China's Social Security Policy in the Context of Its Evolving Employment Policy

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Abstract

In the evolution of China's social protection system, employment policy and pension policy have been closely intertwined, with employment considerations often dominating. The transition from socialism first sought to protect jobs, then to reduce redundancy, and used pension policies to support these approaches. Adverse effects could not be avoided, but there is only small evidence of adverse effects on pensions. The demographic transition focused attention on specific problems of the pension system, but this area also was constrained by the employment considerations that have kept the retirement age low. Nevertheless, there is evidence of considerable work among older people. The transition out of agriculture has brought migrants into contact with urban pensions, but with many barriers. Rural pensions are still very limited.

Key words: pension policy in China, employment policy in China, social protection in China

Presented at the APPAM conference on Asian Social Protection in Singapore, January 7-9, 2009

Before China began its reforms in 1978, it provided virtually the extreme of job security for its urban workers in state-owned enterprises (SOEs). Many countries have policies to protect jobs in various ways, but in China, jobs for SOE workers were guaranteed for life. As the reforms began, there was growing recognition that this system might need change, but also concern about the difficulty in doing so. Worker redundancy was seen as an impedance to enterprise efficiency. However, dismissing masses of redundant workers at a time when there was also a large influx of new entrants to the labor force was feared as a possible source of social instability. The evolution of employment policy in China over the years has been driven by the tension between reducing redundancy and preserving stability and demonstrates how difficult it is to move away from a policy of guaranteed job security. For about twenty years, employment policy attempted to achieve a painless transition and avoid hard choices. Eventually, however, there were substantial layoffs. The paper will trace the Chinese policy maneuvers around its competing goals, and will give indicators of the extent of the burden when substantial layoffs did take place.

Beyond job security, the rest of the pre-reform social protection system for urban SOE workers was also distinctive, in that benefits such as pensions and health care were provided by each enterprise to its own workers. In many countries parts of social protection are provided by enterprises, often voluntarily, but in urban China, virtually all standard social insurance benefits were provided by individual enterprises under mandate from government regulations. This tied the social protection system to the job security system. If workers would lose their jobs, they would also lose their benefits, and so it would be difficult to attack redundancy without also finding a way to make benefits

portable across enterprises. There were other links as well. The pension system was at times called on to retire workers earlier in the hope of opening more job opportunities to younger workers. In other words, pension policy at times became a tool of employment policy, blurring the boundary between these policy domains. Employment needs generally were the driving force in the blurring. The paper will trace the evolution of benefit structures outside of enterprises and the links between this process and the movement away from guaranteed job security.

While job security and employer mandates were major features of the old social protection system that were reformed in the transition from socialism, they were not the only concerns of policy. Beyond the transition from socialism, awareness emerged that there was also a demographic transition in which the population was aging and this would create significant problems in the long run for the pension system and other parts of social protection. This prospect began to affect policy deliberations, as pension considerations increased in priority, although still with constraints from employment policy. The paper will consider the new set of pension considerations resulting from the demographic transition and the way they became interwoven with other strands of social protection policy.

One other major feature of China's social protection system is its dual nature. There is a well-developed set of benefits for urban residents, but very little social insurance for the large mass of rural residents, only community supports. Similarly, economic opportunities differ substantially between urban and rural areas. In yet one more transition, employment policy has changed to accommodate the movement of rural workers out of agriculture. However, rural workers have mostly not participated in the

urban pension system, and have only rudimentary coverage in some localities. With the increased involvement of rural workers in the urban economy, the current dual pension system may eventually be challenged. However, reforms in the pension system resulting from the transition out of agriculture have so far been minimal.

It has been observed that Chinese reforms in general have not begun with a strategic vision that then guided subsequent actions. Instead, problems have been perceived and then solutions sought one step at a time in an almost experimental way. But in spite of the seemingly unsystematic evolution, the end result has often seemed coherent and successful. (Naughton, 1996, 1) Similarly in social protection policy, there was not an initial strategic vision for reform. There were goals, often in conflict with each other. The end result sometimes had the appearance of coherence, although there were and remain unresolved challenges. There was a learning process in which policy tried to avoid painful choices, but at times these could not be avoided permanently. There were many internal debates within the government, and these are only partially available to an outside observer. The observer sees policy decisions mainly after the fact of the internal discussions. This paper necessarily relies on the observed evolution of policy, but the juxtaposition of pension and employment policy will help highlight the inherent dilemmas and tradeoffs in the process. At the same time, the paper will check selected actual outcomes of policies when data permit. Data from the Chinese Household Income Projects (CHIP) for 1995[1] and 2002[2] will be used to explore possible adverse

