

# Economic transition and labour market integration in China **10**

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## Introduction

China's rise as a major economic power in the past three decades has been underpinned by large transfers of labour from the rural to the urban economy and a significant reallocation between state-owned and non-state sectors within the latter. Since the early 1980s, more than 100 million people have left their native villages to work in the cities—the largest peacetime movement of people in history.<sup>1</sup> In addition, public enterprise reforms have added more than 40 million workers to the private sector labour supply. In recent years, there have been growing concerns in China policy circles about whether this easy phase of economic transition fuelled by surplus labour is rapidly coming to an end (Garnaut and Huang 2006; Hausmann et al. 2006; Siebert 2007; Islam and Yokoda 2006). This concern is based on steep wage increases in the urban formal sector, as revealed by Chinese official wage data, and scattered cases of labour scarcity in rapidly growing coastal provinces reported in the business press. The purpose of this chapter is to contribute to this debate by examining employment and wage trends in China in the context of continuing structural changes and labour market transition in the past three decades.

There is a large literature on labour market performance in China in the reform period.<sup>2</sup> The overwhelming majority of the existing studies have, however, focused, in a repetitive fashion, on particular micro-aspects of labour market performance. It is not uncommon in this literature to examine a particular issue (such as whether migrant workers are poorly paid relative to permanent city dwellers) in isolation and make policy inferences, ignoring the fact that the issue under discussion is an integral part of the continuing process of transitional growth, not a structural phenomenon. Very few attempts have been made to offer an overall picture

of the evolving labour market conditions and their implications for the future growth trajectory and for national development policy. Filling this gap in the literature is important because the evolving labour market conditions and policies affecting on labour allocation have a profound impact on the growth process and the economic wellbeing of the nation. If the economy is rapidly moving away from the initial surplus labour conditions, there is a clear national need for greater emphasis on setting the stage for sustained growth through capital deepening and technical progress. On the other hand, if surplus labour conditions persist, contrary to what the readily available data suggest, a policy shift in that direction could run counter to the objective of achieving rapid, equitable growth. Apart from its relevance for China's national development policy, a systematic analysis of China's labour market situation is also essential for informing the contemporary debate about the role of China in the evolving international economic order.

The analytical framework for the study is provided by the celebrated Lewis model of economic growth with unlimited supplies of labour (hereafter, the 'Lewis model') (Lewis 1954, 1958, 1979), which has been used extensively, with appropriate modifications, in analysing the process of modern economic growth in Japan and the newly industrialising economies in East Asia (for example, Minami 1973, 1986; Fields 1994; Ranis and Fei 1975; Ranis 1993). The model starts with the assumption of a closed dual economy with a 'modern' (capitalist) sector and a 'subsistence' (traditional) sector characterised by surplus labour.<sup>3</sup> In the modern sector, profit maximisation rules and labour is paid the value of its marginal product, as postulated in neoclassical economics. In the subsistence economy, the wage rate is determined institutionally at or near the subsistence level along the tradition of classical economics. The modern sector can hire workers at a fixed wage rate, which is set slightly above the subsistence rate to compensate for the higher costs of living in the modern sector compared with the subsistence economy. Given the ample availability of labour at this wage rate, capital formation and technical progress in the modern sector do not raise wages but increase the share of profits in the national income. Suppose that some 'disturbance', such as a policy regime shift from a planned to a market economy (as occurred in China in the late 1970s) or technical change that increases industrial efficiency, triggers an expansion of production in the modern sector. As output expands, profits increase while wages remain constant, leading to a continuous upward shift in the demand for labour. The growth process continues as a positive feedback process—increased profits, reinvested profits, further industrial expansion

and further employment expansion—up to the point where the surplus labour pool in the subsistence sectors is depleted. This is the famous ‘Lewis turning point’. From then on, wages in the two sectors begin to move towards maintaining parity and the economy begins to look very much like an industrialised one. After the turning point is reached, the dualistic nature of the economy disappears and the subsistence sector becomes a part of the modern economy in which the wage rate and per capita income continue to rise along the upward-sloping labour supply curve.

The model can be extended to the international sphere without changing its basic structure (Kindleberger 1967; Ranis and Fei 1975; Lewis 1979). An open economy provides the setting for a neoclassical response to factor endowments and relative factor prices. For the surplus labour economy, this means greater opportunities for output expansion through the export of goods that are intensive in unskilled labour. The combination of modern industrial technology, low wages and a highly elastic labour supply therefore produces a high rate of profit, translated into a high growth rate through increased capital accumulation. Foreign capital is also attracted by the high profit rate, thus speeding up transitional growth towards the turning point. After reaching the turning point, domestic firms begin to look for cheap labour beyond the country’s borders by bringing in cheap immigrant labour or relocating their factories to countries where labour is plentiful and cheap.

Several qualifications of the Lewis model should be mentioned briefly (Rosenzweig 1988). It has often been pointed out that the ‘dual economy’ assumption is rather restrictive and unrealistic, given that labour markets are often fragmented. Another criticism is that the real labour market conditions in most developing economies do not warrant the assumption of a perfectly elastic labour supply in the subsistence economy. For our purposes, these criticisms of the model’s micro-foundation are not disturbing ones; the intended purpose of the Lewis model, and the purpose to which we put it here, is to provide a *macro-theoretical framework* to analyse the role of labour supply in economic transformation from a historical perspective. In studying dynamic transitional growth, the assumption of a unique duality and perfectly elastic labour supply is merely for analytical convenience. If the economy is ‘fragmented—irrespective of the number of parts, then the simplifying assumption to make is dualism’ (Basu 1997:152). Regarding the elasticity of labour supply, ‘we need not make a fetish of “infinite” elasticity; “very large” would do just as well for our purpose’ (Lewis 1979:218).

A systematic quantitative appraisal of labour market conditions in China is hampered by the paucity of data on many key variables and the poor quality of the available data. There are no data available, for example, on the skills composition of workers or the wages of agricultural and urban unskilled workers and published data on urban employment do not single out migrant workers, which is essential for a systematic analysis of the existence of excess labour supply in the economy. At the same time, there are also important issues of data quality and consistency, which largely reflect the remaining legacies of the statistical system that evolved in the command economy. A major limitation is the excessive focus of Chinese published statistics on urban industrial workers to the near exclusion of detailed data on the more numerous manufacturing employees working outside the administrative boundaries of cities. Even within the cities, data collection and reporting remain concentrated on the rapidly declining state-owned and urban collective-owned manufacturing enterprises, giving short shrift to the thriving, growing, dynamic private manufacturing sector (Banister 2005a, 2005b). Difficulties also arise from technical issues—notably, the growing institutional complexities of the Chinese economy—and from the politicisation of economic data, especially at the provincial and local levels (Rawski and Xiao 2001).

Given these data problems, what we aim to do in this chapter is to undertake an exploratory analysis of the broader contours of recent developments in Chinese labour markets with a view to inform the policy debate and to help explore avenues for further research. The empirical core of the chapter consists of a careful analysis of the overall labour market conditions and wage trends using readily available official data, while paying attention to their limitations, and an econometric analysis of wage determination using hitherto-unexploited data from a recent household survey. Where relevant, we also draw on the existing microeconomic literature to identify key aspects of labour market performance as they relate to the debate about the description of surplus demand conditions.

Section two of this chapter sets the stage for the ensuing analysis by providing an overview of the initial labour market conditions and the key elements of labour market reforms. The third section examines labour supply and deployment patterns in the reform era with a focus on changing surplus labour conditions. Section four probes the apparent inconsistency between rapid growth in aggregate urban wage rates and the prevailing labour market conditions. Section five summarises the key findings and policy inferences.

