China: Improving Unemployment Insurance

Milan Vodopivec and Minna Hahn Tong

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1. INTRODUCTION

The unemployment insurance (UI) system in China has undergone a significant transformation over the past two decades. When China first introduced such a system in 1986, it differed considerably from those in most other countries. At that time, the Chinese system provided income and other support to redundant workers through their former employers, the state-owned enterprises (SOEs). Welfare of workers was considered to be the responsibility of SOEs, and therefore workers were not required to pay contributions. As subsequent economic reforms ended the requirement that SOEs take care of their former workers, the UI system was modified accordingly. By 1999, when the latest UI guidelines were introduced, the features of the Chinese system had become much more similar to those found in other countries. The current system aims to provide a basic level of income protection to the unemployed as well as help them gain new employment through related active labor market programs.

Under increasing pressure to provide support to a larger number of workers, the UI system now faces a number of important policy dilemmas and challenges. The level of benefits remains quite low and provides a much lower income replacement rate than other countries. For educated and more capable workers who have easier access to jobs, the fast growth of the economy therefore provides an equally or even more important type of insurance than the UI program. The improved financial situation of the UI program has raised questions about how the program should be financed and how the surplus funds should be utilized, while in many areas of the country, enforcement in collecting contributions and determining benefits eligibility has been weak. Questions have also been raised regarding the possibility of extending coverage to rural and informal sector workers, the extent to which "hidden employment" of beneficiaries working in the informal sector should be addressed, and the effectiveness of accompanying active labor market programs.

The objective of this policy note is to assist the Chinese government in assessing implementation of the UI program to date, identifying key challenges, and exploring possible policy responses.[1] The note begins with a background section on recent developments in the country's economy and labor market and briefly describes the evolution of the UI program within this context. The note then provides an overview and analysis of the current UI program, touching upon critical issues such as coverage, benefit levels, effects on work incentives, provision of employment services, and financial performance. For this analysis, the note draws upon results from recent UI policy simulation pilots in Qingdao and Tianjin; lessons from a World Bank-supported UI technical assistance project in Liaoning province; interviews with government officials involved in UI; and various UI-related studies and project reports.[2] The note concludes with policy recommendations and suggests some future directions for UI system reform.

2. BACKGROUND

As background for analyzing the Chinese UI system, this section provides the country context by reviewing its recent labor market developments and presenting the evolution of the UI system since its inception in 1986.

2.1 Recent Labor Market Developments

In recent years, dramatic economic changes in China have had a profound impact on the country's labor market, affecting how, where, and by whom workers are employed. Underlying these changes has been the structural shift from a planned to market economy, which has given rise to new labor market phenomena such as unemployment and informal employment, which were unheard of in the past. The massive overhaul of the state and collective sectors has reduced the number of SOEs from 118,000 in 1995 to 50,000 in 2005 (Dong and Xu 2005), bringing a decrease in employment in these sectors from a peak of 145 million or 80% of total urban employment in 1995 to about 75 million or 30% of total urban employment in 2005. The shedding of labor in the state sector has been accompanied by job creation in the private sector. Statistics indicate that in recent years, about 80-90% of laid-off workers joined private and small businesses or engaged in self-employment (Betcherman

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[1] This policy note has been prepared by the World Bank as part of a larger program to support labor market reform in China. The program consists of two parts: (i) a technical cooperation program with the government and (ii) World Bank labor market studies, including an overall synthesis report covering various labor market issues and policy notes on selected subjects.

[2] Liaoning province was a major industrial base for manufacturing enterprises that have become unprofitable, so its restructuring problems and unemployment levels are particularly severe compared to other areas, which is the reason that the province was selected for the national social security reform pilot in 2000.

and Blunch, 2006; Giles, Park, and Cai, 2006). In 2004, the private sector accounted for two-thirds of total urban employment and one-third of formal employment. Notably, the biggest expansion has taken place in the informal sector, which includes the self-employed, micro enterprises, short-term contract workers, home workers, and day laborers. Most jobs created by private and individual firms are informal jobs, such as daily work, hourly work, seasonal work, and temporary jobs. Although no official figures are available for the size of informal sector employment in urban China, the informal sector is estimated to comprise about one-half of total employment, as proxied by unaccounted workers (World Bank 2007c). Overall, informal employment, including the self-employed and non-registered employment, rose from 32 million in 1995 to 125 million or 47% of total urban employment by 2004.[3]

Another key development has been the growing importance of the urban labor market, particularly as the relaxation of restrictions on population movement has allowed rural workers to seek better employment opportunities in cities. Urban employment has grown by 3.2% per year on average from 1990 to 2005 (NBS 2005, 2006), while the share of agriculture in total employment has fallen continuously from 70% in 1978 to 45% in 2005 and rural industry has stagnated. The employment situation also differs significantly across regions, with the coastal provinces—particularly where export zones were initially situated—enjoying 3-4% growth per year in non-agricultural employment, while the heavy industry hubs in the northeast have been hit hard by the recent restructuring and experienced declining employment.

One striking feature of China's labor market is that despite high urban employment growth, labor market indicators such as employment rates, labor force participation rates, and unemployment rates have been deteriorating for some time. As noted in World Bank (2007b), these indicators have been affected by the interaction of several factors, including demographic pressures, rural-urban migration, and initial conditions of high labor market participation. Official data show that for the past decade, growth in the urban working age population has been exceeding urban employment growth by a wide margin of about 2 percentage points, indicating that new jobs are not able to offset demographic pressures (NBS 2005).

Labor force participation rates have declined from over 80% in 1996 to 71% in 2005 (CASS 2005). World Bank (2007b) cites four reasons for this trend: the easing of

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[3]   These workers, who are labeled as "missing workers" because they reflect differences in the number of workers reported through different statistical systems, include unreported urban workers and unregistered informal employment. Other methods and definitions, for example using lack of social security coverage or type of job as an indicator of informality, yield similar estimates. For further discussion, see Cai and Wang (2004), Du, Cai, and Wang (2006), and World Bank (2007c).

employment to a more realistic level, following inflated labor force participation under central planning's full employment policy; extensive use of early retirement as an instrument to relieve labor market pressures, particularly during the aggressive period of SOE restructuring which started in 1998; the discouraged worker effect, in which long-time unemployed, older, and unskilled workers lose faith in their employment prospects and withdraw from the labor force; and the increase in young Chinese who are taking up or prolonging their education.

At the same time, China's unemployment figures have been rising. Open unemployment emerged in the 1980s, when the government allowed some private initiative and gradually withdrew from direct labor allocation. The issue of unemployment finally gained prominence in the mid-1990s with the massive restructuring of SOEs and layoffs of 45 million workers.

The official registered unemployment rate in China has increased steadily from 2.9% in 1995 to 4.2% in 2005 (NBS 2005). However, unemployment in China is difficult to measure, particularly as official unemployment statistics are inconsistent with ILO definitions (Knight and Xue 2004). The actual unemployment rate is thought to be much higher than official figures indicate, as the official figures do not capture three additional sources of unemployment. First, the official unemployment rate does not include all individuals who have been laid off from SOEs and urban collectives, as many of them did not end their labor relationships with their former employers after they were transferred to the enterprise-based Re-employment Service Centers. These workers are classified as *xiagang* rather than as unemployed. Second, the figure does not include farm contract workers who migrated to cities but are actively looking for jobs. Third, it does not include young college and high school graduates who have been out of school for six months or less.[4]

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[4] According to the MOLSS, recent graduates who are without work are classified as students for the first six months following graduation.   After six months, they are classified as unemployed.

Despite the above caveats to unemployment figures, studies have shown an increase in unemployment rates. One analysis of survey data shows that an internationally comparable unemployment rate in urban areas, including all migrants, increased from 4% in 1995 to 7.3% in 2002 (Giles et al 2006). Unemployment in urban areas among permanent urban dwellers increased from 6.1% to 11.1% over the same period. Because unemployment among migrants is viewed as less of a problem as they usually self-select for jobs and often return to their rural villages when the labor market tightens, unemployment among permanent urban dwellers is viewed to be a more meaningful indicator (Fox and Zhao 2002). Since 2002, when the government curbed SOE restructuring and prioritized job creation, mass layoffs have ceased and the unemployment situation has stabilized. Table 1 presents the range of estimates for unemployment rates in China.

[1]

Table 1: Estimates of Urban Unemployment in China (%)

Year	Registered unemployed	From NBS labor force surveys	From CULS - local residents	From CULS – local and migrants
1995	2.9	4.0	6.1	4
1996	3	3.9	6.8	4.5
1997	3.1	4.5	7.7	5
1998	3.1	6.3	8.5	5.6
1999	3.1	5.9	9	5.9
2000	3.1	7.6	10	6.5
2001	3.6	5.6	10.8	7
2002	4.0	6.1	11.1	7.3
2003	4.3	6.0		
2004	4.2	5.8		
2005	4.2		6.7	4.4

Source: China Labor Statistical Yearbook, 2005; Du, Cai, and Wang, 2006; Giles, Park, and Zhang, 2005; and World Bank (2007a). Presented in World Bank (2007b).

In analyzing China's labor market, it should be noted that national averages hide a high degree of variation across the country. Across regions, unemployment rates vary from 2% to 20%, and the level of urbanization ranges from 20% to 80%. Likewise, local policies and administrative capacities differ significantly. Each province is as large as some countries in the world, and labor markets even within individual regions and provinces can be very diverse. These differences, as well as the lack of access to reliable data, must therefore be taken into account in reviewing national-level statistics.

2.2 Evolution of the UI Program

China's UI program has evolved significantly over the past 20 years through three major phases. The first phase began with the introduction of the UI system in 1986, with the promulgation of the "Interim Provisions on Workers' Job-Waiting Insurance in State-Owned Enterprises." At the time, the purpose of the UI program was to help facilitate economic reforms that would increase productivity and competitiveness, namely by giving SOEs autonomy in recruitment, adoption of labor contracts for all staff, and downsizing of redundant or unproductive staff. These reforms brought an end to lifetime employment security for SOE workers and were expected to result in a large increase in unemployment. The UI program was thus intended to serve as a social safety net, providing temporary income support and reemployment assistance to laid-off workers. Notably, the program covered only the SOE sector and was financed by employer contributions, interest earnings, and government subsidies, without any contributions from workers. Benefits were calculated using the individual worker's average monthly wage and were paid out according to length of service and other criteria.

Despite several changes to the UI framework, the role of the UI program remained limited during the first decade of implementation. The second phase of UI program development started with the adoption of the "Provisions for Workers' Job-Waiting Insurance in State-Owned Enterprises" in 1993. The new provisions expanded UI coverage from four to seven categories of SOE workers and changed the basis on which benefits were determined. Benefits under the new provisions were calculated initially using the social relief payment levels stipulated by the local departments of social affairs, with UI benefits equal to approximately 120-150% of social relief payments. After the adoption of the new Labor Law in 1994 which specified a minimum wage, UI benefits were then calculated using the minimum wage, with benefits equal to about 70-80% of the regional minimum wage. Despite these changes, however, the impact of the UI system continued to be limited due in large part to the slow pace of SOE reform and low levels of unemployment.

