Migration and Development
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rmad20

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To cite this article: Kam Wing Chan (2012): Migration and development in China: trends, geography and current issues, Migration and Development, 1:2, 187-205

To link to this article: http://dx.doi.org/10.1080/21632324.2012.739316

Migration and Development
Vol. 1, No. 2, December 2012, 187–205

Routledge
Taylor & Francis Group

Migration and development in China: trends, geography and current issues

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(*Received 13 August 2012; final version received 14 September 2012*)

China's recent meteoric rise in the global economy is closely related to the strength of its manufacturing sector, which is heavily dependent on cheap migrant labor. This paper analyzes China's recent migration trends, spatial pattern and their relationship with China's economic strategy. Internal migration in China is special in that it is heavily controlled and regulated by the *hukou* (household registration) system. The system enables the country to create a massive exploitable migrant labor force that makes China's industry highly competitive in the global economy. The paper explains how the system works and distils the complex population and migration statistics to present a relatively complete picture of migration over time and space, including the latest changes. Special focus is on analyzing 'rural migrant labor', which has constituted the most important human cog powering the China economic engine. Long-distance, interprovincial migration is also studied in the context of the changes in the regional economy in supporting China's ascendancy to being the 'world's factory'. Three major issues pertaining to this migrant labor system and recent developments in China and the global economy are examined. They presage important changes to come, which are likely to impact both China and the rest of the world.

Keywords: China; migration; hukou system; interprovincial migration; world's factory

1. Introduction

China's rise as the 'world's factory' is definitely one of the biggest stories of the 21st C. China's dominance in manufacturing has made it a major player in the global economy. This China success story is closely intertwined with the migration story: without the epic-scale migration of peasants – which supplies almost infinite low-cost human labor to power the China economic engine – the ascent of China would be totally unthinkable. Cheap migrant labor is what makes 'China price' so unrelenting (Harney, 2008). The last three decades have witnessed the world's 'Great Migration' – an estimated 200–250 million rural residents have moved to cities and towns within China (Chan, 2012a). To put this in perspective, the volume of the Great Migration of Europeans to North America from 1800 to the World War I was only a fraction of China's, 'on the order of fifty million persons' (Tilly, 1976, p. 58).

Building on the previous work (Chan, 2001b, 2012b; Liang, 2007) and using the latest Census data available, this paper analyzes China's recent migration trends, spatial pattern and their relationship with economic development. China's internal migration is special in that it is heavily controlled and regulated by the *hukou* (household registration) system (Chan, 1994; Fan, 2008). As will be explained below, through the special institutional design of the *hukou*

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ISSN 2163-2324 print/ISSN 2163-2332 online

http://dx.doi.org/10.1080/21632324.2012.739316
http://www.tandfonline.com

system, China has also managed to turn this vast number of rural-urban migrants into the largest army of cheap industrial labor the world has ever seen. Moreover, China's simultaneous use of a *de jure*, *hukou*-based population registration system and de facto population statistical counts have greatly complicated the task of counting especially migrants and measuring migration. There are all kinds of conceptual and technical complexity, plus a plethora of lexicon, both of which serve mostly to mislead and confuses some researchers (see Chan, 2007; Liang, 2007; Liu & Chan, 2001). This requires some explanation before one can analyze the trends and patterns. The concluding section of this paper highlights the latest important migration issues affecting China's development and the world.

2. The *hukou* system[1] and migration

After the Communist Revolution in 1949, China opted for the traditional, Stalinist growth strategy of rapid industrialization centered on heavy industry in cities and extraction of agricultural surplus from the peasantry (Chan, 1994). This strategy was predicated upon exploiting the rural labor by denying it geographic mobility and access to state welfare. From the mid-1950s, the government repeatedly introduced measures to stem rural outflows, culminating, in 1958, in the formal codification of a comprehensive registration system to control population mobility (Chan, 2009a; Wang, 2005). The regulation decreed that all internal migration be subject to approval by the relevant local government. From that point, Chinese citizens lost the freedom of residence and migration within their own country. Each person is assigned a *hukou* (registration status), classified as 'rural' or 'urban', in a specific administrative unit. The *hukou* mechanism served a central instrument of the command system designed for the big-push industrialization, to prevent peasants from exiting from the countryside. This industrialization strategy led China to create, in effect, two very different societies: on the one hand the urban class, whose members worked in the priority and protected industrial sector and who had access to (at least basic) social welfare and full citizenship; and on the other hand the peasants, who were tied to the land to produce an agricultural surplus for industrialization and who had to fend for themselves. *Hukou* conversion, referring to change from the rural to the urban category, was tightly controlled and permitted only under very limited conditions, usually when it was in accordance with state industrialization plans. The *hukou* system was not merely a means of limiting rural-urban population and labor mobility, as it has been commonly depicted, but also a system of social control aimed at excluding the rural population from access to state-provided goods, welfare, and entitlements so that the rural population segment remains cheap and easily exploited.

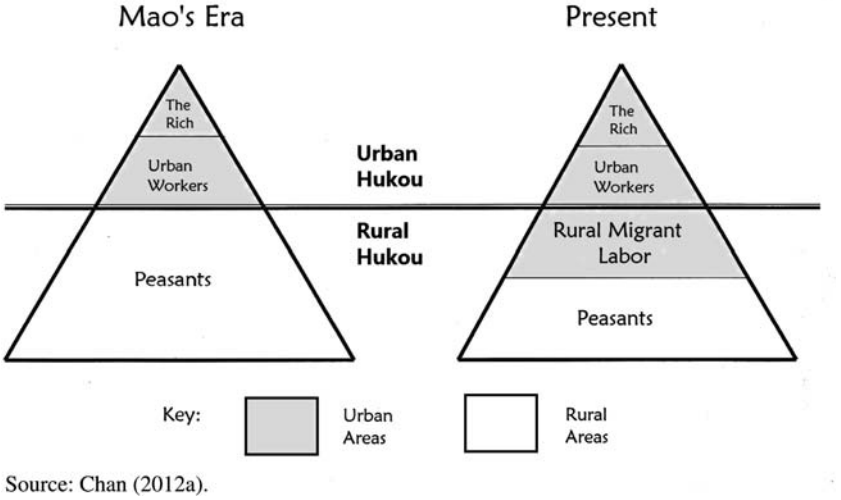
It was under this socioeconomic context that China in the late 1970s launched its economic reform. After some experimentation, as China latched onto a labor intensive, export-oriented growth strategy in the mid-1980s, rural labor was allowed en masse to the cities to fill industry's labor demand, which later became a major state industrialization strategy. By the mid-1990s, rural-*hukou* labor had become the backbone labor force of the export industry based on manufacturing. Today rural *hukou* labor also staffs almost all of the low-end services in urban areas. In coastal export centers such as Shenzhen and Dongguan, migrant labor now accounts for by far the greater part (70–80%) of the labor force (Chan, 2009b; Liang, 1999).

'Rural migrant labor' (*nongmingong*), as the term comes to be known in China, has a specific meaning in the country: it refers to industrial and service workers with rural *hukou*. These village-origin laborers, though working on urban jobs and residing for the most part in towns and cities, are not considered legally to be urban workers. Neither are they (nor, under the current system, will they one day be) treated as 'locals': *rural migrant* is not a probational

status but permanent (Wu, 2011). They are not eligible for regular urban welfare benefits and social services (access to local schools, urban pension plans, public housing, etc.) and other rights that are available to people with urban *hukou*. Instead, rural migrant workers are treated officially as part of the rural *hukou* population, even though they may have worked and lived in an urban area for many years. In short, they are trapped, through institutional mechanism, in a permanent social 'half-arrival' situation, belong to the netherworld of rural or urban, and with little hope of acculturating into the urban permanent population (Saunders, 2012; Zhang, 2012). This also applies to their children, even some of them are born in the city. The legally 'temporary' status of this group's members and their *permanent* ineligibility for local 'citizenship' in the form of urban *hukou* make them forever vulnerable and easily expendable (Solinger, 1999; Wu, 2011).

