups succeed in a growing market-oriented economy. At the theoretical level, the debate centered on which actor will play the most important role in shaping the new stratification order. Correspondingly, at the empirical level, the question is whether political positions still translate into higher socioeconomic status in the market economy — or in other words, whether current or former cadres benefit or lose from reforms in China (Szelenyi and Kostello 1996).

Nee's "market transition theory", which claims that market mechanisms have predictable implications for inequality, has definitely gained the widest attention and criticisms from within and outside sociological research. According to Nee (1989), the "market transition theory" attributes the changing mechanisms of stratification in postsocialist countries to the emergence of market institutions. The theory consists of three interrelated propositions that the market-based processes will lead to (1) a decline in the advantage of redistributive power and other forms of political capital relative to nonstate economic actors who possess market power; (2) higher returns to human capital

than under a centrally planned economy; and (3) new opportunities centered on market activities, such as entrepreneurship.

Nee's "market transition thesis" was soon put to the test in empirical studies. Although his own 1989 paper supports the general hypothesis, Nee (1991a) soon found contradictory evidence through his survey in rural China: although cadres (officials) have no greater odds than other households of being among the privileged or avoiding poverty, entrepreneurs and former team cadres are actually advantaged. Empirical study by Bian and Logan (1996) further proves that some sources of advantage in the socialist economy continue to yield advantage, such as party membership, although connections to the market system become alternative sources of advantage. For example, education becomes increasingly important as a ladder to social upward mobility while age or seniority is declining in importance as an indicator of experience and income.

Interestingly, Nee's thesis contradicts findings about income inequality in China. From Nee's "market transition thesis", a closely related hypothesis can be derived: since the most privileged stratum, the redistributors, lost some privileges, while those at the bottom, the direct producers, benefited, the result is a reduction in inequality (Szelenyi and Kostello 1996). However, a number of studies indicate that since economic reforms were initiated in rural areas, there has been an initial decline in income inequality followed by increasing inequality in China (Parish 1981; 1984; Nee 1991b).

To explain the contradiction between the hypothesis and the evidences, there are at least three different arguments developed (see below) either to challenge the original "market transition theory" or to complement the market transition framework (Bian and Logan 1996). Cao and Nee (2000) cited the first two as two lines of state-centered

argument developed to refute market transition theory's claims. The third argument is more widely accepted nowadays and has led to general research on institutional changes in post-socialist China.

- (1) The *technocratic-continuity hypothesis*, which claims that former cadres can rely on their administrative expertise to maintain high social economic status (Nee 1991b). This is evident in Nee's finding (1991a) that party cadres have a higher education level. A recent study by Bian et al. (2001) based on survey data of Shanghai and Tianjin suggests that measures of political screening are persistently significant predictors of party membership attainment in all post-1949 periods. Since 1978, China has made historical moves to recruit from among the educated to create a technocratic elite that is both occupationally competent and politically screened.
- (2) The *power conversion hypothesis* that suggests the political power and capital possessed by cadres offer new advantages to party members and cadres after economic reform.
- (3) The political privilege is persistent due to the *new hybrid economy*, where redistributive institutions combine with market forces. Zhou and Logan's research (1996) on Chinese housing market is a good example of the coexistence of market elements and the framework of the state ownership of real property. Nee, in successive publications (Nee 1991a; Nee and Matthews 1996), altered the hypothesis by introducing the

idea of “partial reform” in China, where state-owned enterprises still dominate the industrial economy.

In response to these three competing hypotheses, Nee, in a co-authored paper, attempts to defend himself, arguing that the first two are not in conflict with the original market transition hypothesis and that the institutional aspects of the emerging market economy in China have been well examined in his work (Cao and Nee 2000). In addition, Nee’s thesis was subject to criticisms about the validity and appropriateness of the framing of the research questions. The harshest one comes from Stark (1992), who rejects the notion of transition as teleological, since it assumes that post-socialist societies are progressing towards an ideal of market capitalism. Szelenyi and Kostello (1996) point out the importance of distinguishing several types of market penetration in order to compare competing theories. Walder (1996) similarly warns against attempts to predict changes in inequality without specifying the types of enterprises and institutions that characterize the market economy.

3.1.3 New Class Structure in the Making?

Correspondingly, in light of research on socioeconomic stratification, there seems to be a revival of the notion of class and studies of new class structures in China (Chang 2000; Bian 2002). From an historical perspective, Chang (2000) identifies two distinctive patterns of class stratification since 1957: one (1957-78) stems from the Socialist Transformation and the other (1979-present) from current economic reform. Chang argues that in the former period, the population in China may be divided into five classes:

bureaucratic/managerial, professional, clerical, working, and farming. They constituted a three-tier class hierarchy. The peasantry was essentially a quasi-caste at the bottom and the bureaucratic/managerial class at the top. The differences among the other three were negligible. Chang further argues that as a result of the reform in 1978, the system now consists of seven classes, including two new members— the bourgeoisie and the self-employed petty bourgeoisie. Bian (2002), based on a general layout of the hierarchical structure, predicts detailed transformations of the urban classes in terms of composition, socioeconomic status, and political networks, post-economic reform. These include: (1) the differentiation and de-empowerment of the working class; (2) the embourgeoisement of administrative and managerial cadres, who give up political commitments to gain opportunities in a growing marketplace; (3) the patronization of capitalist entrepreneurs; (4) the ambiguous class of intellectuals that somewhat can be divided among those working within the state sector and those outside it; and (5) the middle class, including the managers, professionals, and private entrepreneurs, who do not yet share a commonly recognized image. Interestingly, Bian does not place rural migrants in any of the urban class categories. Instead, they are regarded as an integral part of the rural-class “peasant laborers” that form one of the emerging social classes in rural China. The other social classes in rural China include rural cadres, private entrepreneurs, managers of township and village enterprises, household business owners, professionals, local wage labor, and peasants working on the land.

3.2 Rural-Urban Divide and Migration: A Geographic Dimension

Current work on class and stratification in China, except for a few studies outside the discipline of sociology (Chan 1996; Fan 2002a), has apparently ignored a population group—the rural migrants who work and live in urban areas as their urban native counterparts. As a result of the urban-rural divide, rural-urban migration constitutes a major source of the poverty population on the move. Their origins and destinations of movement further modify the geographic profile of inequality and poverty. In a similar fashion, their residential locations in cities stem from their limited choices in the context of the institutional framework in China, including the *hukou* policy and the control of self-built housing, worked at local levels. Their locations further prescribe their access to urban benefits, and just like age and education selections, migrants are increasingly selected by the ability to own, which quickly sets a convenient path to urban citizenship for some with assets and family support, while others are placed between financial insecurity and spatial isolation and marginalization.

3.2.1 Origins of Rural-Urban Divide

The rural-urban migration is not an exclusive phenomenon of the market transition and has its antecedents in the pre-reform era (before the 1980s) (Lee 1978; Lary 1999). However, migration since the 1980s largely represents a response to economic development and governmental policy changes (Goldstein and Goldstein 1991). As in other developing countries, there is a substantial difference in quality of life and job security between rural and urban areas. One of the fundamental sources of differentiation

is strong control of permanent migration in China, with the government trying to direct population away from cities. This was reflected in the 1982 urban development policy, “strict control of large cities, rational development of medium cities, and encouragement of the growth of small cities and towns” (Goldstein and Goldstein 1991), or the “rural urbanization strategy” (Kwok 1992), which attempted to contain the rural labor migration within the countryside. Since the mid-1980s, some of these controls have been relaxed due to economic liberalization, especially the growing urban demand for cheap labor from non-state-owned enterprises (Ma 1999); however, the state is still deeply involved in the migration process, only devolving its responsibility to the local states (Guang 2001). Thus in China, rural-urban migration takes the form of temporary and circulatory migration⁹ (Goldstein and Goldstein 1991; Ma 1999).

3.2.2 Migration Selection: Socio-economic, Age, and Gender Differentials

As Gilbert and Gugler (1992) stated, even though the rural-urban gap in developing countries might induce wholesale emigration from the disadvantaged rural areas, “cities are less hospitable to new immigrants; only the highly trained, well connected, and hardy venture there” (p. 73-4). Migration thus becomes selective on three

⁹ According to Zhang (1998), permanent migration in China is defined as a change of place with hukou registration. Otherwise, migration is considered as temporary, regardless of the actual duration of movement. Wu (2002a) defined migration as a process that takes place in two forms: through permanent migration (*qianyi*) with formal changes of household registration (*hukou*) and through temporary movement (officially called “floating population” or *liudong renkou*) without official changes of hukou from the origin to the destination.

important characteristics: socio-economic background, age, and gender. First, migration in China is selective on education. It had been assumed that rural migrants were “worse quality” and thus had to accept manual jobs as their economic strategy. Nevertheless, both the national survey and research in large cities reveal no evidence that migrants have a lower education level than urban residents. On the contrary, a 1993 survey in Shanghai found out that there were more illiterate and semi-illiterate among local residents than among the “floating populations” (Zhang 1998). This definitely supports the selection argument; however, it might have obscured some facts about rural migrants, since “floating populations” referred to people living outside their places of permanent household registration, thus including both migrants from urban areas and migrants from rural areas.

In China, migrants are in their 20s to 40s (Goldstein and Goldstein 1991). Children are only a small proportion of migrants. Until 1998, the *hukou* status of children followed that of the mother, so even if the husband had obtained permanent residence, the children could not be a permanent resident unless the wife would also (Chan and Zhang 1999). Actually, migrants send their children back to the countryside because of the lack of access to urban education (Goldstein and Goldstein 1991). The finding that most migrants are middle-aged or aged contradicts findings in other developing countries where the young move around. Although there could be a bias in the survey design, to a large extent it reflects the nature of temporary migration.

In developing countries, gender differences persist in internal migration. For example, in Southeast Asia, more women are migrating to urban areas (Gilbert and Gugler 1992). In China, women make up 41 percent of migrants from rural areas. As

stated by some scholars (Goldstein and Goldstein 1991), this data might not reflect the real gender difference, since the sex ratio of men to women was above one. Moreover, these data at the macro level might have masked the gender difference at the micro level, i.e., cities or communities.

Nevertheless, it has been observed that migration to large cities is a highly gendered process in China, with men and women going to different places and finding different jobs. For example, most female labor migrants from the Anhui province go to Beijing to do domestic work. While female migrants from the Sichuan province go to Southeast China to work in labor-intensive and export industries, male migrants, on the other hand, leave their villages to do construction work, transportation work, or trading (Davin 1996). Moreover, age and marital status further complicate the gender differentials in migration. It has been found in China that marital status is the most powerful predictor of female labor migration, while having no effect on male migration. Women remain at home when aged and married, not only due to family responsibilities, lower education levels, and social and cultural norms, but also due to the preference of factories and workshops to employ single women (Roberts 2002). Recently a group of researchers completed a series of exciting studies of gender and migration in China. Some focused on female marriage migration in China (Fan and Youqin 1998; Fan and Li 2002), which accounts for the single largest proportion of female movement within or between provinces. Some researchers are looking at the occupational patterns of different genders (Xin 1998) in relation to duration of settlement (Davin 1996; Roberts 2002).

3.2.3 Residential Selection of Migrants

To understand the residential patterns of migrants, at least three strands of theories need to be addressed: the broad structural perspectives on migration that emphasize accessible housing for rural migrants, the individual and household perspective of the importance of individual/household choices, and the network perspective that stresses the importance of social network among migrants, built upon chain migration. I examine the three theoretical perspectives and empirical results here.

3.2.3.1 Structural Perspectives on Migrant Housing

In China, housing, which is strongly associated with *hukou*, is difficult for migrants to attain. It has been argued that although urban housing reforms have been implemented, the old institution, work units, still plays an important role in housing distribution by funding construction and the purchase of public and commercial housing (Zhou and Logan 1996; Bian et al. 1997). People who are not working in state working units are disadvantaged by their inability to access the funds. Migrants who do not have access to state job opportunities are totally overlooked by housing reforms.

Based on surveys in Shanghai and Beijing, Wu (2002b) concluded that rentals remained the best opportunity for migrants without local *hukou*, and more than half of them did so in both cities. The bulk of rental housing is private housing located in suburban or even rural areas, where rural residents have been allowed to build private housing that was in some cases automatically converted to residences for urbanites during urban expansion and land acquisition by the urban municipality. The second choice for

migrants is institutionally provided dormitories. In addition, a new type of housing called “migrant housing complexes” managed by sub-district and township agencies is available in cities now. However, informal settlements are not as valid an option for migrants in China as they are for migrants in other developing countries because China has strict policies about self-built housing and squatters.

3.2.3.2 Individual and Household Perspectives

Research has shown that the limited housing choices for migrants might also result from migrants’ housing decisions. In general, temporary migrants might be less willing to invest in substantial housing, bearing certain characteristics with the preferences of third world immigrants in developed countries.

By prioritizing individual choices, the Turner model has been very effective in explaining low-income migrant settlement patterns. According to Turner (1968), three variables determine the residential locations of migrants: *tenure of housing, proximity to unskilled employment opportunities, priority for modern shelter*. A two-stage process of residential movement was also specified: most low-income migrants would first live as renters in the inner city and later move as owners into peripheral low-income settlements (Gilbert and Ward 1982). However, the model’s validity has been contested for not taking into consideration structural constraints, such as changing urban policy, land price, density, and so forth.

In China, more factors have been incorporated into the model. It has been argued that *institutional factors* such as the Chinese housing market, household registration

system, and *circulating nature of migration* should be considered. And among the several factors provided by Turner, employment is the most important, while availability of housing does not affect the choices of residence (Wu 2002c).

3.2.3.3 Network Perspectives on Migrant Housing

In addition, *chain migration* also affects the choice of residence, according to another strand of research on migrant settlements based on close family and kinship ties (Gu and Liu 2002). This is particularly prominent in large cities where temporary migration is strictly controlled and regulated. Migrants from the same province form “migrant enclaves” in suburban areas where rental housing is available (Wu 2002b), and where job opportunity is available in both informal sectors and heavy industries relocated to the periphery of the city (Jie and Taubmann 2002). However, these secluded villages or enclaves are carefully distinguished from informal settlements in other developing countries (Wu 2002b). For example, Beijing’s migrant villages exist in built-up areas rather than self-built areas, and migrants rent from local residents, sharing their communities with local residents.

3.3 Development, Poverty and Inequality

3.3.1 Development Paradigms

Poverty in third world countries has long been regarded as a development issue. Studies of poverty and inequality have been deeply informed by development theories. Generally, two traditional perspectives have prescribed the pathways for developing countries—the structuralist and neoclassical approaches.

The structuralist paradigm was developed first to shed light on the reasons for underdevelopment and development in Latin America. The structural perspective is based on the reality of the rural-urban divide in most developing countries. Urban and rural areas can have a positive or negative relationship with development (Satterthwaite and Tacoli 2002). According to Hunt (1989c), the main principles of the classical structuralist analysis of underdevelopment include: (1) an underdeveloped economy characterized by a low per-capita income and certain important structural features, such as (a) the juxtaposition of a large agricultural sector that combines a technology with low levels of productivity, and a modern sector that uses a much more advanced technology; (b) a modern sector that is usually established by foreign capital engaged in primary production for export, and characterized by a high level of openness (a large proportion of its output is exported and a large proportion of its input is imported); (c) an underdeveloped economy that is not able to design and manufacture the capital goods needed by the modern sector; (d) a small proportion of the total population employed in the modern sector; (e) an agricultural sector characterized by certain forms of land tenure

that limit the expansion of output; (f) an underdevelopment economy characterized by domestic supply rigidities in major branches of the economy, and by high income and low price elasticities of import demand in the modern sector , which suggests an ineffective response of the economy to conventional monetary measures of control; and (g) an economy characterized by high rates of population growth; (2) an internal growth dynamic that has not been fully generated due to these characteristics; and (3) an economic development consisting of raising per-capita income and structural transformation in order to sustain economic growth.

Since the structuralists believe that the main constraints to economic development are the same structural features outlined above, their policy recommendations center on finding ways in which governments can intervene to help private producers change these structural characteristics, by promoting import substitution in individual underdeveloped countries, establishing common markets among underdeveloped countries, and implementing land reform (Hunt 1989c). The United Nations Economic Commission for Latin America (ECLA) school strongly advocates an import-substituting industrialization policy that would help peripheral countries to switch from the “outward-looking development” process to an “inward-directed” one (Kay 1989). Main policy instruments include tariffs and quotas, foreign exchange rationing, low formal sector interest rates and tax concessions to industrial investors. Foreign investment is welcomed as a potential source of finance and technology (Hunt 1989c). In general, those who advocate this view argue that “[u]nderdeveloped countries cannot be expected to replicate the development paths of the now industrially advanced countries due to the nature of their position in the international economy” (p. 122). However, “industrially advanced countries can assist the

development of the periphery by opening their markets to its exports and by providing financial aid to ease foreign exchange shortages” (p. 123).

Both in and outside Latin America, criticisms have been leveled against various aspects of the structuralist paradigm. Initially, questions were raised by non-structuralists especially the neo-classical economists, on the methodological foundation, the logical validity of structuralist theory, and the consequences of government promotion of import substitution. As growth in Latin America slowed from the second half of the 1960s, accompanied by unexpected phenomena such as worsening balance of payments crises, stagnation of the domestic market and the perpetuation of dualism, structuralist economists began to diagnose the causes. This body of work actually developed into one of the three branches of dependency theory. For neo-classical economists, the policy instruments, including tax remission on capital investment, cheap credit, overvalued exchange-rates, foreign exchange and investment licensing, selective tariffs and import quotas, “have distorted relative prices and thereby have also distorted the choice of techniques in production, the intersectoral allocation of resources and the pattern of investment within industry” (Hunt 1989c, p. 152). In addition, neo-classical economists believe that government intervention in resource allocation has been a major source of corruption and inefficiency and delay in resource allocation. The neo-classical economists thereby recommend a series of alternative policies:

underdeveloped countries should reduce government intervention in resource allocation and leave this to the market, confining any intervention to the correction of existing market distortions rather than the creation of new ones. Unduly prolonged protection of infant industries should be eliminated, and tariff structures (typically high on consumer goods and

zero on capital goods) should be rationalized. Existing industries should be forced to greater efficiency by requiring them to face foreign competition. Meanwhile, exchange rates should be restored to equilibrium levels, thereby providing a much needed boost to exports. (Hunt 1989c, p. 153)

The 1980s saw a resurgence of theories of society that stressed the role of the market. According to Preston (1996), these theories came to prominence in the West when post-Second World War Keynesian growth and welfare schemes seem to fail. These celebrations of the market have been influential in development theory and practice, especially via the activities of the World Bank and the IMF. The intellectual core of the New Right approach is the neo-classical model of the market as a self-regulating system that maximizes benefits to all participants. This analytical approach was built upon the belief in the philosophy of laissez-faire, the acceptance of the theory of comparative advantage, and values that emphasized the merits of competitive private enterprise operating in free markets, especially during the late nineteenth century and the first half of the twentieth century (Hunt 1989b).

In development work the neo-classical school led to a stress on outward-directed development strategies and the encouragement of unregulated markets. As the 1980s progressed two lines of criticism were formulated: (a) the market model at the centre of the program was radically unsatisfactory intellectually; and (b) the policy flowing from the model did not seem to be working in either the First or Third World where, if anything, poverty seemed to be increasing. More specifically, criticisms have been applied to some of the neo-classical contributions to development economics, such as those on international trade and industrialization and the neo-classical underpinnings of

IMF stabilization programs, etc. For international trade and industrialization, there is the question of the universal validity of the theory of comparative advantage. The strategy of export-led growth has also been criticized for lack of realism. First, there has been an incorrect interpretation of the historical experience of the main countries cited as leading examples of export-led growth. In reality, Taiwan and South Korea have both experienced various forms of government intervention. Second, the proposition of export-led growth is based upon unrealistic assumptions that exports can act as an engine of growth for a large number of low- and middle-income countries simultaneously.

In a similar fashion, criticisms have been leveled against the IMF stabilization programs, initially from a classical structuralist perspective but subsequently also by dependency theorists and proponents of meeting basic needs. According to Hunt (1989b), (1) the approach attacks the symptoms instead of the causes of instability; (2) the recommended policy measures lead to further price inflation, industrial recession and increased unemployment; (3) the recommended policy measures do not guarantee significant improvement in the balance of payments; and (4) these programs hit the poor hardest, those “who are least able to afford the rising prices and who often also bear the brunt of cut-backs in public sector health and education expenditure” (p. 322). A detailed critique of the IMF Financial Programming Model can be found in *IMF Programmes in Developing Countries* by Tony Killick (1995) and *Stabilisation and Structural Adjustment* by Finn Tarp (1993).

After “market triumphalism”, the study of development has returned to the former stage of pre-paradigm described by Forster-Carter in the 1970s. From the 1980s onwards, an increasing number of publications outlined what became known as “the impasse in

development theory”(Schuurman 1993). In conjunction with the paradigm evolution in development studies, starting from the 1970s, in both rich and poor countries, there was a growing disillusionment with the idea that the relentless pursuit of growth was the principal economic objective of society. In developed countries, the major emphasis seemed to shift toward more concern for the quality of life, a concern manifested mainly in the environmental movement (such as those proposed by sustainable development and the basic needs paradigms). In poor countries, the main concern focused on the question of growth versus income distribution—on not only how to make GNP grow but also who would make it grow. If it were the rich, it would most likely be appropriated by them, and poverty and inequality would continue to worsen. Good examples include the hundreds of millions of people in Africa, Asia, and Latin America, who endure stagnated and even declining living standards, despite some growth in GNP during the 1970s. When the situation was further aggravated by the debt crisis in the 1980s, especially for those in Latin America and sub-Saharan Africa, many scholars and policymakers worldwide began to call for the dethronement of GNP as the major objective of economic activity. Seeing the problems of widespread poverty and growing income inequality in the 1970s, people started to question whether it was sufficient to solely rely on the natural forces of economic growth to reduce absolute poverty in most developing countries (Todaro 1997).

3.3.2 Debates inside the Chinese Party-State

The Chinese government has actively engaged in internal debates on issues of development since the 1970s. While in the late 1970s and 1980s, the debate was largely

between radical reformers and the others, which climaxed in the Tiananmen Square incident in 1989, the focus of discussion has been shifted to more practical issues about economic development and stability since the 1990s.

After the incident in 1989, new theorists arise, reflecting the denouncement of the liberal democratic orientation of radical reformists and their followers, and the resurgence of the neo-Maoism and neo-authoritarianism evolving from the ideological stances in the early reform era. Nevertheless, these theorists are divided into neo-left and neo-right on the basis of how they articulate the goals of development and whose interests they speak for (Misra 2003). The neo-leftists are referred to by some as a “broad range of officials and theorists” who are concerned about “the increasing gap between socialist norms and official policies, the emergence of class stratification, erosion of Communist values, the integration of China into the global capitalist system” (p. 718), and so on. The rightist are the “radical reformers, who are committed to a much greater extent to privatization, market forces, Open Door policies”, and so on. They are less concerned with upholding the socialist ideologies (p. 718).

However, the neo-left and the neo-right share a strikingly common understanding of the role of the state in addressing the tensions of recent economic development such as those caused by widening inequality in China. Income gaps and inequalities have been frequently addressed in the official media, Communist Party reports, and policy initiatives from both political sides.

The neo-left are concerned with rising inequality and urban poverty, mostly because these phenomena pose risks for social and political instability and threat to the socialist ideology. The theorists do not oppose marketization and globalization processes;

however, they believe that a level of equality should be maintained both inside cities and between urban and rural areas. They argue that a decisive state action to implement reforms to address the difference is more important than ever in order to eliminate the distortions stemming from vested interests of privileged groups (Misra 2003). Policy initiatives from the left include a program to develop the west and a nation-wide campaign to address the “three rural issues”— issues related to agriculture, rural areas, and peasants.

The neo-right, although strong proponents of marketization, and less concerned about the erosion of socialist ideals, seem to have reached a consensus that a strong party-state and reversing the erosion of traditional cultural norms and values are keys to China’s continual economic development. This theory reflects a pragmatic approach to reform, a sharp contrast to the radical approach in the 1980s, which became obsolete soon after being crushed in 1989. This gradualist approach was further reinforced by the perceived “failure” of market transition in east Europe that adopted a radical approach (Misra 2003). The neo-right sympathize with the social groups that suffer from economic dislocation; however, they believe that a Chinese development pathway with a blend of western ideas and Chinese traditional values such as collectivism and patriotism is capable of reconciling disparate interests among social groups. A party-state led by a well-educated technocratic stratum is apparently essential to such a development model. A recent party slogan —“to build a harmonious society”— is an example of ideologies influenced by such views.

3.3.3 Is Development a Cure for Poverty and Inequality in China?

3.3.3.1 Development and Poverty Alleviation

China has been a very interesting case in studying the relationship between economic development and poverty alleviation. It has long been presented by the World Bank and other organizations as a role model in poverty alleviation, partially due to its headlong progress toward marketization as compared to some of the unsuccessful efforts made by other developing countries either in furthering economic reforms or implementing poverty alleviation programs. However, China is still ideologically different from most other developing countries. The widening income gap and rising urban poverty in that country raise doubts about the applicability of the Chinese model as well as its feasibility and durability.

Since the Communist Party took power in 1949, China has experienced dramatic changes in economic policies inside the country and toward the rest of the world. The year 1979 was pivotal in dividing the history of economic development in post-1949 China into two eras: Maoist and Dengist. In contrast with the basic tenet of Maoist economic policy that was presented as the development of a “socialist man” based on co-operative value orientations, emphasis in Deng’s policy announcements was on the development of a competitive spirit, and particularly on greater availability of private goods, especially consumer goods (Chakravarty 1987).

Some components of the new policy are similar to key elements in the export-led growth pattern. A central element of the new policy has been the opening of the Chinese

economy to foreign direct investors. The most distinctive feature of the policy is the explicit use of geography in its implementation. In part to control the spread of capitalism and in part to make the policy more effective through agglomeration economies, several locations were chosen for FDI investment. Initially, the foci were the four Special Economic Zones established in 1979 at Shenzhen, Zhuhai, Shantou and Xiamen, all along the southeast coast and geographically close to Hong Kong or Macao. Subsequently, other kinds of externally oriented locations in “open coastal cities” and “priority development areas” were developed. The Chinese Special Economic Zones (SEZs) share some features with Export Processing Zones (EPZs) in other developing countries. They offer a package of incentives, including tax concessions, duty-free import arrangements and serviced infrastructure. But there are significant differences between the two. First, the Chinese SEZs are generally much larger than the EPZs. In addition, the SEZs were regarded as social and economic laboratories in which foreign technological and managerial skills might be observed and adopted selectively (Dicken 1998). Third, the original SEZs were mainly located in areas distant from the major urban and industrial areas in order to control the extent of their influence, which differs significantly from the EPZs in other Asian countries.

However, in evaluating the impact of export industries on poverty reduction, it would be erroneous to ignore the other important elements in the Chinese economic reform package. As introduced at the Fifth National People’s Congress in 1980, the reform package included key elements such as the promulgation of agricultural reforms (including long-term leases on land and permission for farmers to specialize in cash crops and to engage in nonagricultural activities), self-management rights, introduction of

greater competition in the marketplace, easing of the tax burden on non-government enterprises, and facilitation of direct contact between Chinese and foreign trading companies (Todaro 1997). Besides, there are idiosyncrasies in the development path that China has followed over the past twenty years. Differing from other transitional economies, China has adopted economic reform in rural areas first. This was largely due to one of Deng Xiaoping's important policy objectives: the reduction and ultimate elimination of poverty from China. Since most poor people live in rural areas and agriculture is the least centralized sector in the economy, Deng decided to reform agriculture first, before moving on to reform the urban and industrial sectors. This agricultural reform, namely, the household production responsibility system, was introduced and spread rapidly throughout the country. It allowed farmers to retain a certain proportion of outputs after fulfilling a production quota. With the initial success of rural reform, China started to reform the state-owned enterprises (Yao 2000). Last but not least, China's economic reform and its experimentation with capitalism were largely confined within the social political framework of "Market Socialism". Since 1978, the fundamental premise of China's economic policy has been that consumer welfare, economic productivity, and political stability are indivisible. Thus, despite the inflows of foreign capital and technologies, China remains a centrally controlled command economy in which state-owned enterprises predominate, at least in employment.

It is likely that the reform and growth process in China has contributed positively to poverty outcomes. First, the Chinese growth was faster than that which occurred in most other developing countries. Economic growth in China has provided much higher living standards to the China's population. The success is evident in a number of

macroeconomic indicators. Per-capita GDP almost quadrupled in rural areas and more than tripled in cities from 1978 to 1996 (Yao 2000). China's average growth rate of per-capita income was nearly 9 percent per year during 1980-2000, as compared to India's 4 percent per year (Srinivasan 2002). Among all indicators, there are two prominent ones. China continued to save and invest a high proportion of its GDP; the ratio of FDI to GDP grew steadily from virtually nothing to 4.3 percent in 2000. Second, it has been argued that the Chinese growth was more pro-poor (Srinivasan 2002). As discussed above, China reformed its agriculture first by abolishing collectives, introducing the household responsibility system, and reducing mandatory deliveries of output to the state by farmers, thereby enabling farmers to produce for the market. This also differed from the practices of other large third world countries where poverty was predominantly a rural phenomenon.

Meanwhile, as discussed earlier, economic growth alone is inadequate to reduce poverty. There is evidence that as the process of economic reform continues, China is becoming more unequal. Generally, there is consensus among researchers about the initial decline in income inequality followed by increasing inequality since the economic reform (Parish 1984; Nee 1991a). More specifically, as Ahuja et al. (1997) indicate, four distinct phases are discernible in poverty and inequality trends in post-reform China. The first phase, 1978-84, was characterized by rapid growth in per-capita incomes, reduced income inequality and rapid poverty reduction. During the second phase, 1984-91, trends in income inequality were reversed and poverty incidence stagnated. The third phase, 1991-93, saw an acceleration of per-capita income growth and the resumption of poverty reduction. However, the income gap further widened. Growth momentum continued

during the fourth phase, 1993-95, when the rate of poverty reduction accelerated and income inequality declined. For urban poverty, despite a relatively inconsistent measurement of urban poverty and discrepancies in estimates of urban poverty changes from the 1980s to the 1990s (Khan and Riskin 1998), it has been widely agreed that there was a significant reduction in urban poverty between the late 1980s and the mid-1990s (Khan 1996; Khan and Riskin 2001), followed by an increase in urban poverty since the mid-1990s (World Bank 1997; Leung and Wong 1999; Wang 1999; Qian and Wong 2000; Park and Wang 2001).

3.3.3.2 Development and Regional Inequality

The trend in regional disparity has also been intensely debated. In general, many share the view that regional disparity has widened since the 1978 reforms (Lakshmanan and Hua 1987; Kueh 1989), except those who maintain that regional gaps in 1978-88 actually narrowed (Denny 1991). In addition, interregional patterns of inequality differed from interprovincial patterns (Wei and Ma 1996a). The rural-urban gap and interprovincial inequality have contributed most to the rise in inequality in China (Ahuja et al. 1997).

Due to different data and scales of analysis, empirical studies have generated roughly inconsistent results. First, at the *regional level*, Wang and Ge (2004) applied Barro's convergence model and Theil's regional inequality index to the study of inequality among the *three broad regions* in China from 1985 to 1999. Their analysis indicated a conditional convergence pattern, where the regional disparities between the

east and the rest of China were widening, and the regional disparity between the central and western areas was shrinking. At *sub-regional level*, Bhalla, Yao and Zhang (2003) investigated convergence patterns among China's provinces using GDP data for the period 1952-97 and found evidence of convergence within the pre-defined geo-economic sub-regions, but no evidence between sub-regions.

Second, inequality at the *provincial level* fluctuated more strongly compared to inter-regional disparity over the past decades (Wei and Ma 1996b). An earlier attempt by Jian, Sachs and Warner (1996) found that real incomes in Chinese provinces did not display strong convergence or divergence during the initial phase of central planning from 1952 to 1965. They further indicated that during the Cultural Revolution (1965-1978), regional inequality widened as socialist planning favored the already richer industrial regions at the expense of the poorer agricultural regions, followed by a sharp regional equalization of income after market-oriented reforms began in 1978. This regional convergence at the beginning of reform was believed to be strongly associated with the rise in rural productivity, particularly within the group of provinces at the forefront of reform. Ying's study (1999) further indicated a U-shaped pattern of inter-provincial disparities in per-capita GDP during the particular time period of 1984-1994, attributing the initial decline in inequality to increased income in the southern coastal provinces. Although the quick rise of the coastal region permanently changed the traditional North-South inequality to the Coastal-Interior one, there was a dramatic reshuffling among the coastal provinces, with some provinces catching up and some falling behind in relative positions (Wei 1998).

Finally, *sub-provincial and county-level* data, though difficult to access in China, have indicated that, ironically, in the coastal provinces, economic reform has set forth a new stage of intra-province or inter-county inequality despite significant reductions in poverty in these places. By analyzing time-series per-capita consumption data gathered through a national household survey at the sub-provincial level (urban and rural areas)—a relatively restricted data set—Kanbur and Zhang (2005) reached a similar conclusion to that by Jian, Sachs and Warner (1996) at the provincial level—three peaks of inequality coincided with the Great Faming of the late 1950s, the Cultural Revolution, and the period of global integration of the late 1990s. Further regression analysis indicated that regional inequality could be explained by three key policy variables: the degrees of heavy industrialization, decentralization, and openness. In addition to the above micro-level analysis, some chose to interpret inter-county inequality in coastal provinces. Using county-level data from the Fujian province, Lyons (1998) found that while each county in Fujian had experienced substantial growth in income and poverty alleviation, intra-provincial disparity had nevertheless widened since the beginning of reform. Wei and Kim (2002) used time-series county data for the Jiangsu province and concluded specifically that inter-county inequality was largely static until the start of urban reform in 1984. Research in the Zhejiang province (Wei and Ye 2004) further proves that in some coastal provinces, urban reform in conjunction with rising local agents of development set the stage for a new phase of intra-provincial inequality, given that some coastal counties and cities have recorded dramatic growth centered on the private sector, while others favored by Mao's industrialization policy and some traditionally poor counties and cities experienced slower growth.

It is debatable how economic reform has impacted poverty outcomes and directly contributed to uneven development across the country. Yet certain elements of the reform package can partially explain the increasing inequality in both rural and urban areas. One of the elements contributing to rural income disparity is the uneven development of Township and Village Enterprises (TVEs) across regions. By generating nonfarm income through production activities, the TVEs have not only made a significant contribution to state revenue, but also provided jobs for almost 30 percent of the rural labor force. In the early years, the majority of TVEs produced low-technology and low-valued products for the domestic market. Many TVEs then began to produce a variety of export products. By 1993, about one-third of national exports were accounted for by TVEs; this number has continued to grow since 1993. However, the distributions of TVEs and their output value have a distinct spatial pattern. TVE employment was concentrated in the eastern region. Per-capita TVE gross output value was more than double the output of TVEs in the center region and almost quadruple the output of TVEs in the west (Yao 2000).

Uneven distribution of state investment also has largely contributed to the spatial inequality of development between urban and rural areas and across different sizes of urban areas. It is obvious that in the period of economic reforms, the state has clearly favored the development of the coastal regions. This is revealed in the aforementioned practices of the Chinese government in choosing locations along the coast for early FDIs. This trend differs dramatically from the spatial pattern of state investment in the Maoist era, when state capital went to the interior (Wei and Ma 1994). As such, according to the World Bank, the inter- and intra-province differences in average income reflect to a large extent not just national and provincial power in granting city status to urban areas and

urban residency status to individuals, but the distribution of investment in State Owned Enterprises, the major employer and care taker of most urban residents (World Bank 1992).

The regional disparity has been further complicated by massive inter- and intra-provincial migration. Town and county populations tended to move to towns at the intra-provincial level, but to cities at the inter-provincial level (Shen 1995), which suggests that a significant proportion of rural migrants choose to work in TVEs and live in towns and countrysides, thereby ameliorating urban rural disparity to a certain extent. But it might also aggravate interprovincial and intraprovincial income disparities at the same time. Currently, the demographic differentials between the eastern region and the rest of China (i.e., proportion of working-age population, household size, sex ratio, and levels of urbanization and educational attainment) suggest that migration is playing an increasingly important role in shaping regional population distribution and that the acceleration of uneven regional development poses a major challenge to policy makers (Fan 2002b). China has had a well formulated target program to alleviate rural poverty in most of the poor counties in the west and central regions. However, there is little emphasis on the inequality within cities that is caused by the same process.

Focusing on urban areas, two distinct factors contribute to the rise in urban poverty. First, the uneven inflow of FDI toward large cities has created new spatial structures in cities like Beijing, Shanghai, Tianjing, et al. FDI is focused on the service sector and high-tech industries, leading to social polarization and uneven development among districts. Second, data reveal that *de jure* migration (i.e., migrant registration in new residence) has remained comparatively stable since the beginning of the reforms, but

de facto migration, especially from rural areas to the more prosperous cities, has increased substantially (Li 1995). Rural surplus labor, released from the agricultural sector, ventured into large cities when large numbers of jobs such as construction workers, baby-sitters, family servants, restaurant and repairing services workers, became available with the expansion of the service sector. The increase in rural migrants has been so dramatic that in Beijing the number of migrant residents reached 3 million, about 30 percent of the total population in 1998, as compared to 0.2 million in 1984 (Gu and Kesteloot 2002). In contrast to the booming urban centers, migrants from the same province have formed “migrant enclaves” in suburban areas where rental housing is available (Wu 2002b), and where job opportunities can be found in both informal sectors and heavy industries (Jie and Taubmann 2002).

3.3.4 Summary: Development, Poverty, and Inequality in China

To summarize, China’s development path has been unique in combining development policies characteristic of different ideologies. The principles of market socialism have not yet been fully established, either in China or elsewhere. Under the Maoist paradigm, which involves a comprehensive understanding of the interrelated processes of social, economic, ideological and political development, China made strong efforts in structure transformation and met the basic needs of its population. Since 1978, wide-ranging economic reforms have been introduced in China. The new economic policy mix contains elements of continuity, accelerated change, and dramatic break with the past. There has been a clear-cut rejection of the Maoist emphasis on the development

of production relations, illustrated in agricultural decollectivization, combined with a switch to greater reliance on individual incentives and growing emphasis on profitability as a gauge of economic efficiency. Despite the resemblance between the Chinese reform package and the neo-liberal advocacy, the state, the Chinese central government, has been the dominant actor in planning and implementing the economic transformation. As such, it is difficult to align the Chinese experience during the past twenty years with any of the mainstream development paradigms. It might also be wise to quote Hunt (1989a), who argues that “Maoism has been replaced not by a coherent new development perspective, but by a search for one” (p. 254).

The success of China’s economic development after the implementation of open-door policies has been a double-edged sword in the development of urban poverty. On the one hand, both the high economic growth rate generated by export industries, under the uneven but efficient Open Policy, and the pro-poor growth pattern resulting from agricultural reform have contributed positively to poverty reduction in China . On the other hand, they have widened the income gap and regional disparity by enriching some areas of the population and depriving others.

3.4 Summary: A Turn to a Structure-Agency Approach to Urban Poverty

The literature in sociology, migration, and development studies has greatly informed the study of urban poverty in China. (1) Drawing on class and stratification theories, sociologists have conveyed a mixed picture of current trends in China. While a manipulated class structure in the socialist era clearly disrupted the perception of

inequality, a new class structure is in the shaping, rest upon the state's direct ownership and distribution of social goods. Both market and institutional factors are seen as changing the stratification structure in China. In particular, the "market transition thesis" and its anti-theses have laid out the background for understating contemporary urban poverty in China: the poor are poor not simply because of individual incapacity in the face of marketization or the existence of biased national policies towards certain social groups, but as a reaction to the emergence of transforming institutions in a combination of market forces. (2) Third world migration theorists have offered explanations for the trends of migration. On the other hand, they tend to overlook the relationship between inter-regional migration and the spatial outcome of migration inside cities. In China, migration is both an outcome of controlled divide between urban and rural areas and a source of the spatial distribution and mobility of poverty. (3) The largest body of literature on urban poverty in China is actually found in development studies, regional studies and urban geography. Through a pragmatic, selective, and eclectic approach to reform, China has seen a decline in poverty numbers and a rise in inequality between and among provinces. However, regional scientists are more concerned with the measurement of inequality and poverty in China and urban geographers are interested in the representation of poverty, such as migrant enclaves in less than a handful of case-study cities. Both are largely silent on explanations for the existence of urban poverty and locational tendencies of the urban poor at multiple scales.

There are inherent methodological deficiencies in these theoretical approaches to the understanding of poverty and inequality. Using a structuralist approach, third world migration and development theorists have created a dichotomy between urban and rural

areas, which restricts and simplifies explanation of the impact of migration on places of origin and destination by prioritizing modern core over traditional periphery and separating analyses into micro and macro levels (Murphy 2002; Jacka and Gaetano 2004). As a result, the perception of rural migrants as the poor from “backward” regions, inherent in the idea of “internal orientalism”, becomes a plausible explanation for the perception of rural migrants as a different group from that of urban proletariats. In addition, this dichotomy fails to address the differentiated outcomes of migration to cities, and processes of integration and alienation, and treats the experiences of the group in the same manner.

Regional scientists have offered a pluralistic view of trends in regional inequality and poverty. (Neoclassical theorists stress the role of the market in distributing resources and driving regional development. Structuralist theorists’ explanation is based on the core-periphery structure sustained by the drive for profits, surplus value, and capital accumulation in any capitalist society. Most notable in the two perspectives is the convergence theories such as the inverted U-theory and the divergence theories from the dependency and structural schools.) However, both the structuralist and neoclassical perspectives have ignored the agency of the state and the role of economic and non economic institutions in regional development, i.e., the territorially grounded networks and development paths in regional development (Storper 1997). For example, according to the convergence-divergence dualism (a structuralist perspective in nature), rising inequality and poverty are easily dismissed as temporary phenomena associated with economic reform in most transitional economies, as explained in the inverted-U model. This model is a hard sell in the case of China. In a state-centered economy such as China,

the fluctuation in inequality is clearly in accordance with major shifts in state policies and interventions in the distribution of socioeconomic opportunities, as discussed in section 3.3.2.2.

In addition, few of the theoretical approaches have successfully incorporated the factors of a central-local state corporatism, the juxtaposition of pre-reform and post-reform institutions, and a family and community effect. *First*, the Chinese state plays a critical role in devising and adjusting the goals of development. The implementation of the framework for social economic change is never a simple top-down process—neither is it a bottom-up one. The central state works in close collaboration with local states in the process of social economic reforms, with the central state constantly incorporating local experiences and initiatives into national policies and institutions. *Second*, a static structuralist perspective does not work in a context such as China where successions of norms and practices occur on a daily basis. Traditional Chinese institutions (e.g., *hukou* policy) were important factors shaping the unique landscape of poverty in China before and shortly after economic reform. The institutional changes embarked on by local states and the central state have recently modified the structure of inequality and poverty, creating new opportunities for some, and depriving life chances from others. To capture both institutions, it requires a dynamic model. *Third*, the Chinese family-centered welfare ideal places family and community on a level above the social assistance system as the primary caretaker of the poor. In this sense, individuals and families are forced to work out their own ways of combating negativities and insecurities. How poor individuals and families rationalize their behaviors in response to the shifting

opportunity structures in cities, such as accessibilities to jobs and housing, adds up to variations that cannot be easily captured in a structuralist theory.

In summary, given the theoretical vacuum in the study of urban poverty in China, epistemological disjuncture in relevant research areas, and methodological shortcomings in some of the current approaches, it is important to develop a comprehensive research framework that addresses the occurrence of poverty and its spatial tendencies in Chinese cities during economic transitions. My research framework is based on reviews and critiques of the literature and proposes an agency-structure perspective to understanding urban poverty in China: urban poverty in China is shaped by both structural characteristics of the economy and the active agency by individuals, families, communities and local states in response to the transitional structures. To understand this perspective of structure and agency and agency effect on structure, I pursue a multi-level and multi-actor approach, which is described in the next chapter.