The acceleration of economic and corporate reforms brought a renewed focus on UI in the late 1990s. Mergers, liquidations, and streamlining of establishments were encouraged among SOEs. To deal with the large number of displaced workers, the government required that all SOEs establish Re-employment Service Centers to provide a

transition for workers to move into other employment or the UI program. Under the Centers, retrenched workers remained the responsibility of their employing SOEs for up to three years, although other sources were also used to finance the program—the enterprise, the government, the UI Funds each contributed one-third of the funds. The workers received an allowance to meet minimum basic living standards, which were set in 1998 to be slightly higher than the local standards for unemployment relief. The Centers also paid premium contributions for social security benefit programs such as pension and health insurance, as well as covered expenditures for retraining.

The introduction of the latest "Regulations on Unemployment Insurance" in 1999 marked the beginning of the third and current phase of the UI program, under which the features of China's UI system have become more similar to those found in other countries. For the first time, the reforms officially introduced the concepts of "unemployment" and "unemployment insurance," replacing "job waiting" and "*xiagang*."[5] Unlike previous policies, the regulations require UI contributions from both enterprises and individual workers, with any shortfalls to be filled by fiscal subsidies. Another significant change is the extension of UI program coverage beyond SOEs to include all urban workers, with the exception of civil servants. The regulations also move away from a unifying national UI standard to a more decentralized approach, allowing provinces to determine benefit levels, duration, and other aspects of the program according to the local situation. Additional details on the current UI system are provided in the following section.

The most recent development related to UI was the adoption of the *binggui* policy in 2000. This policy shifted the burden of supporting retrenched workers away from SOEs by merging the Re-employment Service Centers with the UI program. Laid-off workers would no longer maintain a relationship with their former employers through the Centers but would instead be covered directly by the UI program. The first group of provinces to complete the *binggui* process were in the southeast—Beijing, Tianjin, Shanghai, Jiangsu, Zhejiang, Guangdong, Fujian, and Shangdong. The centers in the northeastern province of Liaoning have also been completely closed. By the end of 2005, 20 provinces had effectively completed *binggui*, and only about 200,000 people remained

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[5] The term "job waiters," which was widely used in the late 1980s and early 1990s, differs from the term "unemployed" mainly because of its historic connotation. The term was first associated with young unemployed graduates who had gone to the countryside during the Cultural Revolution and who had, with the policy reform in 1978, returned to cities to look for jobs. As enterprise reforms took hold, many people were laid off by SOEs and urban collective corporations, and they were also officially called job waiters. The term *xiagang* refers to laid-off SOE workers who remain attached to their prior employer.

in Re-employment Service Centers compared to a peak of 7.01 million in 1991.[6] Over the same period, the number of people receiving UI increased from about 600,000 to 6.8 million. With these changes, the UI program has slowly moved from serving as a transition measure for mass layoffs to becoming a regular UI program.

3. DESCRIPTION AND ANALYSIS OF THE CURRENT SYSTEM

As noted above, the current UI program is governed by a set of guidelines specified in the 1999 "Regulations on Unemployment Insurance" (State Council Ordinance #258-99). This section provides an overview of the main parameters of the UI system as outlined in the regulations then analyzes the key aspects of the performance of the system, stressing both income protection as well as efficiency aspects.

3.1 Current Design of the UI Program

Coverage

The current UI program covers urban enterprises and institutional organizations and their employees, including self-employment.[7] The program does not cover civil servants or rural farmers and workers, with the exception of rural contract workers employed by urban enterprises. China's system also does not cover some special groups such as school leavers, unlike some OECD and transition countries where such groups might receive reduced UI benefits (Vodopivec et al 2005).

Level and Duration of Benefits

Unlike in most other transition and OECD countries, UI benefits in China are not earnings-related (see the comparison of main UI parameters between China and other transition countries in Table 2). Instead, the UI program has a flat benefit level set by the local authorities, although regulations require that the level be higher than those used in minimum living standards schemes for urban residents but lower than the local minimum wage. Like other transition countries, China uses the benefit floor to ensure that the benefits of workers at the bottom of the wage distribution do not fall beneath an officially determined minimum. In some provinces, the level of benefits is linked to the length of UI contributions. For example, in Liaoning, workers with less than ten years of

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[6] Information provided by the Department of Unemployment Insurance, Ministry of Labor and Social Security.
[7] Urban enterprises are defined as SOEs, urban collective enterprises, foreign funded enterprises, urban private enterprises, and other urban enterprises.

contributions receive 70% and those with more than ten years of contributions receive 80% of the local minimum wage. Additional benefits include medical subsidies for those receiving UI cash allowances and minor benefits for survivors in the event of a beneficiary's death, namely a funeral allowance and pension for the beneficiary's spouse and dependents. The UI funds may also be used to subsidize vocational training and job matching services.

The duration of benefits varies according to the applicant's years of contribution. A person who has contributed for less than five years may receive benefits for up to 12 months, a person who has contributed for five to ten years may receive benefits for up to 18 months, and a person who has contributed for over ten years may receive benefits for up to 24 months. The UI system does not have a waiting period before benefits commence, so UI allowances are calculated from the date on which an individual registers for benefits.

Benefits are paid monthly except to rural contracted employees recruited by urban enterprises, who are given a lump sum living allowance if they have had over one year of continuous service and their employers have paid the UI contribution. UI agencies deposit the benefit amounts in designated local banks, where beneficiaries can then access the funds using a deposit card.

Eligibility

Initial eligibility. To be eligible for benefits, an individual must: (i) have contributed to UI for at least one year, (ii) been separated from their employer involuntarily, and (iii) be registered as unemployed and willing to work. These eligibility requirements are similar to those found in the transition countries of Central and Eastern Europe, where the unemployed must register at the local employment office and have worked in covered employment for at least 9-12 months within a reference period of 12-36 months (Vodopivec et al 2005). In China, the employer must produce proof of termination for the unemployed, inform them of their right to UI benefits, and submit the names of the unemployed to the designated social insurance operation institutions within seven days from the date of termination. The unemployed individual registers for UI benefits by taking the proof of termination to the social insurance operation institution.

Continuing eligibility. As in the European transition economies, continuing eligibility requires that UI beneficiaries be actively seeking, capable of, and available for

work, as well as willing to accept suitable job offers. A beneficiary thus becomes ineligible for UI benefits under a number of conditions, such as gaining re-employment, being recruited into military services, emigrating to another country, and becoming eligible for basic old age pension. Benefits may also be terminated if an individual refuses to take jobs recommended by the designated local government authorities. If a worker is reemployed but then becomes unemployed again, he/she may be eligible for the uncollected benefit from the last period of unemployment. To meet eligibility requirements, beneficiaries must report monthly to the UI institutions regarding their job search efforts and job retraining participation. Those individuals who do not meet the reporting requirement lose their benefits for that month.

Financing

As in most OECD and other transition countries, responsibility for UI contributions in China is shared between employers, who contribute 2% of their total payroll, and employees, who contribute 1% of their wages. Only rural contracted employees recruited by urban enterprises and institutional organizations are exempt from paying UI contributions themselves. Contribution rates in OECD and transition countries vary significantly between countries, with the majority of countries having contribution rates around or below 3% and not all countries requiring employee contributions (Vodopivec 2004a). In the United States, employer contributions depend on the employer's layoff experience—employers who lay off workers more frequently and thus impose heavier financial burdens on the system are assigned a higher rate.

UI contributions by employers and workers are collected through a payroll deduction system in which the employer withholds the required percentage from the employees' earnings. The UI premium paid by an enterprise is deducted on a monthly basis from its bank account before calculation and levy of the profit tax. Likewise, the UI premium paid by an individual is not counted as income and is therefore exempt from income tax.

Unless a provincial UI program faces a serious financial problem, the central government does not assume any financial responsibility for the UI program directly. Local governments cover the administrative costs of UI program operations but normally do not finance the UI program directly. For situations in which the UI fund is insufficient to pay out the current year's expenditure, the regulations stipulate that the UI reserve fund

accumulated from previous years, sale of government bonds, and UI pooled adjustment fund should be used to cover the deficit. Local government subsidies are to be used only as a last resort once the other three sources are depleted.

Program Administration

The labor and social security administrative department under the State Council oversees UI at the national level, but administration of the program is decentralized to social insurance operation institutions at the provincial and lower levels. Provincial institutions handle day-to-day responsibilities such as registering the unemployed, providing deposit cards for beneficiaries to access their benefits at the designated local banks, and allocating subsidies to vocational training and job placement services. UI offices at the city and local administrative levels are generally responsible for registering employers and employees in the program, maintaining records, receiving benefits claims, determining eligibility, and processing benefits. Contributions are levied by the local tax departments or social security agencies and deposited in special accounts opened in state commercial banks. The Finance Departments maintain and manage the UI funds. The costs of managing the UI program are financed by general government revenue, allocated by public finance authorities through a regular budget planning and allocation process, so no charges are made to the UI fund for administration.

In terms of financial management, the local finance departments keep UI funds in special accounts that may not be diverted to other uses. UI funds can only be invested in government bonds and deposited in the bank. One notable requirement is that UI funds should be pooled at the municipal level in municipalities directly under the Central Government and in "cities with districts under them." Provincial-level adjustment funds may also be collected by the transfer of 4% of all UI contributions within the province. These adjustment funds can then be used to supplement city or district pools that are experiencing a deficit.

3.2 Key Issues Faced by the UI System

To provide a broad picture of the functioning of the UI system, this section discusses the national-level statistics presented in Table 3. Given the decentralized nature of the UI system in China and the high degree of variation among provinces, this discussion is complemented by analysis of the UI system as it functions in selected provinces.

Limited Program Coverage and Participation

Despite extending the mandatory UI coverage beyond the SOE sector, the "Regulations on Unemployment Insurance" of 1999 have so far succeeded in bringing

coverage only to less than half of the targeted population of urban workers. While the number of contributors increased from 98.5 million in 1999 to 106.5 million in 2005, the UI coverage rate (the proportion of workers enrolled in the program in total urban employment) declined steadily from 45% in 2000 to 39% in 2005 (Table 3). In 2005, UI coverage thus included only 14.1% of the total labor force. Rates in some areas of the country are estimated to be higher, such as in Tianjin municipality which reported a coverage rate of 97%, or about 40% of total employment in the entire municipality.[8] In other areas of the country, however, coverage rates are much lower.

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[8] Data presented in "The Simulations and Forecast on Unemployment Insurance in Tianjin" (2005).