## Initial conditions, reforms and labour mobility

On the eve of reforms, China's economy, as it had evolved over four decades of central planning, was a classic example of a dualistic, surplus-labour<sup>4</sup> economy (Eckstein 1977; Putterman 1992). Stringent controls on the migration of labour from the countryside to urban areas meant that most rural labour was bottled up in relatively low-productivity farming and small-scale rural industry. When the People's Republic was formed, there was considerable open unemployment in Chinese cities and industrial centres and a great deal of underemployment in rural areas. These labour market conditions existed even during the period of most rapid industrialisation in the 1950s and persisted through most of the 1960s. Therefore, unlike in Russia, in China, there was no need to draw on the reservoir of labour in the countryside. Moreover, the State enforced barriers to rural–urban migration in order to preserve urban amenities for the intended beneficiaries. In the 1950s, the government established the *hukou* system of household registration, confining people to the village or city of their birth, to ensure enough agricultural labour to produce sufficient grain to support the industrial and urban sectors (Cheng and Selden 1994). Under this policy, rural and urban markets became totally segmented, with much of the labour assigned to its place of work. Also, to the extent that rationing was more pervasive, workers could not obtain housing in the place they moved to unless the move was authorised.

Since the early 1980s, China has gradually reduced institutional barriers to internal migration (Meng 2000; Tao 2006). With the introduction of the household responsibility system during the 1970s and early 1980s, farmers had more freedom to allocate their labour to off-farm activities. The government responded by relaxing its rigid regulations on labour deployment in rural areas. In 1983, farmers were permitted to engage in transportation and marketing of their products beyond local markets; the government also permitted the setting up of cooperative ventures and their employment of labour. These initiatives set the stage for the rapid development of rural labour markets. Fast-growing town and village enterprises (TVEs) soon became the initial destinations for migrant workers, absorbing a large number of farmers freed by rising labour productivity on the farms (Garnaut and Ma 1996).

After broadening of the reforms to the urban sector and the creation of special economic zones in the second half of the 1980s, farmers were allowed to work in cities under the condition that they provided their own staples.

Subsequently, gradual dismantling of the food rationing/coupon system facilitated migration by enabling individuals to buy food at market prices. Since the early 1990s, various measures have been introduced to further relax the *hukou* system and to encourage greater rural to urban labour mobility (Naughton 2007:Ch.8). The central and local governments have introduced various measures to encourage labour mobility between rural and urban areas and across regions. Some cities have adopted a selective-migration policy, issuing permanent residency to migrants who pay a fee, invest in local businesses or who buy expensive housing in the city. From 2001, in most small towns, minimum requirements for receiving the local *hukou* were that the applicant had a permanent source of income and legal housing locally. In addition, the lifting of restrictions on house ownership, changes to employment policies, the lifting of rationing and the expansion of the urban non-starter sector have made it easier for migrant workers to live in cities. Increased commercialisation of the urban housing system, rapid expansion of the urban private sector and the rapidly evolving migration network linking cities and villages have made it easier for rural migrants to seek employment in cities.

Wage reforms in the urban economy began in the early 1980s by introducing a flexible labour management strategy under which urban job-seekers were allowed to find jobs with the State, in collectives or in private enterprise. The adoption of this recruitment system (known in China as the 'three channels of employment combined') marked a significant departure from the labour deployment patterns in the planned economy era. A labour contract system introduced in 1983 provided firms with more autonomy in hiring workers on short-term contracts. The traditional tenure arrangement in state-owned enterprise (SOE) employment began to crack from about 1993, when SOE managers were allowed to lay-off redundant workers. This gave rise to a new employment arrangement called *xiagang*, or furlough, under which workers were permitted to retain ties with their firms without reporting to work and remain entitled to receive small stipends and fringe benefits (Rawski 2003:23).

In 1994, the government embarked on reforms of the SOEs. Because of privatisation (mostly of small and medium-scale enterprises) and mergers and closures of loss-making ventures, the number of state-controlled firms dropped from 300 000 a decade ago to 150 000 in 2005 (Bergsten et al. 2006:23–4). This contraction in the number of SOEs, coupled with downsizing and restructuring of the existing SOEs, resulted in a dramatic decline in SOE employment—from a peak of 113 million people in 1995

to 65 million in 2005—augmenting the urban labour supply (Naughton 2007:Ch.8).

In sum, the economic reforms of the past two decades have gradually relaxed restrictions on labour mobility across sectors and industries in the Chinese economy. The labour market is, however, still highly segmented, with various obstacles to labour mobility between the urban and rural areas and the formal and the informal sectors. In particular, there are still serious labour market distortions related to the *hukou* system and the provision of pensions, medical and unemployment benefits. A key feature of *hukou* is that registration is for a specific location and for a specific status—either urban or rural. Only those with urban residency permits—popularly called ‘urban *hukou*’—have the right to live permanently in cities. Since the 1980s, access to *hukou* has been substantially liberalised, but the system is still in place and possession of a permit makes a difference. The wealthy or highly educated can obtain *hukou* and can move their *hukou* from towns or small cities to a large city; however, it is not easy for the majority of citizens to obtain *hukou* (Wu and Trieman 2004; Liang and Ma 2004; World Bank 2005). Despite significant reforms in the past 15 years, the SOE sector—in which employment and remuneration practices are far from being subject to market discipline—still provides employment to nearly one-fifth of the urban labour force.

## Labour supply and employment

China embarked on market-oriented reforms at a time when its population growth had begun to decline as a result of the rigid implementation of the one-child policy in the early 1970s. The average annual population growth rate declined from 1.4 per cent during 1985–95 to 0.75 per cent during 1995–2007 (Table 10.1). China’s current population is 1.32 billion people and, based on current trends, it is expected to reach a peak at about 1.5 billion by 2025 (Tao 2006:Table 8.2).<sup>5</sup> The working-age population (people aged between fifteen and sixty-four)—the potential labour force—has grown much faster than the total population, producing a so-called ‘population dividend’, as birth rates decline and the number of young adults increases more rapidly than the numbers of dependent children and dependent elders. The labour force has increased even faster—from about 501 million workers in 1985 to 788 million in 2007—reflecting a persistent increase in the labour force participation rate (from 72 per cent to 88 per cent). During 1995–2007, the annual average growth of the working-age

population was 1.1 per cent compared with 0.75 per cent growth in the total population. The working-age population is projected to increase from the current level of 925 million to 1.018 billion in 2025.

**Table 10.1 China: population statistics, 1985–2005**

Year	Total population (million)	Labour force		Urban population	
		Million	Population share (%)	Million	Population share (%)
1985	105 851	50 112	47.3	11 882	23.7
1986	107 507	51 546	47.9	12 639	24.5
1987	109 300	53 060	48.5	13 435	25.3
1988	111 026	54 630	49.2	14 100	25.8
1989	112 704	55 707	49.4	14 601	26.2
1990	114 333	65 323	57.1	17 252	26.4
1991	115 823	66 091	57.1	17 805	26.9
1992	117 171	66 782	57.0	18 338	27.5
1993	118 517	67 468	56.9	18 884	28.0
1994	119 850	68 135	56.9	19 425	28.5
1995	121 121	68 855	56.8	19 995	29.0
1996	122 389	69 765	57.0	21 264	30.5
1997	123 626	70 800	57.3	22 592	31.9
1998	124 761	72 087	57.8	24 041	33.4
1999	125 786	72 791	57.9	25 317	34.8
2000	126 743	73 992	58.4	26 800	36.2
2001	127 627	74 432	58.3	28 031	37.7
2002	128 453	75 360	58.7	29 458	39.1
2003	129 227	76 075	58.9	30 833	40.5
2004	129 988	76 823	59.1	32 081	41.8
2005	130 756	77 877	59.6	33 479	43.0
2006	131 448	78 343	59.6	57 706	43.9
2007	132 129	78 881	59.7	59 379	44.9
Memo item: average annual growth (%)					
1985–95	1.36	3.33		5.4	
1995–2007	0.75	1.13		4.3	
1985–2007	1.02	2.1		4.8	

