3. Changing spatial and temporal patterns of China's floating population: findings from the 2010 and 2000 censuses[1]

Yu Zhu, Baoyu Xiao and Liyue Lin

3.1 INTRODUCTION

One of the major products of China's reform and open-door policies adopted since the late 1970s has been the emergence and development of the floating population, namely migrants who move away from their places of household (*hukou*) registration without changing their *hukou* status. According to the most recent 2010 census, the size of this mobile population had reached an enormous size of 261 million, undoubtedly the biggest among migrant populations in the world. The floating population has played increasingly important roles in reshaping China's population distribution and socio-economic development of both sending and receiving areas, becoming an indispensable factor in urban–rural planning and socio-economic policy making. Furthermore, unlike migrants conventionally understood in the literature, members of the floating population live and work in the destination cities but keep circulating to and from and maintain close ties with their places of origin, leading to their bi- or even multi-local identities. Not surprisingly, the floating population is of great interest to both academics and policy makers in China and has attracted great attention from relevant fields in migration research. Studies on the floating population are also of great international significance, as the temporary or circular nature of their migration patterns is not unique to China. In fact, the prevalence and long-lasting significance of temporary or circular migration have been identified in various parts of the developing world, such as Northern Rhodesia (now Zimbabwe), Melanesia, and Southeast Asia in particular (Wilson 1941–1942; Chapman 1976; Hugo 1978, 1997; Skeldon 1990; Goldstein 1993; Guest 1999). In Indonesia, for example, the widespread incidence and socio-economic significance of circular migration between rural and urban areas were identified as early as the 1970s, and the tempo of this kind of migration continued to increase greatly in the two decades since then (Hugo 1978, 1997), suggesting the important position of circular migration in the overall migration process. All this suggests that temporary or circular migration occupies an important position in

migration research in developing countries, and studies on China's floating population will shed new light on their changing patterns.

One important aspect of research on the floating population in China so far has been its spatial patterns. Mainly based on the census data, scholars have devoted great efforts in the last 30 years to identify places of origin and destination of the floating population and examine their migration flows, producing a significant body of literature in this regard. Although it is not an easy task to summarize findings from the above research due to inconsistency in the definitions for the floating population between different censuses and among different scholars, it is generally understood that until the time when the 2000 census was conducted, inland areas, especially the central region of China, were the main places of origin of the floating population, while the coastal (eastern) areas, especially the Pearl-River Delta region and the Yangtze River Delta region, were the main places of destination; and that some border areas in China's western region also received increasingly more members of the floating population (Zhu 2003; Liang and Ma 2004; Ding et al 2005; Fan 2005; Wang 2005). It has also been revealed that the unbalanced regional development between the inland and coastal areas, and migrants' corresponding responses to the widening regional gaps, were the main driving forces for the migration flows of the floating population between the sending and receiving areas (Ma 1999; Zhu 2003; Fan 2005).

Despite the above progress, so far most studies have not yet incorporated the 2010 census results in their examination of the spatial patterns of China's floating population, and very few studies have been devoted to examining their temporal migration patterns. As the first decade of the twenty-first century witnessed significant changes in China's regional development patterns, including the accelerating development of the Yangtze River Delta region propelled by the rise of Shanghai and the beginning relocation of some labour intensive industries from the coastal to inland areas, a question arises as to what the impacts of such changes in regional development are on the spatial patterns of China's floating population. It is also important to incorporate the analysis on the temporal migration patterns of the floating population into the studies, so that the trends of the above changes can be better understood. Using China's 2010 and 2000 census data, this chapter aims to address these issues. The analysis in the following, including figures and tables, will cover the 31 provinces, municipalities and autonomous regions (referred to as provinces hereafter) in mainland China, but will not cover Taiwan Province of China, Hong Kong SAR and Macao SAR due to the lack of data.

In the following the term 'the floating population' is defined as those migrants who had left their original township-level administrative units of

household (*hukou*) registration for more than six months without changing their *hukou* status at the time of the 2000 census and that of the 2010 census. This is the definition for the floating population adopted by the State Statistical Bureau in China, and has been consistently used in both the 2000 and 2010 censuses. It is important to note the differences between migrants from the floating population defined in China's 2000 and 2010 censuses and migrants as commonly understood: on the one hand, the term 'floating population' covers some of its members who had left their places of *hukou* registration for a prolonged period of time, but had not moved from their current places of residence for more than five years before the census and therefore would not have been identified as migrants if the conventional definition of migrants had been adopted in the two censuses; on the other hand, those migrants who had changed their places of *hukou* registration in their migration process were not counted as members of the floating population. These differences suggest that the floating population is not the same as conventionally defined migrants in China. However, given the important roles of the floating population in China's socio-economic transformation and their member's multi-local identities mentioned earlier, which significantly complicates the spatial implications of their migration, they certainly deserve special treatment and more extensive research. Besides, in the 2010 census there are no other migration-related data except those of the floating population when the intra-provincial migration is concerned, which is an unfortunate shortcoming of the 2010 census data, and the analysis of the floating population is the only way to understand migration patterns in China at this level of spatial scale.

3.2 THE SIZE AND SPATIAL AND TEMPORAL CHARACTERISTICS OF CHINA'S FLOATING POPULATION

The spatial patterns of the floating population manifest at different geographical scales, and our analysis starts from identifying some salient spatial characteristics of the floating population at the national scale. Data from the 2000 and 2010 censuses provide comprehensive information on the changes in volume of floating population during this intercensal decade in China. According to the 2000 census, the size of the floating population on 1 November 2000 was 144 million, accounting for 11.58 per cent of the total population. This figure increased to 261 million on 1 November 2010 according to the 2010 census, accounting for 19.50 per cent of the total population. This suggests that one in every five of residents in China was classified as a member of the floating

population in 2010. The average annual increase rate was 6.8 per cent between the two censuses, 8.7 times the rate of increase of the total population (0.78 per cent) in the same period. Even if members of the floating population whose current residence and *hukou* registration were separate but both within the districts of a same city are excluded, the volume of the floating population still amounted to 221 million at the 2010 census.

Clearly, both the volume of the floating population and its proportion of the total population increased substantially in the first decade of the twenty-first century, corresponding to the tremendous growth of the economy and the acceleration of the urbanization process. During this decade China's per capita GDP increased from US$ 949 to US$ 4434, and the proportion of the population that was urban increased from 36.09 per cent to 49.68 per cent.