Table 1: National-level Statistics on Unemployment Insurance

	1999	2000	2001	2002	2003	2004	2005
Participants at year-end (million)	98.5	104.1	103.5	101.8	103.7	105.8	106.5
Beneficiaries receiving the benefit at least part of the year (million)	2.7	3.3	4.7	6.6	7.4	7.5	6.8
Beneficiaries at the year end (million)	1.1	1.9	3.1	4.4	4.2	4.2	3.6
UI program coverage rate (%)*	44.0	45.0	43.3	41.1	40.5	40.0	39.0
UI program recipiency rate (%)** -- among beneficiaries receiving the benefit at least part of the year	47.2	55.4	68.8	85.3	92.7	91.1	80.8
UI program recipiency rate (%)**-- among beneficiaries at the year end	19.0	31.7	45.6	57.1	52.5	50.6	42.9
UI benefit paid as percent of average wage	14.1	18.2	16.4	14.3	12.8	11.4	11.0
UI premium contribution (100 million)	115.5	152.1	178.1	202.4	233.1	270.8	n.a.
Revenue (100 million)	125.2	160.4	187.3	215.6	249.5	290.8	333.0
Expenditure (100 million)	91.6	123.4	156.6	186.6	199.8	211.3	207.0
UI Expenditure in the year (CNY100 million)	31.9	56.2	83.3	116.8	131.4	137.5	136.8
% of UI benefit allocated to ALMP	52.7	46.9	37.2	28.6	23.7	23.8	n.a.
Fund Balance (100 million)	159.9	195.9	226.2	253.8	303.5	385.8	511.0
UI spending as percent of social insurance fund expenditure	4.3	5.2	5.7	5.4	5.0	4.6	3.8
Memorandum items							
Total Labor Force (million)	727.9	739.9	744.3	753.6	760.8	768.2	778.8
Total Employed (million)	713.9	720.9	730.3	737.4	744.3	752.0	758.3
Total Urban Employment (million)	224.1	231.5	239.4	247.8	256.4	264.8	273.3
Total Urban Unemployed (million)	5.8	6.0	6.8	7.7	8.0	8.3	8.4
Average Wage (yuan)	8346	9371	10870	12422	14040	16024	18364

* UI program coverage rate is the ratio of number of employees covered in the program to total urban employment.
** UI program recipiency rate is the ratio of number of benefit recipients to the number of urban registered unemployed.
n.a. -- Not available
Source: China Labor Statistical Yearbook 2000 – 2006, China Labor Statistical Yearbook 2006 & China Statistical Yearbook 2000-2006.

It is important to note that the coverage of unemployment insurance is more prevalent among the richer segments of population. In a survey of five large and seven small cities, the proportion of workers in poor households (those with per capita incomes below the $2/day poverty line) being covered by the UI program was 17% and 24%, respectively, while the proportion of non-poor was 35% and 46%, respectively (Figure 1). The same survey estimated the proportion of workers being covered by UI program among the bottom quintile ranked by per capita household income to be 21% and 27%, respectively, for the five large and small cities and 42% and 60%, respectively, for the top quintile. Expanding coverage to workers without labor contracts as well as to migrant workers would thus help bring more equal income distribution.

Figure 1: Coverage of Unemployment Insurance in Chinese Cities, by Poverty Status and by Household per Capita Income Quintiles, 2005 (in percent)
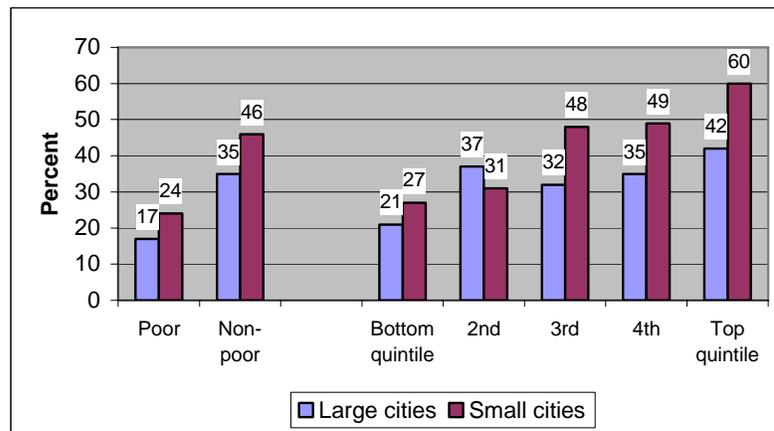
Notes: The poor are defined as those with per capita incomes below $2 per day (in terms of 1993 PPP dollars).
Source: China Urban Labor Survey (2005) in Shanghai, Wuhan, Shenyang, Fuzhou, and
Xian, and seven smaller cities in surrounding areas, presented in World Bank (2007a).

Two factors may explain the low coverage. First, a large share of urban workers remains outside the system because UI coverage is limited to urban enterprises and institutions and thus fails to include informal sector workers (see above discussion on the estimates of informal sector employment). Second, as confirmed by two separate assessments of the UI system in Liaoning province, private sector coverage is poor also due to non-compliance by employers, partly in hiring workers without labor contracts (Chen 2004, Abrahart 2005).[9]

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[9] Using data from the second round of the China Urban Labor Survey (CULS 2005), Du, Cai, and Wang (2006) find that 32.6% of native urban residents and 84.3% of migrants did not have formal labor contracts in 2005.

It should be noted that in contrast to a mild increase in the number of UI contributors, the number of UI beneficiaries increased dramatically after 1999. The implementation of major SOE reforms—particularly the *binggui* policy, under which unemployed workers left the Re-employment Service Centers—increased the inflow into recipiency, and the number of UI beneficiaries jumped from 3.3 million in 2000 to 6.6 million in 2002 (Table 3). This number reached a peak of 7.5 million in 2004, then dropped to 6.8 million in 2005. Demand for the UI program is expected to continue with the complete closure of the Reemployment Service Centers and with the expansion of the private sector, which is characterized by less stable employment relationships and hence higher turnover rates than the SOEs.

Modest Levels and Relatively Long Potential Duration of Benefit

As noted above, benefit levels are set by local authorities between the minimum living standards level and the minimum wage. Although UI benefits exceed the minimum subsistence level, the program provides only a very modest level of income protection to beneficiaries. Most provinces link UI benefit levels to the minimum wage, while some provinces link them to levels set by the minimum living standard guarantee (*dibao*) program, which is described below. At the national level, the China Labor Statistical Yearbook indicates that UI benefits paid as a percentage of average urban on-work wages have decreased continuously since 2000, from 18.2% to 11% in 2005 (Table 3). Assuming that the average wage of recipients before becoming unemployed amounted to 75% of the overall average wage, UI benefits provided a wage replacement rate of only 14.7% in 2005. This replacement rate is much lower than those of developed countries and also other transition countries, where replacement rates typically range from 45% to 70% of average gross earnings (Vodopivec 2004a).

If their household per capita incomes are still lower than the local minimum living standards while they are receiving UI benefits, unemployed workers can apply for the minimum living standard guarantee (*dibao*) program as urban residents. In principle, all residents with hukou and with income per capita less than a local *dibao* standard ("*dibao* line") are eligible to receive cash transfers equal to the difference between the *dibao* line and that income per capita. In addition to cash and in-kind benefits, a *dibao* certificate often provides preferential access to certain social services, such as free or reduced-fee schooling, health care, utilities, and housing. By end of 2005, 22.3 million individuals (10

million households) were covered under the *dibao* program, including 4.32 million *xiagang* workers and 4.01 million unemployed, which constituted the largest group (about 38%) of *dibao* beneficiaries. During the same period, the number of UI beneficiaries nationwide was only 6.8 million.[10]

In terms of benefit duration, the maximum benefit period in China is quite long compared to other countries. Nearly all European transition countries have reduced the maximum potential benefit duration from the levels introduced at the inception of these programs in the early 1990s, typically to a 12-month period (Table 2; Vodopivec et al 2005).

Weak Eligibility Enforcement and Leakage of the System

Although eligibility requirements have become more specific as the UI program has evolved, progress in enforcing these requirements has varied significantly across provinces. Enforcement has been more stringent in areas such as Shanghai, which uses advanced information systems to cross-check claims and undertakes regular auditing to reduce fraud. In most areas of the country, however, enforcement remains quite weak, particularly for municipalities with high levels of unemployment and low administrative capacity.

The Liaoning study provides evidence of lax enforcement of both initial and continuing eligibility conditions (Chen 2004). The study found that although an individual must be registered with the employment service as a job seeker to be eligible for benefits, UI offices rarely require beneficiaries to provide proof of registration. The study identified other signs of weak enforcement of continuing eligibility conditions, such as the fact that UI recipients tend to collect UI benefits for the full benefit duration. Likewise, a study for Dalian City found that over 83% of UI recipients collected benefits for 18-24 months. According to Chen, a 2002 survey of 187 UI benefit recipients in Liaoning also revealed that 80% of UI recipients were working formally or informally while receiving UI benefits.

To learn more about possible leakages and disincentive effects, an analysis of the exit patterns of UI program participants in Qingdao municipality was conducted for this policy note. The results are consistent with the findings above and show that (i) the probability of leaving unemployment is lower for recipients than for non-recipients of UI

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[10] Sources: China Statistical Yearbook 2006 & China Civil Affairs Statistical Communiqué 2006.

benefits, (ii) longer potential durations are associated with longer survival in unemployment, and (iii) a large proportion of recipients exhibit substantial decline within the month of eligibility exhaustion or in the preceding month. While the first two results could be explained by differences in characteristics among the groups being compared, the large share of recipients leaving unemployment at the point of exhaustion of benefits is the strongest evidence about the waiting effects of the UI program. The survival function of the UI benefits recipients by potential benefit duration groups are presented in Figure 2, and the complete results of the analysis, including econometric estimates, are provided in Appendix 1.

The Liaoning report cites the lack of operational guidelines for applying eligibility requirements as a constraint to enforcement in China. For example, in terms of ensuring the UI recipient's attachment to the labor market, the requirement that beneficiaries cannot refuse jobs without "proper causes" does not specify what proper causes might be. No guidelines have been developed to help UI officers identify a set of questions to ask to determine continued eligibility. Furthermore, the Liaoning study found that UI offices are hindered by lack of information needed to determine continued eligibility. Job placement centers are unlikely to report job refusals to the UI benefit office since they are not required to collect such information, and no cross-checking is done to verify whether beneficiaries have become reemployed.

Another reason for weak enforcement is the fact that when benefits are so low, UI officers may side with beneficiaries and tolerate "hidden employment"—registered *xiagang* or unemployed receiving basic living allowances and/or UI benefits *and* working at the same time. UI offices in different cities apply different standards for evaluating eligibility in light of such work, with some ignoring additional earnings if income earned is below minimum wage. This lax treatment may in turn increase the degree of hidden employment, as UI beneficiaries realize that the violation of continued eligibility requirements will not be penalized. Even in municipalities which attempt to enforce the requirements, hidden employment can be difficult to detect given its oftentimes informal and irregular nature. Various sources and survey results suggest that between 50-90% of the urban registered unemployed are engaged in hidden employment. A survey conducted in Tiexi district of Shenyang City in August 2002 found that 80% of UI recipients were working while receiving UI benefits (Chen 2004).