[1] Riskin, Carl, Zhao, Renwei, and Li Shi. CHINESE HOUSEHOLD INCOME PROJECT, 1995 [Computer file]. ICPSR version. Amherst, MA: Political Economy Research Institute [producer], 2000. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2000.
[2] Li Shi. CHINESE HOUSEHOLD INCOME PROJECT, 2002 [Computer file]. ICPSR version. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008.

effects of the labor retrenchment policies after 1997 on pension benefits; work patterns among older workers and particularly the mixing of pensions and work; and the extent of pension coverage among rural migrants working in cities as well as pension benefits to rural residents, although data on some of these issues is quite limited. The paper will be organized around the three transitions, the transition from socialism, the demographic transition, and the transition of workers out of agriculture.

The Transition from Socialism

The old Maoist planning and social protection system was distinctive even among East Bloc countries. This section focuses on two key features of the old urban system that were particularly important for social protection. First, SOEs and other larger urban enterprises were restricted completely from dismissal: jobs were guaranteed for life. Reformers came to call this system the "iron rice bowl." Second, most social benefits were provided to workers by their enterprises, and SOEs were mandated to provide the benefits, including pensions to their workers. SOEs had to meet not only their social protection obligations, but also their production requirements under the economic plan. Chinese reformers came to view both of these features as problematic, and the reforms were intended to move away from them. To deal with the regulation of job security, the role of the market was gradually expanded in employment relationships. To deal with the enterprise mandates for benefits, government gradually expanded its role from prescribing benefits to managing their delivery. This section examines the evolution of employment and pension policies in the transition away from Maoist socialism, and will then look at some outcomes from the employment retrenchment policies.

The employment-driven evolution of transition policy

This paper does not pass judgment on the old system. It begins from the fact that the reformers saw problems in the old system and traces the sometimes difficult process of reform that they undertook, based on their analysis of the problems. SOEs had substantial social obligations, including the retention of workers even if they were redundant, in addition to their production requirements under the plan. They could meet these obligations because the state would subsidize them, if necessary. Reformers were concerned about the financial burden of the subsidies as well as the worker redundancy, which they assumed was substantial. As a result of the identification of these problems, one of the early goals of the reforms was to have enterprises stand on their own without subsidy. But eliminating subsidies would require changes in the social protection obligations of enterprises. There was also a serious unemployment problem that became apparent in 1978. During the Cultural Revolution of the Mao era, roughly 17 million young people were sent to the countryside to work in agriculture. This concealed an urban unemployment problem. But when the reforms began, these people soon returned to their cities. This added to the influx of a large cohort of new workers reaching working age. The official urban unemployment rate reached 5.4 percent in 1979 and was higher in the largest cities. (Naughton, 1996, chapter 2) Looking at the subsidy and redundancy problems, there were officials in the early 1980s who urged that the iron rice bowl be smashed. But other officials feared that a campaign against redundancy would only add to unemployment. The initial focus of the reforms was on creating jobs rather than on smashing the iron rice bowl. The tension between reducing redundancy and the

risk of increasing unemployment has been an ongoing feature of Chinese employment policy.

Pension policy was used almost immediately to deal with unemployment. Pensions for workers in SOEs had been established as part of labor insurance regulations in 1951 and had been managed by the All-China Federation of Trade Unions. However, the Federation was dissolved in 1966 during the Cultural Revolution, and the full responsibility for pensions passed to enterprises, particularly SOEs, as enterprise mandates. (Dixon, 1981, chapter 4) Thus, the enterprise mandates of benefits were an accidental outcome of this earlier conflict, but nevertheless a significant problem for the reformers to deal with. During the Cultural Revolution, retirement was discouraged in spite of official retirement ages of 60 for men and 55 for women. Faced with the unemployment problem in 1978, the reformers switched direction and encouraged not only retirement, but also early retirement. There was a program between 1978 and 1981 that allowed workers to pass their jobs to their children if they would retire. It was an early case of using pensions as part of employment policy.

In the mid 1980s a series of reforms in both employment and pension policy seemed to prepare a legal basis for attacking redundancy, but the transition was almost seamless in terms of actual outcomes. A labor contract system began in 1986. Existing workers continued as permanent employees, but new workers were hired under contracts of limited duration, from one year up to five or ten years. (White, 1987, 367) Contract workers did not have lifetime jobs, but they could not be fired until the end of their contracts, and at least initially most contracts were renewed when they expired. The legal basis for dismissal was established, but initially it was used infrequently. Also in 1986,

an unemployment insurance (UI) program was established to protect those who did lose jobs. However, benefits were limited to workers dismissed for specific reasons: their enterprise went bankrupt or was undergoing streamlining; they were not reappointed at the end of their contract; or they were fired for disciplinary reasons. (World Bank, 1990, 65) Initially, UI was not widely used. A new law permitted bankruptcy, but for several years, it was hardly used.

