China's Labor Market in Seven Decades

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Abstract: *Soon after its founding in 1949, the People's Republic of China established an all-round planned economic system, abolished the labor market, put labor authorities in charge of urban employment planning and placements, and assigned rural workforce as members of the People's Communes. This planned labor system lasted until the reform and opening up program was launched in 1978. In the face of great employment pressures as educated youth returned from the countryside to cities, the government took a series of policies to bring the educated youth into the workforce through referral by labor authorities, voluntarily organized employment, and self-employment. With the abolition of the centralized job placement system, China's labor market started to develop, giving play to the comparative advantage of abundant labor force, and the dual economic structure started to integrate. After decades of rapid growth and job creation, China's labor market have turned from oversupply to undersupply since 2003, and labor remuneration increased sharply. China's changing resource endowment structure was accompanied by a shift in its labor market policy from employment to the labor market. Over the past four decades of reform and opening up, the Chinese government enacted wise labor market policies in each critical stage.*

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Labor market development in the People's Republic of China since its founding in 1949 can be divided into two stages. In the first stage from 1949 to the eve of reform and opening up in 1978, China abolished its labor market, adopted a planned economic system across urban and rural areas, introduced a centralized job placement system in cities, and concentrated workforce within People's Communes in the countryside. Having deviated from the comparative advantages based on resource endowment, China's actual growth rate stayed below potential optimal level with wild swings, and surplus labor force became trapped in the countryside. The urban-rural dual economic structure persisted for a long period. In the second stage from reform and opening up to the present day, China's labor market started to develop into a primary venue for labor allocation. With the household contract responsibility system put into place in the countryside, farmers experienced an identity shift from members of People's Communes to independent laborers with land and other means of production and responsible for their own profits and losses. An urban labor market emerged and thrived, playing a dominant role in allocating labor resources beyond traditional state-owned and collective economic sectors. China's workforce migrated from less productive primary industry to more productive secondary and tertiary industries, underpinning rapid growth and urbanization and transforming the nation's resource endowment.

Over the past seven decades, China experienced three unemployment peaks. The change of government in 1949 led to a capital flight and a wave of business bankruptcies, which presented New

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China its first wave of joblessness. At the dawn of reform and opening up after 1978, the return of 16 million educated youth to cities brought the second wave of joblessness. Faced with unemployment pressures, the Chinese government adopted the "three combinations" policy and re-opened the labor market as an alternative to the centralized job placements. Rapid economic growth and urbanization created plentiful non-farm jobs and transformed the employment system into one featuring two-way choice between job-seekers and employers. During the reform of state-owned enterprises (SOEs) launched by the Chinese government from 1998 to 2002, layoffs from SOEs and collective enterprises led to the third wave of unemployment. Market-oriented reforms, accession to the WTO and college enrolment expansion, among other correct decisions, have reversed labor supply and demand, as evidenced in the rapid wage growth. Labor authorities have followed market changes by introducing a succession of laws and regulations to support labor market formalization and raise the minimum wage.

As China enters into the upper-middle-income stage, its resource endowment significantly differs from the beginning of reform and opening up. However, the urban-rural dual economic structure remains, the household registration (*hukou*) and its associated welfare system have yet to be abolished, and the smallholder system continues to impede labor migration from the countryside. Hence, China's labor market is constrained with the old system while facing new problems and contradictions, and remains in the process of adjustment and reform. This paper observes China's changing labor market over the past seven decades from two dimensions: first, a description of labor market changes; second, an analysis of government-market relationship and policies designed and implemented in various stages. Due to the long time span, this paper illustrates labor market data primarily with graphics.

1. From the Founding of People's Republic of China to Reform and Opening up (1949-1978)

1.1 Establishment of the Planned Economic System

The founding of the People's Republic of China put an end to China's century of turmoil and achieved national unification and the integrity of sovereignty. Amid business bankruptcies and a capital flight due to change of government, the nascent government was faced with a severe unemployment problem. The government adopted the principle to "develop production, prosper the economy, balance the private and public sectors of economy, and benefit both workers and capitalists". After a brief period of economic recovery, the government swiftly ended economic turmoil and high unemployment rate, ushering in an era of peaceful development. The Chinese government followed a path of economic catch-up. Following the paradigm of the Soviet Union's planned system, China designed and developed a stringent system of "centralized procurement and distribution, household registration, and People's Communes" from 1953 to 1958, bringing capital, land and labor resources into the government hand (Lin, *et al.*, 1994). Given the scarce capital and abundant labor force at the time, prioritizing heavy industries deviated from China's comparative advantage. As a result, China's actual growth stayed below potential growth rate, creating scarce non-farm jobs and hefty employment burdens. As early as in 1957, Prof. Ma Yanchu discovered a contradiction between the development of heavy industries and job creation. Based on such constraints as consumption and employment, he called for controlling population growth to meet the needs of China's industrialization (Ma, 1997).

Under the planned economic system, SOEs were less motivated and productive. Despite the government-mandated low-wage system, it was challenging for China to achieve industrialization with limited surpluses created by SOEs. Early-stage industrial development relied on the price scissors between industrial and agricultural goods, which allowed for the extraction of rural surpluses. Incentives and efficiency were also lacking within the People's Communes. Despite government efforts to introduce and widely adopt agricultural technologies, growth in grain output was slow and barely caught up with population growth. Little improvement was made in the living standards of urban and rural residents.

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The annual salary of urban employees averaged only 576 yuan in 1977 - even less than the 624 yuan in 1957.[1] Rural living standards were even worse in the countryside, where per capita income barely budged from the 1950s to the 1970s. China's per capita energy intake only met the United Nations minimum average requirement of 2,100 calories per day, which is "the most saddening" (Huang *et al*., 2009).

Despite the limited level of economic development, urban-rural and regional gaps existed and would stimulate population migration. In curbing the potential shocks of population flow to economic planning, the government enacted the *Household Registration Regulations* in 1958 to strictly maintain the urban-rural dual structure. While modern industries and services in cities created few jobs, most labor force became trapped in the countryside as surplus labor force with zero or negative marginal output (Lewis, 1989). In cities, labor authorities and employers adopted a centralized labor allocation and management system. The government practiced "centralized job placements" and a low-wage policy (Dai and Yang, 1991). Urban and rural labor participation rates were high, and women's labor participation rate, in particular, was far higher than that of their peers in developed countries (Wu, 2015). Under the low-wage system, a husband could not earn a sufficient salary or "work points" to support his family.

In other developing countries, informal employment widely existed in cities. But in Chinese cities, individual merchants and laborers had vanished. Not only did urban households live on meagre incomes, but daily services were lacking and inaccessible. Although the market was prohibited under the planned economy, people with connections exchanged public or private resources in black markets, where transactions still occurred to meet people's desire to better themselves.[2] Black markets eluded government crackdowns; small volumes of trade in goods and services still occurred as a grey area in cities (Kornai, 1986).