One's *hukou* classification remains unchanged no matter where he/she moves, unless he/she effects a formal *hukou* conversion, which is almost impossible to get for an ordinary rural migrant. As a result of this institutional design, they are consigned to low-end factory and service jobs. In many cities and export zones, local decrees have also forbidden migrants from taking up jobs other than those in the low-skilled 3-D (dangerous, dirty, and demeaning) category. The denial of local urban *hukou* to migrant workers, combined with their plentiful supply and lack of access to legal support, has created a large, easily exploitable, yet highly mobile, and flexible industrial workforce for China's export economy. The internal migrant labor force is equivalent to the cheap migrant labor in the classical Lewis model of the unlimited supply of labor. It has greatly contributed to China's emergence as the world's 'most efficient' – i.e. the least-cost – producer. Figure 1 outlines the main components of China's dual society, with particular reference to position in the social (and economic) hierarchy (pyramid), type of *hukou* (urban or rural), and rural/urban location in two different historical periods – Mao's (pre-1979) era and the present.

Alarmingly, their numbers have been swelling rapidly: even excluding those employed in township or village enterprises close to their home villages, the size of the rural migrant labor force has expanded from about 20–30 million in the 1980s to close to 160 million in 2011 (see Table 1 later). The total number of (urban) population without local *hukou* was even



Source: Chan (2012a).

Figure 1. Main components of Chinese society, with reference to the social hierarchy, *hukou* type and location in rural/urban area.

Table 1. Major aggregate migration and urban population statistics, 1982–2011 (in millions).

	***Hukou* Migrants** (Yearly flow figures)	**Non-*Hukou* Population** (Stock figures)						*De facto* population in urban areas
		'Temporary Population'		'Rural Migrant Labor'	Rural-*hukou* population in urban areas		
	Police statistics	Registered with MPS (mid-year)	National Censuses/ Mini-Censuses		NBS estimates based on sample surveys	Author's estimates		NBS statistics
Geographic boundary (to cross)	City, town or township		Township-level unit	County or city	Township	Not applicable		Not applicable
Minimum length of stay (for those without local *hukou*)	No minimum	3 days	6 months	6 months (unless otherwise specified)	Away for outside work (for 6 months or more)	6 months		6 months
Series	A	B	C	D	E	F	G(%)	H
1982	17.30			6.6 (1 year)		46.5	21.7	214.5
1987	19.73			15.2[a]	26.0[c]	64.0	23.1	276.7
1990	19.24			21.6 (1 year)		66.3	22.0	302.0
1995	18.46		49.7	29.1[b]	75.0	69.4	19.7	351.7
2000	19.08	44.8	144.4	121.0		136.6	29.8	459.1
2001	17.01	55.1				148.6	30.9	480.6
2002	17.22	59.8			104.7	152.8	30.4	502.1
2003	17.26	69.9			113.9	149.5	28.5	523.8
2004	19.49	78.0			118.2	151.4	27.9	542.8
2005	19.33	86.7	153.1		125.8	153.1	27.2	562.1
2006	20.60	95.3			132.1	156.4	27.1	577.1
2007	20.84	104.4			137.0	163.0	27.5	593.8
2008	18.92	116.6			140.4	167.0	27.5	606.7
2009	16.77	122.2			145.3	171.6	27.6	621.9
2010	17.01	131.4	261.4	221.4	153.4	205.6	30.9	665.6
2011		155.4			158.6			690.8

Notes and sources:
MPS = Ministry of Public Security;
NBS = National Bureau of Statistics.
[a]the geographic boundary is based on city, county or town.
[b]the geographic boundary is based on county-level units.
[c]refers to 1988
A: MPS (1988–2010); NBS & MPS (1988); B: MPS (1997–2011); C and D: NBS (1988), SC & NBS (1985, 1993, 2002, 2007, 2012), and NPSSO (1997); E: 2002–2008 figures are from NBS, complied by Cai and Chan (2009, Table 1). 2009–2011 figures are from NBS (2010, 2011 and 2012a). Earlier figures are estimates in Lu et al. (2002) and they may not be fully comparable to recent NBS figures; F: Estimates derived from Chan (2012a, Table 1); G: F expressed as a percentage of H; H: NBS figures compiled by Chan (2012a). 2011 figure is from Ma (2012).

higher, reaching 230 million in 2011 (NPFPC, 2012). Again, to put the number in perspective, the total number of international migrants is estimated by the United Nations (2012, Table 1) to be 214 million in 2010, which is smaller than China's non-*hukou* population in urban areas. The rapid expansion of China's essentially disenfranchised population, primarily in urban areas, has become its hallmark in the last quarter century.

Based on the above, two broad categories of migrants can thus be identified in China (Chan, Liu, & Yang, 1999):

(a) Migration with 'local' residency rights (hereafter, *hukou* migration). This is usually open only to a select group (currently, the rich or the highly educated), and immediate family members of residents with local *hukou* (Chan & Buckingham, 2008).
(b) Migration without *hukou* residency rights (non-*hukou* migration).

Officially only *hukou* migration is considered *qianyi* (migration). Migrants in that category are eligible for the same array of social benefits and rights other local residents have. Other types of moves are considered *renkou liudong* (population movements or 'floating' population), implying a 'temporary' move to a destination where the person is not supposed to, and is legally not entitled to, stay permanently. China's exceptionally large numbers of people moving internally as well as the circulatory and temporary nature of some of them have hugely complicated the efforts to measure the movement consistently and to address accurately its many implications (Chan, 2007, 2012b).

Based on the above understanding and a careful differentiation of migration, urbanization and *hukou* statistics gleaned from a variety of sources and surveys[2] in accordance with their nature (flow or stock), and temporal and geographic coverage, a matrix set up in Table 1 allows us to make good sense of those numbers and gain an understanding the overall volume of migration, its variety and trends in the last 30 years. Despite the diverse sources and the varying quality of these data sets, when analyzed side by side, they not only become meaningful and useful information but also display some notable broad consistencies, as explained next.

Hukou Migrants Series (A): This series refers to *hukou* migrants and is the only 'flow' data series presented in Table 1. The figures refer to the number of in-migrants who are formally granted *hukou* status in the destination (city, town and township) each year. The data are from Ministry of Public Security. They represent the total number of all types officially approved changes in *hukou* (residence) within a particular year, from townships to cities; from cities to cities; from townships to townships, etc, most probably excluding moves *within* cities, towns and *within* townships. A portion of *hukou* migration is rural-to-rural migration, mainly involving marriage.

Non-*Hukou* Population Series (Series B–G): This refers to the people staying in an administrative unit (usually city, town, street, or township) other than their place of *hukou* registration. This group is also commonly known as the *liudong renkou* (floating population). The 'floating population' is not the *de jure* population. In some cases (such as Shenzhen), the size of the floating population is far larger than that of the *de jure* population (Chan, 2009b). The non-*hukou* population series are migrant 'stock' figures; i.e. the number of non-*hukou* migrants who reside in a certain locale at a given point in time.

Owing to the different purposes, coverage and criteria used in defining the geographic boundary and the minimum duration of stay, the statistics for the non-*hukou* population in each series may be expectedly quite different even for the same year.

Series B: This is a systematic series of non-*hukou* population based on actual registration statistics kept by the Ministry of Public Security. By law, anyone staying in places other than

his/her place of household registration for three days or more is required to register with the police and apply for a *zanzhu zheng* (temporary resident permit). Consequently, this group is also categorized as 'temporary population' (*zanzhu renkou*) by the police authorities. In reality, a large number of 'floaters' fail to comply with this requirement; that helps to explain part of the large discrepancies between Series B and C.

Series C and D: These are statistics collected by the National Bureau of Statistics (NBS) through censuses and mini-censuses (1% national surveys). The population is defined basically on a de facto basis. The de facto definition stipulates a minimum residence requirement (6 months or one year) to define a *changzhu* population (de facto resident population); the residence period is far longer than the one used in Series B. The series are also commonly referred to as 'temporary population' (Yang, 1996), although many in this group stay far longer that what would commonly be considered as 'temporary'. These two series, however, exclude the truly temporary, such as tourists, and shorter-term migrant workers. Because C also includes people moving within the same cities, who are not truly 'non-*hukou* population' as we generally understand it, D is the better statistic for representing the non-*hukou* population.