**Sources:** National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing.

Employment expansion in China has not kept pace with the growth in the labour force. Total rural employment (which presumably included a significant number of underemployed workers, as discussed below)



remained virtually stagnant at about 490 million during the past 15 years. Employment expansion in the emerging private sector in the urban economy—in foreign-invested enterprises (joint ventures and fully owned foreign firms) and local private firms (including urban informal sector employment)—has been impressive: total employment in these firms increased from 65 million in 1990 to nearly 182 million between 1990 and 2007 (Table 10.2). Total employment in the urban economy has, however, grown at a much slower rate—from 170.4 to 293.5 million—because of massive contraction in employment in the SOE sector. Total employment in SOEs declined persistently—from 103.5 million in 1990 to 64.2 million in 2007. The urban employment elasticity of economic growth—that is, the percentage increase in employment linked to a 1 per cent increase in GDP (gross domestic product)—remains low, fluctuating between 0.1 and 0.2 during 1990–2001 (Brooks and Tao 2003).

Table 10.2 Labour force and employment (millions)

	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
Labour force	501	653.2	688.5	739.9	744.3	753.6	760.8	768.2	778.8	782.4	786.5
Total employment	498.7	647.5	680.7	720.9	730.3	737.4	744.3	752.0	758.3	764.0	769.9
Urban employment	128.1	170.4	190.4	231.5	239.4	247.8	256.4	264.8	273.3	283.1	293.5
State-owned enterprises	89.9	103.5	112.6	81	76.4	71.6	68.8	67.1	64.9	64.3	64.2
Collectively owned enterprises <sup>1</sup>	33.2	35.5	31.5	15.0	12.9	11.2	11.73	10.9	10.0	9.4	8.9
Foreign-funded enterprises	0.1	0.7	5.1	6.4	6.7	7.6	4.5	5.6	6.9	8.0	9.0
Limited-liability corporations	..	..	..	..	..	..	12.6	14.4	17.5	19.2	20.8
State-holding corporations	..	..	..	..	..	..	5.9	6.2	7.0	7.4	7.9
Privately funded enterprises	0.8	6.7	20.6	34	36.6	42.7	25.5	29.9	34.6	39.5	45.8
Residual	4.9	23.1	16.9	81.6	91.6	96.4	145.9	151.2	157.0	161.9	165.5
Rural areas	370.7	477.1	490.3	489.3	490.9	489.6	487.9	487.2	484.9	480.9	476.4
Township and village enterprises	69.8	92.7	128.6	128.2	130.9	132.9	135.7	138.7	142.7	146.8	150.9
Privately owned enterprises	..	1.1	4.7	11.4	11.9	14.1	17.5	20.2	23.7	26.3	26.7
Self-employed	305.7	14.9	30.5	29.3	26.3	24.7	22.6	20.7	21.2	21.5	21.9
Residual	288.4	368.4	326.4	320.4	321.8	318	312.1	307.7	297.3	286.3	276.9

.. not available

<sup>1</sup> includes cooperative unitsSource: National Statistical Bureau (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing.

## Surplus labour in the urban economy

The combination of natural population increase and rural-to-urban migration has resulted in continued additions to the urban labour supply. Also, restructuring and downsizing of SOEs—located mostly in urban areas—has led to massive lay-offs. As discussed, employment growth in the emerging private sector, though impressive, has not kept pace with the increase in the urban labour force. Consequently, China's cities now confront large-scale open unemployment.

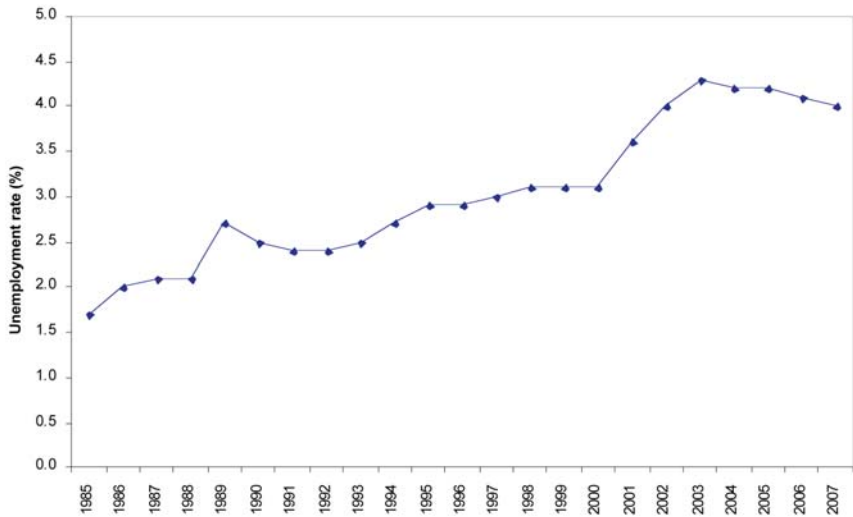
The official (registered) urban unemployment rate published by the National Bureau of Statistics (NBS),<sup>6</sup> which remained within the narrow margin of 2.3 to 2.6 per cent in the 1990s, increased to 4.3 per cent in 2003 and then declined slightly to 4 per cent in 2007 (this amounted to 8.6 million unemployed workers) (Figure 10.1). Data on provincial-level unemployment from the same source generally show higher unemployment rates in recent years in labour-sending interior provinces (such as Sichuan, Guizhou, Yunnan and Ningxia) than in rapidly growing coastal provinces (such as Beijing, Guangdong, Hainan and Guangxi) (Table 10.3). There are, however, strong reasons to believe that the official data grossly understate the level of unemployment—for several reasons. First, the data-reporting system covers only the age range sixteen–fifty for men and sixteen–forty-five for women. Second, a large number of workers laid off from SOEs are still regarded as employed by their former enterprises. Third, many unemployed people do not have incentives to register themselves at the local employment service agencies because they do not qualify for social security payments or do not have the required qualifications to find employment through such formal mechanisms. Fourth, unemployed people without urban residency status (migrants) are automatically excluded from the registration system, and therefore the bulk of the 'floating population'—which forms a large and growing segment of the urban labour force—is not captured in these data.

