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A Macro Analysis of China Pension Pooling System
Incentive Issues and Financial Problem

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Abstract

Over a decade-long of pension reform in China has become much more critical in recent years. Problems of pension reform have started to reveal rapidly and pension reform pace has apparently slowed down. One sign of this is the decision made by the government to suspend a sell off of state-held shares in listed companies to fund the pension shortfall in October of 2001. The pension system built on 1995-reform platform has run into three major problems. First is a huge amount of unfunded pension liabilities inherited from the old system, and second is fragmentation of pension system has increased difficulty to finance pension liabilities. Third is a lack of a capital market to invest pension fund for a higher rate of return. These problems were rooted in the beginning of the pension reform and crippled effective operation of provincial pooling system over the years. And related resulting effects are rising pension deficit, accumulating notional individual accounts, increasing enterprise noncompliance and evasions, declining program participation, continuing financial burden of state-owned enterprises (SOEs) and a fast increase in SOEs retirements, and increasing weakness in central government fiscal conditions.

This paper focuses on the incentive problems under the provincial pooling arrangement and aims to understand on a macro-level how adverse effects of the incapability of separation the new system from the old pension liabilities have complicated pension reform process and generated a series of unintended reform problems. The study uses aggregate data from national statistical sources and published data by domestic analysts to analyze incentive issues of state and non-state sector in the pooling system. The paper answered the three questions. How did individual accounts become notional in the recent years? Why are there widespread noncompliance and evasions among state-owned enterprises toward pension contribution? Why is the non-state sector representing only a small share in provincial pooling pension program?

The evidences indicate that current provincial pooling system is in a vicious cycle, financial problems are serious and public confidence in the system is low. Declining share of state sector and low share of non-state sector in contributing to pension program at local levels show that government's approach of expanding pension coverage to solve pension fund shortage at least in short term is ineffective. The government is facing a stark dilemma. Incapable of separating the old pension liability from the current pension financing system has led to an accumulation of unfunded individual accounts. The unfunded pension system and lack of capital accumulation of pension fund have shaken the confidence of current contributors of state enterprises and scares away new contributors from private and foreign invested enterprises. However, limited coverage, low program participation and widespread noncompliance and evasion reduce its pension revenue collection, increase financing gap and in fact double the difficulty to finance the liability, and that would further scare away new contributors too.

Caught between the rock and a hard place, the government will have to figure out the approach and structure a reform path that follows pension reform sequencing. First to solve the old pension liabilities through pushing for financial capital market development or by ensuring some sort of central government responsibility. Second, to build the public confidence in the success of the pension system and gain the cooperation and willingness of public and private interest in the system. With that in mind, the pension reform outcomes will be both credible and financially viable.

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Challenges of China's Pension System Reform

A Macro Analysis of Incentive Problems of the Provincial Pooling System

I. Introduction

Over a decade-long of pension reform in China has become much more critical in recent years. Problems of pension reform have started to reveal rapidly and pension reform pace has apparently slowed down. One sign of this is the decision made by the government to suspend a sell off of state-held shares in listed companies to fund the pension shortfall in October of 2001. According to the plan, 10% of sale proceeds should be handed to the National Council for Social Security Fund—currently, the largest institutional investor in China that will finance pension deficits on behalf of the government. The pension system was built on the 1995-reform platform has run into three major troubles. First is a huge amount of unfunded pension liabilities inherited from the old system; second is a fragmentation of pension system that has made it more difficult to finance pension liabilities. And, third is a lack of capital market to invest pension fund for a higher rate of return. These troubles were rooted in the beginning of the pension reform and crippled effective operation of provincial pooling system over the years. And related resulting effects are rising pension deficits, accumulating notional individual accounts, increasing enterprise noncompliance and evasions, declining pension program participation, continuing financial burden of State-Owned Enterprise (SOEs), a fast increase in SOEs retirements, and increasing weakness in central government fiscal condition.

Though reliable official figures are almost impossible to come by, industry estimates suggest China's current pension liabilities are already equal to half the country's gross domestic output, or nearly \$500 billion¹. For example, in 2000, the system ran a deficit of at least Y87 billion (\$10.5 billion), not including the Y100 billion (\$12.1 billion) already "borrowed" from individual accounts. Looking at the international source, China's long term implicit pension debt, covering workers who were employed over the last 35 to 40 years and have now retired, was estimated by the World Bank in 1997 as between 46% and 69% of GDP. A more recent estimate by Mark C. Dorfman and Yvonne Sin puts the Implicit Pension Debt at 94% of 1998 GDP (worst case scenarios). Looking at the government source, data from Ministry of Finance indicates that state spending on pension was up by 42.4% in the first quarter of 2002, compared with the same period of last year. Just in 2001 alone, central government spending on social security programs (including pension and unemployment insurance benefits) was Y98.2 billion, about 5.18 times of that in 1998 (State Council, 2002). Also, the information from the State Council office for economic restructuring released that, in the four years since individual accounts were adopted, the shortfalls in funding have already risen to Y200 billion (\$24 billion). The implicit pension deficit could total as much as Y3.7 trillion (\$450 billion) around 40% of 1997 China's GDP.

Therefore, whether the government can timely and effectively solve current pension problems not only affects long-term sustainability of national pension system, but also affects continuing SOE and state banking reform, and furthermore, government fiscal

¹ Ministry of Labor and Social Security of China (MOLSS) estimated that China current pension liability is between \$300 to \$350 billion (He, 2001)

discipline. On the top of that, China pension reform is also challenged by whether it can effectively accelerate the reform in the areas of financial capital market, labor market mobility, net tax structures, legal system and an independent administrative system. Thus, pension reform can be exceedingly complex in light of its close connections to above areas of China economy. This is why the government has been slow and prudent in making any radical move.

Several questions the Chinese government will have to answer before time runs out. What will government do first to resolve the old debt issue and covert notional individual accounts into real accounts? How will government increase program participation incentive and how to bring in private and foreign enterprise's participation? Will China open up its capital market for pension fund management and investment? It is difficult to judge what the next step the government will take. But recent new reform effort in Liaoning province under the Document No. 42—the first major one after 1997 document No. 26 has showed that government's determination to tackle the pension shortfall. Among the key elements of the plan was a move to isolate individual pension accounts from other funds to prevent skimming, and to manage them at the provincial rather than the local level. The pilot program is supported with a Y4 billion of fiscal budget transfer. So far, there is about Y2.8 billion has been accumulated over 4.8 million of individual accounts. If it continues to go well, success of Liaoning pilot program may suggest that government intervention through budget transfer and other fiscal means can be a solution to tackle the old pension debt (Economic Monitor, June, 2002).

While there has been a large number of pension policy and economic actuarial work focused on the analysis of China pension liabilities and financing options. This paper will examine the incentive issues of provincial pooling arrangement and understand on a macro-level how adverse effects of the incapability of separation of the new system from the old debt legacy have complicated the pension reform process and generated a series of unintended reform problems. The paper intends to argue 1) current provincial pooling system is in financial trouble and public confidence in the system is low. 2) Provincial pooling problems are largely caused by the trouble that the current China pension system operates under the dark shadow of the massive overhang pension liabilities accumulated over a period of 50 years or more from the old system. These problems have shaken the confidence of employers and employees of the state and private sector, and that confidence is further eroded by a lack of opportunity to invest pension fund in financial markets. 3) Therefore, without solving old debt issue first; other reform measures can not be most effective in increasing program incentive and reducing program fragmentation, and it may on the contrary, lead to a further damage to public confidence. Due to time constraint, the paper will not discuss about any specific solutions in details, it hopes to address them more thoroughly in the next stage instead.

To be more specific, the first part of paper will briefly describe a short history of pension reform since the mid-1980, intended outcomes of establishing provincial pooling system, the nature of provincial pooling and fundamental issues to consider. The second part of the paper will examine a few fundamental issues that provincial pooling arrangement have trouble to accomplish effectively so far. The last part will point out the complex nature of the reform and importance of reform sequencing and offer some recommendations for further work.