Series E: This series refers to what is known as 'rural migrant labor' (*nongmingong*), which is the largest constituent group of the non-*hukou* population. This group includes only the working population with rural-*hukou* (and without local *hukou* in the destination);[3] almost all of them work in cities and towns and are away from home villages for usually six months or more. The figures are estimates based on large-scale sample surveys conducted in the rural areas. Despite this group's importance, systematic and consistent national surveys of this group by the NBS did not take place until the early years of the 21st C. Estimates for the pre-2000 period are less systematic and based on smaller samples and somewhat different definitions. The majority of rural migrant laborers are unskilled or low-skilled workers. Some of these rural migrants are seasonal and are therefore prone to move between the city and the countryside 2–3 times in a year. They are also harder to be enumerated using standard population counting procedures.[4]

Series F and G: F is an estimate of those carrying rural-*hukou* but staying in the urban area. The number is computed as the difference between the de facto urban population (Series H), and the 'nonagricultural-*hukou* population' published by the Ministry of Public Security. The latter is commonly considered as the urban-*hukou* population (see Table 1 in Chan, 2012a). Series F is closely related to Series E; broadly, the former is the sum of E (rural migrant laborers) and their dependents (non-working population). Series F also overlaps with the urban population without local *hukou* to a large extent. The latter figure in 2010, as reported by NPFPC (2011), for instance, is 221 million, which is very close to the figure in F for the same year (206 million). G is F expressed as a percentage of H.

Urban Population Series (H): This is added here to show the growth of the urban population, an important metric of China's urbanization. This de facto urban population is the common, perhaps only, statistic of 'urban population' known at the national level in almost all countries in the world. In China, however, there are multiple series of 'urban population', including several defined based exclusively on the *de jure* population counts (see Chan, 2007, 2012a).[5] The series presented here refers to the number of people counted based on a de facto criterion.[6]

3. Trends and geography of migration since 1982

Based on the figures presented in Table 1, one can identify some broad migration trends. The annual number of *hukou* migrants recorded by the Ministry of Public Security remained

relatively stable, hovering between 17 and 21 million in the last three decades. In fact, the rate of *hukou* migration, as a percentage of China's total population, has declined significantly, from 1.7% in 1982 to only 1.3% in 2010. *Hukou* migrants include mainly rural-rural and rural-urban migrants. Systematic information about the composition is not available, but it is quite sure that *hukou* conversion for many migrants remains very stringent in especially large cities (Chan & Buckingham, 2008).

On the other hand, the non-*hukou* migrant population – no matter how you measure it – has increased rapidly in the last twenty years. For example, Series D has expanded from about 30 million in 1995 to 121 million in 2000, and increased by another 100 million in the first decade of the 21st C. The average annual (net) flow of non-*hukou* migrant population has been on the rise since the early 1980s. Reflecting the same process, the number of those in the urban areas but with rural *hukou* increased from 66 million in 1990 to 205 million in 2010 – a jump 145 millions in two decades! As a percentage of the urban population, the number increased from 20–23% in the late 1980s and the early 1990s to 31% in 2010 (Series G).

Between 1987 and 1995, the average annual increase in the number of people who stayed in a place different from their *hukou* registration place was less than 2 million (calculations based on Series D). This figure surged to about 10 million per year in 2000–2010. A similarly upward trend is seen in the number of rural migrant workers. The average increase was about about 6 million in 2002–2011, compared to an annual average of 5 million in the previous two decades (based on Series E).[7] Furthermore, the gap, both in absolute and relative terms, between the de facto urban population and those without rural *hukou* has widened in the last 10–15 years, suggesting a rather disturbing trend that more and more people in cities and towns fall into the disadvantaged category 'in the city but not of the city' (Chan, 2011). The rapid swelling of the non-*hukou* population in the city coincides with China's ascendency to being the 'world's factory'.

As far as the geography is concerned, these flows are labor migrations in response to disparities in wages between the urban and rural sectors and between regions in China (Cai, 1999, 2000; Fan, 2005). The lack of sufficient gainful employment in the countryside in many agricultural provinces has pushed many rural-*hukou* workers to leave home. They move to make monetary gains through employment as wage-workers or self-employment. Many go to nearby towns outside the villages and most of them move within provinces, but about a quarter to one third migrates to big cities on the coast (Chan, 2012b).

Drawing on the long-form sample data from China's last two censuses and two mini-censuses (One Per Cent National Population Surveys), Table 2 provides a summary of the major interprovincial migration statistics covering four 5-year periods between 1990 and 2010 for the population aged 5 and above,[8] and the aggregate pattern. The table permits an examination of the overall pattern of the interprovincial migration flows, as well as the changes over time.

As part of the Great Migration, interprovincial migration has increased significantly too since 1990, from only 10.7 million in 1990–1995 to 55.2 million in 2005–2010.[9] These cross-province flows are almost totally village-to-city migrations. The total interprovincial migration in those two decades (based on those four 5-year periods) totalled 136.3 million. This number counts more than once of those same interprovincial migrants who moved more than once in those four periods. In 2010, 85.8 million people lived in a place with a *hukou* registered in another province, compared to only 42.4 million in 2000 (SC & NBS, 2002, 2012). The doubling of the out-of-province *hukou* population mirrors the same level of change in the overall non-*hukou* population in the same period (from 121 to 221 million, see D in Table 2).

Table 2. Interprovincial Migration in China, 1990–2010 (in thousands).

	1990–1995			1995–2000			2000–2005			2005–2010					1990–2010 Aggregate		
Provincial-level unit	Net migration	%[a]	Rank	Net migration	%	Rank	Net migration	%	Rank	In-migration	Out-migration	Net migration	%	Rank	Net	%	Rank
Guangdong	1799	19.6	1	11,063	34.3	1	10,281	27.0	1	13,890	1613	12,277	22.2	1	35,420	24.9	1
Zhejiang	−273	−3.0	24	1745	5.4	3	4021	10.6	2	8407	1339	7067	12.8	2	12,560	8.8	2
Shanghai	610	6.6	2	2005	6.2	2	2650	7.0	3	4934	401	4533	8.2	3	9798	6.9	3
Beijing	606	6.6	3	1715	5.3	4	1916	5.0	5	3851	406	3445	6.2	4	7682	5.4	4
Jiangsu	319	3.5	5	667	2.1	7	1963	5.2	4	4895	1894	3002	5.4	5	5951	4.2	5
Fujian	104	1.1	10	722	2.2	6	1132	3.0	6	2515	1114	1401	2.5	6	3359	2.4	6
Tianjin	171	1.9	7	388	1.2	8	802	2.1	7	1499	213	1286	2.3	7	2647	1.9	7
Xinjiang	437	4.8	4	925	2.9	5	395	1.0	8	841	287	554	1.0	8	2311	1.6	8
Liaoning	248	2.7	6	375	1.2	9	257	0.7	9	1181	685	495	0.9	9	1375	1.0	9
Hainan	38	0.4	12	88	0.3	11	33	0.1	10	339	236	103	0.2	11	262	0.2	10
Nei Mongol	159	1.7	8	−116	−0.4	18	−23	−0.1	14	829	648	181	0.3	10	201	0.1	11
Ningxia	4	0	15	41	0.1	13	7	0.0	11	239	151	89	0.2	12	141	0.1	12
Tibet	27	0.3	13	35	0.1	14	−6	0.0	12	92	62	29	0.1	14	85	0.1	13
Qinghai	17	0.2	14	−46	−0.1	16	−12	0.0	13	183	150	33	0.1	13	−8	0.0	14
Yunnan	104	1.1	9	335	1.0	10	−132	−0.3	15	632	1089	−457	−0.8	16	−150	−0.1	15
Shanxi	87	0.9	11	49	0.2	12	−135	−0.4	16	499	794	−295	−0.5	15	−294	−0.2	16
Shandong	−9	−0.1	16	26	0.1	15	−199	−0.5	17	1341	2015	−674	−1.2	19	−856	−0.6	17
Jilin	−134	−1.5	22	−275	−0.9	19	−315	−0.8	18	345	854	−509	−0.9	17	−1233	−0.9	18
Shaanxi	−25	−0.3	17	−296	−0.9	20	−572	−1.5	21	735	1347	−613	−1.1	18	−1506	−1.1	19
Gansu	−77	−0.8	20	−357	−1.1	21	−376	−1.0	19	260	1047	−787	−1.4	20	−1597	−1.1	20
Hebei	−74	−0.8	19	−102	−0.3	17	−378	−1.0	20	925	2017	−1092	−2.0	21	−1646	−1.2	21
Chongqing	NA	NA	NA	−655	−2.0	23	−1010	−2.7	23	737	1844	−1107	−2.0	22	−2772	−1.9	22
Heilongjiang	−188	−2.0	23	−639	−2.0	22	−825	−2.2	22	323	1463	−1140	−2.1	23	−2792	−2.0	23
Guizhou	−107	−1.2	21	−970	−3.0	24	−1235	−3.2	24	592	2681	−2088	−3.8	24	−4400	−3.1	24
Guangxi	−450	−4.9	26	−1551	−4.8	25	−1726	−4.5	25	600	2821	−2221	−4.0	25	−5948	−4.2	25
Hubei	−44	−0.5	18	−1604	−5.0	26	−2214	−5.8	27	846	3804	−2958	−5.4	27	−6820	−4.8	26
Jiangxi	−347	−3.8	25	−2445	−7.6	28	−1977	−5.2	26	699	3483	−2784	−5.0	26	−7553	−5.3	27
Hunan	−532	−5.8	28	−2899	−9.0	30	−2827	−7.4	28	690	4592	−3902	−7.1	28	−10,160	−7.1	28
Henan	−514	−5.6	27	−1839	−5.7	27	−3154	−8.3	29	432	5430	−4999	−9.1	31	−10,506	−7.4	29
Anhui	−662	−7.2	29	−2579	−8.0	29	−3165	−8.3	30	824	5526	−4702	−8.5	30	−11,108	−7.8	30
Sichuan	−1294[b]	−14.1[b]	30	−3806	−11.8	31	−3178	−8.4	31	1055	4988	−3933	−7.1	29	−12,211	−8.6	31
Total interprovincial migration	10,661			32,330			38,042					55,228			136,261		