Chapter 4

CONSTRUCTION OF URBAN POVERTY AT THE STATE, LOCAL GOVERNMENT, COMMUNITY AND HOUSEHOLD LEVELS: A MULTI-LEVEL AND MULTI-ACTOR APPROACH

As described in the previous chapter, sociological examinations of urban inequality have focused on class structure and stratification among social groups in China. Such studies tend to ignore the geographic factor of urban privilege as a dimension of inequality. Third world migration and development studies conducted from a structuralist perspective have focused on migration trends at the regional level and the lived experience of migrants as a social group. They have overlooked the differentiated lived experiences of migrants as well as the differentiated spatial outcomes of migration in cities. Regional and urban studies, though concerned with measurements and spatial representations of poverty and inequality, have failed to provide explanations of the existence and locational tendency of urban poverty.

The goal of this chapter is to introduce a methodological framework for the study of urban poverty in China. Using a multi-level and multi-actor approach, I argue that an understanding of the structural characteristics of the Chinese transitional economy in the form of institutions as well as the agency of multiple actors such as the state, local states, communities and individuals is necessary to improve explanations for the existence and locational tendency of urban poverty in contemporary China.

In this chapter, I first discuss the notion of the changing role of the state in China and its spatial consequences in relation to urban poverty. I then elaborate on the

emergence of communities and their effect on urban poverty in contemporary China. The third section is devoted to the introduction of the multi-level, multi-actor framework, how it informs and guides the empirical research design for this dissertation, and how empirical questions are framed. In the rest of the chapter, we look at the connections between the methodology and methods applied to my empirical studies: what research questions were asked at each level, which data were used and how they were collected for the analysis at each level, and what specific methods were employed at each level. The fourth section states the research questions and hypothesis. The fifth section describes the three-level empirical research design. The sixth and seventh sections focus on the types of data used and the research methods employed at each level of the empirical analyses.

4.1 The Changing Role and Organization of the State in China

The Maoist development paradigm (from the mid-1950s to 1978) centers on self-reliance, economic development, and equitable income distribution (Hunt 1989a). To build up its productive capacity, China adopted a Stalinist approach to development and moved towards “modernization”. In this approach, the emphasis was on the building of industries subject to huge economies of scale. This strategy privileged heavy industry at the expense of light industry and agriculture.

In Mao’s time, the political rhetoric appeared to favor rural areas by promoting, for example, technologies in the countryside during the Great Leap Forward, and by sending young intellectuals to the countryside for reeducation during the Cultural Revolution. However, this development strategy actually favored urbanites, at least

before the Cultural Revolution, because the industrialization process required the use of social resources obtained by draining surplus product from the rural workforce.

Since the late 1970s, China has been undergoing a process of transformation from a socialist planned economy to a socialist market economy and more recently to a mixed market economy. This transition is following a gradualist approach to reform, which means reform sector by sector (agriculture, industry, trade and foreign investment, etc.) and region by region (rural reform began in the late 1970s, followed by urban reforms).

What distinguishes the Chinese economy today is the recognition of private ownership and importance of non-state sectors. The Chinese Constitution recognizes that “individual, private and other non-public economies” are “major components of the socialist market economy” and that “the state protects the lawful rights and interests of individual and private economies” (“Amendment” 1999). These institutional changes have enabled and continue to enable the emergence of the non-state sector.

The Maoist state certainly arose from the adaptation of Marxian theory to Mao’s understandings of the Chinese reality. The state was ubiquitous in urban and rural areas, with different components serving the same goal—to build a socialist society. As a political and economic organ, the central state was the only one responsible for the distribution and redistribution of material and nonmaterial benefits.

Now, in 2006, the state resembles the state in a capitalist market economy. Although barriers to a real market economy still exist, such as capital controls, non-performing loans, etc., China has made progress in incorporating elements of a capitalist market economy into the post-socialist model of political economy. More

specifically, it has taken the developmental state model commonly observed in Asian countries and adapted it to China's unique circumstances.

What is unique about the Chinese model is that the goal of development is implemented at two levels, summarized as "central/local synergism" (Xia 2000, p. 3). The duality of the Chinese developmental state instigates discussion on Marx's contention that the state would eventually wither away.

Those who support the "withering away of the state" in China list a series of state actions as evidence, including downsizing the bureaucracy, stripping government agencies of some of their powers, encouraging the authority of local elected governments, and encouraging the formation of alternative governance schemes at local levels. Others argue that decentralization is a pre-condition, not a consequence, of Chinese economic development, due to pre-existing institutional legacies (Xia 2000). However, has the state really withered away? What is the implication of this possibility for the study of poverty? My response to the questions is as follows.

In adopting a "Dual-Track" system rather than a "Shock-Therapy" or "Big-Bang" model of reform, the state, as the embodiment of pre-existing and post-socialist economic, social, and political institutions, still maintains a central role in different aspects of society. Yet as the state embraces a market economy, much of the economic decision-making power has devolved to the provincial and local government levels (Lau 1998). In the meantime, the central, provincial and local governments now maintain a relationship that is similar to that of firms. The goal is to maximize profits in their own administrative areas and create mutual benefits among firms, local governments and the state government. In addition, the central state government has gradually shed some of its

former social responsibilities. For example, the state has turned from the public provision of centralized welfare services at the enterprise level to a societal-centered system at the local government level.

Indeed the local states take more initiative than before in making social economic decisions, including welfare provision, land distribution, housing market organization, and *hukou* policy reforms. The developed regions see more vibrant local governance where the local state plays an active role in local economies.

The “devolution” or “decentralization” thesis has been a core concern and an important premise of my research on urban poverty in China. In a country that has been depicted as “another United Nations”, or “a Chinese confederation of states”(Yabuki and Harner 1999, p. 10), where the provincial differences in area, population, and income level parallel those among separate countries, the decentralization of state power in conjunction with the rise of the market economy is not leading to an even distribution of benefits across regions and among individuals.

4.2 The Rise of Urban Communities in China

The community effect on people’s daily life is no less in the Chinese society than in any western society. Several factors have contributed to the current situation and sense of community in China. *First*, the strong localism that is embedded in Chinese traditional society is central to the organization of contemporary Chinese society. People develop a sense of attachment to their birthplaces and their place-based social relationships. *Second*, in China, the sense of community in cities has been reinforced by government-imposed

street offices (in streets, or communities) and residents' committees (in neighborhoods). The street offices and residents' committees were first established legally in the 1950s. Although publicly announced as self-organized, self-administered, and non-administrative organizations by the central government, they constituted the important bottom tier of the Chinese local administrative structure (Wong 1993). Their primary goals have shifted from political control and management to social services at local levels since reform.

The rise of community-based social care since economic reform is not a pure coincidence. *First*, street offices and committees were created in the very context of the devolution of state functions in social control and public management (Dou 2003). The administrative function of street offices was particularly enhanced during the Cultural Revolution, when government-imposed political campaigns and activities were locally organized. At the same time, the all-encompassing *Danwei*-based workfare system left no space, resource, or target individuals for the committees to work with. *Second*, since economic reform in the 1980s, committees have resumed and strengthened their social function due to rapid population growth and increasing instability in urban areas, the expansion of non-state-sector workforce, and, more importantly, the gradual dysfunction of the workfare system. When needs for public space, public service, and public affairs grow, and the state devolves its social responsibility to local governments, the role of committees and street offices is strengthened.

Communities provide a wide range of services, from birth control education, vocational training, reemployment education, community-based social assistance (such as the Minimum Living Standard Scheme, or MLSS) and social relief allocation, to public

security and public hygiene services. For the poor, communities can provide direct assistance such as material subsidies, income subsidies, volunteer help, and assistance to access social security, unemployment insurance, and medical insurance programs. They also can provide indirect assistance such as vocational training, education, and consulting. However, community assistance for the poor is at great variance across cities and communities.

Since street offices and residents' committees are partially funded by the local government and partially self-funded, care for the poor differs from place to place depending on community financial resources and local government funding abilities. As a result, rural migrants, recently laid-off or unemployed natives, and individuals with available family support are sometimes not considered to be the neediest populations in communities where funding is limited and the low-income population is vast. Instead, priorities are given to the population marginalized in both the *Danwei* system and the family support system, such as the elderly poor, the disabled poor, relief targets, MLSS recipients, and families of laid-off couples.

4.3 Introduction to a Multi-level and Multi-actor Research Framework

Previous research indicates that institutional arrangements, such as access to and control of the redistribution of resources, are the major mechanisms of urban inequality (Nee 1996). Here, the focus of my research is on the impact of economic transformation on the poor segment of urban society in China and its spatial implications. The main research hypothesis is as follows: Contemporary urban poverty in China has a dual nature.

It is shaped by both pre-existing and post-socialist institutional and market-related structures, which operate at different geographical scales. The duality is also reflected in the fundamental differences in life chances among the major poverty groups. These differences can be explained by two major factors: social economic status as expressed by age, gender, income, education and occupation, and migratory status as expressed by *hukou* status and duration of stay in the city. Both characterize the urban poor's access to housing and welfare in the city.

To test this hypothesis, a multi-scale and multi-actor framework was used (see Figure 4-1). The framework focuses on the role of structures in the form of institutions, practices, and value systems, and the role of agency by agents in the form of state, local government, community, and family.

The rationale of the framework is based on understanding of the ways in which pre-existing Chinese and socialist structures, market-related structural changes in China, and the agency of various actors such as the central state government, local state governments, and communities, affect outcomes related to poverty in urban areas. The goal of the chart is show what affects the life chances of poor native and migrant populations.

Two systems of structural effects coexist in China: pre-existing ones such as the *hukou* (family registration) policy¹⁰ and the family-centered welfare policy, and the market-oriented ones such as State Owned Enterprises reform, housing reform, and urban

¹⁰ The *hukou* policy dated back to the 1950s. It was used as a means to control rural-urban migration. After a period of relaxation, recently this rule has been further modified to allow people to move to urban areas for work.

redevelopment in China. On the one hand, the state has never fully abandoned pre-existing policies to control population movement or welfare provision. On the other hand, the state has initiated nation-wide urban reforms in order to step away from being the single employer, housing provider, and developer in Chinese cities.

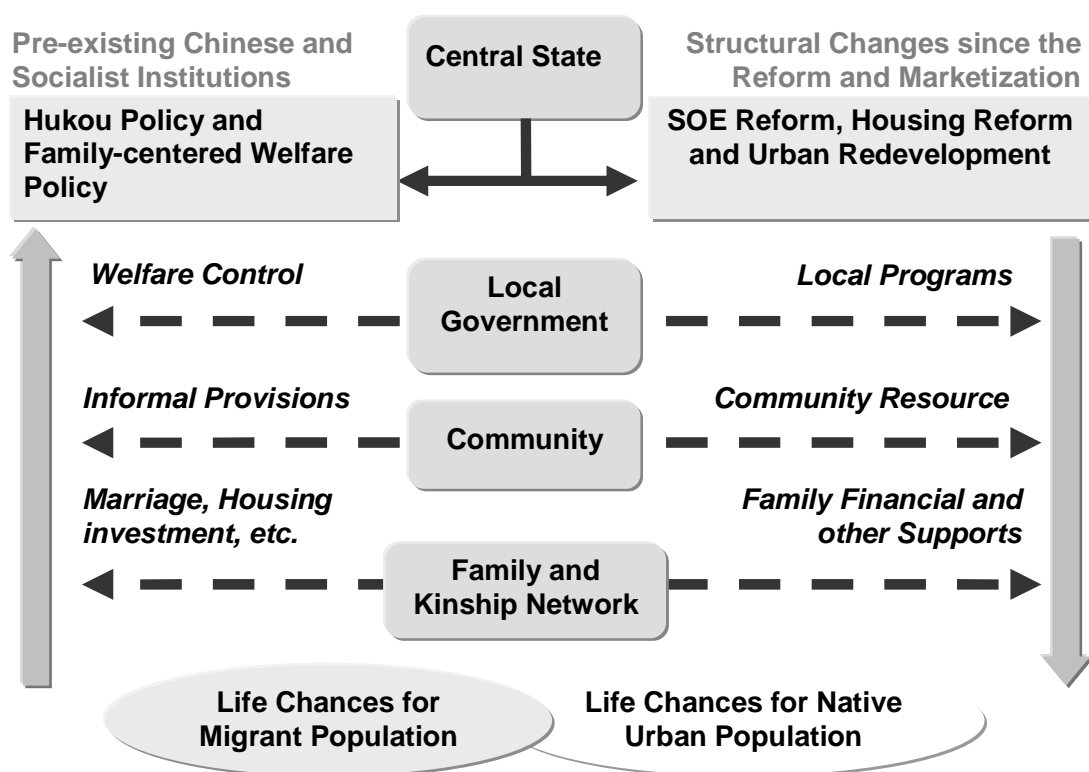


Figure 4-1: A Multi-level and Multi-actor Framework for Urban Poverty in China

Besides the state, four relevant scales matter: local government level, community level, and family and individual levels. At each level, various responses from each actor to both systems can reinforce, perpetuate or mitigate the impacts of the two systems on

urban poor. For example, at the local state level, city governments have the liberty to relax or toughen *hukou* control in welfare provision and *hukou*-related housing provision, which has a direct consequence for local migrant population.

Four actors are important components of the framework. To elaborate on how different actors matter, *first*, the relationship between the state and individuals has changed. As part of the institutional framework, the welfare system in China has gradually shifted from an economic development-oriented and work incentive policy to a multi-tiered safety network policy financed and operationalized by the joint efforts of local governments, enterprises and individuals. As work units cease to be the major provider of “cradle to grave” welfare support to employees, state workers’ total dependency on work units has gradually disappeared. Meanwhile, workers and non-workers are seeking jobs in both formal and informal job markets when the state is no longer the sole employer in urban areas.

Second, local governments are playing important roles in determining the well-being of urban residents. The Chinese *hukou* system was relaxed as a result of economic reform and spontaneous rural-urban migration as early as the late 1970s. Professors Lincoln H. Day and Ma Xia called it “a half-free and half-closed policy” in the mid-1990s (as cited in Thakur 2002, p. 302). Currently, it no longer functions as the social institutional barrier to labor movement. As such, today’s *hukou* system reform is really “an attempt by the state to come to terms with the phenomenon of large scale rural-urban migration” (Thakur 2002, p. 306). However, the reform is carried out unevenly and the unequal enforcement of the locally adjusted *hukou* policies has contributed to the uneven formation of local citizenship for rural migrants (Smart and

Smart 2001). Housing reform is also enacted differently among cities. Although in some cities migrants can now participate in the commercial housing market, research indicates that the urban poor in general are not fully addressed by current housing reform policies (Wang 2000). Employees in work units with greater political status benefit most from the new housing policy, while employees in the private sector totally depend on their own income in purchasing new housing. As such, people outside state sectors and with few personal assets (e.g., laid off workers, early retirees, and self-employed persons in informal sectors) are among the most disadvantaged groups under current housing policy.

Third, communities are crucial to the allocation of resources that are important to the poor segment in the urban population. Street office areas and residents' committee areas in Chinese cities, the equivalents of communities and neighborhoods in western societies, although imposed by local governments rather than self-organized, function as the basic social welfare providers to the most marginalized and disadvantaged proportion of the population. In particular, the employment potential of people with disabilities was once strengthened by working in community welfare enterprises, co-operatives, private businesses and other productive activities directly operated or supported by street offices and residents' committees. Since reform, communities have dropped much of their functionality as the managers of welfare enterprises; however, they continue to provide support to private business and informal economies such as street vending, delivery, janitorial, and community cleaning work.

Fourth, at the lower level, family and kinship ties provide safety networks for the poor. Unlike many western countries, the family has been the traditional basis of the welfare system in China, which provides both income security and social economic

support (Dixon 1981). The family is still the primary unit for the allocation of the Minimum Living Standard Scheme (MLSS) in each city, which to a certain extent has lessened inequality among family members. There are numerous studies on the effect of kinship ties on chain migration and migrants' choices of residence in the city. However, we know little about the family and kinship support of the native urban poor.

The dashed arrows originating from the actors refer to the responses from actors to pre-existing institutions and new institutional changes. In the right portion of the scheme, the responses from the three actors tend to reinforce the structural changes toward a market-oriented economy, by attempting to minimize the cost of current reforms for certain groups. Local governments and communities offer re-employment programs, training programs and low-rent housing programs so that the poor can participate in formal labor and housing markets. For example, the community-based MLSS is provided largely to the neediest and to the temporary poor only on the condition that they are unable to work and uncared by their families. However, given the limited resources both actors own and the ideology to enable the poor to participate in the formal market, they have played limited roles in supporting and creating opportunities for the poor both inside and outside the formal market. The only exception is that, as depicted at the bottom of the picture, the family has absorbed most of the negativities caused by market reform for the poor.

With few opportunities for the poor on the right side, *hukou* and many traditional institutions, on the left side, seem to be sustained or reinforced as well, despite the fact that local governments, communities, and families improvise to circumvent the obstacles placed by traditional socialist institutions. For example, in most cities, a blue-print *hukou*

policy is enacted to grant urban *hukou* to migrant families on the condition that they purchase urban commodity housing. This policy, although applauded by some scholars, actually reinforces the value of an urban *hukou* as the only access to urban benefits. Communities occasionally provide informal employment and housing opportunities for migrants, but they generally have a limited impact and only cover formally registered migrants. Again, as others have studied, *hukou* marriage (migrant women or men marrying urban natives) and housing investment help migrant individuals and families to attain urban *hukou* without going through the normal procedure in which a migrant needs to get a formal and high-ranked urban appointment in order to apply for urban *hukou*). These also reinforce the effect of the pre-existing system.

As such, the life chances for both poverty groups are defined by their abilities to respond to market-oriented structural changes, and by their pre-defined opportunities associated with pre-existing institutions that are still in effect. Both are conditioned by the effects of local states, communities, and families.

This research framework avoids a simplistic view of market transition as a set of imposed institutional reforms and values that divide the poor into “incapables” and those with no state connections. To the contrary, it provides a dynamic view that market reform could reinforce the pre-existing institutions such as *hukou* and family-based welfare, while providing few opportunities for the poor in the market. It also suggests that urban poverty stemming from institutional transformation has spatial implications at multiple levels.

4.4 Key Research Questions and Hypothesis

The research framework directs us toward the questions central to this dissertation: What shapes the changing landscape of urban poverty in China? (By landscape, I mean a comprehensive view of urban poverty in social and geographic terms.) The framework indicates three relevant scales that are critical to the research question: state level, city level, community and individual levels. At each level, urban poverty assumes a different meaning and generates a different set of research questions. The specific focus of this dissertation is urban poverty in three spatial forms:

- a) at the state level, urban poverty emerging as a form of moving opportunities and relative deprivations across space;
- b) at the city level, the (re)location and concentration of urban poverty due to migration control and urban redevelopment in the local institutional context; and
- c) at the community and individual levels, urban poverty as an outcome associated with the individual's connection with both market- and state-related institutions, conditioned by family and community-based support.

Given the anticipated rise in rural-urban migration in upcoming decades in China and the particular spatial trends in Chinese cities, the main question can be decomposed into three sets of empirical questions that will be addressed in chapters 5, 6 and 7, respectively:

1. How does the spatial pattern of deprivation across cities change?
What role does migration play in shaping inequality across cities?

2. What spatial trends of poverty can be identified within cities, given the effective end of state control in residential space and population movement, and the incursion of market-oriented housing provision and allocation?
3. Does prior socioeconomic status affect the probability of being poor? What role does *hukou* status play in structuring access to urban benefits?

The central argument in this dissertation is this: The geography of urban poverty in China is shaped by both structural characteristics, including pre-existing Chinese and socialist institutions and market-related institutional changes, and the agency of multiple actors that aggravate, reinforce, or mitigate the structural characteristics emerging from the changing role of the state. The argument involves the following hypotheses that will be further discussed in chapters 5, 6 and 7, respectively:

- a) Migration has become one of the driving forces in the changing pattern of inequality and poverty across cities.
- b) The traditional role played by pre-existing institutions such as *hukou* is diminishing and has gradually given way to the importance of market-related factors. As a result, socioeconomic level, as measured by income and occupation, has gradually become the defining feature used to characterize communities in China.
- c) Both government-imposed “communities” and family networks play crucial roles in either alleviating or perpetuating urban poverty in China.

4.5 A Three-level Empirical Research Design

To answer the research questions, I developed a three-level analytical framework through which to analyze the growth in urban poverty and its locational tendencies in China. This research design included three levels of analyses: cross-country census data analysis, a case study of community poverty based on city census data, and a case study of housing for the poor based on survey and interview data. The result of each analysis is presented in the next three chapters. To answer the questions posed above, I used census data in chapters 5 and 6. In chapter 7, I used both quantitative and qualitative data collected from a survey and interviews. In addition, official data such as urban housing statistics were acquired for the cross-country analysis.

4.5.1 Level One: Urban Deprivation across Chinese Cities

The national-level analysis aims to present the landscape of opportunities and deprivations in China and forces at macro levels that shape the changes. The 1990 and 2000 county-level census data were explored to articulate the spatial pattern of urban poverty and relative deprivation across Chinese cities during the past decade of urban reform.

In specific, I addressed the following questions at this level: How does the geographic distribution of poverty in Chinese cities change from 1990 and 2000? Why do rising affluence and rising inequality across cities coexist, and is migration one of the driving force(s) in the changing patterns of urban deprivation across cities?

4.5.2 Level Two: Case Study of Urban Poverty in Communities

The second level of analysis involved an intra-city study, based on the case of Nanjing City, in order to explore the spatial configurations of urban poverty at the community level. At one level theory tells us that migrants will go to places where there is the greatest opportunity; the biggest cities may or may not provide greater opportunity given people's tendency to migrate to places long after opportunities are exhausted. Theory also suggests that migrants gravitate to places where there are family members, social networks, and affordable housing.

This analysis attempts to provide an understanding of the locational tendencies of the poor in cities by asking the following questions: Given the trends of spatial stratification in China, what are the patterns of communities associated with a multitude of socioeconomic characteristics of communities? What are the roles of *hukou*, income, and housing in shaping the intra-city locations of the poor? What are the spatial trends of poverty across communities in the context of local institutional arrangements such as migration control and urban redevelopment policies?

Nanjing was chosen as the case city for both its representitiveness and particularities. The city has a profound pre-socialist history of social polarization and its transformation from a capitalist city under Chiang Kaishek to a socialist city under Mao in one of the most developed regions in China, the Yangtze River Delta. It has a lower urban poverty rate than a number of cities in northern and western China, according to findings from Hussain (2003); however, it presents the dramatic gap in the poverty rate between local residents and rural migrants, second only to Urumqi (the capital city of the

Xinjiang Uygur Autonomous Region) and Jinan (the capital city of the Shandong Province in northern China). The sharp difference could be due to multiple reasons, including the idiosyncrasies of the migrant population in a city (i.e., the major places of origins, occupations, and average duration of stay), which are supposed to have significant impacts on the average social economic attainment of migrants. It can also be related to the capacity of the city to provide decent jobs and abodes for migrants. It is important to note that it is the mechanisms behind the spatial pattern rather than the case per se that is of the greatest research interest to the author.

4.5.3 Level Three: Case Study of Housing Tenure for Poor Family Households

While both the cross-country and the intra-city analyses help in identifying patterns and trends, they cannot tell us why and how migrants end up in specific locations within a city. What are the responses of individuals and families to the shifting structure of urban inequality? To gain a better understanding of this *individual-level* process, it is necessary to look at poverty in neighborhoods and families. Since studies in socialist states suggest that the housing system is often the source of urban inequality (Szelenyi 1983), and the housing reform encourages ownership, it is important to understand how the poor access the most important resource in urban China.

I ask these questions at this level: What are the factors that affect the tenure choice and ability of poor households? How do socioeconomic factors and institutional factors affect their behavior? What are the roles of family households and communities in the construction and perpetuation of poverty spaces? What strategies do family

households follow to actually gain from economic reform and avoid becoming a member of the relative poor?

There are several possible explanations for why housing is an important and perfect case through which to gain a deeper understanding of urban poverty in China. In particular, I chose housing because it permitted an exploration of the differentiated life chances among poverty groups and how pre-existing institutions, such as *hukou* policy, and market-related individual factors, such as individual's education and household income, shape and re-shape their access to spatially distributed urban benefits. *First*, housing condition has traditionally been one of the important measures of material deprivation and is increasingly a measure of inequality in urban China. Housing overcrowding used to characterize the average living condition of urban residents in China before the early 1990s. Since China put an end to the state- and *Danwei*-based welfare housing provision, housing inequality has become more prominent than ever. *Second*, the poor in urban China face tremendous housing constraints that simply cannot be ignored in any poverty research. China's homeownership-oriented housing reform has improved the living condition of most urban Chinese; yet it also has raised the cost of accessing quality housing for some. Studies have shown that housing reform has not benefited the poor, when full-price commodity housing is erected at a much greater pace than the replenishment of low-cost rental housing. The disproportionate housing cost (compared to average income), underdeveloped housing welfare system, strict control of self-built housing, and the instability caused by urban redevelopment have left the poor with extremely limited options. *Third*, the urban housing system is a typical example of the presence of both pre-existing socialist institutions and market-oriented changes. The

state- and *Danwei*-based housing allocation was not effectively ended until the end of the 1990s, almost a decade after the state publicly announced housing reform nationwide. As a result, both those with close connections to the state and high individual capacities are rewarded by housing reform. *Finally*, housing is a perfect case through which to study the poor's differentiated responses to shifting opportunity structures in urban China. For low-income groups, housing is an important asset that cushions them against temporary and persistent poverty. The capacity of the family household to attain urban housing greatly affects their access to other economic opportunities.

4.6 Data Collection

To operationalize the research analyses described above, three major types of data were acquired. For questions answered in chapter 5, I utilized the county-level population census data for China, 1990 and 2000. In addition, housing statistics for all Chinese cities in 1990 were acquired. In chapter 6, I used the street-level city census data for Nanjing, 2000 for the intra-city analysis. A primary data set collected by the author from a 2004 survey in Nanjing and interviews with thirteen household heads at the same time were utilized for the housing analysis in chapter 7.

4.6.1 Population Census Data of China

Income data are often one of the most desirable types of data for deprivation analyses; however, real income data adjusted by price index is often not completely

available for an extensive list of cities in China. Moreover, average income data do not reflect spatial variations, especially when used in highly aggregated spatial area units such as counties and cities.

In chapter 5, I used census variables to approximate understanding of relative deprivation across cities. County-level census data from 1990 and 2000 were obtained as primary data for analysis. City data sets were then subtracted from the two county-level data sets to form a new data set for the analysis.

The source of the 1990 Population Census data was a free on-line data set titled “The 1990 Population Census and Agriculture Data” developed by the China In Time and Space (CITAS) project funded by The Center for International Earth Science Information Network (CIESIN). The 2000 Population Census data were provided by the China Data Center at University of Michigan on a CD titled, “2000 China County Population and Socioeconomic Indicators with County Maps”. More details about the continuity and quality of the two census data sets are provided in Appendix A.

4.6.2 Population Census Data of Nanjing City

The data used in the intra-city analysis in chapter 6 are from both short-form and long-form data ¹¹collected in the 2000 Census of Nanjing. Census data published in China are only available in aggregate form, mostly at the district level, which limits their

¹¹ According to Lavelly (2001), the 2000 Census of China adopted two forms of the census questionnaire. The short form contains standard items collected for every person in every household, including age, sex, nationality, registrations status, and educational level. The long form was administered to a 10% sample of households and contains items on housing, migration and employment.

usability. This analysis uses census data in aggregate form at the *jiedao* (community) level, which provides a rare chance to examine spatial inequality and differentiation at a finer-grain level.

An array of data capturing a wide range of socioeconomic, demographic, migratory and housing characteristics of the population at the street or *jiedao* level of aggregation from the 2000 Nanjing Census, have been selected for principal components and cluster analyses. A total of forty-five variables for sixty-two communities are selected. See Appendix C for a detailed list of variables selected.

4.6.3 Other Secondary Data

Besides census data, the only secondary data collected were housing statistics for all cities in China, 1990, for the cross-country deprivation analysis. Since the 1990 Census did not include information on housing, a housing variable was obtained from the *China Urban Construction Yearbook* to complement the 1990 Census data.

4.6.4 Survey and Interview

A multi-level analysis of housing for the poor required a hierarchical data set based on a sample of households and individuals who are poor or potentially poor in Nanjing. The collection of these data via a primary survey and interview was necessary for several reasons. *First*, disaggregated socioeconomic data on urban households and individuals in a specific city in China are very limited. The Urban Household Survey

conducted by the statistics bureau in every city is generally not accessible to outside researchers. *Second*, only a very small sample of migrants is included in the official survey. *Finally*, published survey data collected by other scholars either were outdated or lacked a rigorous sampling strategy for quantitative analysis. The items collected often reflect a specific interest of the scholar. As such, current research tends to be strongly influenced by the availability and type of data, and presents the life patterns of the poor by focusing on either migrants or registered urban residents.

My household and individual survey was based on a random sample of households in Nanjing that encompassed not just low-income groups, but also migrants and families with unemployment history. The survey collected 23 items of information on 281 native and migrant households and 34 items of information on all 948 household members, through face-to-face interviews with the households in Nanjing between July and August of 2004. Among them, 279 respondent households fell into one of the three categories: (1) lower-than-half-of-the-median-per capita household income level; (2) at least one family member with an unemployment history; and (3) at least one family member born in the rural area. Thirteen household headers from the respondent families were randomly selected for a follow-up in-depth interview about family history related to migration, employment and their experience of poverty.

The survey adopted a multi-stage random sampling strategy with a short screening process to identify the potential poverty subgroups. The sampling procedure involved three steps. First, 19 *jiedao* areas (communities) were randomly selected from a total of 44 urban *jiedao* and 18 suburban *jiedao* areas in Nanjing (P1=30%). Second, 37 *jumin weiyuanhui* areas (neighborhoods) were randomly selected from a total of the 193

neighborhoods within the 19 *jiedao* areas ($P2=20\%$). Third, thousands of households were randomly selected at a fixed interval from the resident registry household data (including both urban native and registered migrant households) provided by the 37 *jumin weiyuanhui* offices ($P3=4\%$). Overall, a 0.24% sample of urban households (including migrant and native ones) was randomly selected from all households in Nanjing ($P=P1\times P2\times P3=0.24\%$).

A short screening process was applied to each respondent during the door-to-door visits. Respondents who did not self-identify themselves with any of the three subgroups, by providing all negative answers to the three screening questions about income, rural origin, and unemployment history, were not interviewed further. Only those providing at least one positive answer to the three screening questions were interviewed further to complete the questionnaire survey. At the end of the survey, each household was asked if they also wanted to do a voluntary follow-up interview with the author.

Once respondents self-identified with any of the three subgroups, they were asked to complete the questionnaire that included a household form and a household member form, which collected information on the household and all household members. Questions included on the household form focused on basic demographics, employment, income and expenditure, housing, and welfare conditions. Questions asked on the individual form included basic individual demographics, occupation, income, employment and unemployment history, welfare history, and migration history.

By the end of the survey period, the research group successfully contacted nearly 2,000 family households for the screening process, most by door-to-door visits. A total of 281 households successfully completed the questionnaire. Of these, 279 fell into at least

one of the three categories. More than 50 households agreed to do the in-depth interview following the survey. Due to time and budget limits, 13 households were selected to participate in the in-depth interview.

The evaluation of the sample was two-fold. *First*, with an initial sample of 1,984 households, we obtain a relative low margin of error of approximately 2.2%, which means with the sample size, the estimate is representative to within 2.2% of the population. Assuming minimum nonsampling errors, this is a fairly good statistic and indicates good representitiveness. *Second*, the effect of nonsampling errors should be carefully evaluated. Both a selection bias due to the sampling frame and a nonresponse bias could affect the representativeness of the results for the sample. (1)The sampling frame for my survey was based on community registrar data, which provides highly accurate lists of resident native households and fairly accurate lists of resident migrant households. However, it is possible for some transient single migrants of unknown residence not to be included in the list. Some migrant family households who recently relocated to the area could also be missing from the list. Migrant workers, mostly single, who live in large-scale dorms provided by employers, are typically not registered with local communities. Given my research interest in poverty family households, the effect of the omission of the single migrant workers was negligible, while the effect of the omission of some members of transient population with unknown residence and of newly relocated migrant families might lead to biased generalization of the survey results. (2) The total nonresponse rate (the rate of those not willing to participate, not willing to answer the screening questions, or not home, among the sampled households) was 16.3%, which is at an acceptable level when using survey data in generalizations. However, as

described in Appendix D, it is difficult to calculate the effect of nonresponse on survey results, since there are no data to show whether the families not home or not participating are poor or non-poor.

The sampling strategy is described in detail in Appendix D. A copy of the survey questionnaire and interview schedule may be found in Appendix E.

4.7 Research Methods

In light of the diversity of the questions asked at the three scales and the nature of the census and survey data collected, several analytical methods, including both quantitative and qualitative methods, were employed. Due to the nature of the questions asked at the national and intra-city levels, in chapters 5 and 6, spatial analysis was employed as the research method to explore the changing patterns of poverty across the county and within the case city. Both statistical regression analysis and qualitative analysis were employed in chapter 7 to explain the roles of individuals, families and communities in the construction of poverty spaces.

4.7.1 Deprivation Analysis across Cities

Urban deprivation is a relative term. As John Cassidy (2006, p. 42) said in an article in the *New Yorker*, “[t]he poor suffer not only from their own privations but from the wealth of others.” Although deprivation literally refers to conditions that are below what is considered necessary for a pleasant life, much comparison is made to the majority

of population rather than an absolute poverty line. Herbert (1975, p. 362) defined deprivation as “a standard of living or a quality of life below that of the majority in a particular society, to the extent that it involves hardship, inadequate access to resources, and underprivilege.” To operationalize the concept, urban geographers further define deprivation as “a set of social, economic, and housing conditions and problems experienced in an urban area that places some residents at a relative disadvantage compared with the population as a whole” (Kitchen 2001, p. 1906).

Studies on deprivation originated from the debate surrounding urban decay and degeneration in the inner cities of the U.K. and the U.S. Moreso in the U.K. (Herbert 1975; Holtermann 1975) and later in Canada (Broadway 1989; Broadway and Jesty 1998; Ley and Smith 2000), and less so in the U.S., the spatial patterns and interrelationships among multiple aspects of deprivation have been regarded as important components of social geographical study (Knox and Pinch 2000). Recent study on deprivation has shed light on poverty in other high-income countries such as New Zealand (Crampton, Salmond and Kirkpatrick 2004) and Spain (Benach et al. 2001) and middle- and low-income countries such as South Africa (McIntyre, Muirhead and Gilson 2002).

Deprivation indices, like socioeconomic well-being indices in some ways, include an array of economic and social indicators such as poverty rates (Broadway 1989), unemployment rates (Holtermann 1975), low economic activities (Holtermann and Silkin 1976; Broadway 1989) or low labor participation (Broadway 1989), low educational attainment (Herbert 1975; Ley and Smith 2000), low-pay jobs or low occupational skills (Herbert 1975), vulnerable groups such as elderly-headed and female-headed households (Broadway 1989; Ley and Smith 2000), welfare dependency measured by government

transfer payments (Ley and Smith 2000), sub-standard housing as a measure of low-quality physical environment (Herbert 1975), and crime or delinquency rates (Smith 1973). In addition, some suggest that the location of an immigrant population in Canada is associated with areas of deprivation (Ley and Smith 2000). As such, indicators about immigrants such as non-native English speakers have been incorporated into recent studies of deprivation (Langlois and Kitchen 2001). In developing countries, rurality, child, illiterate elderly, and lack of access to basic services often constitute the main dimensions of deprivation (McIntyre, Muirhead and Gilson 2002). In summary, the depth and width of deprivation are measured on the basis of population associated with one or more of the above features as percentage(s) of total population. Analysis is often small area-based with the use of aggregate data at the census tract or district level.

Criticisms leveled at the use of deprivation indices include ecological fallacy, or fallacies that stem from attempts to make inferences about an individual based on aggregate data. Others criticize the ignorance of spatial heterogeneity in deprivation studies, and more specifically, the neglect of differentiated local conditions when a universal model is applied to different localities (Longley and Tobon 2004). For example, in some places with high unemployment rates, receiving regular paychecks from a job is a more critical element of well-being than decent housing. However, compared to single measures and indicators representing an area's educational level, income and employment, and housing condition, a composite index such as the deprivation index provides an efficient, and in quite a number of cases, an effective way to classify area units and summarize area differences based on key social and economic statistics (Singh 2003).

4.7.1.1 Variable Selections

In chapter 5, I extend the term “deprivation” further beyond the scope of the healthiness of inner-city areas compared to the city as a whole to the well-being of a whole city compared to other cities. As such, the deprivation index should include a set of indicators that can summarize the depths of relative poverty, deprivation, or underprivilege in Chinese cities, and qualify for classification and inter-city comparisons.

The indicators were selected on the basis of four criteria: (1) certain level of consistency between the two sets of indicators required for comparison between 1990 and 2000 with the maximum use of census data for each year, (2) the accordance with previous international research on deprivation (as described in section 4.7.1) and the Chinese context, (3) the interpretability of the variable as a direct indicator or measure of deprivation, not an indirect causal factor or explanatory variable of deprivation, and (4) the ability of the variable to identify patterns associated with deprivation at city level, which is often statistically judged by the strengths of correlations between variables¹². For example, average years at school is not a good identifier of deprivation at the city level, because as a mean value it offers no distributional information and is not directly

¹² Some recommended using the significant level of 1% of Spearman’s rank correlation coefficients, or Pearson rank correlation coefficients as a benchmark. For an example, see D. McIntyre, D. Muirhead, et al. (2002), “Geographic patterns of deprivation in South Africa: informing health equity analyses and public resource allocation strategies,” *Health Policy and Planning* 17: 30-39. For more discussion, see I. Adelman and C. T. Morris (1967), *Society, politics and economic development: A quantitative approach* (Baltimore, Johns Hopkins Press).

indicative of the presence of lower-educated population. Also, self-built housing, while indicating a certain type of ownership, does not suggest any privilege in the Chinese context due to its particular historical context and its association with low housing quality and poor living conditions, especially in large cities in China (highest correlation with low housing conditions among the municipalities and provincial capital cities and among the middle region, lowest among county-level cities and among the east coast). As such, housing ownership in general, although frequently used in the international context as an indicator of privilege and wealth, needs to be exchanged for ownership of purchased housing (or non self-built) in the Chinese context.

4.7.1.2 Deprivation Index

Multivariate methods such as principal components analysis have been widely utilized in deriving social indexes such as welfare index and deprivation index (Cummins et al. 2003; Lai 2003). They also have been proved to be useful in identifying the trends of spatial inequality or polarization (Gu et al. 2001). By identifying a small number of important factors to represent many interrelated variables, it is possible to obtain one or two predominant factors to represent the development level of each spatial unit. Component scores can be calculated to compare the development pattern over time and across space. More details about multivariate analyses may be found in section 4.7.2.3.

In chapter 5, I first used descriptive statistics to depict spatial variation in the major social and economic indicators and did a principal components analysis (PCA) to analyze a selected set of the variables to generate indices of deprivation for each of the

two years. These data were then used to map the patterns of inequality across cities in China from 1990 to 2000, and used in comparisons between the changing rural-urban migration patterns and the changing inequality patterns across cities in China.

4.7.2 Intra-city Analysis of Urban Poverty in Communities

In chapter 6, a community-level analysis was employed to explore the spatial distribution of poverty in the city of Nanjing. In order to identify poor communities, two multivariate methods—principal components analysis and cluster analysis—were employed in the study of the intra-city spatial pattern of poverty. The selection of variables for both analyses was based on the understanding of the major dimensions of social and spatial stratification in China.

4.7.2.1 Measuring Stratification in Cities

As the mechanisms of socioeconomic stratification in China remain mixed and complex, recent research has only generated a mixed story of how both state redistributive power and market elements contribute to varied levels of educational attainment, gender inequalities, career mobility, income distribution, housing redistribution and consumption, and so forth in China. Below, I detail each of the areas listed above.

Educational Attainment

Formal education is often used as a conventional measure of human capital. Measures of educational attainment are used to compose the measure of SES (Social Economic Status) and to predict an individual's socioeconomic status or occupational placement and to measure the outcomes of social stratification.

In China, the massification of public education has strongly improved since the Compulsory Education Law went into effect in 1986. This law calls for each child to have nine years of formal education. According to Surowski's essay (2005) on the educational system in China, formal education in that country can be divided into four categories: primary education, secondary education, higher education, and adult education. (1) Primary education includes pre-school education and elementary education. The latter has five or six grades, depending on the local system. (2) Secondary education can be further divided into regular secondary education and vocational and technical secondary education. Regular secondary education is comprised of junior middle school and senior middle school education. Junior middle school education lasts three to four years and senior middle school lasts three years. Students can also enroll in vocational and technical schools, upon graduation from junior middle school. Vocational schools offer two- to four-year programs while technical schools offer four-year programs. (3) Higher education, as in many parts of the world, includes undergraduate-level and graduate-level education. At the undergraduate level, it includes two-year colleges, four-year colleges, and universities. (4) The last category, adult education, covers all three categories. It also includes adult primary, adult secondary, and adult higher education. Adult education may be organized into a myriad of forms by various entities in both urban and rural areas.

The regional and rural-urban disparity in education cannot be ignored in China. Institutional and historical reasons account for the embedded inequality in education. First, before the 1980s, China's distributional policies first favored urban areas, and then rural areas, with a rationing system that provided urban residents with an education at lower cost. In rural areas basic education was largely organized by the communes based on agricultural collectivization. Second, ever since the late 1970s, the state's redistributive power has decreased as new market incentives have been introduced. Both urban and rural residents have had to pay a greater share than for the earlier 9-year basic education. The government's decreasing share of education expenditures has largely disadvantaged children in poor families, especially those in rural areas who cannot afford the "out-of-pocket" expenses. Third, changing institutions has had two effects. The illiteracy rate has declined over the years due to the 9-year compulsory education system and the high enrollment rate at primary schools. Meanwhile, both the rural-urban gap and the gender gap in education are still considerably higher. In 2000, the rural illiteracy rate (19.9%) was more than double the urban illiteracy rate (8.7%) and the female illiteracy rate (21.6%) was more than twice as high as the male illiteracy rate (8.8%). In urban areas, the gender gap in education (with a female illiteracy rate of 13.2% and a male illiteracy rate of 4.1%) is less than that in rural areas (with a female illiteracy rate of 27.9% and a male illiteracy rate of 12.1%) (Zhang and Kanbur 2005).

Research on education and inequality focuses on four empirical areas: the macro-structural forces that shape education and stratification; the relationship between family background and educational outcomes; school effects; and education's impact on economic and social mobility (Buchmann and Hannum 2001). Research on education and

stratification in China can be summarized into two types: research on education as a predictor of stratification and economic and social mobility, and research on education as an outcome of stratification.

As a predictor of stratification, education has been used as a factor in testing various hypotheses: whether education has been a significant predictor of Communist party membership (Bian, Shu and Logan 2001), whether there was a significant increase in the effect of education on high-status occupational attainment from 1982 to 1990 (Hannum and Xie 1998), and whether education, as a measure of SES, exerts a significant effect on old age mortality and health conditions (Liang et al. 2000; Zimmer and Kwong 2004). Research on income return to education has been more tightly associated with the mainstream debate on the MTT (Market Transition Theory) and the Power Conversion Thesis (which were discussed in chapter 3). Zhou (2000) finds significant changes in returns to education between the prereform and reform eras, while returns to positional power persist as strong evidence of institutional factors. Similarly, Hauser and Xie (2005) find that net returns to schooling almost doubled for both men and women between 1988 and 1995, while increases in returns to schooling were depressed in cities experiencing greater levels of economic growth during this period. Furthermore, Shu and Bian (2003) find that in the highly marketized cities, the significance of market-related mechanisms (education and occupation and industry-placement) has increased, while the contribution of redistribution-related mechanisms (affiliation with the state sector, party membership, and seniority) has decreased. However, a multilevel analysis shows that regional economic growth depresses the returns to education and work experience and does not affect the net differences between party members and

nonmembers and between men and women (Xie and Hannum 1996). Oddly enough, in faster-growing cities, the tendency toward higher levels of inequality is somewhat offset by the lower returns to human capital.