Labor market was also absent in the countryside. While the People's Communes took control of all rural workforce and means of agricultural production, the communes could not make use of such labor force, whose marginal output was close to zero. Only a few rural production brigades had built small factories that employed surplus labor in non-farm production. Like other community members, those factory workers received "work points" rather than monetary compensation. According to Smith (2012), the starting point of economic growth is agricultural and productivity improvement that yields more food to support the migration of labor force to industrial and commercial sectors. Without sufficient incentives, the communes could not boost productivity despite increasing investments in pesticides, chemical fertilizers and irrigation. China's countryside and agriculture remained extremely impoverished.

1.2 Few Jobs Created by Heavy Industries

Heavy industries are capital-intensive and require fewer workers. When capital was scarce, job creation became elusive. From 1958 to 1977, the Chinese government attempted to expedite industrialization and create more non-farm jobs but all in vain. In 1958, the government recruited rural labor force in urban industrial and commercial sectors but was forced to send them back to the countryside during the subsequent "three years of hardship," as shown in Figure 1. Since 1968, the government sent the "educated youth" in cities down to the countryside. A serious crisis emerged: The planned economic system, along with the strategy of prioritizing heavy industries, did little to create non-farm jobs and support the artificially suppressed urbanization rate. As shown in Figure 1, in 1961-

[1] Source: *China Compendium of Statistics 1949-2004*, http://www.stats.gov.cn/ztjc/ztsj/201502/P020150212308266514561.pdf.

[2] Shortage and planned allocation of resources have evolved into a "power-connections" culture, which became a barrier to market development in China's three northeastern provinces. Despite an improving external environment, vigorous relief from the central government and assistance from southern and eastern coastal provinces since 2003, the three northeastern provinces were unable to escape this trap. Amid China's slowing economic growth since 2012, the three northeastern provinces struggled to cope due to slow market development, uniform economic structure, and poor risk resiliency.

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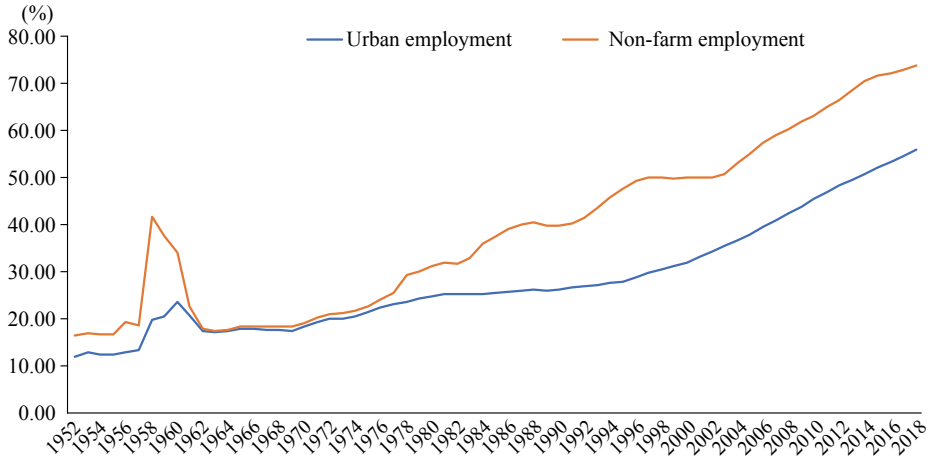


Figure 1: China's Employment Structure and Change

Source: Data of 1952-2013 are obtained from *China Compendium of Statistics 1949-2004*; data of 2014-2018 are from the website of the National Bureau of Statistics (NBS) http://data.stats.gov.cn/easyquery.htm?cn=C01.

1977, urban employment as a share of China's total employment was almost identical with the share of non-farm employment. That is to say, the countryside barely had any opportunity to create non-farm jobs.

1.3 Embryonic Development of Labor Market in the Countryside

Inefficiency and chronic poverty under the planned economy set the scene for labor market development since the seeds for transaction still existed. Even during the Cultural Revolution when the government vowed to "cut the tail of capitalism", it could not prevent farmers from planting crops and raising livestock of their choosing, abolish rural fairs, or ban farmers from exchanging eggs for salt. In 1962, rural households were allowed to retain small private plots to cope with famine, which proved to be effective. This attempt, though abolished soon after it was introduced, shed light on the future direction of China's hungry countryside: Where there is a market, there are incentives to escape hunger.

2. Labor Market Development since Reform and Opening up (1978-1991)

2.1 Emergence of Urban Labor Market

Since the reform and opening up program was adopted in 1978, the Chinese government found that the lack of certain household commodities and services that the state sector of the economy could not provide created room for the private sector and labor market to flourish. In 1979, some 16 million educated youth sent to the countryside started to return to cities, creating huge pressures to China's urban job market of only 95 million people. The central government enacted a "three combinations" policy[3], allowing job-awaiting youth to fend for themselves by starting individual businesses or seeking flexible employment. While the "three combinations" policy offered little attraction to educated youth to work in the informal sector where wage and welfare were unattractive compared with the formal sector, it allowed rural workforce to seek jobs and run businesses in cities.

[3] "Three combinations" refer to the combinations of job referral by labor authorities, voluntarily organized employment and self-employment. This policy was put forth by the Employment Work Conference of the CPC Central Committee and the State Council in August 1980. Job referral by labor authorities refers to referral to job assignments at SOEs or collective enterprises; voluntarily organized employment means more flexible collective economy; self-employment normally refers to individual businesses or self-employed workers. This policy marked the beginning of an end of the traditional centralized job placement system.

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In the face of competition from township enterprises, state-owned enterprises (SOEs) implemented the "labor contract system" as a departure from their permanent employment system. By June 1990, contract employees of enterprises owned by the whole people reached 12.10 million, accounting for 12% of their total workforce, and contract employees of collective enterprises reached 3.7 million, accounting for 10% of their total workforce (Dai and Yang, 1991). When the labor market emerged, SOEs took the initiative to hire cheap labor, resulting in a sharp increase of "unscheduled recruitment" and "temporary workers". The government also took swift response to reform the inflexible job policy.

2.2 Migration of Rural Labor

With the nationwide implementation of the household contract responsibility system, farmers became independent laborers responsible for their own profits and losses. This change led to gains in productivity and surplus agricultural produce, allowing more labor force to be freed from the farming sector. As shown in Figure 1, China's non-farm employment jumped from 25.5% to 29.5% of the total in 1978 and continued to increase sharply thereafter. In 1983, the government started to allow farmers to participate in long-range transportation and sales of agricultural produce, so that rural workforce could be registered as "households with self-supplied grains" and stay in cities. In 1988, China implemented the personal identification system across urban and rural areas, which further facilitated the migration of rural population.