Notes: [a]as a percentage of the nation's total interprovincial migration
[b]includes Chongqing.
Sources: NPSSO (1997), SC & NBS (2002, 2007, 2012).

Table 2 also shows the ranks of the provinces according to the net migration volumes in different periods. At this level, major in-migration and out-migration flows between provinces are largely unidirectional (Chan, 2012b). That means the major players in interprovincial flows were essentially either export provinces (such as Sichuan) or import provinces (such as Guangdong). Because of that, the net migration statistics can readily capture the importance of each province in the interprovincial flows.

Table 2 arranges provinces by the aggregate volume of net migration in the two decades, with Guangdong (the largest net importer) topping the list and Sichuan (the largest net exporter) at the bottom. The predominant flows are from the inland to the coast. In Table 2, the top seven provinces are all from the coast, and the bottom eight, from the inland. This same pattern is also borne out by the latest census data reporting the flows in 2005–2010, as in Figure 2, which maps the largest 20 interprovincial flows in that period.

Further examination of Table 2 shows that the net in-migration is dominated by two provinces, Guangdong and Zhejiang. They accounted for 35–40% of all interprovincial migration since 1995. This dominance is also evident in the latest period, as illustrated in Figure 2. Guangdong was *the* most sought-after destination of interprovincial migrants for the entire two decades. At its peak share in 1995–2000, the province's net migration accounted for about one third of the nation's total interprovincial migration. Its share has declined steadily since 2000 though net migration volume has actually increased. The slack has been filled by Zhejiang, which had a dramatic reversal of role, from being a net exporter in 1990–1995 to being the third largest net importer in 1995–2000, and climbed to be the second largest thereafter. In the late 20th C, the storied Zhejiang migrants were known for their entrepreneurial skills and ubiquity in the country (and later even in Europe); the high economic growth of the province since the mid-1990s has turned it into a major and increasingly popular destination of migrants in the 21st C.

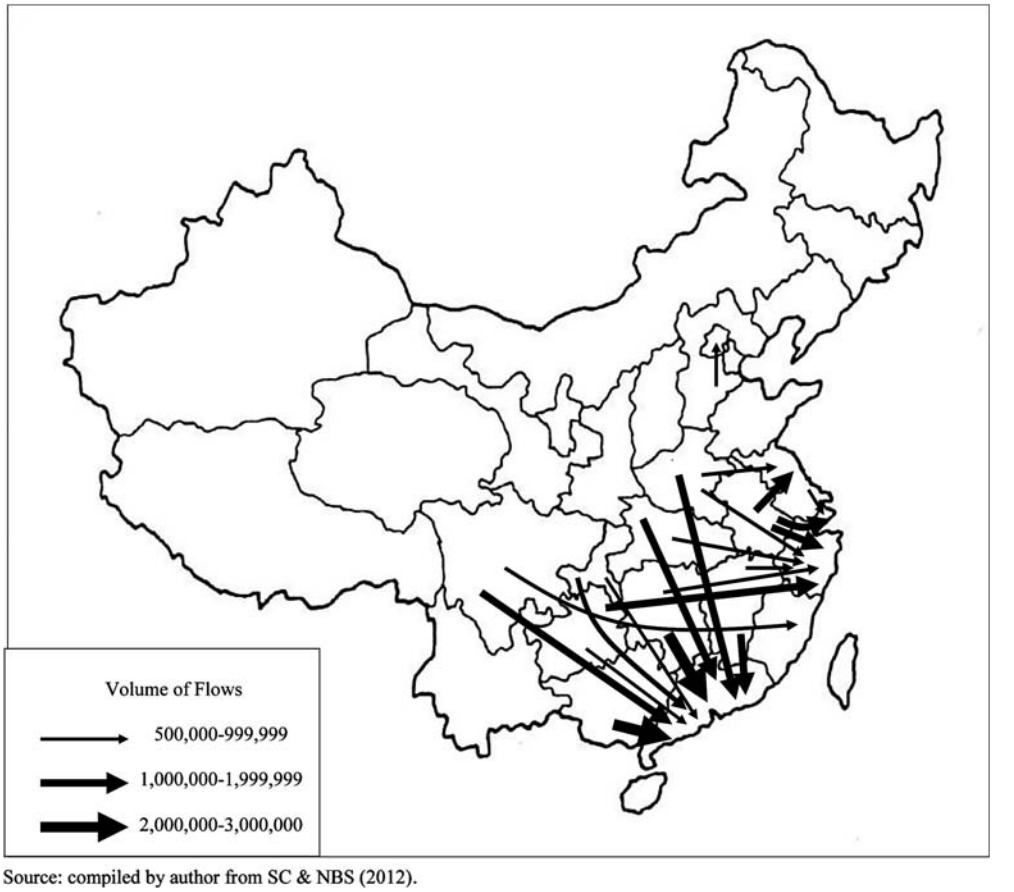
At the sending end, there are more plentiful players. In 2005–2010, there were seven provinces with each contributing to 4–9% of the total interprovincial migration or more, and no single one predominated. Sichuan was the largest net exporter of migrants over the two decades since 1990 (e.g. in 1990–1995, the province outmigration accounted for 14%[10] of the nation's total interprovincial migration), and is no longer so. Sichuan dropped to the third in net outmigration in 2005–2010. In 2000–2005 and 2005–2010, the share of total migration from the largest four net population exporters (Sichuan, Anhui, Henan, and Hunan) was very close (−7 to −9%). In other words, in those 20 years, while there was greater convergence of interprovincial migration flows into two provinces (Guangdong and Zhejiang), origins of these flows became more diverse. The changes reflect the intensification of regional industrial restructuring beginning in the late 1980s, whereby inland provinces lost proportionally more manufacturing jobs to the coastal provinces in the second half of the 1990s and onwards (Yang, 2004), giving rise to the emergence of Guangdong (and to a less extent, Zhejiang) as the 'world's factory' in the last 10 years. At the same time, many more poor provinces (both their governments and people) have actively pursued labor exports as an economic strategy, modelled after Sichuan. This greater geographic spread of labor migration over longer distances is consistent to what Skeldon (1990) calls the 'diffusion' of migration in the case of Peru.

The relative rankings of the provinces over time in Table 2 show remarkable stability in 1995 through 2010. Indeed, the rankings in 2005–2010 are almost exactly the same as those for the entire two decades. They reflect strongly the economic regional specialization in that period. There is a somewhat different picture in the earliest period (1990–1995) in Table 2, as demonstrated by the phenomenal reversal of Zhejiang from a major net exporter in

1990–1995 to a top net importer thereafter. Another point worth noting is that there was a noticeable, though still small, but increasing amount of outmigration from the major net importers (e.g. Guangdong) in the first decade of the 21st C, often directed towards provinces of origin of the in-migrants, such as Hunan, Sichuan and Guangxi. This outmigration is likely return flows of migrants, who came to the coastal cities in the earlier periods.