II. Reform Background and Provincial Pooling System

1. Early Pension Reform

Similar to other areas of China economic reform, China pension reform also adopted the approach of “crossing the river by touching stones.” The reform was one of the most important social and economic reforms since 1979. China pension reform is mainly triggered by a short-term problem of the pension burden of SOEs and the long-term problem arising from the rapid aging of the population. However, most worrying is a bankrupt and poorly managed pay-as-you-go pension system that stands in the way of SOE reform. Until the late 1980s, China had an enterprise-based PAYGO pension system covering mainly state-owned enterprises and some large collective enterprises. Although it adequately served China planning economy for four decades, however, during the economic reform to a market economy occurring over the past two decades, unfunded employer-sponsored pension arrangement became unsustainable. The inconsistency between enterprises’ social security responsibilities and their new roles to play in an increasing competitive market economy has been enlarged as economic reform hardened their budget constraints and forced many into financial distress (Wang, Xu, and Zhai 2001, Ma and Zhai 2001).

Strictly speaking, the old China pension arrangement is not a pure “PAYGO” since no contribution is required in return for retirement benefit. Enterprise-based pension benefit means the pension is not expressly linked to what workers have paid in contributions. Instead, pensioners get a defined level of income, usually is the return for a lifetime’s work. Some argued that pension reform is an important part of SOE reform, since two reforms are linked closely and impose constrain on each other. On the one hand, linking benefits to employment and lack of portability of pension benefits have become a major stumbling block to restructure SOEs and to layoff redundant workers. On the other hand, as SOEs reform went on, a large number of state enterprises went bankrupted, and operated at a loss over years, they could no longer afford to pay their retirees the promised full pension benefits. As a result, many pensioners only received some portion of promised pension and some even never received any pension at all. They took to the streets to register their anger. Thus, developing a workable China pension system that can de-link employment benefits from enterprises’ responsibility has become an urgent task for the government.

Since the mid-1980, pension reform was undertaken first as experiments in a few provinces, such as Guangdong, Shanghai and Sichuan. In 1986 State Council Document No. 77 officially encouraged the pooling of pension obligations on a limited basis at the municipal level, on a pay-as-you-go basis. 1991 was considered as the year of a milestone in China pension reform history and resulted in a series of new reform efforts. First, the State Council's Document No. 33 for the first time encouraged an establishment of three-pillars pension system that required individual contributions by all workers, in addition to enterprise contributions and encouraged experimentation including a role for individual accounts. Second, the Circular permitted municipal and prefecture governments to select a reform plan and provincial governments were given the right to approve the program design that chosen by lower level government. For the first time, this document had formally defined the nature of the pension system in China that is highly decentralized in financing as well as in administration. Third, 1991 was also the year that the government approved five key industrial sectors to establish specific industrial pooling (completely outside the sphere of provincial pooling system, see

MOLSS, 2001). 1991 Circular was a far improvement than the previous ones, however, it did not spell out what exactly operational standards of benefit eligibility requirement are, the principles of benefit replacement rate and benefit structure required in a new market economy. This has generated some moral hazard problems at lower levels and directly hurt pensioners' interest. Acknowledgment of these problems, 1995 State Council Document No. 6 took a major step to deviate from the pure PAYGO system by establishing individual pension accounts. Each pension pool would be comprised of two components: a PAYGO portion and funded portion that linking individual contribution directly to benefit and with the fund privately managed. However, sticking to the same reform strategies of 1991, 1995 document had further led to a fragmentation of pension program, multiple plans and confusions.

2. 1997 State Council Document No. 26 and Liaoning Pilot Program

Following a series of discussions and experience learned from pilot tests (Shanghai and Guangzhou city), unifying a fragmented pension system and extending coverage to non-state sector have become vital to continued reform and action was needed immediately. In responding to this, in 1997, the principal arrangements of the new pension system for urban employees were laid down in the 1997 State Council Document No. 26. Compared with the old system, the new system introduced the following three important changes. 1) Extending pension coverage to the entire urban labor force, including the self-employed. Various industrial specific pension schemes would be incorporated in the provincially unified scheme. There will be uniform contribution and benefit rates within a province. 2) The responsibility for the operation of the pension scheme, including the keeping of employee records and payment of pensions would be transferred from enterprises to social insurance agencies. The process is known as "socialization" in China. Social insurance agencies at the provincial and municipal levels are territorial subsidiaries of Ministry of Labor and Social Security. 3) The old age pension would be multi-tiered, and each program benefit structure is listed in the table1.

The new system is comprised of three pillars: a defined benefit public pillar for redistribution, a mandatory funded defined contribution pillar for each worker, and a voluntary supplement pension pillar managed by each individual firm or private insurance company. So far, only first pillar is in real operation and the other two only have limited experience. The objective of the first pillar of component A is to ensure a minimum living standard above the poverty line for all old people, and all workers should have a portion of their earnings replaced, consistent with their work history and contribution. In the long run, it would be financed on a pay-as-you-go basis by a 13% of contribution from enterprises that goes into a municipal or provincial pooled fund. This would guarantee a benefit replacement rate of 20 % of the prevailing average wages at retirement with a minimum of 15 years of required contribution. Component B is an individual account and is funded by a payroll tax of 11 % (4% from employees, increasing by 1% every 2 years up to 8% plus 7% from employers). Under the new system, employees initially contributed 4% of their salary towards financing their pensions, increasing by 1% every 2 years up to 8% by 2005. At retirement, the workers would receive a monthly pension equaling the accumulated account balance at retirement divided by 120 months. Based on the program, individual contributes into individual accounts for 35 years, then this funded pillar is expected to provide a replacement rate of 38.5%. Plus 20% from basic pension, all together, pillar 1 will provide individual with a 58.5 % of wage replacement rate.

The most recent initiative for China's pension reform was defined in the State Council Document No. 42 of 2000. A pilot program is currently running in Liaoning Province, one of the most heavily burdened provinces. According to the document, enterprises' 20% contribution will go to the social pooling fund entirely (to lessen funding pressure for basic social accounts in light of a large number of old and middlemen pensioners) and individual accounts will be financed by 8% of individual contribution. In this experiment, it requires 1) the segregation of the management of individual accounts from the administration of the social pooled funds in order to restrain the growth of notional individual accounts. 2) The basic benefit will be increased up to 30% for workers whose contributions exceed 15 years—an attempt to contain evasion. Specially, workers will receive a flat benefit of 20% for their first 15 years of work, and an additional accrual rate of 0.6% per year for years 16-32, until 30% is reached. It is expected that the resulting deficit will be made up by improved compliance efforts, reduced benefits for middlemen, municipal and provincial reallocations and, primarily, transfers from the central government and the National Council for Social Security Fund. If the Liaoning experiment is successful in solving current pension problem, the government would hope to replicate its experience to the entire country (James, 2001).

Table 1: Three- Pillars Pension System of China

| Pillar | Benefit contribution | Benefit financing | Benefit eligibility | Benefit payment | Status |
|--|---|---|--|---|--|
| Pillar 1 Component A (social pooling) | 13% of employer contribution of pre-tax of total enterprise revenue | PAYGO. Paid from a social pool financed by employer contribution with the government making up any deficit. | a minimum of 15 years of contribution | Defined benefit Replacement rate of 20% of the prevailing average wages at Retirement | Operational |
| Pillar 1 Component B (Individual accounts) | 7% of employer contribution of pre-tax of total enterprise revenue 4% of employee monthly wage | Pre-funded, in principle but not as yet in practice. Financed Jointly by employers and employees | a minimum of 15 years and lump-sum if it is less than five years | Defined contribution Replacement rate of 38.5% of the prevailing average wages at Retirement | operational in principle, but individual accounts are notional |
| Pillar 2 | Employer contributions | NA | NA | Defined contribution Employer sponsored | not operational |
| Pillar 3 | Employee contributions | NA | NA | Voluntary | not operational |

3. Nature of the Provincial Pooling and Fundamental Issues

Looking back at how China pension reform has evolved to its present state, the following three objectives are at the heart of reform throughout its projected reform. 1) Speeding up of expansion of pension coverage to non-state sector, 2) unifying pension program standard by moving pooling from a city level to a provincial level through risk sharing, 3) relieving enterprise burden by gradually reducing enterprise contribution share. Particularly, the urgency attached to the expansion of coverage and unification of pension system reflected financial trouble that pension system has been experiencing. To government, reform efforts in these three areas would help 1) to provide extra

funding by gaining fund contribution from private sector, 2) to reduce SOEs financial burden of their social services costs to improve the competitiveness in product markets, and 3) to improve labor market mobility by expanding pooling coverage from state to non-state sector and from city level to provincial level. For instance, if private sector workers were to be brought fully into the system, pension deficit crisis in the state pension system would be immediately alleviated. This is because private firms have a much younger work force with far fewer retirees. Each enterprise would contribute according to its wage bill and all pension costs would be covered out of the broader municipal pool of funds. Flourishing young enterprises would help to subsidize failing older enterprises, all retirees would be paid and all enterprises within a given municipality would face a level playing field with similar social security costs.