Education has also been associated with residential relocation types in the city. The findings by Wu (2004a) suggest that better education, absence of work-unit affiliation, higher expectation for housing consumption, and the move from outer to inner areas are more likely to be associated with active relocation through commodity housing purchases. University education has been found to be associated with higher incentives to use network resources in job searches (Zang 2003).

In a less explicit way than has been communicated by American sociologists and geographers as they study the relationship between class and education, China researchers explore the effects of stratification based on family social origins, family resources, gender, ethnicity, geographic location of residence, and family registration status (*hukou* status) on education. Deng and Treiman (1997) show that the educational attainment of men is highly egalitarian with respect to social origins and has become increasingly so over time. Analyzing the educational experiences of a representative sample of urban residents in 20 cities in China, Zhou, Moen et al. (1998) find significant and varying effects of family social origins, with high levels of fathers' education and occupation (or status) not always conducive to their children's educational achievement. They attribute the varying mechanisms of stratification to the shifting state policies over time from 1949 to 1994. In addition, they find that those who resided in the largest cities were the most educationally advantaged, and that gender-based inequality in educational attainment persisted over time, despite noticeable variations induced by state policies.

With an interest in ethnicity gap in education, Hannum (2002) analyzes data from a 1992 survey of school enrollment among rural 7- to 14-year-olds for various ethnic groups and finds no general tendency toward a greater gender gap for minorities than for the ethnic Chinese, despite significant differences in the gender gap across individual ethnic groups. The Chinese household registration system (*hukou* system), which divides the population into "agricultural" and "nonagricultural" sectors, may be the most important determinant of differential privileges in state socialist China, determining access to education for one's children, among other opportunities for social mobility (Wu and Treiman 2004).

Gender Inequalities

Although regarded as one of the "remnants of feudalism" by the Chinese Communist Party, the patriarchal social order and related traditions are still maintained in many rural areas in China. In urban China, parents live with their adult children, or even married children and their families, reflecting not only patrilocality and other traditional values, but also external constraints such as state policies that reinforce gender bias, limit state support for social services, and reduce housing opportunities (Logan, Bian and Bian 1998). It has been found that women's position in a household has no apparent relationship with their choices of and access to social services such as health services. However, women's access to schooling and certain occupations has been one of the major factors affecting their economic well-being. Shu and Bian (2003) find that a fairly stable gender gap in education across regions and over time from 1988 to 1995 in China. However, the proportion of the gender gap in earnings attributable to education and occupational segregation increased over time, with the change occurring largely only in

the most marketized cities, or in other words, the cities that have adopted market economy to a greater extent.

Career Mobility

In the research area of career mobility, the central question is whether political position or individual merit will predict access to greater opportunities in career development. Researchers (Walder, Li and Treiman 2000; Bian, Shu and Logan 2001; Li and Walder 2001) report that party membership constantly yields advantages in certain areas of career mobility, while education is becoming an increasingly strong predictor of both party membership attainment and career mobility. For example, Walder et al. (2000) compare the effects of party membership and education on career mobility in administrative and professional careers. Using life history data from a nationally representative 1996 survey of urban Chinese adults, they find that only recently has college education improved a high school graduate's odds of becoming an elite administrator, while it has always been a virtual prerequisite for a professional position. On the other hand, party membership, always a prerequisite for top administrative posts, has never improved the odds of becoming an elite professional. They also find that professionals rarely become administrators, and vice versa. They conclude that China has a hybrid mobility regime in which the loyalty principles of a political machine are combined with, and segregated from, the meritocratic standards of modern professions. Bian et al. (2001) indicate that party membership is positively associated with mobility into positions of political and managerial authority during the post-1978 reform era. Li and Walder (2001) argue the party patronage is apparent only in the timing of career

events. They agree with Walder et al. and Bian et al. that patronage blurs distinctions between politics and merit, since it confounds interpretations of returns to individual attributes.

Income Distribution

Income distribution has been explained by a number of variables. The “market transition hypothesis” has initiated a debate that demands clearer conceptualizations of economic transitions. However, current research is operationalized in one or all of three ways: returns to party membership, returns to cadre position, and returns to jobs with redistributive power (Bian 2002). The third one has mainly differentiated among types of work units or enterprises. One research study (Coady and Wang 2000) conducted in the urban Liaoning province indicates that since labor market reform, returns to education have decreased in state-owned enterprises (SOEs) mainly due to the lack of competition, while returns in collective-owned enterprises (COEs) have increased, the latter having been allowed to grow out of the plan more quickly and is subject to more competition in factor and product markets. It has also been suggested that the effect of marketization on personal income inequality is mediated by three types of work units: low-profit state firms (LPFs), high-profit state firms (HPFs), and market firms (MFs) (Wu 2002d). Returns to human capital are higher in the market sector than in the state sector, while the effects of education on earnings are weaker in HPFs than LPFs within the state sector. The inconsistency is attributed to the effects of bonuses that are equally distributed among employees in HPFs.

Housing Access and Consumption

Housing access and consumption has been an additional dimension in the measurement of social inequalities and stratification (Szelenyi 1983; Wu 1996; Logan, Bian and Bian 1999). The market transition and redistributive system has an unexpected combined effect on housing allocations and consumptions. During the socialist era, housing was allocated to almost all urban residents at a low rent of 1% to 2% of household income. Public housing dominated the housing market and was principally constructed, owned, or allocated by work units as a heavily subsidized redistributive good (Chen and Gao 1993). Various housing reforms were introduced as early as 1979 (Wang and Murie 1996) and have two ingredients: the recognition of private property rights and the promotion of financial capital markets in the real estate/housing sector (Lai 1998). The transformation, however, is far from a thorough process of the commercialization or privatization of public housing stock (Wu 1996), as the low incomes of state workers have forced the work-unit system to remain an indispensable part of the structure of housing provision. Since the reform was to a large extent carried out within work-unit establishments, and the construction of housing is determined more by institutional factors than by market forces, a disproportionate amount of housing in the reformed system remains a redistributive good rather than a commodity (Zhou and Logan 1996). It also has had very different impacts for different social and economic groups (Wang and Murie 2000). Logan et al. (1999) have examined the sources of housing inequality in Shanghai and Tianjin in 1993, when a market reform process had been underway in the national economy for nearly fifteen years. They conclude that the Chinese housing allocation system favors people with political position and connections,

those of higher socioeconomic background, and those whose work units have greater organizational authority. Wang (2000) identifies two major groups of urban poor in Chinese cities: the poor among the official urban residents and the poor rural to urban migrants, and concludes that while the housing problems of the official urban poor have been recognized, there is no formal policy in relation to housing provision for the unofficial poor.

Furthermore, the housing reform has spatial implications. The work unit as well as the local housing bureau to a significant extent still controls residential location and relocation in the city, even though housing in the primary market has become a commodity in large cities today (Li and Siu 2001a). A logistic regression analysis shows that people who rely on the work units for housing are more inclined to end up in the outer city districts, whereas people who depend on the housing bureau for welfare housing are more likely to be provided with inner-city residences. Li and Siu (2001bb) go as far as to claim that work units and the municipal housing bureau, rather than the market per se, are the primary driving forces behind suburbanization in China today.

4.7.2.2 Variable Selections

In chapter 6, it is hypothesized that socioeconomic status, migratory status, housing ownership and condition, and population density might be among the variables that explain contemporary urban residential differentiation, according to suggestions in prior research (Yeh and Wu 1995; Yeh, Xu and Hu 1995).

As such, the following aggregate census data from Nanjing streets (communities) were acquired to test the hypothesis. Percentage measures are used instead of absolute values since the area units vary in base population. The selected variables can be divided into six categories as follows: distributional variables, demographic variables, educational variables, employment and occupational variables, migration variables, and housing variables.

Distributional variables include variables that describe the distributional characteristics of population such as *population density*. Three other variables-- *total number of family households*, *family households as a percentage of total households* and *average family household size*-- are also used to provide further information on the distributional patterns of different types of households in various sizes.

Demographic variables are composed of a staple list of variables such as *sex ratio* and *age structure*. In addition, *percentages of families with elderly population and younger population* are also included to approximate indicators of family households headed by the elderly population and family households with children, respectively. Families with an elderly population include all families with at least one person above age 60, including single elderly and elderly couples who live alone, and elderly who live with children or relatives. Families with a younger population are those families with at least one person under age 19. As we are interested in the relationship between the distribution of single elderly and elderly couples who live alone and the spatial distribution of other variables, an additional variable about *elderly who live alone* is included.

Educational variables include several variables that can be used to measure human capital. As used in other studies, *average years of schooling* are chosen as the general indicator of educational level. As we are also interested in people with relatively less education or no education, *illiteracy rate* and *women's illiteracy rate* are developed from the census data.

Employment and occupational data include a number of occupational variables that reflect the socioeconomic status of the population in each community. Among all occupational categories, the census enumerates *those who work in managerial occupations, or as officials in governments, the party, or other sociopolitical organizations*, the majority of which are called “cadres”. This is an effective indicator of political capital in the Chinese context as we have discussed the effect of party membership and political association with the party on socioeconomic well-being and the life chances of Chinese urbanites. Several employment indicators such as *unemployment rate* and *non-working population as a share of total population age 15+* are selected since we are particularly interested in the spatial pattern of unemployed groups and its association with other variables. Note that the unemployed population in China is defined as a narrow group of the economically active population age 15 and above who are not employed at all. Only those who have working capability and intend to work are considered to belong to the economically active population. Thus, the non-working population as a share of the total population is selected as a supplementary indicator to the unemployment rate, since the non-working population in China not only includes an economically active but also an economically inactive population who are not working on a voluntary basis. However, the non-working, economically inactive population includes

a variety of cohorts such as students, retirees, and homemakers; thus, three other variables are used here to capture the three sub-groups of non-working people who have been considered most relevant to the study of urban poverty. One variable is the *non-working population without working capability*, which can be used as an estimate of the “Three No” population. While the *non-working population who have never had a job and are looking for a job* is a close approximation to the long-term unemployed population, the *non-working population who have lost a job and are looking for one* captures the majority of unemployed, laid-off workers and migrant workers.

Migration variables include a series of variables derived from the census. I use *non-hukou residents as a percentage of total population* to measure the extent to which the migrant population are distributed across communities. To parse out the spatial pattern differentiation associated with lengths of stay in the city for migrants, two other variables are included: *non-hukou residents of six months or more as a share of total population* and *non-hukou residents of less than six months as a share of total population*. *Sex ratios* for both of the above groups are also included to differentiate the patterns associated with gender differences among migrants.

Finally, **housing variables** are selected and derived from the rich data set of housing from the census. As preliminary research suggests, migrant families have no access to urban public housing, and native urban poor families predominantly reside in self-built or public rental housing for historical reasons. Thus, five variables, each measuring one type of housing that tends to be associated with one of the above groups, have been selected. Four other variables, including average living floor space per household, housing without kitchen, housing without tap water, and housing without bath

facilities, are also included as measures of housing conditions across communities. Though the housing market in China is still segmented among pre-reform housing, commodity housing, public housing (including some *Danwei*-built public housing sold to *Danwei* employees in the 1990s), and social housing (namely, the government-subsidized Economic and Comfortable Housing sold to lower-income groups)¹³, the median purchase price of housing can be a rough indicator of the price level of owner-occupied commodity housing and sold public housing and ECH in each community. Since *Danwei*-built housing and ECH are sold at a much lower price to owners than commodity housing, higher purchase price indicates a greater proportion of owner-occupied commodity housing, higher land value, or better housing conditions and amenities reflected in the higher housing prices. On the other hand, a lower median purchase price indicates a lower proportion of owner-occupied commodity housing or a greater proportion of sold public housing and ECH, lower land value, or lower standards of housing conditions and amenities. In contrast, *median rent*, as an indicator of the use value of housing, is the median rent of all rental housing, including rental self-built, rental public, and rental commodity housing. However, as the rent differential between rental public housing and other two is significantly large, *median rent* can be regarded as

¹³ According to the 2000 Census definition, housing in urban China can be divided into seven categories by the source of housing. (1) Self-built housing is defined as owner-occupied housing built by individuals in urban and rural areas. Owners have property rights. (2) Purchased commodity housing is defined as the housing purchased by work units or individuals at market price from real estate developers. Owners have property rights. (3) Purchased “economic and comfortable” housing is defined as the housing sold to lower-income residents at a discount price, with the majority developed by the government, or collectively funded by work units and individuals. (4) Purchased public housing is defined as the *Danwei*-built housing that is purchased by *Danwei* employees at a discount price. Owners have whole or partial property rights. (5) Rental public housing is the *Danwei*-built or municipal housing rented to *Danwei* employees as part of the welfare benefits. *Danwei* owns the property right. Rents are at a minimum level. (6) Rental commodity housing is the housing rented to individuals at market price. (7) Other types of housing that do not belong to any of the above categories.

a quasi-indicator of the median rent level for self-built and commodity housing. As both are the only types of housing available to migrants, it is reasonable to suggest that higher median rent levels translate into greater barriers for low-income migrants' entry into communities, assuming migrants are price takers.

4.7.2.3 Multivariate Methods

Multivariate methods have been widely used in urban geography. As one of the most commonly used multivariate methods, principal components analysis has been used to define urban social areas in urban ecological study. Since the 1970s, it has been used in major research on the socio-spatial structure of large Chinese cities, including Guangzhou (Yeh, Xu and Hu 1995), Beijing (Sit 2000), Hong Kong (Lo 1975) and Taipei (Hsu and Pannell 1982; Jou and Chan 1994). Since principal components analysis does not necessarily inform any spatial pattern, in some cases (Lo 1975; Yeh, Xu and Hu 1995), cluster analysis is used to form spatial groups based on the measured variables. More specifically, it solves the pattern problem when two or more variables are being measured at each site. This approach differs from studying the pattern according to any one of the variables taken in isolation, or predicting the value of one 'given' the values of the others (Bailey and Gatrell 1995).

Principal Components Analysis

In chapter 6, a principal components analysis was used to generate principal components that can summarize the variations in residential communities. With principal

components analysis, the 45 variables are concentrated in a number of components with eigenvalues greater than or close to unity. These components should capture a majority of the variance in the variables.

Both principal components analysis and factor analysis can be categorized as the methods of “factoring and rotation”. They are very useful tools for reducing the dimensions of the original data. Principal components analysis, the most common of these techniques, is used to identify a small number of linear combinations of attributes that account for a large proportion of the variability in observations in attribute space. In other words, we use this technique when we wish to rotate the original coordinate system of the data set to a new one in which the observations have the most “separation”, or the least correlation. The first few principal components are regarded as a projection of the original high dimensional attribute space onto a subspace of a lower dimension. The principal component loadings allow us to interpret the subspace in terms of the original variables.

If we have a data matrix Y , which represents a scatter of n census blocks with p attributes or variables drawn from the U.S. Census Data, such as age, gender, household income, percentage of African American population in total population, unemployed population, female-headed households number, and so on, multivariate methods enable us to explore the pattern in the n observations over the p attributes (y_1, \dots, y_p) . We can accomplish this either by principal components analysis or by factor analysis. With the former, we can rotate the original coordinate system (y_1, \dots, y_p) , of the data space to a new one (u_1, \dots, u_p) , where u_1 is measured along the direction in which the observations have the most ‘separation’, u_2 is measured along the direction in which they are the next

most 'separated' and so on. Suppose the first three components, based upon the correlation matrix of all attributes drawn from the census, account for 80% of the total variation. We can explain the pattern by examining the loadings of the variables for each of the three principal components. If the first principal component includes household income with negative loading, and unemployed population and black population with positive loadings, then we can say this component separates low income and unemployed African American population census blocks from the others. A better exploration will occur when we examine the distribution of the component scores among the census blocks.

Cluster Analysis

In chapter 6, cluster analysis is performed on the component scores to identify the distribution pattern of residential communities with various attributes of the residential population (i.e., SES and *hukou* status).

In general, clustering methods are used to group individual observations (either spatial or aspatial ones) in order to minimize differences between group members (Murray and Estivill-Castro 1998). They may be used in combination with principal components analysis to perform classification. Normally, clustering methods can be divided into two categories: hierarchical-based and partition-based. In hierarchical clustering, the similarities between clusters are measured according to certain distance measures. For each level of clustering, the most similar clusters are agglomerated into a new cluster that will be included at the next level. If we repeat the clustering procedure until only one cluster exists that includes all data points, we obtain a structure that

contains clusters at different levels. This structure can be represented as a dendrogram in the one-dimensional view. In partition-based clustering, usually we start with a pre-specified number (p) of groups. Using some optimization techniques (such as those used in p -means clustering), the clustering method attempts to locate the p groups that minimize the intra-group distance between data points, or maximize the total inter-clustering distance, or both. In geography, many spatial clustering techniques have been developed over the past several years (Murray and Estivill-Castro 1998) that can hardly be categorized as hierarchical or partition-based in the traditional sense, although the latter seems to have more weight. In general, the clustering method used in my research is partition-based.

A distance-based hierarchical clustering method (Bailey and Gatrell 1995) has been used to analyze the three principal components calculated earlier, which divides the census blocks into four clusters. Cluster type 1 may include both low-income, high-unemployment African Americans and Asian populations. Cluster type 2 may be composed of all mid-income small households, and so on. What is notable about cluster analysis is that it usually generates results that correspond to a certain extent with the empirical knowledge of the same studied region. It is very possible for cluster type 1 to fall squarely into the traditionally perceived 'ghetto' blocks for a mix of minority populations, while cluster type 2 covers most of the gentrified blocks.

4.7.3 Two-level Regression Analysis of Housing Ownership for Poor Households

In chapter 7, a multilevel logistic regression was employed to test the hypothesis that the urban poor's access to housing ownership is affected by socioeconomic and institutional factors at the individual household level and by housing characteristics at the community level. At the individual level of the model, important variables include socioeconomic status measured by household income, householder income, age, education, and employment type. Important institutional variables include the householder's connection with work unit measured by employer type and employer rank, householder's urban citizenship, and their duration of stay in the city. The probability of homeownership for the low-income groups also varies across communities, as the demographic composition, housing supply, and housing price in each community change from place to place.

In the regression model, the dependent variable is housing tenure choice. Note that since self-built housing does not represent the same owner privilege in China as in other developing and developed countries, the three categories of the dependent variable, non-self-built owned, self-built owned, and rented, are re-coded into two categories. In the binomial logistic regression model, I set 1 for non self-built ownership, and I set 0 for self-built ownership and rent. The independent variables include individual household-level characteristics derived from the questionnaire survey and selected on the basis of the above descriptive analysis, and community-level characteristics of housing and population (see Table 7-8 in chapter 7).

The two-level model has the following form, where:

Y = tenure choice (0: Rent or Self-built, 1: Own);

X_i = socioeconomic variables ($i = 1, 2 \dots M$);

X_j = institutional variables ($j = 1, 2 \dots N$);

X_k = community-level variables ($k = 1, 2 \dots K$);

μ_0 = random effect for the intercept;

and μ_i = random effects for the coefficients.

The level-1 equation is a binomial logistic regression of the probability of household tenure choice (P) on socioeconomic variables (X_i) and institutional variables (X_j). It aims to explain the variability of tenure choice at household level. It is hypothesized that for low-income households, both higher socioeconomic status and stronger institutional connection with the state are associated with greater odds of non-self-built homeownership or 'real' homeownership, relative to rental or self-built homeownership. At level 2, the intercept (β_0) becomes a dependent variable. It is hypothesized that the intercept has a random effect (μ_0) to explain the variance among different communities, and the community-level variables (X_k) are used to explain part of the variance. The coefficients for socioeconomic and institutional variables are fixed, since there is no theoretical base or significant empirical evidence for intra-urban variation of the effects of socioeconomic conditions or institutional connections on household tenure choice. In general, the assumption is that the intercept varies not only as a function of the community-level factors, but also as a function of a unique residential area/community effect.

$$\text{Level 1: } \text{Prob} (\text{Tenure} = 1 | \beta) = \varphi$$

$$\text{Log} [\varphi/(1-\varphi)] = \eta$$

$$\eta = \beta_0 + \beta_i * X_i + \beta_j * X_j$$

$$\text{Level 2: } \beta_0 = \gamma_{00} + \gamma_{01} * X_k + \mu_0$$

For our survey data, the level 1 file has 279 cases and twenty variables, including fourteen socioeconomic variables and six institutional variables. At level-2, the data set consists of nineteen communities with six variables per community. The two-level model uses a restricted maximum likelihood (REML) hypothesis-testing procedure with HLM 6.02.

The use of a multilevel model is justified by two considerations. First, a preliminary analysis with a null, unconstrained model shows that the estimate for the level-2 variance is 0.041 and for level-1 is 0.188. The interclass correlation coefficient (ICC) is then $0.041 / (0.188 + 0.041) = 0.179$, which means that the communities account for almost 18% of the variability of tenure among family households. This also suggests that a multilevel model is useful in such a case. The second justification for using a multilevel model arises from the nested structure in the survey data set, which suggests that the observations are not independent, and hence the independence assumption of single-level, OLS models is violated and not suitable to be used. However, multi-level modeling allows for clustered data and correlated errors.

4.8 Summary

This chapter began with an introduction to the changing role of state and the rise of community in urban China, which serve as a prerequisite context for introducing a multi-level and multi-actor research framework of urban poverty in transitional China. The major research question answered in this thesis is: what shapes the changing landscape of urban poverty in China? The research framework suggests three relevant levels—state level, city level, and community and individual level—through which to approach a comprehensive understanding of urban poverty in China.

At each level, a set of research questions were asked. More specifically, the main questions can be summarized into three points:

- How does the spatial pattern of deprivation across cities change? What role does migration play in shaping inequality across cities?
- What spatial trends of poverty can be identified within cities, given the effective end of state control in residential space and population movement, and the incursion of market-oriented housing provision and allocation?
- Does prior socioeconomic status affect the probability of being poor? What role does *hukou* status play in structuring access to urban benefits?

In light of the types of questions asked and the scales examined, a multi-level analytical framework was constructed based on three levels of analyses, including:

- Level One: A deprivation analysis across cities
- Level Two: A case study of poverty in urban communities
- Level Three: A case study of housing tenure for poor urban households

To explore the research questions, a variety of data were used and a series of methods were employed, most of which are quantitative analytical methods. The nation-wide county-level population census data for China in 1990 and 2000, supplemented by a secondary housing statistic for 1990, were used to construct deprivation indexes for 1990 and 2000 and to depict changing inequality and levels of urban deprivation among cities. The aggregate city census data for Nanjing at the community level were used to explore shifts in intra-city spatial stratification and the emergent spatial concentration of poor neighborhoods. A hierarchical survey data set that included household and individual information collected in Nanjing in 2004, using a multi-stage random sampling strategy, was used for a two-level regression analysis of housing ownership for poor households. Interview data collected from a select number of households were utilized to complement the findings from the regression model.

In the last section, the analytical methods were explained in detail. For the cross-country deprivation analysis, a principal components analysis method was utilized to construct deprivation indexes. For the intra-city analysis of poverty in communities, both principal components analysis and cluster analysis methods were used to describe the spatial differentiation among communities and the locational tendency for the poor in the case city. The two-level regression analysis was also explained in detail.

Chapter 5

UNEVEN LANDSCAPE OF URBAN POVERTY: EMPIRICAL ANALYSIS OF DEPRIVATION AT NATIONAL SCALE

The research framework presented in chapter 4 showed how the landscape of urban poverty is shaped by both pre-existing institutions and institutional changes currently underway in China in which both the state, local city governments and communities are in control of the distribution and redistribution of urban resources. The aim of this chapter is to provide a national-level look at the distribution of urban poverty in relation to the distribution of opportunities in China. Specifically, this chapter addresses the first set of research questions outlined in chapter 4:

- a) How does the spatial pattern of deprivation across cities change in China?
- b) What role does migration play in shaping the changing inequality of deprivation across cities, given that opportunities gravitate toward coastal China from 1990 to 2000?

Theory suggests that at least two factors determine the patterns of regional inequality: (1) unequal opportunities across space; and (2) migration effects. Traditional differences across China have been exaggerated by new opportunities that are unevenly distributed in space. For example, both locations of the Special Economic Zones on the southern coast and the destinations of FDI (Foreign Direct Investment) in China are highly geographically concentrated. Until recently, the coastal areas' share of FDI has

been more than 90 percent. The uneven distribution of opportunities creates incentives for population movements in space.

Theory indicates that migration is an equalizing process; people migrate because of perceived income and opportunity gaps. Given rising incomes, it is presumed that inequality will even out in the face of regional convergence. Such a theory is not applicable in China for several reasons. First, economic opportunities are fundamentally limited. Second, the tendency to move is inversely related to the poverty level attached to rural origins. People from poorer regions tend to stay longer in the countryside and choose large cities as their destinations, given the cost of migration. The interplay between unequal economic development and migration flows generates two direct results. First, due to the low mobility of people in the poorer middle and western parts of China, the poor remain concentrated in a few key regions. Second, people who choose to migrate tend to have higher skills than many in the region from which they are departing, resulting, among other outcomes, in a hollowing out and brain drain. Migrants from poorer regions tend to gravitate toward large and medium-sized cities on the wealthier east coast, increasing relative deprivation in these cities.

In this chapter, I test for rising inequality in deprivation levels among Chinese cities. The hypothesis is that urban poverty tends to gravitate toward regions with relative affluence, and migration contributes to the changing landscape of deprivation as a source and outcome of inter-city and regional inequality.

This chapter is organized into five sections. First, I discuss the conceptual linkages between inequality and urban poverty in China. In the second section, I perform a descriptive analysis with Chinese population census variables that include the following

measures: (1) low education and illiterate population, (2) disadvantaged demographic groups, (3) unemployed and non-working population, (4) workers in low-wage occupations, and (5) low-standard housing. Then in the third section, deprivation indexes for each year are constructed based on selected indicators from these variables and are used to present the changing patterns of deprivation across cities in China between 1990 and 2000. I then compare the changes in deprivation and migration levels across cities, and explore the question of whether migration is one of the driving forces in shifting deprivation across cities. In the fifth and final section, I summarize the major findings from the first-level empirical analysis.

5.1 Interpreting Inequality: From Regions to Cities

Regional inequality is a major subject of study for geographers, regional economists, and developmental theorists interested in China, and a major interest of Chinese policy makers. Geographers in China and the U.S. have widely published in the area. Comprehensive overviews of the research area include those by Wei (1999) and Fan (1997). In this section, I briefly review the progress made toward theoretical development of regional inequality with a focus on the latest theoretical debates. I then focus on the study of inequality across cities, its relationship to the study of inequality across regions, and why it is key to understanding urban poverty and deprivation in China.

Though regional economic theories such as convergence, divergence and increasing returns, endogenous growth theories are ready to be adapted to research on regional inequality in China, the most important theoretical debate among China

researchers has centered on the role of the state in shaping and re-shaping regional inequality (Fan 1995; Wei and Fan 2000; Wei 2002). The debate stems from the socialist era, when parameters of regional development such as production, migration and urbanization levels were greatly affected by state policies. The link among human migration, urbanization, and strong state intervention, mediated by Confucian and Marxian ideas, determined the pattern of regional development in China until the early 1990s (Wen 1992).

More recently, researchers have called for multi-angle and multi-scale research on regional inequality (Wei 1999) to incorporate the rise of local states, especially city governments. This is important for two reasons: (1) the rise of local states is thought to contribute to central state upheaval and redefinition (Remick 2004); and (2) it represents a trend of decentralization, which has significantly modified overall inequality, rural-urban inequality, and inland-coastal inequality since economic reform in 1979 (Kanbur and Zhang 2005).

Correspondingly, empirical studies conducted according to various methods have provided evidence to support the “decentralization” of inequality. *First*, studies indicate that although rural-urban and inland-coastal income inequalities are pre-dominant in China, reflecting the long-term urban privilege and the recent state preferential policies toward coastal provinces, a down-spiral movement in regional inequality in cities and counties is increasingly prominent. For example, a study based on Theil’s decomposition methods (Shen et al. 1999) found that while the contribution of rural-urban inequality was much higher than that of inland-coastal inequality, the rural-urban contribution had not changed much over time, but the inland-coastal contribution had increased

several-fold from 1983 to 1995. Akita (2003), based on a two-stage Theil inequality decomposition method, revealed that in China, within-province inequalities are much more prominent than between-region and between-province inequalities. *Second*, studies also have indicated that a combination of local economic variables has become the dominant contributive factor to overall income inequality. Some variables are more important than others. For example, the study by Wan and Zhou (2005) within a regression-based decomposition framework indicates that geography, while predominant, is becoming less important in explaining total inequality, and capital input and farming structure contribute more to income inequality than do labor and other inputs.

While the study of regional inequality points out the trend of decentralization, little is known about inequality among and within cities. Meanwhile, a few numbers and policy speculations further illustrate the importance of and urgency in studying inter- and intra-urban inequality. *First*, urban inequality in China, which doubled between 1990 and 1997, has become the most significant contributor to the overall rise in regional inequality in East Asia (Datt and Walker 2004). *Second*, Chinese city-level data indicate that differences in growth rates are far more severe than expected and preferential policies such as the policy of awarding a special economic zone (SEZ) status enhances economic growth substantially (Jones, Li and Owen 2003). *Moreover*, rising regional inequality has cast a shadow on the course of reducing poverty in rural areas (Yao, Mang and Hanmer 2004), which in conjunction with the momentum in rural-urban migration could eventually lead to a transfer of rural poverty to urban poverty, and a substitution of rural-urban inequality with inter- and intra-urban inequality.

The questions asked in this chapter are: how do cities differ in the capacity to offer socioeconomic opportunities? How do populations move to take unevenly distributed opportunities and hence contribute to inequality at the city level? Several notifications are necessary before I proceed to the cross-city analysis. (1) In this chapter, inequality does not refer to income inequality, which is often measured by inequality indicators based on expenditure- or production-based income data. Instead, the focus is on the sense of inequality expressed through the uneven distribution of social and economic resources across urban China. (2) In a similar manner, the concept of “deprivation” does not simply refer to a lower-than-minimal-level income, but to inadequate or no access to education, secure employment, a living wage, urban citizenship for migrants, and quality and affordable housing. (3) In addition, I extend the term “deprivation” further beyond the scope of the healthiness of inner-city areas, which was already discussed in section 4.7.1 of chapter 4. It is employed as a gross summary of the average well-being of a city compared to other cities. As such, the deprivation index is constituted by a set of indicators to summarize the depths of relative poverty, deprivation, or underprivilege in Chinese cities, and for comparisons across cities and over time.

5.2 The Uneven Landscape of Urban Deprivation: Empirical Findings from the 1990 and 2000 Censuses

To understand urban poverty in Chinese cities in the context of moving opportunities and population migration, I adopted a descriptive analysis and a deprivation

analysis as discussed in the previous chapter. The analysis is based on census variables from the county-level census data for 1990 and 2000 and housing variables from the *China Urban Construction Yearbook of 1990*.

More specifically, this chapter involves a three-step analysis. I first used descriptive statistics to depict spatial variation in the listed social and economic indicators. I then employed principal components analysis to analyze some of the variables to generate indexes of deprivation for both years. These data were used to map the patterns of inequality across cities in China from 1990 to 2000. Finally, I explored the interrelationship between the changing rural-urban migration patterns and the changing inequality patterns across cities in China.

In the first step of the descriptive analysis, I focused on six different categories of variables related to educational attainment, demographic groups, employment status, industry and occupation, rural-urban migration, and housing condition (see section B.1 in Appendix B) and compared the mean values by city rank and region. More specifically, fourteen variables for 1990 and twenty-six variables for 2000 were selected and grouped into six categories. The numbers of variables for several categories differ between the two years, because (1) housing and unemployment data were not collected in the 1990 Census; and (2) the 2000 Census included more information about housing and unemployment, which allowed for a more in-depth examination of the multi-dimensionality of poverty and deprivation. All variables except for the migration variables from the 1990 Census were comparable with the same variables from the 2000 Census. To make comparisons easier, the descriptive analysis is divided into two parts: a

comparison between common variables of 1990 and 2000, and a further analysis of additional variables from the 2000 Census.

In the second step, six variables for 1990 and 2000 were further selected from the earlier list of variables to create two matrices for the principal components analyses. These variables were selected on the basis of four criteria, which were discussed in chapter 4. With principal components analysis, a component score for each case (or city) of each matrix was calculated and standardized to represent deprivation level. With scatter plots and maps, I described the distributions of standardized component scores and the geographical patterns of deprivation across cities in 1990 and 2000, respectively.

The third step involved comparing the geographical patterns of deprivation across cities with the patterns of migration to cities in 1990 and 2000, respectively. Three hypotheses were related to the relationship between migration and its effect on inequality across cities, namely, (1) aggravating effect, (2) shifting effect, and (3) equalizing effect. The three hypotheses were tested based on a comparison between the distribution of standardized deprivation component scores and the distribution of standardized value of migrants as a share of city population for both years.

5.2.1 Descriptive Analyses: 1990 and 2000

For easier interpretation of the spatial trends for the above variables, I divided the Chinese cities into three regional clusters and four size/administrative-rank clusters

according to the Chinese administrative hierarchy¹⁴. Defining the urban hierarchy in China can be difficult due to the administrative structure in each city and its ranking. As indicated in empirical studies (see Chan and Zhao 2002), in China, city size is strongly correlated with administrative level; therefore, I adopted the size/rank classification of Chinese cities formulated by Chan and Zhao (2002).

The regional clusters included: (1) cities in the east-coast, (2) central cities, and (3) cities in the west as indicated in section B.2 in Appendix B. As indicated in section B.3 in Appendix B, the size/administrative-rank clusters include: (1) municipalities—the top-level cities directly under the administration of central government that have the same political, economic, and jurisdictional rights as provinces; (2) provincial capitals, including capitals of provinces and autonomous regions, and “separately-planned” cities¹⁵; (3) prefecture-level cities, excluding those at level 2; and (4) county-level cities at the base.

In 1990, a total of 452 cities were included in the data set developed by CITAS. Beijing, Shanghai, and Tianjin, the three largest cities in China then, were the only municipalities directly under the administration of the central government. There were

¹⁴ The Chinese administrative hierarchy is composed of administrative organs at four levels. Under the central government, the local organs were established at three levels: (1) the provinces, autonomous regions, and special municipalities at the top level; (2) autonomous prefectures, counties, autonomous counties (called *banners* in Inner Mongolia Autonomous Region), cities, and municipal districts at the middle level and, (3) at the base of the administrative hierarchy, administrative towns (*xiang*). The administrative towns replaced people's communes as the basic level of administration.

¹⁵ “Separately-planned” cities, or “separately-itemized” cities, are cities representing separate items in the state plan. The budget and revenue in these cities are split between central government and local government, rather than among central, provincial, and local governments. Originally the separately planned cities included Chongqing and 13 major provincial capital cities/ important coastal cities, including Guangzhou, Shenzhen, Shenyang, Nanjing, Wuhan, Harbin, Changchun, Xian, Dalian, Qingdao, Xiamen, Ningbo, and Chengdu. The provincial capitals were later removed from the list in 1994. Chongqing became a municipality in 1997. Today the “separately-planned” cities only include 5 coastal cities: Shenzhen, Ningbo, Qingdao, Dalian, and Xiamen.

nineteen provincial capital cities and fourteen “separately-planned” cities. There were 152 prefecture-level cities and 264 county-level cities.

At the completion of the 2000 Census, the total number of cities had increased from 452 to 662. Chongqing became the fourth municipality under the administration of the central government. In addition, both prefecture-level cities and county-level cities grew more than one and one-half times from 1990 to 2000. The growth of cities demonstrates a strong regional pattern; the east-coast experienced a more than 70 percent increase in the number of cities, while the middle and the west experienced much lower levels of growth.

5.2.1.1 Low Educational Attainment: 1990 and 2000

The average education level for all four rank clusters of cities improved over ten years. The inequality among the four clusters in terms of illiteracy rate and population rate with an education less than 9 years was narrowed (see section B.3 in Appendix B).

However, the regional gaps in illiteracy rate and the rate of population with an education less than 9 years widened despite the fact that all three regions experienced significant improvement in education (see section B.2 in Appendix B).

5.2.1.2 Disadvantaged Groups: 1990 and 2000

The east coast had the highest rates of female and elderly populations and the lowest rate of population aged less than 15 years, among the three regions. The regional

disparities barely changed between 1990 and 2000. In contrast, the east coast shifted from the region with the highest percentage of rural residents in city administrative areas to the region with the lowest percentage, which suggests the fast-paced urbanization process in the east during the 1990s (section B.2 in Appendix B).

Among cities of different ranks, female population as a share of total population was prominently high in small cities in 1990 while in 2000 the highest rate was found in the largest cities. The four largest cities continued to see their populations age at a rate unparalleled by medium and small cities, accompanied by as quick a decrease in the share of the child population. The share of population living in rural areas apparently has a negative relationship with the rank of the city as many county-level cities were established on the basis of a core urban township and several surrounding rural townships. Due to the sharp increase in county-level cities in the 1990s, many rural counties under the administration of prefecture-level or provincial capital cities were separated from them to form the bases of smaller cities, causing a dramatic decrease in the number of rural residents in medium and large cities (section B.3 in Appendix B).

5.2.1.3 Employment Status: 1990 and 2000

Employment rates were consistently lower in large cities than in small and medium cities from 1990 to 2000. The only addition to that is, over ten years, the unemployment gap between cities of different size/administrative-ranks widened (Section B.3 in Appendix B).

In contrast, the employment rate among regional clusters changed completely from 1990 to 2000, with the pattern for 2000 exactly the inverted to that of 1990. While the middle region had the highest employment rate in 1990, it became the one hit hardest, having the lowest employment rate in 2000. The low employment rate in the middle was accompanied by an exceptionally high percentage of those unemployed and looking for work of all non-working populations—which was 15 percent above the national average. Interestingly, the west moved from being the lowest employment-rate region to the highest one from 1990 to 2000 (see section B.2 in Appendix B).

5.2.1.4 Low-income Occupation: 1990 and 2000

The share of employed population in secondary industry¹⁶ declined in three of the four rank clusters of cities. Moreover, the workforce distribution in secondary industry across the four city clusters indicates that large cities were no longer playing the same paramount role in the manufacture and transportation industry that they had played in 1990. Nevertheless, secondary industry remained the sector that employed the largest share of the workforce in large cities in 2000 (see section B.3 in Appendix B).

However, industry is not a good identifier of low-paying jobs. To get a better sense of the subgroup in low-paying occupations, I focused on those working in commerce services, and manufacturing, construction, and transportation activities. The share of the population in manufacturing, construction and transportation declined over

¹⁶ In China, secondary industry refers to industrial activities such as mining and quarrying, manufacturing, production and supply of electricity, water and gas and construction..

time for all four rank clusters. For the top four largest cities on mainland China—Beijing, Shanghai, Tianjin, and Chongqing, the percentage dropped more rapidly than in other clusters. In contrast, the share of the population working as commerce or service workers increased in all four city clusters. However, the percentage was not increasing as quickly in the four municipalities (top administrative ranking) as in provincial capital cities and “separately planned” cities (secondary administrative ranking), which has traditionally been positioned at the forefront of social and economic reform in China (see section B.3 in Appendix B).

While the middle and west regions experienced a decline in secondary industry employment, the east-coast actually saw an increase in employment in that sector from 1990 to 2000. Correspondingly, the east-coast also has been loaded with low-paying manufacturing and service jobs by percentage during the 1990s. In contrast, the middle and the west both experienced a significant decline in low-paying jobs by percentage. The reasons are that: (1) the middle and the west experienced a sharper decline in the share of population in manufacturing, construction and transportation than the east; (2) the two regions gained much weaker advantage than the east in building up commerce and service jobs; and (3) there was a great mushrooming of prefecture-level cities (47.7 percent and 95.0 percent increase in the middle and the west, compared to a 37.0 percent increase in the east from 1990 to 2000), cities that usually include an urban center and a large surrounding rural area under the administration of the city—this led to an increasing share of population employed in the primary sector in the middle and the west (see section B.2 in Appendix B).

5.2.1.5 Migrants as Vulnerable Population: 1990 and 2000

Section B.3 in Appendix B suggests that the provincial capital cities and the “separately-planned” cities in cluster 2 had been more accommodating to migrants than the largest cities and the medium and small cities, as measured by in-migrants, by percentage.

Unfortunately, since the 1990 and 2000 Censuses used different criteria to enumerate migrants, those data are not comparable. Also, there are no data for rural *hukou* status or rural/urban origins of migrants in the 2000 Census, making the comparison of rural migrants impossible as well. However, it is evident that large cities at higher administrative rankings consistently attracted more migrants relative to total populations, and more so by 2000, given that (1) provincial-level cities had persistently the highest level of in-migrant population by percentage and (2) the four municipalities quickly moved up from a lower-than-average to the second highest level of migrant population in percentage among all city clusters.

In terms of geography, according to section B.2 in Appendix B, the eastern cities apparently gained the greatest advantage in in-migration during the 1990s, with in-migrants as a share of total population changing from lower than the national average in 1990 to almost 40 percent higher than the national average in 2000. In contrast, cities in the middle region, which has some of the most populous provinces, lost more migrants than they received each year, resulting in an absolute decline in the in-migrant population as a share of total population. The western interior was in a better condition; it had slight

losses of some migrants, yet still was able to keep a percentage of the in-migrant population at a level above the national average.

5.2.1.6 Sub-standard Housing: 1990 and 2000

On average, family households in large cities had less floor space per person than those in small and medium cities (see section B.3 in Appendix B). This gap in housing space further enlarged during the 1990s. According to section B.2 in Appendix B, eastern cities enjoyed more floor space per person and better access to facilities in average, except for access to a lavatory.

5.2.2 Additional Descriptive Analysis for 2000

The 2000 Census provided the opportunity to examine several aspects of Chinese cities not available with the 1990 Census.

In terms of education, gender differences between cities of different sizes or regions were prominent in 2000. Gender difference in education, which is measured by the difference in average years of schooling between males and females, suggested that men received far more education than women in large cities. For example, in the city of Beijing, an average man had 11.1 years of education in 2000, which was 3.77 years more than that of an average woman(see section B.3 in Appendix B). This can be explained by the unusually high gender ratio and education level caused by the selection process of migration. As expected, in 2000, the largest cities attracted those with higher levels of

education, according to the indicator of average years of schooling. Yet in 2000, the regional gap in gender difference in education was much less dramatic than the gap between cities of different sizes, suggesting that city rank is a more obvious discriminator of the selection effect of migration than the geographic location of a city (see section B.2 in Appendix B).

In terms of labor participation, large cities saw much higher non-working population rates¹⁷ than small and medium ones in 2000. Since non-working populations were one of the newly added items to the 2000 Population Census and the information was not available for 1990, no comparison can be made between 1990 and 2000. However, the difference in non-working populations among rank clusters was surprisingly large in 2000. First, among the four municipalities, the average percentage of those who lost a job and were looking for work, of the working-age populations, was almost 5 times the level in county-level cities. Second, the average population share who had never worked and was looking for work, an indicator of unemployed youth, was the highest among prefecture-level cities, not municipalities or provincial capital cities. Third, in the meantime, only a tiny percentage of the working-age populations in large cities had lost their working ability. All of these findings suggest that a greater share of the non-working populations in large cities is either economically active or physically able. Who are these people then? Some are voluntarily unemployed and others are involuntarily so. The latter includes former laid-off workers, early retirees, long-term unemployed, and, more importantly, unemployed rural migrants.

¹⁷ Non-working population rates can be derived from employment rates as non-working population in China refers to the rest of those in their working ages not yet employed for various reasons.

In terms of housing, family households in large cities enjoyed much better access to basic services and housing facilities, such as tap water and bath facilities. Interestingly, in large cities, more family households either did not own or had to share a kitchen or lavatory than occurred in small and medium cities. There are two possible explanations that are not mutually exclusive. *First*, this could be indicative of the prevalence of low-standard, self-built housing and old, rental, public *Danwei* housing in large cities, both of which fit the above characterization of housing conditions. Although there was a relatively lower presence of self-built housing in large cities due to strict planning codes and urban renewal, a more complex and segmented land use pattern and an exceptionally high housing need by younger and low-income families in large cities led to a larger remnant stock of socialist housing such as the sub-standard, dorm-like *Danwei* housing. *Second*, the way people live can be another explanation for the higher percentage of shared housing facilities in large cities. The percentage of rented houses or apartments is exceptionally high in large cities (more than 4 times the national average), suggesting the possibility that a larger proportion of family households are sharing their apartment or house, including facilities, with co-resident families.