4. Current migrant issues

While the world economy was still mired in recession in 2010, China's economy continued to grow, albeit at a slower pace. In that year, China also overtook Japan to become the world's second largest economy. At present, with Europe's serious debt crisis, and the US and Japan struggling to maintain growth, many have looked to China as the savior of the world economy (e.g. Drysdale, 2011). As pointed out before, China's success in being the world's factory relies heavily on its own mammoth army of low-cost migrant workers, made possible by its unique *hukou* system. In recent years, a series of rather dramatic and significant events related to migrant labor in China has alerted us to an emerging new reality – that the ingredients that make the 'China model' tick may be on the verge of a tectonic change.



Source: compiled by author from SC & NBS (2012).

Figure 2. The 20 largest interprovincial migration flows, 2005–2010.

Moreover, the model also looks more fragile than outsiders have portrayed (Chan, 2011). These issues have serious implications for both China and for the global economy.

4.1. The global financial crisis and the vulnerability of migrant labor

Occupying the bottom of global supply chain, migrant labor was badly hit when the global economy tanked. Thousands of factories were closed in Guangdong and Zhejiang as the global economic crisis unfolded in the open in the last quarter of 2008 and 2009. This led to massive layoffs of factory workers, almost all of whom were migrants without local *hukou*. Many of these factories were folded almost overnight without any warning to their workers, and without paying the workers in full and the required severance. Guangdong's Dongguan, which was the core center of China's export industry, was devastated by the slump. Angry workers staged numerous mass protests demanding full payment of wages and layoff compensation. Even the international media succeeded in filming and reporting rather unusual scenes of tense confrontations and scuffles with police (Foreman, 2008).

Drawing on data from NBS in late March, 2009, based mainly on a large national sample survey at the end of 2008, Chan (2010d) estimated that the total unemployment of the rural migrant labor in early 2009 was about 23 million, or 16.4%. The sharp loss of 16% of jobs held by migrants constrasts to only 4.3% for the urban-*hukou* workers in formal employment in March 2009.[11] Indeed, more than 95% of the newly laid-off workers in the nonagricultural sector were rural migrant workers, pointing to the extreme vulnerability of this particular group. Such a situation put China dangerously on the verge of a major crisis (Chan, 2010d; Csanádi, 2010). Fortunately, China was able to avert this crisis through implementing a gigantic stimulus package and a conciliatory approach to labor disputes by local governments (Csanádi, 2010). The massive investment in high-speed train projects, for example, created millions of jobs in 2009 and was able to reemploy some of the laid-off workers fairly quickly and reverse the situation.

4.2. Shortages of labor and the Lewis turning point (LTP)

As China's economy began to recover in the early months of 2010, Chinese factories in a few coastal cities were reported to have difficulties in finding workers to help fill export orders. Some factories in Guangdong resorted to hiring even illegal workers from Vietnam and elsewhere (*Sing Tao Daily*, 2010a). This came as a surprise to many observers, because just about a year earlier the situation was completely the opposite: 23 million migrant workers were laid off as the global financial crisis spread to China's manufacturing cities. It is also hard to conceive that severe labor shortages would occur at a time when China's working-age population, the world's largest, has climbed to a new high (reaching 981 million in 2010) and is projected to continue expanding until 2015 (Hu, Fang, & Du, 2010; Kroeber, 2010). The shortages and the abundance appear to be rather contradictory.

Furthermore, in May 2010, the world was also shocked by news of a serial tragedy related to the treatment of labor in China's famed export-processing zones. A total of 14–16 suicide attempts of migrant workers (resulting in 12 deaths) took place in just the first five months of the year, in a single giant factory complex, Foxconn in Shenzhen, the world's largest assembler of electronic products[12] for major brand names such as Apple, Dell and Toshiba (Moore, 2010). The media's frantic reports have revealed to the world a great deal more about the harsh conditions experienced by young Chinese migrant workers.[13] In the same week as Foxconn moved into damage-control mode by offering raises of about 25% to work-

ers, multiple serious strikes took place at several Honda assembly plants in the nearby cities of Foshan and Zhongshan in the Pearl River Delta. Those strikes ended after two to three weeks with the workers winning 10–30% raises, but they were not the last ones: workers at another Honda subsidiary in Foshan went on strike in July and later (*Sing Tao Daily*, 2010b).

The increasing wages and the militancy of the migrant workers have led both the Chinese and international media in late 2010 to pronounce a labor 'shortage' and 'the end of surplus labor' in China (e.g. Demick & Pierson, 2010). More critically, some observers have argued that China has reached a LTP (Hamlin, 2010; Zhang, Yang, & Wang, 2010).

The LTP, hypothesized by Nobel laureate Arthur Lewis (1954), is the point when the dualistic rural-urban labor market in a country begins to break down and merge into one. It is also the point where a labor surplus economy is transformed into a full-employment 'normal' economy (Huang & Jiang, 2010). According to Lewis, a developing country's industrial wages begin to rise quickly at that point when the supply of surplus labor from its rural areas tapers off. In the case of China, reaching this point would signal that its notorious and tenacious dualistic rural-urban socioeconomic structure, which has existed for the entire six decades of the People's Republic era, and which is the root cause of a host of social and economic ills, is beginning to end. Reaching the LTP would bring real hopes of closing the huge rural-urban economic and social chasm in China in the near future. And obviously, the significance of the change would extend far beyond China, as the country is the world's largest exporter (Garnaut, 2010; Huang & Jiang, 2010).

However, it is clear that there is still an abundance, not a shortage, of surplus rural labor in the country (see, e.g. Yao, 2010). This is seemingly a China paradox of migrant labor shortages amidst rural labor supply abundance. According to some authors (e.g. Green, 2008; Han, Cui, & Fan, 2009), rural labor supply remains plentiful, and the rural sector is still grossly overstaffed. Rural labor surplus is estimated to be in the order of about 100 million, almost totally in the age group 35 and above, at the end of the last decade.[14] This paradox can be explained by reference to China's special socioeconomic contexts, which are often overlooked in the literature.

First, because of the lack of local *hukou*, migrant workers are in a weak bargaining position, employers in the export industry are able to 'cherry-pick' workers with the most 'desirable attributes' – often in stark Dickensian terms: the physical abilities of young workers such as easily trainable dexterity to handle fast-paced, sometimes military-style, repetitive assembly work (especially in electronics industry) and endurance for longer hours of work (routine overtime work daily, and often for 28–29 days per month); and 'work attitudes' such as obedience and capacity for long periods of residence in dormitories or barrack-type shelters (Chan, 2001a; Lee, 1998; Pun, 2005). These qualities are mainly found in young, mostly unmarried, workers. Indeed, the great majority of Foxconn's employees in China fit very well the above description. As a result, rural migrant labor hired in the export sector falls overwhelmingly in a highly selective age cohort between ages 16 and 30, with new workers hired typically before they reach 20. With their good eyesight and high manual dexterity and tolerance of dormitory-type environment, combined with the increasing prevalence of education beyond elementary school in the countryside, young rural migrants are more educated than their predecessors and better suited for assembling modern electronics, which often involves small parts and exacting specifications.

Secondly, China's 30-year long one-child policy has also depressed fertility. The annual supply of young rural labor has dropped by about 40% in the last ten years, from about 18 million to only 11 million (Chan, 2010b, p. 520). Moreover, the rather deplorable (mis)treatments of migrant labor by employers during the global crisis times in the Pearl River Delta and Zhejiang also discouraged some of the rural migrants from coming back to seek work in

the coastal region later, even when jobs were available. In other words, some were simply not eager to return to the highly exploitative grind of the 'world's factory'. This had the effect of reducing the labor supply that otherwise would have been available for those factories. At the same time, the general improvement in rural economic conditions in the inland region in the last few years owing to the policy taken by the Hu-Wen administration (Chan & Wang, 2008), and especially the millions of new jobs created by the fiscal stimulus package in 2009 in projects such as high-speed rails, in the interior, also kept many young rural laborers closer to home. Overall, labor shortages have happened in specific age segments and are mostly confined to the coastal region. There is still an immense rural labor surplus in the range of 80–100 million. With dwindling supply of young migrant workers, interprovincial flows from the inland to the coast may slow down in the coming years.