Along with the employment reforms, there were also pension reforms. The reforms dealt with pension issues, but they also had implications for an eventual attack on redundancy. The problem of an aging population had begun to appear, but it was perceived at first at the enterprise level. Since each enterprise paid for the pensions of its own workers on a current basis, older enterprises with older work forces had much higher pension costs. A survey of enterprises conducted by the World Bank found newer enterprises with 60 or even 90 workers per retiree, but some older enterprises had barely two. (World Bank (1990), Table 2.5, 33) This impaired the profitability of the older enterprises, putting them at a competitive disadvantage. But this resulted not from their higher current resource costs or use, but from the accident that they were established earlier and thus had to pay pensions to more retirees. To deal with this problem, pension pools were established at the city level beginning in 1986. Within a group of enterprises, there was a uniform contribution rate. Enterprises with pension costs below the rate would contribute into the pool. Those with costs above the rate would receive funds from the pool. At first, enterprises were still the agents that paid the pensions. The pools were clearinghouses that allowed uniform contribution rates across enterprises in order to eliminate competitive disadvantages. The pools could not only establish uniform costs

across enterprises, but could facilitate further employment reforms. The pools could pay pensions to workers in case their enterprise went bankrupt, and could afford to do so if the contribution rate were set appropriately. Pension pooling was thus a necessary step toward allowing bankruptcies. Pooling could also facilitate worker mobility, at least within a city. If a worker changed jobs, she could turn to the pool for her pension rather than going back to her old enterprise for a part of it.

On the other hand, the actual pooling was shaped by developments in employment policy. The contract system created contract workers, and separate pools with different contribution rates were established for contract and permanent workers. The reasoning was that contract workers would have to contribute to the pools, but permanent workers were not used to contributing since they expected their enterprises to cover their pension costs, and officials did not want to antagonize the permanent workers. Separate pools were also established for workers in collective enterprises, again with different contribution rates. The new developments in employment policy again had an influence on pension policy in a way that made pooling less efficient. There have been subsequent reforms in pooling that equalized contribution rates, moved management responsibilities to the pools, and began to move from city pooling to pooling at the provincial level. There was clearly a learning process, which led officials gradually to improve regulations and practices.

Although the reforms of the 1980s set up a framework for addressing redundancy, the approach was still gentle, and policy held back the pace of dismissals. In spite of numerous attempts to improve enterprise efficiency and increase jobs through active employment policy, the redundancy problem remained. By the 1990s there were still

numerous loss-making enterprises. The state, unwilling to subsidize outright or extend loans to keep the weak enterprises afloat, decided it was time for stronger action. A document issued in 1993 stated that the burden of subsidizing in some form SOEs had become too large and thus measures such as closure, transformation, and consolidation of enterprises would have to be taken. (Liu and Wu (2006), 124) The strongest action came with the 15th Party Congress in September 1997, which approved the *xiagang* or layoff policy. (Solinger (2002), 304) This was intended to be a temporary policy giving enterprises the right to lay off large numbers of redundant workers. A laid off worker would receive a monthly benefit somewhat above the official minimum living standard of the city and would be assigned to a Re-employment Service Center, all funded jointly by her enterprise and the city. If new employment was not found within two or three years (depending on the city), the laid off worker would be reclassified as unemployed and would begin receiving UI benefits. 'Laid off' thus became an official category, distinct from 'unemployed,' and statistical sources began reporting data on it separately. According to official data, the number of workers in laid off status reached 6.1 million in 1998, the first full year of the policy, rising to 6.57 million in 2000, and then gradually declining to 2.6 million in 2003. The data also show substantial rates of re-employment. (Institute of Labor Studies (2004), 9) In terms of employment alone, it appears that the layoff policy had a substantial, perhaps temporary effect, but a fuller analysis is needed.