Labor market development is propelled by the transactions of market participants. In 1984, the *People's Daily* published a report on the employment relationship between farmer households and numerous workers hired to assist in crop harvesting in Yunnan Province. Such labor transactions were considered by academics at the time as "balancing surplus with deficiency" in the labor market (Liu, 1984). Regional imbalances of China's economy started to attract labor flow. In 1986, labor force migrated from Xinxian County of Henan Province made up 23% of the county's total workforce (Wang, 1987). Emerging township enterprises in the coastal regions of eastern China became key drivers of job and income growth. With modest levels of technology, township enterprises attracted not only rural surplus labor but knowledge and technical workers from urban SOEs to join them while retaining their unpaid job positions at SOEs or as "Sunday engineers". Human capital helped township enterprises improve technology and thrive (Wu and Li, 1988).

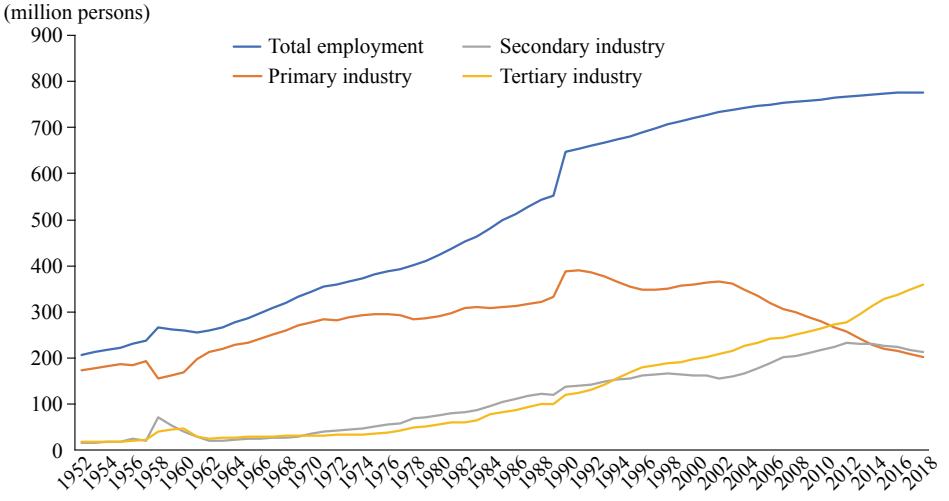


Figure 2: National Employment and Sector-Specific Change

Source: Data of 1952-2013 are obtained from the *China Compendium of Statistics 1949-2004*; Data of 2014-2018 are from the website of the National Bureau of Statistics (NBS) http://data.stats.gov.cn/easyquery.htm?cn=C01.

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When the policy of restricting labor flow started to relax, "individual industrial and commercial households" emerged on the urban and rural economic stage as vibrant market entities. Throughout the 1980s, individual industrial and commercial households multiplied in large numbers, and some of them grew into what later became known as "private enterprises". As shown in Figure 2, the secondary and tertiary sectors as a share of China's total employment started to exceed the share of urban employment in total employment, indicating a sharp increase in rural non-farm employment.

2.3 Beginning of Labor Market Development: a Human Capital Perspective

The size and quality of population comprise a country's human capital reserves. Since the founding of New China in 1949, the Chinese government has attached great importance to education for urban and rural youth. The average length of education for urban and rural working-age population (16-60 years) was 5.7 years[4], equivalent to graduation from primary school. The limited level of education among working-age population and modest return on education meant inefficient use of human capital (Naughton, 2016). Rising return on education amid labor market development incentivized urban and rural households to invest in education. With the enactment of the one-child policy, urban households raised fewer children but focused more on quality. In 1986, the Chinese government enacted the *Law on Compulsory Education* to universalize primary school education, which had far-reaching effects on labor force quality and human capital structure.

2.4 Adjustment of Labor Market Policy

Recruitment of contractors and temporary workers by urban SOEs marks a departure from the traditional employment system. With a view to regulating such labor relationships, the Chinese government enacted *Interim Regulations on the Implementation of Labor Contract System for State-run Enterprises* in July 1986 and resumed the labor arbitration system. In September 1990, the then Ministry of Personnel released *Interim Regulations on the Resignation of Professional Technicians and Managerial Personnel of Enterprises Owned by the Whole People*, which formed the legal basis for regulating labor relationships and created conditions for the flow of human resources.

Reform of the labor market system follows a "double track" strategy. SOEs started to increase the proportion of contract workers, breaking away from the centralized job placement system. Colleges and technical secondary schools also set out to reform their recruitment and employment systems. In 1988, Guangdong Province carried out a pilot reform program for provincially-administered colleges. "Colleges charge tuitions and graduates are recommended or directed for job assignments and recruited on the basis of their merits" (Yang and Yao, 2009). This pilot program broke away from the centralized job placement system. In 1989, the central government enacted a "two-way selection" policy, encouraging graduates to seek jobs and employers to recruit graduates based on their merits. The "two-way selection" policy became accepted by most colleges, giving rise to a job market for college graduates.

From 1978 to 1991, China's urban labor market started to develop at a modest pace. As the biggest highlight of this stage, China implemented the rural household contract responsibility system to boost agricultural productivity, putting an end to hunger and defying the Malthusian trap. Since the focus of reform was shifted to cities in 1984, SOE reform received broad public attention but made not much progress. Meanwhile, township enterprises emerged as major employers in the labor market. Jobs created by township enterprises increased from 28 million in 1978 to 70 million in 1985 and 123 million in 1993. Deng Xiaoping praised township enterprises as making up half of the national economy, recognizing them as a great creation by the Chinese people for which the "central government should not take credit". As China's economic growth fell to 4% in 1989-1991, Deng Xiaoping made his famous

[4] Calculated according to the Third Demographic Census data in 1982.

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speeches during his tour to southern China as a showdown to conservative forces who stood in the way of reform and opening up, sending a clear message that economic growth rate should be shored up to 10% instead of lingering at 4%.

3. Rapid Development of Urban Labor Market (1992-2002)

3.1 Thriving Urban Labor Market

The principles laid out by Deng Xiaoping in his speeches during his tour to southern China were adopted at the 14th CPC National Congress (October 1992), which established the direction of socialist market economic reforms, broke through theoretical and policy taboos, and took steps to foster an urban labor market. Flourishing private economy not only jumpstarted economic growth and increased market supply, but also created numerous jobs in the private sector. Facing competition from the private sector, state-owned and collective enterprises ran into trouble and had to lay off workers. As can be seen from job data from labor authorities, SOE employment peaked at 112.61 million in 1995, and employment in collective enterprises peaked in 1991, as shown in Figure 3.

In the face of mounting SOE losses, the Chinese government initially offered fiscal allowances before directing state-owned banks to lend to SOEs. The launch of stock markets after the mid-1980s provided SOEs an avenue to raise capital. Yet none of those attempts helped SOEs turn a profit. Growing SOE losses became a heavy burden on government coffers, and the accumulation of non-performing loans (NPLs) brought huge risks to the banking system. Employment in SOEs and collective enterprises as a share of national total employment took a dive. Yet the private economy created more non-farm jobs to compensate for job cuts from SOEs and collective enterprises. As a result, urban non-farm employment increased from 178.61 million people in 1992 to 216.16 million people in 1998, up more than 6 million people on an annual average basis (Figure 1).