Note that self-built housing is associated with a lack of privilege in China—the majority is sub-standard, temporary housing built by those who were “outsiders” in the socialist housing system from 1983 to the 1990s, the result of individual activities led by the government to increase the urban housing supply (Wang and Murie 1999). In 2000, self-built housing constituted a greater share of housing in coastal cities while rental housing, including public *Danwei* rental and private rental housing, constituted a smaller share than in the middle and western interior cities.

5.2.3 Deprivation Indices: 1990 and 2000

As discussed in chapter 4, the deprivation indices were limited to a number of indicators, selected according to four criteria. More specifically, seven variables and ten variables were selected for principal components analysis for each year, respectively, as indicated in Table 5-1.

Basically, three categories of indicators were used in the construction of deprivation indexes. (1) Two educational indicators were selected for each year, namely, the rate of illiterate population as a share of total population age 15 and above, and the rate of population with an education less than 9 years as a share of total population age 15 and above. (2) Three demographic variables were included as the second category of indicators. (3) One housing variable constitutes the third and last category of indicators.

A number of descriptive variables were omitted in the deprivation analysis based on various considerations. *First*, a larger number of educational variables for the year 2000 considered in the descriptive analysis, such as average number of years in school and gender differential for education, were omitted from the principal components analysis since the spear correlation suggested that they were not significantly correlated with other variables and proved to be weak indicators of deprivation.

Second, none of the employment and labor force participation indicators was used. There were several considerations involved in this decision: (1) While the 2000 Census provided information on subgroups in the non-working population, including disabled

population and two groups of the unemployed population¹⁸, the 1990 Census did not collect any information on the non-working population, creating a dilemma about whether to select a non-working population variable for both years to maintain consistency, or to include different sets of variables that make the most sense of deprivation at different time points. In the interest of both the consistency of indices and in consideration of the statistical robustness of indices, neither was chosen. (2) When doing correlation analysis, the two unemployment rate variables and the non-working population variable each demonstrated strong negative correlations with almost all other indicators, suggesting that they would provide very limited additive information to the deprivation index. (3) The rates of the nonworking population without working ability, while a higher average (3.68 percent) than those of the two unemployed groups (2.0 percent and 1.74 percent), was also omitted from the 2000 index, considering its weak correlation with unemployment variables.

Third, occupational variables were omitted from the deprivation analysis because they have proved to be weak indicators of deprivation compared to other ones. In fact, occupational variables have been less prevalent in deprivation index constructions. Nevertheless, the author experimented with the inclusion of these variables because a rising research interest has centered on working poor in China. The two indicators selected represent the rate of employed population as manufacturing worker, and the rate

¹⁸ Although it was not openly stated by the Chinese Census Bureau in the description of census variables, the two subgroups in the non-working population—(1) those non-working population who have lost their jobs and are looking for jobs, and (2) those non-working population who have never had jobs and are looking for jobs—added together are equivalent to the unemployed population, according to the common definition as a population without a job, but actively looking for work shortly before the time of census enumeration.

of population as service worker. Neither was eventually incorporated into the indices because: (1) the rate of population in the secondary industry is too crude a category to be informative, and (2) the occupational data were highly aggregated on the basis of a coarse classification, including both state and non-state numbers¹⁹.

Finally, the new housing variables from the 2000 census were not considered for principal components analysis, due to the presence of discrepancies in housing data for two years—1990 and 2000. (1) The 2000 census included three excellent variables indicative of deprivation—rate of family household with no tapped water, rate of family household with no bath facilities, and rate of family household residing in purchased housing. The latter represents the winners in the changing housing distribution system, or insiders of the reformed system, and it is strongly negatively correlated with ownership of self-built private housing, which is a good indicator of housing deprivation in the Chinese context²⁰. (2) Rate of family household with no kitchen and rate of family household with no lavatory were both deleted from principal components analysis due to low significance levels of correlations with other housing variables. (3) Rate of rented housing was also omitted from the analysis, given that its correlation with housing condition variables is very low. (4) The rate of self-built housing was omitted, too, given that it demonstrated an almost perfectly negative correlation with ownership of purchased housing.

¹⁹ Manufacturing and mining as well as service sectors are among the sectors with the lowest average wage levels and the lowest wage increase rates over the past decade. However, enterprise size and state ownership matter. Within the sectors, manufacture workers and service workers in local, non-state sectors and medium and small enterprises have experienced the lowest increase in wages.

²⁰ According to the history of housing practice in China, self-built housing was encouraged by the government as a way to deal with local housing shortages in the 1980s. A high self-built housing rate often indicates a small share of public housing funds allocated by a city toward the building of public housing and a small amount of foreign and private investments drawn into commodity housing development.

Table 5-1: Variables Used to Construct the 1990 and 2000 Deprivation Indices

Variables	Descriptions	1990 Index	2000 Index
ILLITER	Rate of Illiterate Population	✓	✓
EDU9	Rate of Population with an Education Less than 9 years	✓	✓
ELDERLY	Rate of Elderly Population age 65 and above	✓	✓
CHILD	Rate of Children age less than 15	✓	✓
RURAL	Rate of Rural Residents	✓	✓
AVGSPACE	Average Floor Space of Housing per Person (Square Meter)	✓	✓

Principal components analysis was conducted on both sets of variables; Table 5-2 shows the loadings for each of the variables for 1990 and 2000. Judging by component loadings, the first principal component for each index indicates the socioeconomic dimension of deprivation. Higher index scores indicate higher levels of deprivation represented by indicators of low education and rurality. The second principal component for each index is a combination of the rate of elderly population and housing condition. Since the second component for each index actually has a high loading on housing space, the component is considered the housing dimension of deprivation. Lower index scores indicate higher levels of deprivation represented by the indicator of low housing space per person.

Table 5-2: Component Loadings for 1990 and 2000 Indices (varimax rotation)

Variable	1990 Index		2000 Index	
	Component 1	Component 2	Component 1	Component 2
ILLITER	0.7950	0.1480	0.6180	-0.0809
EDU9	0.8990	0.2460	0.8860	0.2880
ELDERLY	0.0673	0.8560	0.0627	0.8480
CHILD	0.8170	-0.3680	0.8000	-0.3550
RURAL	0.8490	0.3340	0.8440	0.3360
AVGSPACE	0.1420	0.7480	-0.0002	0.8520

Both indexes for 1990 and 2000 are mapped in Figures 5-1 and 5-2. In 1990, the socioeconomic dimension of deprivation slightly gravitated towards the middle and the east, forming belts of high urban deprivation stretching from the north coast to the middle and the south. No apparent spatial pattern can be identified in 1990. In 2000, clusters of cities in south, central and east China with highly polarized degrees of deprivation are clearly identified.

Judging by the two histograms that show the distribution of socioeconomic deprivation index scores for 1990 and 2000 (histograms are not shown here and can be obtained from the author), while there is a bipolar distribution with a significant large group of cities with lower deprivation and a large group with higher deprivation in 1990, the distribution is skewed towards higher deprivation scores with a large number of cities clustering around the one standard deviation above average level. What contributed to the increasing polarization of deprivation across Chinese cities in the 1990s? More specifically, what has caused the increase in the number of cities in a state of high deprivation and the decreasing proportion of cities in a state of low deprivation?

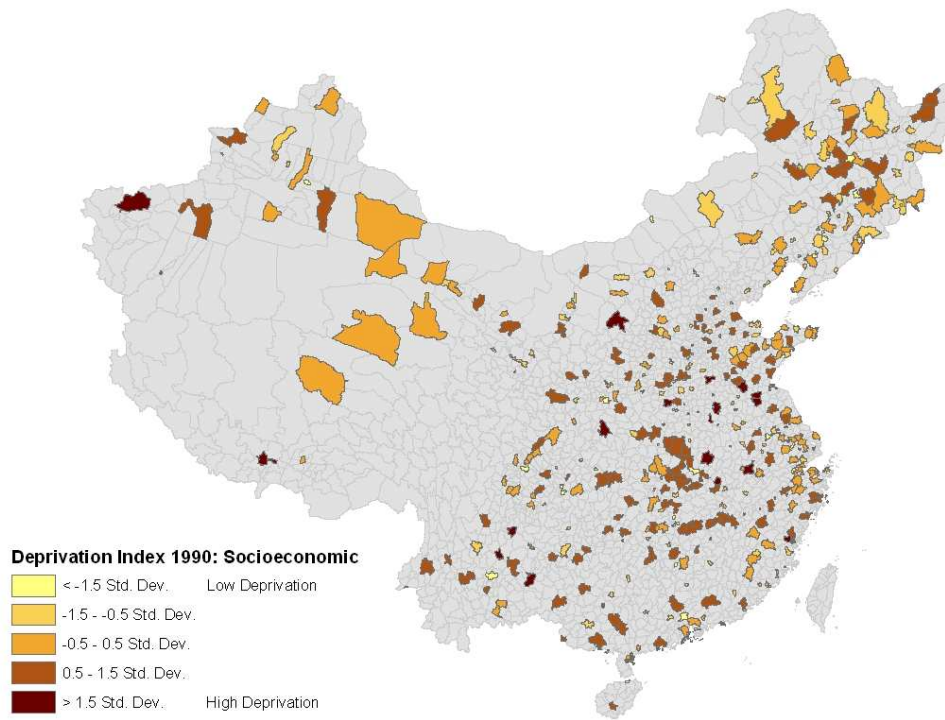


Figure 5-1: Distribution of Urban Deprivation in China, 1990

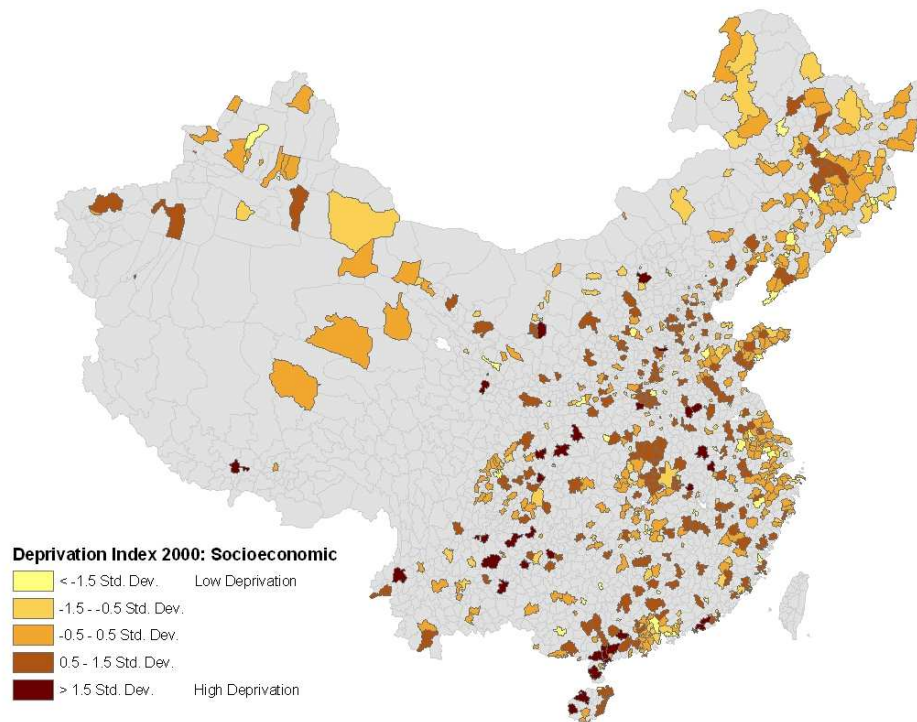


Figure 5-2: Distribution of Urban Deprivation in China, 2000

5.3 What Contributed to the Changing Dynamic of Deprivation?

This section contains an exploration of the interrelationship between the spatial pattern of deprivation and migration. While in 1990 migrants were still randomly distributed in medium-sized, county-level and prefecture-level cities, in a selected number of eastern, western and northern border cities, a large migrant population was identifiable in both small and medium-sized cities and large provincial-level cities and municipalities in almost every region of China in 2000. Besides this apparent population movement, there were other directions in population movement between cities and regions as well as between rural counties and cities that are not easily spotted on maps. To test for the interrelationship between migration and deprivation patterns, three hypotheses were developed—(1) migration aggravates inequality across cities; (2) migration shifts deprivation across cities; and (3) migration equalizes inequality across cities.

The first hypothesis is that migration aggravated the deprivation levels of cities and led to a wider gap in deprivation level. If this indeed occurred, more cities with high migrant populations would be expected to fall into the category of deprivation in 2000. The second hypothesis speculates about the shifting effect of migration, which means that deprivation is shifting from some cities to others and migration is strongly correlated with the relocation of deprivation. If this is what happened, it should be reasonable to expect a stable proportion of cities with high migration in the deprivation category. However, there should be a major change in the cities in this category. The last hypothesis is that migration has an equalizing effect, narrowing the gap between cities. In other words,

migration alleviated the deprivation levels of cities. In this hypothesis, fewer migrant cities would be falling into deprivation. To test these hypotheses, a contingency table was constructed for each year to compare the relationship between migration and deprivation between 1990 and 2000 (see sections B.4 and B.5 of Appendix B). Note in this part of the analysis, the socioeconomic deprivation factor scores of 2000 were recalculated based on a smaller set of cities, which contained the same cities as in 1990. The newly established cities in the 1990s were excluded from the contingency analysis.

In 1990, seven cities fell into the category of high migration ($> 1/2$ Std. Dev.) and high deprivation ($> 1/2$ Std. Dev.). A finer-grained categorization revealed that five cities fell into the cell of medium-high migration ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.) and medium-high deprivation ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.), and two cities fell into the cell of high migration ($> 1 1/2$ Std. Dev.) and medium-high deprivation ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.).

In 2000, the same number of cities fell into the category of high migration and high deprivation, with six in the cell of medium-high migration ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.) and medium-high deprivation ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.), and one in the cell of exceptionally high migration ($> 3 1/2$ Std. Dev.) and medium-high deprivation ($1/2$ Std. Dev. - $1 1/2$ Std. Dev.). However, only two of them were in the same broad category ten years earlier.

Given the results of this cross-tabulation, hypotheses 1 and 2 are rejected. There is not enough evidence to reject the third hypothesis—that migration had an equalizing or minimizing effect on the changing pattern of deprivation. However, more empirical

analyses need to be conducted before any firm conclusion can be made. Further discussion on this topic is beyond the scope of this dissertation.

5.4 Summary

This chapter contains a summary of the first level of the analysis for this study, and aimed to lay out a broad picture of the distribution of relative deprivation across cities. At this level I addressed two questions: what is the spatial pattern of urban poverty across Chinese cities, and what is the reason for rising affluence and rising inequality? A three-step analysis based on county-level census data and housing statistics was adopted.

First, the descriptive analysis indicated the following trends across city clusters: (1) a widening educational gap; (2) a disparate profile of disadvantaged groups, with the east coast having more women and elderly, and the middle and west having a larger rural population; (3) a widening employment gap and relocation of employment opportunities; (4) a relocation of low-paying manufacturing jobs to the east coast and the generation of low-paying service jobs in large cities and “open” cities along the coastline; (5) a net inflow of migrants into large cities and the east coast and a net outflow of migrant from the middle; and (6) an enlarging housing space gap.

The deprivation indexes further suggest that: (1) deprivation in China tends to gravitate toward both the middle and east coast, and (2) some of the most polarized city clusters are found in south and east China—namely, the Pearl River Delta and Yangtze River Delta—where cities of relative affluence are adjacent to cities in high deprivation.

Histograms show that in 2000 a greater proportion of cities fell into the cluster of relatively high deprivation levels.

Finally, a comparison between the changing pattern of migration and that of deprivation across cities suggests that there is evidence supporting the belief that migration has not contributed to the rising inequality across cities. However, more needs to be done before any conclusions are reached about this.

This all leads to an intriguing yet unresolved question: if migration contributed negatively to rising inequality across cities, or, in other words, if higher in-migration rate translates into greater risks of deprivation in cities that offer economic opportunities and less risks of deprivation for cities that are less economically viable—as suggested by the equalizing hypothesis—what might have contributed to that result and what does that mean for migrants in cities?

Chapter 6

SPATIAL INEQUALITY AND URBAN POVERTY IN COMMUNITIES: A CASE STUDY OF NANJING, CHINA

The analytical results presented in chapter 5 showed deprivation in both the most affluent regions and the distressed central regions of China, and that migration is equalizing the gap in deprivation. These results demonstrated broad agreement with existing literatures which argue that the biggest cities may or may not provide greater opportunity given the tendency of people to migrate to places long after opportunities are exhausted. More importantly, the findings suggested that the cities with greater economic opportunities may not provide greater access to urban social resources to different incoming groups.

Assuming that the trend of and motive for migration at the national level is true, where do migrants end up in the city? Theory suggests migrants gravitate to places where family members are found, social networks exist, and affordable housing can be found. How do these factors shape the intra-urban residential stratification in Chinese cities? Given the trend of residential differentiation in urban China, what is the locational tendency for the poor in the city? This chapter aims to answer these questions with empirical findings based on the case study of Nanjing, China. Specifically, I address the following questions:

- a) What are the major dimensions of residential inequality or differentiation in urban China?

- b) What spatial trends of poverty can be identified within cities, given the effective end of state control in residential space and population movement, and the incursion of market-oriented housing provision and allocation?

I hypothesized that poverty spaces are different in different cities because of the arrangements of local institutions such as *hukou* and housing policies. However, we see a general trend of concentration of poverty in both inner-city urban communities and outer-city migrant enclaves. We also see incidence of concentrated poverty in communities or neighborhoods with mixed populations.

To answer this second-level question, I studied the location and characteristics of the poor in three separate cities—Beijing, Guangzhou, and Nanjing—where I found preliminary evidence of poverty concentration based on *hukou* and socioeconomic status. However, the analysis presented in this chapter primarily focused on the case study of Nanjing as a typical large city in China in order to shed light on other cities in China.

Nanjing is a typical Chinese city with many characteristics of the industrial cities in the central region as well as the cities on the east coast of China. Before 1949, it was the capital of the nationalist government. Now as the capital city of the Jiangsu province, it is both an economic and political center in the Yangtze River Delta, one of the most prosperous regions in China. The city administers an area of 6,597 square kilometers with a total population of 5.29 million. It is surrounded on three sides by mountains and the other side by the Yangtze River (Figure 6-1).

The city was chosen as the case city due to the following considerations: (1) As a typical large provincial capital city in China, it is home to a considerable number of

migrants and has a less restrictive policy regarding migrants than municipalities such as Shanghai and Beijing. (2) Its geographic location in the Yangtze River Delta²¹, one of the two most prosperous, yet unevenly developed regions in China, provides a closer look at urban poverty inside cities of relative affluence in China. (3) The city is a manageable size for a case study.

In general, in this chapter the social and spatial patterns associated with local (*jiedao*, or street) community differences in urban socioeconomic well-being in China are described and explained. This information is then used to explore the landscape of urban poverty in the communities of a Chinese city. Finally, I summarize the empirical findings at this level.



Figure 6-1: Location Map of Nanjing City, China

Source: U.S. Central Intelligence Agency (2007)

²¹ The region now generates nearly 20 percent of the country’s GDP, with only less than 6 percent of the country’s population and 1 percent of the country’s land.

6.1 Spatial Inequality and Poverty in Chinese Cities: A Hypothetical Model

Early studies revealed that residential differentiation in the great majority of cities in the developed world is dominated by a *socioeconomic status* dimension, with a second dimension characterized by *family status* and a third dimension regarding *ethnic status* (Rees 1979). Scholars later argued that the classical model should be revised. Residential differentiation is manifest in more complex ways and at a finer level of resolution than the sectors, zones, and clusters that have been associated with the three main factors (Knox and Pinch 2000). Adding to the complexities are the emergence of *migrant status* as a potential source of difference, the reinforcement of *ethnic differentiation* with new immigrant groups, the new *occupational differentiation*, distinctions in *welfare dependency*, a rising importance of *substandard housing* resulting from the consolidation of the urban underclass, and so on (Davies 1984).

Chinese cities demonstrated a different pattern than that suggested by western models. Urban geographers, in a somewhat delayed fashion, adopted multivariate methods to study the socio-spatial structure of large cities such as Guangzhou (Yeh, Xu and Hu 1995), Beijing (Sit 2000), Hong Kong (Lo 1975) and Taipei (Hsu and Pannell 1982; Jou and Chan 1994). The general findings were that (1) mainland cities of China during the socialist era were differentiated based on a myriad of variables such as *population density, education, employment, housing quality, and household composition*. (2) In westernized Chinese cities such as Hong Kong, both diversity and regularity are manifest—besides a diversified socioeconomic stratification, a new “public housing residents” dimension has appeared in Hong Kong (Lo 1975). (3) In Taipei, there has been

a more complex pattern, where socioeconomic status is the main determining factor in residential location, not independent of other major factors (Jou and Chan 1994).

Government housing and industrialization policies, workplace travel behavior patterns, and cultural practices all contribute to the spatial structure of Taipei's residential patterns (Hsu and Pannell 1982).

Although previous research has shed light on the changing urban residential structure in Chinese cities during the late socialist and early reform period, these studies have been criticized for their simple theoretical reliance upon western city experience. In addition, many used incomplete survey data (exclusion of migrants, e.g.) and provided skewed results. More importantly, previous studies on spatial stratification in Chinese cities have not based their theoretical discussions or empirical research designs on the same questions as those debated in the research field of social stratification in China. Given the experiences, no work has successfully captured the recent spatial upheavals in post-reform Chinese cities, in light of rising rural-urban migration, relaxed state control in urban housing and space, and the incursion of market forces.

Current geographical studies of intra-city spatial inequality in China remain at a tentative stage, not able to generate testable hypotheses as has occurred in sociological studies on urban inequality, for several reasons: *First*, although a few innovative research frameworks have been proposed by geographers (e.g., the study based on rent gaps and capital flows in the city by Wu (2002a)), they often turn out to be makeshift approaches at a time when micro-level spatial data such as census data for such empirical studies were not unavailable. *Second*, both the socialist urban built environment and post-reform

urban development have exerted significant impacts on the mixed urban landscapes in China, making theoretical development a challenging task.

Based on prior research findings (Yeh and Wu 1995; Yeh, Xu and Hu 1995) and recent urban transformations in Chinese cities, one can reasonably expect that *socioeconomic status, migratory status, housing ownership and condition, and population density* are among the variables that explain contemporary urban residential differentiation. More specifically, I propose a model to represent the trend of spatial differentiation in Chinese cities.

This model is both theoretically based and empirically testable: (1) On the theoretical level, I hypothesize that the traditional role played by pre-existing institutions such as *hukou* is diminishing and has gradually given way to the importance of market-related factors. Figure 6-2 depicts the hypothetical or conceptual relationship between institutional and market factors in shaping residential patterns. (2) As a result, on the empirical level, socioeconomic status, as measured by income and occupation, has gradually become the defining feature used to characterize communities in China. Note that the figure only presents the spatial patterns based on two major variables: SES and the institutional factor of *hukou*. However, more can be added such as housing ownership. (3) The model presents a dynamic view and can be fit into various stages during economic transition and geographic contexts in China. For example, scenario A depicts the urban residential pattern in the late socialist and early reform eras, when urban communities were organized by the state on the basis of work units and large residential projects. Migrants in the late 1970s, mostly returning urban citizens from the country side, were organized into selected locations of the city. In the 1980s and early 1990s, private

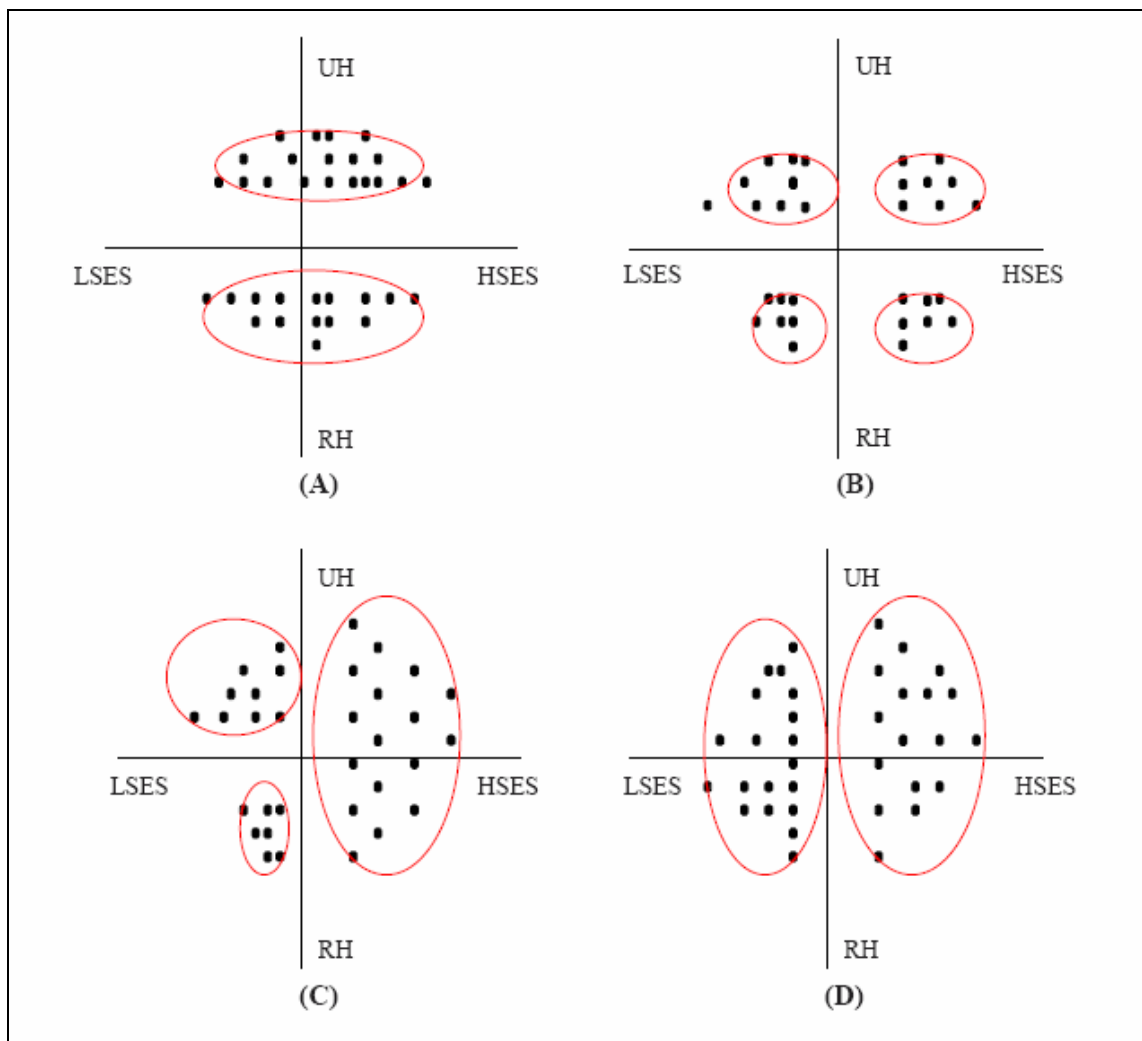


Figure 6-2: Hypothetical Scenarios for Residential Clusters in Chinese Cities: From Pre-existing Institutional Context to Market-driven Context

Note: Each black dot refers to a community; LSES and HSES refer to low socioeconomic status and high socioeconomic status, respectively; UH and RH refer to urban *hukou* and rural *hukou*, respectively.

A. Communities within strong institutional contexts such as the early socialist cities where strong barriers embedded in *hukou* and housing systems prevented integration of rural migrants with local residents.

B. Communities in transition with increasing divides among migrant enclaves and native communities along the lines of socioeconomic status. Large Chinese cities such as Beijing and Guangzhou in the 1990s were examples.

C. As institutional barriers are gradually removed, initial integration starts with the emergence of mixed communities of high-income groups regardless of their places of birth.

D. Communities in a hypothetically market-oriented economy where residential clusters are identified with similar socioeconomic status rather than characteristics defined by socialist institutions.

rental was not available and as a result spontaneous migrants from rural areas were forced to congregate in selected locations on the fringe of the city and formed enclaves.

Scenarios B and C refer to contemporary residential patterns in China, with socioeconomic factors gradually exerting greater influence than institutional factors in determining the residential patterns of the urban population, due to a relaxed policy on migration and the retreat of the state from housing provision and control. Scenario D is an example of the residential pattern situated in a market economy context.

6.2 Empirical Findings from the Case of Nanjing

To test the model, the city of Nanjing is used as an example. Six categories of data were selected from the short-form and long-form data ²²collected in the 2000 Census of Nanjing. Principal components analysis with the 45 variables was conducted to identify a number of components to capture a majority of the variance in the variables. Cluster analysis was performed on the component scores to identify the distribution pattern of residential communities with various attributes (i.e., SES and *hukou* status).

As of 2000, the total population in Nanjing was 6,126,200, 4,355,300 of whom were urban. The urbanization rate was 71.09%, which is significantly higher than the average urbanization rate of 41.49% in the Jiangsu Province, and 36.09% in China. There are eleven districts (six districts in the inner city and five in the suburbs) and four

²² According to Lavelly (2001), the 2000 Census of China adopted two forms of the census questionnaire. The short form contains standard items collected for every person in every household, including age, sex, nationality, registrations status, and educational level. The long form was administered to a 10% sample of households and contains items on housing, migration and employment.

counties within the administrative boundary of Nanjing City. Each of the six urban districts is comprised of six to ten *Jiedao* (communities, or streets), and each community is divided into three to nineteen *Jumin Weiyuan Hui* (neighborhoods, or residents' committee areas), with a population in each *Jiedao* ranging from 18,265 to 116,188, in an area from 0.55 square km to 23.60 square km.

6.2.1 Intra-city Stratification Patterns based on Principal Components Analysis

Principal components analysis produced 8 interpretable rotated components that effectively summarized the patterns found in the 45 initial variables (Table 6-1). Together, the 8 factors account for more than 85% ($R^2=85.01\%$) of the variation in the spatial stratification pattern. Factor 1 explains 31% of the variation, while factors 2 and 3 explain 18% and 17%, respectively. The other 5 factors account for the rest of the variation, each contributing to less than 6% of the variation.

6.2.1.1 Factor I: Socioeconomic Trend

As expected, by 2000, the communities in Nanjing differed primarily on the basis of socioeconomic status. Factor I identifies a community's *socioeconomic character* based on educational attainment, occupational structure, and population density, which is frequently used as a discriminator of the rural/urban divide. Socioeconomic character can range from high population density, high levels of education, low illiteracy rates, many persons in managerial and professional occupations, few farmers or production workers,

and high home ownership (primarily in the public sector) with considerable facilities, to low population density, high illiteracy rates, more farmers and production workers, and a large stock of self-built housing before or after the reform. This is consistent with the literature on the urban-rural divide, which states that it is the most important divide in stratifying the population in China today.

Table 6-1: Rotated Factor Loadings with Factor Identities*

Variable	Rotated Loadings**							
Factor	1	2	3	4	5	6	7	8
DENSITY	-0.567	-	-	-	-	-	-	-
FAMILY	-	-	-	-	-	-	-	-
FAM_PCT	-	-	-	-	-	-0.807	-	-
FHHSIZE	-	-	-	0.811	-	-	-	-
SEXRATIO	-	-	-	-	-	-	-	-
MALE1564	-	-	-0.665	-	-	-	-	-
MALE65	-	-	0.716	-	-	-	-	-
FEM1564	-	-	-	-	-	0.533	-	-
FEM65	-	-0.529	-	-	0.628	-	-	-
FAM19	-	-	-	0.824	-	-	-	-
FAM60	-	-0.65	-	-	0.5	-	-	-
FAM_HD60	-	-0.741	-	-	-	-	-	-
SCHOOL	-0.901	-	-	-	-	-	-	-
ILLITRCY	0.915	-	-	-	-	-	-	-
ILLI_FEM	0.916	-	-	-	-	-	-	-
UNEMPLOY	-	-	0.926	-	-	-	-	-
UNEM_FEM	-	-	0.912	-	-	-	-	-
NONWORK	-	-	-	-	-	0.629	-	-
NOWK_FEM	-	-	0.513	-	-	0.588	-	-
NOWK_NA	0.676	-	-	0.569	-	-	-	-
NOWK_NJB	-	-	0.563	-	-	-	-	-
NOWK_LJB	-	-	0.741	-	-	-	-	-
OCCU_MAN	-0.782	-	-	-	-	-	-	-
OCCU_PRO	-0.891	-	-	-	-	-	-	-
OCCU_OFCC	-0.801	-	-	-	-	-	-	-
OCCU_COM	-	-	0.539	-0.545	-	-	-	-
OCCU_FAM	0.662	-	-	0.629	-	-	-	-
OCCU_PRD	0.692	-	-	-	-0.559	-	-	-

NOHUKOU	-	0.847	-	-	-	-	-	-
NHK_M6MO	-	0.791	-	-	-	-	-	-
NHK_L6MO	-	0.835	-	-	-	-	-	-
SEXRT_M6	-	-	-	-	-	-	-	-
SEXRT_L6	-	-	-	-	-	-	0.723	-
SELFBULT	0.851	-	-	-	-	-	-	-
OWNER_C	-	-	-	-	-	-	-	0.804
OWNER_SO	-	0.617	-	-	-	-	-	-
OWNER_P	-0.853	-	-	-	-	-	-	-
RENTER_P	-	-	-	-	-	-	-	-
RENTER_C	-	0.743	-	-	-	-	-	-
FLOORSPA	-	-	-	0.798	-	-	-	-
NOKITCHN	0.638	-	-	-	-	-	-	-
NOTAP	-	-	-	0.524	-	-	0.519	-
NOBATH	0.963	-	-	-	-	-	-	-
MEDPRICE	-	0.593	-	-	-	-	-	-
MEDRENT	-	0.812	-	-	-	-	-	-
Variance explained by factor (%)	30.96	17.88	16.93	5.21	4.88	4.06	2.66	2.44
Interpretation :	Socioeconomic character: Educational attainment and rural (suburban)/urban divide	Migrant presence	Urban unemployment trend	Family household size and composition	Retired elderly presence	Household type (school districts)	Sex ratio	Housing ownership and urban (re)development trend

*Extraction Method: Principal Components Analysis. Rotation Method: Varimax with Kaiser Normalization.

**Only factor loadings greater than .50 are shown.

The spatial distribution of factor one scores shows that the communities with high population density, high levels of education, low illiteracy rates, and many white-collar employees in owner-occupied housing are located in the northwest and east of the inner city, where there are persistent historical advantages as the locations of municipal government and large work units (see Figure 6-3). Areas with low SES are mainly located in districts adjacent to suburban and rural districts.

6.2.1.2 Factor II: Migrant Presence

Also showing agreement with the previous hypothesis, communities are differed on the basis of the *hukou* status of the residents. The second factor identifies the *migrant presence* in a community. Judging by the factor loadings on the variables, migrant presence in a community can range from a pattern characterized by a large non-*hukou* population, including temporary and long-term migrants, a young female population, and small aging population (especially single elderly or elderly couples living alone), and a large stock of commodity housing for rent, to a pattern distinguished by a large native urban population, an aging population (especially single elderly and couples), and a small stock of rental commodity housing.

The spatial distribution of the factor scores shows that high scores, indicating a high migrant presence, are concentrated in several large communities in the southwest and a number of outskirts communities surrounding the inner city (see Figure 6-4).

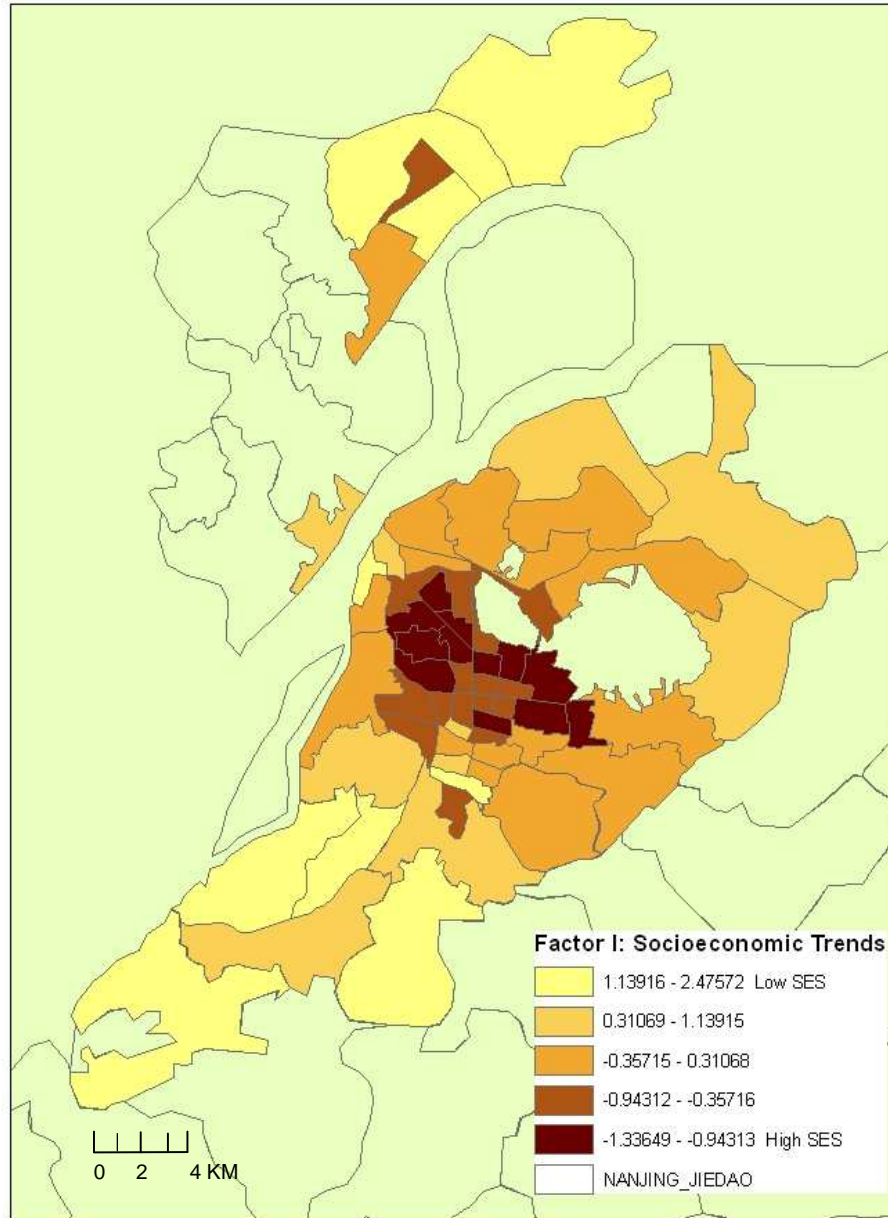


Figure 6-3: Spatial Distribution of Factor 1 Scores

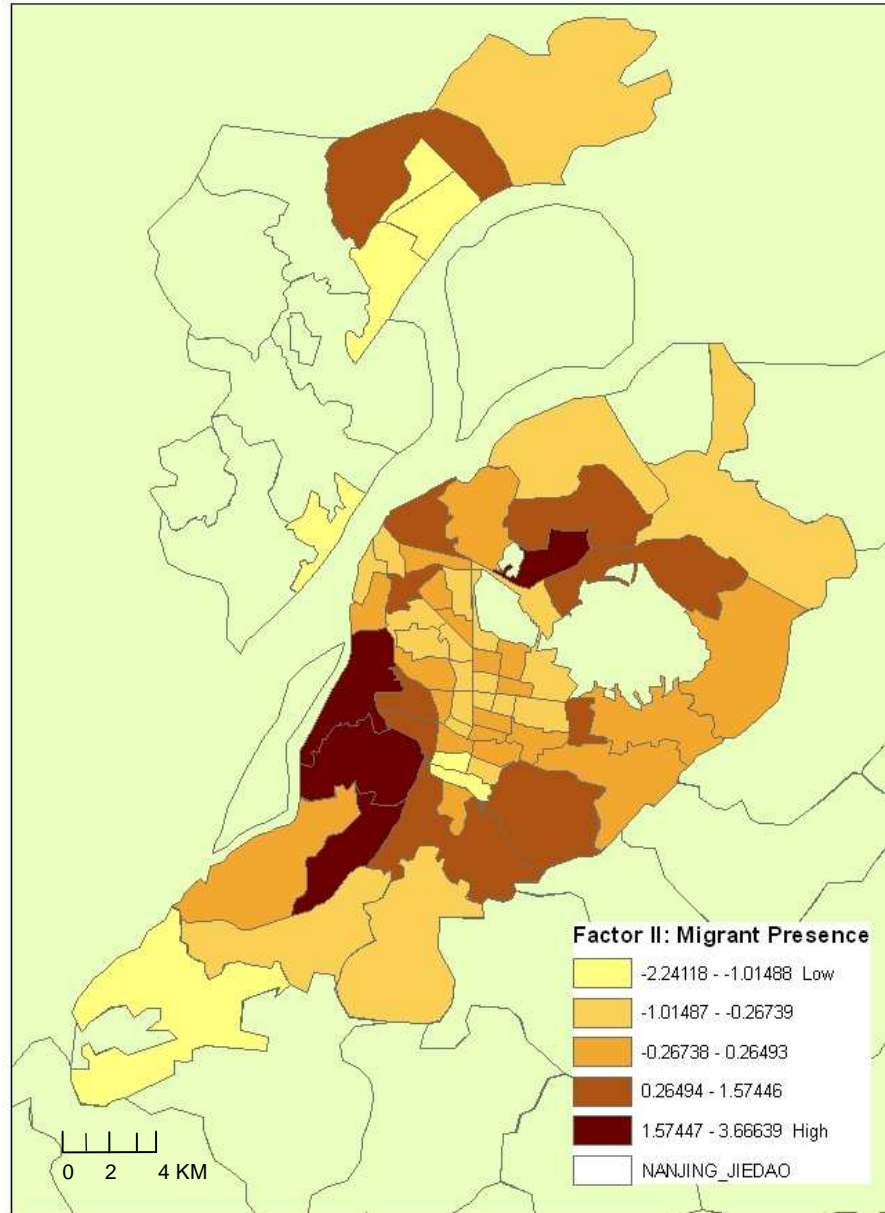


Figure 6-4: Spatial Distribution of Factor II Scores

6.2.1.3 Factor III: Employment/Unemployment Status

The third factor identifies the general *employment or unemployment conditions* of a community. Judging by the exceptionally high loadings on unemployment rate (0.926) and female unemployment rate (0.912), and the loading on non-working population who have lost their jobs (0.741), the pattern is dominated by an unemployed population group that includes a majority of laid-off or unemployed workers. This pattern is also characterized by the presence of an aging male population, non-working females, those who work in commerce, trade, or personnel services, and those who are and have never worked before or have been long-term unemployed. Considering that only two employment status and four non-working status variables are chosen, the prominence of the third factor suggests that a relatively strong pattern in an urban space associated with unemployment or low job security has emerged. This has never been observed before in studies of Chinese cities.

Figure 6-5 presents the spatial distribution of the factor scores, providing a further insight into the spatial pattern. The darkest zones representing high unemployment rates and many who lost jobs form a contiguous area stretching from the southern part of the inner city to the east. The second darkest zones include a contiguous area formed in the northwest along the Yangtze River. Both the southern area and the northwest have historically served as the entry points for migrants and the locations of spot labor markets for migrants since the early 20th century. A significant number of these families who were sent to the countryside in the 1970s chose to return to the areas in the 1980s.