Existing literature documents various adverse effects of reforms, for example, on inequality. There was a literature on the increase in inequality in China that predated the *xiagang* policy. Much of this focused on rural trends and the urban rural balance (for example, Riskin, Zhao, Li, 2001, and Khan, Riskin, 2001). With the increase in SOE

layoffs, there has been a new set of studies on the adjustment difficulties of those laid off and on the increase in urban poverty. Retrenchment had actually begun before the official beginning of the *xiagang* policy. Using a 1999 household survey, Appleton and colleagues did a statistical analysis of the probability of layoff, which was over 11 percent, although it differed substantially across individuals. They studied also the duration of unemployment spells and found the average to be 24 months, but many of these were not yet completed. (Appleton, Knight, Song, and Xia, 2002) Additional studies have found increases in urban poverty. (Sollinger, 2002, Liu and Wu, 2006, Saunders and Lujun, 2006) Among other things, these articles raise the question of whether the social protection system in China is adequate to deal with the employment upheavals.

Although previous studies illustrate adverse effects, they generally do not identify the specific reform policies responsible for the adverse effects. In view of the importance of the layoff policy, it would be desirable to have an identified test of its effects. The Appleton and others study is the most detailed study of employment effects, but does not test a separate effect of this specific policy. Available data are probably not adequate for an identified test. This paper will look at some indirect evidence. Because of the focus on links between the employment and pension systems, it will restrict attention to possible adverse effects on pensions from the employment developments.

Evidence on the impact of the *xiagang* policy on pensions

Pension reforms had been intended to protect retirees in case of layoffs. In particular, the development of pooling could assure pensions to workers from bankrupt

enterprises or to those who had been laid off. On the other hand, there were possibilities that these protections might not work. In the old pension system, the pension had been based on the wage in the final year of work. If a person were in layoff status in that year, would the pension be based on the low benefit paid to a laid off worker? Reforms in the 1990s were modifying the formula, but would the old formula be used? It is possible also that a worker lived in a city where the pool was not yet operating smoothly and that it would not be prepared to pay pensions to workers not attached to enterprises. Also, many laid off workers were still too young to retire. Perhaps the main impact of the layoff policy was on a younger cohort. The outcome for pensions could go both ways, and perhaps in different ways for different people. Adverse outcomes would take the form of workers either not getting a pension or getting a very low pension, while other workers would get the pension normally expected. Thus, looking at mean outcomes, these different possibilities could cancel out. It would be desirable to keep track of the overall pension distribution to see if there was an increase in low pensions.

The CHIP surveys were conducted in 1995, before the large retrenchment beginning in 1998, and in 2002, after the layoffs were well underway, with a high rate of layoffs still continuing. A before and after comparison is not decisive because so many other things were happening at the same time. However, if the rate of pension receipt diminished or the pension amounts at the low end of the distribution decreased, these outcomes would be consistent with an adverse effect on pensions. The effect of *xiagang* on pension benefits cannot be fully identified since there is not an adequate measure of whether the person was laid off before receiving a pension.[3]

[3] There is a question on the questionnaire about current employment status, but retirement and laid off status are mutually exclusive alternatives. There is not information about past layoff status for a pensioner.

Was there a reduction in the receipt of pensions? The proportion of people receiving a pension is calculated relative to the population of those eligible. Men were eligible for a pension at age 60, although those who worked in more difficult circumstances were eligible at 55. Women in managerial positions were eligible at 55, and other women earlier at 50. The calculations here take all men over 55 and all women over 50 as the relevant population. A small number received pensions before these ages, but they are omitted. It turns out that in 1995, 63 percent of the older population received pensions and in 2002 it increased to 69 percent. Since the proportion might differ systematically across people, a logistic regression was run to get an adjusted estimate of the difference between years.[4] The logit estimate predicted an even larger increase in the probability of receiving a pension. The marginal effect for the difference in probability between 1995 and 2002 was 14 percent and strongly significant. Since both approaches show an increase in pension receipt after the start of the retrenchment policy, there is no direct evidence that the layoff policy was hindering pension receipt. But perhaps indirectly it was affecting pensions in that those laid off were more eager to begin a pension, lacking other alternatives. It is also possible that some other factor was increasing pension participation and outweighing any effect of the *xiagang* policy. Finally, there is the possibility of error. In 2002, almost all who did not have positive pensions had a zero entry. But in 1995, most who did not receive pensions had a missing code. The data instructions warn that missing does not necessarily mean zero. Thus, perhaps 1995 participation was underestimated. The results do not support the idea that

[4] Control variables used were dummies for gender, SOE employee, age in 5-year categories (50 to 54, 55 to 59, and 65 and over with 60 to 64 the omitted category), and province. Years of education and years of work were also included. The sample size was 6418.

the *xiagang* policy adversely affected pension policy, but they also cannot completely rule it out.

Was there an adverse effect on pension amounts? Two kinds of comparisons can provide information on pension amounts. First, the 1995 sample can be compared to the 2002 sample. Second, within the 2002 sample those who retired before 1998 can be compared to those who retired from 1998 on, where 1998 was the first year of extensive layoffs. The comparison of the 1995 and 2002 samples yields an interesting insight, but not evidence on the effects of layoffs. The comparison within the 2002 sample is the most promising indication that there was an adverse effect on pensions.