3.2 SOE Reform Expedited Labor Market Development

Amid the Asian Financial Crisis of 1997, the Chinese government decided to advance SOE reform to keep financial risk at bay. From 1998 to 2002, SOE employment fell by some 60 million, which was equivalent to 40% of total employment in urban entities. On one hand, the government offered social

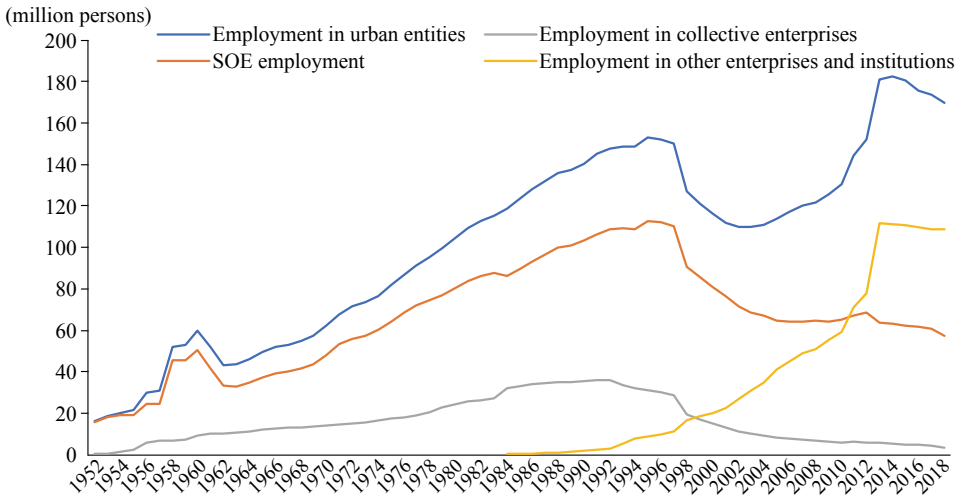


Figure 3: Urban Employment in China, 1952-2018

Source: Data of 1952-2013 are obtained based on the *China Compendium of Statistics 1949-2004*; data of 2014-2018 are from the website of the National Bureau of Statistics (NBS) http://data.stats.gov.cn/easyquery.htm?cn=C01.

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protection for laid-off workers beyond a certain age; on the other hand, it encouraged young laid-off workers to get re-employed in the job market. According to labor authorities, two thirds of laid-off workers managed to get re-employed. By 2002, state sector employment (including employees of public institutions) decreased to 71.63 million, down 41 million from 1995; employment in collective enterprises fell to 11.22 million, down 25.06 million from 1991.

The old industrial bases built under the planned system suffered the most and recovered from layoffs more slowly. Employment pressures were highest in the three northeastern provinces, Tianjin Municipality and Chongqing Municipality. According to the Fifth Demographic Census in 2000, unemployment rate exceeded 10% in most of those old industrial bases and even 15% in resource-reliant cities of the three northeastern provinces (Cai and Wu, 2005). Urban employment rate fell sharply due to job scarcity. Unemployment shocks caused pain to laid-off workers and their families, but the re-employment of laid-off workers improved labor allocation efficiency and contributed to labor market development.

As an old industrial base, Shanghai also suffered severe shocks with a joblessness rate beyond 10% in 2000. Yet Shanghai's private economy thrived under market-oriented reforms, creating jobs to laid-off workers. With modest shares of the state sector of the economy, Guangdong, Fujian, Zhejiang and Jiangsu provinces stayed at the forefront of reform and were more resilient in this round of shocks. Private economy in eastern provinces not only absorbed local laid-off workers, but created jobs for those from elsewhere and rural migrants from central and western regions.

3.3 Massive Job Opportunities Created by Private Economy

In 2002, China's urban employment rose to 251.59 million, up 35.43 million from 1998. Despite massive job pressures during the five years, urban employment continued to register a net growth above seven million people each year after compensating for job losses from SOE reform. Figure 1 shows that during 1998-2002, China's non-farm employment as a share of total employment stayed at 50%. The underlying fact is that non-farm jobs could accommodate only part of the new workforce, forcing the rest to enter the primary industry. After challenging times of SOE reform, large swathes of new workforce entered the secondary and tertiary industries.

With incentives from rural land reform fully released and township enterprises experiencing slower growth in this period, rural residents had to migrate to cities for higher incomes from the urban job market. When jobs became scarce in cities, some municipal governments rushed to restrict the entry of rural migrant workers and prevent them from competing for jobs with urban residents (Cai, 2000). China's labor supply increased sharply during this period with over 20 million people joining the workforce each year, most of whom tried to enter the urban job market. Laid-off workers from SOEs and collective enterprises needed to get re-employed. Rural surplus labor also migrated to cities in search of jobs. These three sources of job seekers created huge pressures on the urban job market.

3.4 Impact of College Enrolment Expansion on the Labor Market

New labor force is one source of urban employment pressures. Longer education will delay the youth's entry into the labor market, which will both reduce employment pressure and improve workforce competence. In 1999, the central government decided to expand college enrolment. In the same year, China's college enrolment reached 1,596,000 students, up 512,000 from the previous year. By 2005, China's college enrolment (including junior college) exceeded five million; in 2008, this number surpassed six million.

The sharp increase in college graduates as a share of young population beefed up China's human capital and transformed workforce education structure: Young workers were generally better educated than their elder peers. Their graduation coincided with China's rapid economic growth since 2002, which led to a surge in demand for professional skills. Instead of adding to the unemployment rate, college

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enrolment expansion filled the skills gap and allowed graduates to earn more incomes.

3.5 Labor Market Legislation and Social Protection System

Once the direction for market-oriented reforms was determined, the goal of labor market policy became clear, i.e. to "reform labor system and develop a labor market step-by-step". As the private economy became a major employer, the Chinese government started to consider protecting workers' lawful rights and interests and enacted various labor laws, regulations and policies. In 1994, the Chinese government enacted the *Labor Law* to protect workers' lawful rights and interests and regulate labor relations. Back then, China's urban labor market was nascent, private enterprises remained small, and individual industrial and commercial businesses mainly hired family members. Most urban workers were employed by SOEs and collective enterprises that guaranteed lifelong employment known as "iron rice bowls". Therefore, this law had a limited social impact.

Development of the three protection lines. The SOE reform of 1998 created employment shocks that hastened the development of a social protection system. In 1996, Shanghai Municipality launched a re-employment center to protect the lives of affected workers and provide them with training and job referrals for re-employment.[5] This practice became emulated by other regions and turned into a national policy. A common practice is that the re-employment center offered laid-off workers from SOEs and collective enterprises subsistence protection for three years, and in case they failed to get re-employed in three years, such workers would be transferred to the unemployment insurance system and entitled to unemployment insurance for two years. Those who remained unemployed after the two-year period would be transferred to the subsistence protection system, the goal of which was to achieve universal coverage. In 2002, the central government declared the achievement of universal coverage of subsistence protection for all urban poor populations.