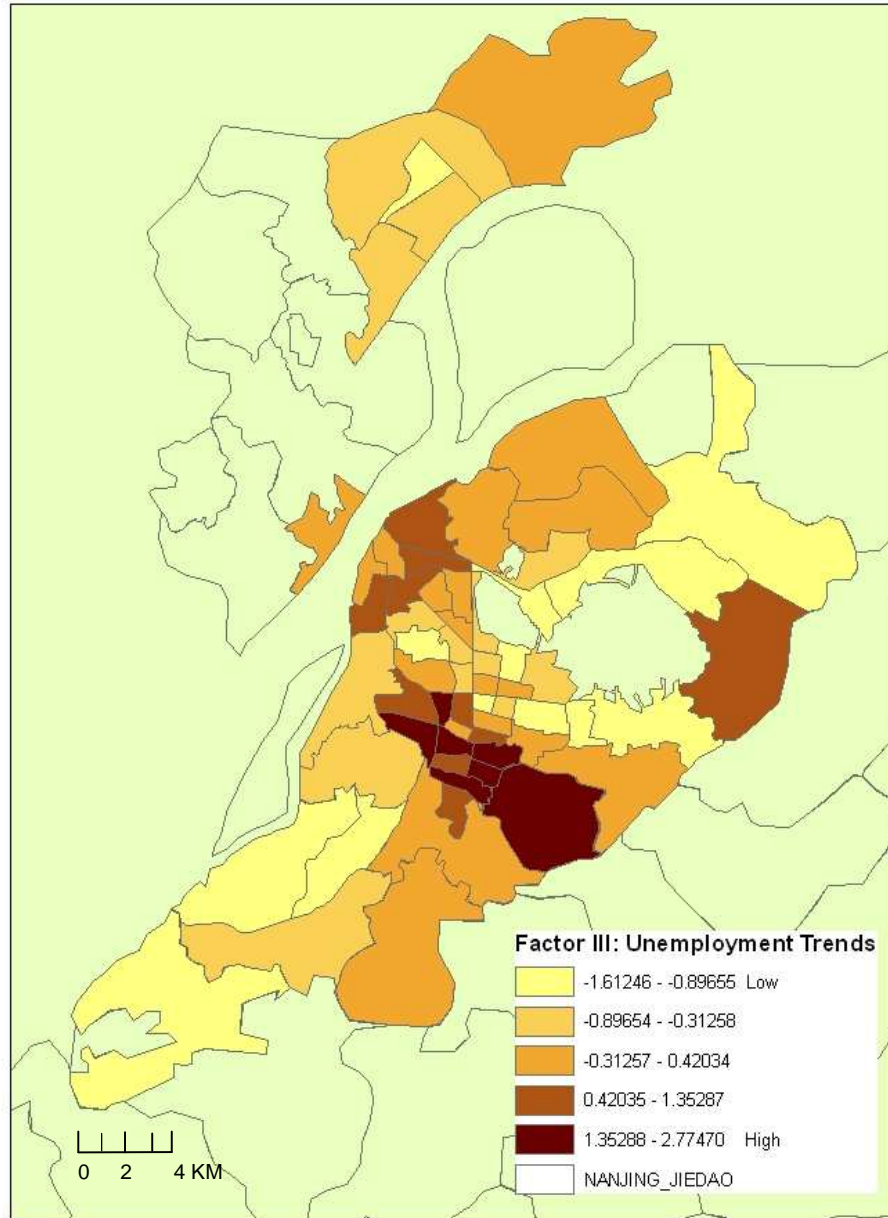


Figure 6-5: Spatial Distribution of Factor III Scores

6.2.1.4 Factor IV and Factor V: Family Status

Consistent with prior studies of socialist cities in China, the fourth and fifth factors both indicate characteristics of the Chinese urban context. Factor IV characterizes the pattern associated with *family household size and composition* in a community, ranging from communities of many large, extended families with kids and large living floor space in rural or suburban areas, to those that include small families composed of core families or elderly singles or couples with compact housing space in urban areas with central commerce activities. This is consistent with studies in the 1990s about the social space of Guangzhou city (Yeh, Xu and Hu 1995). The fifth factor is characterized by positive loadings on female elderly and family households with elderly age 60 or above, and a negative loading on production workers, which indicates that factor V can be used to identify the *presence of an elderly population* with a higher socioeconomic status.

Figure 6-6 depicts the spatial pattern associated with family household type. The highest scores, representing many family households with children age 19 or less, which are large and have a large living space, are located in several communities adjacent to rural or suburban districts. The lowest scores, representing few family households with children, of small size and in a small living space, are located in several inner-city communities and a number of outskirt communities where large migrant populations in non-family households are found. Figure 6-7 shows a more clear-cut pattern for the elderly population, where the highest scores are located in a few clearly identifiable small communities. As discussed above, these areas are generally elderly communities with

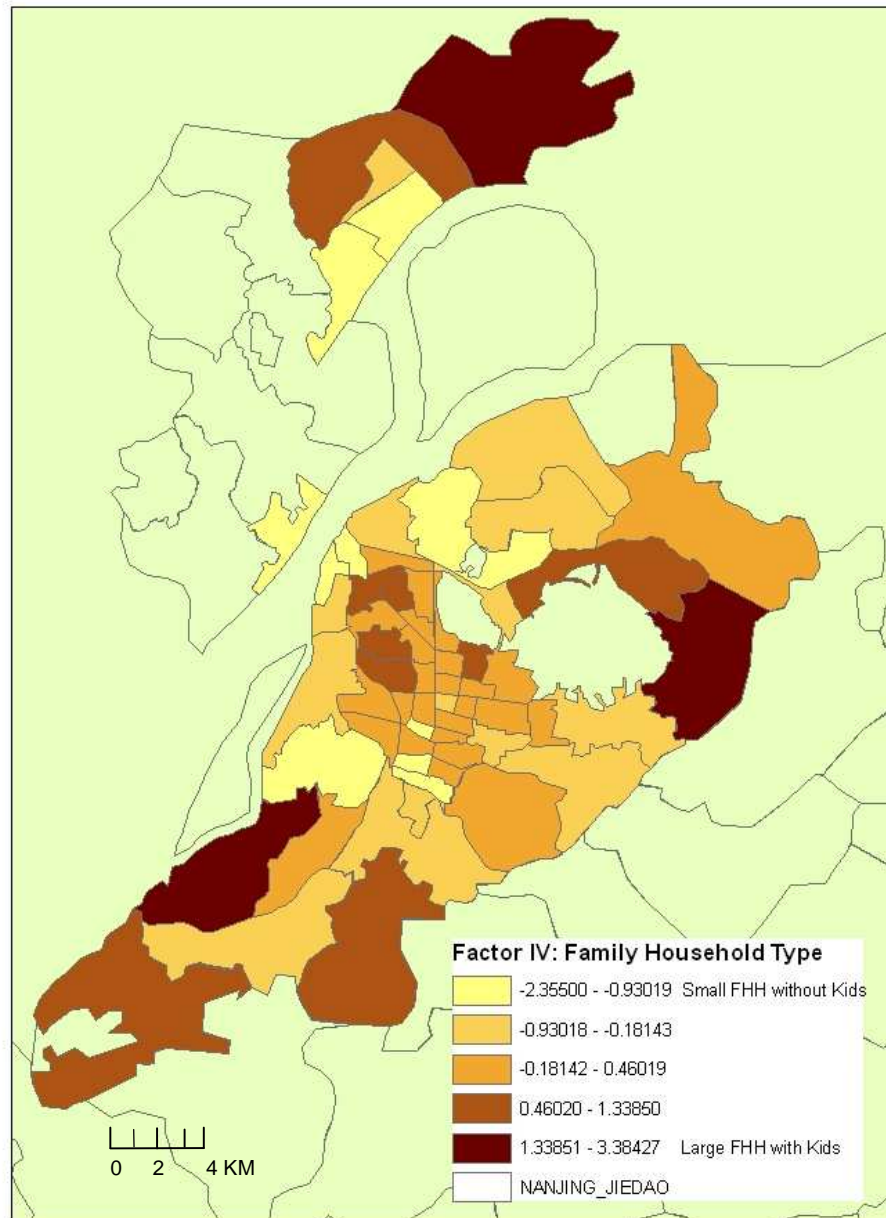


Figure 6-6: Spatial Distribution of Factor IV Scores

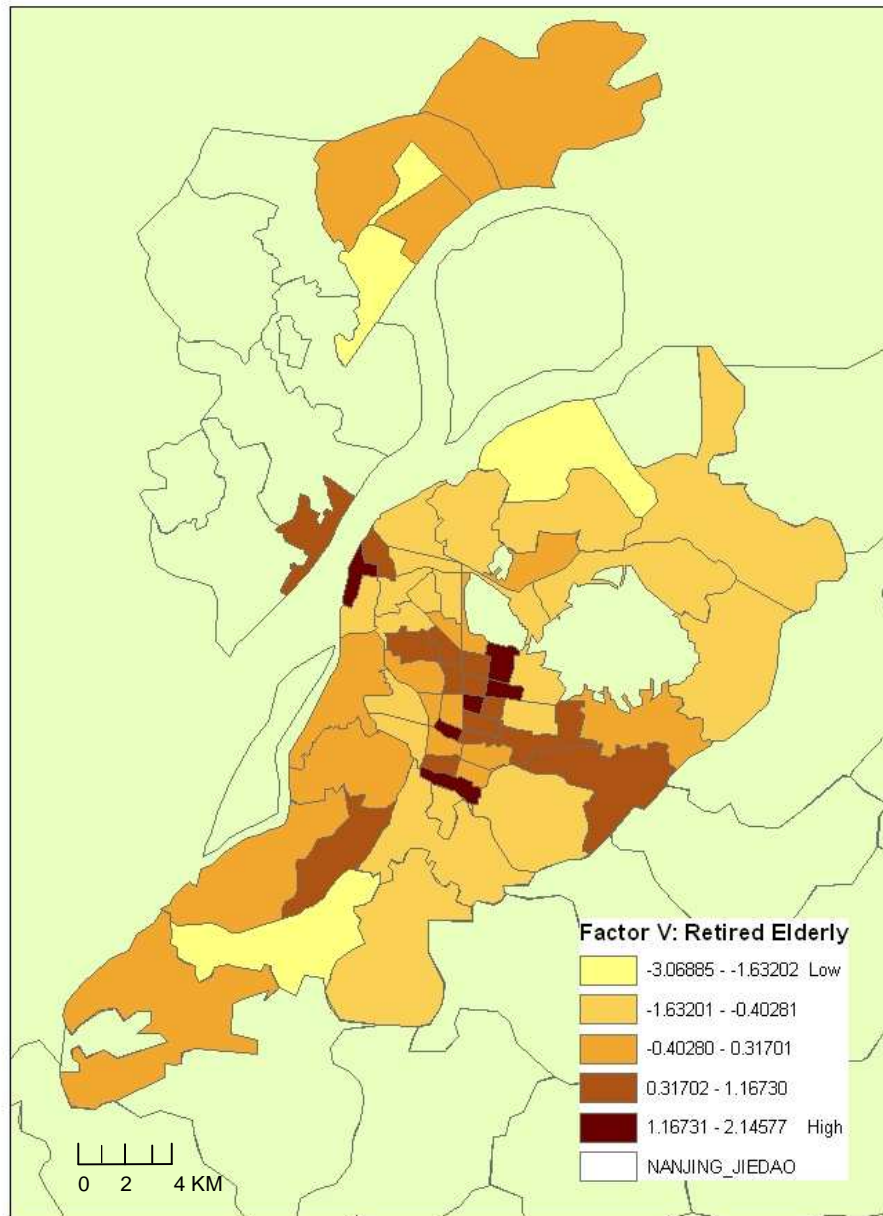


Figure 6-7: Spatial Distribution of Factor V Scores

retirees from non-production jobs such as teachers, government officials, managers, and technicians.

6.2.1.5 Factor VI and Factor VII: Household Type and Sex Ratio

The sixth and seventh factors are typical results compared to other international studies on intra-urban spatial patterns (See for example, Ormrod and Cole 1996). Factor VI in general identifies a community's pattern of *household types*, ranging from those dominated by family households to those dominated by non-family households. Slightly different from those in the U.S., family households in China are defined as households maintained by a family or a householder, and any unrelated persons residing in the households. However, non-family households, often referred to as collective households in China, only include those households shared by unrelated people. In China, the distinction is also embedded in the *hukou* system, which has clearly categorized individuals' *hukou* registrations into family and non-family, or collective *hukou* types. Non-family households include college students and migrants who are living collectively. *Sex ratio*, or sex contrast, as identified by factor 7, is a common factor in spatial stratification. In our study, the factor has a stronger positive loading on the sex ratio of migrants in residence for less than 6 months, than on the general sex ratio for populations, which indicates that the factor identifies the pattern of temporary migrants' sex ratio in particular.

Figure 6-8 shows the highest scores, indicating the presence of many collective households in a few outskirt communities where migrant workers perform construction

work and in a few university communities. In a similar fashion, as Figure 6-9 indicates, the highest sex ratios are found in some migrant worker communities as well as communities where large industrial complexes such as steel factories are located.

6.2.1.6 Factor VIII: Housing Ownership

Factor VIII, though contributing less than 3% to the total 85% of variation, has shed light on an emerging dimension of the spatial stratification in Nanjing City. Factor VIII only has one particularly strong positive loading on commodity housing ownership. Thus, it is reasonable to state that factor VIII identifies the new trend in home ownership -- commodity housing and urban (re)development projects at large. The highest score is for *Muxuyuan*, the community in which some of the earliest commodity housing projects were developed jointly by district governments (see Figure 6-10).

6.2.1.7 Summary

In general, without income or ethnicity data, which are considered to have a negligible effect (due to the fact that the minority population only accounts for 1.38% of the total population in the case study city), the selected census data set provides a mixed picture of spatial stratification. Based on the above factors, one may construct the following model to represent the residential structure of Nanjing: (1) socioeconomic status (SES) represented by educational attainment and occupational structure, in conjunction with the effect of an urban-rural divide; (2) institutional factor (migrant presence); (3) employment (or unemployment) status; (3) family status (family size and

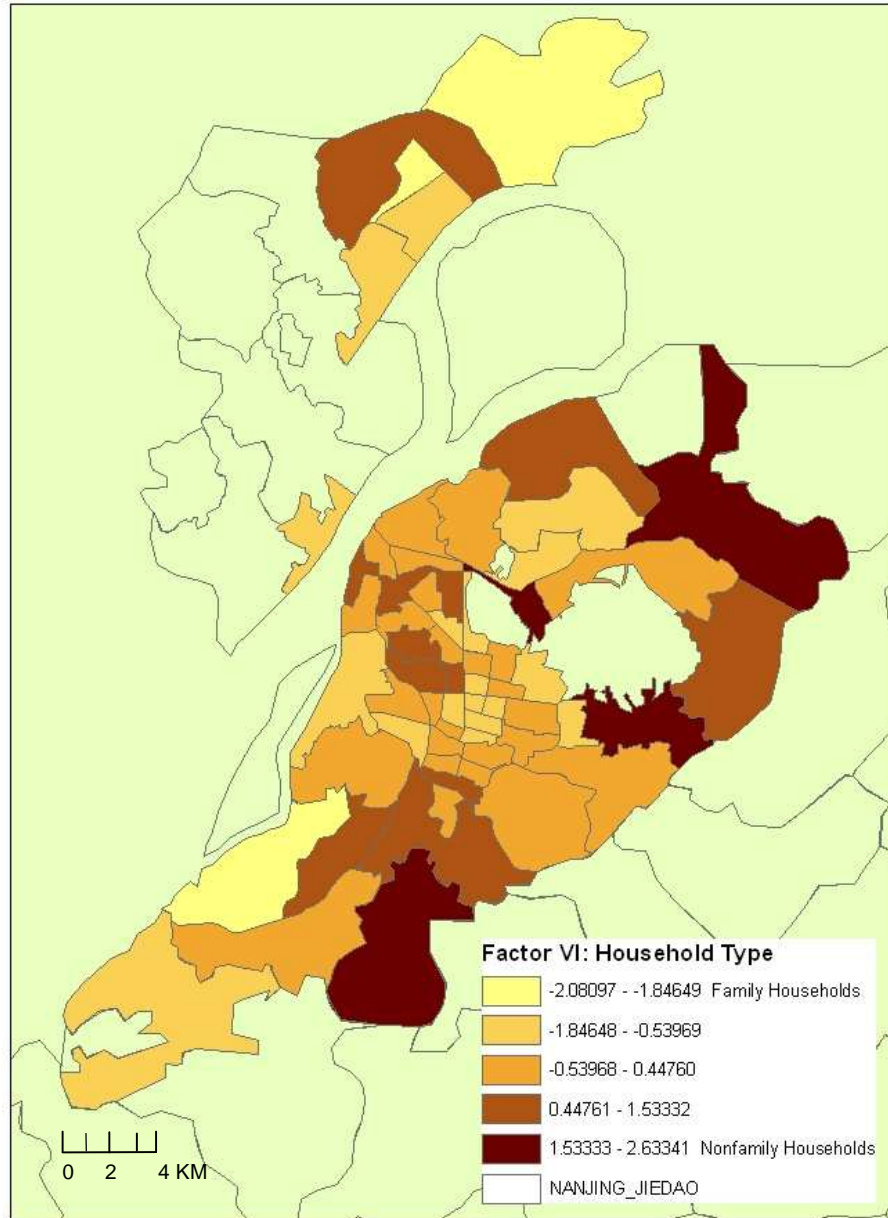


Figure 6-8: Spatial Distribution of Factor VI Scores

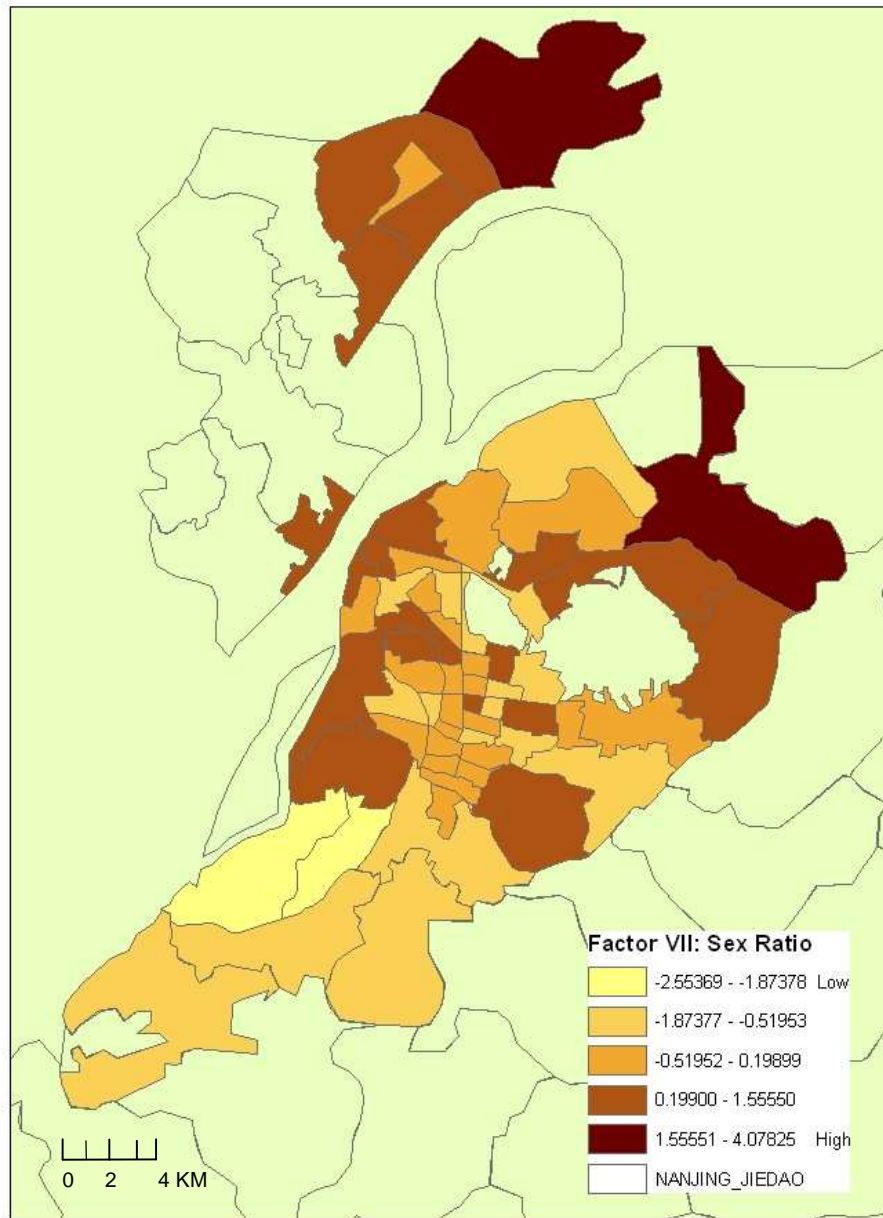


Figure 6-9: Spatial Distribution of Factor VII Scores

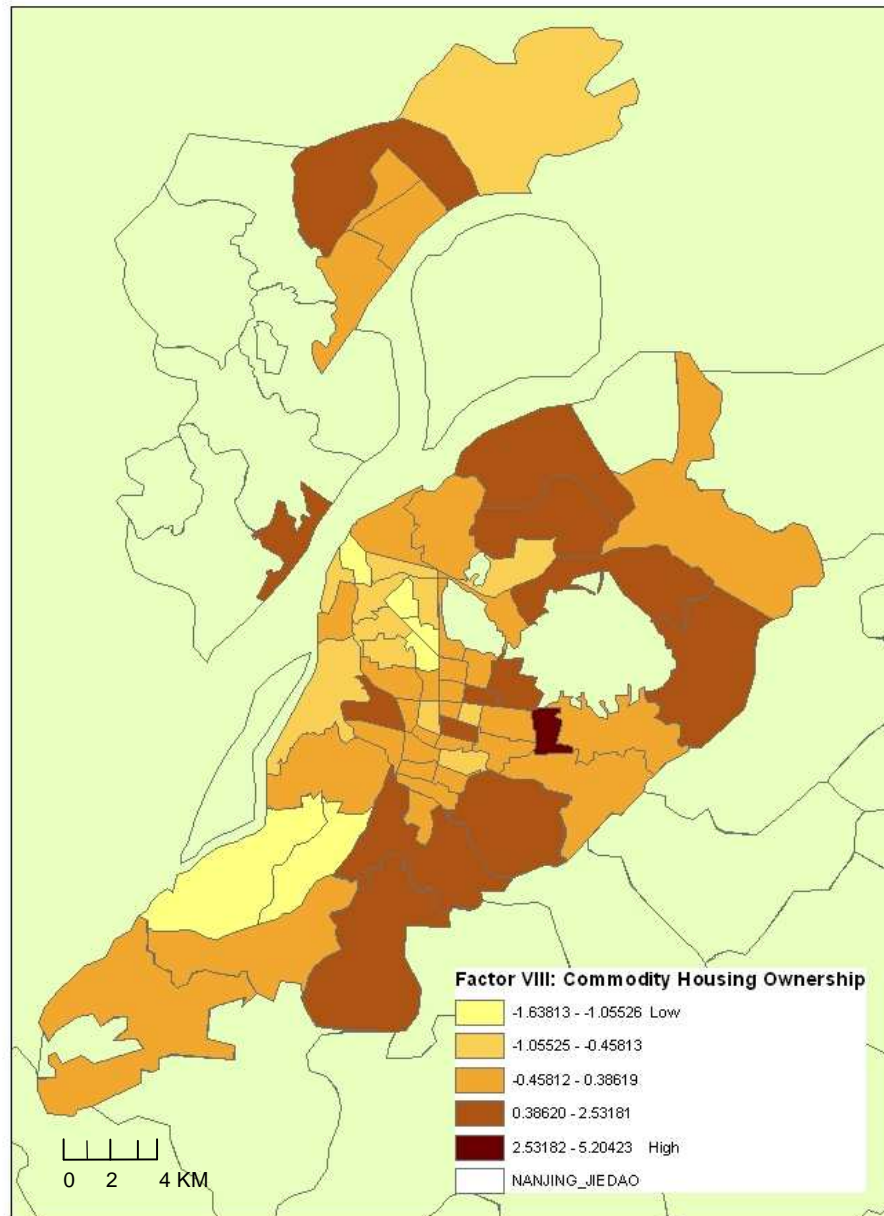


Figure 6-10: Spatial Distribution of Factor VIII Scores

composition, and share of elderly or younger families) and household type; (4) age and sex; (5) and housing ownership.

6.2.2 A Typology of Urban Poverty in Communities based on Clustering Analysis

The emergence of the two major factors—socioeconomic factor and migration factor—allows the identification of a number of community types that are closely linked to the typology of urban poverty. First, hierarchical clustering was used to distinguish these communities and summarize their character. Classifications with two to four clusters were considered, and a comparison of cluster membership in scatter plots, as well as group means and variances, established that four groups provided the most interpretable description of community types and made the comparison possible between the hypothesized model and exploratory analysis result (see Figure 6-11 and Table 6-2).

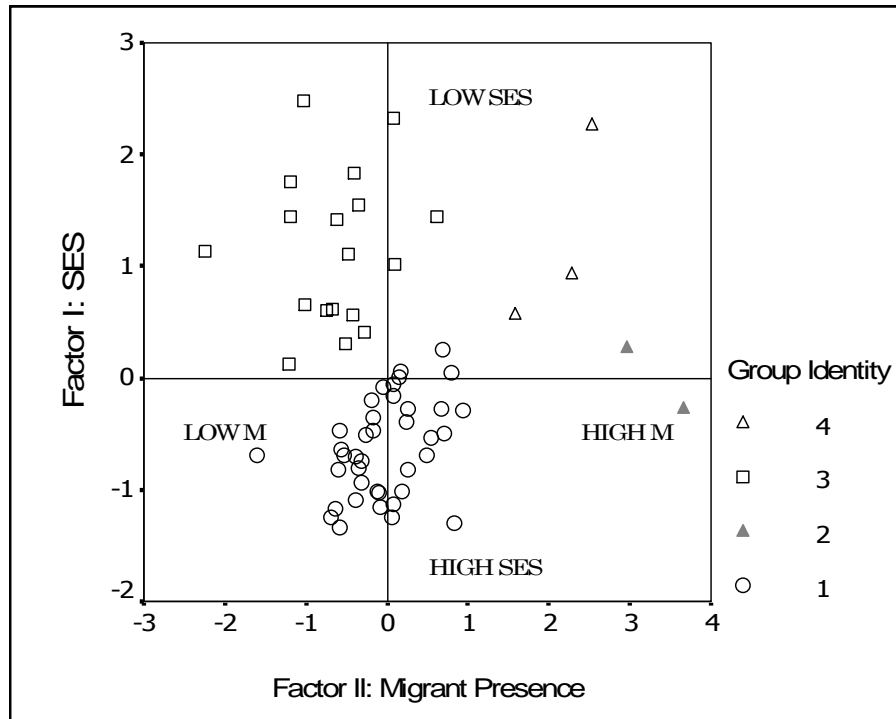


Figure 6-11: Distribution of Communities based on Two Factor Scores

Table 6-2: Cluster Identities

Cluster	N	Group Mean	Interpretation
Community Type 1	39	Factor I: -0.63 Factor II: -0.04	High SES, mixed communities
Community Type 2	2	Factor I: -0.01 Factor II: 3.31	Mixed SES, migrant communities
Community Type 3	18	Factor I: 1.16 Factor II: -0.64	Low SES, native urban communities
Community Type 4	3	Factor I: 1.25 Factor II: 2.13	Low SES, migrant communities

According to Figure 6-11, communities with higher SES trends are clustered around the reference line (factor 2 score =0), indicating a stronger similarity between communities with relatively higher SES. For the other three groups, communities are

widely distributed on the plot, which suggests a greater dissimilarity among the lower SES communities. Both indicate that a stronger institutional barrier exists at the lower end of the society, while the communities with higher educated populations do not reveal a strong preference in demographic composition based on *hukou* status.

Second, the four community types are mapped to reveal their spatial distribution. As Figure 6-12 shows, Type 1 communities (in Cluster 1) are located at the center of the city, which encompasses the historically advantaged areas resided in by native urban residents, with balanced demographic compositions represented by both migrant and non-migrant populations. Type 2 communities (only two of them-- *Jiangdong* and *Hongshan* in Cluster 2) are the few migrant communities with a mix of socioeconomic conditions. Type 3 (in Cluster 3) and Type 4 (in Cluster 4) are of the greatest interest as they are both associated with low SES trends. Type 3 communities include several urban pockets in the inner city and three large contiguous areas near the suburban districts, where communities can be described as low-SES native urban. Type 4 communities, the three communities located in the south, are also characterized by low SES, but with a strong migrant presence.

Here I focus on the description of the latter two types of communities with low SES—communities in Cluster 3 and Cluster 4.

6.2.2.1 Low SES, Native Urban Communities

Eighteen communities are grouped as native and low SES communities (Cluster 3). These communities are located in the urban fringe areas, except for two communities

in the inner city. These communities are located in low-density areas where family households are the majority type of household (see Table 6-3). With a low migrant presence and a large stock of pre-reform self-built housing that is typically of lower standards, the communities represent the native urban pockets where fewer impacts of reform have been observed in urban spaces.

Table 6-3: Comparison between Type 3 and Type 4 (means)

	Type 3	Type 4	Average for All Types
Population Density	10.4	5.6	20.0
Family Households (%)	88.0	83.1	86.0
Migrants (%)	28.2	58.8	31.6
Short-term Migrants (%)	3.2	9.7	4.4
Long-term Migrants (%)	25.0	49.0	27.0
Illiteracy (%)	8.1	6.8	5.2
Unemployment (%)	9.2	6.3	9.4
Tenure (%)	26.6	21.2	45.5
Rental (%)	29.7	44.6	33.6
Self-built Housing (%)	37.0	29.3	15.1
Public Housing (%)	46.2	28.6	68.8
Commodity Housing (%)	10.1	37.3	10.3
Median Rent (Yuan)	46.1	100	62.5
Median Price of Housing (thousand Yuan)	18.3	27.5	19.0

6.2.2.2 Low SES, Migrant Communities

Cluster 4 is comprised of only three communities--*Xinglong*, *Ningnan*, and *Shazhou*--that form a contiguous area along the southern part of the inner city. The whole

cluster is characterized by a large migrant population and a large stock of commodity rental housing. For example, *Xinglong* is one of the largest migrant communities in the city, with a migrant population that accounts for almost 70% of its total population-- the highest level in the city. Due to its proximity to the inner city, the majority of residents are employed in manufacturing or commerce and trade, rather than farming. There are two interesting facts about the migrant community: (1) with a younger migrant group, the unemployment rate in *Xinglong* is only 5.8% (compared to the city average of 9.4%); and(2) while rentals have been a staple choice for migrants, the majority in *Xinglong* choose commodity housing for rental (65% of renters choose commodity housing versus 35%, public housing), which is a decision often made by high-income migrant groups. This offers insights into the urban landscape of China and leads me to ask: why do low SES migrants coexist with high-cost commodity housing, and why is the employment level relatively high in low-SES migrant communities rather than in low-SES native communities? If income data are incorporated into the analysis, will the picture change significantly here? Do low socioeconomic profile and migrant status, combined, translate into the greatest disadvantage in the city?

6.3 Summary

In China, because the mechanisms of socioeconomic stratification remain mixed and complex, recent research reflects a confusing story of how both state redistributive power and market elements contribute to varied educational attainment, gender inequalities, career mobility, income distribution, housing redistribution and consumption.

However, there is significant discontinuity between the geographical studies on spatial stratification and the analyses of social stratification in Chinese cities. Due either to the lack of micro-scale data or the complexity of Chinese urban contexts, geographers have long been disconnected from the topics of hot debate in the field of social stratification research.

In this chapter, I hypothesized a four-stage conceptual model to describe scenarios of the changing residential patterns based on institutional factors such as *hukou* (migrant/native status) and surrogate factors included to represent socioeconomic status. Based on the model, as the current socialist economy embraces marketization, *hukou* will become a less important factor in determining where people live, than the socioeconomic conditions of individuals and families. A “two-class” society will not serve as an institutional barrier to migrants’ entry into the urban society. In addition, the spatial and social integration of native and migrant populations will start initially in high SES communities and spread into low SES communities.

I used the latest census data for Nanjing city at the community (street) level to explore the validity of the model and the interrelationship between institutional factors and market-related factors in shaping the intra-city landscape of urban poverty. More specifically, I used principal component analysis to identify 8 major factors that summarize the patterns of spatial stratification in Nanjing. The two factors that have contributed most to the total variation are SES (with the conjunctive effect of urban/rural divide) trend and migrant presence, as judged by the factor loadings on the census variables.

With cluster analysis, the case study also pointed out four major clusters of communities based on the component scores of the two major factors. I focused on the two clusters characterized by low SES. Cluster 3, characterized by low SES and high urban *hukou*, is compared with cluster 4, low SES and high migrant *hukou* population. Different from the high SES communities, the low SES communities vary widely in terms of the *hukou* composition of residents.

In general, the case of Nanjing shows accordance between the model and empirical evidence. The above suggests that (1) SES has become an increasingly important identifier of spatial stratification, with institutional factors such as *hukou* status not playing as important a role; (2) the receding institutional barriers are more commonly observed in wealthier communities than poorer communities, indicating that poor communities are either spatially or demographically isolated; and (3) the low-SES communities differ not only demographically but also by employment and housing conditions. Thus, low-SES, migrant communities do not necessarily indicate sub-standard housing or low housing ownership.

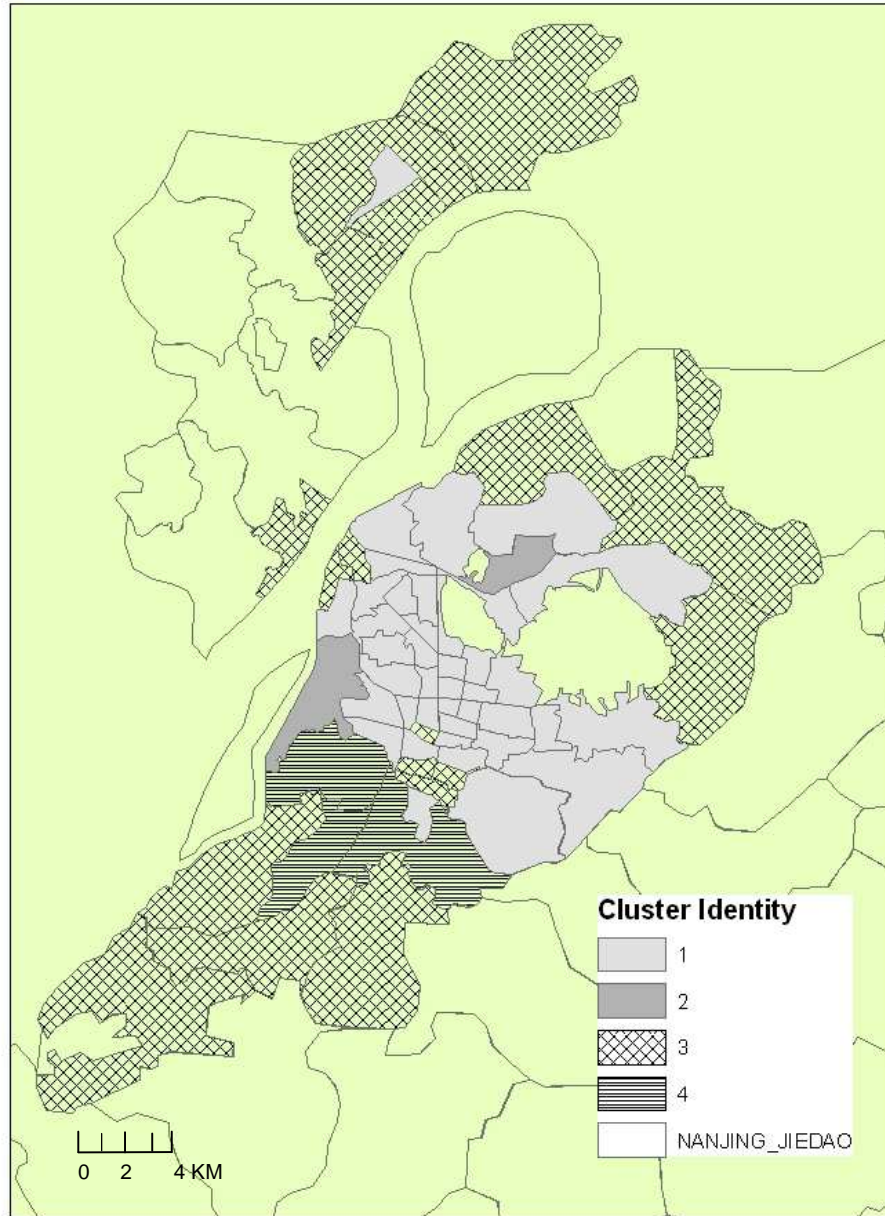


Figure 6-12: Community Types, Nanjing

Chapter 7

THE DIVIDED LANDSCAPE OF URBAN POVERTY: NATIVE URBAN POOR AND MIGRANT POOR IN NANJING, CHINA

Thus far, the empirical results presented in the previous two chapters have facilitated one to understand the spatial locational tendencies of poverty in urban China. While the national-level and community-level analyses addressed trends and spatial patterns of poverty distribution across and within cities—and revealed a number of interesting findings—they were not able to tell why and how certain poverty groups end up in specific locations in a city. To understand this individual level process, it is necessary to examine the roles of individuals, households, and communities in response to poverty and the ways in which people negotiate strategies against poverty.

This last empirical chapter examines the characteristics of urban poverty population subgroups and their differentiated access to housing ownership. Specifically, this chapter addresses the following questions:

- a) Does prior socioeconomic status affect the probability for the poor to access urban benefits such as housing?
- b) What role does *hukou* status play in structuring access to urban benefits?
- c) What are the roles of community and family in the process?

The research hypothesis is as follows: Although housing has largely been distributed or redistributed to privileged urbanites in a post-socialist economy where state

control and market forces co-exist, housing is becoming a commodity aspired to by all social groups, including the low-income groups. For poor families, tenure is hardly a choice but rather a goal. Their tenure probabilities are affected by individual and family connections with both the pre-existing institutions and market-oriented institutional changes, conditioned by community effects and family strategies.

While prior research tends to generalize the life patterns of the poor by focusing on institutionally divided groups such as migrants or income groups, disregarding other characteristics, the analyses in this chapter are based on a random sample of households in Nanjing, randomly selected from the resident registry data provided by 36 *jumin weiyuanhui* offices (community offices) (Figure 7-1). The survey encompasses not just low-income groups, but also migrants and families with unemployment history. (Table 7-1). Thirteen household headers from the respondent families were randomly selected for a follow-up in-depth interview about family history related to migration, employment and their experience of poverty. More details about the sampling method and strategy are provided in chapter 4 and Appendix D. A copy of the survey questionnaire and interview protocol may be found in Appendix E.

This chapter is composed of five parts. First, the importance of housing as an aspect of urban inequality is examined. Second, the two groups of urban poor, the native urban poor and the migrant poor, are discussed in terms of their household type and their access to urban benefits such as welfare and housing. Third, a multilevel regression model is employed to explore the factors that affect the tenure probabilities for the poor. Fourth, interview data are used to further explain the roles of community and family

Table 7-1: Composition of Surveyed Households, Nanjing, 2004

Category	Yes	No
Households with Below 1/2 Median Income	63.70%	36.30%
Households with Unemployment History	85.05%	14.95%
Households with Rural Origin	45.20%	54.80%

Yes
 No

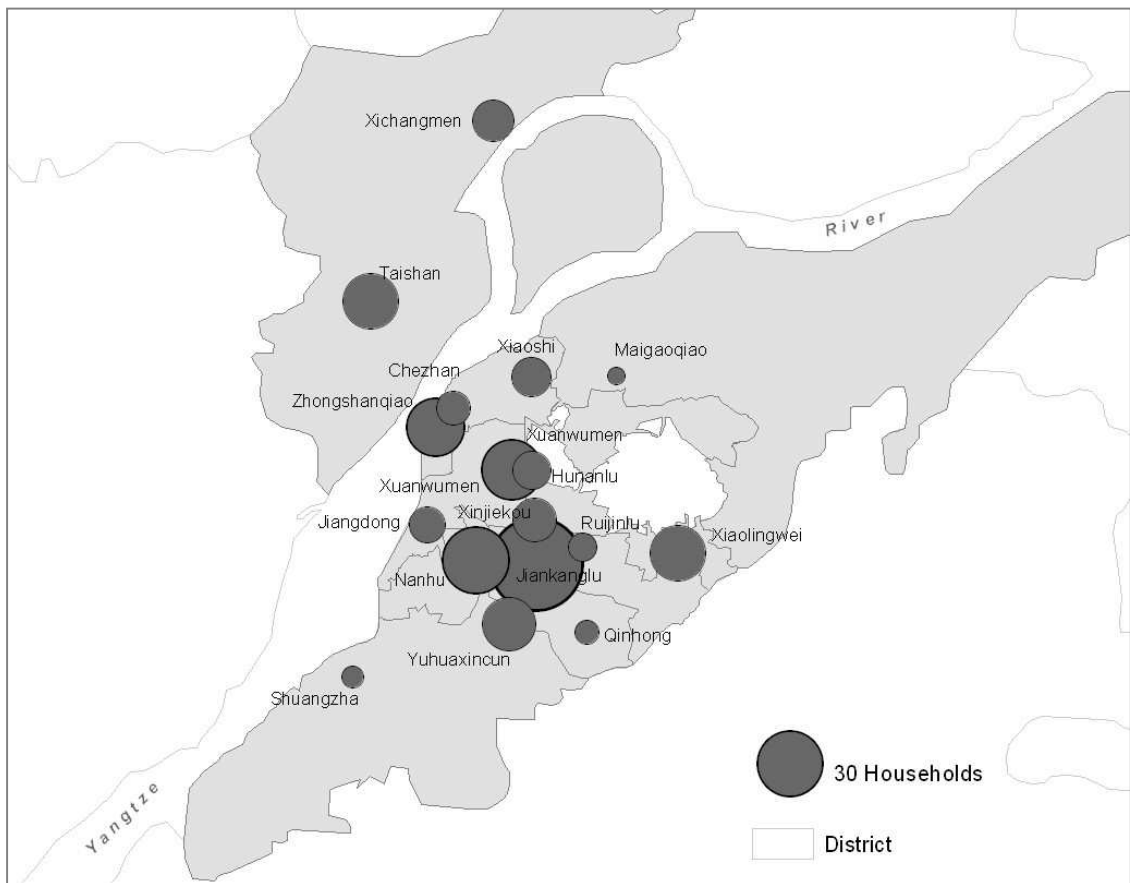


Figure 7-1: Distribution of Sample-Surveyed Households, Nanjing, 2004

household in structuring the ownership decision. A summary is provided in the last section.

7.1 Comparison of Migrant Poor and Native Poor

Descriptive analysis has revealed that the urban poverty group in China is a heterogeneous group with various social, economic, and demographic characteristics. While previous studies tended to separate the experience of migrant poor from that of native poor, both groups face similar institutional constraints that are retained due to path dependency as part of the characteristics of the reforming society in China. With the majority being long term unemployed, laid-off, or early retired, the native poor have lost connections to work units and access to work-based welfare packages, while the migrant poor are often excluded from both work units and community-based welfare programs (Table 7-2).

In terms of housing, migrant poor face greater disadvantages in housing welfare program and cheap rentals, so much so that ownership looks like a reasonable choice. Families without urban *hukou* are not eligible for the rent deduction of Low Rent Housing Schemes, nor are they allowed to construct self-built housing, nor to purchase *Danwei* or housing bureau-allocated housing, often sold at discounted prices. The three general options for rural migrant are as follows. (1) They can purchase commodity housing at full market prices. (2) They can purchase resold purchased public or commodity housing on the secondary housing market at lower prices. This housing consists of mostly resold Economic and Comfortable housing and Resettlement housing,

often located in lower-priced land. (3) They can rent from individuals, mostly self-built private housing on the outskirts of cities at lower costs and already-purchased commodity and public housing at much higher costs.