Consider first the comparison between 1995 and 2002. Adjusting for inflation in the urban consumer price index, the average real pension went up by 66 percent, or at an annual rate of 7 ½ percent. Looking across the distribution, there are similar real increases in every decile. This is not a story of adverse effects between the two years. Pensions went up faster than prices so real pensions grew. However, if pensions are deflated by the rate of wage inflation rather than price inflation, the story is reversed. The average wage deflated pension goes down for the whole sample by around 20 percent, or about 3 percent a year, and by similar amounts in each decile. The wage deflated pension gives information on how pensions are doing relative to wages. The price deflated pension shows that the purchasing power of pensioners rose in real terms, but since wages grew substantially faster than prices, retirees were falling behind relative to workers. This result reflects partly that the pension indexing formula deliberately used a rate lower than the rate of wage inflation in an effort to control the growth in pension costs. It is probably not the effect of layoffs. To check the result while controlling for

other factors, the log of pension income was regressed on the same covariates as in the previous logit estimation. For the log of the price deflated pension, the coefficient of year was .582 and strongly significant. This suggests an approximately 58 percent increase in the real pension between the two years, controlling for the other variables, a result consistent with the growth in the simple mean. However, for the log of the wage deflated pension, the coefficient of year was -.156, again highly significant, indicating a decline of approximately 15 percent, and again consistent with the result for the simple mean.

Turning now to the comparison within the 2002 sample, all the pension data come from 2002 so the inflation adjustment makes no difference. The mean pension of those who retired in 1998 or later was lower by about 8 percent compared to those who retired before 1998. Controlling for other variables in a regression of the log of the pension, the dummy for retiring in 1998 or later had a coefficient of -.057, significant at the 5 percent level, indicating pensions on average lower by about 5.7 percent. However, the distribution of effects may be more important than the mean effect. There is more than one way to explore differences across the pension distribution. The pension at each decile can be found and then the difference at each decile can be calculated. This gives a comparison across the distribution by decile, but without controlling for other variables. Alternatively, a quantile regression allows the calculation of coefficients separately at each decile of the distribution. In particular, the coefficient of the dummy for retiring in 1998 or later can be calculated, controlling for other factors. The dependent variable is still the log of the pension, but now it is calculated separately at each decile along the log pension distribution. Results for both the simple mean comparisons by decile and the

quantile regression coefficients of the dummy for retiring in 1998 or later are presented in Table 1.

Table 1. Differences in Pensions Between Those Who Retired in 1998 or Later and Those Who Retired Before.
Mean Comparisons and Quantile Regression Coefficients by Decile.

Deciles (percents)	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
Mean pensions (yuan)									
Retired before 98	3807	4583	5199	5881	6637	7627	8905	10869	14331
Retired 98& later	3056	4114	4911	5594	6361	7278	8465	10131	12914
Percent difference	-19.7	-10.2	-5.5	-4.9	-4.2	-4.6	-4.9	-6.8	-9.9
Quantile regression									
Coefficient of retired 98& later	-.116	-.073*	-.050*	-.054*	-.039	-.037	-.005	.036	.029
S.E.	.060	.028	.021	.021	.027	.024	.029	.032	.040

Dependent variable of the quantile regressions is log pension.
Control variables are dummies for gender, SOE employee, age in 5 year categories (50 to 54, 55 to 59, and 65 and over with 60 to 64 the omitted category), and province. Years of education and years of work are also included.
Standard errors calculated by bootstrapping with 100 repetitions.
N=3039 for quantile regression. For the means, N=1086 for those who retired in 98 or later, N=1959 for those who retired before 98.
*significance at 5 percent level or less.

The mean differences show pensions consistently lower across the whole distribution, although the bottom two deciles and the top one stand out with larger differences. The quantile regressions tell a more interesting story. The difference in pension is largest at the lowest deciles and then gets steadily smaller. The 10 percent decile has the largest difference, and it is significant at the 10 percent level with a p value

of .054. From the 50 percent decile and up, the differences are too small to be significant. These results give the strongest indication yet that something adverse was happening to those who retired in 1998 or later and who were in the bottom half of the pension distribution. Of course, it is not definitive that the layoffs were the cause, but this is possible evidence of some pension problem concentrated at the lower end of the distribution during the period of retrenchment.