Reform of the employment system for college graduates also made steady progress. In 1993, the central government enacted the *Outline of China's Educational Reform and Development*, vowing to reform the "centralized job placement system" for college graduates. Except for a few government-assigned job placements, most graduates would have to seek jobs for themselves. By 2000, two-way selection and independent job-seeking began to dominate. Market-based recruitment prompted colleges to adjust academic programs and curricula and improve teaching quality to meet market needs amid enrolment expansion, which accelerated higher education development. Rapid economic growth and increasing demand for professional skills provided a conducive market environment for reforming the employment system for college graduates.

4. Changing Labor Market Supply and Demand (2003-2012)

4.1 From Labor Oversupply to Labor Shortage

The year 2003 marked a watershed from labor oversupply to labor shortage in China's labor market. On May 20, 2003, the *People's Daily* reported a spring-season labor shortage in Quanzhou City.[6] According to the Ministry of Labor, the labor demand and supply ratio in the fourth quarter of 2003 was 2.66:1 for Quanzhou City, meaning that each job applicant could choose from 2.66 job openings. In the spring of 2004, news about labor shortages spread from the Pearl River Delta, the Yangtze River Delta and southeastern region of Fujian Province. The research institution under the Ministry of Labor issued a report based on its site survey, claiming that the shortage of workers was "widespread" and the "shortage of ordinary workers at production lines" had "resulted from a rapid expansion of labor-intensive

[5] In July 1996, Shanghai established the first re-employment center for laid-off workers from the textiles and instrument and electronics sectors where the earliest consolidation occurred. See Barry Naughton: *The Chinese Economy: Transitions and Growth*, page 165.

[6] Quanzhou City reported the "shortage of 200,000 workers on April 8, see http://www.qzwb.com/gb/content/2003-04/08/content_819558.htm.

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enterprises." The report even suggested reassessing the size of rural surplus labor.

The period from 2003 to 2008 witnessed one of the highest growth rates of China's economy. As shown in Figure 2, employment in China's primary industry as a share of the total workforce started to drop rapidly in 2003, down a total of 160 million people by 2018. Since the 1980s, the effects of falling birth rate started to appear in China's labor market. Annual average growth in workforce decreased from over 14 million people in 1980-1989 to about 7.3 million people in 1991-2001. In 2002-2004, the annual increase of China's workforce averaged a mere 4.56 million to 5.28 million people. Then workforce growth continuously slowed, from 3.83 million in 2005 to 370,000 people in 2017. In contrast, labor demand grew swiftly. In 1998, urban labor workforce outpaced national workforce growth. In 2002, urban labor force growth exceeded ten million people, and this trend has persisted till this day.

Having noticed the changing labor market supply and demand, Cai (2005) ascribed the "labor shortage" since 2003 to a reversal of labor supply and demand stemming from long-term economic growth and demographic change, thus concluding that the "Lewis turning point" had arrived. This assessment was supported by many facts. According to labor demand monitoring data from human resources and social security authorities, an increasing proportion of enterprises had failed to recruit sufficient workers. Employers had to lure workers with higher wages, labor contracts and social insurance coverage, which reduced informal employment in the labor market (Wu *et al*., 2014).

China's surging labor demand since 2003 has outstripped growth in labor supply. In 2008, China's total rural migrant workers reached 225.42 million people; by 2018, rural migrant workers increased by 288.36 million people. Amid steadily rising wages in this period, growth in the number of rural migrants was slow and has in recent years stalled (Figure 4). On the other hand, direction in the flow of rural migrant workers also changed. In 2018, there were 115.70 million intra-provincial rural migrant workers, accounting for a rising share of total rural workers, and cross-provincial rural migrant workers stood at 135.06 million, down 2.04 million. After the Lewis turning point, labor migration from traditional sectors to modern sectors is projected to slow, and this theoretical expectation generally chimes with empirical facts.

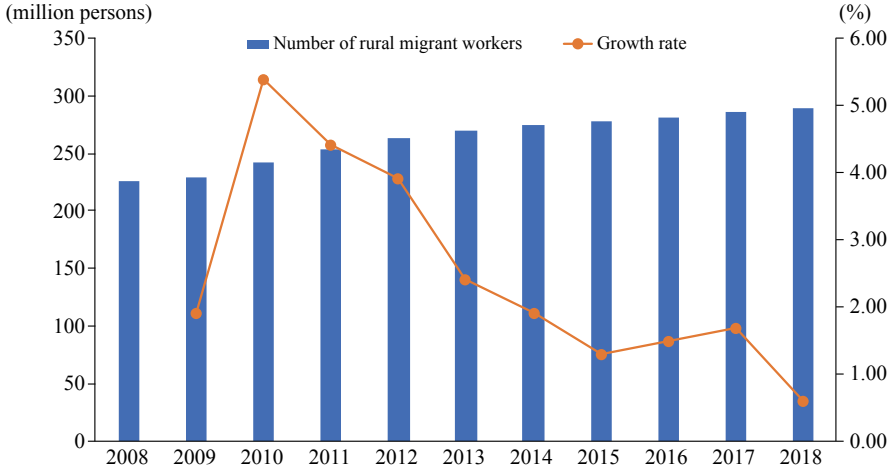


Figure 4: Number of Rural Migrant Workers and Growth Rate

Source: *Report on the Monitoring and Survey of Rural Migrant Workers* by the National Bureau of Statistics (NBS).[7]

[7] *Report on the Monitoring and Survey of Rural Migrant Workers* is from the following websites: http://www.stats.gov.cn/ztjc/ztfx/fxbg/201003/t20100319_16135.html; http://www.stats.gov.cn/tjsj/zxfb/201305/t20130527_12978.html; http://www.stats.gov.cn/tjsj/zxfb/201504/t20150429_797821.html; http://www.stats.gov.cn/tjsj/zxfb/201704/t20170428_1489334.html; http://www.stats.gov.cn/tjsj/zxfb/201904/t20190429_1662268.html.

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4.2 Rapid Increase in the Wage Level of Average Workers

The labor shortage drove wage levels to rise steadily. Change in rural migrant workers' wage precisely captures change in labor supply and demand. Since the reform and opening up policy was enacted in 1978, wage growth for rural migrant workers had demonstrated a "reverse S-shaped path": Farmers' wages increased swiftly at the beginning of reform and opening up with monthly wage increasing from a few dozen yuan to 340 yuan in 1992; from 1995 to 2002, rural migrant workers' wage averaged 500~600 yuan; since 2003, rural migrant workers saw a rapid increase in their monthly wages, which came close to 1,800 yuan by 2010 (Lu, 2012).