4.3. The 'second generation migrants' and social unrest

In recent years, rural laborers tend to exit the countryside for the first time in the young adult ages, much earlier than their predecessors. These young migrants are dubbed 'second-generation migrants' in the literature, being born between 1980 and 1995 (Liu, Cheng, & Dong, 2009). According to an authoritative report compiled by China's All-China Federation of Trade Unions (ACFTU, 2010), the average age of first departure from the countryside of those born in the 1980s and 1990s was 18, and 16, respectively. This 'second-generation' cohort is the source from which the export industry draws heavily its workforce.

Being younger and better educated than their parents, this new cohort of migrant workers has also greater aspirations to stay in the city. They are also far more aware of their rights and what unsatisfactory conditions they face than the previous generation – and are demanding change. These demands have often translated into 'collective action' of protests and social unrest, which has become more prevalent since 2000. Indeed the migrants have many grievances, ranging from unpaid wages, unfair treatments, and brutality of police against migrants (Hasija, 2012). These conflicts are often played out on the backdrop of stark economic, social and institutional divide between migrants and locals. However, the support from family, government and social organizations is almost totally lacking. Many migrants feel that government officials, police, and security personnel discriminate against them. Lacking local *hukou*, migrants cannot access the basic package of urban services (including education for their children, especially beyond middle school) and urban social housing. The great difficulty of finding affordable family housing precludes the family moving into the city as one cohesive unit. Many married couples are often separated from spouses and children.

In recent years, there are hundreds of thousands of protests in China every year. Many of them are organized by migrants. Some recent demonstrations and riots, such as those in Zengcheng (2011), Chaozhou (2011) and Zhongshan (2012), all in Guangdong, have also turned violent (Buckley & Pomfret, 2012). It is clear that there is a lot of pent-up anger among this new generation of migrant workers. If these frustrations cannot be diverted, they will pose a serious threat to China's social and political stability. Worryingly, China does not appear to be able to address these grievances satisfactorily under its current labor management and the *hukou* systems (Butollo & ten Brink, 2012).

5. Concluding remarks

The volume of internal migration in China has increased steadily since the early 1980s. As China's urbanized rapidly, rural-urban migration also accelerated in the first half of the 1990s

and, again in the first decade of the twenty-first century. While the volume of annual *hukou* migration remained quite stable in the last 30 years, non-*hukou* migration has expanded significantly. 'Rural migrant workers', numbering at 166.7 million in mid-2012, are the major constituent group of non-*hukou* migrants, whose size reached 221 million in 2010 (NBS, 2012b; SC & NBS, 2012). This Great Migration has supplied China with a mammoth army of low-cost human labor to power its economic machine.

Data in Table 1 show that the annual average net increase of the rural migrant labor in latest decade was about 6 million, compared to an annual average of about 4 million in the 1990s. Because of the rapid industrial growth since China's accession to the WTO, 'shortages' of migrant labor began to surface in 2004 in the Pearl River Delta, where doubt-digit industrial growth was recorded every year until 2008.[15] Global financial events since the summer of 2008, however, have drastically altered the economic landscape of the Chinese export industry, at least temporarily, where most migrant labor was employed. About 23 million migrant workers lost their jobs in late 2008-early 2009, but China's massive fiscal stimulus program was able to create many jobs (especially in the construction sector, such as building railways) and helped re-absorb most of the unemployed. As China's export sector recovered in early 2010, migrant labor 'shortage' has resurfaced in the coastal region, partly also because major manufacturers have also relocated some of their plants to the inland. However, the shortage is limited to the cohort of age 16–35; there is enormous surplus labor in the older age in the countryside.

Long-distance, interprovincial migration has also increased rapidly since the early 1990s, spurred by significant wage differentials between inland provinces and coastal provinces where major centers of industrial growth are located. Guangdong, which has since the early 1990s risen to become the core of the 'world's factory', is the major hub of long-distance migrants. Over time, the number of inland provinces from which large numbers of labor migrants originate has also increased. In fact, the idea of migrating long-distance for a better job has gained popularity over time in many provinces, including those in the West region of China. The rising internal migration trends in the 1990s are also associated with the trends of narrowing economic disparities among provinces at least in statistical terms, if not in substantive terms (Chan & Wang, 2008).[16] Migration has helped alleviated poverty in the countryside, but simply migration is not enough when institutionalized exclusion and discrimination through the *hukou* system remains effective.

The *hukou* system is a major hurdle in narrowing rural-urban and inland-coastal inequalities. The various *hukou* reform initiatives launched in the last decades have so far only marginally weakened the foundation of that exclusionary system, i.e. the separation of two segments of the population and the discrimination against the rural segment (Chan & Buckingham, 2008). Greater strides on implementing the *hukou* reform, and ultimately abolishing the system, are needed. This is especially urgent as more women and children from the countryside participate in migration to cities and are staying for increasingly long periods of time. Non-*hukou* residents in cities face acute problems caused by the lack of access to reasonable education, health care services, social security and housing, in addition to the general discrimination they face in the city.

Several recent events – the serial suicide attempts of migrant workers at Foxconn in Shenzhen; industrial strikes by migrant workers in several automobile plants; and frequent protest and riots involving migrants – have not only highlighted the plight of young 'second-generations' migrant workers, but are also strong signs of rising yearning of migrants to fight for better pays and rights. These migrant issues remain crucial for China to tackle in the post-financial crisis era. Further delays in responding to these demands would be far more costly. Those events also suggest that the low 'China price' that the world has been accustomed to is

belatedly rising. If 'Made in China' is getting more expensive, the global economy will have to take note too.

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Notes

1. The description of China's *hukou* system draws heavily on Chan (2009a) and Chan (2010a).
2. Some of these data were collected at the destination; others at the origin (mainly villages).
3. A broader definition of 'rural migrant labor', which is not used here, includes also those who work in township and village enterprises within the same township. This group was estimated to be about 80 million in 2009 (NBS, 2010).
4. They are similar to the 'circulating population' studied by Chapman & Prothero (1985) before.
5. This has led to multiple layers of misunderstanding and confusion in the literature, see especially Chan (2007, 2010c); Chan and Wang (2008).
6. In the last two censuses (2000 and 2010), de facto resident counts include those without local *hukou* but staying at the destination for more than 6 months.
7. There was a slowdown in the rural outflows in the second half of the 1990s. See Chan and Hu (2003).
8. The 1990–2005 statistics are compiled by Chan (2012a); the 2005–2010 statistics are estimates computed from the 2010 Census long-form data in SC & NBS (2012, Tables 7 and 8) based on the sample percentage (10%). The accuracy of China's population and migration counts is a rather complex issue deserving further research. On this issue pertaining to 2000 Census, see Chan (2003).
9. Some of the increases are attributable to the changes in definitions and procedures used for collecting the data, but the bulk of the increase is real.
10. This was partly because Chongqing was split from the Sichuan province in 1997.
11. For the urban-*hukou* group, the unemployment rate only inched up by 0.6 million from the 4.0% in September 2008 (Cai & Chan, 2009; Chan, 2010d).
12. Foxconn employed about 800,000 workers in China in 2010, with 400,000 at the complex in Shenzhen (Barboza, 2010).
13. Foxconn is known for its military-style efficiency and strict, rule-based management of labor (Barboza, 2010). See also a detailed investigative report about the factory by Chang (2010).
14. China's rural labor force is estimated to be about 360 million in 2010. Excluding the 80 million who work in non-farm jobs in nearby townships, the remaining 280 million on the farm is still far greater than can be absorbed by China's 120 million ha of arable land. Many estimates done before 2009 show that the minimum work force needed to sustain China's agriculture at the then level of technology was about 150 million (e.g. Green, 2008; Han et al., 2009). Higher numbers are used by others, such as Cai and Wang (2009, Table 7.2): they range from 178 million to 228 million. For comparison, the US employs about 10 million farm workers (illegal migrant workers included) on a total acreage slightly more than China's (see DeSilver, 2006).
15. In Dongguan in the Pearl River Delta, the average growth rate of migrant labor reached an extraordinary level of 18% per year in 2000–2004 (Dongguan Statistical Bureau, n.d).
16. See further comments at http://www.eastasiaforum.org/2012/08/12/rising-regional-inequality-in-china-fact-or-artefact/.