The Demographic Transition

China's population is aging rapidly. As the World Bank estimated, it took 140 years for France to double the proportion of its old people from 9 to 18 percent of its population, but China is expected to do the same in just 34 years, reaching 18 percent by 2026. (World Bank, 1994, 34) The discovery of the aging problem in China led to a new focus on the specific problems of just the pension system. Even here, employment policy did constrain one aspect of pension policy—the retirement age—but otherwise pension issues became an area of concern on their own. Chinese policy first addressed aging issues at the enterprise level by instituting pooling. But as officials became aware of the scope of the aging problem internally and from other countries, they began to address problems in the whole system. The urban Chinese pension system was in a situation very similar to those in many industrial countries. It had promised pensions to its workers when they would retire. But the pensions were paid out of the contributions of current workers on a pay as you go (PAYGO) basis. With the ratio of retirees to workers expected to grow, it would be increasingly difficult to pay the promised benefits.

Chinese officials began to study social security programs around the world in order to get ideas on how to address the problems in their own country.

Social security reform in any country may require difficult choices, and people disagree on how to do it. In China also there have been varied proposals, and the reform process is probably not yet complete. Here is a brief sketch of some of the steps in the process. There was recognition that PAYGO financing was problematic in a system with rapid population aging. By the mid 1980s, officials were learning about prefunding and were exploring ways to set aside funds in advance to cover at least part of future pension obligations. By the late 1980s, there was intense interest in Singapore and its system of individual accounts under its Central Provident Fund, a system that was fully funded. At that time there was a State Restructuring Commission in the office of the Premier and it pushed the study of individual accounts. Individual accounts were a way to accomplish prefunding. Workers would contribute, and their funds would accumulate over their careers so there would be a basis for paying their pensions other than contributions from current workers as in PAYGO. But in addition to the prefunding, officials were interested in the way Singapore was using the funds in the individual accounts. In Singapore accounts had become sufficiently large that instead of saving the whole amount for retirement, people could withdraw a portion for various allowed purposes such as buying a house. If Chinese workers could also accumulate funds quickly, individual accounts might also help stimulate housing reform. There were meetings in several cities around the country in 1989 and 1990 to introduce local officials to ideas about individual accounts and their potential uses. Of course, not everyone agreed.

Officials in the Ministry of Labor in particular sought reforms in the existing system rather than switching to individual accounts.

As study continued, officials became more aware of the problems in switching systems. There were large legacy costs—promises made to existing retirees but not funded—that would still have to be met even if new workers began individual accounts, and that would probably have to be financed on a PAYGO basis. There was the potential of two costs, one to fund the individual accounts, and the other to meet the legacy costs for those already at or near retirement. By the early 1990s, officials, particularly in Shanghai, were becoming aware of the idea of notional accounts that were being considered in Sweden and finally adopted there in 1994. Notional accounts seemed to offer a way to transition to individual accounts without the double costs. Notional accounts, which elsewhere came to be called non-financial contribution (NDC) plans, are individual accounts in which contributions are credited, interest is credited on the accumulation, and then the total bookkeeping accumulation at retirement is used to determine a pension. The actual funds from worker contributions are used for other purposes and not deposited in the account. It is an unfunded version of an individual account, which is funded on a PAYGO basis. In China, notional accounts seemed to allow individual accounts, while using the actual contributions into them to pay for the legacy and current costs of the pension system. But the Swedish NDC system included elements to maintain the financial balance of the system, unlike the typical PAYGO system. The interest credited to the accounts would not be the market interest rate, but would be a rate set each year to keep the growth in the obligations of the fund in line with its expected revenue growth. On retirement, pensions would be converted to annuities

based on life expectancy, and the conversion factor would be adjusted as life expectancy changed. (Palmer, 2006) The Chinese plan had a rigid formula that set the monthly annuity benefit at $1/120^{th}$ of the total accumulation. At least in early discussions, the Chinese plans had features of notional accounts without the financial discipline. But there were also alternative proposals in China that did not involve individual accounts.