Figure 2: Survival Function of the Unemployed who Registered at Qingdao Employment Office in 2004, Recipients of UI Benefits Grouped by Potential Benefit Duration
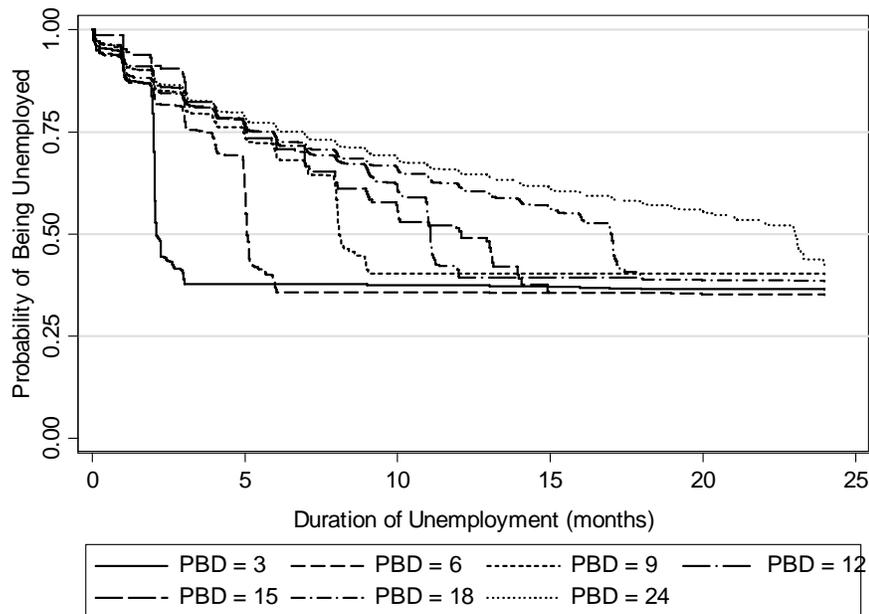
Weak Labor Market Attachment of UI Beneficiaries

Although UI policies recognize the value of labor market programs in promoting reemployment and allow for up to 10% of yearly UI expenditures to be used for job introduction services and vocational training for UI beneficiaries,[11] expenditures for such programs have generally been low. The UI system assessment of Liaoning found that in 2004, expenditures on labor market programs fell to less than 4% throughout the province (Abrahart 2005). Chen (2004) points to low utilization of the UI program subsidy by employment service offices as one possible explanation for the limited use of employment services among UI recipients. Overall, the proportion of active labor market program expenditures is quite low in China, amounting to less than 0.4% of GDP. In contrast, most OECD countries have allocated approximately 2% of GDP to their labor market activities (Yang, 2005).

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[11] In 2006, a Government circular was issued on piloting an expansion of the scope of UI fund expenditures. The pilot, to be undertaken in seven provinces, would allow UI fund expenditures for vocational training, job introduction services, social insurance, interest deductions for microfinance, and other subsidies for UI beneficiaries.

One World Bank study reviewed training provided in Shenyang and found that the average duration of courses was about one month, with emphasis on computer courses and cooking. The types of courses being undertaken suggest that trainees prefer to develop skills that will help build their potential for small business or self-employment. Consistent with state policy, the Liaoning provincial government has been supporting these efforts with small loans and exemptions from taxes and levies applying for small businesses. However, as the application procedure is too complicated and the amount of loans is too low to start small business, take-up of the loans has been limited to date.

The incentives to maintain a connection to the labor market are thus quite low under the current UI scheme. In terms of continued eligibility requirements, the current UI regulations place greater emphasis on disqualifying events such as military service and emigration rather than on ensuring continued connection to the labor market. In contrast, other countries consider demonstrated attachment to the labor market to be a fundamental condition for continued eligibility. In some countries, registration with the employment service or employer contacts on a weekly basis is required as proof of continued attachment to the labor market. Transition countries such as Poland require that claimants be willing to participate in vocational training or public works programs. However, the UI program in China does not have such stringent requirements. In addition, UI offices do not have a mechanism by which to identify individuals who have nearly exhausted their benefits so that they can be given additional attention from employment services offices.

Varying Financial Performance

Thanks to strong economic growth, UI fund balances have improved significantly in recent years. Some UI funds were pushed into deficit after the adoption of binggui in 2000, which sharply increased the number of unemployed and therefore the number of UI benefit recipients. Since then, almost all UI funds have recovered and are now enjoying surpluses. By the end of 2006, the overall surplus was nearly 72.5 billion yuan, and only Liaoning province was experiencing a deficit (China Labor Statistical Yearbook, 2007). However, it should be noted that the financial situation varies across provinces, with the coastal and southern areas enjoying greater surpluses.

A number of factors could affect the financial sustainability of UI funds. Aside from the large number of eligible unemployed in some areas, the UI system is providing benefits to some individuals who should actually be ineligible because they do not meet

the initial or continued eligibility requirements, as described above. In addition, contributions have been reported to be irregular in some areas, particularly for SOEs in arrears. Based on calculations of contributions and coverage rates, the level of compliance in Liaoning province has been estimated to be as low as 60% (Abrahart 2005). An evaluation report for the DFID Unemployment Insurance Project notes that the decline in UI fund contribution rates has jeopardized public confidence in the program, as UI program participation and compliance rates among employers and employees are low compared to other social security, pensions, medical, and work injury programs (Aschmoneit and Chen 2005).

While pooling would help strengthen the sustainability of the UI funds overall, the level of pooling remains low. The UI system assessment in Liaoning found that each of the province's 14 municipalities has its own arrangements for UI, and only four of them have achieved city level pooling. Pooling is complicated by the fact that contributions are collected by the various levels of tax office depending on the level of government responsible for the particular SOE making the contribution. Financial and administrative responsibility rests with the national government in some cases and with provincial, city, or district governments in other cases. The Liaoning assessment also found that not only are some areas unwilling to subsidize poorer areas at the same level—for example, province to province—but they are also unwilling to subsidize poorer areas at a lower level within their own region—for example, city to district (Abrahart 2005).

Obstacles in Program Administration and Coordination

Chen (2004) cites a number of obstacles to effective UI program implementation in Liaoning province. As noted above, the assessment points to the lack of operational guidelines or administrative rules. In some cities, the only training handbook and operational manual used by UI offices is the 1999 national UI regulations, which tends to be too general. Human resource constraints also hinder the ability of local UI offices to carry out their duties in helping clients and enforcing eligibility requirements. The community UI offices are responsible for monthly benefit eligibility reviews. However, many community offices in Liaoning have only two or three staff who are scheduled to meet with 50-150 individuals on a reporting date, making it difficult to conduct a thorough interview with each person.

To date, the UI program has had limited interaction with other existing social protection programs. Networking among agencies would help improve information on beneficiaries as well as facilitate identification of hidden employment. However, no information technology has been developed to link the major databases of the different agencies together, and limited efforts are made to exchange information.

Even among the different offices involved in UI administration, the degree of coordination appears to be limited in some areas. Chen (2004) notes that coordination between the UI benefit administration offices and employment service offices in Liaoning remains weak, with no administrative or financial relationship between them. Information exchange is limited, and it remains unclear whether employment services offices are compiling information on reemployment or whether the information is simply not being shared with UI offices.

Although the use of information technology for overall program management and monitoring of eligibility has been limited to date, a growing number of examples (including six model cities) proves that technology can be a powerful tool for program administration.[12] A review of the model cities found that solid information systems helped reduce administrative costs and increase efficiency. In Shanghai, for example, the integrated computerized network system on labor and social security has helped facilitate information sharing among the municipal, district, and street levels and enabled more effective enforcement of eligibility requirements. The collection of regular statistics and use of quality indicators also facilitates monitoring of the UI program and allows for informed adjustments to implementation as needed.

4. IMPROVING THE UI PROGRAM: POLICY CHALLENGES

Drawing upon the analysis presented above, this section highlights key policy challenges and describes possible policy responses. While UI programs across the country face different dilemmas and challenges, the key ones are as follows: given the unprecedented, rapid changes taking place in the economy and in the labor market in particular, what is the vision for the UI program in the long-run—what role should it play

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[12] Under the DFID-supported Unemployment Insurance Project, representatives from six pilot cities in Sichuan and Liaoning provinces conducted study tours to six "model" cities for UI in 2004. The model cities were Shanghai, Guangzhou, Qingdao, Foshan, Dalian, and Hangzhou. The cities were selected as best practice examples based on the criteria such as: proven improvement in service delivery to the unemployed, financial affordability and feasibility of putting the examples into practice, and compliance with the wider objectives of the pilot cities.

in social protection, and how should it relate to other programs addressing the risk of unemployment? How can UI coverage be expanded, and is the objective of providing UI to the informal sector a viable one? How should the benefit level be improved? More specifically, to enhance the insurance function of the program, can the level of benefits be tied to an individual's pre-unemployment wage level without jeopardizing the program's sustainability? How can the leakages of the UI system be improved? How can expenditures on UI benefits be balanced with expenditures on active labor market programs so as to maximize incentives to maintain labor market attachment? How can the program be financed more efficiently? And finally, how can program administration be improved?

This section discusses each of these challenges in turn. To help guide the policy discussion, the conceptual framework that underlies the provision of UI is first presented.

4.1. Conceptual Framework of Unemployment Insurance

To help determine the appropriate role for the UI program in a quickly changing Chinese economy as well as to help choose among various options in its design, this subsection presents the most relevant conceptual underpinnings of the provision of UI. It describes the objectives of a UI program, places the program within the general labor market risk management framework, and identifies key country factors affecting the design and implementation of a UI program.

Objectives of a UI program

From the viewpoint of the individual, the objective of a UI program is precisely that implied by its name: compensation for income loss due to unemployment. The program provides income protection to workers by partly replacing their lost wages with social insurance payments. Social insurance mimics market insurance arrangements but deviates from actuarial principles. Such payments help cushion the reduction in consumption in the wake of job loss—that is, they smooth consumption—and may also help alleviate poverty. Viewed from a broader, societal perspective, other objectives of the UI program include   encouraging workers to acquire new skills, providing workers with the means to conduct more extensive and more effective job searches, redistributing income from high- to low-wage earners, and increasing output and efficiency by promoting restructuring of enterprises or encouraging workers to accept higher wages and thus higher-productivity—but also riskier—jobs.

Depending on the level of development of the economy and labor market, these objectives may vary, and the relative importance of these objectives may also change as these circumstances change. For example, in an early stage of introduction, the program may offer a low level of benefits and may be used primarily as an anti-poverty tool. With economic development, the emphasis may shift to preserving consumption so that the program becomes a consumption-smoothing tool by offering a higher level of benefits.

UI as part of the general labor market risk management framework

In order to design the UI program appropriately, it should be recognized that there are various labor market risk management mechanisms—informal and formal, private and public—and that they interact in many important ways. These mechanisms can be divided into three categories: (i) those that reduce the risk of unemployment, reducing the probability of becoming unemployed or increasing the probability of leaving unemployment if unemployed; (ii) those that mitigate that risk, reducing the impact of a future unemployment spell, and (iii) those applied in response to the undesirable event, known as coping mechanisms. Within all three categories, informal and formal mechanisms are usually available. Formal mechanisms include both market-based and public mechanisms.

The labor market risk management framework thus enables one to position the UI program in the context of other mechanisms that may be used to manage the risk of unemployment and thereby allows one to pinpoint diverse interactions that usually exist among them. Two types of interactions are particularly important:

- *Interactions with other policies and programs.* Important links exist among public policies and programs themselves. The financing of social insurance typically requires contributions from both employers and employees, thus creating a wedge between the wage received and labor costs. To the extent that this wedge reduces labor demand for formal sector workers, the introduction of UI contributes to higher informal employment and/or unemployment. Thus, the introduction of a risk mitigation mechanism such as social insurance may negatively affect the job creation capacity of an economy or increase the unemployment rate, thereby worsening the effectiveness of other risk management mechanisms. The interactions and respective roles of programs providing protection within firms—such as employment protection rules and minimum wages—and programs providing protection outside the firm—such as UI, active labor market programs, and social assistance programs—need to be examined carefully.

- *Interactions with private risk management mechanisms*. A great variety of such interactions can take place, many having important long-term consequences. For example, participation in the UI program may increase investments in human capital such as enabling better education of family members and improving health and, by providing additional resources, increase the effectiveness of job search. However, UI as well as private transfers received by participants may reduce participants' incentives to save or to enroll in training, as well as lower job search and reemployment incentives, thus reducing the effectiveness of self-protection measures.