**Table 10.3 Registered unemployment rates by province, 1995–2005**  
(per cent)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
China average	2.5	2.9	3.1	3.6	4.0	4.3	4.2	4.2	4.1	4.0
<b>Northern provinces</b>										
Beijing	0.4	0.4	0.8	1.2	1.4	1.4	1.3	2.1	2.0	1.8
Tianjin	2.7	1.0	3.2	3.6	3.9	3.8	3.8	3.7	3.6	3.6
Hebei	1.1	2.2	2.8	3.2	3.6	3.9	4.0	3.9	3.8	3.8
Shanxi	1.2	1.4	2.2	2.6	3.4	3.0	3.1	3.0	3.2	3.2
Inner Mongolia	3.8	3.8	3.3	3.7	4.1	4.5	4.6	4.3	4.1	4.0
<b>North-eastern provinces</b>										
Liaoning	2.2	2.7	3.7	3.2	6.5	6.5	6.5	5.6	5.1	4.3
Jilin	1.9	2.0	3.7	3.1	3.6	4.3	4.2	4.2	4.2	3.9
Heilongjiang	2.2	2.9	3.3	4.7	4.9	4.2	4.5	4.4	4.4	4.3
<b>Eastern provinces</b>										
Shanghai	1.5	2.6	3.5		4.8	4.9	4.5	..	4.4	4.2
Jiangsu	2.4	2.1	3.2	3.6	4.2	4.1	3.8	3.6	3.4	3.2
Zhejiang	2.2	3.2	3.5	3.7	4.2	4.2	4.1	3.7	3.5	3.3
Anhui	2.8	3.1	3.3	3.7	4.0	4.1	4.2	4.4	4.3	4.1
Fujian	2.6	2.6	2.6	3.8	4.2	4.1	4.0	4.0	3.9	3.9
Jiangxi	2.4	2.1	2.9	3.3	3.4	3.6	3.6	3.5	3.6	3.4
Shandong	3.2	3.2	3.2	3.3	3.6	3.6	3.4	3.3	3.3	3.2
<b>Central and southern provinces</b>										
Henan	3.3	2.6	2.6	2.8	2.9	3.1	3.4	3.5	3.5	3.4
Hubei	1.7	3.1	3.5	4.0	4.3	4.3	4.2	4.3	4.2	4.2
Hunan	2.7	3.8	3.7	4.0	4.0	4.5	4.4	4.3	4.3	4.3
Guangdong	2.2	2.6	2.5	2.9	3.1	3.6	2.7	2.6	2.6	2.5
Guangxi	3.9	3.6	3.2	3.5	3.7	3.4	4.1	4.2	4.2	3.8
Hainan	3.0	4.2	3.2	3.4	3.1	4.1	3.4	3.6	3.6	3.5
<b>South-western provinces</b>										
Chongqing	..	..	3.5	3.9	4.1	4.4	4.1	4.1	4.0	4.0
Sichuan	3.7	3.7	4.0	4.3	4.5	4.0	4.4	4.6	4.5	4.2
Guizhou	4.1	5.9	3.8	4.0	4.1	4.1	4.1	4.2	4.1	4.0
Yunnan	2.5	2.9	2.6	3.3	4.0	3.5	4.3	4.2	4.3	4.2
<b>North-western provinces</b>										
Shaanxi	2.8	3.5	2.7	3.2	3.3	3.8	3.8	4.2	4.0	4.0
Gansu	4.9	5.5	2.7	2.8	3.2	4.4	3.4	3.3	3.6	3.3
Qinghai	5.6	7.4	2.4	3.5	3.6	3.5	3.9	3.9	3.9	3.8
Ningxia	5.4	6.4	4.6	4.4	4.4	3.0	4.5	4.5	4.3	4.3
Xinjiang	3.0	..	3.8	3.7	3.7	2.9	3.5	3.9	3.9	3.9

.. not available

**Source:** National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing.

**Figure 10.1 Registered unemployment rate in urban areas**

**Source:** National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing.

According to estimates based on data from the Survey of Population Changes (SPC) conducted by the National Census Bureau (NCB) (which is based on the International Labour Organisation's recommended definitions of employment/unemployment and is not subject to the limitations discussed above), the urban unemployment rate rose from 3.4 per cent in 1995 to 7.7 per cent in 2000 and then declined slightly to a bit above 6 per cent in 2002 and 2003 (Tao 2006:Table 8.6). A survey conducted by the Institute of Population and Labour Economics of the Chinese Academy of Social Sciences between September 1996 and January 2002 in five major cities (Fuzhou, Shanghai, Shenyang, Xian and Wuhan) has come up with an average unemployment rate of 8 per cent (about 15 million people), with rates as high as 14 per cent in some localities (Hu 2007).

## Unemployment in rural areas

At the end of the planned economy era in 1978, 71 per cent of the workforce was involved in agriculture. The absolute number of agricultural workers reached a peak of 391 million in 1991, and it has since been in a long, steady decline. By 2001, 33 per cent of rural employment was non-farm related and half of the income in rural areas was generated by non-farm activities (Cooper 2006). The share of agricultural employment in total employment

has, however, been consistently and significantly higher than the share of agriculture in GDP. Most of the workers in agricultural pursuits are essentially underemployed; according to official estimates, more than 130 million rural people lack sufficient land or employment opportunities to guarantee their livelihoods (World Bank 2005). In addition to farmers who are underemployed, open rural unemployment has also risen in rural China in recent years. The rural unemployed includes farmers who have been dispossessed through land requisitions, workers who are laid off from TVEs and rural cadres and teachers who are laid off on account of continuing tax reforms and local government restructuring (Tao 2006:527–8).

No data on rural employment and production are available for a systematic quantification of surplus labour in the rural economy in China. A recent study by the Organisation for Economic Cooperation and Development (OECD 2003) has come up with some tentative estimates comparing the average labour productivity of non-agriculture with that of agriculture. When the average production of non-agricultural industries was used as a benchmark, rural hidden unemployment was found to be as high as 275 million people. When the benchmark was set at a more modest level of one-third of the productivity of non-agricultural workers, the estimate came down to 150 million people.

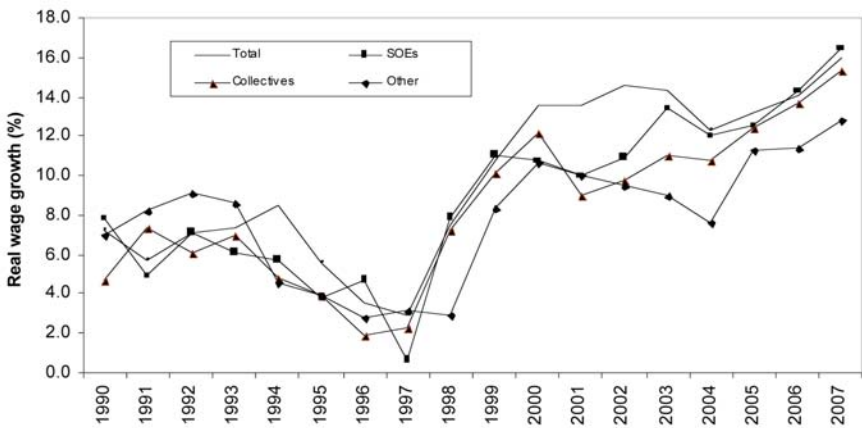
The mere presence of surplus labour does not, however, imply that this labour is readily available for urban employment. This is because migration decisions depend on economic and non-economic considerations. A study of the migration behaviour of rural people in Sichuan Province (the most populous and predominantly rural province in China) finds that although migration yields a large monetary premium, rural people will choose to stay in rural areas rather than migrate under current regulations and conditions (Zhao 1999). According to this study, the major deterrent to migration is the lack of safety during transition and in destination cities as well as forced separation from families and the unavailability of suitable housing in destination cities, primarily because, under the *hukou* system, migrants do not have legal rights to reside permanently in cities. An important implication of the findings of this study, which has also been confirmed by a number of subsequent studies (as surveyed in Zhao 2005), is that the number of migratory workers would be higher in the absence of artificial barriers to migration.

## Wage trends

We have observed in the previous section that surplus labour conditions remain in the Chinese economy. Are the trends and patterns of wage behaviour in the Chinese economy consistent with the predictions of the Lewis model? If not, how can we explain the ‘Chinese wage puzzle’?

Data on real wage behaviour in the urban sector compiled from NBS sources are plotted in Figure 10.2. It is evident that real wages in all three ownership categories—SOEs, collectively owned firms and private-sector firms<sup>7</sup>—remained virtually stagnant well into the mid-1990s (Figure 10.2). Since then, there has been a persistent increase across the board.