References

All-China Federation of Trade Unions (ACFTU). (2010). *Quanzong guanyu xinshengdai nongmingong wenti de yanjiu baogao* [Research report on the problems of the new generation of rural migrant labor]. Retrieved from http://www.chinanews.com.cn/gn/news/2010/06–21/2353235.shtml

Barboza, D. (2010, May 26). Electronics maker promises review after suicides. *The New York Times*. Retrieved from http://www.nytimes.com/2010/05/27/technology/27suicide.html

Buckley, C., & Pomfret, J. (2012, July 7). China migrant unrest exposes generational faultline, *Reuters*, June 29, 2012. Retrieved from http://in.reuters.com/article/2011/06/29/idINIndia-57978320110629

Butollo, F., & ten Brink, T. (2012). Challenging the atomization of discontent: Patterns of migrant-worker protest in China during the series of strikes in 2010. *Critical Asian Studies, 44*(3), 419–440.
Cai, F. (1999). Spatial patterns of migration under China's reform period. *Asian and Pacific Migration Journal, 8*(3), 313–327.
Cai, F. (2000). *Zhongguo liudong renkou* [Floating Population in China]. Zhengzhou: Henan Renmin Chubanshe.
Cai, F., & Chan, K. W. (2009). The global economic crisis and unemployment in China. *Eurasian Geography and Economics, 50*, 513–531.
Cai, F., & Wang, M. (2009). The counterfactuals of unlimited surplus labor in rural China. In F. Cai & Y. Du (Eds.), *The China population and labor yearbook, volume 1: The approaching lewis turning point and its policy implications* (pp. 121–136). Leiden: Brill.
Chan, K.W. (1994). *Cities with invisible walls: Reinterpreting urbanization in post-1949 China*. Hong Kong: Oxford University Press.
Chan, A. (2001a). *China's workers under assault: The exploitation of labour in a globalizing economy.* Armonk, NY: M.E. Sharpe.
Chan, K. W. (2001b). Recent migration in China: Patterns, trends, and policies. *Asian Perspectives, 25* (4), 127–155.
Chan, K. W. (2003). Chinese census 2000: New opportunities and challenges. *The China Review, 3*(2), 1–12.
Chan, K. W. (2007). Misconceptions and complexities in the study of China's cities: Definitions, statistics, and implications. *Eurasian Geography and Economics, 48*(4), 382–412.
Chan, K. W. (2009a). The Chinese *hukou* system at 50. *Eurasian Geography and Economics, 50*(2), 197–221.
Chan, K. W. (2009b). Measuring the urban millions. *China Economic Quarterly*, March, 21–26.
Chan, K. W. (2010a). The Chinese household registration system and migrant labor in China: Notes on a debate. *Population and Development Review, 36*(2), 357–364.
Chan, K. W. (2010b). A China paradox: migrant labor shortage amidst rural labor supply abundance. *Eurasian Geography and Economics, 51*, 513–530.
Chan, K. W. (2010c). *Dangqian zhongguo de chengzhen renkou tongji wenti jiqi du jingji fenxi de yingxiang* [China's city population statistics and implications for economic analysis]. In F. Cai, Y. Du, & Z. Zhang (Eds.), *Zhongguo renkou yu laodong wenti baogao No.11 – Hou jinrong weiji shiqi de laodongli shichang tiaozhan* [Reports on China's population and labor No. 11 – Labor market challenges in the post-crisis era] (pp. 236–247). Beijing: Social Science Academic Press.
Chan, K. W. (2010d). The global financial crisis and migrant workers in China: There is no future as a labourer; returning to the village has no meaning. *International Journal of Urban and Regional Research*. *34*(3), 659–677.
Chan, K. W. (2011). Urban myth. *South China Morning Post*, August 24. p. A13.
Chan, K. W. (2012a). Crossing the 50 percent population Rubicon: Can China urbanize to prosperity? *Eurasian Geography and Economics, 53*(1), 63–86.
Chan, K. W. (2012b). Internal labor migration in China: Trends, geography and policies. In *United Nations Population Division, Population distribution, urbanization, internal migration and development: An international perspective* (pp. 81–102). New York, NY: United Nations.
Chan, K. W., & Buckingham, W. (2008). Is China abolishing the *hukou* system? *China Quarterly, 195*, 582–606.
Chan, K. W., & Hu, Y. (2003). Urbanization in China in the 1990s: New definition, different series, and revised trends. *The China Review, 3*(2), 49–71.
Chan, K. W., Liu, T., & Yang, Y. (1999). *Hukou* and non-*hukou* migration: Comparisons and contrasts. *International Journal of Population Geography, 5*(6), 425–448.
Chapman, M., & Prothero, R. M. (Eds.). (1985). *Circulation in population movement: Substance and concepts from the Melanesian case*. London: Routlege & Kegan Paul.
Chan, K. W., & Wang, M. (2008). Remapping China's regional inequalities, 1990–2006: A new assessment of de facto and *de jure* population data. *Eurasian Geography and Economics, 49*(1), 21–56.
Chang, C. (2010, May 20). Undercover report from Foxconn's hell factory. *Gizmodo Australia*. Retrieved from http://www.gizmodo.com.au/2010/05/undercover-report-from-foxconns-hell-factory/
Csanádi, M. (2010). *Institutional reactions to the impact of global crisis at source and destination cities of migration in China*. Budapest, Hungary: Institute of Economics, Hungarian Academy of Sciences, Discussion Paper, MT-DP 2010/13.

Demick, B., & Pierson, D. (2010, March 28). People, people everywhere in China, and not enough to work. *Los Angeles Times*. Retrieved from http://articles.latimes.com/2010/mar/28/world/la-fgchina-labor28-2010mar28

DeSilver, D. (2006). Low-paid illegal work force has little impact on prices. *Seattle Times,* September 19, 2006. Retrieved from http://seattletimes.nwsource.com/html/localnews/2003265139_imprices19.html

Dongguan Statistical Bureau (n.d.) Retrieved from http://tjj.dg.gov.cn/website/web/zhctjnj/2005TJNJ/02/sheet004.htm

Drysdale, P. (2011, November 28). South Asia and Asia's middle-class future. *East Asia Forum*. Retrieved from http://www.eastasiaforum.org/2011/11/28/south-asia-and-asias-middle-class-future/

Fan, C. C. (2005). Modelling interprovincial migration in China, 1985–2000. *Eurasian Geography and Economics, 46*(3), 165–184.

Fan, C. C. (2008). *China on the move: Migration, the state, and the household*. New York, NY: Routledge.

Foreman, W. (2008, December 20). Restless migrants challenge order in difficult economy. *Post-Intelligencer*.

Garnaut, R. (2010, April 6). *Macro-economic implications of the turning point*. Paper presented at International Workshop on Debating the Lewis Turning Point in China, Beijing, China.

Green, S. (2008, January 14). *On the world's factory floor: How China's workers are changing China and the global economy*. Standard Chartered Special Report.

Hamlin, K. (2010). China reaching a Lewis turning point as inflation overtakes low-cost labor. *Bloomberg News*. Retrieved from http://www.bloomberg.com/apps/news?pid=20601068&sid=aOEXbd09bloM

Han, J, Cui, C., & Fan, A. (2009). Rural labor-force allocation report-an investigation of 2,749 villages. In F. Cai, & Y. Du (Eds.), *The China population and labor yearbook, volume 1: The approaching Lewis turning point and its policy implications* (pp. 137–152). Leiden: Brill.

Harney, A. (2008). *The China price: The true cost of Chinese competitive advantage*. London: Penguin Books.

Hasija, N. (2012, Jan 17). *Migrant unrest in China: An analysis* (IPCS Special Report 119). New Delhi.

Hu, Y, Fang, C., & Du, Y. (2010). *Shierwu shiqi renkou bianhua ji weilai renkou fazhan qushi yuce* [Population changes and forecast of population development trend in 'the Twelfth Five-Year-Plan' period]. In F. Cai (Ed.), *Zhongguo renkou yu laodong wenti baogao No.11 – houjinrong weiji shiqi de laodongli shichang tiaozhan* [Report on Chinese population and labor problem No.11 – Challenge of the labor market in the post-financial crisis period] (pp. 48–77). Beijing: Shehui kexue wenxian chubanshe.