Shortage of urban workforce and rising wage levels meant diminishing rural surplus workforce. The only way for urban enterprises to attract rural labor force was to raise their wages, which led to higher marginal cost of inter-sectoral labor transfer. When no more surplus labor is left in the countryside, capital starts to flow to the countryside for the development of land and other resources and recruitment of local workforce. Although the urban labor market still offers higher wages than in the countryside, urban and rural wages started to move in tandem - a sign of transition from a dual economy to a unitary economy.

The number of urban employees started to rebound from 109.70 million in 2003 to 182.78 million persons in 2014, and most of such growth owed to contributions from the private sector of the economy. See Figure 3.

4.3 Falling Employment Rate of Working-age Population

When urban and rural households earned more incomes and accumulated assets, their sources of income became diversified. Property income emerged as a key factor. Rising wage levels would influence how family members allocate their time between work and family chores, and the choice to stay home manifests in the falling employment rate of working-age populations. As shown in Table 1, the employment rate of people in the age group of 15 to 64 years stayed at around 85% before 1995 and fell to less than 81% in 2000. In 2015, it further declined to 70.71%. Women's employment rate fell more sharply from one of the highest in the world to the world average level. Employment rate of Chinese women dived in contrast to women's increasing employment rates in the developed world (Altonji and Blank, 1999; Goldin, 2006).

Since 2003, labor shortage has been a basic trend of China's labor market. While demographic change can be explained from the supply side, decreasing employment rate also warrants attention. Labor shortage brought growing pressures on enterprises, prompting them to adopt advanced technology

Table 1: China's Employment Rate across Regions (%)

Year	City	Town	Countryside	Total
1982	80.79	79.96	85.33	84.41
1990	76.71	76.39	88.10	85.34
1995	75.09	72.64	86.93	84.80
2000	65.50	72.65	89.06	80.74
2005	65.69	71.18	83.97	76.27
2010	63.88	71.01	86.75	76.35
2015	62.80	68.95	78.42	70.71

Source: Aggregated data of demographic census in 2010 and 1% population sample surveys in 1995 and 2015; microscopic data of demographic census in 1982, 1990 and 2000; 1% sample survey in 2005.
Note: Employment rate = Total employment / populations aged 15 to 64.

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and capital equipment to replace labor. The effects of labor shortage on China's macroeconomy will be long-term and profound.

4.4 Proactive Employment Policy and the Formalization of Labor Market

The government made a swift policy adjustment in response to changing labor market supply and demand by raising the minimum wage level and promoting labor market formalization. Since 2003, the minimum wage standards of each city and county have been raised almost every year. As of January 1, 2008, the *Labor Contract Law* was enacted to "protect the lawful rights and interests of workers and create and develop harmonious and stable labor relations". This law aroused intense controversies: Among the over 320 million urban workers, only 22% were employed by SOEs and collective enterprises while the majority were employed by private enterprises, most of which were in labor-intensive industries and extremely sensitive to wage changes and employment conditions. The new *Labor Contract Law* raised employment threshold and restricted employment flexibility, causing labor dispute cases to spike in the same year.[8] The subsequent *Social Insurance Law* enacted on October 28, 2010 raised labor cost for enterprises: The full payment of "five insurances and one fund"[9] was equivalent to 40% of a worker's actual wage. Written contracts and "five insurances and one fund" were symbols of formalization and expected by workers. Formal employment increased sharply even among rural migrant workers, who began to break through urban household registration barriers and integrate into cities.

In the government institutional reform of 2008, the Ministry of Personnel in charge of "officials and professional talents" under the planned system and the Ministry of Labor in charge of "workers and ordinary laborers" became consolidated into the "Ministry of Human Resources and Social Security", which marks a key step in integrating the fragmented labor force management system. At this stage, China's labor market system became established at the policy and legal levels.

5. China's Labor Market since 2013

5.1 Change in Labor Resource Endowment

In 2014, China's junior college and undergraduate enrolment exceeded seven million students. In 2018, this number came close to eight million. In a matter of two decades, China's college enrolment jumped from one million to eight million. As can be seen from the 1% population sample survey data of 2015, over 50% of the cohort aged 20 received higher education, which is close to the level of developed countries. Compared with 1982, when only 1.15% of the cohort aged 20 had received college education, China's human resources endowment became completely different. The focus of government attention to employment issues shifted from rural migrant workers and the unemployed to college graduates. Quantitative pressures of labor market gave way to today's structural contradictions. It became more challenging to create suitable jobs for college-educated young workers. Technological upgrade became essential for businesses to afford higher wages for highly qualified professionals.

Capital- and technology-intensive industrial transition created more opportunities for highly qualified workers. Despite an increase in the supply of college graduates, their wage advantage increased relative to those with secondary education and below (Li, 2016). College graduates boasted a very high labor participation rate amid a very low unemployment rate. Moreover, most college graduates found

[8] After 2000, China's labor arbitration authorities accepted an increasing number of labor complaints, up from 120,000 cases in 2000 to 325,600 cases in 2007, which spiked to 650,000 in 2008. After 2018, this number stayed in the range between 550,000 to 870,000 cases. Obviously, the surge in labor complaints was attributable to the enactment of the *Labor Contract Law*. See NBS website: "Handling of Labor Disputes" table (http://data.stats.gov.cn/easyquery.htm?cn=C01, accessed on February 28, 2020).

[9] These referred to pension insurance, medical insurance, work injury insurance, unemployment insurance and maternity insurance, as well as the housing provident fund.

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jobs before or soon after graduation (Yue and Bai, 2018). Decent job prospects for college graduates undergirded socio-economic stability and sent a clear signal to urban and rural households to invest in their children's human capital for them to become more competitive in the future job market. On the other hand, the rising cost of education led to a falling fertility rate among urban and rural households, causing future labor supply to decrease.

5.2 Diminishing Rural Labor Force and Slowing Growth of Rural Migrant Workers

Rural migrant workers have always been a sizeable social group in China. While labor growth rate slowed, age structure also changed swiftly. In 2008, 11.4% of China's rural migrant workers were aged above 50, and this ratio rose to 24.6% by 2019.[10] The level of knowledge and skills for the young workforce increased sharply, and those less skilled were becoming increasingly aged.