**Figure 10.2 Growth of real urban wages<sup>a</sup> by ownership of firms, 1986–2005 (three-year moving averages, centred on the current year)<sup>b</sup>**



**Notes:** <sup>a</sup> nominal wage deflated by the consumer price index (CPI) (1990 = 100).

**Sources:** Based on data compiled from National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing; and National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing.

It is important to note that data on urban wages could give a distorted picture of the labour market conditions faced by rural workers seeking employment in the urban economy by incorporating changes in output and, therefore, the skill mix (Ranis 1995:514). Also, the data tend to be biased by embodying a significant wage premium for workers employed by multinational affiliates and large domestic firms. A more meaningful analysis therefore requires data on unskilled-worker wages or wages of rural migrant workers engaged in the urban informal sector. Apart from

these general limitations of the urban wage data, Chinese official urban wage data are particularly problematic because they cover only the upper strata of urban labour markets. Moreover, the magnitude of the bias arising from this omission has presumably increased over time with the sharp increase in rural–urban migration in the past two decades.

These limitations notwithstanding, a careful analysis of official wage data disaggregated by ownership and at the provincial level does point to the fragility of any inferences based on the aggregate series. To comment first on data by ownership categories, among these, the wage growth of SOEs has outpaced that of the urban collective sector and private firms (where wage setting is relatively more market based) by a significant margin. During 1995–2007, the real wage rate of SOEs grew at an average annual rate of 11.2 per cent compared with 7.4 per cent for private firms and 8.3 per cent for collective firms. The SOE wage bill includes additional payments in the form of pensions, health care and housing (Zhu 2002). Moreover, since late 1990, SOE workers' salaries and wages have been periodically and substantially increased as part of the expansionary macroeconomic policy of the government (Rawski 2003). The growth of non-SOE real wages (estimated by purging the SOE wage rate using the employment share weight) for the period 1995–2007 turns out to be 7.1 per cent compared with the average rate of 11.5 per cent recorded in the reported series.

Data on real urban wages at the provincial level (covering all provinces for which data are readily available) from the same source are reported in Table 10.4. The data show a significant increase in real wages across all provinces from about the mid-1990s. This overall pattern does not, however, tell us anything definitive about labour market tightening. There is reason to believe that wages in different sectors generally move together, even in situations in which labour is in 'surplus' in the sense that the marginal product is zero. 'Surplus' workers in the traditional economy are usually involved in activities in which work and income are shared and hence workers' compensation is related to the average product, not to marginal product. When workers are drawn from the traditional sector into the modern sector, therefore, wages can increase throughout the economy, even when surplus labour conditions continue to prevail in the traditional sector.



Table 10.4 Real wages (monthly) by province (RMB at 1985 prices)<sup>a</sup>

Year	Hebei	Henan	Hunan	Jiangsu	Sichuan	Shanghai	Anhui	Shandong	Qinghai	Guangdong	Fujian	Jilin
1985	1075	1015	1059	1135	992	1416	950	1110	1719	1393	1059	1081
1986	1200	1099	1159	1245	1089	1589	1059	1256	1805	1469	1167	1152
1987	1223	1122	1211	1294	1100	1647	1069	1263	1793	1494	1132	1198
1988	1255	1098	1162	1298	1086	1650	1053	1328	1716	1491	1115	1188
1989	1141	1024	1070	1169	1013	1631	989	1220	1545	1453	1081	1091
1990	1258	1140	1169	1271	1091	1716	1084	1321	1587	1630	1242	1119
1991	1299	1199	1196	1337	1168	1796	1095	1342	1597	1847	1344	1135
1992	1411	1315	1268	1539	1217	2068	1170	1426	1607	2064	1458	1186
1993	1514	1389	1351	1734	1248	2274	1248	1532	1676	2245	1581	1233
1994	1703	1486	1408	1880	1310	2405	1346	1710	1872	2465	1773	1387
1995	1709	1563	1383	1921	1285	2540	1425	1725	1834	2506	1843	1455
1996	1743	1604	1365	1969	1311	2673	1456	1777	1924	2591	1986	1646
1997	1814	1644	1387	2078	1354	2785	1525	1857	1947	2702	2209	1674
1998	1885	1866	1422	2390	1418	2940	1699	2052	2184	2903	2501	1952
1999	2318	2063	1536	2692	1756	3398	1850	2308	2488	3267	2807	2176
2000	2576	2327	1661	3015	2025	3613	1971	2639	2768	3939	3066	2443
2001	2876	2639	1981	3484	2349	4162	2219	2958	3464	4500	3526	2670
2002	3339	3055	2259	3970	2685	4540	2635	3385	3797	5184	3925	3056
2003	3644	3525	2488	4582	3024	5163	2948	3699	3950	5780	4186	3350
2004	4038	3769	2754	5128	3256	5565	3446	4070	4297	6211	4386	3611
2005	4320	4062	3059	5551	3407	5867	3809	4442	4562	6386	4490	3908
2006	4751	4515	3378	6310	3753	6498	4357	4871	4854	6991	4747	4248

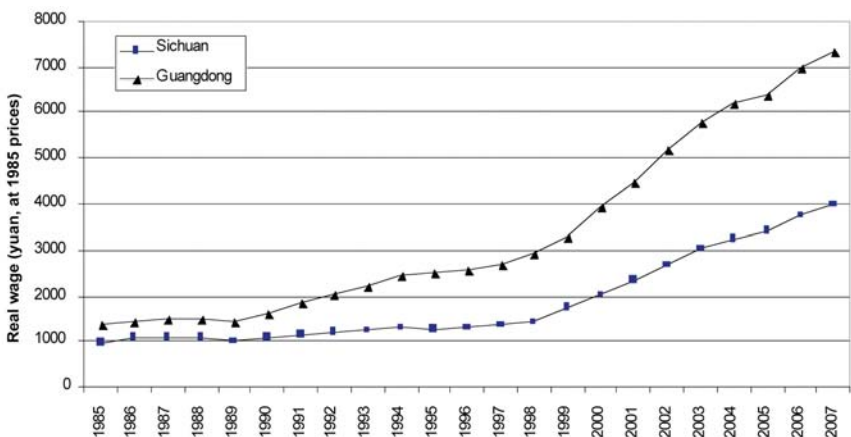
Year	Hebei	Henan	Hunan	Jiangsu	Sichuan	Shanghai	Anhui	Shandong	Qinghai	Guangdong	Fujian	Jilin
2007	5174	4847	3745	6946	3984	6927	4954	5338	5217	7350	4916	4588
Memo item: average annual growth rates												
1985–95	4.94	4.55	2.85	5.63	2.74	6.12	4.27	4.68	0.8	6.19	5.88	3.14
1995–2007	9.1	9.6	8.0	10.7	9.1	8.5	10.6	9.2	8.4	8.9	8.2	9.7
1985–2007	7.3	7.4	5.7	8.5	6.4	7.5	7.9	7.2	5.1	7.7	7.2	6.9

Note: <sup>a</sup> nominal wage deflated by provincial CPI.

Sources: Compiled from National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing; and National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing.

So what is important is the relative rate of wage growth and the differences in relative wage levels. The data in fact point to vast differences in the magnitude of wage growth across provinces. Wage growth in rapidly growing coastal provinces (such as Guangdong, Shanghai and Guangxi) has been much faster than in labour-sending interior provinces (such as Sichuan, Gansu and Qinghai). A comparison of the real wages of Sichuan (by far the largest source of migrant labour) and Guangdong (the fastest-growing and most labour-absorbing province) illustrates this point (Figure 10.3). In the late 1980s, there was not much difference between the wage levels in the two provinces. During the next 15 years, the growth rate of wages in Guangdong was almost twice as fast as that in Sichuan.