In contrast, native poor live in self-built or municipal or *danwei* distributed rental housing of lower quality. They can either maintain their current housing, or when their housing is destroyed by urban redevelopment projects, they can relocate to other public rentals or choose ownership of subsidized housing with compensation received from local developers (Table 7-3).

Table 7-2: Eligibilities for Major Welfare and Social Security Programs in Urban China

Welfare Program	Qualification	Urban Native	Rural Native	Urban Migrant	Rural Migrant
Pension Insurance Scheme	Anyone who is formally employed by a participating urban employer or any self-employed individual who is a participant of the program is covered.	Yes	No	Yes	Very few
Basic Medical Insurance Scheme	Anyone who is formally employed by a participating urban employer is covered by the program.	Yes	No	Yes	Very few
Unemployment Insurance Scheme	Any formal employee who is involuntarily laid off by a participating state-owned enterprise in urban area and who is also actively seeking jobs is covered by the program for a maximum of 24 months before they get reemployed. Whether and how non state-owned enterprises, institutions, and self-employed individuals are covered is determined by local government regulations.	Yes	No	Yes	No

Minimum Living Standard Scheme (MLSS)	Anyone with local urban <i>hukou</i> may apply for urban MLSS income assistance. In some places, those with local rural <i>hukou</i> can apply for rural MLSS assistance.	Yes	Yes in some regions	Yes but have to apply at <i>hukou</i> issuance city	No
Low Rent Housing Scheme (LRHS)	Any family with at least one member holding local urban <i>hukou</i> may apply for LRHS rent deduction or low-rent housing provision.	Yes	No	Yes only if other member(s) have local urban <i>hukou</i>	Yes only if other member(s) have local urban <i>hukou</i>
Social Relief	Homeless elderly, disabled and orphans, and households experiencing extreme hardship due to an unexpected incident such as a natural hazard.	---	---		---

Note: table is composed based on Ministry of Labor and Social Security, PRC (2006) .

Table 7-3: Housing Types and Availabilities in Urban China

Housing Type	Qualification	Urban Native	Rural Native	Urban Migrant	Rural Migrant
Danwei Public Housing	Sitting tenants (mostly formal employees of state-owned enterprises and institutions) can purchase full/limited ownership or use right (except in some institutions). Housing purchased at above-cost prices can be sold or traded on the secondary housing market, or rented out with permit (from work unit and/or local government).	Yes	No	No	No
Municipal Public Housing	Sitting tenants (mostly employees of collectively owned enterprises and early resettled residents) can purchase full/limited ownership or use right. Housing purchased at above-cost prices can be sold or traded on the secondary housing market, or rented out with permit.	Yes	No	No	No

Economic and Comfortable Housing	Local urban families with low or medium income can purchase at subsidized prices. Income criterion varies across cities. Retired couples, and teachers and staff in schools and institutions of higher education have priorities. Housing purchased at above-cost prices can be sold, traded, or rented out on the secondary housing market with permit. Can be sold to other qualified households at subsidized price levels.	Yes	No	No	No
Compensated Resettlement Housing	Any local family whose housing is to be demolished due to urban redevelopment can purchase resettlement housing at subsidized prices.	Yes	Yes	No	No
Rental Housing from Individuals	Anyone can rent purchased public housing, purchased commodity housing, purchased Economic and Comfortable Housing, purchased resettlement housing, and self-built private housing that have rental permits.	Yes	Yes	Yes	Yes
Low Rent Housing	Anyone eligible for Low Rent Housing Scheme (LRHS).	Yes	No	No	No
Self-built Privately Housing	Pre-1949 housing units passed on within family, late 1970s-1980s self-constructed housing in urban areas, and self-constructed housing by local rural residents in rural areas.	Yes	Yes	No	No
Commodity Housing	Full-priced housing available to anyone. Yet people with non-local <i>hukou</i> cannot apply for mortgages.	Yes	Yes	Yes	Yes

Source: Wang and Murie (1999), Huang (2003), and Wu (2004b).

However, a step that is often missing in most analyses is the choice of migrant families moving up the socioeconomic class ladder. In current studies on migrants and their housing disadvantages, migrants are often treated as the “others.” Thus, generalization is made based on the odd comparison between the more visible, mostly

single, temporary, migrant workers, and the native family households. Such generalizations ignore the institutional context of the Chinese urban housing system that has long been built around family units rather than individuals, not to mention the incomparability between the two groups in demographic composition.

Housing is clearly an asset that can bring further access to urban benefits not accessible otherwise. For both migrant and native poor families, housing tenure means financial security, a better living environment, and permanent residency and citizenship. For migrants, housing ownership is particularly desirable because it often comes along with a package: urban *hukou*, which is a prerequisite for their children to get free urban public education.

The survey data from Nanjing provide evidence of such a nuanced picture. As Table 7-4 indicates, rural origin of a family does not significantly contribute to low household income per capita. For the low-income families, urban origin and *hukou* predict slightly higher income on average than rural origin and *hukou*. However, it is important to note that the majority of families with rural origin do not fall into the category of low income.

Nor does a rural *hukou* necessarily translate into a low household income per capita or housing tenure rate. When we break low-income families into subgroups according to their *hukou* profiles, all rural *hukou* families are younger, smaller in size, and earn the most per person among the three subgroups when compared to all urban *hukou* and mixed *hukou* families. While rural *hukou* families are disadvantaged in housing, with a housing tenure rate of around 30%, mixed *hukou* families, though bearing more dependent family members, have the highest average household income among the

three groups, and also have the highest tenure rate (42.5%) among the three (Table 7-5).

Table 7-4: Comparison of Subgroups in Disadvantage in Nanjing, 2004

Household Type	Per Capita Income (Yuan)	Household Size	Housing Tenure (%)	Housing Tenure (excluding self-built) (%)
Low Income	253.5	3.46	39.11	29.05
Low Income with Urban Origin	255.2	3.17	38.89	30.00
Low Income with Rural Origin	251.8	3.75	39.33	28.09
Low Income with Urban <i>Hukou</i>	253.7	3.34	38.69	30.66
Low Income with Rural <i>Hukou</i>	252.9	3.83	40.48	23.81
Rural Origin	389.3	3.63	38.58	29.13
Rural Origin with Rural and/or Mixed <i>Hukou</i>	402.19	3.69	34.48	20.69
Rural Origin with Urban <i>Hukou</i>	378.4	3.58	42.03	36.23
Unemployment History	412.4	3.41	43.51	35.15
Unemployment with Low Income	248.4	3.43	39.61	29.87
Unemployment with Rural Origin	356.0	3.75	42.11	33.68
Unemployment with Urban <i>Hukou</i>	421.2	3.33	44.12	36.27
Unemployment with Rural <i>Hukou</i>	360.68	3.89	40.0	28.57

Note: Calculated by the author based on the 2004 Nanjing Survey.

Table 7-5: Comparison of Low-income Subgroups by *Hukou* Profile

Low-income Household Type	Household Income (Yuan)	Per Capita Household Income (Yuan)	Dependency Ratio	Household Member Unemployment (%)	Housing Tenure (%)
All Urban-<i>Hukou</i>	868.0	253.7	0.22	92.0	38.7
Mixed <i>Hukou</i>	990.9	252.6	0.24	67.5	42.5
All Rural-<i>Hukou</i>	566.7	283.3	0.00	33.3	33.3

Note: Calculated by the author based on the 2004 Nanjing Survey. Since the sample population was based on community registry records, all rural-*hukou* households might be underrepresented due to unregistered migrant families.

7.2 Housing Tenure for the Poor: A Quantitative Examination

Given the discussion on housing opportunities and constraints on the poor, who are those who choose to own? In order to answer the question, I adopted a descriptive analysis of the owner's characteristics and a two-level regression analysis of the housing ownership among poor family households.

7.2.1 Descriptive Analysis: Who are the Owners?

Previous research has documented the counter-intuitive curvilinear relationship of housing ownership and income level in China, where the housing ownership rate is highest among low-income urban groups, goes straight down as income increases from low to medium, and only significantly increases when income goes further up for the highest-income group (Huang and Clark 2002). If this finding is generalizable, the relationship between ownership and income in urban China tends to be negative when income is between low and medium.

However, my survey data from Nanjing reveals a different relationship, that for low-income urban family households, the relationship between housing ownerships and income is generally positive (Figure 7-2). Here I adopted half the average monthly household income (1443.5 Yuan per household) for the city of Nanjing in 2003 as a reference line. In the chart, the total ownership curve drops slightly as income increases from extremely low to low, followed by an increase in ownership as income rises from low to lower-medium and medium, which indicates that even for the lower income

groups, there may exist a curve or several mini curves in housing ownership-household income. An examination of the ownership curve for non-self-built housing shows that the ownership of higher quality housing (commodity housing and resold public ones) increases sharply from low-income to lower-medium income. Even for extremely low-income groups, non-self-built housing tenure is above 20 percent and slightly increases as income reaches around 500-1000 Yuan, the income range where the official poverty line is approximately located. There is no curvilinearity or any evidence of bipolar distribution of ownership along the low-medium income axis when the effect of self-built housing ownership is controlled.

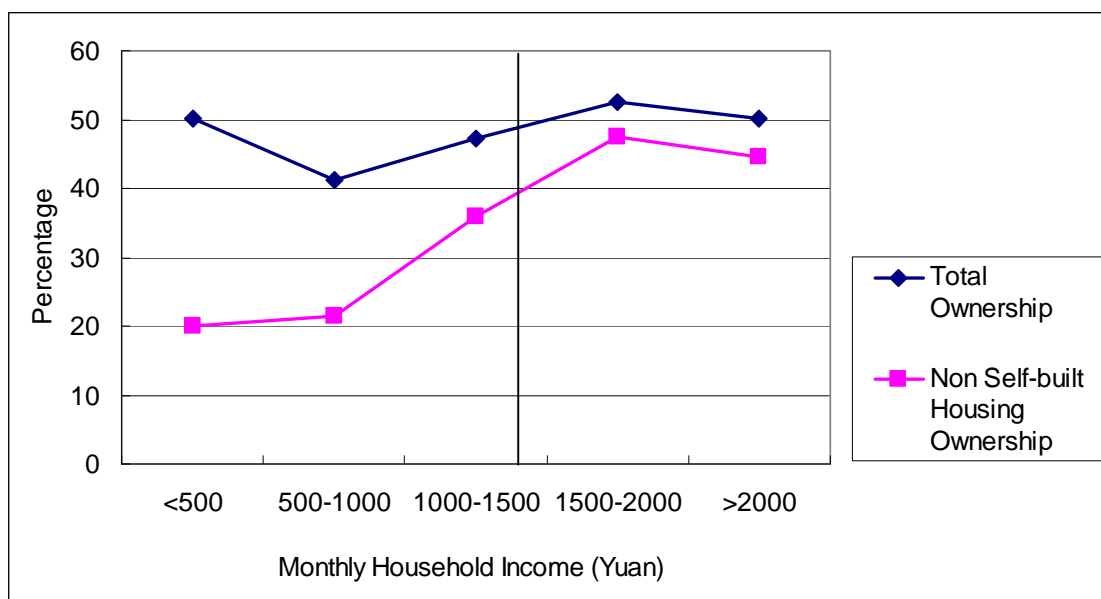


Figure 7-2: Homeownership for Low and Lower-Medium Income Families by Household Income in Nanjing, 2004

The relationship between the *hukou* profile of low-income households and homeownership turns out to be an inverted-U shape (Figure 7-3). In contrast to previous findings that migrants' temporary and/or non-local *hukou* status often constitutes the most important source of their housing disadvantage, for low-income families in general, the share of family members with local, urban *hukou* does not yield a constant positive impact on homeownership. Homeownership is the highest among mixed-*hukou* families, where some family members hold local, urban *hukou*, and some hold local or non local rural *hukou*. Even when self-built housing owners are excluded, homeownership demonstrates a similar inverted U trend across three major types of households, except that the all rural-*hukou* families show a significantly reduced capacity of homeownership.

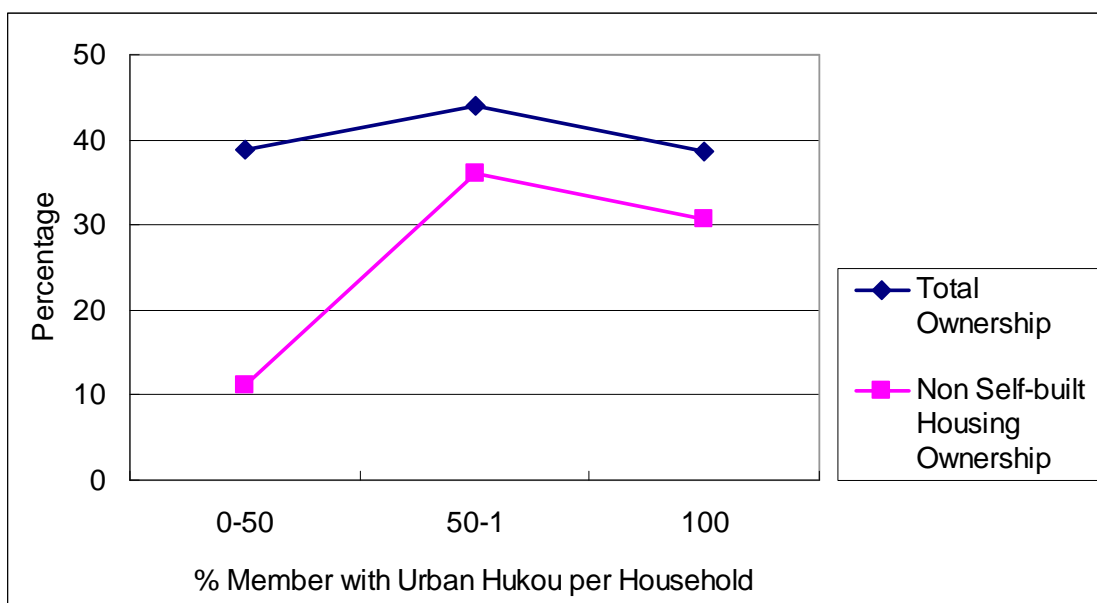


Figure 7-3: Homeownership for Low Income Families by *Hukou* Profile in Nanjing, 2004

While most studies show a general increase of homeownership with age in China, for low-income families, the relationship between homeownership rates and householders' ages is curvilinear (Figure 7-4). Ownership is maximized within the age group of 50 to 59 and drops significantly on both sides of this age range, with a slight increase at both ends. Since householders in China are normally the eldest or the major wage earner in a family, one might consider that the relationship can be skewed toward those in their working ages and the elderly. However, given that my primary interest is in family households and that the decision of tenure is often made in a family by the members with financial ability or seniority in a family, it is reasonable to consider the householders' characteristics rather than other family members' characteristics. Interestingly, the relationship between homeownership and the householder's education level is also curvilinear and almost negative (Figure 7-5).

In addition, low-income owner families differ from low-income renter families in other socioeconomic aspects and housing condition. As Table 7-6 indicates, owners of non self-built housing earn more on average per person than the other two housing groups, renters and owners of all (846.0 Yuan for non-self-built owners and 825.7 for all owners versus 712.4 for renters). This is clearly related to a higher total household income rather than a smaller household size, because owners actually have bigger families on average than renters (3.55 for owners versus 3.39 for renters).

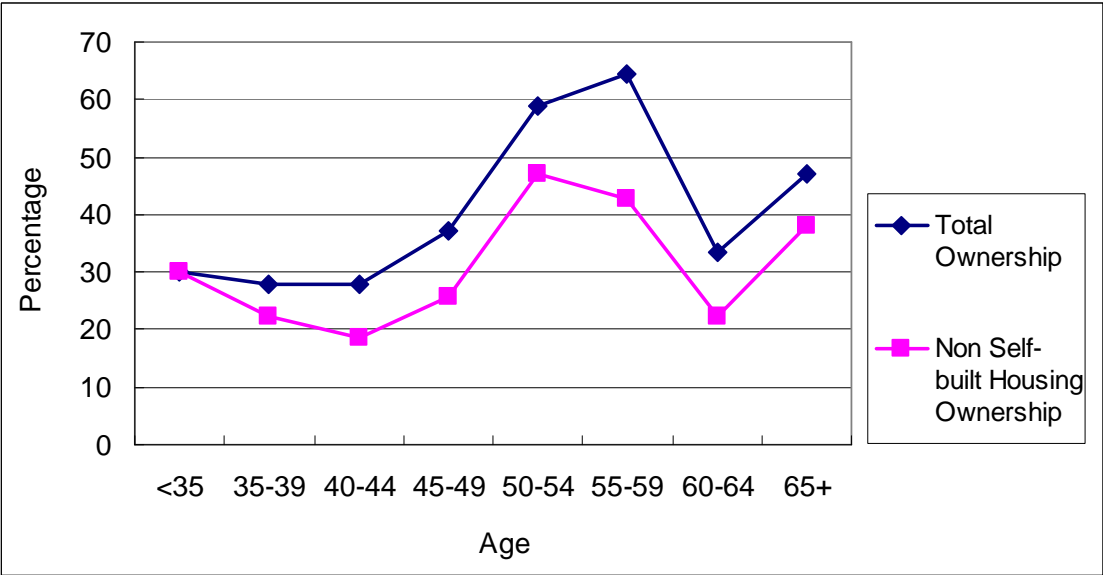


Figure 7-4: Homeownership for Low Income Families by Householder Age in Nanjing, 2004

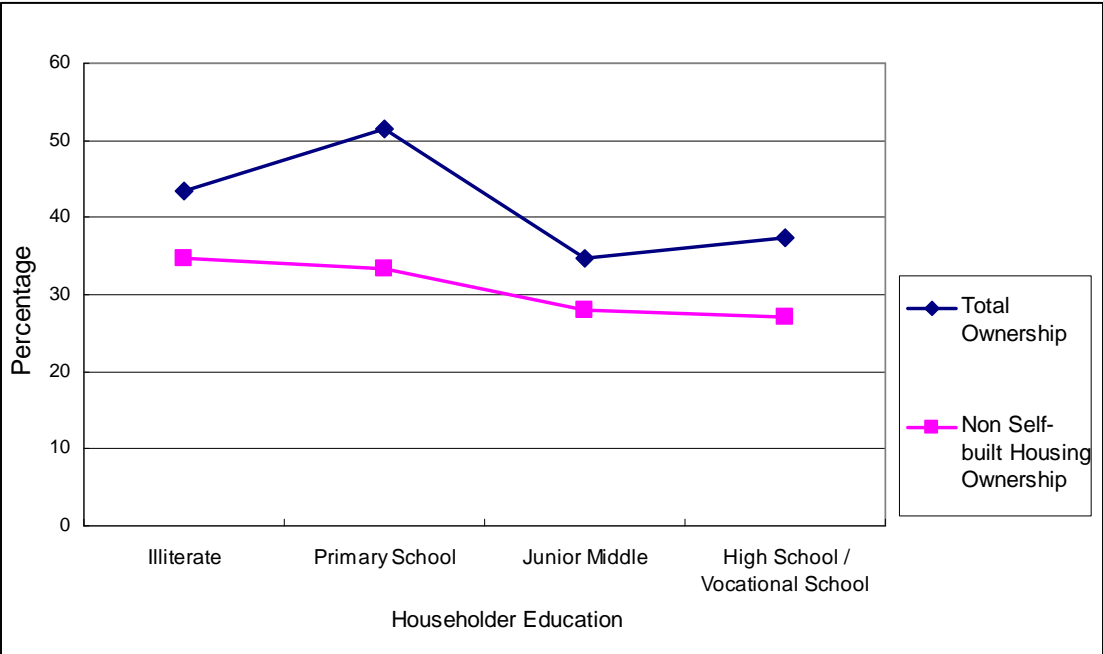


Figure 7-5: Homeownership for Low Income Families by Householder Education in Nanjing, 2004

Table 7-6 Characteristics of Low-income Renter and Owner Family Households

Household Characteristics	Low-income Renters	Low-income Owners (Non Self-built)	All Low-income Owners
Average Household Monthly Income (Yuan)	832.0	1046.8	979.9
Average Household Monthly Expenditure (Yuan)	712.4	846.0	825.7
Average Household Monthly Income per Capita (Yuan)	242.2	284.0	272.0
Average Household Size	3.39	3.60	3.55
Average Dependant Population	0.79	0.94	0.87
Average Dependency Ratio	0.22	0.23	0.22
Number of Formal Workers	0.42	0.47	0.54
Number of Self-employed Workers	0.20	0.23	0.18
Number of Informal Workers	0.61	0.40	0.32
Unemployment Rate (%)	37.7	45.4	44.7
Labor Force Participation (%)	61.0	58.4	55.7
Households with Individual Unemployment History (%)	85.3	86.8	85.9
Average Floor Space (M ²)	35.3	51.6	55.4
Source of Housing (%):			
-Rented from <i>Danwei</i>	24.8		
-Rented from Housing Bureau	53.2		
-Rented from Individuals	20.2		
-Self-help Housing and others	1.8		
-Self-built and Privately Owned			25.4
-Purchased Compensated Housing		11.3	8.5
-Purchased from <i>Danwei</i>		30.2	22.5
- <i>Danwei</i> Welfare Housing		9.4	7.0
-Economic and Comfortable Housing		3.8	2.8
-Purchased from Housing Bureau		11.3	8.5
-Resold <i>Danwei</i> Housing		17.0	12.7
-Commodity Housing		17.0	12.7
Housing Type (Median)	Two- to Five-floor	Six-floor and above	Two- to Five-floor
Self-rated Housing Quality (1 to 7, Median)	4 (average)	4 (average)	4 (average)

Average Housing Expenditure (Yuan)	190.8 (monthly rent)	46411.1 (purchase)	NA
Households in LRHS (%)	6.4	0	0
Households in MLSS (%)	20.2	15.1	18.3
Households with Rural Origins (%)	49.5	49.1	50.7
Households with Rural <i>Hukou</i> (%)	22.9	20.8	25.4

Source: Calculated by the author based on the 2004 Nanjing survey (only low-income respondents).

Low-income renter families also differ from owners in terms of employment and labor force participation rates. Although low-income renters have the lowest unemployment rate and the highest labor participation rate on average, apparently these workers are more likely to be informal workers and less likely to be formal employees of state-owned or privately owned enterprises or institutions of any kind (0.61 informal workers per renter family versus 0.32 informal workers per owner family).

In terms of housing conditions, renters are living in smaller (35.3 M² for renters versus 55.4 M² for owners) but not significantly lower quality housing units, according to their self ratings (“average” for renters versus “average” for owners). About half of the renter families live in housing provided by the city housing bureau, over 24 percent live in work-unit provided rental housing, and over 20 percent of renter families rent from individuals. According to the earlier discussion on access to housing, we may assume that the proportions here roughly represent the proportions of native and migrant families. Very few renter families (1.8%) resort to self-help strategies because new self-built housing has been strictly controlled in large cities such as Nanjing, and rural migrants are

usually not allowed to build temporary squatter housing, unless they get permission and assistance from local communities. There are also clearly more renter families on the Minimum Living Standard Scheme, which is a basic safety network only for the poorest natives in the city.

Interestingly, low-income renter families do not show a higher percentage of rural origin (meaning at least one family member born in a rural area) or a higher percentage of families with rural *hukou*. In contrast, it is the owner families who appear to have a stronger tie with rural areas on average (50.7% owners with rural origins versus 49.5% for renters, and 25.4% owners have rural *hukou* members versus 22.9% among renters). However, these numbers have clearly been driven up by the owners of self-built housing, some of whom were originally native rural residents in suburban areas, since non self-built housing owners alone have the weakest ties with rural areas among the three groups (49.1% with rural origin and 20.8% with rural *hukou*). Moreover, according to Table 7-5 earlier, we can explain the high rural *hukou* percentage among owners as partly a result of a higher proportion of mixed-*hukou* families as owners. But the question remains: if the rural-urban *hukou* divide exists on housing ownership, why do mixed-*hukou* families have a higher homeownership rate?

When householder characteristics are compared, renters earn significantly less individually than owners (Table 7-7). This disparity can be reasonably explained by two factors. *First* is the high percentage of renters working in informal sectors for more than 20 hours a week (17.4% renters versus 9.4% owners) and the rate of those for less than 20 hours a week (5.5% renters versus 1.9% owners), which pay less and are unstable than formal sectors. And *second* is the low percentage of renters as self-employers who

show a stronger financial ability (11.3% owners versus 9.2% renters). The second most prominent disparity between renters and owners is the percentage of householders as party members. Moreover, renters have a higher education level on average than owners, partly attributable to age differences. Finally, more female-headed households in proportion fall into the renter group than male-headed households. Institutional factors are important as well, since apparently renters and owners differ in occupational rank (rated 2.20 for owners versus 1.98 for renters) and employer rank (rated 4.96 for owners versus 4.56 for renters), both indicative of the relation of householders with their employer and the still remaining state-led and work-based redistribution system. In contrast to the counterintuitive relationship between household rural origin and *hukou* with tenure choice, whether the householder owns an urban *hukou* appears to be positively related to the tenure choice. Owners also tend to have a longer duration of stay in the city in proportion to their age than renters.

Table 7-7: Characteristics of Householders of Low-income Renter and Owner Family Households

Householder Characteristics	Low-income Renters	Low-income Owners (Non Self-built)	All Low-income Owners
Gender (% male)	78.9	69.8	70.4
Age (average)	49.4	53.6	53.3
Party Membership (%)	4.6	11.3	9.9
Education (average years of schooling)	8.37	7.77	7.75
Employment Status (% Formally Employed)	19.3	13.2	21.2
Employment Status (% Self-employed)	9.2	11.3	8.4

Occupational Rank (scale 0-5)	1.00	1.25	1.21
Employer Rank (scale 0-7)	1.34	2.15	1.83
Employer Type (% State-owned)	30.28	41.51	40.84
Employment Status (% Informal Worker >20 hours per week)	17.4	9.4	7.0
Employment Status (% Informal Worker < 20 hours per week)	5.5	1.9	2.8
Monthly Income (Yuan)	400.5	474.6	470.7
Urban <i>Hukou</i> (%)	84.5	94.3	90.1
Local <i>Hukou</i> (%)	87.3	98.1	97.2
Rural Origin (%)	21.1	16.9	28.2
Urban Residence Duration (average years)	42.5	47.3	44.3
Local Residence Duration (average years)	43.4	48.3	48.4

Note: Calculated by the author based on the 2004 Nanjing survey (only low-income respondents).

7.2.2 Multilevel Logistic Regression: What Affects Housing Tenure Choice?

The multilevel logistic regression tests the hypothesis that the urban poor's access to housing ownership is affected by socioeconomic and institutional factors at the individual household level and by housing characteristics at the community level. In the regression model, the dependent variable is housing tenure choice. The independent variables include individual household-level characteristics derived from the questionnaire survey and selected on the basis of the above descriptive analysis, and community-level characteristics of housing (see Table 7-8). Details about the model were presented in chapter 4.

Table 7-8: Descriptive Statistics for Level-1 and Level-2 Variables

Variable Name	Percentage	Mean	SD
<i>Dependent variables</i>			
Housing Tenure			
1: Non Self-built Owned	34.05		
0: Rented	57.35		
0: Self-built Owned	8.60		
<i>Level-1 Independent variables (socioeconomic)</i>			
Household Income (Yuan/Month)		1382.75	991.89
Household Size		3.39	1.07
Number of Workers		1.21	0.91
Number of Formal Workers		0.66	0.77
Number of Informal Workers		0.56	0.82
Number of Self-Employed Workers		0.19	0.51
Householder Age		51.95	13.54
Householder Gender			
1: male	78.85		
0: female	21.15		
Householder Education (years of schooling)		8.75	3.82
Householder Party Membership			
1: yes	11.11		
0: no	88.89		
Householder Income		654.24	594.62
Householder Employment Status I			
1: formally employed/retired	59.50		
/retired	40.50		
0: not formally employed/retired			
Householder Employment Status II			
1: self-employed	8.60		
0: not self-employed	91.40		

Householder Occupational Rank		1.42	1.37
<i>Level-1 Independent variables (Institutional)</i>			
Householder Employer Type:			
1: state	44.80		
0: non state (private & individual)	55.20		
Householder State Employer Rank:		2.05	2.52
Householder <i>Hukou</i> Status I			
1: urban	88.5		
0: rural	11.5		
Householder <i>Hukou</i> Status II			
1: local	92.1		
0: non-local	7.9		
Householder Duration of Urban Residence		44.87	20.24
Householder Duration of Local Residence		46.56	18.79
<i>Level-2 Community (Jiedao) variables</i>			
Share of Low-price Housing Stock (between 10,000 and 100,000 Yuan per unit)		40.98	7.58
Share of Non Self-built Owned Housing		45.27	17.58
Median Housing Purchase/Self-built Price (Thousand Yuan per unit)		17.37	7.14
Median Rent (Yuan per unit)		64.21	28.49
Share of Non-Local <i>Hukou</i> Population		34.08	11.29
Share of Rural <i>Hukou</i> Population		21.77	19.93

Note: Calculated by the author based on the 2004 Nanjing survey data and community census data.

The result of the two-level regression model is described in Table 7-9. On the first level, the model supports the hypothesis that both socioeconomic and institutional factors are strongly correlated with homeownership for low-income groups, which agrees with previous findings on homeownership in China. Yet this model also provides further

details about the opportunity structure for disadvantaged groups in Chinese cities. *First*, whether the householder is self-employed is the most significant predictor of homeownership (3.21 at $p < 0.01$). This finding, different from previous findings about the connection between owned business and tenure, suggests that if all other variables are kept constant, an average household headed by a self-employed individual has almost twice (198.3%) more the probability to own than an average household whose head is not self-employed²³. *Second*, as expected, household income has a significant and positive impact on homeownership (0.79 at $p < 0.05$). To test for quadratic change, household income squared is included in the model. The negative coefficient for it suggests that households with income at either upper-low or bottom-low levels have less probability to own than expected in a linear schedule. This is exactly what we observed with the descriptive analysis charts. Yet the effect of household income should be evaluated in conjunction with the effect of householder income, since the latter has a significant negative impact on tenure (-0.604 at $p < 0.1$). A possible explanation is that while total household income increases the probability to own, the household head's income alone does not necessarily make the housing purchase possible. It is especially true for low-income groups with a low income per person, where a higher householder income only indicates that other household members are not making as much and have a greater financial dependency on the householder, and hence a lower propensity to spend on housing. *Third*, party membership, which characterizes an individual's political status and also serves as an indicator of socioeconomic status, has a significant and positive

²³ This number is calculated by using the inverse of the logit function, which is the logistic function: $Y = \text{EXP}(\beta_0 + \beta_i * X_i + \beta_j * X_j) / (1 + \text{EXP}(\beta_0 + \beta_i * X_i + \beta_j * X_j))$

impact on homeownership (1.26 at $p < 0.05$). *Finally*, although higher household income, self-employment, and party membership increase a household's chance to own, a higher number of informal workers within a household decrease its chance to own with a negative coefficient value of -0.47 at $p < 0.1$. This is apparently due to the low income levels for informal workers and the ineligibility of most of them to access job-related, enterprise, or institution housing funds and benefits.

Table 7-9: Results of Two-level Logistic Regression Model of Housing Tenure Data

<i>Fixed Effect</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>T-ratio</i>	<i>P-value</i>
<i>For Household-level Variables</i>				
Household Income	0.792	0.334	2.370	0.02**
Household Income ²	-0.282	0.120	-2.344	0.02**
Number of Formal Workers	-0.032	0.240	-0.133	>0.5
Number of Informal Workers	-0.467	0.253	-1.844	0.07*
Age	0.375	0.343	1.093	0.28
Age ²	-0.136	0.154	-0.882	0.38
Gender	0.033	0.417	0.080	>0.5
Education	-0.116	0.228	-0.510	>0.5
Education ²	-0.171	0.120	-1.429	0.15
Party Membership	1.257	0.544	2.308	0.02**
Income	-0.604	0.347	-1.743	0.08*
Income ²	0.129	0.094	1.367	0.17
Employment Status I (1: formal; 0: otherwise)	-1.234	0.781	-1.581	0.12
Employment Status II (1: self-employed; 0: otherwise)	3.214	1.072	2.997	0.003***
Employer Type (1: state; 0: otherwise)	1.404	0.798	1.759	0.08*
Employer Rank	0.123	0.200	0.616	>0.5

<i>Hukou</i> I: (1: urban; 0: rural)	-1.104	1.307	-0.845	0.40	
<i>Hukou</i> II: (1: local; 0: non local)	3.916	1.773	2.209	0.03**	
Length of Urban Residence	0.810	0.585	1.383	0.17	
Length of Local Residence	-1.004	0.583	-1.722	0.09*	
<i>For Community-level Variables</i>					
Constant γ_{00} (for Intercept β_0)	-0.536	0.341	-	-1.570	0.14
Share of Low-price Housing Stock	0.083	0.038	2.176	0.04**	
<hr/>					
<i>Random Effect</i>	<i>Standard</i>	<i>Variance</i>	<i>Chi-square</i>	<i>P-value</i>	
	<i>Deviation</i>	<i>Component</i>			
μ_0 (for Intercept β_0)	0.872	0.760	40.534	0.001***	

Note: *** indicates that the result is significant at the 1 percent level; ** indicates that the result is significant at the 5 percent level; * indicates that the result is significant at the 10 percent level.

However, several conventional socioeconomic variables do not show strong, significant correlations with homeownership in this case study. (1) Neither householder age nor householder age squared has a significant impact on tenure choice for the low-income groups. (2) Householder education and education squared are not significant predictors either, although both show a peculiar negative impact (-0.116, -0.171) on homeownership. (3) Householder gender is insignificant, partly due to the tradition of having males as householders in China. (4) The number of formal workers, although expected to be a predictor, instead shows an insignificant effect. Although previous findings indicate it as a predictor for the general population, this variable apparently does not work for low-income groups, given that many formal workers are the only wage-earners in their low-income households to support the whole family. (5) The same unexpected low significance happens for employment status II. Whether the

householder is formally employed (including formally retired) or not does not have a significant impact on homeownership either, because other factors can seriously affect the ability of the household to own, such as a high dependency ratio in the household, the low labor force participation of other family members, low wage levels due to a low job rank or few years at work, and the financial and welfare capability of the employer.

Some conventional institutional variables used in housing studies do not stand out as the most significant ones in the case study, while others show significant impact on homeownership for the poor. *First*, the employer type (state versus otherwise) has a positive effect on the probability of owning for the poor (1.404 at $p < 0.1$); however, the employer rank shows an insignificant effect. This suggests that households headed by individuals employed in state-owned enterprises or institutions have a greater chance to own than other families. *Second*, *hukou* status is another significant source of impact on homeownership for the poor. While an urban *hukou* does increase the probability of owning, it is not a significant predictor. This is true considering that rural *hukou* holders with a certain amount of savings have to invest in urban housing before they can apply for urban *hukous*. In contrast, a local *hukou* has a stronger, more significant effect on homeownership (3.916 at $p < 0.05$), which means that a permanent local residential identity, either urban or rural, yields a higher probability to own than a migrant identity. This in particular supports the hypothesis that migrants, in particular migrants from other cities, counties, or provinces, are disadvantaged in the current urban housing market, compared to urban natives, which is illustrated in Table 7-3. *Third*, the length of local residence in the city of Nanjing has a significant negative effect on homeownership (-1.004 at $p < 0.1$), while the total length of residence in the urban area has an insignificant

positive effect. This suggests that while a permanent local residential status is critical for housing ownership, it does not hold that the longer duration a person spends in the local city area, the higher probability to own.

Finally, the average level of homeownership varies across communities. The share of low-price housing stock in each community has a minor, yet positive significant effect on the average level of homeownership for the poor (0.083 at $p < 0.05$). More specifically, in communities with a higher share of housing built or purchased at a cost between 10,000 and 100,000 Yuan per unit, the average level of tenure for low-income groups is higher. In contrast, in communities with only a small share of low-cost housing, the average probability of tenure for low-income groups is low. Since low-cost housing availability is strongly correlated with total owned housing availability and median rent, there are several possible explanations for this community-level effect. First, the obvious reason is that the higher percentage of low-cost housing, the greater supply of low-cost housing, and the greater chance for low-income groups to own due to price factors. Second, several communities with higher percentage commodity housing are located in suburban or outer urban areas where a mixed population of original natives, relocated natives, and migrants are employed and reside. As rents are driven up by increasing demand for housing, households tend to own rather than rent, despite low income levels.

The average level of homeownership also has a significant random effect, indicating that the average probability of owning for low-income groups varies across communities due to local characteristics other than the availability of low-cost housing.

7.3 The Roles of Community and Family Support in Tenure Choice: A Qualitative Examination

Clearly, while housing ownership brings some hope to the migrant families who have survived adversities to stay permanently in a city, it can be a dream well beyond the reach for the rest of migrants who are living alone or barely earning sufficient income to support their dependent family. As such, a question remains after the quantitative analysis: On what basis is housing ownership a choice for the poor? Despite the fact that housing tenure is related to individual and family capacities and their connections with pre-existing (re)distributive institutions such as *hukou* and work unit, just how do they own given their average capacity and connections with the state?

What have often been ignored in the process are the effect of government-imposed communities and the agency of families. Both communities and families are actively responding to the consequences of urban reforms, and intermediating in the processes of the redistribution of urban benefits such as welfare and subsidized housing, when *Danwei* (work units) recedes from being the caretaker and housing provider and the social relationships based on work-residence compounds gradually dissolve. It is within both contexts of an underdeveloped community-based welfare system and a heavy dependence on family support network that a tenure decision can be fully understood.

7.3.1 Self-selection to Better Communities

As described in chapter 4, the residents' committee is an organization partly funded by the local government and partly self-funded. Local financial abilities determine the capacities of committees to provide resources for disadvantaged groups in different communities. Further, my interview data indicate that the width and scope of the community-based social care and welfare provisions also depend on the demographic stability of each community itself. In close-knit communities where population movement is relatively stable and predictable, street offices and residents' committees play a more critical role than in fast-changing communities where a succession of housing and population is taking place on a daily basis.

The variance between communities in providing social care is evident in the following description by Mrs. Tang, a sixty-year-old housewife in Nanjing, about the two communities she has lived in. The former community she lived in was an inner city community that experienced major redevelopment in the 1990s, and her family, like all others in the neighborhood, left in early 2000 with some relocation subsidy from the government in their pocket. They chose to reside in an outer urban neighborhood where most residents are *Danwei* employees and cadres. Mrs. Tang describes the low level of support in the first community:

We were in Hanfujie (note by the author: an inner city neighborhood). My family earned 320 Yuan (40 USD) then, and the residents' committee did not admit us [into the MLSS program]. A cadre had somebody deliver a message to me saying that I need to find some source of income. That was year 1998. My husband just had a surgery and could not work as a driver anymore. We three people lived on his 320 Yuan pension every month.

The residents' committee did not give us a cent. They did not ask us if we need any help either. I had to baby sit kids in the neighborhood [to earn extra money]. Then some people helped report my family situation to the committee. When it was finally reported, we were about to move [due to urban renovation].

Mrs. Tang, sixty, street vendor, migrant, urban *hukou*

Mrs. Tang then describes the completely different level of care her family receives in the next community they moved in after a purchase of commodity housing:

The committee [of the community we have moved in] is very nice to us, better than the earlier one. The earlier one gave us 50 Yuan when we left. That's all. The committee here are good people. Some people in the neighborhood earn 3000 Yuan a month. Once, my husband got a pension raise. I was confused with numbers. [I went to the committee] and the woman told me the numbers were correct. So she saw our wage paper and knew how much we earned. They asked how you three people could live on 550 Yuan (68 USD) a month. Then the committee called and asked us to pick up some money. We did not know what was going on then. Later on, they sent some cooking oil and eggs...this committee know how to deal with the residents; they win our trust, care for the poor, and look like real cadres.

Mrs. Tang, sixty, street vendor, migrant, urban *hukou*

Even in communities with relative stability, social care is not provided to many migrants or to non-local *hukou* residents. Mr. Zhou, a forty-nine-year old jobless migrant, who is married to a mentally ill wife and has a handicapped son, describes the difficulty he encountered seeking community help in a suburban neighborhood of Nanjing.

My wife's *hukou* is at Xinhuaercun community [not the current community we live in], I have a rural *hukou*, and our apartment belongs to the current community, Zhouwaxincun. Now, you go to the residents' committee here [for help], they won't respond to you. They said our *hukou* was not registered here [so they could not help us]. I said it wasn't our fault...we did not want to live here if we could find an apartment [in the community where my wife's *hukou* is registered]. They did not want to see me after that. And so you've got no choice.

Mr. Zhou, forty-nine, unemployed migrant, rural *hukou*

Yet some communities are able to provide material subsidies including informal housing, if not income subsidies, for the migrant poor. However, since informal squatter constructions are restricted in most urban communities in China, even the residents' committees are not allowed to build informal housing or allocate informal housing to migrants. Mrs. Xue, a forty-one-year-old migrant worker as a sweeper in an urban community in Nanjing described the experience they had with informal housing:

We lived over there in another community. But we need to come here to do the sweeping job every day. We had to walk a long distance. Then the chair of the residents' committee said you can build yourself a squatter anywhere that suits you. But [the residents and other committee members] did not allow us to. There was a lot of quarreling...Then a former committee chair asked us to help build a small shack in front of his house and asked us to stay there. [The residents] did not allow us to. Tons of bitter words against us. Finally...no fight and quarrel any more...and the former chair had to tear down the shack.

Mrs. Xue, forty-one, migrant worker, rural *hukou*

For the native urban poor with minimal social and economic capital, *Danwei* is still assumed to be the one that is responsible for their lives by providing income and

housing support. Recently, as some work units become dysfunctional, the role of residents' committee has been strengthened, particularly by the initiation of community-based programs such as MLSS and LRHS. Both programs focus almost exclusively on native residents with local *hukou*. Mixed family households composed of natives and migrants such as the Zhou family had a hard time to access MLSS:

We rent this room. It's not my house. Not a zero square meter belongs to me. My wife worked in a *Danwei*. They should have given us some [income] subsidies. I asked the community [leaders] for minimum standard living support four years ago, but we were not considered until last year. Even though we were in such a difficult situation [we were not considered eligible recipients immediately].

Mr. Zhou, forty-nine, unemployed migrant, rural *hukou*

In some cases, disinformation and negative personal experiences can ascend to distrust, which can serve as a barrier to seeking further assistance from the community. Some interviewees had long been ignored by their dysfunctional *Danwei* or had wandered outside the work-unit system, and they tended to compare residents' committees with their former *Danwei*, to downplay the role of communities, and as such, to distance themselves from a community-based resource distribution system. Mrs. Wu, a female retiree from a low-income household described her understandings about community with the example of finding jobs for her rural-born husband who had been long-term unemployed.

The community office is right next door. But what can they do for us? No job allocation. We have seen enough. They don't even allocate jobs to

college graduates nowadays. I have never found a job for my husband in the community. Never. It's not like what you imagine. Even for a sweeper's job, you need relatives here to talk to the community leaders. If you just go and ask about it, they won't necessarily give you the job. It still depends on *guanxi* networks. The residents' committee is not like what you think they are. (Did you ever speak to them?) I did, but no job. (When?) Many times. I spoke to them every time I saw them. No use. You need to rely on yourself for anything. You can not depend on other people in a time like now.

Mrs. Wu, fifty-eight, early retiree, native, urban *hukou*

For most other native low-income households, committees are described as a good-willed, but neutral actor with limited capacity to help the poor. Mrs. Chen, a forty-eight-year-old laid-off worker who has taken multiple unstable jobs describes her interaction with the resident's committee:

The committee simply did a questionnaire with me, a questionnaire on laid-off workers. I did not have much contact with the committee. Their office is right across the street from my apartment. Sometimes they would call me and ask if I wanted to baby sit some kids. But they would not come to me directly. Sometimes when we met, they would say something about baby-sitting. But we had very little interaction. They are good enough, to even think of me... Well, you can not ask too much; think how much you have done for them in return.

Mrs. Chen, forty-eight, multiple seasonal jobs, native, urban *hukou*

Then the question can be raised: who actually benefits from communities and the community care and welfare system? Based on the interview data, most respondents who reported a positive experience had benefited directly or indirectly from their social relationship with the committee and the people working in the committee. The following

female native respondent, another forty-eight-year-old Mrs. Chen, cites her past experience with the committee and personality as the two reasons why she chose to work in a committee after she was laid off and had several short-term informal jobs.