By 1995 there was not yet agreement on a single plan. The State Council issued a document calling for the eventual development of a single national plan, but then allowed cities to choose between two alternatives. One, which had emerged from the original Shanghai proposals, called for individual accounts with some notional features. The other grew out of ideas at the Ministry of Labor and called for a flat base pension to be set between 20 and 25 percent of the average wage of the city plus an earnings related benefit determined by the person's wage history and years of service. There could also be a voluntary individual account in addition to these. By 1997 agreement had been reached on a single plan including a base benefit of 20 percent of the average city wage plus an individual account. But whether the account would be funded or notional was not yet specified. In 2000 an experiment in Liaoning province was started to investigate further the feasibility of funding the individual accounts. (Drouin and Thompson, 2006, 20-21)

Many of the developments described above are driven by just pension policy considerations. But there was still an influence of employment policy on pension policy. The retirement age in China remains low, 60 for men, 55 for women in management positions, and lower for both groups among blue-collar workers. Increasing the retirement age would be one way to reduce the unfunded pension liabilities. People who

worked longer would contribute more and withdraw less from the system. This alone would not eliminate the financial problems of the system, but along with other changes could help. However, officials do not want an increase in the number of older workers in the work force, given their concerns about finding enough jobs for others. It would help to know more about the labor market for older workers in China to judge whether these concerns are realistic. Do older workers want or need to work? Are they substitutes for younger workers? While these questions are difficult to answer, we can get some information on work and retirement patterns of older workers from the CHIP data.

The surveys did ask about work and retirement, but these were given as mutually exclusive choices. In other countries many people seek bridges to retirement in which they withdraw from work gradually. (For an early study in the U.S. see Doeringer, 1990.) Table 2 shows the percentages of people with wages, pensions, and both for several age categories in 2002. Based on eligibility for pensions, the table includes women over 50 and men over 55. The first row of the table is thus women only.

Table 2. Percent of Pension Eligible People Who Receive Wages, Pensions, or Both

Age	**N**	**1 Wage, no pension**	**2 Wage and pension**	**3 Pension, no wage**	**4 Other**
50-54	1041	31.8	22.9	35.4	9.9
55-59	1000	32.7	19.7	39.2	8.4
60-64	886	8.4	18.6	63.0	10.0
>64	1494	1.2	10.0	70.2	18.5
All	4421	17.0	17.0	53.6	12.5

2002 CHIP data

The percent receiving a wage (columns 1 plus 2) diminishes going down the table from 55 percent for those 50 to 54 to 11 percent for those over 64. There is a strong interest in work, even extending to those above the retirement age, but especially in the younger age categories. The percent receiving a pension (columns 2 plus 3) increases from 58 percent to 80 percent. But it is worth noting that 17 percent of the total sample receives both a wage and a pension. Of course, this percent does decline with age category from 23 percent to 10 percent. Whether from necessity or choice, close to a fifth of older workers appear to have a mixed road to retirement, receiving a pension while still continuing work. Given the prevalence of work among older Chinese, what should be policy for the retirement age? The work patterns shown here result when people can get pensions at relatively low ages. If the age for pension eligibility were raised, would there be a large increase in employment among older workers? The answer would depend among other things on other features of the pension system, for example, on whether there would be an increase in the pension benefit if it were delayed. The financial gain to the system would depend also on contribution requirements, for example, whether those who work after retiring would have to contribute to the system. More study of these questions would be difficult since the policy options have not been tried, so inferences from existing behavior patterns would be needed. But the advisability of current retirement age policy depends on questions such as these.

The Transition Out of Agriculture

While the urban pension system is fairly well developed and extensive, rural pensions are so far small and not widespread. Administratively, urban pension policy

was administered by the Ministry of Labor and rural policy by the Ministry of Civil Affairs until 1998, and the two were completely separate. In 1998, there was a reorganization of Ministries. The Ministry of Labor became the Ministry of Labor and Social Security, and it was assigned responsibility for rural pensions. However, the rural system has remained separate from the urban system and limited in scope. For the long run, the rural sector poses some of the biggest dilemmas for pension policy. Chinese officials have emphasized ability to pay, arguing that many rural people are so poor that they cannot afford to make contributions to a pension system. They thus depend on their families, community supports, and in some cases work in old age. However, voluntary rural pension plans have been established on a limited scale since 1992 and are based on individual accounts. They tend to be concentrated in more prosperous rural areas. The contributions are low, the accumulations in them small, and the funds are invested primarily in local, risky ventures. By 1999, the government was concerned about the adequacy and viability of the program and decided not to expand it further. By 2002, there were 54.6 million accounts, but the average balance per account was only 433 yuan. (Drouin and Thompson, 2006, 54) There was very little growth since then.