Huang, Y., & Jiang, T. (2010). *What does the Lewis turning point mean for China?* Beijing: China Center for Economic Research, Peking University, Working Paper Series, 2010-03.

Kroeber, A. (2010). The end of surplus labor. *China Economic Quarterly, 1*, 35–46.

Lee, C. K. (1998). *Gender and the south China miracle*. Berkeley: University of California Press.

Lewis, W. A. (1954). Economic development with unlimited supplies of labor. *Manchester School of Economic and Social Studies, 22*, 139–191.

Liang, Z. (1999). Foreign investment, economic growth, and temporary migration: The case of Shenzhen Special Economic Zone, China. *Development and Society, 28*(1), 115–137.

Liang, Z. (2007). Internal migration: Policy changes, recent trends, and new challenges. In Z. Zhao & F. Guo (Eds.), *Transition and challenge: China's population at the beginning of the 21st century* (pp. 197–215). Oxford: Oxford University Press.

Liu, T., & Chan, K. W. (2001). Internal migration in China and its database: An assessment. *China Information, 15*(2), 75–113.

Liu, C., Cheng, J., & Dong, Y (2009). *Zhongguo dierdai nongmingong yanjiu* [Research on China's second-generation rural migrant labor]. Shangdong renmin chubanshe.

Lu, M., Zhao, S., & Bai, N. (2002). *Woguo nongmingong laodongli liudong di huigu yu yuce* [The past and future of the movement of the rural labor force in China]. In M. Hong & W. Mengkui (Eds.), *Zhongguo fazhan yanjiu* [China development studies] (pp. 555–587). Beijing: Zhongguo chubanshe.

Ma, J., (2012). National economy maintained steady and fast development in the year of 2011, http://www.stats.gov.cn/english/newsandcomingevents/t20120117_402779577.htm.

Ministry of Public Security (MPS). (1988–2010). *Zhonghua renmin gongheguo quanguo fenxianshi renkou tongji ziliao* [Statistical materials on population of counties and cities of the People's Republic of China]. Beijing: Qunzhong.

Ministry of Public Security (MPS). Household Administration Bureau (1997–2011). *Quanguo zanzhu renkou tongti ziliao huibian* [Collection of statistical materials on temporary population in China]. Beijing: Zhongguo gongan daxue chubanshe.

Moore, M. (2010, May 27). Inside Foxconn's suicide factory. *Telegraph*. Retrieved from http://www.telegraph. co.uk/finance/china-business/7773011/A-look-inside-the-Foxconn-suicide-factory.html

National Bureau of Statistics (NBS). (1988). *Zhongguo 1987 nian 1 per cent renkou chouyan diaocha ziliao* [Tabulations of China's 1987 1 per cent Population Sample Survey]. Beijing: Zhongguo tongji chubanshe.

National Bureau of Statistics (NBS). (2010). *2009 nian nongmingong jiance baogao* [Monitor report on rural migrant labor in 2009]. Retrieved from http://www.stats.gov.cn/tjfx/fxbg/t20100319_402628281.htm.

National Bureau of Statistics (NBS). (2011). *2010 nian nongmingong jiance baogao* [Monitor report of rural migrant labor in 2010]. Retrieved from http://www.snzg.com.cn/ReadNews.asp?NewsID=3936

National Bureau of Statistics (NBS). (2012a). *2011 nian nongmingong jiance baogao* [Monitor report on rural migrant labor in 2011]. Retrieved from http://www.stats.gov.cn/tjfx/fxbg/t20120427_402801903.htm

National Bureau of Statistics (NBS). (2012b, July 13). *Overall economic development was stable in the first half of 2012*. Retrieved from http://www.stats.gov.cn/english/pressrelease/t20120713_402817907.htm

National Bureau of Statistics & Ministry of Public Security (NBS & MPS). (1988). *Zhonghua renmin gongheguo renkou tongji ziliao huibian* [Collections of Statistical Materials on Population of the People's Republic of China]. Beijing: Zhongguo caizheng jingji chubanshe.

National Population Sample Survey Office (NPSSO). (1997). *1995 Quanguo 1 percent renkou chouyang diaocha ziliao* [Data on the Sample Survey of 1 percent of the National Population in 1995]. Beijing: Zhongguo tongji chubanshe.

National Population Family Planning Commission (NPFPC). (2011). *Zhongguo liudong renkou fazhan baogao 2011* [Report on China's Floating Population Development 2011]. Beijing: Zhongguo renkou chubanshe.

National Population Family Planning Commission (NPFPC). (2012). *Zhongguo liudong renkou fazhan baogao 2012* [Report on China's Floating Population Development 2012]. Beijing: Zhongguo renkou chubanshe.

Pun, N. (2005). *Made in China: Women factory workers in a global workplace*. London: Duke University Press and Hong Kong University Press.

Saunders, D. (2012). *Arrival city: How the largest migration in history is reshaping our world*. New York, NY: Vintage Books.

Sing Tao Daily (2010a, July 3). *Yuexin shuizhang waiji heigong yongru* [Wage Raises in Guangzhou Led to Influx of Foreign Illegal Labor]. p. A11.

Sing Tao Daily (2010b, July 16). Foshan bentian qipeichang caibao gongchao (Strike Broke Out Again in Honda Subsidiary in Foshan). p. A10.

Skeldon, R. (1990). *Population mobility in developing countries*. London: Belhaven.

State Council & National Bureau of Statistics (SC & NBS). (1985). *Zhongguo 1982 nian renkou pucha ziliao* [Tabulation on the 1982 Population Census of the People's Republic of China]. Beijing: Zhongguo tongji chubanshe.

State Council & National Bureau of Statistics (SC & NBS). (1993). *Zhongguo 1990 nian renkou pucha ziliao* [Tabulation on the 1990 Population Census of the People's Republic of China]. Beijing: Zhongguo tongji chubanshe.

Solinger, D. (1999). *Contesting citizenship in Urban China*. Berkeley: University of California Press.

State Council & National Bureau of Statistics (SC & NBS). (2002). *Zhongguo 2000 nian renkou pucha ziliao* [Tabulation on the 2000 Population Census of the People's Republic of China]. Beijing: Zhongguo tongji chubanshe.

State Council & National Bureau of Statistics (SC & NBS). (2007). *2005 nian quanguo 1 percent renkou chouyang diaocha ziliao* [Data on the Sample Survey of 1 percent of the National Population in 2005]. Beijing: Zhongguo tongji chubanshe.

State Council & National Bureau of Statistics (SC & NBS). (2012). *Zhongguo 2010 nian renkou pucha ziliao* [Tabulation on the 2010 Population Census of the People's Republic of China]. Beijing: Zhongguo tongji chubanshe.

Tilly, C. (1976). Migration in modern history. In W. H. McNeill & R. S. Adams (Eds.), *Human migration: Patterns and policies* (pp. 48–72). Bloomington: Indiana University Press.

United Nations. (2012, August 3). International migration and development: Report of the Secretary-General.

Wang, F.-L. (2005). *Organizing through division and exclusion*. Stanford: Stanford University Press.

Wu, J.-M. (2011). *Yongyuan de yixiangke? Gongmin shenfen chaxu yu zhongguo nongmingong jieji* [Strangers forever? Differential citizenship and China's rural migrant workers]. *Taiwanese Sociology, 21*, 51–99.

Yang, Y. (1996). 'Temporary residents' in China: Causes and characteristics. *Chinese Environment and Development, 7*(1–2), 103–117.

Yang, Y. (2004). *Jiushi niandai yilai woguo renkou qianyi de ruogan xin tedian* [New features of population migration in the 1990s in China]. *Nanfang renkou* [Southern Population]*, 75*, 13–20.

Yao, Y. (2010, July 16). The Lewisian turning point has not yet arrived. *The Economist*. http://www.economist.com/economics/by-invitation/questions/era_cheap_chinese_labour_over

Zhang, P. (2012, September 7). Exam rules anger migrant families. *South China Morning Post*, p.A6.

Zhang, X., Yang, J., & Wang, S (2010). *China has reached the Lewis turning point*. Washington, DC: International Food and Policy Research Institute (Discussion Paper, 000977).