At first, I baby sat kids for some friends. There was not such a sense of community then. [People] did not know they could ask residents' committees for help. Then I shop kept and cooked for some self-employed people for a while. After that, my health got worse and I stopped working. At that time, I started to think of committees [for job seeking advice]. They were nice enough to find a job for me. It was shop keeping for a video game café. The café was closed upon local inspection... Then in 1999, the committee started interviewing people for new positions. They only paid 90 Yuan a month. I went for it, because it was too close to home. And I am the type of person who is willing to care, even if it's not my business... I never regret my choice to work in a residents' committee. I am just the type of person [they are looking for]. I can never stand by when things happen.

Mrs. Chen, forty-eight, employed native, urban *hukou*

Mrs. Xu, a thirty-seven-year-old self-employed migrant woman describes her experience with the committee and how she found her first informal job in the city through a kinship network.

People here are nice to us. They are polite... When we moved in here, we had a lot of difficulty. Many people helped us then... (How did you get the job here?) My sister-in-law is a sweeper here for many years. She has an urban *hukou*. At first, a neighboring committee wanted a new sweeper, and my in-laws recommended me. Then the head of this committee saw me and wanted me to do sweeping here too. Finally, I got the job here in several days. When I was sick last year, the committee sent over gifts and visited me. All three chairs of the committee came over.

Mrs. Xu, thirty-seven, migrant worker, rural *hukou*

7.3.2 A Family Self-support Strategy

The community-based social care and welfare system is developing in response to the demise of the work-unit-based welfare system and the retreat of the state from welfare distribution, but the relatively low level of funding has limited the opportunities, such as informal jobs and informal housing, it can provide to low-income groups. Meanwhile, the family support system is still largely resorted to as the major source of help by many poor when both *Danwei* and committees are far from reach. The family has become especially important for migrant families. We can identify a chain effect: migrants get material and housing support from relatives living in the city, they find informal jobs nearby, they are able to pay their own rents or even purchase an apartment for themselves with a certain amount of savings, and finally, with purchased urban property, they are legally converted into urban residents.

Mrs. Zhang, a forty-eight-year-old self-employed migrant woman provides an account of the circuitous trajectory of her family's moves from a rural town in central China's Hubei province, to a rural town surrounding Nanjing, and finally to an urban community in Nanjing:

It [note by the author: referring to buying the current apartment] was all for my children. They'd have to pay high fees for school [if they retained their rural *hukou*]. Then we found a village near the city. They said it would soon be acquired by the city government and we would be given urban *hukou* after that. So we moved to the village [and were given *urban*

hukou thereafter]...Farming generated too little money...and we thought doing some business would be at least...sufficient for three meals a day. [So] we moved to my in-law's apartment [in the city] and started some business. But [my in-law's place] was so cramped with so many people. We lived for a year and started to consider moving out.

Mrs. Zhang, forty-eight, self-employed migrant, urban *hukou*

Housing is not simply a realistic consideration, but an important investment in order to access jobs and family support. Mrs. Zhang explains why they decided to own an apartment in the current neighborhood that she lives in:

If you want to stay here, you will have to buy a house. My mother-in-law, my sister-in-law, they all live here. If you want to live here for good, you just have to buy it...I know nobody in the community. But it's really convenient for my work [selling vegetables and fish in the farmers' market]. The market is just around the corner.

Mrs. Zhang, forty-eight, self-employed migrant, urban *hukou*

When family support is not in place on time, some could lose opportunities and get trapped in long-term poverty. Mrs. Chen, who was laid-off and successfully self-employed in the 1990s, currently stays at home and occasionally does some baby-sitting and nanny work; she described why she did not purchase her apartment:

I stay at home now, not working. With my income level, I can't afford purchasing a house. No savings. Just barely able to have three meals a day. That's it. As I said, we share this apartment with another household. If I had some money, I could easily own it. Only cost about 100,000 Yuan. That amount of money is not a big deal for rich families, and even for those, say, a cashier in a state bank...We don't even qualify for mortgage because we have no stable jobs and only earn 200 Yuan a month...It's not about where we can find low-cost housing. I don't even have the money

for a 60,000 Yuan apartment, because we are not like other people. They have parents or sisters to support them. We are left alone. Neither my husband's parents nor my parents can support us. My parents are retired workers and my husband's parents live on a total of less than 1000 Yuan pension. Plus my husband's brother is not married yet [and will need parent money]... So housing is not my concern now. If we really have to buy an apartment, we will have to borrow. Our difficulty is here: no family support.

Mrs. Chen, forty-eight, multiple seasonal jobs, native, urban *hukou*

It is important to note that chain migration is nothing new to poverty and migration researchers. However, my interviews and survey indicate that the role of family support and kinship ties is particularly important in transitional China, because they provide a temporary, informal safety network that causes a positive chain effect on the life chances of the migrant poor. This effect will eventually contribute to their further integration into the formal distribution system of urban benefits. For example, housing purchased with family support facilitates access to other urban benefits and cushions the poor from extreme poverty. In contrast, those without sufficient family and formal support from work units or communities could well fall into temporary poverty, whether they are urban natives or migrants, formally employed or not. This could lead to a negative chain effect on their life chances before they are totally excluded or ostracized by the redistributive system.

7.4 Summary

China's homeownership-oriented housing reform has improved the living condition of the majority in urban China. For low-income groups, housing is an asset to

cushion them against persistent poverty. While recent studies have focused on bifurcated issues such as rural migrant housing disadvantages and urban housing tenure choice in general, few have examined exclusively the housing condition of and prospects for the lowest- and low-income groups that consist of socially, economically and institutionally divided, but highly mobile groups of native urban, migrant, and mixed families. Moreover, preceding studies have ignored the fact that the housing policy in China today, which is the heir of pre-Reform era housing policy and other social welfare policies, has long favored family households versus individuals. As such, these studies on individual and/or temporary migrant workers' housing choices only contribute in a limited way to our understanding of the disadvantages currently facing rural migrants as a whole. We know little about migrant families who have successfully made the *hukou* transfer.

In this chapter, a two-level analysis is conducted based on a survey in Nanjing with low-income family households and individuals within the households. The empirical study indicates that though individual characteristics are important, family characteristics and community low-cost housing availabilities play more critical roles in shaping the tenure decision of low-income groups. In order to access better, more secure housing, most face a dilemma of either pooling family funds at the risk of financial insecurity or staying dependent on housing welfare policies that only cover a small portion of the urban population. Those with few family financial resources and broken connections with both work units and communities are left in the “nowhere place” of abject housing poverty.

My interview data reveal that housing tenure choice often reflects a long-term decision made by family households in conjunction with their access to other benefits and

opportunities such as stable jobs, low-cost education for children, and community resources. Urban redevelopment projects are also regarded as an unpredictable but still possible opportunity for the poor to own after being compensated by the local government.

Further analysis based on the interview data indicates the importance of the community care and welfare and family support systems, which are difficult to incorporate into a quantitative model. The community care and welfare system is created to share the burden of the state in welfare provisions; however, it is still in development and has limited coverage and level of care for the poor. The family support system is in effect the underpinning system that holds most poor family households together. Both systems impact the poor, not necessarily via upgrading their socioeconomic status and institutional characteristics by providing direct benefits, but by affecting their life chances by providing a safety network so they can sustain the ability to compete in a market economy, especially in light of great societal shifts in values and opportunities.

The research findings also point out the fallacy of previous studies that treat migrants as the “others” whose experience is separate from that of urban natives. Indeed, the socialist institutional framework has shaped an enduring structure of inequality, where migrant family households are persistently disadvantaged and deprived of entitlements to low-cost public education, low-cost housing, and welfare subsidies that their urban counterparts have access to. However, a significant number of low- and medium-income migrant families have emerged as a different group from traditional transient “migrant workers” due to the following selection effects: age and education, family strategies of migration, the informal labor market, and emerging place-based

meritocratic institutions that have increasingly rewarded those with individual capacity or assets and disregarded their former statuses associated with socialist institutions such as *hukou*. In contrast, those urban native families rejected by both the old and new systems are left in limbo when the urban welfare system is still far from full development. Some have fallen into the deepest deprivation they have ever experienced in their lives.

In conclusion, the divided landscape of poverty for poor family households is not a clear-cut scene in which the higher-educated and able ones tend to gain more benefits as a reward of the market, while the state-connected ones gradually lose advantages. The opportunity structures embedded in both the market-oriented economy and the pre-existing socialist institutions are closely intertwined and feed on each other. For the poor, the problem is not to locate the part of the picture to which they belong—the state or the market—but how they can even be included in the grand project of economic development. When the state retreats from welfare distribution, the roles of communities and families become more important to the poor. Yet for those with low community care and minimum family support, who have fallen into the fissure of economic transition, do they still have a chance to bounce back?

Chapter 8

DISCUSSION AND CONCLUSIONS

We are the bottom of the barrel.

I can still feed myself, but my kid needs money to go to school, and find a wife. We can not compare with the rich; some people's lives are even worse than ours, like those migrants from *Anhui* working in the food market where I work. They have more kids and smaller apartments. We belong to the lower-middle ones.

I think we are at the bottom; we need to think twice when we spend money. Not like other people, we only spend money on the kid, not on food. I only cooked one veggie dish today. We are not even the working class. No salaries. If we could each earn 1000 Yuan a month, my life couldn't be better.

We are a low-income family; no security at all. Look at my husband. If he comes home late from his manual job, I can't even think of anyone to ask for help. No one is taking care of you; no *Danwei*, and the community do not bother to take care of you because you are nothing! We are the uncared-for.

We belong to the bottom of the bottom...three hundred Yuan for three people. That's it.

(Multiple interviewees, interviewed on multiple dates, 2004, Nanjing)

Poverty translates into conditions of economic hardship, social exclusion, and political marginalization in any country. In China, urban poverty means an insufficient income, a low budget for expenses, malnutrition, unstable employment, low family support or social care, a sense of insecurity, and the inability to provide for the extended

family. These poverty conditions are well documented in the above quotes from the responses of my interviewees when they were asked which class they thought they belonged to. Some scholars believe that urban poverty in China today reflects the costs and frictions incurred during the course of marketization in a hybrid economy led by a strong liaison of central and local states. The belief that urban poverty is temporary and that some one has to sacrifice for “economic reform” has strongly influenced public policy making in contemporary China. However, this belief has ignored that inequality is nothing new in China. The low urban poverty rates in the late socialist era were as much an artifact of a strongly biased state policy toward urban areas as the sudden rise of urban poverty in the 1990s was the result of a state decision to withdraw from the urban arena in employment, housing and so on. The key question to the debate is: whether it is an individual capability or their predefined access to (re)distributed social resources that determines one’s well-being. If the latter is true, poverty can become a trap that is hard to get out of without major structural changes in the society, even when the economy opens up with greater than ever economic opportunities for individuals. This is the question that I have attempted to answer throughout the dissertation.

While this project goes on, the subject of poverty becomes even more important than ever. China is going through a period of geographic relocation of poverty—and when economic opportunity shifts in space, deprivation shifts as well. Since the beginning of the economic reform of 1978, China has pulled an incredibly large population out of rural poverty, due to anti-poverty programs and rapid urban economic development in thousands of towns and cities. However, since the 1990s, rising urban poverty has increased in prominence as a social concern. As of 2003, there were at least

22.5 million poor living in China's cities. Yet this number greatly underestimates the problem because it has not taken into consideration the number of relative poor—those who live above the absolute poverty line but who are still living under the relative poverty line. The migrant poor are not even counted in this estimate. In addition, urban poverty is surpassing rural poverty as a pressing concern because of the well documented sharp increase in urban inequality in China. It took China twenty years to reach a level of income inequality that is comparable to the level in the U.S., and there is no sign that the inequality will decrease in the next few years. Moreover, 180 million more Chinese rural dwellers will move to the city by the end of this decade. Their fate is largely determined by their access to urban entitlements and future opportunities provided by receiving cities and communities, which are currently experiencing unprecedented spatial transformation.

The aim of this thesis was to discuss in theoretical and empirical terms the spatial patterns of urban poverty, the composition of the urban poor, and the poor's access to urban benefits at multiple geographic scales in China. It also aimed to develop a methodology to explain the distribution of urban poverty in China and the roles that structures (pre-existing national and local institutional arrangements and market-oriented institutional changes) and factors from communities and families play in the construction of opportunities for the poor today.

Throughout the three-level analysis, I have argued that an agency-structure perspective is the most effective approach to understanding the roles of multiple actors and evolving structures in the formation of spatial outcomes of urban poverty in transitional China. To understand this perspective of evolving structure and agency effect on structure, I pursued a multi-level and multi-actor approach to explain the roles

multiple actors and agents play in the economy and how institutional structures shape agency and are reshaped by the agency of actors. This approach distinguishes itself from the structuralist approaches employed by many scholars studying poverty and migration in China and the static views that are offered by most of them, yet it utilizes the theoretical and empirical insights from several fields—political economy, sociology, migration studies, development studies, and the geography of inequality and poverty—to address three primary questions:

1. How does the spatial pattern of deprivation across cities change? What role does migration play in shaping inequality across cities?

2. What spatial trends of poverty can be identified within cities, given the effective end of state control over residential spaces and population movements, and the incursion of market-oriented housing provision and allocation?

3. Does prior socioeconomic status affect the probability of being poor? What role does *hukou* status play in structuring access to urban benefits?

8.1 Empirical Results

A number of empirical conclusions can be drawn from this thesis; some of the conclusions are in agreement with previous findings while others are contradictory to expectations.

First, urban poverty arises as a result of the shift in opportunities across space that has largely reflected both shifting state policy and the rise of local city/state-centered development initiatives to embrace the market economy. Chapter 5 first presented that

deprivation existed in both distressed central and affluent east coastal cities. Second, the relatively wealthy east and south saw a greater polarization in deprivation levels among cities. Finally, analysis indicated that while a greater proportion of cities fell into relative deprivation in 2000, migration might have contributed to the aggravation of poverty in wealthy cities and less so in distressed cities, equalizing the gap between cities.

These findings set up the macro environment for studying urban poverty in China by answering these questions: where do migrants go, why do they go there, and how is their movement related to the rise and spatial tendencies of urban poverty in China. The findings agree with previous studies on regional inequality that there are devolving manifestations of inequality from that between rural and urban areas, that between regions, to that between cities and counties. Findings from chapter 5 also suggest that migration might have equalized the gap in deprivation levels across cities. However, this finding does not necessarily support the third-world urban development thesis that poverty increases in large cities due to the mismatch between migrant expectations and the economic opportunities cities can offer. Other factors might have accounted for the rise of poverty in large cities in China, such as the inability and unwillingness of cities to provide social resources such as affordable housing and welfare to migrants. These cities' incapacities may partly result from the recent removal of state control over the (re)distribution of urban resources (rental housing and welfare, for example) and over the state regulation of urban space (control in squatters and self-built housing, for example).

Second, inside cities, poverty concentrates mostly in isolated native communities and migrant enclaves, and incidentally in mixed-*hukou* communities, reflecting local institutional arrangements such as *hukou* and housing development. Based on a

hypothetical model to generalize the stages of spatial differentiation in China's cities, the case study of Nanjing in chapter 6 provided empirical evidence in support of one scenario in the model, which led to important findings about the spatial locational tendencies for poor communities. First, the model indicates that in the late socialist era, most migrants lived in communities isolated from other parts of the city, due to *hukou* –related housing provision. Migrant enclaves are examples of this type of isolated development. As the state retreats from the allocation of urban housing and employment, more migrants become integrated into urban communities through owning or renting commodity housing. Second, the case of Nanjing showed that the major difference among communities was the difference in socioeconomic status, but not the difference in *hukou*. Third, and most importantly, the case of Nanjing indicated that the distribution of communities across *hukou* was much narrower for high-income communities than for low-income ones, suggesting that (1) the integration largely took place in higher-income communities and among groups of higher socioeconomic status, while (2) the poor congregated in spatially isolated communities such as dilapidated inner-city communities and migrant enclaves on the fringe of the city.

The findings in chapter 6 showed consistency with previous studies of migrant enclaves, as theory indicates that migrants gravitate to places where family members are found, social networks exist, and affordable housing is available. However, no empirical studies had examined the spatial distribution of migrants or natives based on both socioeconomic and migratory factors. My research provided a model with hypothetical scenarios that enabled me to test the hypothesis with a case study. This enabled me to

identify communities with reference to socioeconomic status and *hukou* status and to describe the locational tendencies for poor communities in the case city.

Third, individuals and families are at risk of poverty when they have a lower capacity to compete in a market economy, or when they stay outside of the state-centered (such as the work unit-related) distribution system. In response, individuals and families actively seek ways to overcome barriers to access urban benefits, such as via purchasing housing. This housing tenure choice reflects a long-term family strategy for low-income groups, which results from their strong dependency on family support networks and an underdeveloped community-based care system. Chapter 7 presented results that contradict previous understandings of housing choices for the poor. Previous studies focused almost solely on single migrant workers or native families and indicated that rental remained the best choice for migrants. My study on family households revealed that tenure became a realistic choice for low-income groups, and it is associated with individual capacity, their connection to the state, and, more importantly, family characteristics and community low-cost housing availability. Interview data further suggested that choice of tenure often reflected a family decision. By contrast, those with relatively low family support and on the margins of the (re)distribution system often faced the greatest disadvantage in urban China.

8.2 Theoretical Interpretations and Discussion

This thesis distinguishes itself from other work on poverty in that it adopted a multi-level and multi-actor approach through which to understand the effects of

structures and agency that shape inequality and urban poverty in China. Specifically, this approach helps to understand the different roles of the central government, local governments, urban communities, and households in aggravating, reinforcing, or mitigating the effects of economic transition on less advantaged groups.

This multi-level and multi-actor approach (1) avoids a simplistic view of market transition as a set of imposed institutional reforms and values; (2) provides a dynamic view that state-initiated market reform can reinforce the pre-existing institutions such as *hukou* and family-based welfare, while providing few opportunities for the poor in the market; (3) focuses on the way in which structures shape agency and the way in which structures are in return influenced by the agency of actors; and finally (4) suggests urban poverty as a manifestation of inequality at multiple levels.

Moreover, this thesis provides a skeleton framework for comparative studies within China and between China and other countries. Over the past decades, China has been perceived by the western academy as a field of study for the application of theories and methodologies of knowledge produced in western societies. My study on poverty has exemplified the similarities and idiosyncrasies that China has in comparison with other developing and developed countries, and emphasized the importance of a multi-level and multi-actor framework in interpreting the similarities and dissimilarities.

On the surface, China appears to be an exceptional case in any social study, given its unique one-party-state, feudalist, capitalist, colonist, and socialist histories in just one century, and its size of population and land. While its feat against rural poverty is lauded, many doubt the low representation of urban poverty, which is an atypical phenomenon for almost any third world country. So, is China's urban poverty experience in any way

comparable to other countries' experiences? Has this research offered any insight to understand poverty problems in other countries? This thesis has provided tools to approach these questions at three levels. *First*, it stresses the importance of reading historical context in order to understand the cultural and structural aspects of poverty. *Second*, the research framework suggests that countries with similar social, economic and institutional contexts, or driven by similar forces of economic development, can experience different social and spatial outcomes associated with poverty and inequality. The institutional characteristics of China are not totally new or exceptional and some are shared by other countries. For example, the *hukou* system is literally the same as the *ho khau* system in Vietnam and *propiska* in Russia. However, other structural factors and development trends need to be considered in order to understand the place-specific outcomes of reform in these two countries. On the other hand, countries driven by similar population and development trends can experience different spatial outcomes of development, due to the presence of different institutional structures. For example, while China shares a similar trend of rural-urban migration with most Latin American and South Asian countries, the strong central and local governance, strict control of migration, existence of public land ownership, and regulation of self-built housing, have contributed to an exceptionally low incidence of squatting in China. *Finally*, this thesis highlights the role of family and community agency in response to the occurrence of poverty and economic insecurity during economic transition. It points out that multiple scales, including regional, city, community, and family levels, are important scales for poverty research, not only because they are relevant scales at which problems can be identified, but also because they suggest how we can deal with the problems. Knowledge acquired

by individuals themselves and organizations at multiple scales and within multiple spatial contexts, can be actively used to change people's lives.

8.3 Limitations and Future Directions

The research presented in this thesis must be considered exploratory for two reasons. *First*, the results from the case study of Nanjing, though generalizable to a certain extent, can not be generalized to every city in China. More case studies of cities in China are crucial to understand the different experiences of urban poverty in China. This will involve both field work in and collection of data from the case cities. Moreover, the hypothetical model presented in chapter 6 can only be fully tested with data from cities collected at different time points. However, given time and budget constraints, this research was not able to incorporate more case studies or acquire additional city census data.

Second, the quantitative analyses, especially the multivariate methods used to generate deprivation indices and describe spatial differentiation, are exploratory methods in nature. For example, principal components analysis is a dimension reduction method to capture a majority of the variation in the data, and the results depend on the variables selected and the rotation method used. While the results need to be generalized with caution, both the multivariate analysis and regression analysis offer important insights into poverty that can lead to further in-depth investigations with additional quantitative or qualitative data.

Several topics are important for future research. *First*, at the theoretical level, a possible direction is to evaluate poverty and inequality in the context of the rise of a neoliberal state with ‘Chinese characteristics’ but that has adapted to globalization. *Second*, to address the data limitations, a multi-city data set would be desirable to further investigate the landscape of poverty in urban China. As discussed in chapter 1, cities in China differ greatly in size, administrative rank, and economic autonomy. *Third*, this research contains interesting subtopics that can be studied further through qualitative approaches. A possible issue of interest is how migrant families obtain ownership of low-cost housing, and how tenure affects their life chances compared to rental. Another topic of interest is the role of government-imposed communities in the allocation of informal job opportunities to women migrants.

8.4 Summary

This thesis has shown how pre-existing institutions and market-oriented institutional changes shape the structure of inequality and space of poverty in China. It has further demonstrated that the poor in urban China respond to socioeconomic transition and actively negotiate transitions in the presence of an underdeveloped community-based care system. This perspective challenges structuralist classifications of the rural migrants as the poor “others” and the simplistic view of inequality as a *fait accompli* of development. The state has shaped and continues to shape the structure of inequality and poverty in China; however, local states are equally important actors now as the state retreats from welfare provision and full employment in urban areas.

Community and family constitute another part of the story as the traditional basis of Chinese welfare system. Both are actors responding to changes and conditions that affect the livelihood of the poor.

Appendix A

COUNTY-LEVEL POPULATION CENSUS DATA OF CHINA, 1990 AND 2000

A.1 Introduction

China has so far completed five censuses. With the first three censuses conducted in 1953, 1964 and 1982, the Chinese government decided in the 1980s that the population census would be conducted every ten years. The 1990 Census and the 2000 Census were the first two consecutive censuses conducted in a ten-year interval.

The 1990 Census data focused on demographic aspects and collected fifteen items of information on individuals, including name, relationship with the household, sex, age, nationality, *hukou* status and type, usual residency, reason for migration to current area, education, industry of employment, occupation, employment status, marital status, fertility of women and number of children, and fertility status. In addition, the 1990 Census collected such information on households as household code, household type, number of household members, number of births, number of deaths, and number of household members who left the county or city for more than one year (Shen et al. 1999).

Several changes were made to the 2000 Census. The most prominent was that the questionnaire consisted of a short form and a long form, with the latter administered to a 10 percent sample of households. The short form contained standard items for individuals such as age, sex, nationality, *hukou* status and type, and educational level, and items for households such as births and deaths. Different from the previous census, the short form added two questions about housing—number of rooms and floor area. The long form contained more detailed questions about migration, occupation, marital status, fertility, and housing. These innovations have provided unprecedented opportunities for scholars to study social change in China.

However, discrepancies do exist between the two censuses. The key to understanding the discrepancies is to determine how China has continually refined its definitions of urban places and urban population over time.

A.1.1 Administrative Division in China

China's administrative units are currently based on a three-tier system, dividing the country into areas of three administrative ranks: provinces, counties and townships (Figure A-1). More specifically, according to the National Bureau of Statistics of China, or NBS (2002):

. . . the Constitution of the People's Republic of China stipulates that the administrative areas in China are divided as: 1) The whole country is divided into provinces, autonomous regions and municipalities directly under the central government; 2) Provinces and autonomous regions are divided into autonomous prefectures, counties, autonomous counties and cities; 3) Autonomous prefectures are divided into counties, autonomous counties and cities; 4) Counties and autonomous counties are divided into townships, nationality townships and towns; 5) Municipalities and large cities are divided into districts and counties, 6) The state shall, when necessary, establish special administrative regions.

The standards for new city and town designations have changed as the state undergoes a process of disarticulation and rearticulation over the past decades (Lin 1999). In particular, a state rhetoric to curb the expansion of large cities and to encourage rural industrialization to absorb surplus rural labor in the 1980s contributed to the rise of a "town-based" urbanization. In 1984, the state council relaxed the criteria for town

designations. In 1986 the state council announced a policy to promote cities as growth engines followed by a lowering of criteria for city and town designations, which prioritized the economic criterion and total population over the geographic concentration of urban population. This has essentially resulted in a massive conversion of economically vibrant counties into cities. As a result, the number of cities increased dramatically from 193 in 1978 to 663 in 1999. Most of the increase was attributable to the mushrooming of county-level cities in medium and small sizes (Tables A-1 and A-2).

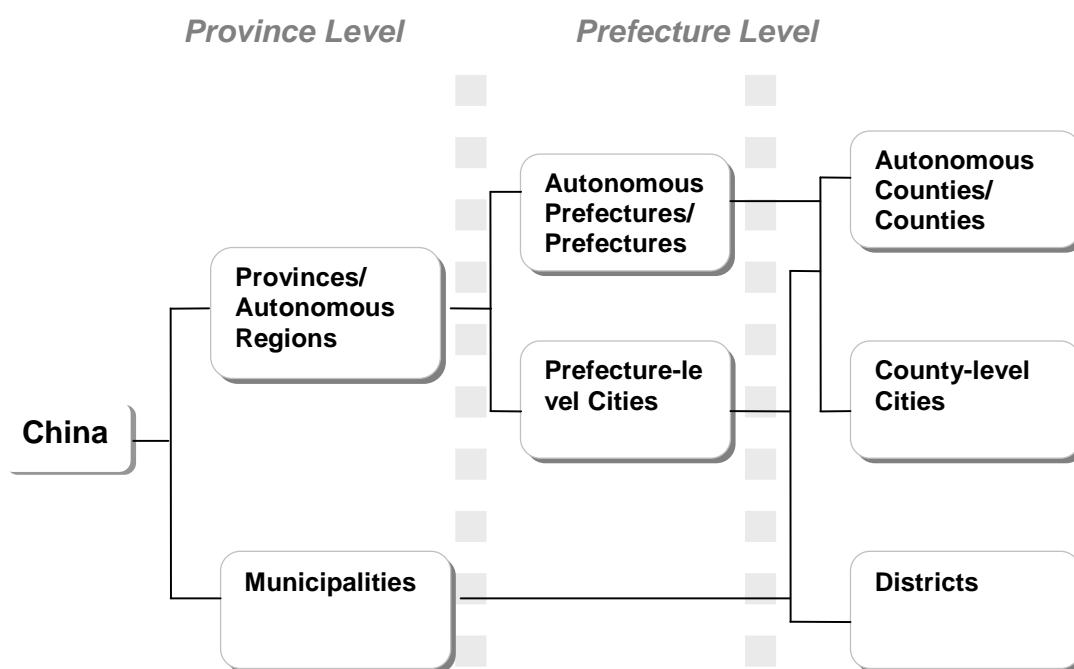


Figure A-1: China's Administrative System (above county)

Table A-1 Number of Cities in China by Administrative Rank

Year	Number of Cities			
	Province-level	Prefecture-level	County-level	Total
1978	3	NA	NA	193
1982	3	NA	NA	245
1983	3	145	144	292
1985	3	163	158	324
1990	3	185	279	467
1995	3	210	427	640
1997	4	222	442	668
1999	4	233	430	667

Source: Ma (2005), with modification.

Table A-2 Number of Cities in China by Size of Nonagricultural Population

Year	Number of Cities					Total
	Super-large (>2 million)	Very large (1-2 million)	Large (0.5-1 million)	Medium (0.2-0.5 million)	Small (< 0.2 million)	
1980	7	8	30	72	106	223
1991	9	22	30	121	297	479
1994	10	22	41	175	374	622
1999	13	24	49	216	365	667

Source: Song & Zhang (2002).

Within municipalities and large cities, the administration is normally based on a four-tier structure including four basic units—city government, district governments, street offices (communities), and residents' committees (neighborhoods). Table A-3

shows the basic features of the administrative levels in Beijing and Nanjing, compared to the number nationwide.

Table A-3 Levels of Administration in Beijing, Nanjing and Other Chinese Cities

Level	Chinese Term	Number in Beijing	Number in Nanjing	Number Nationwide
City Government	<i>shi zhengfu</i>	1	1	663
District Government	<i>qu zhengfu</i>	8 (in city core)	10	749
Street Office	<i>jiedao banshichu</i>	105	63	5,904
Residents' Committee	<i>jumin weiyuanhui</i>	3,885	1,043	114,815

Sources: Beijing and National Data: Read (2002), cited with the author's permission; Nanjing Data: Nanjing Place Name Committee (2000).

A.1.2 Definition of Urban Population

The way in which China defines urban population has perplexed scholars for decades around the world. According to the NBS (2002), two broadly defined sets of criteria were used to classify urban population and rural population in China before 2000.

The first definition (by the administrative system): Urban Population refers to total population under the jurisdiction of city and the population of towns under the jurisdiction of counties. Rural Population refers to total population of townships under the jurisdiction of counties. The second definition (by the permanent residence): Urban Population refers to total population of districts under the jurisdiction of a city with district establishment, the population of street committees under the jurisdiction of a city without district establishment, population of resident-committees of towns under the jurisdiction of a city without district establishment, and the population of resident-committees of towns under the jurisdiction of a county. Rural Population refers to total population except urban

population....Data from 1952 to 1980 are the figures according to the first definition. Data from 1982 to 1999 are the figures according to the second definition.

Apparently, China used a variety of combinations of these two criteria. Shen and Spence(1996) argued that there were three different definitions of urban population in China before 2000.(1) Before 1982, China adopted a definition that included only registered nonagricultural population in cities and towns.(2) The 1982 Census stipulated that the entire population in cities and towns, agricultural and nonagricultural, would be counted as urban population.(3) The 1990 Census made a further adjustment and adopted a double standard that urban population would consist of the entire population in cities with districts and nonagricultural population in cities without districts and in towns.

Chinese-language literature has provided a more detailed story—China actually adjusted the definition during each of the first four census years (see Table A-4), each adjustment made according to the evolving standards for city and town designations and migration controls.

Table A-4 The Changing Definition of Urban Population across Five Census Years

Census Year	Historical Conditions	Urban Population Definition	Urbanization Rate (%)	
1953	High standards for city and town designations; no migration control yet but a low proportion of urban population; a low proportion of nonagricultural population in cities and towns	Population in cities and towns (<i>based on where they live</i>)	13.26	<i>Roughly accurate</i>
1964	Migration control started 1958; <i>hukou</i> system divided population into agricultural and nonagricultural; even more stringent control of new city and town designations; control of suburban development	Nonagricultural population in cities and towns (<i>based on what they do according to hukou registration</i>)	14.1	<i>A well-known underestimate; later adjusted to 18.3</i>
1982	End of Cultural Revolution in 1976; slow start of migration between urban areas; rural-urban migration still controlled by stringent <i>hukou</i> policy	Reversal to the 1950s definition (<i>based on where they live</i>)	20.6	<i>Slight overestimate as new cities and towns include a high proportion of agriculture population; soon lost credibility</i>
1990	Standards for new city and town designations lowered in 1984; economic factors considered in new city designation caused dramatic increase in city numbers and sizes; farmers allowed to leave their land and move to	Double standard: (1) population in cities with districts and (2) nonagricultural population in cities without districts (<i>either where they</i>	26.23	<i>Roughly accurate; captured some migrants; problematic for cross-city comparisons</i>

	cities and towns in 1984.	<i>live, or what they do according to hukou, depending on the city rank)</i>		
2000	Multiple standards for city and town designations based on population size, economy, and population density created in 1993; steady increase of rural-urban and urban-urban migration; blue-print <i>hukou</i> that allowed some to access urban <i>hukou</i>	Multiple standards (for migrants, based on where they actually lived for the past six months; exclusion of some low-density districts)	36.09	<i>More accurate than by previous definition</i>

Shortly before 2000, China made yet *another* adjustment to its definition of urban population, in response to the ever-growing number of migrants living in urban areas. Two measurement issues distinguish the 2000 Census from the 1990 Census (Lavelly 2001).(1) While in 1990 and throughout the decade, all residents' committees were counted as urban and all villages were rural, the committees and villages were further divided into high-density and low-density places in 2000. Some village committees were promoted to urban status according to density and other criteria. (2) The definition of urban residence has changed. The 1990 Census ruled that migrants with less than a year's residence in a city would be counted at their place of family registration, while the 2000 Census counted migrants who resided in a city for six months or more.

The NBS formulated a draft on the regulations of statistics classification on urban and rural population in 1999, which is not published for critiques. While scholars recognize the discontinuity in measuring urban population, they believe that the recently

updated definition has effectively captured migrants as part of the urban population, and provides a more accurate and closer-to-reality view on the current trend of urbanization in China. Bingham Kennedy, Jr. (2001), from the Population Reference Bureau, made the following comments on the new definition adopted by China since the 2000 Census, while evaluating China's 2000 Census.

As it turned out, the census may have done better in this respect than expected, if the new urbanization data are any indication. The census results indicated a national urbanization rate of 36 percent, substantially higher than the 31 percent rate obtained from urban registration data at the end of 1999. That five percentage point difference — equivalent to roughly 60 million urban residents — was probably due to the use of a broader definition of "urban" in the census. In particular, rural migrants who lived in an urban area for more than six months in 2000 were designated urban residents for purposes of the census, whether or not they were registered in a city. Accordingly, it appears that the census succeeded in counting tens of millions of rural migrants who had lived in an urban area for more than half a year. Unfortunately, migrants who did not live in any one location — rural or urban — for more than six months in 2000 may still have been missed altogether.

A.2 Data Quality

The 1990 and 2000 Census data are thought of high-quality and remarkable accuracy due to three major factors. (1) The Chinese census data are collected through a labor-intensive, face-to-face, and door-to-door interview process, to ensure a high response rate and accuracy. Chinese census workers are required to visit every household and help those with less education to understand the questions. In the U.S., only those

who fail to mail back their census forms are visited by census workers (Fan 2002b). (2) The census work is directly linked to the household registration system to ensure accuracy. Before the census date, enumerators can draw upon a register's data on households in enumeration areas. During the census interview, enumerators can check households' responses against the register's data. After the interview, cross-checking between registration information and census information is part of the procedure (Lavelly 2001). (3) Finally, the results of post-enumeration surveys suggest a good quality of the census data. The 1990 Census reports a 0.06 percent undercount rate and the 2000 Census reports a 1.81 percent of undercount rate, both of which are within reasonable ranges by international standards (Lavelly 2001).

Several other factors are considered to have various effects on the quality of data. (1) The Chinese census employs more restrictive criteria for inclusion compared with those in the U.S. The Chinese census only counts those who have PRC citizenship and usually reside in China, while the U.S. census counts all individuals whose usual residence is at the location of enumeration (Fan 2002b). (2) Some suspect that both the register's data and the census data are less accurate than they were twenty years ago, due to a lower incentive for people to report accurate personal information, a greater mobility of the population, and the initiation and tightening of birth planning policies. In particular, the one-child policy is probably leading to an underreporting of out-of-plan births. An undercount of rural-urban migrants is also possible due to a low incentive of migrants without proper residence documents to reveal their identities to census workers, and a disincentive of local officials to report them on their books (Lavelly 2001).

A.3 Data Accessibilities

The NBS publishes major figures on each census. Since 2000, a series of national, provincial and city census communiqués have become available from the official census web site (which is currently out of service) and the web sites of NBS and local bureaus of statistics. Volumes of tabulated census data have been published for provincial, prefectural and county-level spatial units. Some are available in electronic form and made available to researchers in China. However, a national data set for all provincial, prefectural, county, or city district units is generally not accessible to the public and outside researchers. Moreover, Chinese census data at small-area levels such as the township/street level are not completely released to the public.

Recently, some research groups in the U.S. have made the 1990 Census data at the county level available to the public. The China Data Center (CDC) at the University of Michigan has released a series of commercially distributed electronic versions of the 2000 Census data at the county/city district and township/street levels. The following data were acquired to conduct the cross-county analysis of urban deprivation. Both data sets include county-level census data for all counties and city districts. I extracted all data for city districts and compiled two city data sets for my own analysis.

The following descriptions of both data sets are based on the introductions provided by the data providers on the CITAS web site (<http://citas.csde.washington.edu/>) and the CDC website (<http://chinadatacenter.org/>).

A.3.1 Census Data 1990

Data file name: CHINA COUNTY-LEVEL DATA ON POPULATION
(CENSUS) AND AGRICULTURE, KEYED TO 1:1M GIS MAP

Source: ftp://ftpserver.ciesin.org/pub/data/China/CITAS/census_agr/chinadb.zip
(free to download)

Data description: The 1990 Population Census and Agriculture Data were developed by CITAS (China in Time and Space) project funded by CIESIN under the NASA grant NASG-2901 and the Ford Foundation grant No.995-0669. The data are stored in dBase IV(r) and ARC/INFO(r) export formats, which can be linked to the 1990 China county boundary GIS map. The population census data include: Urban-Rural Residence, Age-Sex distribution, Education, Illiteracy, Marital status, Births, Deaths, Immigrants, Industrial/Economic activities, Occupation, and Ethnicity. The agriculture data include: Rural population, Rural labor force, Rural labor force in agriculture, forestry, animal husbandry and fishing, Labor force in rural industry, Areas of land use, Agricultural consumption, Agricultural mechanization and Agricultural outputs..

Boundary file name: CHINA ADMINISTRATIVE REGIONS GIS DATA: 1:1M,
COUNTY LEVEL, 1990

Source: ftp://ftpserver.ciesin.org/pub/data/China/adm_bnd/CTSAR90.bnd90/national/tbd90.zip (free)

Data description: The 1990 China county boundary GIS Data was developed by a team from CIESIN , CASM (Chinese Academy of Surveying and Mapping) and CITAS (China in Time and Space, a joint project of University of Washington, University of

Michigan, University of California at Davis and CIESIN) under the NASA grant NASG-2901 and the Ford Foundation grant No.995-0669. The data are at a scale of one to one million (1:1M) and stored in ARC/INFO(r) export format. The data include geographical locations, areas, provincial names, county names, local names, and codes for each administrative division.

The China Administrative Regions GIS Data: 1:1M, County Level, 1990 are composed of boundary files covering the administrative regions of China. The data are at a scale of one to one million (1:1M) for national, provincial, regional, and county levels. The temporal coverage represents the status of China as of 31 December 1990. These files are organized by national and individual province levels. The national level covers all of the administrative regions in China, which includes two files: pbd90, and tbd90. The pbd90 file contains China national and provincial boundary data in ARC/INFO® export format, and tbd90 contains national, provincial, regional, and county boundaries data in ARC/INFO® export format. The data at the province level separate administrative regions into individual provinces and autonomous regions. The county boundaries of 31 provinces and regions are identified in 31 files.

Both national-level and provincial-level data include information on geographical locations, areas, provincial names, county names, local names (in PinYin), and codes for each administrative division.

The China Administrative Regions GIS Data: 1:1M, County Level, 1990 may be linked to any attribute data set related to China administrative regions at the provincial, regional, and county levels on 31 December 1990, such as China economic statistics data, China environment statistics data, and other related statistics data of the People's

Republic of China. The data sets may also be integrated with and overlaid on any China GIS data at the 1:1M scale such as fundamental GIS data and land use GIS data.

A.3.2 Census Data 2000

Data file name: 2000 CHINA COUNTY POPULATION AND SOCIOECONOMIC INDICATORS WITH COUNTY MAPS

Source: <http://chinadatacenter.org/newcdc/BookListDetail.asp?ID=1011> (\$500 for academic users and \$800 for non-academic users)

Data description: The 2000 county data include 2000 county boundary GIS map and includes several other GIS maps. About 201 attribute variables are integrated with the county map, including 170 population variables from the 2000 Census for counties and urban cities and thirty-one socioeconomic variables for each county.

Appendix B

NATIONAL-LEVEL DESCRIPTIVE ANALYSIS TABLES

B.1 Selected Variables from the 1990 and 2000 Chinese Population Censuses for Descriptive Analysis

Category	Variables from the Census			
	1990 Population Census		2000 Population Census	
Educational Attainment	EDU_01	No. of Illiterate or Semi-illiterate Population/Total No. of Population age 15 and over	EDU_01	Rate of Illiterate Population age 15 and over
	EDU_02	Rate of Population with an Education less than 9 Years (middle school)	EDU_02	Rate of Population with an Education less than 9 Years (middle school)
			EDU_03	Average Years at School
			EDU_04	Gender Difference in Education: Average Years at School for Male minus those for female
Disadvantaged Groups	GROUP_01	Rate of Female Population	GROUP_01	Rate of Female Population
	GROUP_02	Rate of Elderly Population age 65 and above	GROUP_02	Rate of Elderly Population age 65 and above
	GROUP_03	Rate of Population age less than 15	GROUP_03	Rate of Population age less than 15
	GROUP_04	Rate of Residents of Rural Units	GROUP_04	Rate of Rural Population
Employment Status	EMPLY_01	Total No. of Employed Population/Total No. of Population age 15 and over	EMPLY_01	Total No. of Employed Population/Total No. of Population age 15 and over
			EMPLY_02	Total No. of Non-working Population /Total No. of Population age 15 and over
			EMPLY_03	Total No. of Non-working Population without working ability/Total No. of Population age 15 and over
			EMPLY_04	Total No. of Non-working Population who have lost a job and are looking for work/Total No. of Population age 15 and over
			EMPLY_05	Total No. of Non-working Population who have never had a job and are looking for work/Total No. of Population age 15 and over

Industry and Occupation	OCCUP_01	No. of Employed Population in Secondary Industry/Total No. of Employed Population	OCCUP_01	Rate of Employed Population in Secondary Industry
	OCCUP_02	No. of Employed Population in Commerce, Service, Production, Construction, and Transportation, etc./Total No. of Employed Population	OCCUP_02	No. of Employed Population in Commerce, Service Trade Personnel, Production, and Transportation/Total No. of Employed Population
	OCCUP_03	No. of Employed Population in Commerce and Service/Total No. of Employed Population	OCCUP_03	No. of Employed Population in Commerce and Service Trade Personnel/Total No. of Employed Population
	OCCUP_04	No. of Workers in Production, Construction, and Transportation, etc./Total No. of Employed Population	OCCUP_04	No. of Employed Population in Production and Transportation/Total No. of Employed Population
Rural-urban Migration	MIGRANT_01	Rate of In-migrant population from urban and rural townships since 1985	MIGRANT_01	Rate of In-migrant population from other counties and cities
	MIGRANT_02	Rate of In-migrants from rural townships since 1985		
Housing Condition	HOUSE_01	Average Floor Space per person (square meter)	HOUSE_01	Average Floor Space per person (square meter)
			HOUSE_02	No. of Self-built Housing Units/Total No. of Housing Units
			HOUSE_03	No. of Rented Housing Units/Total No. of Housing Units
			HOUSE_04	No. of Purchased Housing Units/Total No. of Housing Units
			HOUSE_05	No. of Family Households with no kitchen/Total No. of Family Households
			HOUSE_06	No. of Family Households with no tap water/Total No. of Family Households
			HOUSE_07	No. of Family Households with no bath facilities/Total No. of Family Households
			HOUSE_08	No. of Family Households with no lavatory/Total No. of Family Households

Sources: 1990 and 2000 County-level Population Census Data of China; the housing data for 1990 were tabulated based on the housing statistics from the *China Urban Construction Yearbook 1990* (Beijing: Ministry of Construction of China).