Design and Implementation Criteria: Accounting for Country-Specific Conditions

Much is known about the performance of income support programs for the unemployed under the conditions that usually prevail in industrial economies. However, these conditions may not exist in developing and transition countries. Policymakers in those settings need to carefully take account of country-specific features as they introduce new institutions or try to improve existing ones. This consideration is particularly important for China, where labor market and other conditions are rapidly changing, and these changes must be reflected in the design of the UI program. The most important country-specific features and links between various risk management mechanisms that policymakers need to consider when improving UI programs in developing and transition countries are summarized below.

- Administrative capacity for program implementation: To monitor continuing eligibility effectively, extensive and sophisticated informational requirements are needed. Cross-linking of administrative databases helps to identify ineligible benefit recipients.

- Size of the informal sector: Abundant informal sector employment opportunities not only increase the costs of monitoring continuing eligibility of benefit recipients but may also render strict monitoring of eligibility counterproductive, as beneficiaries may reduce working in the informal sector as a self-protection measure.

- Characteristics of unemployment: A UI program is more appropriate if unemployment spells are less frequent and longer, since frequent and short spells can be self-protected. If unemployment is more prevalent among richer segments of the population, then the UI program should not be subsidized, as subsidies may be regressive.

4.2   Key Policy Challenges

What is the long-run vision of the unemployment insurance program?

With the dramatic changes in the labor market and improvements in other parts of the social protection system, it is important to formulate a long-term vision for the UI program. As noted above, China has undergone dramatic economic changes in the last three decades which have profoundly affected the country's labor market. Central to these changes has been the structural shift from a planned to market economy, with the shedding of workers of SOEs and their absorption by the private sector being at the heart of the process. Because there are signs that the process of worker reallocation from the state to private sector is nearing its completion and the economy is reaching a new, dynamic equilibrium which includes a significant number of unemployed workers, both the role of the UI system as well as the key design parameters of the program should be reconsidered. Although the system of income support for the unemployed itself has undergone vast changes, it is time to assess how the current design suits the needs of not only today's but also tomorrow's society.

Underscoring the need for a long-term strategy is the fact that in recent years, other social protection programs have gained importance. Above all, this fact applies to the emergence of the *dibao* social assistance program in urban areas. Thus, the need to delineate respective roles and responsibilities of the UI and *dibao* programs has emerged. In short, while the current UI system has served the purpose well, changes in labor market conditions and developments in social protection itself are forcing policymakers to consider the long-term role and contours of the UI program.

In formulating a long-term vision for the UI program, several key policy directions seem desirable. First, in line with a major objective of the system, a stronger role of UI in providing insurance against the loss of earnings should be considered—that is, the consumption-smoothing function of the system should be strengthened, for example by introducing earnings-related benefits and by enhancing the ability to pool resources of the system. Second, the functions of the system that help ensure continued labor force attachment should also be improved, for example through improved monitoring of benefit recipients as well as their enhanced participation in effective active labor market programs. The implementation of both directions should proceed in parallel to ensure that employment disincentives arising from improved consumption smoothing

are kept in check. Third, the expansion of coverage to formal sector workers should be completed. Finally, the respective roles and the relationship of the UI system to other parts of social protection programs—in particular, to social assistance and enterprise-based benefits such as severance pay—should be clarified and possible redundancies eliminated.

How can UI program coverage be expanded?

Expanding coverage is one of the biggest challenges of the UI program. The primary thrust of this effort should be to bring in formal sector workers who are mandated to join the program but who in reality are not enrolled—that is, their contributions to the UI program are not paid. At the same, it should be acknowledged that informational and enforcement problems make the extension of UI to informal sector workers unfeasible.

To expand the coverage of formal sector workers, three groups of workers should be targeted: workers hired without labor contracts, migrant workers of urban enterprises, and workers of rural collective enterprises. Efforts to expand *de facto* coverage to these groups include more rigorous enforcement of contribution requirements among employers (see the discussion below on improving UI administration) and outreach and information dissemination activities aimed at improving the knowledge of rights among workers.[13] Moreover, stricter enforcement of the requirement to hire under labor contracts would formalize the employer-employee relationship and thus help expand coverage of the UI program. To help migrant workers, inter-provincial benefit information systems could be developed to accommodate the needs of workers who became unemployed in one city and are looking for employment in another city.

In the effort to extend coverage to all formal sector workers, attention should be given to reducing the UI contribution rates. Indeed, overall social insurance costs pose a heavy financial burden and may reduce the job creation capacity of some enterprises and/or push workers to the informal sector. With most UI funds enjoying budget surpluses,

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[13] The study of the six model cities, some of which have achieved nearly full UI coverage among the urban labor force, showed that they share the common feature of proactive dissemination of information. The cities have compiled the relevant UI policies and procedures into free leaflets and published numerous brochures in newspapers and other media as well as through the Internet. The materials help answer basic questions on labor and social security policies, how to apply for UI benefits, and employment training services. These activities have helped boost participation in the UI program, improve contribution collection rates, and raise public awareness.

the reduction of contribution rates should be considered, particularly as the prospects of continued rapid economic growth persist.

For informal sector workers, it should be recognized that the option of providing UI coverage is not a realistic one, since the standard design of UI is not amenable to their coverage. Not only do their uncertain incomes offer little assurance that these workers could regularly pay their contributions, but it is also extremely difficult to verify whether they fulfill eligibility conditions for the receipt of benefits—for example, to verify the reasons for becoming unemployed and their labor market status. While providing other types of social protection—above all, old age income protection—for informal sector workers is certainly important, large informational problems (moral hazard and adverse selection) of UI largely prevent this program from being applied to informal sector workers.

How to set the level, potential duration, and time-structure of benefits?

Raising the level of UI benefits. As described above, current UI benefit levels provide only modest support, and replacement rates are much lower compared to other countries. Nonetheless, by exceeding the minimum subsistence level, UI benefits do serve their intended purpose of providing workers with basic income security. The unemployed with large families also have the option of topping up UI benefits if they meet the eligibility criteria.

Should benefit levels be raised to provide greater protection against lost earnings and discourage hidden employment? One positive aspect of having a low benefit level is that the low level reduces the moral hazard problem found in UI systems of countries with relatively high replacement rates. If benefit levels are perceived to be high, insured workers may reduce their efforts at work when employed and reduce their job search efforts while unemployed and receiving UI benefits. The low benefit levels in the Chinese system help minimize these adverse work incentives, and because the cost of losing benefits in moving from unemployment to employment is minimal for most workers, the risk of the unemployed falling into the "unemployment trap" is very low. In addition, while the current UI system provides only a low degree of consumption smoothing for higher-paid and more educated workers, such workers have another type of insurance: easy access to jobs thanks to the country's fast economic growth.

On the other hand, given that the UI system generates rather low actual replacement rates, it could be argued that the UI system should enable recipients to better smooth their level of consumption and thus provide an increased level of income security. Indeed, the results from recent UI policy simulation pilots in Qingdao and Tianjin suggest that such an increase is financially affordable. The simulations show that if the average benefit level is increased to 75% (90% in the case of Tianjin) of local minimum wages, the UI systems in those areas would continue to be sustainable financially, assuming unchanged contribution rates (see simulation results for Tianjin presented in Appendix 2). However, an increase in benefit levels carries the risk of worsening reemployment incentives, so it would produce best results when introduced in tandem with improved enforcement, as discussed below.

Tying UI benefits to individuals' pre-unemployment wages (introducing an earnings-related benefit structure). Another way of improving the income protection function of the UI system would be to convert current flat benefits to earnings-related ones, whereby beneficiaries would receive a certain percentage of their pre-unemployment wages. The results from the Qingdao and Tianjin policy simulation pilots show that changing the flat benefit structure to one that pays benefits at a 50% replacement rate—that is, with benefits being equal to 50% of individuals' pre-unemployment wages—would strongly increase the benefits received by individual workers and would therefore have a large impact on the expenses and reserves of the UI funds. Nonetheless, simulations for both Tianjin's and Qingdao's programs show that the increased level of current expenditures is about matched by current revenues, so the accumulated balance of UI funds in the years under simulation stays constant (see Appendix 2 for Tianjin's simulations).

Earnings-related benefit structures thus seem financially feasible, at least for UI programs in better financial standing, but they should be carefully planned and based on thorough financial projections. To convert to earnings-related benefits, the establishment of accurate records of contributions would also be required. As in the case of raising flat benefit rates, the effect on reemployment incentives would also need to be assessed for workers who would be receiving a higher level of benefits if tied to their contribution levels.

In deciding whether to move away from a flat rate system, one issue to be considered is the redistributive impact of the current benefit structure. Although poverty

reduction is not an explicit objective of the UI system, the flat rate system does have the advantage of being more progressive. Since UI benefit levels are flat and do not depend on the recipients' previous wages, the effective replacement rates for low-paid workers are higher than for high-paid workers. Furthermore, because workers must contribute 1% of their wages to the UI fund, high-paid workers contribute a greater amount to the fund than low-paid workers, making the system even more redistributive and progressive in nature. The experience of the European transition countries such as Poland and Hungary shows that progressive UI benefits can also have strong poverty reduction effects (Vodopivec et al 2005).

Shortening the potential duration of UI benefits. The potential benefit duration of China's UI system is 24 months, exceeding those in other transition countries except Slovenia (Table 2). A shorter potential benefit duration would give workers more incentive to be proactive in their job search and to find new employment quicker. Notably, a recent study on UI in Slovenia suggests that decreasing the potential benefits duration increased the likelihood of finding jobs without affecting the quality of post-unemployment jobs. After a change in Slovenia's UI law in 1998 that substantially shortened the potential UI benefit duration, job finding rates increased strongly, and the quality of post-unemployment jobs remained unaffected in terms of type of contract as well as duration and wage of post-employment jobs (Van Ours and Vodopivec 2006).

Introducing a declining pattern of UI benefits. To improve reemployment incentives, the replacement rate could decline with the time spent in unemployment as is often the case in European transition countries (Table 2). One possibility would be to have a two-teir system, where the benefit would be constant in the first period—for example, the first six months—and be reduced later by a certain proportion and remain at that level for the remainder of the potential eligibility period. Because the welfare of the long-term unemployed may suffer as the reduction of benefits may coincide with the depletion of their own savings, introducing a declining pattern of benefits would make more sense after the general level is increased, as discussed above.

Table 2: Comparison of unemployment insurance parameters between China and other transition countries

	Date	Reference period	Required min employment record	Max duration of benefits	Relation to individual's gross earnings	Minimum and maximum benefit levels as percent of minimum wage)	
China	1986	None	None	24 months	60-75 % average monthly wage in first year, 50% in the second	None	None
	1993	None	12 months	24 months	None	120% of social relief payments [a] 70% regional legal minimum wage [b]	150% of social relief payments [a] 80% regional legal minimum wage [b]
	1999	None	12 months	24 months	None	higher than level under minimum living standards scheme for urban residents	lower than local minimum wages
Bulgaria	1998	12 months	9 months	12 months	60% [c]	85%	140%
Czech R.	1998	3 years [d]	12 months	6 months	50% first 6 months 40% following 6 months (60% in case of retraining course)	none (but 70% of min. living standard if not employed before)	150-180% of min. living standard
Estonia	1995	12 months	180 days	6 months (3 months extensions considered on individual basis)	Flat rate, determined as 60% of minimum wage		
	2001 (effective 2003)	24 months	12 months	12 months	50% in the first 100 days, of the receipt, 40% thereafter	40% of the average wage	150 percent of the average wage

Table 2: Comparison of Unemployment Insurance Parameters between China and other Transition Countries (contd.)