Two spatial characteristics of the floating population can be identified at the national level. First, among the 261 million members of the floating population at the 2010 census, 175 million (67 per cent) were intra-provincial floating population. Although this represents an increase of 73 million people compared to the volume of the intra-provincial floating population at the time of the 2000 census, its proportion of the total floating population decreased by 3.53 percentage points in the same period. In contrast, the size of the inter-provincial floating population increased from 43.46 million to 85.88 million, and its proportion of the total floating population increased from 29.38 per cent to 32.91 per cent, in the period between the two censuses. This demonstrates that on the one hand, long-distance migration continued to gain importance in the first decade of the twenty-first century in China. But on the other hand, the majority of China's floating population only moved within provinces and should not be neglected in migration research. This is understandable, because for the majority of the floating population, intra-provincial migration is a more rational and cost-effective choice as it involves not only shorter geographical and social distance, but also less transport and living costs in the migration and resettlement process (Zhu 2010; Wang 2013). However, some migrants still want to make a long-distance move to seek better employment opportunities and higher income. This is facilitated by improved transport and the availability of information about labour markets at the destination areas – leading to the increasing proportion of inter-provincial floating population mentioned above.

Second, rural–urban migration still accounted for the bulk of migration flows of the floating population. As can be seen from Table 3.1, cities and towns (especially the former) were the destination of the majority (87.15 per cent) of the floating population, and only a small proportion of the floating population moved to villages, according to the 2010 census

Table 3.1 Rural–urban composition of floating population's current places of residence, 2010 (%)

	Cities	Towns	Villages	Total
Intra-provincial floating population	65.66	23.00	11.34	100
Inter-provincial floating population	68.61	15.41	15.98	100
All floating population	66.62	20.53	12.85	100

Source: 2010 census data.

Table 3.2 Rural–urban composition of floating population's places of hukou *registration, 2010 (%)*

	Cities	Towns	Villages	Total
Intra-provincial floating population	33.27	12.74	53.99	100
Inter-provincial floating population	10.29	8.09	81.62	100
All floating population	25.79	11.22	62.98	100

Source: 2010 census data.

results. At the same time, the majority (62.98 per cent) of the floating population came from villages, followed by cities and towns (see Table 3.2). It is noteworthy that cities and towns (especially the former) were the places of *hukou* registration for 37 per cent of the floating population. This indicates that while rural–urban migration was still dominant, urban–urban migration is now a sizable component of the migration flows of the floating population and more attention needs to be paid to the disadvantaged position of urban–urban migrants in their destination cites (Guo and Zhang 2012; Wang et al 2014).

More detailed analysis in Tables 3.1 and 3.2 indicates that while the difference in destinations between intra- and inter-provincial floating populations was not big, a larger proportion of the inter-provincial floating population was from villages and a smaller proportion of them was from cities and towns, compared to the intra-provincial floating population. This seems to reflect the fact that migration of the inter-provincial floating population was more driven by the rural–urban gaps, compared to their intra-provincial counterparts. This observation is consistent with findings from previous studies which suggest that rural–urban income gaps are a major factor contributing to the higher proportion of inter-provincial migrants in the floating population in China (Wang and Pan 2013).

Table 3.3 Migration duration of floating population, 2000, 2005 and 2010 (%)

Duration of having left place of *hukou* registration	2000 census*	2005 micro-census	2010 census
Less than 1 year	22.61	21.40	20.78
1–2 years	18.8	18.36	21.01
2–3 years	11.16	13.57	15.03
3–4 years	6.71	9.07	9.65
4–5 years	6.13	6.26	5.68
More than 5 years	34.59	31.34	27.85
Total	100.00	100.00	100.00

Note: * Referring to the duration of having lived in their current places of enumeration.

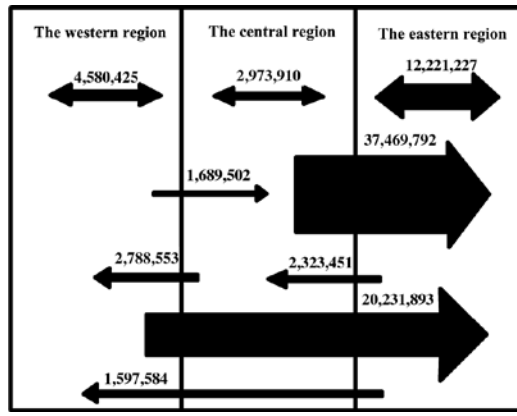
Source: Data from 2000 and 2010 censuses and 2005 micro-census.

Table 3.3 reveals another important characteristic of the floating population from the temporal perspective. Although the proportion of the floating population who had left their places of *hukou* registration for five years or more reached 27.85 per cent at the time of the 2010 census, the majority (56.8 per cent) of them were short-term migrants – they had left their places of household registration for three years or less. This temporal pattern was also observed from the results of the 2000 census and the 2005 micro-census, and it remained quite stable or was even strengthened over time.[2] It is also noticeable that for those members of the floating population with migration duration shorter than five years, the proportion generally declined as migration duration increased. This suggests that some members of the floating population withdraw from the migration processes after some years.

The data suggest that the unsettled and unstable nature of the floating population had not changed much for the majority of its members during the period of 2000 to 2010. While other studies suggest some stability (e.g. Duan et al 2013) our findings indicate that there is still a long way to go for them to settle down, either in their current or future places of destination or their places of origin.

3.3 COASTAL VERSUS INLAND SPATIAL MIGRATION PATTERNS

As a well-accepted practice in both academic research and policy making, mainland China is commonly divided into three regions, namely the

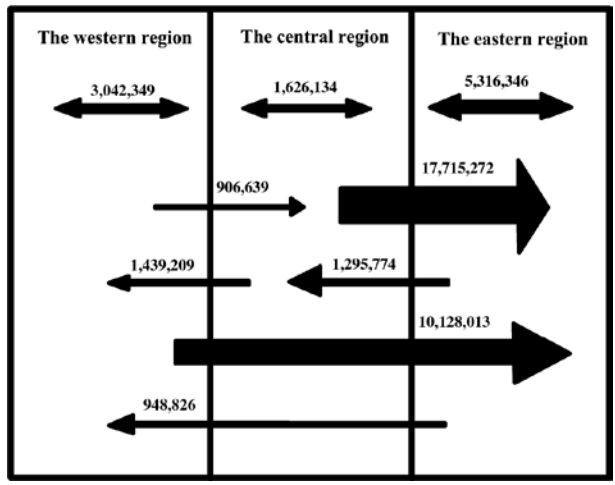


Source: 2010 census data.