However, the reform missed the most fundamental issue from the very beginning, it ignored the old pension debt issue, that is how to cover transition costs. Solving the old debt issue is never a simple issue for any countries that have shifted from a PAYGO system to a multi-pillar system. But ignoring it can only increase transitional costs and in the meantime, encounter more economic disincentive and political resistance. This is because each time, a failure to achieve expected outcome could reduce government reform credibility and affects public confidence in the system.

Evidences of provincial pooling implementation have shown that reform progress is slow. First, provincial pooling is still in great fragmentation after years, not every province has a completed provincial pooling and most of them are pooled at city level. For example, by the mid-1999, only five provincial level municipalities—Beijing, Chongqing, Shanghai and Tianjin plus Hainan province of 31 have had achieved full pooling. Most of others remain at great variation in contribution rate, administration and management. (Ma and Zhai, 2001). Second, there is still less than 50% of urban labor force participated in provincial pooling. Third, some key problems emerged under the pooling arrangement are growing pension deficits and inability to fund the individual accounts, moral hazard under decentralized pension administration system, and inefficient pension fund investment, plus low compliance rate and high evasion rate.

III. Analysis of Provincial Pooling System: Financial Problem and Incentive Issue

Incapability of separating old debt issue has created incentive problem that affects a successful operation of provincial pooling system over years. In this section, first, we will discuss how legacy of high pension debt from the old system has retarded current provincial pooling system by accumulating notional individual accounts and has led to intergenerational inequity. Second, we will discuss how similar problem has crippled current pooling system in creating uneven playing fields for all enterprises and led to moral hazard. Third, we will discuss why noncompliance and evasion are widespread in state-owned enterprises and how enterprise downsizing and privatization have further shrunk the pension fund contribution base. Fourth, we will discuss existence of other multiple pension programs across different economic sectors in China and how the divided pension programs make unification of national pension system almost impossible in a foreseeable future.

1. Transitional problems, the old system and new system

1.1 Notional individual accounts and intergenerational inequity

Suppose China new pension system was concerned with an entirely new labor entrant, it will not have any transition cost related issues, nor will notional individual accounts be an issue. Like any countries moving from pay-as-you-go system to a fully funded benefit contribution pension system, China faces the question of what to do with old and transitional workers while implementing a new system. However, what differentiates China reform from other countries' pension reforms (non-developing countries) is China does not have support from a matured capital market and this makes solving transitional cost even more challenging. 1997 State Council Document No. 26 officially launched a nationwide new pension system with the priority to deal with the transition issue. Based on the system, benefit formulas are basically grouped into three main categories based on three types of workers defined in the system.

--new workers entered labor force after 1997 will receive a combining pension income of social pool pension benefit and individual account-related monthly benefit, provided they have 15 years of creditable service.

--Middle workers (those who started work before 1997 but had not retired by 1997) would get a mixture of the new and old system credit service. They would receive the same two components as new workers plus a transition benefit, which is 1.72% of the average wage in the final working year for each year of service before 1997.

--Older workers, those who retired prior to 1997 are entitled to benefits defined by the former system, will receive an average replacement rate of 80%.

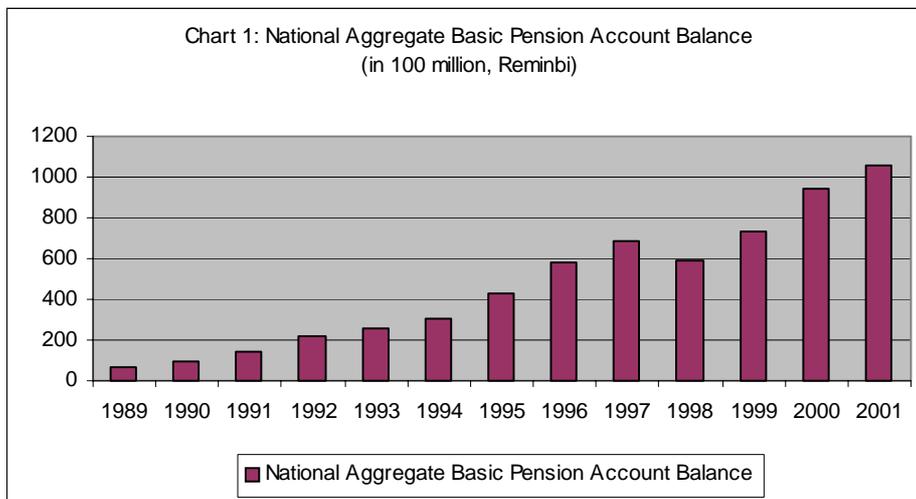
The problem of dealing with older and middle workers is there is no contribution accumulated from their working life time before 1997-reform, so transition costs arise from the financial gap between what revenue the pooled system generated versus the promised payment to the pensioners. How much transition cost is will depend on how long the transitional period will last. Some argued that transitional period will not be completed until 2030. So there will be a period that some old pension program and new pension program coexist together until 2030, after that, the system will be completely built up the new program (Hussian, 2002). However, the difficulty China faces now is how to finance pension cost over transitional period. It is apparent that China has not been able to deal with this issue well so far and, the reform has encountered a few difficulties and one of biggest one is an increasing accumulation of notional individual accounts in a larger number of provinces.

Some argue that 13% of contribution rate can not sustain 20% of replacement rate for basic pension pillar in the long run unless China relies on early retirement greatly and allows pension to access to capital market². The system will start to experience pension deficit in the matter of a few years depending on assumptions. However, current pension system is already in deficit position, and it is evident that many provincial or local pension pools are financially bankrupt and provincial or municipal pooled accounts have

² It has been estimated that without any parametric changes, China will require a long run contribution rate that exceeds 40%, but if China raises the retirement age to 65 both for men and women, switches to price indexation of pensions, changes the annuitization method to become actuarially fair and funds the individual accounts, the required long run contribution rate would be cut in half (Dorfman and Sin, 2001).

been experiencing deficit over past few years³. For instance, the China Security Market Weekly reports that Shanghai City is currently running a surplus of Y10 billion; Shenzheng City is running surplus of Y5 to Y6 billion. However, most of others are running deficit. Currently, it is estimated that there is about more than half of localities are incurring pension deficit (China Security Weekly, July 1, 2002). While a nationwide pension system is showing a more optimistic picture--aggregate basic pension account is accumulating surplus, and the current pension fund balance under basic accounts is estimated at Y105 billion (See Chart 1).

One of the explanations for the inconsistency is because degree of pension financing problems vary across provinces, and provinces with fast growth and fewer older workers are likely to accumulate surplus than the provinces with declining industries and larger older workers⁴. With surplus provinces surpassing deficit provinces and that will likely to leave a national pension system in a surplus position. Another explanation is deficit provinces continued to run deficit and received no cross-subsidies from surplus provinces because current pension is not pooled at a national level. In most of cases, provincial pension deficits are covered by the central government through budget transfer. Therefore, notional individual accounts are more likely to happen in the financially poor provinces. For those provinces, even in the short term, 13% of enterprise contribution to Pillar I will not sustain the pension payment (basic accounts) to current pensioner (older workers plus middle workers). In the following, we will understand how individual accounts have become notional in recent years.