When urban wage growth drove up rural wage growth without attracting rural workforce to migrate to cities, China's labor market would enter into the post-Lewis turning point era. Despite thresholds like the household registration system and social protection, as well as significant gaps in the level of urbanization measured by permanent population and registered population, China's labor market showed fewer dual-economy characteristics and was edging closer to the level of advanced economies. Although wage gaps existed, urban and rural workers came close to reaching an equilibrium considering their levels of knowledge and skills and age structure. Growth in rural migrant workers moving into cities was approaching zero, and workers migrating within the countryside were increasing at a faster pace than those entering cities.[11]

5.3 Workers' Knowledge and Skills Kept Pace with Industrial Upgrade

China's technology gaps with the developed world narrowed, trade frictions increased, and developed countries slowed the pace of transferring technology to China. In catching up with developed countries, China was more dependent on domestic R&D input. Despite the rapid expansion of higher education, China's educational reform remained slow, most universities were teaching universities instead of research ones, the educational system was becoming even more test-oriented, and adolescents lacked scientific training and extensive reading. The former Soviet Union designed its higher education system when the country was a technology follower, focusing on imitation rather than innovation. When more tech firms made their way to the global technological forefront, they began to attract talents from the global market, called for fundamental research, and demanded the government to speed up educational reforms. Over the past two decades, the number of Chinese students studying abroad rose from 30,000 to over 660,000[12]. Chinese youth were actively seeking knowledge from the outside world and getting prepared for future technological challenges. On the other hand, they "voted with their feet" against Chinese universities. In this context, the Chinese government decided to build world-class universities and foster world-class talents to improve the quality of human capital accumulation and provide world-class high-tech firms with talents and technologies.

5.4 New Employment Difficulties

After 2013, China's economic growth slowed down amid new difficulties and challenges. In this stage, China's demographic endowment can be characterized as follows: Amid changing demographic structure, falling fertility rate and an increasingly aging society, growing needs of family care induced

[10] See *Report on the Monitoring and Survey of Rural Migrant Workers in 2012* and *Report on the Monitoring and Survey of Rural Migrant Workers in 2019* from the NBS website (http://www.stats.gov.cn/tjsj/zxfb/201305/t20130527_12978.html, http://www.stats.gov.cn/tjsj/zxfb/202004/t20200430_1742724.html).

[11] See *Report on the Monitoring and Survey of Rural Migrant Workers in 2018*, NBS Website (http://www.stats.gov.cn/tjsj/zxfb/201904/t20190429_1662268.html).

[12] See National Bureau of Statistics, http://www.stats.gov.cn/ztjc/ztsj/201502/P020150212308266514561.pdf, Table 69.

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the workforce to exit the labor market despite rising wages, causing labor supply to shrink at a faster pace than the reduction of population aged between 15 and 64 years. As reported in Table 1, China's employment rate fell by 5.6 percentage points in 2015 from 2010. A direct consequence of diminishing labor supply was the weakening economic growth momentum. On the other hand, marginal return on investment decreased as capital became abundant. In 2018, China's fixed asset formation grew by less than 6%. The two driving forces of the traditional growth model, i.e. labor growth and investment growth, were unsustainable. Rapid progress was made in China's industrial upgrade, heralding a new round of labor market adjustment.

In 2015, "employees of urban enterprises and institutions" decreased, which foretold a worsening trend in the employment situation, as shown in Figure 3. By experience, the number of "unemployed persons" can be calculated by subtracting "employed persons" from "economically active populations" released by the NBS. In 2007, this figure stood at 12.10 million people, which is a relatively low level since SOE reform, but started to increase after 2008 to peak at 30.91 million people by 2016 before falling to 30.46 million and 29.81 million persons by 2017 and 2018, respectively. If all those unemployed persons had appeared in China's urban labor market, there would be over 400 million urban employees with an unemployment rate of 6% to 7% (see Table 2). In the most challenging year of 2000, China's unemployment rate was only 19 million people. In September 2014, Premier Li Keqiang called for "mass innovation and mass entrepreneurship" at the World Economic Forum, and the first group of pilot cities for "mass innovation and mass entrepreneurship" were designated in 2015. From an employment perspective, this initiative was intended to encourage flexible employment, which was inconsistent with the policy orientation to promote labor market formalization since 2003. At the State Council meeting on September 20, 2017, it was recognized that "downward economic pressures in recent years have coincided with huge employment pressures"[13], indicating the duality of economic and employment challenges.

6. Unaccomplished Reforms

6.1 Ending the Dual Economy

The existence of the household registration system means that China's urban-rural divide remains. A nationally unified labor market has yet to be established, and the current level of urbanization stays below the potential optimal level. China's urban and rural integration remains an unaccomplished goal largely due to high thresholds for rural workers to settle in cities and the rural land system based on household contract responsibility system, which restricts rural workers from leaving the countryside. Urban-rural divide means an under-utilization of resource endowment and actual output below potential output. In the context of flagging economic growth, such institutional barrier has led to a deadweight loss.

In recent years, the urbanization of rural migrant workers has been an issue of great concern for the government and the society at large. Since the 18th CPC National Congress, the central government has enacted a multitude of policies to lower the barriers and encourage rural migrant workers to settle in cities. Transition from permanent residents to registered residents helps change the life and work of rural migrants. It gives employers a stable expectation to provide them with long-term labor contracts and invest in their trainings and other forms of human capital; integration into cities will raise their expectation on children's education, prompting them to invest in their children as much as local urban households do, spend more time with their children, and put in more resources for their children to receive higher education. With more human capital, their children will become less vulnerable compared

[13] See http://news.cctv.com/2017/09/20/ARTI2xfa6LkAja2NTWrWGVFS170920.shtml.

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Table 2: Unemployed Persons and Unemployment Rate (Estimated)

Year	Number of unemployed persons (in 10,000)	National unemployment rate (%)	Urban unemployment rate (%)
	(1)	(2)	(3)
1999	1397	1.92	5.87
2000	1907	2.58	7.61
2001	1087	1.47	4.31
2002	1212	1.63	4.60
2003	1175	1.57	4.29
2004	1026	1.36	3.62
2005	1473	1.94	4.93
2006	1337	1.75	4.32
2007	1210	1.58	3.76
2008	1482	1.92	4.41
2009	1682	2.17	4.81
2010	2283	2.91	6.18
2011	2159	2.75	5.67
2012	2190	2.78	5.57
2013	2323	2.93	5.73
2014	2437	3.06	5.84
2015	2640	3.30	6.13
2016	3091	3.83	6.94
2017	3046	3.78	6.69
2018	2981	3.70	6.42

Source: Compiled according to data from the NBS website.

Notes: Unemployment rate in Column (2) is unemployed persons in Column (1) divided by (national employment + national unemployed persons); Unemployment rate in Column (3) is unemployed persons in Column (1) divided by (urban employed persons + urban unemployed persons).

with their parent generation.

Almlund *et al.* (2011) revealed the following fact after a series of experiments: In the "human capital-lifecycle" model, early-stage investment yields the highest return. The key to addressing future inequality is to intervene in the development of vulnerable groups in their youth and even infancy stages. Today, more than half of children grow up and receive education in the countryside, where teaching quality is inferior to that in cities. Moreover, isolation from parents prevents left-behind children to fully develop their cognitive and noncognitive skills, making it more likely for them to become vulnerable groups in the future labor market. The government should pay attention to them as early as possible to be responsible for future growth, employment and people's welfare.