Figure 3.1 Size and direction of migration flows of floating population between western, central and eastern regions, 2010

eastern, central and western regions, with the former also referred to as the coastal region and the latter two combined together and referred to as the inland region.[3] Such a scheme of regional division also provides an important spatial framework for examining the migration flows of China's floating population. Four important characteristics of the floating population can be identified.

First, migration from the inland region (western and central regions) to the coastal (eastern) region constitutes the bulk of inter-provincial migration of the floating population in China. Among 85.9 million members of the inter-provincial floating population identified at the 2010 census, 66.1 million (77 per cent) of them moved across the boundaries among the three regions. Furthermore, as can be seen in Figure 3.1, the dominant migration directions among the three regions were from the central and western regions to the eastern region, involving 57.7 million out of the 66.1 million members of the inter-regional floating population; on the contrary, only 3.9 million members of the inter-regional floating population moved from the eastern region to the central and western regions. As a result, the eastern region had a net gain of 53.8 million members of the floating population. Compared with Figure 3.2, one can see further that the above migration patterns are the continuation of those identified from the results of the 2000 census; in fact, they are also generally consistent with the migration patterns in the 1980s and 1990s identified by Fan (2005). However, a noticeable difference between the result of the 2000

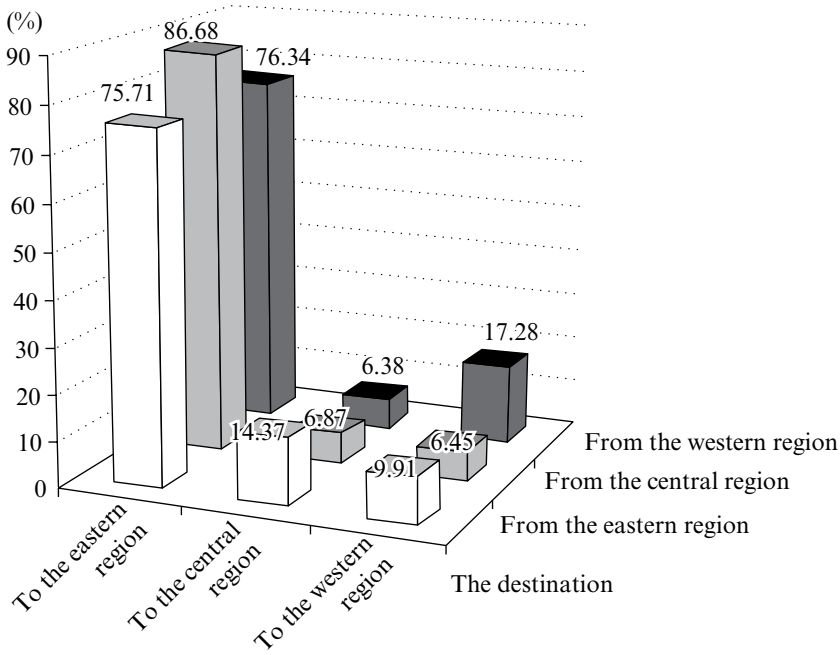


Source: 2000 census data.

Figure 3.2 Size and direction of migration flows of floating population between western, central and eastern regions, 2000

census and that of the 2010 census is that the volumes of migration flows, especially those from the central and western regions to the eastern region, greatly increased. In fact, migration of the floating population from the inland to the coastal region has led to a 'new demographic phenomenon' identified by Cai (2013), where six provinces in the inland region registered negative growth of their usual resident populations at the 2010 census.

Second, there are important differences between the central and western regions as the sources of the floating population, with the former registering much heavier net loss of the floating population. As mentioned earlier, the western and central regions both had the net loss of the inter-regional floating population at the time of the 2010 census; however, they are different in both the volume and direction of the migration flows to and from them. As a sending area of the floating population, the central region was the source of 40.26 million members of the floating population, accounting for 60.91 per cent of the total inter-regional floating population, with the majority (93.07 per cent) of them moving to the eastern region; in contrast, only 4.01 million members of the floating population moved to the central region, less than one tenth of those moving in the opposite direction mentioned above. The western region was also a source of the inter-regional floating population migrating to the eastern region; however, the volume of such a migration flow was only 54 per cent of that from the central



Source: 2010 census data.

Figure 3.3 Destination of floating population from eastern, central and western regions, 2010

to the eastern region. Besides, the western region received more floating population from the other two regions than the central region, and had a net gain from the migration flows to and from the central region.

Third, the inter-provincial migration of the floating population within the regions was most active in the eastern region, followed by the western and central region. As can be seen from Figure 3.1, the volume of inter-provincial migration of the floating population was the biggest in the eastern region and smallest in the central region. Furthermore, as can be seen from Figure 3.3, among members of the inter-provincial floating population from the eastern region, 75.71 per cent of them moved within the region; however, this proportion sharply decreased to 17.3 per cent in the western region, and only 6.9 per cent in the central region. All the above suggests that the eastern region was the main destination of the inter-provincial floating population, whether they were inter- or

Table 3.4 Place of usual residence of floating population five years before the census, 2000 and 2010 (%)

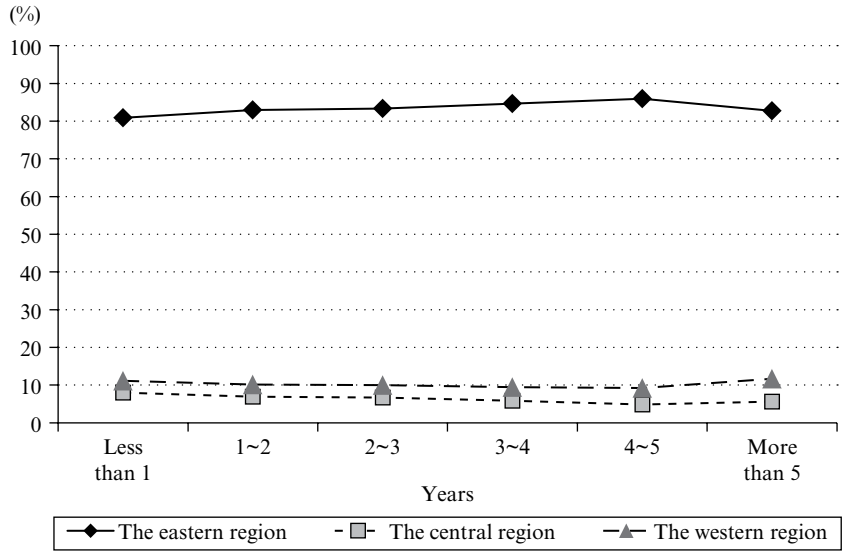
Place of residence at the census	Places of usual residence five years before the census							
	Eastern region		Central region		Western region		Total	
	2000 census	2010 census	2000 census	2010 census	2000 census	2010 census	2000 census	2010 census
The eastern region	13.37	20.08	55.30	50.29	31.33	29.63	100.00	100.00
The central region	35.69	46.49	39.12	31.85	25.19	21.66	100.00	100.00
The western region	18.25	27.98	26.24	29.51	55.51	42.51	100.00	100.00