Data source: Ministry of Labor and Social Security

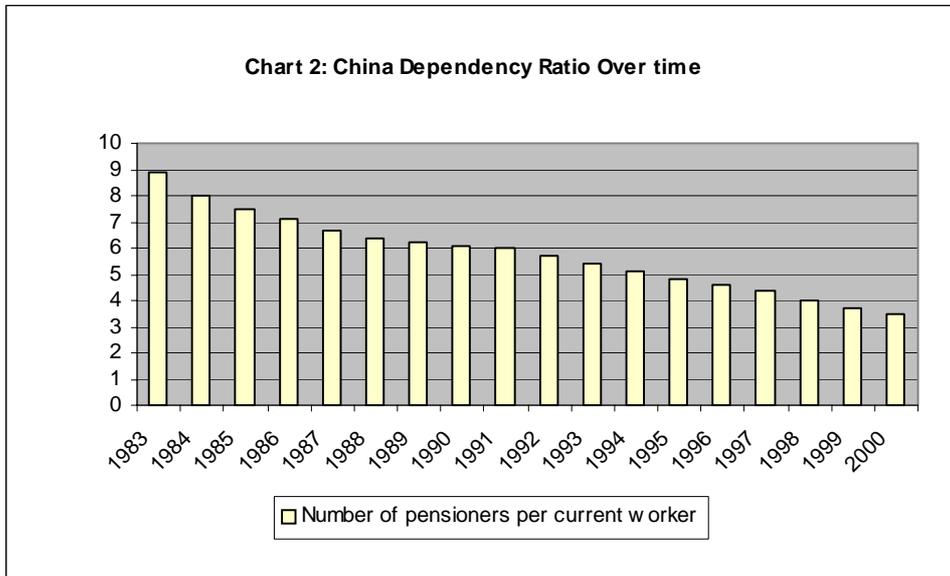
³ According to MOLSS report of 2001, in 1997, there were 5 cities running pension deficit, and that number increased to 21 in 1998, and later to 25 in 1999 (He, 2001).

⁴ For example, some argue that while China's IPD for the country as a whole may be only 70%, the IPD relatively to local GDP is probably much more than 100% in regions that once flourished but now are burdened with declining industries and old non-functioning state enterprises (James, 2001).

First, it is hard to image that 13% of enterprise contribution will be sufficient to support 75-80% of current income replacement rate for older and middle workers during the transitional period⁵. Some argued that the pension system as it currently is the new system only in principle and the old system still is in practice. This is because, pensioners from the old system would continue receiving their old benefits and new workers would enter directly into the new system. Middle workers would use a combination of old and new benefit formula. Given the fact that most of middle workers only have a short period of contribution, so credits from previous working years before 1997 would account more towards their lifetime pension payment. Currently, the old defined benefit formula with income replacement rate of 75-80% applies to most of old pensioners and middle pensioners, and their entitlements were unfunded from the previous system and far exceed current revenue generated from basic pension pillar 1 with 13% of enterprise contribution. For example, China domestic research showed, in 1996 on average, enterprise's contribution to pillar I was 20.6% of total wage, deducting by the share went to individual accounts, basic pension accounts only received 7.6% of total wage as contribution. However, actual pension payment out of basic accounts in 1996 was about 18% of total wage, and the gap between revenue and expenditure share was 10.4%, and that additional shortfall requires financing from other sources, such as individual accounts (Zhao, 2000). This is why reserves accumulated in individual accounts over the past few years were transferred to basic pension accounts to cover higher costs of older pensioners and "middlemen" pensioners. The individual accounts remain notional, "empty" with no assets in them.

Second, fast increase in dependency ratio in recent years is another important factor caused pension shortage and led to notional individual accounts. Data from China Labor Statistic Yearbook shows dependency ratio in 1983 was 1:8.9 and it increased to 1:3.5 in 2000. This means 3.5 workers have to support 1 pensioner now compared with almost 9 workers to support 1 pensioner 20 years ago. Moreover, annual average growth rate of pensioners since 1983 is around 6.8%, and more than twice time of labor force growth rate of 2-3%. This means that if we keep the number of current workers fixed, there have been more workers retiring from workforce than new workers joining labor force, and pension expenditure to current pensioners would exceed pension income contributed by new employees. Therefore, the number of retirees increases faster than the working population would make the current benefits system on a pay-as-you-go basis financially difficult to sustain.

⁵ The promised benefit level to current pensioners and middlemen pensioners in China is about 75-80% of final year's wage, compared with 40% in the US and 50% in many countries (Dorfman and Sin, 2001). However, many pensioners in China live in poverty. The average wage was low until the early 1990s. Full pensions are slightly higher than the local poverty line, are getting what is needed to sustain a socially acceptable living standard. For example, in Beijing city, the minimum pension is set as Y441 per month in 2001 (Labor and Social Security Daily, 2001).



Data source: MOLSS, 2000

Third, even today, not every single retiree is covered by the pension program, according to China data, only 80% of retirees are currently in the pension program and in 1990, it was only 40%. Incomplete pension coverage of pensioners has left a big hole in the pension accounts. Who is paying pensioners, such as middlemen have retired since 1997 or are nearing retirement, and were required to contribute but never did before and not even paying today? If not financed by government, it must be enterprises. In order to pay for every pensioner, whether in or not in the program, many enterprises have opted to skim off money destined for current workers' pensions to meet their obligations to today's pensioners.

Fourth, social pool is managed publicly with individual account, and makes it easy to transfer money to fill the financing gap created when expenditures must continue and contribution from funded individual accounts were diverted. Intergeneration inequity has become an issue when 1) what today employees setting aside to pay for their tomorrow retirement has been used to pay today's pensioners, 2) contribution to fund pension replacement rates for older and "middlemen" pensioners are higher than what they will get when they retire. And 3) future benefits to today's workers are so uncertain due to an immature financial capital market.

At last, reduction in compliance in the remittance of pension contribution also have resulted in increasing municipal and provincial deficits. For example, low compliance and evasion of current pooling have made provincial pooling difficult to operate. In 1998, contribution evasion and delayed payments reached up to Y34.8 billion, about 36.8% of total pension payment in 1997 (State Council, 2002). Recently, government officials acknowledged that reported wage filled by many firms to social security agencies are sometimes 20%-30% lower than actual total enterprise wage. Also, China data shows a decline in pension collection rate between 1992 to 1997. In 1992, it was 95.7%, then it was 92.4% in 1993, and 90.5% in 1994, 90% in 1995 and 87% in 1997 and in 1998 it dropped to 80% (Zhao, 2000).

1.2 Unequal Level of Playing Fields and Enterprise Moral Hazard Issues

Current pension benefit formula is on the practices from the old system for all transitional pensioners. Although new pension reform has introduced some positive changes, there are three main changes that are actually working to reduce enterprises' accountability and incentive. 1) Pension benefits are determined with reference to wages/salaries a short period before retirement, 2) the government no longer determines wage rates but enterprises, 3) pension costs are pooled across enterprises and any shortfall will be financed by the system.

First, arbitrariness in determining level of pension benefits and behaviors of abusing of the system are common among enterprises. Employers are generous to older employees by granting them a higher basic salary at the end of their career and hence a higher pension in retirement. This is because most of retirees from the old system are still entitled to the old pension formula. Using the last basic salary in the pension formula for benefit determination by enterprises with an average replacement rate in the state sector is around 75-80%. The cost of doing this is so small because pension costs are pooled across enterprises. This is known as "free riding" and it will increase the total cost of pensions. It can harm pensioners' interest when, for example, two individuals with exactly the same number of years of employment and lifetime income may get very different pensions merely on the basis of income at retirement (Hussain, 2001).

Second, incapability of separating old pension debt issue has created unequal initial conditions for enterprises to enter into the new system. In addition, incomplete pooling coverage would add much more inequalities across regions and enterprises. Old pension liabilities are heavily concentrated in the regions, especially in the northeast or inland areas with declining industries, old and non-functioning state enterprises, many pensioners and few young workers. In principle, pension pooling at a broader unit would mean uniform contribution rates and benefit rates applied to all enterprises regardless huge variations in initial financial conditions across firms. So far, the pooling system has not been effective in averaging the costs for the enterprises, and there is a clear conflict of interest between old and young enterprises. On the one hand, many SOE with high dependency ratio are largely developing financial arrears because they are paying high contribution rates (as high as 30%). On the other hand, many young and private firms do not have problem of old debt issues, and no financial burden to bear, They are paying as much as everyone else does and find in fact they are subsidizing pension shortfall in the older enterprises. So, the competitive playing field was not leveled out across municipalities and enterprises. Young enterprises with relatively small pension obligations within the region were understandably reluctant to contribute toward the common pool, and old enterprises with increasing financial difficulties are largely resisting to remit more contribution. Thus, solving the old debt issue first would make everyone playing on an equal footing. Especially, during the transition time, if the dependency ratio varies across localities, then the contribution rate they need to finance a given benefit will also vary. Differences in contribution rates should be financed by central or local government, otherwise, uniform pension system is hard to achieve.