6.2 Efforts to Establish a Nationally Unified and Open Labor Market in the Exploration Stage

Chinese cities have been expanding in size. At the beginning of reform and opening up in 1978, urban population only accounted for 17% of China's total population. By 2018, this ratio rose to 60%. In absolute terms, China's urban population rose from 170 million to over 800 million while urban employees increased from 95.14 million to 434.19 million. Large cities are thick markets with a high industrial concentration and long chains of division of labor, where access to transportation and rapid

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dissemination of knowledge and information provide the source of innovation and momentum of growth (Glaeser, 2011; Moretti, 2012). Despite China's steadily rising urban population, inter-regional population growth has been uneven. Amid rapid urbanization in China's eastern coastal regions, huge city clusters or city belts have taken shape in the Pearl River Delta, the Yangtze River Delta and Beijing-Tianjin-Hebei regions, which not only attract an influx of population but are far more advanced than other regions. High-quality growth through further development of large cities represents the direction of China's future reform.

Local governments have recognized the contribution of population concentration to economic growth. Some large cities have tweaked their population policy to attract non-local residents, primarily college graduates, to settle, but are less motivated to grant urban citizenship to rural migrant workers. While some ultra-large cities have enacted a points-based household registration system, the threshold is high and hardly benefits rural migrant workers. Under pressures of labor shortage and unbalanced demographic structure, provincial-level regions in border areas have enacted policies to increase population and encourage birth and population migration from interior regions.

6.3 Regional Economic Imbalances Increased by Labor Migration May

Regional economic imbalances exist in China. Rapid economic growth in China's eastern coastal regions attract an influx of labor from interior provinces to narrow regional economic gaps. In recent years, central and western regions have faced a labor shortage while attracting labor-intensive industries from the eastern region to speed up growth. Yet provincial-level regions in China's western part struggled to attract industries from eastern part due to the high cost of land transportation, ecological fragility and restrictions against polluting enterprises. On China's labor migration landscape, both ordinary workers and highly qualified talents migrate from less developed western regions to prosperous eastern regions. Decreasing population and brain drain make regional economic imbalances even harder to reverse. Some western regions have sent alerts about "demographic security in border areas".

7. Concluding Remarks

Change in China's labor market can be divided into two stages. In the first stage from the founding of the People's Republic of China to the eve of reform and opening up in 1978 , China adopted a strategy of prioritizing heavy industries, allocating resources to heavy industries by abolishing the labor market and distorting factor price. Urban modern sectors created few job opportunities, restricting massive labor force in the rural pool of labor. In the second stage from reform and opening up to the present day, the Chinese government has reformed the rigid planning system to introduce a labor market and develop private enterprises. Taking advantage of China's abundant labor force, the private sector focused on labor-intensive industries, created massive job opportunities, and propelled economic growth. Labor oversupply turned into a labor shortage.

In reviewing China's labor market development process from today's vantage point, it can be seen that the Chinese government has followed a market orientation and enacted wise policies to follow or steer market developments by fully leveraging China's comparative advantage of abundant workforce and attract workers to more productive non-farm sectors. When the centralized job placement system became unsustainable and some 16 million educated youth returned to cities, aggravating job pressures in cities, the Chinese government resolutely adjusted its employment policy and adopted the "three combinations" approach as the first step towards re-establishing the labor market. On the other hand, SOEs and collective enterprises were encouraged to recruit urban workforce, which ensured social stability and income distribution despite their modest profits. As grain output continued to rise under the household contract responsibility system, the government promptly lowered the threshold for rural residents to migrate to cities for jobs and business opportunities, which led to a further development in

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the urban labor market. In 1992, China established the reform direction of establishing a socialist market economic system before enacting the *Labor Law* in 1994, which created the legal framework for labor protection.

Under the shocks of the Asian Financial Crisis, the Chinese government vowed to speed up SOE reform to reverse loss-making performance, which led to the second wave of unemployment after China's reform and opening up in 1978. Yet the thriving private economy absorbed some of the unemployment pressures, expediting market-based labor resource allocation. While some laid-off workers became employed in the growing private sector, others received cushion and protection under the "three social security lines", i.e. minimum living allowance for laid-off workers, unemployment insurance and subsistence protection. In 1999, the Chinese government decided to expand college enrolment, turning college education from elite education to mass education. In addition to easing employment pressures, college enrolment expansion provided human capital reserves for China's economic growth in the mid- and long-run. Rapid development of labor-intensive industries since China's WTO entry in 2001 created numerous job opportunities, reversing labor market oversupply. In retrospect, the Chinese government has seized every major opportunity and enacted wise policies to get over difficulties. By 2005, China had overcome the employment difficulties arising from SOE reform and implemented market-oriented allocation of talents and workers. Keenly aware of the transition from "mounting employment pressures" to a "labor shortage" and "surging wage growth" in the job market, the Chinese government enacted the new *Labor Contract Law (2008)* to formalize the labor market and enhance worker protection.

Adam Smith considers government tax revenues as a "reward for good governance". Rapid economic growth since reform and opening up, an end to joblessness that posed chronic challenges to governments and urban and rural households, better living standards for most people and steadily rising government fiscal revenue - all these can be seen as a reward to good governance of the Chinese government. The government has always been a major market participant, and the apt governance of the Chinese government is not as passive and pessimistic as claimed by Hayek in his analysis of the roles of government and the market (Hayek, 1995). By committing to market development, the Chinese government has boosted economic growth and public welfare while consolidating and justifying its governance. The decade from 2003 to 2012 is China's fastest-growing decade with bumper fiscal revenues and easing job pressures. Yet the end of hardships made government authorities at all levels to relent their hard work and rest on their laurels, resulting in a slowing pace of reform.

Since 2013, China's aggregate labor force has been shrinking. While working-age population decreased, labor participation rate continued to fall. Weakening traditional growth drivers have slowed economic growth and induced a new round of employment pressures. China has entered into the upper-middle-income stage with an aging society and rising labor cost, rendering its labor-intensive industries less competitive. This economic situation is referred to by the Chinese government as the "new normal". The international environment has changed, too. Developed countries have started to take a more competitive stance against China. As can be learned from lessons and experiences since China's reform and opening up, all external shocks are neutral, and the end result depends on policy measures adopted in responding to those shocks. The Chinese government has reaffirmed its commitment to market-oriented reforms, free trade, and further integration into the global market. Maintaining labor market flexibility and stability, prioritizing employment policy as the foremost macroeconomic policy, achieving full employment and fostering human capital - these are China's experiences over the past 40 years and the fundamental answer to future challenges.

In retrospect of the past seven decades, China abolished the labor market in the first stage when its economic growth averaged a mere 3% to 4% and people's living standards stagnated. In the second stage after reform and opening up, China's labor market started to develop to give full play to its comparative advantage of resource endowment and boost economic growth. Even in the most challenging times of

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SOE reform from 1998 to 2002, China's economic growth rate averaged above 8%. Rapid growth in combination with market transition helped China defy the Malthusian trap, crossed the threshold of emerging industrialized nations, and march towards the rank of developed countries.

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