Source: Data from 2000 and 2010 censuses.

intra-regional migrants, and the central region was the main source of the inter-provincial floating population, with the majority of them moving to the other two regions, especially the eastern region. The role of out-migration of the floating population from the inland region in the decline of usual resident populations of some inland provinces is particularly noticeable, and should be closely monitored.

Fourth, there is an emerging temporal trend of a decreasing share of the floating population migrating to the eastern region and an increasing proportion moving back to the inland regions. This trend can be identified by examining the place of usual residence of the floating population five years before census enumeration in 2000 and 2010 (Table 3.4). Compared to the situation at the time of the 2000 census, for the floating population enumerated in the eastern region at the 2010 census, the proportion originating from the western and central regions declined while the proportion originating from the eastern region increased. By contrast, for the floating population enumerated in the central region at the 2010 census, the proportion originating from the central region declined while the proportion originating from the eastern region increased. Similarly, for the floating population enumerated in the western region at the 2010 census, the proportion originating from the eastern region increased while the proportion originating from the western region declined. This seems to suggest that there was an emerging stream of reversed migration of the floating population from the eastern region to the central and western regions. This is consistent with the 'de-concentration of the floating population from the coastal region' identified by Duan et al (2013).

Examining Figure 3.4 reveals another related emerging temporal trend of the floating population's migration at the 2010 census: for the floating



Source: 2010 census.

Figure 3.4 Distribution of floating population by duration of absence from place of hukou *registration, 2010*

population who had left their place of *hukou* registration less than five years ago, the proportion of them enumerated in the central and western regions increased while the proportion of them enumerated in the eastern region decreased, as the period of their absence from their places of *hukou* registration decreased. It is also noticeable from Figure 3.4 that such a temporal trend started to emerge about five years before the 2010 census; for the floating population who had left their place of *hukou* registration more than five years ago, the increased concentration of the floating population in the eastern region is still identifiable.

All this seems to suggest again that although the eastern region is still the main place of destination for the floating population, its domination as the receiving area of migration in China had become increasingly weaker in recent years and the western and central regions have played an increasingly important role in absorbing the floating population. This could be mainly due to the fact that the development of the western and central regions has been accelerating in the recent years, due to the implementation of various projects aiming at closing the gap between the inland regions and coastal region. Such projects include the western

development project, the rise of central China project and the revitalization of Northeastern China project. Recent years have also seen the relocation of some labour intensive industries from the coastal region to the inland regions, due to rising labour costs and the shortage of land in the coastal region (Duan et al 2013).

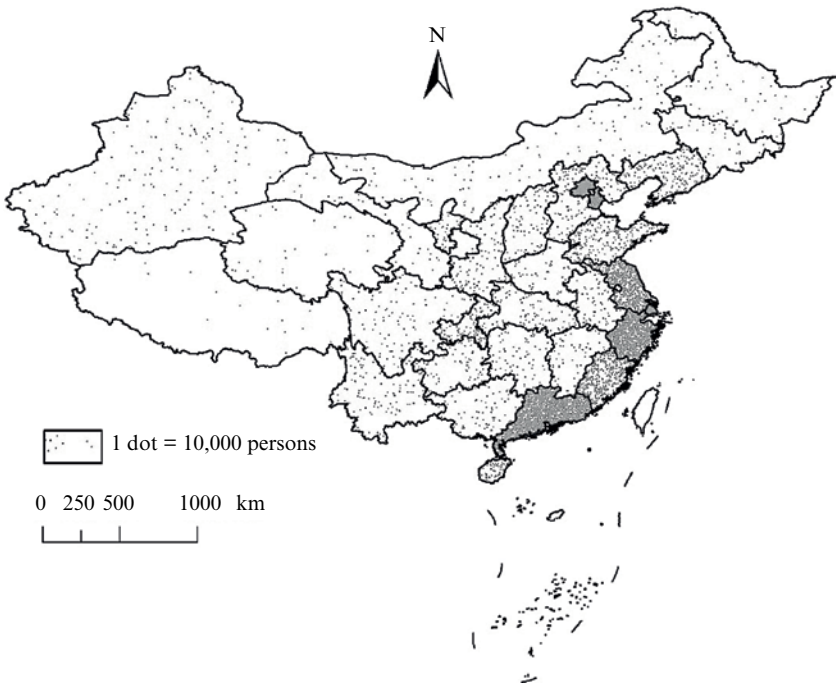
To summarize, long distance, inter-regional migration flows have played important roles in shaping the overall spatial patterns of China's floating population. Such migration flows have long been dominated by those from western and central regions to the eastern region, accompanied by much smaller flows from the eastern region to the inland region and between the western and central regions. As a result of these migration flows, the eastern region had a significant net gain of the floating population from the western and central regions, especially the latter; and central and western regions, especially the former, had significant net loss of the floating population. At the same time, there were active inter-provincial flows of the floating population within the eastern region. However, the above spatial patterns of the floating population have not been static; in the five years leading to the 2010 census, the relative importance of the eastern region as the destination of the floating population declined, while the central and western regions started to receive a higher proportion of the floating population.

3.4 SENDING AND RECEIVING AREAS OF INTER-PROVINCIAL MIGRATION

More detailed characteristics of the spatial patterns of the floating population can be revealed by examining sending and receiving areas at the provincial level – by analysing in-migration, out-migration and net migration of the floating population for the 31 provinces in mainland China. Such an analysis will contribute to an updated knowledge about patterns of interprovincial migration of China's floating population, which has been a major topic in China's migration research (e.g. Liang 2004; Wang 2014). As provinces are the administrative units directly under the central government, results from such analysis are also of great importance for socio-economic planning and policy making.