	Date	Reference period	Required minim employment record	Maximum duration of benefits	Relation to individual's gross earnings	Unemployment benefit levels (minimum and maximum, expressed in % of minimum wage)	
Hungary	1997	4 years	90 days	360 days	65%[e]	90% of minimum old-age pension	180% of minimum old-age pension
Latvia	1993			6 months	90% of minimum wage (70% for new entrants)	70 % of minimum wage	140 % of minimum wage
Lithuania	1993			6 months	70 % , later reduced to 60 % and 50%		
Poland	1989	None	None	None	70% first 3 months 60% following 6 months 45% after 9 months	100% average wage	
	1997	18 months	1 year	18 months	flat rate amount paid at 378,2cz	None	none
Romania	1998	1 year	1 year	9 months[f]	50-60% for 9 months	76-92%	210%
Slovak R.	1997	3 years	12 months	12 months	60% first 3 months 50% following 9 months	none	150%
Slovenia	1998	18 months	9-12 months	24 months	70% first 3 months 100% 60% following 3 months[o]		300%

[a] Before the adoption of the 1995 Labor Law

[b] After the adoption of the 1995 Labor Law

[c] Average of last six months' wage; an additional 15% is awarded upon completion of a training course.

[d] Not required if enrolled in a training course.

[e] Unemployed earning from casual work not more than half of the minimum wage per month remain entitled to full UI

[f] Some of the unemployment benefit exhaustees (after 9 months) qualify for a support allowance program for an additional (maximum) 18 months. This program is means tested, [a]nd the level of allowance is 60% of the level of unemployment benefit they initially receive.

Sources: For China, Chen (2004); for transition countries, Vodopivec et al (2005).

How to reduce leakages of the UI system?

Stronger enforcement of initial and particularly continuing eligibility requirements—above all, job search requirements and availability for work—would help eliminate leakages in the UI system and thus improve financial sustainability. As described above, reports indicate that a large number of people are engaged in hidden employment in the informal sector. It could be argued that the UI fund is bearing a double burden from hidden employment: UI funds are being overpaid to ineligible recipients, while at the same time individuals receiving income from hidden employment are not paying contributions. Greater efforts at enforcement would be particularly important if benefits levels are increased, as more resources would be at stake.

Some progress could be achieved by improved administration of services, for example by linking various social security information systems, providing greater guidance and specificity regarding job search standards and suitable job offers, and strengthening coordination between the UI benefit administration offices and reemployment service offices, as discussed below. Particularly in addressing hidden employment, a more fundamental issue arises: under the current circumstances of the labor market and administrative capacity, should more stringent actions be taken to reduce the incidence of hidden unemployment?

Reducing the number of ineligible beneficiaries could help improve the financial sustainability of the system. However, as argued in Vodopivec (2004b), efforts to strengthen monitoring of continuing eligibility requirements may be counterproductive at this stage of China's economic development. Particularly if benefits remain at their current low levels, stronger enforcement would have limited payoffs and would tax the already limited capacity of UI offices. Vodopivec (2004b) notes that unemployment in developing countries is more of a "continuous variable" than in developed countries, as workers in developing countries have abundant employment opportunities available to them in the informal sector and can easily enter and exit the sector. Enforcing continuing eligibility requirements would discourage workers from taking informal or temporary jobs—engaging in a form of self-protection—and would thus distort reemployment incentives. At the same time, because the informal sector is difficult to monitor, trying to police hidden unemployment would be very costly. Notably, some central and eastern European transition countries allow for a significant "earnings disregard" that allows

unemployment benefit claimants to maintain their eligibility while earning income up to a certain level (Vodopivec et al 2005).

Further analysis is needed to determine whether and when measures to eliminate hidden employment should be strengthened. If benefit levels are raised and the capacity

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Box 1: Combining Self-Insurance and Social Insurance:
Chile's New Unemployment Benefit Program

In 2002, Chile introduced an innovative new unemployment insurance program that combines social insurance with self-insurance. Unemployment contributions are split between individual accounts and a common solidarity account, which is partly financed by the government. Both workers and employers pay contributions. By doing so, employers reduce their severance payments obligations. The new unemployment insurance program is thus partly replacing severance pay. The program is effectively a funded program, with funds of individual accounts managed by a free-standing administrator selected through competitive tender.

To stimulate reemployment, the program requires that benefit recipients first draw from their own accounts; upon depletion, they can draw from the solidarity fund. Withdrawals from individual accounts are triggered by separation from the employer, regardless of the reason. Withdrawals from the common fund are triggered once individual accounts are depleted, if the claimant satisfies the usual conditions of continuing eligibility under unemployment insurance (i.e. not working, being available, searching for job) but are limited to two withdrawals every five years. Benefits are linked to past earnings, with a declining schedule.

Source: Vodopivec (2004a).

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of UI offices is improved, enforcement of continuing eligibility requirements will be a higher priority. Under these conditions, monitoring would help limit the moral hazard problem which could arise from the adoption of higher benefit levels and help ensure continued financial sustainability. When monitoring of eligibility requirements is difficult, one promising option is to invoke "self-policing" via the introduction of individual savings accounts, and to ensure good income protection properties of the system, combine self-insurance with social insurance (see Box 1 for an example of Chile's innovative UI system).

How to improve incentives to maintain labor market attachment?

A major challenge for the Chinese UI system is to improve incentives to maintain a connection to the labor market. How can the system ensure that UI beneficiaries are searching for a job? How can it ensure that they undertake useful and relevant training that will help them find a job? What other active labor market programs (ALMPs) should they participate in, and what should their timing be? What other services would be useful for them, for example participation in job clubs and the help of psychologists?

A key question in this regard relates to the balance of income support and ALMPs that should be provided by the UI fund. While financing expenditures on ALMPs directly related to finding a job is justifiable, it should be recognized that there are other institutions and funds responsible for the provision of training and vocational education, including the training and vocational education of the unemployed.[14] Therefore, establishing a threshold for expenditures on ALMPs that can be financed from the UI fund is a sensible measure. By the same token, under the current favorable budgetary situation of many UI funds, consideration should be given to reducing the UI contribution rate rather than increasing spending on training and other ALMPs.

One important aspect in enhancing the impact of ALMPs is assuring their quality and relevance. Chen 2004 found that training courses in Liaoning province often do not focus on current labor market needs, nor do the employment centers keep records of whether individuals were able to find jobs following the courses. Another problem cited in the Liaoning assessment is the disconnect between training benefits and job placement services offered. No clear administrative relationship exists between the agencies in charge of training and job placement. Many individuals who completed training were not referred to job placement service centers afterwards, while job placement centers have difficulty finding qualified individuals. Collaboration between the UI program and other agencies could not only help improve the impact of training benefits, but it could also help smooth the transition for unemployed individuals whose benefits periods expire without being able to find new employment and who require additional assistance. In addition, it could help facilitate assistance to unemployed individuals who are near retirement upon the expiration of benefits and are unlikely to re-enter the labor market. Moreover, to help ensure both quality and relevance of training, introducing training vouchers which the unemployed could use to purchase services from both public and private providers could be considered.[15]

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[14] In principle, using UI fund sources to finance training and other ALMPs for the unemployed is appropriate because these services contribute to improving their reemployment chances and thus ultimately contribute to the objectives of the UI program. They can also be used as a screening device for UI recipients.

[15] Evidence on the impact of training programs shows that, in general, they only mildly improve labor market outcomes (probability of reemployment and reemployment wages) and that they are better suited for certain groups. For a recent summary, see Betcherman et al.

The labor market programs in Shanghai provide useful examples for how other cities might boost their employment assistance. The Shanghai government has played an important role in employment assistance, such as buying in training and employment services, providing public posts for job seekers, and implementing large-scale employment assistance projects such as a job placement scheme for 10,000 workers. The vocational training offered by the municipal labor and social security departments focuses on relatively advanced skills such as auto and elevator maintenance and garments processing. In Guangzhou, the Zero Employee Household Assistance project mobilizes employers to provide at least one post for families in which no one has a job. The model cities also provide subsidies to the employment service centers for assisting the unemployed. Some countries such as Bulgaria and the Czech Republic even reward those beneficiaries who attend or complete training courses with special awards (Vodopivec et al 2005).

Following the practice in other countries, criteria for demonstrating attachment to the labor market, such as registration with the employment service or employer contacts on a regular basis, could be introduced as conditions for continued eligibility. Establishing such criteria, however, requires intimate knowledge of local conditions, and arguments for and against must be carefully considered before introducing them.

How to finance the program more efficiently?

As described above, the financial situation of the UI program has improved considerably, with an overall fund surplus. This situation is very different from the past experience of many UI funds and warrants careful scrutiny. While the surpluses of UI funds could be used for a number of purposes including spending on active labor market programs, one option that should be considered seriously is a reduction of the UI contribution rate. Under a situation of high social security burdens, reducing the UI contribution rate would help decrease the reluctance of employers to join the program and thus help expand coverage. The reduction of labor costs would also help generate additional employment.

Easing of the financial situation of UI funds, coupled with appropriate policy measures, will also help achieve another highly desirable objective: shifting pooling to a higher level. Indeed, it can be argued that with the ever-increasing mobility of the workforce and to facilitate rural-urban migration, it is the provincial level that provides

the necessary pooling of funds. This pooling will prevent areas with high unemployment from facing insolvency in their UI funds and paying low UI benefits. As an incentive for pooling, provincial-level adjustment funds could be given only to those municipalities who have achieved single pools. Incentives for higher-level pooling should also be explored. Currently, only Beijing, Tianjin, and Shanghai have provincial-level pooling.

Other measures to help ensure the continued financial sustainability of UI funds include better enforcement of eligibility requirements (see the discussion of program administration below), as well as policy changes such as shortening of the potential benefit duration.

How can program administration be improved?

The rapidly changing conditions of the labor market as well as the evolving functions of the UI program itself provide a constant challenge for program administration. This section discusses possible improvements in enforcing contribution collection and the fulfillment of eligibility conditions, as well as integration of social insurance collection.

Contribution collection. More rigorous enforcement of contribution collection among employers who are mandated to pay would help improve UI program coverage as well as improve revenue collection. Cities such as Shanghai and Foshan, which have adopted strict measures for collecting UI contributions, provide useful examples in this regard. The base amount of contribution is determined at the beginning of each year and is monitored throughout the year. Special auditing is conducted, and employers who have not contributed to UI or who have made insufficient contributions are given a notice of correction. Any payment arrears are disclosed to the public, and organizations with large arrears are exposed in the media or taken to court for enforcement. At the same time, enterprises that have been contributing actively are reported in the media in a timely manner to set a good example for other organizations. As a result, Shanghai and Foshan have extremely high contribution rates at 99.7% and 99%, respectively.