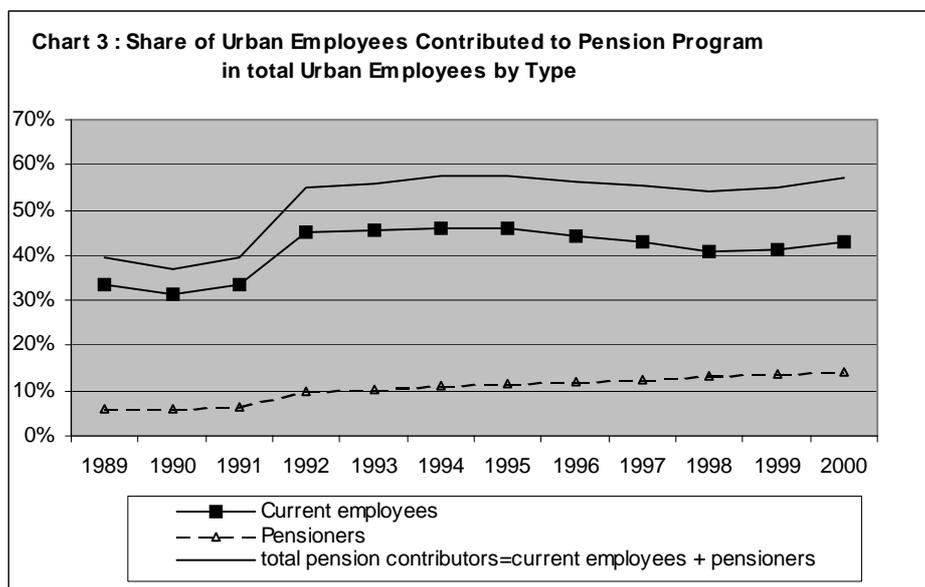
Third, incomplete pooling leads to risk of moral hazard in the system. Given the municipality-based system of pension fund collection and disbursement. The local pooling units often have an incentive to underperform on collection and overperform on benefit disbursement. Any pension shortfall can be sent to the municipal office and be financed by pooled fund. This separation of administrative control from financing

obligations led inexorably to principal-agent, moral hazard and compliance problems. Enterprises has little reason to deny eligibility to generous early retirement pensions, lowering benefit levels and economizing on indexation formula if the system is ultimately responsible for paying them.

In conclusion, without some sort of government responsibility for the implicit debt and the transition costs, moving towards prefunding pension system can not be achieved, nor can a uniform basic pension be paid fully and timely without running into a financial difficulty. Thus, delay and default on pension obligations for both state and non-state sector will remain as permanent feature of the system until a way of financing the massive old liabilities is found. System fragmentation has made it even harder to finance current expenditures because system operation lacks of economy of scale. Now, let us turn to the following sections and see how related problems are reflected in state sector and other non-state sector.

2. Unprofitable SOEs and Declining Share of SOEs in Provincial Pooling System

According to China social security system, pension program should cover all urban enterprises' employees with different ownership. But, so far program coverage is far from satisfaction. Chart 3 shows that the share of urban employees (current workers) participated in pension program is less than 50% and this share has remained little change since 1992. Currently, pension program has been largely confined to SOEs sector and private sector accounts little (see Chart 4).

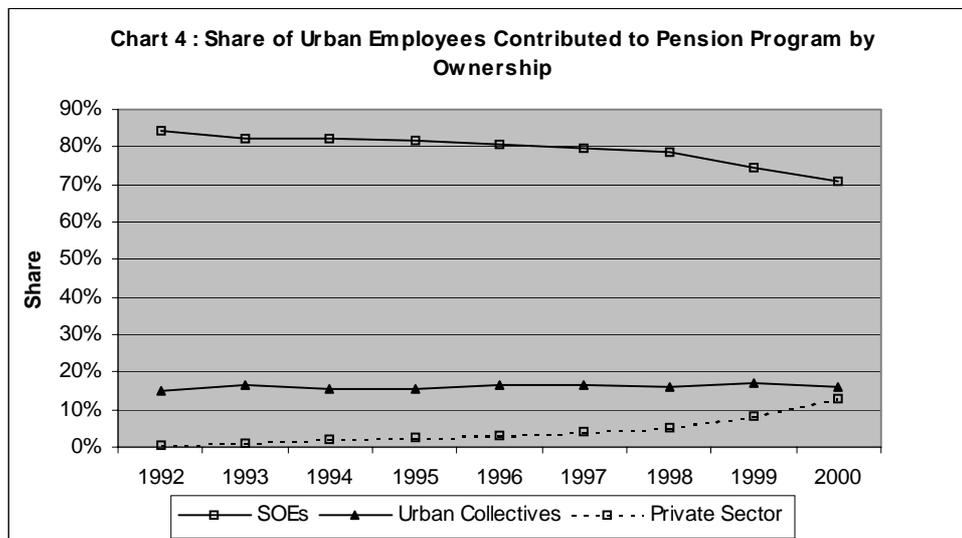


Data source: China Labor Statistical Yearbook, 2001

In spite of larger efforts made by the government to increase coverage, progress remains slow. 2000 data of the China Labor Statistical Yearbook shows that SOE employees accounts for 67.2% of total employees participated in the pension program,

urban collective accounts for 14.5%, and other private and self-employee accounts for 18.3%. Although SOEs is a predominant contributor to the program, its share in total urban pension employees has actually dropped from 84% of 1992 to 67.2% of 2000. Large share of SOE participants means pension financing has to rely largely on SOE sector itself in order to support its disproportional high pensioners. However, the current situation of SOEs is not optimistic. Share of SOE employee contribution has been declining and this is caused by several reasons. First, continuing poor financial performance and unrealistic high benefit level make it difficult to finance pension expenditures. Second, pension reform did not lead to a great reduction of SOEs social security burdens and SOE continues to face high social security contribution costs. Third, continuing SOE downsizing and privatization have led to mass layoffs. Each layoff automatically reduces current contributing population and makes it even harder to support the exploding pensioners with declining group of current workers. Moreover, privatization involves ownership change and some SOEs seek that to withdraw themselves from the current pension program. This is because China current pension program is largely limited to SOEs and government imposes more administrative controls on SOEs than other ownerships.

Below, the paper provides some limited evidences from the recent empirical studies to further explain the current SOEs' situation.



Data source: China Labor Statistical Yearbook, 2001

2.1 Evidence 1: SOEs Financial Performances Are Still Poor

Pension reform has a clear goal of reducing social security burden of SOE by separating social security functions from its production function so they will be able to compete more efficiently in the market place and attracts new private investment. Years of SOE

restructuring has shown some progresses, however, these efforts have not yet succeeded in ending their operational inefficiencies and non-commercial lending to SOEs. Weak enterprise management, excess labor force, limited governance have not revitalized many medium and large SOEs. And the pace of reform remained conditioned by concerns about social stability and an inadequate social safety net. Efficiency of SOEs financial performances is lower than other non-SOEs. A recent IMF paper (Heytens and Karacadag, 2002) compared profitability of China industrial enterprises during 1994-2000 by ownership using aggregate data. SOEs profitability was the weakest among others—collective, shareholding, foreign-funded. For example, in 2000, foreign funded enterprises were the most profitable, with an operating profits-to-assets ratio of 17 %, almost double that of SOEs. Even comparing SOEs with itself between 1994 to 2000, its profitability has actually falling and SOE financial performance is still weak (Table 2). To further confirm the analysis, the paper also used the firm level data to examine the financial conditions of listed enterprises (most of which remain under majority state ownership and control). The analysis shows that 1) the profitability of listed companies has been falling during the periods (1995-2000) examined and is now weak. 2) Average profit for listed state-owned enterprises between 1995 to 2000 based on a broader measure of total operating cost is 3 times lower than a narrow measure based on operating cost only covering cost of producing goods. The analysis pointed out that current SOEs are still borne with excessive social welfare burden and weak financial performance has continued to be troubled by high social security costs. Other factors also affect SOE weak financial performance, they include poor management, overstaffing, high debt, outdated products ad technologies and high tax rates.