3.4.1 In-migration

In terms of in-migration, as can be seen from Figure 3.5 and Table 3.5, provinces in the eastern region were the main receiving areas of the inter-provincial floating population at the time of the 2010 census, with those



Source: 2010 census data.

Figure 3.5 In-migration of floating population by provincial-level unit, 2010

migrating to Guangdong, Zhejiang, Shanghai, Jiangsu, Beijing, Fujian and Tianjin (ranked according to the volumes of in-migration of the floating population to these units) accounting for 74.55 per cent of the total volume of the inter-provincial floating population in China. Among these provincial-level units, Guangdong stands out for its largest volume of in-migrating floating population, which amounted to 21.50 million; and Shanghai is particularly noticeable for the highest proportion of floating population to usual residents, which stood at 39.01 per cent, followed by 35.92 per cent for Beijing. On average, floating population accounted for 19.41 per cent of the total number of usual residents in the above seven provinces. This suggests that the floating population constitutes a substantial proportion of the population in its major receiving areas and implies that they are indispensable to the daily life of their destination communities.

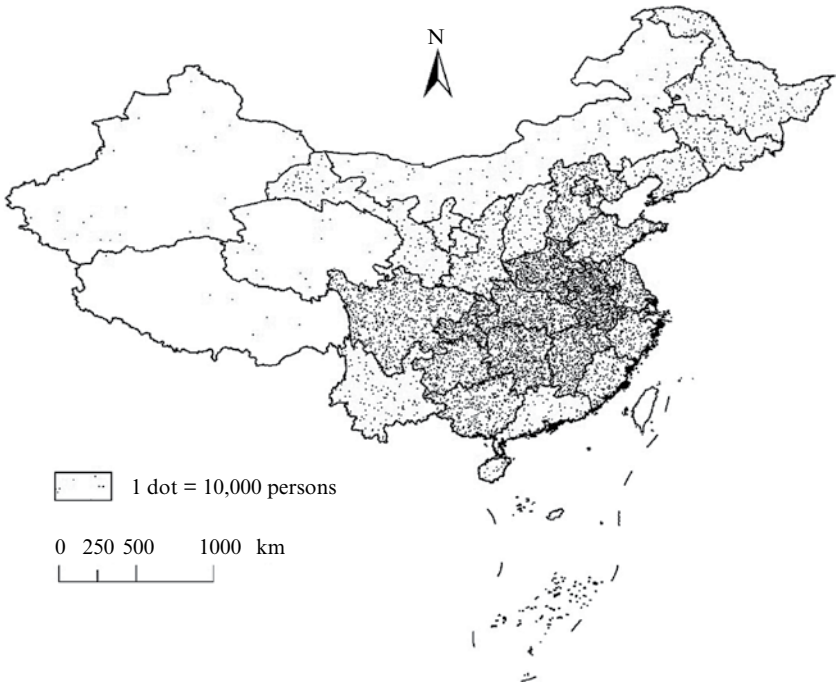
Table 3.5 Volume of in-migrating floating population and their proportion in the usual residents by provincial-level unit, 2010

Provincial-level units	Size of floating population (000s)	Size of usual resident population (000s)	2/3	Provincial-level units	Size of floating population (000s)	Size of usual resident population (000s)	2/3
(1)	(2)	(3)	(%)	(1)	(2)	(3)	(%)
Guangdong	21,498	104,320	20.61	Jilin	456	27,453	1.66
Zhejiang	11,824	54,427	21.72	Shandong	2116	95,793	2.21
Shanghai	8977	23,019	39.00	Shanxi	974	37,327	2.61
Beijing	7045	19,612	35.92	Gansu	433	25,575	1.69
Jiangsu	7379	78,661	9.38	Heilongjiang	506	38,314	1.32
Tianjin	2992	12,939	23.12	Hebei	1405	71,854	1.96
Fujian	4314	36,894	11.69	Chongqing	945	28,846	3.28
Xinjiang	1792	21,816	8.21	Guizhou	763	34,749	2.20
Liaoning	1787	43,746	4.08	Guangxi	842	46,024	1.83
Inner Mongolia	1444	24,706	5.84	Hubei	1014	57,238	1.77
Hainan	588	8671	6.78	Jiangxi	600	44,568	1.35
Ningxia	368	6301	5.84	Hunan	725	65,701	1.10
Tibet	165	3002	5.50	Sichuan	1129	80,418	1.40
Qinghai	318	5627	5.65	Henan	592	94,030	0.63
Shanxi	932	35,712	2.61	Anhui	717	59,500	1.21
Yunnan	1237	45,967	2.69	Total	85,876	1,332,811	6.44

Source: 2010 census data.

3.4.2 Out-migration

In terms of out-migration, provinces in the central and western regions were the main sending areas of the inter-provincial floating population at the time of the 2010 census. As can be seen from Figure 3.6 and Table 3.6, Anhui, Sichuan, Henan, Hunan, Hubei, Jiangxi, Guangxi, Guizhou, Chongqing and Hebei (ranked according to the volumes of out-migration of the floating population from these units) are the top ten sending provinces for the floating population; they are all located in the central and western regions except Hebei. It is noticeable that the volumes of the floating population migrating from Anhui, Sichuan, Henan, Hunan, Hubei and Jiangxi all exceeded 5 million, and the total volume of the floating population from these six provinces accounted for 53.64 per cent of the total volume of the inter-provincial floating population in China. Among these top sending areas for floating population, Anhui stands out with both the total volume of the out-migrating floating population (9.62



Source: 2010 census data.

Figure 3.6 Out-migration of floating population by provincial-level unit, 2010

million) and its proportion in the *hukou* population (14 per cent), ranking the first among all provincial-level units in China; in Jiangxi, Chongqing and Hunan, the proportion of the floating population in the *hukou* population also exceeded 10 per cent. Out-migration of the floating population has caused depopulation of many villages in these major sending areas, contributing to the phenomenon of 'empty villages' (Liu et al 2009).