**Figure 10.3 Real wages<sup>a</sup> in Sichuan and Guangdong Provinces, 1985–2007 (CNY at 1990 prices)<sup>b</sup>**



**Notes:** <sup>a</sup> nominal wage (yuan) deflated by the regional CPI (1990 = 100); <sup>b</sup> average annual growth rates—for Sichuan: 5.63 (1985–95), 10.7 (1995–2007) and 8.5 (1985–2007), for Guangdong: 6.19 (1985–95), 8.9 (1995–2007) and 7.7 (1985–2007).

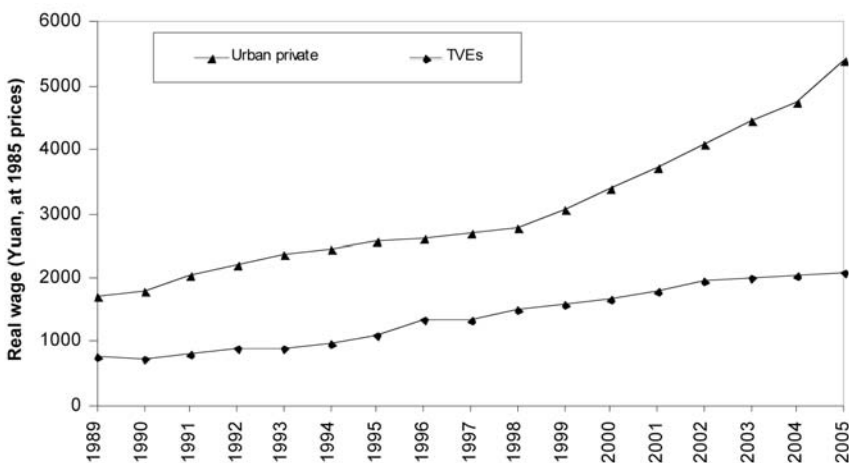
**Sources:** Based on data compiled from National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing; and National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing.

So far, we have examined the trends and patterns of urban wages using official data from the *China Labour Yearbook*. We now turn to examining the official data on the wages of workers in TVEs available from another official source, *Town and Village Enterprise Yearbook*.<sup>8</sup> Presumably, TVE data better reflect labour market conditions facing urban unskilled workers than with the aggregate wage series or wages relating to workers in other types of firms (Banister 2005b; Cooper 2006). Apparently, virtually all of China's manufacturing enterprises and factories located outside strict city limits are

lumped together under the category 'town and village enterprises' (TVEs). Foreign and domestic manufacturers who are eager to keep down their costs (such as requirements to pay social insurance and other welfare obligations) and statistical requirements prefer their factories to be classified as rural or TVE. The majority of TVEs (about 94 per cent) are located in 'rural areas' (by the official definition) and they employ largely unskilled rural workers whose employment decisions are presumably closely tied to agricultural income.

Real annual wages of workers in urban private enterprise and TVEs for the period 1987–2005 are compared in Figure 10.4. During this period, the average real wages of TVE workers rose at only an annual rate of 5.5 per cent compared with 6.5 per cent growth in urban private enterprises. More importantly, the data indicate that the vast wage gap between TVEs and urban enterprises has widened in recent years. During 2000–05, the average TVE wage rate amounted to 65 per cent of that in urban private firms. According to provincial-level data (not reported here, for brevity), these gaps are much wider in rapidly growing coastal provinces than in the labour-sending interior provinces (Table 10.5). It seems that China's labour market conditions enable firms to achieve significant cost advantages by manipulating the existing institutional procedures to achieve TVE status.

**Figure 10.4 Real manual wages<sup>a</sup> in urban private firms and TVEs, 1989–2005 (CNY at 1985 prices)<sup>b</sup>**



**Notes:** <sup>a</sup> nominal wage (yuan) deflated by the regional CPI (1985 = 100);

**Sources:** Based on data compiled from National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing; National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing; National Bureau of Statistics (NBS) various years, *Town and Village Enterprise Yearbook*, China Statistics Press, Beijing.

**Table 10.5 Average wage in TVEs relative to average wages in urban private firms (per cent)**

Province	1994–95 <sup>a</sup>	2004–05 <sup>a</sup>	Province	1994–95 <sup>a</sup>	2004–05 <sup>a</sup>
Beijing	69.6	82.0	Henan	102.0	71.0
Tianjin	85.7	119.6	Hubei	87.9	87.0
Hebei	103.3	75.9	Hunan	90.0	74.6
Shanxi	93.8	106.2	Guangdong	77.5	73.2
Inner Mongolia	101.2	95.0	Guangxi	90.0	68.2
Liaoning	101.8	85.4	Hainan	81.2	73.8
Jilin	129.9	69.4	Sichuan	83.0	53.4
Heilongjiang	115.6	85.5	Guizhou	63.2	70.1
Shanghai	67.3	74.2	Yunnan	72.5	56.5
Jiangsu	88.2	87.0	Shaanxi	82.9	64.8
Zhejiang	89.4	67.1	Gansu	56.7	58.7
Anhui	112.4	91.7	Qinghai	69.6	42.5
Fujian	105.9	66.5	Ningxia	61.1	48.1
Jiangxi	107.7	76.1	Xinjiang	76.5	52.3
Shandong	84.2	68.2	National average	81.6	74.2

<sup>a</sup> two-year average

**Sources:** Based on data compiled from National Bureau of Statistics (NBS) various years, *China Labour Yearbook*, China Statistics Press, Beijing; National Bureau of Statistics (NBS) various years, *China Statistical Yearbook*, China Statistics Press, Beijing; National Bureau of Statistics (NBS) various years, *Town and Village Enterprise Yearbook*, China Statistics Press, Beijing.

The discussion so far suggests that even the official data when analysed at the disaggregate level suggest significant continuing duality and surplus labour conditions in the Chinese labour market. The few available studies that have looked specifically at the relative wages of unskilled and migrant workers provide further support for this inference. For instance, a study of wage behaviour in Guangdong Province found that between 1992 and 2002, the real wages of migrant workers had hardly risen (Qin 2003). Using a survey of residents in Hubei Province (a major labour-sending province), Zhu (2002) found, after controlling for skill differences, that the wages of workers who had migrated to the city were almost twice as high as those workers who had remained in the countryside. In a survey of the floating population in Shanghai Province, Meng and Zhang (2001) found a clear division between the floating population and local residents both in terms of work conditions and wages. In a recent study, Meng and Bai (2007) examined wage patterns of unskilled workers during the five-year period from 2000–04 using a unique data set extracted from the payrolls of seven large manufacturing factories in Guangdong Province. A simple comparison of wages showed that the real wages of production

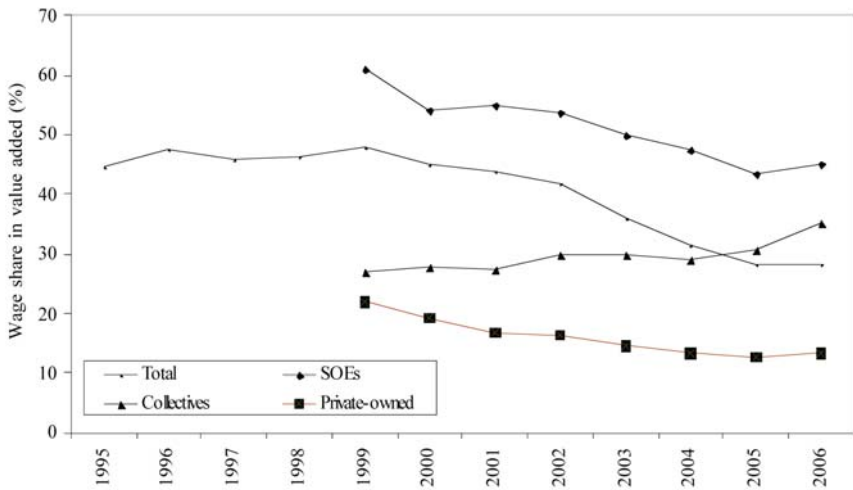
workers increased at an average annual rate of only 3.5 per cent compared with a rate of more than 6 per cent for the total sample of workers. Once education, period of employment and other variables that could affect wage levels had been controlled for, the average annual growth rate for the unskilled workers turned out to be negative or near zero.