Table 2: Profitability of Industrial Enterprises by Ownership, 1994-2000
(% of assets)

| Operating Margin | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|--|------|------|------|------|------|------|------|
| State-owned | 12.7 | 11.4 | 10.5 | 9.4 | 8.6 | 8.7 | 10.4 |
| Collective-owned | 17.3 | 16.8 | 17 | 16.7 | 16.1 | 21.7 | 16.7 |
| Shareholding | 14.5 | 13.5 | 11.9 | 11.6 | 17.8 | 11.4 | 16.8 |
| Foreign-funded | 15.5 | 14.1 | 13.5 | 13.6 | 13 | 15.2 | 17.2 |
| Hong Kong SAR, Macao SAR, and Taiwan Provinces of China | 13 | 11.4 | 11.3 | 11.2 | 11.2 | 11.9 | 13.4 |
| All enterprises | 13.9 | 12.7 | 12.1 | 11.3 | 10.3 | 11 | 12.5 |

Sources: IMF, Heytens and karacadag and China Statistical Yearbook, various sources

Note: Operating margin = sales minus cost of goods sold.

2.2 Evidence 2: SOEs Social Benefit Burden Remains Heavy

Although provincial pooling of pension funds is already a significant improvement over the enterprise-based pension system, SOEs social security burden remains heavy. Whether have SOE social security costs been reduced greatly since pension reform? Some argue that current SOE has a double financial burden—paying current pensioners and while making contribution to future retirement of current workers. Pension reform did not change the nature of SOE's financial burden and its social security financial cost

remains high. According to the State Council's Document No. 26 (1997), the contribution rate of enterprise is 20 % to total wages. If we take into account of other enterprise social security contributions for unemployment insurance (1.5%), medical insurance (9%), work injury insurance (0.2%-1.9%), maternity (0.8%) and housing provident fund (5%-10%), the overall contribution by employers is between 35%-42% of total wage. Data provided in the Table 3 is based on Beijing Municipality's figures and is very much in line with the national average. However, if counting for SOEs with high dependency ratio, that are currently contributing over 30%, and their overall contribution rate can be as high as 50%, and related financial burden can be even heavier. For example, Liaoning province is one of the most burdened provinces, the average contribution rate in the province is 30%. While unification has been achieved within each municipality, large differences exist across municipalities. Thus, the total contribution rate varies from 27% to 37% of wages, depending on locality (James, 2001).

How is this cost rate compared with SOEs previous burden before pension reform? For example, a previous study has shown that the cost of providing social security for SOEs has risen fast since 1992. One of important factors used in the literature to explain the poor performance of SOEs was rapid rise in wages, fringe benefits such as housing, education, health care and retirement pensions (Sachs, Woo, 1994) during the early stage of SOE reform. Table 4 shows benefit share of wage income in SOE was around 35% in 1997, if housing subsidy was added, the share could be as high as 50-60% of total wage income. As economic reform went on, the proportion of employed labor was shrinking and the number of pensioners were rising, many SOEs were forced to draw on production revenue to fund spending on increasingly expensive social security prior to pension reform. In order to reduce benefit costs and improve competitiveness, pension reform was initiated primarily by SOE reform to solve SOEs problems. However, so far in reality, it is not clear yet whether reform has achieved its intended objectives since current SOEs social security contribution did not actually lower SOE social security costs and the financial burden remains heavy.

| Type of social insurance and others | Contribution rate in 2002 | |
|-------------------------------------|---------------------------|----------|
| | Employer | Employee |
| Pension insurance | 19% | 7% |
| Unemployment insurance | 1.5% | 0.50% |
| Medial insurance | 9% | 2%-3% |
| Work injury insurance | 0.2%-1.9% | NA |
| Maternity | 0.80% | |
| Housing provident fund | 5-10% | |
| Total | 35.5%-42.2% | |

Note: Contribution rate is calculated as a % of last year workers' average monthly wage. Source: "Beijing City Labor and Employment," 2002. Data is from Labor and Social Security Bureau of Beijing Municipal City

Therefore, it is not hard to understand that poor financial performance and high social security burden have forced many SOEs to delay, reduce or even default on pension contribution. Moreover, declining SOE employee pension contribution accompanying by

fast rising of pensioners would mean that defaults in the pension contribution and delays in benefit payment will likely to increase in the future. Unless central government can impose stringent administrative controls and provides extra funds to stop the problems.

Table 4 : A Comparison of Base Wage and Welfare Benefit per Worker by Ownership
(Unit=Yuan at current price)

| | Wage Income | | | Welfare Benefits | | | Benefit Share of Wage Income | | |
|------|-------------|------------|---------------|------------------|------------|---------------|------------------------------|------------|---------------|
| | SOEs | Collective | Other private | SOEs | Collective | Other private | SOEs | Collective | Other private |
| 1997 | 6747 | 4512 | 8789 | 2335 | 1166 | 339 | 34.6% | 25.8% | 3.9% |
| 1996 | 6280 | 4320 | 8261 | 2042 | 1053 | 337 | 32.5% | 24.4% | 4.1% |
| 1995 | 5625 | 3931 | 7463 | 1758 | 935 | 293 | 31.3% | 23.8% | 3.9% |
| 1994 | 4797 | 3245 | 6303 | 1468 | 755 | 275 | 30.6% | 23.3% | 4.4% |
| 1992 | 2284 | 1681 | 2987 | 1006 | 549 | 133 | 44.0% | 32.7% | 4.5% |

Note: Welfare benefits do not include housing benefits in the above statistics. We expect that state workers' benefit could be even higher if housing benefits were added. The share of total benefit per worker will increase to 50-60 % of total income Per worker.

Data source: Chen and Diwan (2000)

2.3 Evidence 3: SOEs Workforce Downsizing, Privatization and Declining Share of Employment

Pension reform makes it easy to layoff extra workers and to remove impediments for SOEs restructuring, but it can have adverse effects on current pension contributions. Recent SOEs reform has been focused to privatize small enterprises and to commercialize large ones. Durable efficiency gains have been achieved through layoffs, a reduced social welfare burden, and by cutting excess capacity and this led to a shrinking state workforce. The trend will continue as long as more SOE restructuring will go on. As the result, SOEs labor force dropped from 66.4% in 1994 to current 51.1% in 2000. Just in year 2000 alone, SOEs employees dropped by 5.5%, urban collective dropped by 12.4% and private sector increased by 8.4% compared with 1999 (China Statistical Yearbook, 2001). New data shows that number of pensioners covered by the urban pension scheme is 31.7 million, which means there are 32 pensioners per 100 contributors. So, every layoff in the SOEs and urban collective means losing one more contributor, if number of pensioners in the state sector remains unchanged. Because current pensioners' benefit payment is directly coming out of current workers' contribution, relative poor financial performance plus fewer contributions from SOEs make many SOEs incurred even higher pension liability.

“China Labor and Social Security” Daily mentioned that: recent enterprise restructuring and bankruptcy can further shrink pension fund revenue by reducing pension contribution directly. As reform went on, a large number of workers were leaving state firms and looking for job some place else. For example, in Ding City in Hunan province, in 1999, a total number of contributors were 130,000, about 300 enterprises participated in the pooled fund, pensioners were 4,200, and dependency rate was 3.1 to 1. However, enterprise restructuring resulted in ownership change and firm bankruptcies have involved 117 firms and laidoff about 12,000 workers. Rapidly, actual number of contributors decreased to 5,000, and dependency ratio was dropped to 1:1.