3.4.3 Net Migration

Net migration is the combined effect of in- and out-migration. Three important characteristics of net inter-provincial migration of the floating population at the time of the 2010 census can be identified (Figure 3.7). First, not surprisingly, provinces in the eastern region dominate with the greatest gains. Among the eight provincial-level units with positive net migration of more than 1 million members of the floating population,

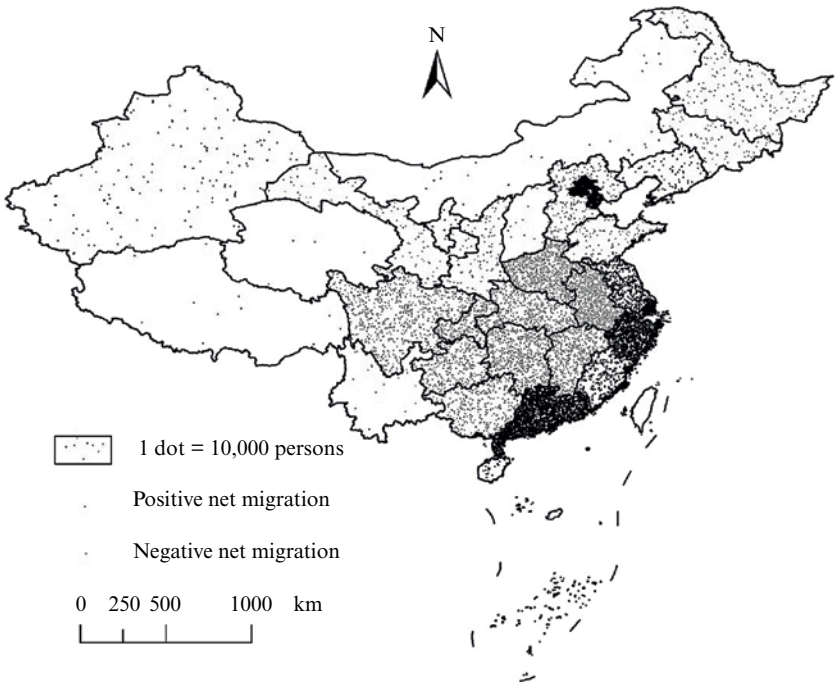
Table 3.6 Volume of out-migrating floating population and their proportion in the hukou *population by provincial-level unit, 2010 census*

Provincial-level units	Size of the floating population	Size of the *hukou* population	2/3	Provincial-level units	Size of the floating population	Size of the *hukou* population	2/3
(1)	(2)	(3)	(%)	(1)	(2)	(3)	(%)
Anhui	9623	68,620	14.02	Yunnan	1482	45,631	3.25
Sichuan	8905	89,981	9.90	Jilin	1373	27,148	5.06
Henan	8626	104,281	8.27	Shanxi	1083	34,729	3.12
Hunan	7229	70,781	10.21	Inner Mongolia	1068	24,408	4.38
Hubei	5890	61,760	9.54	Liaoning	1014	42,534	2.38
Jiangxi	5787	47,134	12.28	Guangdong	881	85,025	1.04
Guangxi	4185	51,592	8.11	Xinjiang	297	20,256	1.47
Guizhou	4049	41,600	9.73	Hainan	276	8486	3.25
Chongqing	3507	33,150	10.58	Beijing	274	12,554	2.18
Hebei	3498	71,910	4.86	Tianjin	273	9920	2.75
Shandong	3096	95,479	3.24	Shanghai	250	14,185	1.76
Jiangsu	3059	74,963	4.08	Qinghai	242	5521	4.38
Heilongjiang	2554	38,238	6.68	Ningxia	226	6323	3.57
Shaanxi	1961	38,403	5.11	Tibet	55	2894	1.90
Zhejiang	1854	47,332	3.92				
Fujian	1667	35,372	4.71				
Gansu	1593	27,167	5.86	Total	85,877	1,337,377	6.42

Source: 2010 census data.

seven are located in the eastern region. They are Guangdong, Zhejiang, Shanghai, Beijing, Jiangsu, Tianjin, and Fujian, ranked according to the volume of their net in-migration of the floating population. Among the above provinces, Guangdong, Zhejiang, Shanghai and Beijing are particularly noteworthy, because they all had a net gain of 6 million members of the floating population, and Guangdong alone had a net gain of 20.62 million. These provinces were also the top four provinces with the biggest net gains of migrants in the period of 1995–2000 according to Fan's analysis on the 2000 census data (Fan 2005), suggesting the continuity of spatial migration pattern of the floating population.

Second, as can be expected, provinces in the inland region mostly received negative net migration. Most of the 17 provinces with negative net migration of the floating population are located in the inland areas, and among 12 provinces with negative net migration of more than 1 million members of the floating population, only one (Hebei) is located in the eastern region, with the other 6 in the central region and 5 in the western



Source: 2010 census data.

Figure 3.7 Net migration of floating population by provincial-level unit, 2010

region, namely Anhui, Henan, Sichuan, Hunan, Jiangxi, Hubei, Guangxi, Guizhou, Chongqing, Hebei, Heilongjiang and Gansu, which are ranked according to the volumes of their negative net migration of the floating population. Among these provinces, Anhui, Henan, Sichuan, Hunan and Jiangxi stand out, with the net loss of members of the floating population being more than 5 million, and Anhui alone registered a net loss of 8.9 million, accounting for 13 per cent of the Province's *hukou* population. These provinces were also the top five provinces with the biggest net losses of migrants in the period of 1995–2000 according to Fan's analysis on the 2000 census data (Fan 2005), and this demonstrates again the continuity of spatial migration patterns of the floating population.

Third, it is noticeable that some provinces in the western and central regions had also net gain of the floating population at the time of the 2010 census, suggesting heterogeneity of migration patterns of the floating population within the central and western regions. These provinces

are mostly located in the border areas of China. This is consistent with findings from previous research, indicating a trend of 'border migration' driven by economic growth related to cross-border trade in these areas (Ding et al 2005; Fan 2005). Among these provinces, Xinjiang stands out as the only one in the western and central regions with a net gain of exceeding 1 million members of the floating population, attracting migrants from not only provinces in the western and central regions, such as Sichuan, Shaanxi, Gansu, Henan, Anhui and Hubei, but also provinces from the eastern region, such as Shandong, Jiangsu, Guangdong and Hebei. Such a prominent position of Xinjiang as the most important migrant receiving province in the inland region can be traced back to the 1980s and 1990s (Liang 2001; Fan 2005), and the 2010 census result suggests that it has continued into the 2000s.