## **Functional share of labour in value added**

How have the surplus labour conditions in the Chinese economy been reflected in the functional distribution of income in domestic manufacturing in China? The data on the labour share in value added plotted in Figure 10.4 provide important insight into this issue. Overall, the patterns shown by the data are quite consistent with the Lewisian prediction of persistence of high profits in the modern sector in a surplus labour economy.

In the mid-1990s, labour received about half of total industrial value added. This share declined persistently to about 40 per cent by 2006. The disaggregated data clearly suggest that the aggregate wage share is heavily influenced by the functional distribution of income in SOEs, whose employment practices have continued to be influenced by non-market considerations. The wage share in private enterprises (encompassing foreign-invested and domestic private enterprises, which generally operate under competitive conditions) in 1999 was 22 per cent (compared with 34 per cent for SOEs) and it declined sharply during the ensuing years, reaching 12 per cent in 2006. Although remarkably low by the standards of mature industrial countries, these figures are consistent with the evidence available about the functional distribution of income in the late 1940s through to the early 1960s in Hong Kong, when labour-intensive growth there was fuelled by a massive influx of workers (refugees) from the Chinese mainland (Chow and Papanek 1981; Athukorala and Manning 1999). Some recent firm-level studies of Chinese manufacturing performance have also reported estimates that corroborate the private-sector wage shares reported in Figure 10.5 (Bergsten et al. 2006:Ch.3; Fukao et al. 2007).

**Figure 10.5 Wage share in industrial valued added by ownership category, 1995–2007**



Source: Based on data compiled from *CEIM Database*.

Of course, the degree of elasticity of labour supply is not the sole determinant of the functional distribution of income.<sup>9</sup> For instance, during the early transitional period, when wages were relatively stable, the labour share in value added could decline (increase) whenever its average productivity increased (decreased). If technological change is biased in a labour-saving direction—that is, a change contributing to slower labour absorption—labour productivity will increase, leading to a decline in the labour share in value added and a less equitable pattern of family income distribution (Fei et al. 1985; Minami 1973). The contrasting patterns in labour share in value added among the three ownership categories are, however, not supportive of such an alternative inference; as we have noted, the labour share of valued added of private-sector enterprises has been much lower and has declined faster over the years compared with SOEs, even though total labour absorption in the former has increased at a much faster rate. All in all, the data seem to suggest that surplus labour conditions in China remain highly favourable for private sector industrial expansion, notwithstanding some reported isolated cases of labour scarcity.

## Concluding remarks

China's dramatic economic expansion, fuelled by massive domestic labour surpluses, has not yet run out of steam. There is still considerable room for moving unskilled workers out of agriculture into more productive economic activities in the modern sector. In addition, rural–urban labour migration in the past two decades and labour shedding by the SOE sector have given rise to a significant additional reserve of workers within the urban sector.

Absorbing these labour surpluses in a gainful way is vital for maintaining the growth momentum of the economy and for poverty reduction. This calls for further labour market reforms to remove institutional constraints on labour mobility. It is also vital to avoid politically popular, but economically counterproductive policies that artificially increase the cost of hiring workers. In this context, the government's plan to create a universal employment insurance scheme and introduce retirement pensions and other social security provisions—as well as the already implemented Labour Contract Law—could be premature. The best social protection that the government can provide the poor is opportunities for gainful employment—and greater labour market flexibility and enhanced labour mobility are essential prerequisites for achieving this objective.

Given the environmental considerations and infrastructure problems associated with massive rural–urban migration, there is a strong case for renewed emphasis on rural development—in particular, in initiatives to spread industrialisation dynamism to the countryside. In this, China might find important policy lessons in the Taiwanese experience of promoting rural non-agricultural activities as part of a balanced growth process in the 1960s and 1970s. A key factor behind Taiwan's highly publicised 'growth with equity' outcome was that its industrialisation patterns clearly avoided the customary relative (somewhat absolute) decline in rural non-agricultural activities—increasingly, in food processing. Rural non-agricultural activities were not competed out of existence by favoured urban industries and services (Ranis 1993). While the current emphasis of the Chinese Government on higher education is justifiable from a long-term perspective, the existing surplus-labour conditions in the countryside call for an even greater emphasis on primary education.



## References

- Athukorala, P. and Manning, C. 1999, *Structural Change and International Migration in East Asia: Adjusting to labour scarcity*, Oxford University Press, Melbourne and Oxford.
- Banister, J. 2005a, 'Manufacturing employment in China', *Monthly Labor Review*, July, US Bureau of Labor Statistics, pp. 11–29.
- 2005b, 'Manufacturing earnings and compensation in China', *Monthly Labor Review*, August, US Bureau of Labor Statistics, pp. 22–40.
- Basu, K. 1997, *Analytical Development Economics*, MIT Press, Cambridge, Mass.
- Bergsten, C. F., Gill, B., Lardy, N. R. and Mitchell, D. 2006, *China: The balance sheet*, Public Affairs, New York.
- Brooks, R. and Tao, R. 2003, *China's labour market performance and challenges*, IMF Working Paper, no. WP/03/210, International Monetary Fund, Washington, DC.
- Cheng, T. and Selden, M. 1994, 'The origin and social consequences of China's hukou system', *China Quarterly*, vol. 139, pp. 644–68.
- Chow, S. C. and Papanek, G. 1981, 'Laissez-faire, growth and equity—Hong Kong', *Economic Journal*, vol. 91, no. 263, pp. 466–85.
- Cooper, R. N. 2006, *How integrated are Chinese and Indian labour into the world economy?*, Background paper for *Dancing with Giants: China, India and the global economy*, The World Bank, Washington, DC.
- Eckstein, A. 1977, *China's Economic Revolution*, Cambridge University Press, Cambridge.
- Fei, J. C. H. and Ranis, G. 1997, *Growth and Development from an Evolutionary Perspective*, Basil Blackwell, Oxford.
- Fei, J. C. H., Ohkawa, K. and Ranis, G. 1985, 'Economic development in historical perspective: Japan, Korea and Taiwan', in K. Ohkawa, G. Ranis and L. Meissner (eds), *Japan and the Developing Countries: A comparative analysis*, Basil Blackwell, Oxford, pp. 35–64.
- Fields, G. S. 1994, 'Changing labor market conditions and economic development in Hong Kong, the Republic of Korea, Singapore and Taiwan, China', *World Bank Economic Review*, vol. 8, no. 3, pp. 395–414.