B.2 Social Economic Indicators for Cities in Three Geographic Regions, 1990 and 2000

Sources: 1990 and 2000 County-level Population Census Data of China; 1990 housing statistics.

Note: All numbers are relative to the average for all cities, which is set to 100. Δ indicates that the value is lower than the all-city average in the same census year. * indicates that the value is higher than the all-city average in the same census year.

Category	Indicator	1990				2000			
		Average of 452 Cities	East Coast (116)	Middle (245)	West (91)	Average of 662 Cities	East Coast (199)	Middle (342)	West (121)
Educational Attainment	Rate of Illiterate Population (including Semi-illiterate Population in 1990)	100 (16.6%)	108.3 *	89.3 Δ	118.2 *	100 (7.50%)	102.7 *	88.0 Δ	130 *
	Rate of Population with an Education < 9 years	100 (82.3%)	102.4 *	98.6 Δ	100.7 *	100 (80.0%)	101.9 *	98.6 Δ	100.7 *
	Average Years at School	N/A	N/A	N/A	N/A	100 (8.05)	98.1 Δ	102.6 *	96.0 Δ
	Gender Difference in Education (Years)	N/A	N/A	N/A	N/A	100 (0.96)	96.9 Δ	113.5 *	67.7 Δ
Disadvantaged Groups	Rate of Female Population	100 (48.4%)	100.6 *	100.0	99.2 Δ	100 (48.7%)	100.9 *	99.8 Δ	99.0 Δ
	Rate of Elderly Population age 65 and above	100 (5.0%)	124.1 *	93.9 Δ	85.6 Δ	100 (6.9%)	117.1 *	94.6 Δ	87.2 Δ
	Rate of Population age less than 15	100 (24.9%)	93.6 Δ	102.8 *	100.6 *	100 (21.3%)	95.2 Δ	100.6 *	106.2 *
	Rate of Rural Population	100 (56.7%)	111.9 *	93.0 Δ	103.7 *	100 (46.1%)	97.8 Δ	99.1 Δ	106.2 *

Category	Indicator	1990				2000			
		Average of 452 Cities	East Coast (116)	Middle (245)	West (91)	Average of 662 Cities	East Coast (199)	Middle (342)	West (121)
Employment Status	Rate of Employed Population	100 (78.1%)	98.6 △	102.1 *	96.1 △	100 (69.6%)	102.9 *	97.0 △	103.7 *
	Rate of Non-working Population	N/A	N/A	N/A	N/A	100 (30.4%)	93.2 △	116.7 *	91.6 △
	Rate of Non-working Population without Working Ability	N/A	N/A	N/A	N/A	100 (3.68%)	111.2 *	99.6 △	82.8 △
	Rate of Non-working Population who have lost a job and are looking for work	N/A	N/A	N/A	N/A	100 (1.74%)	89.1 △	115.2 *	75.1 △
	Rate of Non-working Population who have never worked and are looking for work	N/A	N/A	N/A	N/A	100 (2.0%)	71.8 △	123.8 *	78.9 △
Industry and Occupation	Rate of Employed Population in Secondary Industry	100 (29.2%)	104.0 *	103.2 *	86.3 △	100 (23.0%)	135.0 *	88.7 △	74.4 △
	Rate of Occupation in Commerce, Service Personnel, Production and Transportation etc.	100 (37.4%)	108.4 *	101.2 *	85.9 △	100 (34.8%)	122.1 *	93.4 △	82.4 △
	Rate of Occupation in Manufacturing, Construction, Transport, etc.	100 (27.7%)	110.6 *	100.4 *	85.4 △	100 (21.7%)	131.8 *	90.0 △	76.0 △
	Rate of Occupation in Commerce and Service Sectors	100 (9.7%)	102.3 *	103.7 *	87.2 △	100 (13.1%)	105.8 *	99.2 △	92.9 △

Category	Indicator	1990				2000			
		Average of 452 Cities	East Coast (116)	Middle (245)	West (91)	Average of 662 Cities	East Coast (199)	Middle (342)	West (121)
Rural-Urban Migration	Rate of In-migrants from other counties or cities	100 (7.1%)	97.8 △	97.1 △	110.5 *	100 (8.1%)	137.8 *	75.4 △	107.5 *
	Rate of In-migrants from rural townships	100 (4.3%)	98.9 △	95.8 △	112.8 *	N/A	N/A	N/A	N/A
Housing Condition	Average Floor Space (sq meter per person)	100 (10.61)	118.1 *	94.5 △	91.9 △	100 (23.43)	117.2 *	91.9 △	94.8 △
	Rate of Self-built Housing Units	N/A	N/A	N/A	N/A	100 (60.7%)	110.7 *	96.6 △	92.0 △
	Rate of Rented Housing Units	N/A	N/A	N/A	N/A	100 (11.0%)	89.1 △	96.6 △	127.6 *
	Rate of Purchased Housing Units	N/A	N/A	N/A	N/A	100 (24.3%)	76.1	112.2	104.9
	Rate of Family Household without Kitchen	N/A	N/A	N/A	N/A	100 (13.8%)	88.3 △	97.7 △	125.6 *
	Rate of Family Household without Tap Water	N/A	N/A	N/A	N/A	100 (42.7%)	89.9 △	102.6 *	109.3 *
	Rate of Family Household without Bath Facilities	N/A	N/A	N/A	N/A	100 (68.2%)	76.1 △	110.3 *	110.3 *
	Rate of Family Household without Lavatory	N/A	N/A	N/A	N/A	100 (28.6%)	104.3 *	99.5 △	94.5 △

B.3 Social Economic Indicators for Cities at Four Administrative Levels, 1990 and 2000

Sources: 1990 and 2000 County-level Population Census Data of China; 1990 housing statistics.

Note: All numbers are relative to the average for all cities, which is set to 100. Δ indicates that the value is lower than the all-city average in the same census year. * indicates that the value is higher than the all-city average in the same census year.

Category	Indicator	1990					2000				
		Average of 452 Cities	Municipalities (3)	Provincial Capitals (33)	Prefecture-level cities (152)	County-level cities (264)	Average of 662 Cities	Municipalities (4)	Provincial Capitals (32)	Prefecture-level cities (229)	County-level cities (397)
Educational Attainment	Rate of Illiterate Population (including Semi-illiterate Population in 1990)	100 (16.6%)	47.1 $\Delta\Delta$	58.8 Δ	82.4 Δ	111.8 *	100 (7.5%)	54.9 Δ	64.8 Δ	93.1 Δ	107.3 *
	Rate of Population with an Education < 9 years	100 (82.3%)	74.1 Δ	83.3 Δ	95.2 Δ	105.1 *	100 (80.0%)	68.6 Δ	77.0 Δ	92.6 Δ	106.4 *
	Average Years at School	N/A	N/A	N/A	N/A	N/A	100 (8.05)	125.2 *	119.3 *	105.7 *	95.0 Δ
	Gender Difference in Education (Years)	N/A	N/A	N/A	N/A	N/A	100 (0.96)	330.8 **	232.8 **	169.6 *	46.8 $\Delta\Delta$
Disadvantaged Groups	Rate of Female Population	100 (48.4%)	99.9 Δ	98.7 Δ	99.7 Δ	100.3 *	100 (48.7%)	100.3 *	99.3 Δ	100.2 *	99.9 Δ
	Rate of Elderly Population age 65 and above	100 (5.0%)	157.8 **	103.1 *	96.1 Δ	101.2 *	100 (6.9%)	164.6 *	92.7 Δ	94.8 Δ	103.0 *
	Rate of Population age less than 15	100 (24.9%)	71.7 Δ	78.9 Δ	92.9 Δ	107.0 *	100 (21.3%)	57.0 Δ	72.5 Δ	94.4 Δ	105.9 *
	Rate of Rural Population	100 (56.7%)	10.1 $\Delta\Delta\Delta\Delta$	45.1 $\Delta\Delta$	72.2 Δ	123.9 *	100 (46.1%)	11.0 $\Delta\Delta\Delta\Delta$	23.5 $\Delta\Delta\Delta$	62.3 Δ	128.8 *

Category	Indicator	1990					2000				
		Average of 452 Cities	Municipalities (3)	Provincial Capitals (33)	Prefecture-level cities (152)	County-level cities (264)	Average of 662 Cities	Municipalities (4)	Provincial Capitals (32)	Prefecture-level cities (229)	County-level cities (397)
Employment Status	Rate of Employed Population	100 (78.1%)	89.7 △	92.3 △	98.7 △	102.6 *	100 (69.6%)	78.6 △	85.7 △	92.9 △	104.3 *
	Rate of Non-working Populations	N/A	N/A	N/A	N/A	N/A	100 (30.4%)	152.6 *	132.4 *	114.3 *	88.6 △
	Rate of Non-working Populations without Working Ability	N/A	N/A	N/A	N/A	N/A	100 (3.68%)	35.1 △△	44.0 △△	79.9 △	116.8 *
	Rate of Non-working Populations who have lost a job and are looking for work	N/A	N/A	N/A	N/A	N/A	100 (1.74%)	318.4 ***	187.4 *	144.3 *	64.9 △
	Rate of Non-working Population who have never worked and are looking for work	N/A	N/A	N/A	N/A	N/A	100 (2.0%)	108.0 *	112.8 *	123.9 *	85.1 △
Industry and Occupation	Rate of Employed Population in Secondary Industry	100 (29.2%)	187.7 *	154.8 *	144.9 *	66.4 △	100 (23.0%)	147.9 *	150.1 *	126.5 *	80.2 △
	Rate of Occupation in Commerce, Service personnel, Production & Transportation etc.	100 (37.4%)	172.0 *	151.2 *	134.9 *	72.7 △	100 (34.8%)	150.6 *	160.1 *	123.3 *	81.2 △
	Rate of Occupation in Manufacturing, Construction, Transport, etc.	100 (27.7%)	168.6 *	146.9 *	137.2 *	71.8 △	100 (21.7%)	125.8 *	142.9 *	123.0 *	83.4 △
	Rate of Occupation in Commerce and Service Sectors	100 (9.7%)	181.4 *	163.9 *	128.9 *	75.3 △	100 (13.1%)	192.4 *	188.5 *	123.7 *	77.9 △

Category	Indicator	1990					2000				
		Average of 452 Cities	Municipalities (3)	Provincial Capitals etc. (33)	Prefecture-level cities (152)	County-level cities (264)	Average of 662 Cities	Municipalities (4)	Provincial Capitals etc. (32)	Prefecture-level cities (229)	County-level cities (397)
Rural-Urban Migration	Rate of In-migrants from other counties or cities	100 (7.1%)	94.4 △	178.9 *	131.0 *	71.8 △	100 (8.1%)	162.5 *	275.0 **	125.0 *	75.0 △
	Rate of In-migrants from rural townships	100 (4.3%)	86.0 △	162.8 *	132.6 *	72.1 △	N/A	N/A	N/A	N/A	N/A
Housing Condition	Average Floor Space (sq meter per person)	100 (10.61)	92.6 △	95.5 △	96.0 △	103.0 *	100 (23.43)	74.5 △	88.0 △	96.2 △	103.4 *
	Rate of Self-built Housing Units	N/A	N/A	N/A	N/A	N/A	100 (60.7%)	24.6 △△△	37.7 △△	78.7 △	118.0 *
	Rate of Rented Housing Units	N/A	N/A	N/A	N/A	N/A	100 (11.0%)	418.2 ***	254.5 **	127.3 *	63.6 △
	Rate of Purchased Housing Units	N/A	N/A	N/A	N/A	N/A	100 (24.3%)	141.3 *	178.7 *	139.7 *	70.3 △
	Rate of Family Household without Kitchen	N/A	N/A	N/A	N/A	N/A	100 (13.8%)	142.9 *	102.6 *	96.5 △	101.4 *
	Rate of Family Household without Tap Water	N/A	N/A	N/A	N/A	N/A	100 (42.7%)	19.1 △△△	27.6 △△	77.4 △	119.7 *
	Percentage of Family Household without Bath Facilities	N/A	N/A	N/A	N/A	N/A	100 (68.2%)	68.4 △	73.8 △	92.0 △	107.1 *
	Percentage of Family Household without Lavatory	N/A	N/A	N/A	N/A	N/A	100 (28.6%)	116.6 *	73.2 △	94.0 △	105.4 *

B.4 Contingency Table for City Deprivation and City Migration, China, 1990

			City Classified by Migrant Population in Percentage							Total	
			-1	0	1	2	3	5	6		7
City Classified by Deprivatio n Level (Factor One)	-2	Count	3	8	13	3	1			1	29
		% within FAC1CLAS	10.3%	27.60%	44.80%	10.30%	3.40%			3.40%	100.00%
		% within MIGRCLAS	1.80%	4.70%	16.30%	20.00%	25.00%			100.00%	6.60%
		% of Total	0.70%	1.80%	2.90%	0.70%	0.20%			0.20%	6.60%
	-1	Count	2	61	44	8	2	1	1		119
		% within FAC1CLAS	1.70%	51.30%	37.00%	6.70%	1.70%	0.80%	0.80%		100.00%
		% within MIGRCLAS	1.20%	36.10%	55.00%	53.30%	50.00%	33.30%	100.00%		26.90%
		% of Total	0.50%	13.80%	10.00%	1.80%	0.50%	0.20%	0.20%		26.90%
	0	Count	52	64	18	2	1	2			139
		% within FAC1CLAS	37.40%	46.00%	12.90%	1.40%	0.70%	1.40%			100.00%
		% within MIGRCLAS	30.80%	37.90%	22.50%	13.30%	25.00%	66.70%			31.40%
		% of Total	11.80%	14.50%	4.10%	0.50%	0.20%	0.50%			31.40%
	1	Count	94	36	5	2					137
		% within FAC1CLAS	68.60%	26.30%	3.60%	1.50%					100.00%
		% within MIGRCLAS	55.60%	21.30%	6.30%	13.30%					31.00%
		% of Total	21.30%	8.10%	1.10%	0.50%					31.00%
	2	Count	16								16
		% within FAC1CLAS	100.00%								100.00%
		% within MIGRCLAS	9.50%								3.60%
		% of Total	3.60%								3.60%
	3	Count	2								2
		% within FAC1CLAS	100.00%								100.00%
		% within MIGRCLAS	1.20%								0.50%
		% of Total	0.50%								0.50%

Total	Count	169	169	80	15	4	3	1	1	442
	% within FAC1CLAS	38.20%	38.20%	18.10%	3.40%	0.90%	0.70%	0.20%	0.20%	100.00%
	% within MIGRCLAS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	% of Total	38.20%	38.20%	18.10%	3.40%	0.90%	0.70%	0.20%	0.20%	100.00%

B.5 Contingency Table for City Deprivation and City Migration, China, 2000

			City Classified by Migrant Population in Percentage (below 0 omitted)							Total
			0	1	2	3	4	5	7	
City Classified by Deprivatio n Level (Factor One)	-2	Count	10	16	2	1		1	1	31
		% within FAC1CLAS	32.30%	51.60%	6.50%	3.20%		3.20%	3.20%	100.00%
		% within MIGRCLAS	5.40%	25.40%	20.00%	16.70%		50.00%	50.00%	7.20%
		% of Total	2.30%	3.70%	0.50%	0.20%		0.20%	0.20%	7.20%
	-1	Count	69	27	3	3	1		1	116
		% within FAC1CLAS	59.50%	23.30%	2.60%	2.60%	0.90%		0.90%	100.00%
		% within MIGRCLAS	37.10%	42.90%	30.00%	50.00%	100.00%		50.00%	27.00%
		% of Total	16.00%	6.30%	0.70%	0.70%	0.20%		0.20%	27.00%
	0	Count	78	14	5	1		1		141
		% within FAC1CLAS	55.30%	9.90%	3.50%	0.70%		0.70%		100.00%
		% within MIGRCLAS	41.90%	22.20%	50.00%	16.70%		50.00%		32.80%
		% of Total	18.10%	3.30%	1.20%	0.20%		0.20%		32.80%
	1	Count	26	6		1				112
		% within FAC1CLAS	23.20%	5.40%		0.90%				100.00%
		% within MIGRCLAS	14.00%	9.50%		16.70%				26.00%
		% of Total	6.00%	1.40%		0.20%				26.00%
	2	Count	2							28
		% within FAC1CLAS	7.10%							100.00%
		% within MIGRCLAS	1.10%							6.50%
		% of Total	0.50%							6.50%
	3	Count	1							2
% within FAC1CLAS		50.00%							100.00%	
% within MIGRCLAS		0.50%							0.50%	
% of Total		0.20%							0.50%	

Total	Count	186	63	10	6	1	2	2	430
	% within FAC1CLAS	43.30%	14.70%	2.30%	1.40%	0.20%	0.50%	0.50%	100.00%
	% within MIGRCLAS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	% of Total	43.30%	14.70%	2.30%	1.40%	0.20%	0.50%	0.50%	100.00%

Appendix C

NANJING COMMUNITY-LEVEL ANALYSIS TABLE

C.1 Selected Variables from the 2000 Nanjing Population Census for Community-level Analysis

Category	Variable Name	Definition
Distributional Variables	1. DENSITY	Population density (thousand persons per square kilometer) as of 07/2002
	2. FAMILY	Total number of family households
	3. FAM_PCT	Percent of total population in family households (%)
	4. FHHSIZE	Average family household size
Demographic Variables	5. SEXRATIO	Sex ratio (No. of Male Population/ No. of Female Population)
	6. MALE1564	Male ages 15-64 (%)
	7. MALE65	Male ages 65 and above (%)
	8. FEM1564	Female ages 15-64 (%)
	9. FEM65	Female ages 65 and above (%)
	10. FAM19	Family households with persons ages 0 to 19 (%)
	11. FAM60	Family households with persons ages 60 and above (%)
	12. FAM_HD60	Family households headed by elderly of ages 60 and above (%)
Educational Variables	13. SCHOOL	Average years of schooling for population ages 6 and above
	14. ILLITRCY	Illiteracy rate for population ages 15 and above (%)
	15. ILLI_FEM	Illiteracy rate for female population ages 15 and above (%)
Employment and Occupational Variables	16. UNEMPLOY	Unemployment rate (%)
	17. UNEM_FEM	Unemployment rate for female population (%)
	18. NONWORK	Non-working population ages 15 and above (%)

Employment and Occupational Variables (continued)	19. NOWK_FEM	Non-working female population ages 15 and above (%)
	20. NOWK_NA	Non-working population who have no working ability (%)
	21. NOWK_NJB	Non-working population who have never had a job and are looking for job (%)
	22. NOWK_LJB	Non-working population who lost job and are looking for job (%)
	23. OCCU_MAN	Population employed in managerial occupations or as officials in governments, the party, and other sociopolitical organizations (%)
	24. OCCU_PRO	Population employed as professionals, scientists, and technicians (%)
	25. OCCU_OFC	Population employed in office and administrative support occupations (%)
	26. OCCU_COM	Population employed in commerce, trade, and personnel service (%)
	27. OCCU_FAM	Population employed in farming, forestry, husbandry, fishing and water conservancy (%)
	28. OCCU_PRD	Population employed as production and transportation workers (%)
Migration Variables	29. NOHUKOU	Non- <i>hukou</i> residents as a percentage of total residents (%)
	30. NHK_M6MO	Non- <i>hukou</i> residents with residence of six months or more as a share of total residents (%)
	31. NHK_L6MO	Non- <i>hukou</i> residents with residence of less than six months as a share of total residents (%)
	32. SEXRT_M6	Sex ratio for non- <i>hukou</i> residents with residence of six months or more
	33. SEXRT_L6	Sex ratio for non- <i>hukou</i> residents with residence of less than six months

Housing Variables	34. SELFBULT	Family households in self-built housing as a share of total family households in the sub-district (%)
	35. OWNER_C	Family households in owner-occupied commodity housing as a share of total family households in the subdistrict (%)
	36. OWNER_SO	Family households in economic and comfort housing (Government-subsidized social housing project) as a share of total family households in the subdistrict (%)
	37. OWNER_P	The share of family households as owners or partial owners of purchased public housing in total family households in the subdistrict (%)
	38. RENTER_C	Family households in rental commodity housing as a share of total family households in the subdistrict (%)
	39. RENTER_P	Family households in rental public housing as a share of total family households in the subdistrict (%)
	40. FLOORSPA	Average floor space of housing for family households (Square meter)
	41. NOKITCHN	Family households without kitchen (%)
	42. NOTAP	Family households without tap water (%)
	43. NOBATH	Family households without bath facilities (%)
	44. MEDPRICE	Median purchase price of housing (Thousand Yuan)
	45. MEDRENT	Median rent of housing (Yuan/month)

Appendix D

**SAMPLING DISADVANTAGED FAMILY HOUSEHOLDS IN NANJING,
CHINA**

D.1 Literature Review

D.1.1 Sampling Rare Population

Over the past decades, a variety of sampling methods for rare populations have been developed, such as snowball sampling, network sampling, capture-recapture, and so on (Sudman, Sirken and Cowan 1988; Frank and Snijders 1994). In this appendix, I mainly review the sampling methods that have been most widely used on rare populations, especially a rare population that is geographically clustered, such as high/low income groups, students, occupants of substandard housing, and employees in specific industries.

As Sudman et al (1988) indicate, the sampling of general populations of individuals or households has become well understood; however, many social research projects deal with special populations. In cases when lists are not available for a rare population, screening of the general population becomes necessary. However, the cost of screening can equal or far exceed the actual cost of interviewing. An alternative is to use probability methods that are efficient enough to produce useful population estimates at a substantially reduced cost. For example, standard cluster sampling methods are readily available for geographically clustered populations. For a rare population that is not geographically clustered, other methods have been found to reduce screening costs. One of the successful methods involves using large, previously-collected samples or adding screening questions to ongoing or future surveys of the general population. Over the past years, increasing attention has been given to the use of network samples for locating and

measuring the size of rare populations (Czaja et al. 1984; Czaja and Blair 1988; Spreen and Zwaagstra 1994; Hirdes and Scott 1998). Capture-recapture, as a technique used to estimate the size of a certain population that is difficult to find and count, i.e. due to its mobility or intractability, has been widely used in epidemiological research on drug users, alcohol related disorders, substance abuse treatment, and so on (Hook and Regal 1995; Corrao et al. 2000; Maxwell and Pullum 2001).

For geographically clustered populations, the cluster sampling technique stands out with two major advantages. First, when a list of units for the survey population is not available or is out of date, but a list of city blocks is available or can be easily obtained from such sources as population censuses, a proportional sampling can still be completed by only using lists of people for selected clusters. Second, cluster sampling concentrates a sample into compact groups. This reduces the costs associated with travel between units as well as the costs for supervising fieldwork and calling back non-respondents.

D.1.2 Sampling Poverty Population in developing countries

Generally, high quality data for income or poverty is not available in large quantity in developing countries. Few of them have conducted any large-scale survey of income or expenditure in a consistent manner. Census data, however, is normally highly aggregated and unable to provide any detailed information about different social groups in smaller scales such as city blocks and neighborhoods. In addition, as Rosenzweig (2003) argues, cross-country aggregate time-series data cannot provide information about economic mobility; in other words, the data tells little about which groups of households

and individuals are the beneficiaries of economic growth, and neither do we know about the degree and persistence of poverty over time periods or generations as development proceeds. Recently, concerns have been raised about the advantages of survey data and panel data (Rosenzweig 2003) against aggregate cross-country data. Several attempts from developing and developed countries have been made to develop new methods that combine census data with sample survey results (Hentschel et al. 2000). However, most research on poverty in less developed countries still largely depends upon aggregate data, or on micro-level survey data conducted by individual researchers, mostly with ad hoc or inconsistent sampling strategies.

Some countries do have national surveys on household expenditure or household income, such as the NSS (National Sample Survey) in India and the UHS (Urban Household Survey) and RHS (Rural Household Survey) in China. These household income and expenditure surveys are designed to measure the distributions of income and consumption across a sample of households. Poverty estimates can be derived from the poverty line relative to the mean of the distribution and the shape of the distribution. However, there are important sources of error associated with the process of estimation, such as defects in the sample design, variation in response rates, and inaccurate reporting of income and expenditure, which might contribute to errors in the measurement of income or consumption distribution, errors in the estimation of average income or consumption level, or errors in both (Karshenas 2003). These problems can be especially pronounced in transitional economies (Ravallion 2003).

D.1.3 Sampling Poverty Population in China

Various sample strategies are utilized by different research entities in China. The Chinese central government monitors the numbers of urban poverty populations through the Urban Household Survey (UHS) conducted by the National Statistical Bureau (NSB). The UHS together with the RHS (Rural Household Survey) combine urban and rural samples that include more than 100,000 households over the course of a year. Respondents selected through a stratified sampling procedure are required to keep a daily expenditure diary for a full twelve-month period, and the survey data is collected and coded by local statistical bureaus (Gibson, Huang and Rozelle 2001). The UHS data set is so comprehensive that “there are 1,500 entries for each household, including details of household composition, income and expenditure” (Gibson, Huang and Rozelle 2001). However, the state had not effectively used the data to calculate a nation-wide urban poverty line until the 1990s. As Hussain (2003) indicates, a number of Chinese organizations, including the NSB, Ministry of Civil Affairs (MOCA) and the Institute of Forecasting of the Chinese Academy of Sciences, have started to calculate an urban poverty line based on expenditures needed for socially acceptable subsistence, using the UHS data.

Meanwhile, the NSB survey data is only accessible to a handful of institutions and scholars. Estimates based on this data so far are not in great variation from the official estimates, except for an estimate based on the NSB data grouped by income distribution (Khan 1996). Taking an approximate 19 percent sample from the UHS parent data, Khan and Riskin (2001) use their own series of poverty lines— Urban Broad Poverty, Urban

Deep Poverty, and Urban Extreme Poverty in terms of Head Count (HD), Proportionate Poverty Gap (PPG), and Weighted Poverty Gap (WPG) indices and estimate that for 1988, the HD values for the three lines are 6.7, 2.2, and 1.1, respectively, and for 1995 increase to 8.0, 4.1, and 2.7, respectively. The fact that the UHS data excludes rural migrants apparently affects the result of their work.

Alternative sample surveys have been undertaken for individual studies on urban poverty in China. Ahmad and Wang (1991) adopt a set of expenditure-based poverty lines, including an absolute urban poverty line for 1985 at an income level of approximately 50 percent of the mean urban income and a relative poverty line that equals 50 percent of the yearly mean urban income. They find much higher levels of urban poverty with both poverty lines (8.75 percent and 9.12 percent respectively in 1988) than the official and the World Bank estimates during the 1980s. Wong (1995) uses the median-income-based international poverty line in his early sample survey on Guangzhou and suggests that approximately 13 percent of the respondents in his survey were reporting household income of less than half of the median income and were conspicuously less well off than the rest of the respondents. He later regards the widening urban income inequality and an Engel Ratio below 0.6 as two conditions that would justify the usage of the relative income-based measurement in third world countries such as China. By using the measure, he estimates that 12 percent of the Shanghai population was poor in 1996, based on a sample household survey (Wong 1997).

Due to the unavailability of a list or sampling frame for the poverty population, the inaccessibility of income data for small areas units, budget limits, and other unknown reasons, individual surveys on poverty population in urban China often start out with

standard procedure and end up ad hoc in nature. Wang (2005), in presenting his research on low income communities and urban poverty in China, has provided an example of how the sampling strategy becomes interestingly complex and heavily dependant upon, if not biased by, field observations, as unexpected difficulties associated with sampling poverty population unfold.

Initially, a target sample of about 700 households was planned. This was split equally between the two cities. In each city, the subsample was divided among the case-study areas roughly according to the sizes and types of these neighborhoods. Housing quality in some of these areas was extremely poor and most houses were not properly built units, but single rooms. There were also a higher proportion of rental houses in these areas, and the residence registration lists kept by local authorities did not include some of the households who occupied the properties. Because of these reasons, the samples in each area were selected on site. In the traditional housing areas, selection involved, primarily, the identification of two main streets, which divide the whole area into roughly four quarters. Samples were selected along these two streets at a fixed interval...The aim of this method was to spread the sample in the study areas as systematic and widely as possible. (p. 225)

D.2 Multi-stage Cluster Sampling versus Mutli-stage Random Sampling

Generally, multi-stage sampling refers to a process of selecting a sample in two or more successive stages. At each sampling stage, a good sampling frame is required. A specified number of first-stage units, or *primary sampling units* (PSUs), urban sub-districts, is selected from a list of all the first-stage units. A list of smaller areas called *segments* may then be prepared to constitute the second stage of selection. Next, urban poor households from these selected communities may be listed, and a sample of

households is selected from that list. The overall probability of selecting a poor household in the sample is calculated as the product of the probabilities of selection of the sampling units at each stage.

For geographically clustered populations, standard cluster sampling methods are efficient in reducing cost and increasing sampling variance. Using a three-stage cluster sampling with a probability proportional to estimated size (PPES sampling), the survey would require a measure of the population, or an estimate of poor urban households in each community (*jiedao* or street office) and the measures or estimates for neighborhoods (*Jumin Weiyuanhui* or residents' committees) in each sample community.

In most cases when cluster sampling is considered, zero clusters or zero segments can be identified and excluded from the sample. When zero segments are not known in advance, optimum procedures can be used. The method for improving the efficiency of RDD procedures described by Mitofsky (1970) and Waksberg (1978) may be adapted. Initially, a single unit should be screened within a geographic segment. If that unit is a member of the special population, additional screenings are conducted in the segment until a predetermined cluster size $K+1$ is reached. The Waksberg Method uses a two-stage design to generate random telephone numbers. For each PSU, the banks of telephone numbers, the final two digits of the telephone number are generated randomly. If a household is not reached at this number, that PSU is simply dropped and the next generated PSU is considered. If a household is reached using this number, that PSU is retained and additional telephone numbers are generated within this PSU. These secondary numbers are generated on a continuing basis until: a) a pre-determined number of additional households (generally five or six) are reached in each retained PSU, b) the

PSU is exhausted, or c) the interviewing period ends. The difference is that in telephone sampling, banks of numbers do not differ in size, while in geographic sampling, initial segments differ in size. Thus the segments are selected by the standard procedure of sampling with probabilities proportionate to size (PPS). Once the segments are selected, sampling within segments is at a rate inversely proportional to size so that each selected unit, or household, has an equal probability of selection. Sampling of geographic segments is done with replacement (Sudman 1985). However, it has been estimated that the clustered screening methods yield no advantage if the proportion of units in zero segments (t) is less than 0.5 or 0.6, the proportion of special population to total population (π) is greater than 0.2, and the homogeneity of the special population within the geographic segments (ρ) is about 0.1.

Although proven to be useful in some research, the application of the cluster sampling strategy with a PPES is not considered a priority in my own research due to several reasons. (1) Poverty population in China does show a clustering pattern across large, medium and small urban spatial units such as sub-districts, communities and neighborhoods, yet it is impossible and also unnecessary to identify zero segments within sub-districts or communities. The smallest spatial units in my research are the neighborhoods, or *Jumin Weiyuanhui*, each with a population ranging from hundreds to thousands. Each neighborhood has a non-zero percentage of rural migrants or MLSS recipients, which is indicative of a non-zero percentage of urban poverty population. (2) Since there are no zero segments in the case city, the clustered screening methods do not apply to my research context either. (3) Also, when limited financial resources are available, fewer clusters tend to be sampled at the first stage in a multi-stage cluster

sampling, which could incur a serious risk of under-representing certain poverty groups due to regional idiosyncrasies (Barnett 2002). (4) Finally, a PPES or PPS should only be used when accurate estimates or measures of size, such as the total population or poverty population, are available for sampling units, yet such numbers are either out-of-date or not available in the case city.

As such, I follow a standard procedure of multi-stage random sampling, facilitated by a short screening process. There are several steps to the procedure: (1) I take a sample of m of the M *primary units* (in this case, nineteen communities from a total of forty-four urban communities and eighteen suburban communities; both are areas comprised of populations with similar demographic and residential attributes). (2) I take samples of sizes n_1, n_2, \dots, n_m of the *secondary units*, neighborhoods, from the chosen communities. (3) I proceed to the next stage of sub-sampling by drawing samples of individual households from chosen *secondary units*, with lists of households acquired from the sample neighborhoods. (4) Sampling units in the same stage are selected with an equal probability. (5) A systematic sampling strategy is adopted at each stage, in which a random start is decided with a computer-generated table of random numbers and a sampling interval is chosen. (6) A short screening process with four questions is added to the beginning part of each interview with individual households in each selected *secondary unit*, or neighborhood in this case, so that only the low-income or migrant family households and households with unemployed member(s) are interviewed further and finish the questionnaire.

D.3 Questionnaire Design

The objective of this research was to sample a specific number of populations, representative of the major subgroups of the urban poverty population in a typical Chinese city, including the native urban poor and migrant poor populations. The basic sample units were both poor households and individuals in poor households. In my research, a face-to-face interview became necessary, given the purpose of determining housing choices in relation to the current condition of housing units and the low telephone coverage for urban poor households. Twelve to fifteen assistants were recruited and trained on how to conduct a face-to-face survey. The primary investigator monitored the survey by reviewing completed questionnaires.

In this survey project, a total of fifty to one hundred or more questions were asked, including household attributes such as household size, household income, expenditure, housing condition and tenure, and personal attributes of each household member such as age, education, income, occupation, welfare status, migratory status, and duration of stay in the city (see Appendix E). Each questionnaire survey lasted thirty to sixty minutes, depending on the household size of the interviewed household. A selected number of respondents in the questionnaire survey were also asked for a follow-up in-depth interview on relevant issues regarding poverty and access to community resources. Data on communities (*Jiedaos* or streets) and neighborhoods (*Juming Weiyuanhui* or residents' committees) were obtained from both the 2000 Population Census of Nanjing City and informants interviewed in street offices and residents' committees. A complete list of

survey questions and the interview protocol (not including the questions to informants in communities and neighborhoods) in English are provided in Appendix E.

D.4 Discussion

In summary, considering the current situation, the constraints on available data, and the problems with contemporary sampling practices in developing countries including China, I suggest that it is important to develop standard survey procedures to sample poverty populations. This is especially important for quantitative analysis or non-exploratory (explanatory) research on poverty. In my research, a three-stage random sampling method was used to sample urban poor households, including the native poor and migrant poor households.

There are possible caveats of the survey design due to the sampling strategy and the actual implementation of a face-to-face interview. *First*, as discussed earlier, when compared to cluster sampling, multi-stage random sampling is less cost efficient and less convenient. It incurs higher travel expenses and supervision costs due to the geographical spread of the sampling units. However, this primary disadvantage needs to be treated with discretion, as the administrative convenience of cluster sampling is contingent upon the variance of and cost consideration specified by the sample size at each stage. *Second*, the short screening process adds more cost, given that the population of interest is only a proportion of the sample population. Also, due to the screening process, it is difficult to calculate the response rate of the poverty population. *Third*, potential errors can also result from the mode of interviewing. While respondents are to be chosen randomly,

specific strategies taken by the interviewer to avoid non-response or to fill the quota may lead to a biased or inaccurate sample result. In addition, there are potential interviewer effects or errors associated with face-to-face interviews, for there is a greater chance for exchanging attitudes or values between the interviewer and the respondent in a face-to-face interview than in any other mode of interview.

Appendix E

SURVEY INSTRUMENT AND INTERVIEW PROTOCOL

E.1 Survey Questionnaire

PART I: Short Screening Process

Reaching out to an adult in the house over 18 years old.

1. Are you employed or not? (Yes/No) _____
2. Is there any family member who is unemployed or was unemployed during the past 20 years? (Yes/No) _____
3. Is there any family member who is holding or once held a non-urban *hukou*? (Yes/No) _____
4. Is your family income per month above the half of the average, 425 RMB (52 USD) per person per month? (Yes/No) _____

If the answers to question 1 and question 4 are “yes” and the answers to question 2 and question 3 are “no”, then PLEASE END the interviewing process. OTHERWISE, please go ahead with the following questions.

PART II: Household Questionnaire

Now, may I ask you some questions about your family?

Household #: _____

1. How long have your family been living in the current neighborhood? ____ Years
____ Months

2. Where did you live before moving here? Name of Province: _____ Name of City/County: _____ Name of Community: _____ Name of Neighborhood: _____ Reason of migration: _____

3. How many people are there in your family? _____

4. How many people in your family are currently employed? _____

5. How many people in your family were born in rural areas? _____

6. Is your family eligible for MLSS (Minimum Living Standard Scheme)?

A. Urban MLSS, not Rural MLSS B. Rural MLSS, not Urban MLSS

C. Both Urban and Rural MLSS D. Neither Urban nor Rural MLSS

6a. If you choose A or B, how long have you been a MLSS recipient?

_____ Years _____ Months

6b. If you choose A or B, where are you registered to receive the monthly MLSS subsidy? _____ City _____ Community

7. What best characterizes your housing? (Shack/One-story Apartment Building/Low-rise Apartment Building/High-rise Apartment Building) _____

8. What best characterizes the quality of your housing? (Extremely Poor/Very Poor/Poor/Average/Good/Very good/Excellent) _____

9. What is the source of your current housing? (Rented from individuals/Allocated by the housing bureau/Allocated by *Danwei*/Purchased from the market/Purchased from *Danwei*/Purchased as welfare housing/Purchased as Economy and Comfort housing/Self-built private housing) _____

9a. If the house is rented, how much do you pay every month as rent? _____

- 9b. If the house is purchased, how much did you pay for the cost? _____
10. The floor space of your housing is _____square meters.
11. Is your family eligible for the Low-Rent Housing Program? (Yes/No)_____
- 11a. If yes, and you choose the rents deduction option, how much is it? ____Yuan
- 11b. If yes and you choose the housing provision option, the floor space of the housing is _____square meters.
12. How much does your family earn monthly, including salaries, benefits, and incomes from self-employment? _____Yuan
13. How much does your family spend on food every month? _____Yuan
14. How much does your family spend on medical service? _____Yuan
15. How much does your family spend on transportation every month? _____Yuan
16. How much does your family spend on children's education? _____Yuan
17. How much does your family spend on leisure activities? _____Yuan

PART III: Household Member Questionnaire

Are you one of the household members? If yes, may I ask you some additional questions about each of the household members?

Household Member # _____

1. Are you the head of the household? (Yes/No)_____
2. Age: _____
3. Gender: _____
4. Party Membership: (Yes/No) _____

5. Education: _____ (Illiterate/Primary School/Junior High School/Senior High School/Professional School/College/Graduate)

6. Employment Status _____

A. Formally employed by individuals, private firms or *Danwei*

B. Self-employed in a formal way

C. Informally works for at least 20 hours per week

D. Informally works for less than 20 hours per week

E. Not employed in any way (*If choose E, please go to question 7*)

6a. If you choose A or B, which sector do you work in? _____

6b. If you choose A or B, what is your occupation? _____

6c. If you choose A, do you work in a State-owned or Collectively-owned Enterprise or institution? (Yes/No) _____

6d. If yes, describe the administrative level of the enterprise or institution.

(National level/Provincial level/City level/District or County level/Community level/Residents' committee level/Others) _____

6e. If you work in an enterprise, what is its size?

(Large/Medium-sized/Small) _____

6f. Are you employed by a private employer? (Yes/No) _____

6g. If you are employed, do you get health insurance from your employer?

(Yes/No) _____

6h. If you are employed, do you get any kind housing subsidy from your employer? _____

7. If not employed (including C, D, E), which below best characterizes you?
 (Retired/Students/In working age but engaged with domestic work/Disabled/Seriously ill/Temporarily jobless/Long term jobless/Others) _____
- 7a. If retired, how much is the retirement pension? _____ Yuan
- 7b. If disabled or seriously ill, do you receive any assistance from the MLSS or other welfare programs? (Yes/No) _____
- 7c. If disabled or seriously ill, have you ever had working experience? (Yes/No)
- 7d. If yes, what best characterizes your employer? (Self-employed in informal jobs/ Self-employed /Private-owned business/Community enterprises/ National-level/ Provincial-level/ City-level work unit/ District or County-level/Community-level/ Residents' committee-level/ Others)
- 7e. If currently jobless, how long have you been unemployed since your last employment? _____ Years _____ Months
8. How much do you earn each month? _____ Yuan
9. Have you ever been laid off? (Yes/No)_____ *If not please go to question 10*
- 9a. If yes, how long was the duration of being laid-off before re-employment?

- 9b. Please describe the administrative level of the employer where you were laid off. (National level/Provincial level/City level/District or County level/ Community level/ Residents committee level / others)_____
- 9c. Did you receive lay-off subsidy or enter the reemployment center?

- A. Yes, Yes B. Yes, No C. No, Yes D. No, No

9d. How many jobs have you had ever since you were laid-off? _____

9e. Can you describe each of them to us?

(1) _____

(2) _____

(3) _____

(4) _____

10. Were you born in a rural area? (Yes/ No) _____

If not then please continue the survey with another household member.

10a. When did you first move into an urban area? _____

10b. When did you move into the city of Nanjing? _____

10c. Which below best characterize(s) the reason(s) why you moved into an urban area? Circle as many as apply. (To look for jobs/For education/ Marriage/To live with relatives/For private business/Others) _____

10d. Do you have an urban *Hukou* now? (Yes/No) _____ If yes, when did you get it? _____

10e. Did you remember the first place (neighborhood) where you lived in this city?

10f. How did you find your first job in the city? (through relatives or friends/ through labor exchange market/ through communities/ recruited by work units/ private employers job advertisements/ other ways) _____

Repeat the above questions for other household members

E.2 Interview protocol

Interview Date _____

Interviewer _____

Interviewee # _____

1. How would you rate yourself and your family among the people living in the city?

(Working Class/Lower Class/Middle Class/Higher Class/Others)

2a. If there is at least one laid-off workers in your family, how that might have affected your family in a positive or negative way?

2b. If there is one or more rural migrants in your family, how that might have affected your family in a positive or negative way?

2c. If there is one or more unemployed people in your family, how that might have affected your family in a positive or negative way?

2d. If there is one or more family members suffering from serious illness or disablement, how that might have affected your family in a positive or negative way?

3. In summary, what do you think is the most important factor that has affected your life course positively or negatively during the past 10-20 years?

4. Community where you live in, kinship ties and friends, and your employers, all can help people in different ways when they are in the most difficult times. Which one or ones do you think helped you most when you or your family were not in a good shape? Why?

5. Can you describe the reasons why you chose to live in this community, if there was a choice?

6. How would you rate the social environment in the community? How many friends and how many relatives do you have in this community? How many friends do you have in the city?
7. Do you have any plan for changing house/apartment or relocating to another neighborhood? What would be your primary consideration if there is such a plan? Or, do you think you would still live in the same place in the next 5 years? Why?
8. Comparing your life 20 years ago, 10 years ago, and now, what is the biggest change you have experienced in your work, living environment, and other aspects of your life? Do you think your life has changed for the better or the worse?
9. Can you tell us some history of your family? Where are they from? What did your parents do? Where did your parents live and where are they living? Where do your other family members live?
10. Do you think friends are easy to make in your neighborhood?
11. What do you think is the most important thing for your child or children to have? (Education/Income/Job Type/Marriage/Others... open question.)
12. If you are a recipient of MLSS, what do you think is the major criteria of MLSS? Do you feel comfortable to apply for assistance from MLSS? How important do you think it is?
13. If there is any family member suffering from serious illness or disablement, can you describe how he/she makes a living and how has his/her life changed in the past 5-10 years? How MLSS has affected his/her life?

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Employment

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- Teaching Assistant**, Department of Geography, Penn State University, 2002 – 2006
- Research Assistant**, Department of Geography, Nanjing University, 1998 – 2001
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Selected Awards and Distinctions

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- E. Willard Miller Award in Geography*, Department of Geography, Penn State Univ., 2004
- Urban China Research Network*, Small Grant Award, SUNY at Albany, 2003
- Anne C. Wilson Graduate Student Research Award*, EMS College, Penn State Univ., 2001
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- Chen, G., J. Zhou and A. K. Glasmeier. 2007. Poverty in the U.S.: Recent Development in Policy Analysis and Empirical Studies, Guest Editorial for a Special Issue on Poverty in the U.S., *Urban Planning International* 22 (2): 1-2. (In Chinese)
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