In addition to the above analysis, Table 3.7 provides evidence on the dominance of the Yangtze River Delta region, the Pearl-River Delta region and the Beijing-Tianjin region as destinations of China's floating population, and changes in their relative position as such destinations between the time of the 2000 census and that of the 2010 census. As can be seen in Table 3.7, while the out-migrating floating population from these regions only accounted for an insignificant proportion of the inter-provincial floating population in China at both the time of the 2000 census and that of the 2010 census, the in-migrating floating population to these regions accounted for 65.1 per cent of the inter-provincial floating population in China at the time of the 2000 census, and this proportion further increased to 69.53 per cent at the time of the 2010 census. It is also important to note that during the period between the time of the 2000 census and that of the 2010 census, the proportion of the floating population moving to the Pearl-River Delta region significantly decreased, while those moving to the Yangtze River Delta region and the Beijing-Tianjin region significantly increased. This suggests that although the eastern provinces have always been the main destination of the floating population, its different sub-regions have assumed different positions in the temporal–spatial processes of the floating population's migration. While the Pearl-River Delta region took the lead as the major concentration of the floating population before the time of the 2000 census, the Yangtze River Delta region had followed suit and overtaken the Pearl-River Delta region, and this trend seems to have moved further to the north with the increasing importance of Beijing-Tianjin region as the destination of the floating population. How such temporal–spatial processes will further unfold needs to be closely observed.

Table 3.7 Volume of in-migration to and out-migration from three major regions in China, 2000 and 2010

Regions	2000 census				2010 census			
	Out-migration		In-migration		Out-migration		In-migration	
	(000s)	% of the total inter-provincial floating population in China	(000s)	% of the total inter-provincial floating population in China	(000s)	% of the total inter-provincial floating population in China	(000s)	% of the total inter-provincial floating population in China
Beijing and Tianjin region	174	0.41	3198	7.54	547	0.64	10,036	11.69
Yangtze River Delta region	3341	7.88	9361	22.07	5163	6.01	28,180	32.81
Pearl-River Delta region	430	1.01	15,065	35.51	881	1.03	21,498	25.03
Total	3945	9.30	27,624	65.12	6591	7.68	60,714	69.53

Source: 2000 and 2010 census.

3.5 IMPLICATIONS OF MOBILITY FOR THE IDENTITY OF THE FLOATING POPULATION

These results have important implications for understanding the issues related to the identities of the floating population in China. First, one of the most important issues arising from the migration of the floating population is the prevalence of bi-local or even multi-local identities – in relation to their places of *hukou* registration vis-à-vis their places of migration destination (e.g. Zhu and Chen 2010; Fan and Sun 2011; Schmidt-Kallert and Franke 2012). While understanding that the members of the floating population are in a disadvantaged situation due to the lack of local *hukou* status, it is important to note that they straddle two or even more geographical regions in their migration process. This leads to their distinctive socio-economic characteristics and household strategies, which are different from those of local residents of both their places of origin and destination and need to be taken into account in socio-economic planning and policy making (Zhu and Lin 2014).

Second, the bi-local and multi-local status of the floating population poses great challenges to both their sending and receiving areas in terms of service provision and human resources management. In the coastal areas where most of the floating population are concentrated, it is important to realize that many of them still identify themselves with their places of origin, as evidenced by several recent studies (e.g. Zhu and Chen 2010; Zhu and Lin 2014; Fan and Sun 2011; Schmidt-Kallert and Franke 2012), and are not yet nor will ever become full members of local host communities, as they may move to other new places of destination in the coastal areas or return to their places of origin, as indicated by our analysis earlier. This is particularly the case for the inter-provincial floating population because they are less likely to settle down in their migration destinations, compared to the intra-provincial floating population (Zhu and Chen 2010). Thus efforts need to be made not only to facilitate the 'urban integration' of the floating population, which has been advocated in their destination areas in recent years, but more importantly to provide services to and protect the rights and interests of those members of the floating population who are in the long process of identity change or will not change their identities associated with their places of origin. The sending areas of the floating population also need to be prepared for accepting the reintegration of some members of the floating population; although they do not necessarily return to their home villages, they may return to their home regions.

Third, more efforts need to be devoted to helping members of the intra-provincial floating population to adopt the local identity of their

migration destination and integrate into the local community. As mentioned at the beginning of the chapter, the intra-provincial floating population constitutes the bulk of the floating population in China. In fact, the volume of the intra-provincial floating population was twice the size of the inter-provincial floating population at the time of the 2010 census and should be paid more attention. Our previous research suggests that the settlement intentions of the intra-provincial floating population are higher than for their inter-provincial counterparts (Zhu and Chen 2010; Hu et al 2011) and it may be easier for them to change their identities and integrate into their destination regions. Policy measures targeting the intra-provincial floating population could be taken to facilitate such a process and experiences and lessons learned from their implementation may be taken as reference for the efforts of promoting the integration of the inter-provincial floating population.

3.6 CONCLUSION

This chapter used data from the 2010 and 2000 population censuses to examine recent macro changes in the spatial and temporal patterns of China's floating population and the implications for understanding the issues relevant to the identities of the floating population. The results show that the size of the floating population continued to increase rapidly in the 10 years between the 2000 and 2010 censuses. They are playing a significant role in China's urbanization process and reshaping China's population distribution.

The results also demonstrate that short-term migrants still constitute the majority of the floating population, and their unsettled and unstable nature has not changed much during the period – suggesting that there is still long way to go for them to settle down, either in their current or future places of destination or their places of origin.

The coastal provinces in eastern China remain the main destinations of the floating population and inland provinces (especially in central China) continue to be the main sending regions. However, the results also indicate that the proportion of the floating population absorbed by the eastern region declined in the five years leading to the 2010 census.

In the meantime, at the mezzo level, important changes have taken place in terms of the floating population's main receiving areas. While the Pearl-River Delta region and the Yangtze River Delta region continue to be the two most important destination areas of China's floating population, their relative positions have changed. The Yangtze River Delta region has overtaken the Pearl-River Delta region as the largest receiving region of the

floating population in China. At the same time, the Beijing-Tianjin region has emerged as a new major migration destination.

In this fluid environment, the identity of many internal migrants is bi-local or multi-local. Attempts should be made to better integrate intra-provincial migrants and this may possibly provide lessons for inter-provincial migrants.