One challenge to the rural system is the migration of large numbers of rural people to work in cities. It used to be that rural migrants with rural household registration would have to go back home if they needed any social benefits. They were not covered under urban programs. But laws have changed. Not only is it easier for those with rural registration to get work in cities, but legally they are entitled to pension benefits from urban employers. This would seem to open a connection for a part of the rural population to the urban pension system. As a practical matter, however, it is hard

for migrant workers to access the system. Many workers change jobs frequently. Employers often do not make contributions for such workers. Even if a worker reached retirement age with a sufficient record of contributions, it might be difficult to collect a pension. Suppose the worker changed jobs and worked in several cities. In principal, pooling helps mobile workers collect pensions since they can go to the pool. But pools are local and provincial. It gets more cumbersome if the worker has moved between cities and provinces. Moreover, higher-level provincial pools focus primarily on managing the funds and do not necessarily keep records on the individual participants. Payments are still managed at lower levels, cities and in some cases still enterprises. Pools would contribute most to mobility if they managed individual records and payments, but they tend not to have such capabilities in many cases. Thus, limitations of the current administrative structure would make it difficult for many migrant workers to collect pensions even if they were eligible.

CHIP data for 2002 provide limited information on pensions for both migrant workers and those still at home. For rural residents, pensions under the voluntary plan may begin at age 60. In the CHIP data, 3.7 percent of those between 60 and 64 received pensions and 2.1 percent of those 65 and over. The average pension amount was 5205 yuan. Although the average individual account balance across all workers was only 433 yuan, by the time a worker reached retirement age, her balance might build up to support a larger pension. But the sample reporting a pension is small. It is also possible that some wealthier rural residents set up their own pension plan and report this rather than the government plan. In any case, relatively few rural residents draw pension benefits. As for migrant workers, the only question asked about pensions is whether the current

work unit provides them a pension. Only about 5 percent of rural migrants working in cities reported that they were covered under a pension plan. Based on this sample data, rural pension coverage in either form is very limited.

For the long run, one question will be how fast to expand the rural system. Chinese officials are very cautious as long as income levels are low. But once the system does expand, there will also be the question of whether to link the rural system to the urban system. If coverage for migrant workers does expend, that portion of the rural population would be attached to the urban system. But for rural people in general, there would be disadvantages. The urban system has high contribution rates because of its high legacy costs. Rural residents would not receive any of the benefits from those legacy costs. Also, rural residents have lower wages, so higher costs would be relatively more burdensome to them. On the other hand, is a dual system desirable for the long run? It seems likely that urban and rural systems will remain separate for quite some time, unless migrant worker participation in the urban system increases dramatically. But eventually, when rural incomes rise, it may be feasible to open the question of integrating the systems.

Conclusion

China's reformers have been determined to move away from the old system of complete employment security, while they have also been concerned about avoiding unemployment. At the same time, moving away from lifetime job security required new structures to pay benefits like pensions instead of mandating that employers provide them to their own workers. For 15 years, reforms were gradual in an effort to preserve jobs.

UI was set up, bankruptcy allowed, and pension pools set up to serve workers displaced from their enterprises, but these forms were not much used. But with little progress being made to reduce redundancy, it was finally decided to have a major retrenchment in employment at SOEs beginning after 1997. Other investigators have found considerable pain in terms of increased poverty and inequality resulting from the overall reform process, but have not attributed the adverse effects to specific actions such as the layoff policy. We found limited indications of a possible adverse effect on pension recipients, but the evidence is still indirect and the full effects of the layoff policy remain to be evaluated. In the end China could not avoid pain from its transition from socialism, but the extent of that pain has still not been fully documented.

The demographic transition affected primarily the pension system. Aging brought problems similar to those in industrial countries. China has studied closely pension developments in other countries and has debated pension policy intensely. It has made reforms, which will probably need further revision. Employment policy has constrained one aspect of pension policy related to the retirement age. While a higher retirement age might improve the financial balance of the pension system, employment worries have resulted in reluctance to keep older people in the work force. It is difficult to assess the empirical validity of this concern. However, data were presented showing sizable amounts of work among older people and even close to 20 percent both working and drawing pensions.

The transition out of agriculture may be one of the major long run challenges for employment and pension policies. Within the rural sector, relatively few people draw benefits from a voluntary pension scheme. Employment policy has made it easier for

rural people to seek work in urban enterprises. Legal changes now make rural migrants eligible for urban pension programs. But relatively few participate, and administrative barriers are substantial. The rural sector is still more in the informal economy while the urban sector is much more in the formal sector. The migration of rural people into cities has increased the contacts between sectors. China will eventually have to make decisions on how to integrate rural and urban, formal and informal. Certainly the pension system is one of those areas where some form of integration will have to be considered. However, it appears that such integration is still far away, although employment developments like increased migration or rapidly rising rural wages might hasten it.

Although Chinese social protection seems quite unique, it does share features with other countries. It is attempting to reduce employment rigidities; it is addressing population aging; and it has a rural pension system very much part of the developing world. And in all these areas, policies do not operate in isolation from each other. In particular, this paper has demonstrated the important links between employment and pension policies.

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