Process of privatization and enterprise restructuring has also affect enterprises' behavior negatively by reducing their program compliance rate. Some firms have been aggressive in squeezing pensioners out of their current program to avoid paying more benefits in the name of privatization. For example, a local Chinese newspaper reported some state firms have changed their company names to sound more like private or foreign firms in order to make less pension contribution. Moreover, enterprise bankruptcies and manufactory closedown in recent years have left thousands of retirees with little or no pension to live on and many more laid-off without been covered under the current social security system.

Thus, urban pension system counting on state sector is not sustainable without a substantial increase in the number of participants in the non-state sector. The possible extended sectors are private and foreign-invested enterprises and others. But extension of program is facing a huge challenge, that is government credibility of promising of a pension payment in return to current contribution in a distant future. Whether this promise can be delivered or not affects not only current contributors, but also the confidence of non-state sector employees. Given the accumulation of notional individual accounts, widespread of delays or defaults on pension contribution and payment, there is a serious doubt about the system and public confidence is low now. So the real implication is that possibilities of increasing financing the rising cost of pension benefit in the short or medium term by extending the coverage of schemes is extremely limited. Raising contribution rate is not financially viable either given the fact the current contribution rate is already high and increase in contribution would only accelerate more non-compliance and further reduce pension contribution.

3.Non-SOE Sector, Low Coverage and Other Multiple Pension Schemes

Current China pension program is in a vicious cycle and the Government is facing a stark dilemma. Incapable of separating the old pension liability from the current pension financing system has led to an accumulation of unfunded individual accounts. The unfunded pension system and lack of capital accumulation of pension fund have shaken the confidence of current contributors of state enterprises and scares away new contributors from private and foreign invested enterprises. However, limited coverage, low program participation and widespread noncompliance and evasion reduce its pension revenue collection, increase financing gap and in fact double the difficulty to finance the liability, and that would further scare away new contributors too. Caught between the rock and a hard place, and a fear of pushing forward the reform in other areas, including financial capital market and legal system development, the government has been looking at the option to expand pension program to non-state sector to finance the transition cost. However, it is evident now this option has not succeeded, and several factors below make this option difficult.

Limiting pension program to state sector also mean the opportunity to grow other programs. In China, there are several divided programs under the overall pension system in addition to current provincial pooling system. First, government and public institutions still maintain the old pension scheme that was based on a planned economy system. Second, eleven special industrial sectors, such as post and telecommunication, transportation have established their individual specific industrial pooling since 1986. Third, some private firms in fast growing regions have set up commercial-based private pension insurance –called Enterprise Annuities Program and private life insurance for

their employees (similar to the third/supplementary pension pillar). Fourth, there is a separate pension program which is underway for developing a rural pension program.

3.1 Current Trends

Low Coverage in Private Sector

Given an increasing share of non-state sector in China economy, bringing into non-state sector under the China pension program will be vital to the reform. Currently, non-state sector accounts for more than half of employment and output in China economy⁶, however, it has only small pension coverage. 2000 figures show that among all pension participants, there is 67.2% for SOE employees, 14.5% for urban collectives and 18.3% for private sector, foreign sector and self –employment all together. So far, most of non-state firms are resisting because current contribution rates are so high and the benefit from the system is so uncertain.

First, suffering from the similar problem faces SOEs, the dynamic non-state sector is not covered because the current pension system fails to solve the long-term problem of old age security in China. Private sector views that old debt issue as SOE self-grown problem inherited from the planned economy and private sector should not be burdened by this.

Second, since nominal wages in non-state sector are magnetized to a greater degree and pre-retirement wages are higher than average wage, this system implies that workers in non-state sector contribute on higher salaries to get the same 20% of provincial wages. This works against the extension of the coverage (Intrado's report A, 2001). For example, on average, current SOE workers receive salary of Y9552 annually as compared with that of Y10,884 in private sector.

Third, limited coverage to state sector not only limits labor market mobility, but also makes it difficult to finance pension liability due to small economy of scale. Private sector's confidence is affected by it and in turn restrains more coverage. Unless the flaw is corrected, pension system is in a vicious cycle. Solving old pension debt issue is difficult because of limited coverage; limited coverage reduces financial resources and increases difficulty in solving the debt and that will lead to a further decrease in coverage.

Insufficient Coverage in Urban Sector

Urban pension program should include all urban employees, but the current program only *effectively* cover 104.4 million of current urban workers plus 31.7 million of current pensioners, less than 50% of urban population. A total urban population in the pension program is 136 million. Dependency ratio is about 32 pensioners per 100 current workers.

⁶ Non-state sector includes collective-owned, shareholding and foreign funded. In 1994, share of employment of non-state sector was 33.6% in 1994, and that has increased to 48.9% in 2000. Share of value added was 45.5% in 1994 and is now 48.1% (China Labor Statistical Yearbook, various issues).

Lack of Coverage in Rural Sector

So far, only about 12% of national labor force are in the pension program if we add a rural labor force. This is far from satisfying from a social safety net point of view, especially in light of fast growth of China economy over the past decades. At present, it has about 498 million labor force employed in rural sector, accounting for almost 70% of total labor force, and most of them still do not have access to pension program. Although there were effort in developing its own separate program since 1986, but so far, it is still in principle and not in practice yet. Rural pension program is designed separately from urban pension system and is the responsibility of Ministry of Civil Affairs of China. Based on China data, currently, there is about 61 million of rural farmers participated in some kind of voluntary rural pension plans—that are highly unregulated and at great risks and difficulties. Thus, it is ironical to see that the rural sector, accounting for 70% of labor force only shares 11% of national social security benefits, while 30% of urban population sucks up almost 90% of the whole benefits

Therefore, if counting national pension liabilities to million more rural population not currently covered in the system, IPD figure can reach to an astronomical level and estimated implicit pension debt would no longer be 50-85% of GDP. Current IPD figure is low and cost of reform is still manageable because the program does not include a rural sector yet.

3.2 Existence of other Multiple Pension Schemes

Government and Public Institutions

Currently, government and public institutions still maintain the old pension schemes that based on planned economy system—pension benefits are linked directly to years of services, not to contribution (not exactly like PAYG system). It covers about 11.3 million government civil servants. Average replacement rate is around 88% of the previous salary. Central government is directly responsible for all the pension benefits of government employees. Continuing the old pension program has caused a heavy financial burden for the central government. So far, pension reform failed to extend coverage to the Civil Servants and the employees of Public Institutions. And the objective of greater labor market mobility and level of playing fields, and transparency are harmed by this problem greatly. Variation of pension programs due to divided urban pension systems is inconsistent with the principle of a market economy that labor should move freely across sectors. Provincial pooling is a step forward, but not sufficient, because it fails to include all urban sectors--government, institution and enterprise. For example, great disparities in cost, benefit contribution and benefit treatment prevent employees move from enterprise to government and from government to enterprise. It is common that two employees with exactly the same work history but retired at different places due to job change can get a very different pension payment. As the result, many current Chinese retirees have found themselves victimized unfairly by the pension reform.

Special SOE Industrial Sector

China's mandatory pension system not only has considerable regional variations; it also varies between types of industries. So far, there are 11 special SOE industrial sectors⁷, employed about 14 million employees, running in parallel with provincial pooling system, but with independent and operational system. A total of 81 million SOE workers are actually spreading among 12 different mandatory pension pooling programs-- 11 special industrial programs covering 20% of SOE workers and one provincial pooling program covering roughly 80% of SOE workers. Unification of China pension system is a formidable task in a long run, this is because pension reform not only has to deal with regional variations in pension programs, but also industrial program variations. However, starting point should be an integration of current SOE fragmented industrial pooling programs at a provincial level. Now the real issue is how to integrate these special industrial sectors into the current pooling system.

Three disadvantages associated with industrial pooling. First, it only solves the pension shortage within an industry, because of industrial funds are pooled vertically at an industrial level, money-losing industries can not get help from profit-earning industries. Second, if the same type of industry locates in two different cities with one participated in provincial pooling and another in industrial pooling, two employees can have very different pension benefits due to rate differentials. Third, it increases barriers to labor market mobility and reduces enterprise competitiveness. Acknowledgment of these problems, in 1997, government took measures to reduce variations and called for integration between industrial pooling and provincial pooling and allowed for five years of transition (1997 State Council Document No. 26 and 1998 Document No. 10). After that, there should be one single pooling system that is provincial-based and follows existing provincial program standards.