NOTES

1. This chapter is based on research supported by the National Natural Science Foundation of China (Grant number: 41471132).
2. There is a slight difference in the definition of migration duration between the 2000 census and the 2010 census, as indicated in Table 3.3; however, we believe that this difference does not significantly affect the general pattern of the floating population's migration duration, which is indirectly confirmed by the data of the 2005 micro-census presented in Table 3.3.
3. Following Wang (2005), in this chapter the eastern (coastal) region includes 11 provinces (municipalities), namely Liaoning, Hebei, Beijing, Tianjin, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong, Shandong and Hainan; the central region includes nine provinces (autonomous regions), namely Shanxi, Inner Mongolia, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei and Hunan; the western region includes eleven provinces (autonomous regions and municipalities), namely Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang.

REFERENCES

Cai, Y. (2013), 'China's new demographic reality: Learning from the 2010 census', *Population and Development Review*, **39** (3), 371–96.

Chapman M. (1976), 'Tribal mobility as circulation: a Solomon Islands example of micro/macro linkages', in L.A. Kosinski and J.W. Webb (eds), *Population at Microscale*, Christchurch: New Zealand Geographical Society, pp. 127–42.

Ding, J.H., Z.Y. Liu and D.M. Cheng (2005), 'Zhongguo renkou qianyi de quyu chayi yu liuchang tezheng (Regional differences of China's population migration and the characteristics of its flow fields)', *Dili Xuebao* (*Acta Geographica Sinica*), **60** (1), 106–14.

Duan, C.R, L.D. Lv and X.J. Zou (2013), 'Dangqian woguo liudong renkou mianlin de zhuyao wenti he duice – Jiyu 2010 nian diliuci quanguo renkou pucha shuju de fenxi (Major challenges for China's floating population and policy suggestions: An analysis of the 2010 population census data)', *Renkou Yanjiu* (*Population Research*), **37** (2), 17–24.

Fan, C.C. (2005), 'Interprovincial migration, population redistribution, and regional development in China: 1990 and 2000 census comparisons', *The Professional Geographer*, **57** (2), 295–311.

Fan, C.C. and M. Sun (2011), 'Migration and split households: a comparison of sole, couple, and family migrants in Beijing, China', *Environment and Planning A*, **43** (9), 2164–85.

Goldstein, S. (1993), 'The impact of temporary migration on urban places: Thailand and China as case studies', in J.D. Kasarda and A.M. Parnell (eds), *Third World Cities: Problems, Policies, and Prospects*, Newbury Park: Sage Publications, pp. 199–219.

Guest P. (1999), 'Mobility transitions within a global system: migration in the ESCAP region', *Asia-Pacific Population Journal*, **14** (4), 57–72.

Guo, F. and Z.X. Zhang (2012), 'Liudong renkou zai chengshi laodongli shichang zhong de diwei: San qunti yanjiu (The urban labour market status of China's floating population: A three-group approach)', *Renkou Yanjiu* (*Population Research*), **36** (1), 3–14.
Hu, C.C, Y. Zhu, L.Y. Lin and W.L. Wang (2011), 'Liudong Renkou de Huji Qianyi Yiyuan Jiqi Yingxiang Yinsu Fenxi – Jiyu Yixiang zai Fujiansheng de Wenjuan Diaocha (The floating population's intention to transfer their *hukou* and its determinants: insights from a questionnaire survey in Fujian Province)', *Renkou yu Fazhan* (*Population and development*), **17** (3), 2–10.
Hugo, G.J. (1978), *Population Mobility in West Java*, Yogyakarta: Gadjah Mada University Press.
Hugo, G.J. (1997), 'Changing patterns and processes of population mobility', in G.W. Jones and T.H. Hull (eds), *Indonesia Assessment: Population and Human Resource*, Singapore: Institute of Southeast Asian Studies, pp. 68–100.
Liang, Z. (2001), 'The age of migration in China', *Population and Development Review*, **27** (3), 499–524.
Liang, Z. and Z.D. Ma (2004), 'China's floating population: New evidence from the 2000 census', *Population and Development Review*, **30** (3), 467–78.
Liu, Y.S., Y. Liu and R.X. Zhai (2013), 'Zhongguo noncun kongxinhua de dilixue yanjiu yu zhengzhi shijian (Geographical research and optimizing practice of rural hollowing in China)', *Acta Geographica Sinica*, **64** (10), 1193–202.
Ma, Z. (1999), 'Temporary migration and regional development in China', *Environment and Planning A*, **31** (5), 783–802.
Schmidt-Kallert, E. and P. Franke (2012), 'Living in two worlds: multi-locational household arrangements among migrant workers in China', *Die Erde*, **143** (3), 263–84.
Skeldon, R. (1990), *Population Mobility in Developing Countries: A Reinterpretation*, London: Belhaven Press.
Wang, G.X. (2005), *Qianyi yu Fazhan – Zhongguo Gaige Kaifang Yilai de Shijian* (*Migration and development: Empirical evidence from China since its reform and open-door policies*), Beijing: Science Press.
Wang, G.X. and Z.H. Pan (2014), 'Woguo liudong renkou de kongjian fenbu jiqi yingxiang yinsu – Jiyu liupu Shuju de fenxi (Spatial distribution of China's floating population and its determinants: evidence from the 2000 census)', *Xiandai Chengshi Yanjiu* (*Modern City Research*), 3, 4–11, 32.
Wang, H., F. Guo and Z. Cheng (2014), 'A Distributional Analysis of Wage Discrimination against Migrant Workers in China's Urban Labour Market', *Urban Studies*, published online 1 September 2014, DOI: 10.1177/0042098014547367, available at http://usj.sagepub.com/content/early/2014/08/31/0042098014547367.full.pdf+html (accessed 30 September 2014).
Wilson, G. (1941–1942), *An Essay on the Economics of Detribalization in Northern Rhodesia, Parts 1 and 2* (*Rhodes-Livingstone Papers nos. 5 and 6*), Livingstone: Rhodes-Livingstone Institute.
Zhu, Y. (2003), 'The floating population's household strategy and the migration's role in China's regional development and integration', *International Journal of Population Geography*, **9** (6), 485–502.
Zhu, Y. and W.Z. Chen (2010), 'The settlement intention of China's floating population in the cities: recent changes and multi-faceted individual-level determinants', *Population, Space and Place*, **16** (3), 253–67.
Zhu, Y. and L.Y. Lin, (2014), 'Continuity and change in the transition from the first to the second generation of migrants in China: insights from a survey in Fujian', *Habitat International*, **42** (2), 147–54.