Enforcement of eligibility conditions. To improve eligibility enforcement, greater guidance and specificity could be given in the requirements for initial and continued eligibility. In the case of refusing jobs for "proper causes," UI systems in other countries offer examples of how proper causes might be defined, such as a certain percentage gap between the salary of the referred job and the individual's salary in the previous job,

mismatch with prior training and experience, and distance of available work from the individual's residence. Such examples could serve as inputs into the development of operational guidelines that would help UI offices carry out their enforcement duties more effectively.

Following the practice in other countries, criteria for demonstrating attachment to the labor market, such as registration with the employment service or employer contacts on a regular basis, could be introduced as conditions for continued eligibility. In best practice cities such as Shanghai, unemployed individuals are required to seek work at the employment service center at least twice a month with their unemployment certificate and UI benefit approval certificate. Workers are also required to attend at least two training courses. If an unemployed person has not sought a job at least twice a month or has not attended training courses, UI benefits are terminated. Such measures have resulted in improvements in UI benefits administration as well as helped reduce benefit leakages to workers engaged in hidden unemployment, as they are unable to meet the job seeking and training requirements while working.

Modern information systems can also be powerful tools for checking benefit eligibility. Shanghai has been highly effective in using its computerized management information system to confirm whether an individual is eligible for UI benefits. When a person applies for benefits, the computerized system automatically searches for relevant information on the applicant such as employment status, age, and remaining entitlement period for UI benefits. People who are employed, receiving pensions, or at retirement age are denied benefits.[16]

Better coordination between the UI benefit administration offices and reemployment service offices would also help facilitate the enforcement of continued eligibility requirements. For example, if an employment service office refers a UI beneficiary to a job and the individual refuses to take the job without proper reasons, the refusal should be reported to the UI benefits office. Horizontal integration of databases or the development of other mechanisms for sharing information across the relevant social protection programs would strengthen enforcement further. In particular, stronger linkages with social insurance agencies and the civil affairs department, which is in

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[16] Special inter-provincial benefit information systems could be developed to accommodate workers who become unemployed in one city and are looking for employment in another city. A harmonized information technology system could be used to help facilitate the filing as well as benefit claim process.

charge of the urban minimum living allowance program, would provide better information on beneficiaries. However, the development of such information sharing systems would require unified planning and design as well as a sizeable initial investment.

Integrating social insurance contribution collection. An important area for improvement is the integration of contribution collection of the UI fund with other types of social insurance. For example, in Guangzhou and Foshan, contributions for pension, health insurance, UI, maternity benefits, and industrial injury are collected together. This integration not only helps improve UI fund collection but could also promote the expansion of UI coverage. It also reduces administrative costs among social insurance agencies and increases service efficiency. Close coordination of departments is a prerequisite for integrated fund collection to work, and special attention is needed to ensure that UI funds are not consumed by other large programs such as pensions or health insurance.

How to coordinate UI and severance pay programs?

Some unemployment benefits recipients may also have received compensation from their employers in the form of severance pay, and Giles et al (2006) report that these payments (paid as lump sums) are quite substantial.[17]   Given that these two programs – unemployment insurance and severance pay – serve a similar purpose, it would make sense to coordinate the two programs.[18] One possibility that minimally affects income protection is to postpone payments of UI benefits in cases when UI beneficiaries have already received the severance pay associated with the current episode of unemployment. The postponement could be, for example, for 3 months, or for a period proportional to the number of monthly wages received by the worker in the form of severance pay. Instead of the postponement, a reduction of potential UI benefit duration could also be considered.

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[17] According to the Regulation of Economic Compensation due to Labor Contract Violation or Termination (Lao Bu Fa [1994] No.481), employers should pay workers whose contracts are being terminated a lump-sum severance pay amounting to one monthly way per year of service with the employer, up to a maximum of 12 monthly wages (no maximum is mandated for workers who are unable to reemploy following illness or injury).

[18] Both programs aim to provide the worker a compensation for the loss of his or her job. It could be argued, however, that while UI benefits primary role is to smooth consumption during the ensuing period of unemployment, severance pay, in addition, provides a compensation for the reduction of wages in post-unemployment jobs due to the loss of firm-specific capital (see Vodopivec 2004a).

5.   CONCLUDING REMARKS

Responding to the need to promote efficiency-enhancing changes in a labor market which created massive worker redundancies and dislocations, China has been experimenting with its unemployment insurance system in the last two decades. The system prevailing since 1999 has worked reasonably well: the current "no frills" system offers modest, yet important, protection against lost earnings while minimizing (re)employment disincentives. By exceeding the minimum subsistence level, the benefits do maintain the basic living standard of the unemployed. Due to weak enforcement, the unemployed typically collect UI benefits for the maximum duration and many of them are simultaneously working in the informal economy, thus topping up the benefits with occasional earnings. However, the same features of the model—parsimony and weak monitoring of informal employment—can also be credited for leaving reemployment incentives virtually unchanged. Lax monitoring does not prevent recipients from taking occasional jobs, and the low level of benefits poses little hindrance to taking regular jobs.

While the system seems to work reasonably well and fits the current stage of development of the Chinese economy, it could be improved in several ways. In the short term, these measures would include: more rigorous enforcement of contribution collection and awareness raising to increase UI program coverage; raising the level of benefits to ensure more adequate income protection; improving information systems as well as introducing specific operational guidelines about the enforcement of eligibility requirements to reduce leakages in the UI system; and improving the link to active labor market programs to improve incentives to maintain labor market attachment. The introduction of these measures, combined by improved pooling of resources, should also help ensure the continued financial sustainability of the UI system.

In the medium and long term, the policy challenges are even more demanding and complex. Expanding UI coverage may require the introduction of subsidized, defined contribution-based individual savings accounts, with the possibility of joint coverage of old age income support, disability, survivorship, as well as unemployment. Improving the consumption smoothing properties of the UI system will almost certainly require the transition from a flat rate benefit to a benefit which replaces a certain percentage of individual's earnings, which will be even more important if the current unprecedented high growth period of the Chinese economy comes to an end. More sophisticated ways of

reducing leakages of the UI system will also need to be explored, for example by introducing a system combining self- and social insurance, linking information systems on formal employment and cash benefits, and improving enforcement of initial and continuing eligibility requirements. Finally, UI benefits will have to be better coordinated with other cash benefits, above all with severance pay and social assistance.

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Appendix 1: How recipients of unemployment benefit exit from unemployment – evidence from Qingdao municipality UI program

To learn about the pattern of exit from unemployment by recipients of unemployment insurance (UI) benefits, an analysis was conducted of the information on registered unemployed obtained from the Employment office of Qingdao municipality. This analysis could suggest possible leakages of the program and disincentive (moral hazard) effects created by the UI program. Particular attention was paid to (i) the comparison of exit patterns between recipients of UI benefit and non-recipients; (ii) the comparison of exit patterns among groups of benefit recipients who are entitled to different potential benefit durations, and (iii) the probability of exit from unemployment around the scheduled end of eligibility for UI benefits.

Description of Data

The dataset consists of unemployment records of all persons who registered as unemployed with the Employment office of Qingdao municipality during January 1-December 31, 2004. The unemployment records of 49,071 individuals were analyzed, of which there were 27,450 recipients of UI benefits and 21,621 who did not qualify for the benefits (see Table A1).[19] For each unemployment spell, the following information was available: date of birth, education level, marital status, date of registration with the office, end of employment if previously employed, and the start of (re)employment if job was taken by the time of information gathering (by March 2007). For those who qualified for unemployment benefits, information about the entitlement period start and end dates, as well as the date of the end of the actual receipt of the benefit (if existed) was also provided. The qualifying period of calendar year of 2004 was chosen so that by the time of data collection, all individuals selected in the sample faced at least a two-year observation horizon—the horizon needed to investigate the complete effects of unemployment benefits for the group with the longest potential benefit duration (i.e. 24 months).

Results

The results of both the non-parametric (graphic) analysis as well as the results of econometric estimation of duration models are reported below.

Graphic analysis. A possible association between UI and duration of unemployment is studied by comparing survival functions of different groups of the unemployed. The Kaplan-Meier survival functions were used, showing the probability of being unemployed at a given duration of unemployment spell (exits from unemployment to non-employment are treated as censored observations, together with true censored observations).

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[19] The number of observations provided by the Qingdao office was 53,043. In the analysis, only individuals who started the full eligibility cycle (and thus could be classified in various groups by potential benefit duration) were retained. The ones who re-entered unemployment to claim residual benefits from the previous unemployment spell were dropped.

Table A1: Number of Recipients and non-recipients, by Age and Education Level

	Total	Average age	Education level (percent)			
			Elementary	Vocational	High School	University
TOTAL	49071	37.4	26.2	22.3	22.5	29.1
Non-recipients	21621	36.4	23.4	21.5	21.3	33.8
Recipients – total	27450	38.1	28.3	23.0	23.4	25.3
PBD of 3 months	2672	30.9	12.0	34.3	14.8	38.9
PBD of 6 months	1977	32.4	15.9	32.6	15.9	35.6
PBD of 9 months	1557	31.9	13.9	29.4	16.2	40.5
PBD of 12 months	1311	33.1	17.1	33.3	15.8	33.8
PBD of 15 months	163	38.1	14.7	28.2	23.9	33.1
PBD of 18 months	4784	34.4	20.7	30.6	19.3	29.4
PBD of 24 months	14986	42.5	38.0	15.6	28.6	17.8

Source: Own computations based on data Qingdao Employment Office data.
* PBD - Potential benefit duration

Figure A1 shows a systematic difference between the survival functions of recipients of unemployment benefits and non-recipients. As the duration of unemployment spells progresses, the proportion of individuals who stay unemployed (that is, of those who have not left unemployment to take a job) is much larger among benefit recipients than among non-recipients. For example, 10 months into the unemployment spell, 62% of recipients are still unemployed, compared to 38% of non-recipients. Note, however, that it may be the differences in personal characteristics—rather than employment disincentives—that are the reason for the observed difference in exit from unemployment. As shown in Table A1, non-recipients are on average more educated, and such workers typically have better chances of finding a job (which is the case with Qingdao unemployed, as well—see below).

Another way to detect possible disincentives is to compare survival in unemployment of groups of recipients categorized by their potential benefit duration. Figure 1 in the main text plots a survival function for seven groups of workers: those with 3, 6, 9, 12, 15, 18, and 24 months of potential duration, respectively. The figure discerns two notable patterns. First, the longer the potential duration, the longer the survival in unemployment. This pattern is systematic (except at the very beginning) and persists throughout the observation period of 24 months. Second, survival functions of all groups of recipients exhibit substantial decline within the month of eligibility exhaustion and the preceding month.

What do the above observations imply?   While they are suggestive of waiting behavior and leakages, again there may be other plausible explanations, at least for some of the observed behavior. The latter applies to the systematic differences in survivor function among groups with different potential benefit duration: while these differences are consistent with the "waiting" behavior, they may also reflect reduced education levels of groups with longer potential durations. Indeed, as shown in Table A1, groups with longer potential benefit duration are systematically less educated (for example, the percent of unemployed with

university education systematically declines for groups with 12 months of PBD and longer), and as in Figure A1, this may again may be the reason for observed difference in exit from unemployment.