- Fukao, K., Ito, K., Kabe, S., Liu, D. and Takeuchi, F. 2007, 'Are Japanese firms failing to catch up in localisation? An empirical analysis based on affiliate-level data of Japanese firms and a case study of automobile industry in China', Draft paper, Institute of Economic Research, Hitotsubashi University, Tokyo.
- Garnaut, R. and Huang, Y. 2006, 'Continued rapid growth and the turning point in China's development', in R. Garnaut and L. Song (eds), *The Turning Point in China's Economic Development*, Asia Pacific Press, Canberra, pp. 12–34.
- Garnaut, R. and Ma, G. 1996, 'The third revolution', in R. Garnaut, G. Shatian and G. Ma (eds), *The Third Revolution in the Chinese Countryside*, Cambridge University Press, Cambridge.
- Hausmann, R., Lim, E. and Spence, M. 2006, *China and the global economy: medium-term issues and options, a synthesis report*, Centre for International Development Discussion Paper, no. RWP06-029, John F. Kennedy School of Government, Harvard University, Cambridge, Mass.
- Hu, A. 2007, *Economic and Social Transformation in China: Challenges and opportunities*, Routledge, London.
- Islam, N. and Yokoda, K. 2006, 'An initial look at China's industrialization in light of the Lewis growth model', *East Asian Economic Perspectives*, vol. 17, no. 2, pp. 103–32.
- Kindleberger, C. P. 1967, *Europe's Postwar Growth: The role of labour supply*, Harvard University Press, Cambridge, Mass.
- Lewis, A. W. 1954, 'Economic development with unlimited supplies of labour', *Manchester School*, vol. 22, no. 2, pp. 139–91.
- 1958, 'Unlimited labour: further notes', *Manchester School*, vol. 26, no. 1, pp. 1–32.
- 1979, 'Dual economy revisited', *Manchester School*, vol. 47, no. 3, pp. 211–29.
- Liang, Z. and Ma, Z. 2004, 'China's floating population: new evidence from the 2000 census', *Population and Development Review*, vol. 30, no. 3, pp. 467–88.

- Meng, X. 2000, *Labour Market Reforms in China*, Cambridge University Press, Cambridge.
- Meng, X. and Bai, N. 2007, 'How much have the wages of unskilled workers in China increased: data from seven factories in Guangdong', in R. Garnaut and L. Song (eds), *China: Linking markets for growth*, Asia Pacific Press, Canberra, pp. 151–74.
- Meng, X. and Zhang, J. 2001, 'The two-tier labor market in China—occupational segregation and wage differentials between urban residents and rural migrants in Shanghai', *Journal of Comparative Economics*, vol. 29, no. 3, pp. 485–504.
- Minami, R. 1973, *The Turning Points in Economic Development: Japanese experience*, Konokuniya, Tokyo.
- 1986, *The Economic Development of Japan: A quantitative study*, Macmillan, London.
- National Bureau of Statistics (NBS) 2005, *Chain Labour Statistics Yearbook*, China Statistics Press, Beijing.
- various years, *China Labour Yearbook*, China Statistics Press, Beijing;
- various years, *China Statistical Yearbook*, China Statistics Press, Beijing;
- various years, *Town and Village Enterprise Yearbook*, China Statistics Press, Beijing.
- Naughton, B. 2007, *China's Economy: Transition and growth*, MIT Press, Cambridge, Mass.
- Organisation for Economic Cooperation and Development (OECD) 2003, *Migration and Labour Markets in Asia 2002*, Organisation for Economic Cooperation and Development, Paris.
- Putterman, L. 1992, 'Dualism and reform in China', *Economic Development and Cultural Change*, vol. 72, no. 6, pp. 712–23.
- Ranis, G. and Fei, J. C. H. 1975, 'Growth and employment in the open dualistic economy: the case of Taiwan and Korea', *Journal of Development Studies*, vol. 11, no. 2, pp. 32–63.

- Ranis, G. 1995, 'Another look at the East Asian miracle', *World Bank Economic Review*, vol. 9, no. 3, pp. 509–34.
- Rawski, T. G. 2003, 'Recent development in China's labour economy', in K. Nakagane and T. Kojima (eds), *Restructuring China: Party, society and after the reform and opening door*, The Tokyo Bunko, Tokyo, pp. 16–47.
- Rawski, T. G. and Xiao, W. 2001, 'Symposium on Chinese economic statistics: introduction', *China Economic Review*, vol. 13, no. 4, pp. 361–72.
- Rosenzweig, M. R. 1988, 'Labour markets in low-income countries', in H. B. Chenery and T. N. Srinivasan (eds), *Handbook of Development Economics. Volume 1*, North Holland, Amsterdam.
- Shi, L. and Sato, H. (eds) 2006, *Unemployment, Inequality and Poverty in Urban China*, Routledge, London.
- Siebert, H. 2007, 'China: coming to grips with the new global player', *World Economy*, vol. 30, no. 6, pp. 883–922.
- Tao, R. 2006, 'The labor market in the People's Republic of China: developments and policy challenges in economic transition', in J. Felipe and R. Hasan (eds), *Labour Markets in Asia: Issues and perspectives*, Palgrave Macmillan, London, pp. 503–58.
- World Bank 2005, *China: integration of national product and factor markets—economic benefits and policy recommendations*, World Bank Report, no. 31973-CHA, The World Bank, Washington, DC.
- Wu, X. and Treiman, D. J. 2004, 'The household registration system and social stratification in China, 1955–1996', *Demography*, vol. 41, no. 2, pp. 363–84.
- Zhao, Y. 1999, 'Labor migration and earnings differences: the case of rural China', *Economic Development and Cultural Change*, vol. 47, no. 4, pp. 767–82.
- Zhao, Z. 2005, 'Migration, labour market flexibility, and wage determination in China: a survey', *The Developing Economies*, vol. XLIII, no. 2, pp. 285–312.
- Zhu, N. 2002, 'The impact of income gap on migration decision in China', *China Economic Review*, vol. 13, nos 2–3, pp. 210–30.

## Endnotes

1. Data reported in this paper, unless otherwise stated, come from the *China Statistical Yearbook* (NBS various years).
2. Zhao (2005) provides a comprehensive survey of this literature up to about 2003. For more recent collections of papers, which also provide extensive listing of the related literature, see Shi and Sato (2006).
3. In many applications of the Lewis model, the 'subsistence sector' has been treated as conterminous with 'agriculture'. This alternative terminology is misleading; it ignores unemployed and underemployed labour in the small-scale non-agricultural and informal sectors, which form part of the labour reserve (Lewis 1958).
4. Surplus labour exists when roughly the same level of output can be maintained by a smaller labour force with some organisational reform and very little investment.
5. Based on population projections by the China Population Information Centre.
6. According to the definition used by the NBS, unemployed people are men in the in the group aged sixteen–fifty and women in the group aged sixteen–forty–five who hold urban residential permits (urban *hukou*), are able to work, are unemployed but willing to be employed in non-agricultural activities and are registered at the local employment services agencies.
7. Collectively owned firms include various enterprises with collective ownership of means of production such as enterprises run by townships and villages, collective enterprises run by cities, counties and towns and neighbourhood companies. Private-sector firms ('other ownership units') cover purely local companies, foreign-invested enterprises (joint ventures, fully foreign-owned firms and firms owned by entrepreneurs from Hong Kong, Macau and Taiwan) (NBS 2005).
8. In the Chinese national data-reporting system, TVEs are treated as part of the rural economy and therefore the wages of workers employed in these enterprises are not covered in the reported urban wages data.
9. The labour share in value added in industrial activity ( $wB/Y$ , where  $w$  is the wage rate,  $B$  is the size of the industrial labour force and  $Y$  is industrial value added) is equal to the ratio of the real wage to average industrial labour productivity ( $w/\rho$ , where  $\rho = Y/B =$  average labour productivity).