Although some progress has been made since, the integration process has been slow, and incentive of joining provincial pooling is low and most of the industries are resisting. Economic disincentive and strong industrial interest for sector protections are the main reasons that have kept these industries separated from the main system. Most of these 11 industries, except for coal mining, are vital industries to the national economy and enjoyed fast growth over the past twenty years. Industry's revenues and worker's wages are much higher than the national average. To be part of provincial pooling means, first to lose the administrative management over the industrial pension funds; and second, to subsidize other old and low efficient industries with higher contribution rates than before. For example, Shanxi province in 1995, one-third of industrial workers were in industrial pooling, their annual average salary was 45% higher than the provincial average. Moreover, historical inherited problems of the current pooling system also scare away these industries. And plus, ambiguity in government decision and a lack of effective communication with industries about the benefit of integration have caused some confusions, and conflicts between local governments and industries, and this often caught the central government in between.

⁷ There are 11 industries include electricity power, water and irrigation, railway, post and telecommunication, transportation, coal mine, banking, construction, airline, gasoline, and metal mining sectors. Industrial pooling took place before a nationwide implementation of provincial pooling in 1991. In 1986, Water and Irrigation sector was the first one to form pooling system, and then railway, post and communication and construction sector followed up in 1993. By 1996, there are 11 industries all have completed their own industrial pooling (MOLSS, 2001).

Thus, what will happen to the integration will largely depend on how attractive provincial pooling will become economically? There is no doubt that integration is difficult in light of new difficulties that emerged. Some Chinese scholars pointed out that development of industrial pooling was out of political consideration of central government to protect special industries. It was a mistake from the beginning, and its net impact on China pension reform is hard to assess positively—it may actually prolong the reform process by complicating its unification process.

Some Private Sector

Measures began in 1999 to increase coverage to private, foreign and joint venture enterprises. However, share of private sector in participating in provincial pooling remains small. But this does not mean the private sector is not covered by any kind of pension insurance. Some firms in the fast growing areas have started to offer their employees the commercial-based private pension insurance—some called Enterprise Annuity Program⁸ and other private life insurance. Currently, there is a great interest in private sector in developing of the supplementary pension program. Under this system, workers entrust the accumulation of part of their retirement benefits to the commercial market that some portion of pension funds will be invested in equities in addition to government bonds and bank deposits.

However, developing private pension program meanwhile means less financial resource flowed into the current pooling system, basic pension revenue will have fewer options to expand. In order to attract the private sector to participate in the pools, some enterprises often are allowed to contribute lower rates (10%) on account of their recent entrance to the pension system as compared with national requirement of 20% of employer's contribution. Such practices by some local governments have made pension program lacks of integrity and caused a delay in payment.

So far, it is not clear what pension program China should adopt realistically in the long term, regional-based programs or a unifying national system. However, above review indicates that existence of other multiple pension programs at least in short term makes it almost impossible to unify a national pension system. Current trend of declining SOE and low private sector participation in the pension program only adds more troubles to the existing fragmented provincial pooling system. In principle, unification of system can remove barriers to labor market mobility and achieve economy of scale through risk sharing by various parities. However, in reality, the factors of uneven economic development, variations in inherited financial burdens by enterprises, and rural-urban income differences have to be taken into account in order to evaluate real costs and benefits of unifying a national pension system.

The challenges are real now and the program obviously suffers incentive issue. In the short term, these challenges are 1) what to do to increase the incentives for current SOE firms already in the program, 2) what to do to fully consolidate the special industries into

⁸ Some Chinese experts predict that current individual accounts will be deleted from Pillar 1 and basic pension account (component A) will be kept only to meet the need of social protection of the elderly. If Enterprise Annuity System succeeds in the future and it will substitute current individual accounts, and, its contribution will be made up by both employers and employees.

a provincial pool. In the long term, the challenges are what to do to bring in private and foreign sector participation, what to do to bring in government and public institutions, what to do to develop a rural labor force, and what to do with self-employment and Town and Village Enterprises (TVEs). However, the real challenge for China is to find a way to implement a more funded system and to solve old debt issue before it increases coverage. Extension of coverage not only has proved difficult so far but also increases its pension liability in a long term.

IV. Concluding Remarks

The current China pension system operation is shadowed by the massive overhang pension liabilities accumulated over a period of 50 years or more from the old system. A huge amount of unfunded pension liabilities have retarded the provincial pooling system. Fragmentation of pension system and lack of investment opportunity to yield a higher rate of return for pension fund have created even bigger financial gap to solve pension liabilities.

The paper answered the three questions. How have individual accounts become notional in recent years? Why are there widespread noncompliance and evasions in state-owned enterprises toward pension contribution? Why is the non-state sector representing only a small share in pension program participation? The paper focuses on incentive problems under the provincial pooling arrangement and understands how adverse effects of incapability of separation of the new system from the old pension liabilities have complicated pension reform process and generated a series of unintended reform problems.

- The paper concludes that current provincial pooling system is in financial trouble and public confidence in the system is low. The conclusion is based on the analysis of incentive issues of state and non-state sector and their current pension program profiles. The paper has found that:
- Pension reform has not actually reduced social security burdens for SOE enterprises and improved their financial performance. Declining share of SOE enterprises in participating in pension pooling is the result of combining factors. These factors are uneven level of playing fields created by different debt burdens over enterprises and associated enterprise moral hazard issue, increasing notional individual accounts, and SOE workforce downsizing and privatization.
- Pension reform has not yet succeeded in extending coverage beyond SOEs sector. Non-state sector only accounts for a small share of pension coverage. Two factors explain low incentive of private sector and difficulty for program extension. First, private sector confidence in the system is shaken by high pension liabilities, increasing notional individual accounts, widespread of delays or defaults on pension contribution and payment. Second, existence of multiple pension programs across different economic sectors is actually working against the process of unification of national pension system.
- Private sector's confidence is affected by high pension liability of SOE enterprises. Unless the flaw is corrected, the pension system is in a vicious cycle.

Solving old pension debt issue is difficult because of limited coverage; limited coverage reduces financial resources and increases difficulty in solving the debt and will lead to a further decrease in coverage. Moreover, given many uncertainties in the system, private sector sees the future risk of participating in the common pool will hurt their company's international competitiveness, especially after China joined WTO trading system.

Thus, urban pension system counting on state sector is not sustainable without a substantial increase in the number of participants in the non-state sector. However, the study shows that the effort has not succeeded. The government is facing a stark dilemma. Incapable of separating the old pension liability from the current pension financing system has led to an accumulation of unfunded individual accounts. The unfunded pension system and lack of capital accumulation of pension fund have shaken the confidence of current contributors of state enterprises and scares away new contributors from private and foreign invested enterprises. However, limited coverage, low program participation and widespread noncompliance and evasion reduce its pension revenue collection, increase financing gap and in fact double the difficulty to finance the liability, and that would further scare away new contributors too. The paper argues that the reform missed the most fundamental issue from the very beginning, it ignored the old pension debt issue that is how to cover transition costs. Solving the old debt issue is never a simple issue for any countries that have shifted from a PAYGO system to a multi-pillar system. But denying it can only double transitional costs and in the meantime, encounter more economic disincentive and political resistance.

So the real implication is that possibilities of increasing financing the rising cost of pension benefit in the short or medium term by extending the coverage of schemes is extremely limited. Increasing employer contribution rates is not financial viable either, as it could only further hurt enterprises' productive competitiveness.

Caught between the rock and a hard place, the government will have to figure out the approach and structure a reform path that follows pension reform sequencing. First is to solve the old pension liabilities through pushing for financial capital market development or by ensuring some sort of central government responsibility. Currently, the Government is considering several initiatives to meet the pensions shortfall through special taxes, lottery, issue of recognition bonds, sale of state owned enterprise assets, launch of Chinese Tracker Fund. Second, is to build the public confidence in the success of the pension system and gain the cooperation and willingness of public and private interest in the system by increasing compliance rate and improving program design. With all these reform efforts put in place, the pension reform outcomes will be both credible and financially viable.

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