Figure A1: Survival Function of the Unemployed who Registered at Qingdao Employment Office in 2004, Recipients and non-recipients of UI Benefits
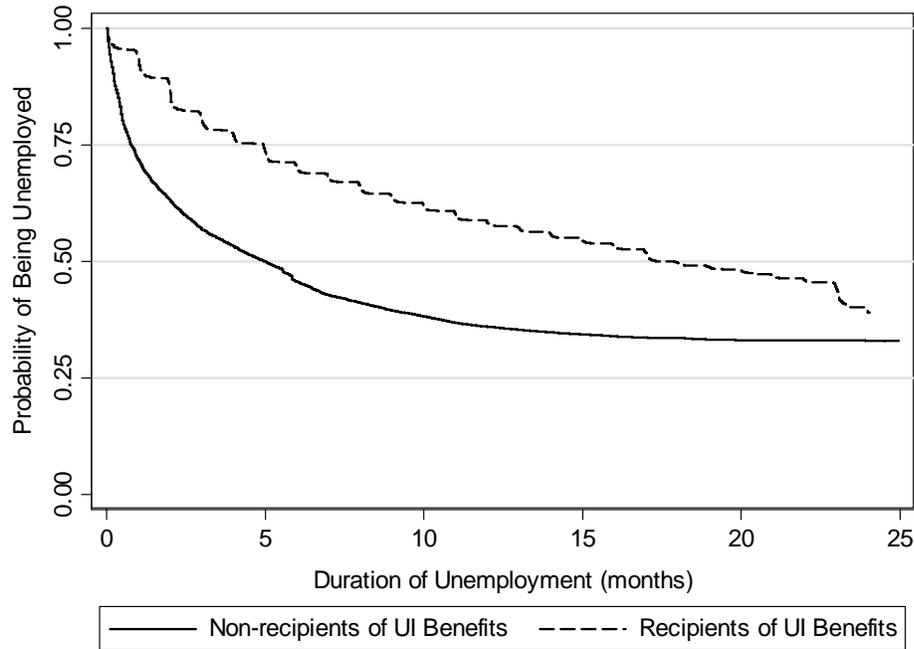
Source: Own computations based on data Qingdao Employment Office data.

More suggestive evidence of "waiting" behavior comes from the other observed pattern of survival functions, the fact that survival functions of all groups of workers exhibit substantial decline exactly at the point of exhaustion of eligibility, a peculiar pattern that cannot be easily explained by other factors. The proportion of benefit recipients whose exit from unemployment occurred around the exhaustion of the benefit is fairly large: 39% exited within a month from the end of eligibility and an additional 13% in the preceding month.

Econometric analysis. To shed more light on determinants of exit from unemployment, the results of a parametric approach to address this issue are presented below. The focus is on estimating the probability that an individual moves from unemployment to employment. If the individual has already been in state i for t periods, the probability that he or she leaves that state at time t, $\lambda(t)$, can be specified as:

$$\lambda(t) = f(t)/S(t)$$

where $\lambda(t)$ is the hazard function, $S(t) = [1 - F(t)]$ is the survivor function, $F(t) = \Pr(T<t)$ specifies the probability distribution that random variable T is less than some value t, and $f(t)$ is the corresponding density function. The hazard depends on how long the individual has

been in state i, on the characteristics of individuals in that state, and on environment (state of the economy, for example). One possibility is to use a semi-parametric, Cox proportional hazard model, with the functional form of the hazard specified as follows:

$$\lambda(t,X) = \lambda_0(t)\exp[X(t)\beta],$$

where λ_0 is the "baseline" hazard, and $X(t)$ is a set of explanatory variables—covariates.

The econometric results confirm the results obtained above by the graphic analysis, and they also provide additional insights. Above all, the highly significant parameters of group identification dummies confirm the disincentives effects of the receipt of unemployment insurance, the effects which increase with the potential benefit duration (Table A2). Namely, for groups with potential benefit duration (PBD) over 3 months, the hazard ratios are significant and progressively smaller than one, indicating decreasing probability of exit from unemployment. Interestingly, the disincentive effects for the group with PBD of 3 months (captured in the "intercept" variable "Receiving unemployment benefits") are not significant, as the hazard of exit for this group does not differ from the hazard of exit for non-recipients. These coefficients are free of the impact of the composition of various PBD groups, as these are captured by other variables in the estimated model.

Other results are also of interest. First, the more educated have a significant advantage over less educated workers, with the university degree, in particularly, strongly increasing the chances of getting a job. Second, the success rates in job finding worsen with age. Workers in their twenties have significant advantages over those in their thirties and their forties, but surprisingly not over those in their fifties (the latter finding requires further investigation). In comparison to married workers, single workers face more difficulties in finding a job, a result that may be attributed to higher reservation wages they may have.

Table A2:   Determinants of the Hazard of Exit from Unemployment to Employment

	Hazard ratio	Standard error
Potential benefit duration (compared to PBD of 3 months)		
PBD of 6 or 9 months	0.771**	0.028
PBD of 12 or 15 months	0.684**	0.032
PBD of 18 months	0.693**	0.024
PBD of 18 months	0.614**	0.020
Receiving unemployment benefits		
Yes	0.963	0.029
Education (compared to elementary)		
Elementary	1.045*	0.021
High school	1.037*	0.019
University	1.461**	0.027
Age (compared to 29 and below)		
Age 30-39	0.771*	0.016
Age 40-49	0.814*	0.020
Age 50 or over	1.017	0.030
Marital status (compared to married)		
Single (and other)	0.938**	0.018
Log likelihood = -267,224		
No. of observations: 44,390		

**Significant at 1 percent level, and * significant at 5 percent level

Appendix 2: Simulations of Unemployment Insurance Program of Tianjin Municipality

This appendix presents the simulation results of increasing the level and changing the structure of benefits offered by the unemployment insurance (UI) program of Tianjin municipality.

The simulations are produced by the UISIM, a simulation model developed by the World Bank to help policymakers make projections of UI benefit costs, contributions, and trust fund balances, to be able to evaluate the financial flows implied by the system and assess its financial soundness. The UISIM model for Tianjin municipality's program was constructed by the Tianjin municipal authority as part of the World Bank-sponsored project to simulate financial flows of UI systems in selected provinces and municipalities.

Macroeconomic data used in simulations were obtained from the Tianjin Yearbook. The data on the design parameters of the UI system, the characteristics of the beneficiaries, and their benefit levels were obtained from the Municipal Statistical Bureau, Municipal Labor and Social Security Bureau.

Simulation scenarios

Three simulation scenarios of the Tianjin municipality UI program are presented below: a baseline scenario and two alternative scenarios. The baseline scenario assumes that the key conditions and parameters of the program will remain unchanged in the future, and the two alternative scenarios assume specific changes in the level and structure of the UI system. Under the alternative scenarios, only one parameter is modified while others retain their baseline values. Alternative scenarios assume historical values until December 2004 and introduce deviations from these values starting January 2005. The following alternative scenarios are distinguished:

(1) **Baseline scenario**, which assumes that historical values of the Tianjin municipality UI program prevail in the indefinite future. In particular, it assumes that the following key characteristics and parameters remain at their 2004 levels (average 2004 values for flows, and December 2004 values for stocks):

- the level and duration of benefits, as well as eligibility conditions for their receipt;
- the number, age, and gender structure of the benefit recipients,
- the distribution by the length of stay in unemployment of benefit recipients;
- the number and structure of contributors by age and gender, as well as their structure of wages; and
- the contribution rates.

(2) **Increase-of-benefits scenario**, where the level of benefits is increased to 90% of the minimum wage (from the prevailing level of 300-333 yuan to 432 yuan).

(3) **Earnings-related benefits scenario,** where the structure of benefits is assumed to change from the prevailing flat-fee structure to earnings-related benefit regime, a regime where the UI benefit would replace 50% of a worker's wage in the previous job.

Simulation results

The projected evolution of revenues, expenditures, and UI reserve funds is presented below for the simulation years of 2005-2008 (see Figures A2 and A3):

- **Under the baseline scenario**, the revenue of the unemployment insurance fund will exceed its expenditure, with the resulting surplus increasing in the years under simulation, thus contributing to a large accumulation of funds.
- **Under the increase-of-benefits scenario,** the level of UI benefits would increase, but it would still lag behind the revenues collected in each period, leaving significant surpluses and leading to accumulation of resources nearly as fast as under the baseline scenario.
- **Under the earnings-related benefits scenario,** the change of structure of benefits increases substantially the level of benefits received by individual workers, and as seen in Figure A2, the projected overall UI expenditures strongly increase. Nonetheless, for the projected years, the increased level of current expenditures is about matched by current revenues and consequently, the accumulated balance of UI fund in the years under simulation stay constant. This contrasts with the strong increase of the fund reserves under the baseline and increase-of-benefits scenarios (Figure A3).

Figure A2: Simulation of Expenditures on UI Benefits and UI Fund Reserves under the Baseline, Increase-of-benefits, and Earnings-related Benefits Senarios, 2005-08

Source: UISIM projections for Tianjin municipality's UI program, based on Tianjin municipal authority report (2006).

Figure A3: Simulation of UI Fund Reserves under the Baseline, Increase-of-benefits, and Earnings-related Benefits Scenarios, 2005-08
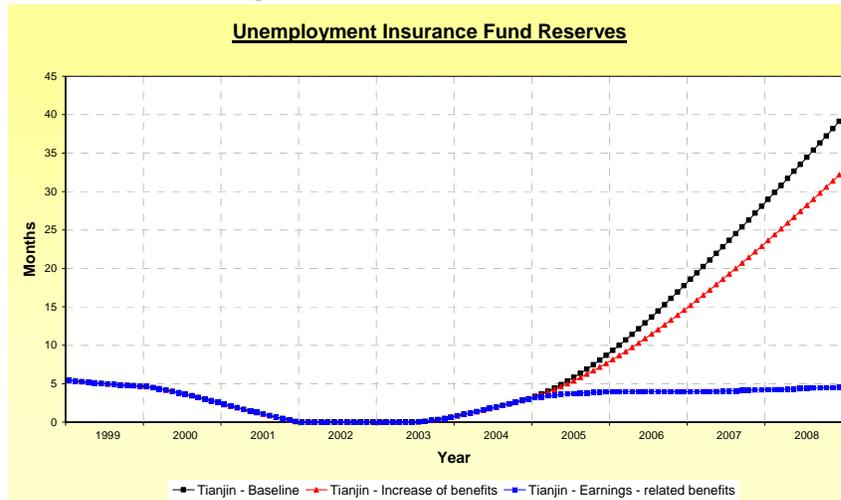
Source: UISIM projections for Tianjin municipality's UI program, based on Tianjin municipal authority report (2006).
Note: UI fund reserves are presented as the number of months for which the current level of benefits could be paid by the reserve fund alone.

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by Margaret Grosh and Annamaria Milazzo, May 2008

Summary Findings

Responding to the need to promote efficiency-enhancing changes in the labor market, China has been experimenting with an unemployment insurance (UI) program over the last two decades. This paper reviews recent labor market developments, describes the evolution of the UI program, and assesses the working of the UI program by analyzing its coverage, level of benefits, work incentives, provision of employment services, and financial performance. Among others, the paper uses UI program simulations for the Qingdao and Tianjin municipalities, and analyzes survival in unemployment of UI beneficiaries using individual level data from Qingdao. The paper finds that the current "no frills" program - the program that offers modest, yet important, protection against lost earnings while minimizing (re)employment disincentives - works reasonably well and fits the current stage of development of the Chinese economy. The paper concludes by identifying key challenges of the program and exploring possible policy responses to these challenges in both the short- and long-term.

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