

A SIMPLE SOLUTION TO CHINA'S PENSION CRISIS

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The reform of China's social security system is a critical component of China's overall economic reform. There are many problems and challenges in the current Chinese pension system. China is experiencing a rapidly aging population. The one-child policy and significant improvement in living standards make China's aging problem more serious than any other country. According to the World Bank (1994), China's aging population will reach a peak by 2030. There will be 0.3 billion people over 60, which will account for 22 percent of the population. China's old-age dependency ratio is expected to rise from today's 3.65 for every retired person to only 2 workers per retiree by 2030 (Li and Xu 1996). Consequently, China faces a monumental challenge to support its aging population, a challenge the old pay-as-you-go (PAYGO) system cannot meet.

Since 1995, China has restructured its pension system by combining the old PAYGO system with a funded system relying on individual savings accounts. That policy change is based on economic theories and other countries' experiences. In 1958, Paul Samuelson showed that an unfunded PAYGO system has a rate of return equal to the growth of aggregate real wages. However, he assumed there is no capital stock in the economy. Once we recognize that actual economies have capital stocks and that the marginal product of capital can exceed the growth of aggregate wages, we realize that a funded system can be more efficient than a PAYGO system. Consequently, for the same level of pension benefits, the required saving rate in a

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funded system is much less than the tax required in an unfunded system (Feldstein 2000).

Lessons from Western countries also show that a national social security program with a PAYGO system is unsustainable. Declining fertility rates, rapidly aging populations, and the incentive problems embodied in a PAYGO system have led to huge unfunded liabilities. As a result, many Western governments must either raise payroll tax rates or reduce promised benefits, or a combination of the two, to keep their PAYGO programs solvent. Rather than continue to increase taxes or reduce benefits, some countries are shifting from a PAYGO to a funded system.

China's rapidly aging population, strong economic growth, and high return on capital mean that a funded pension system would be more efficient than a PAYGO system (Li and XU 1996). Yet, there are many problems in implementing the new Chinese pension system. The root problem is the lack of a well-designed transition plan that bridges the old system and the new one. In this study, we analyze the transition problem and provide a simple solution. We argue that the combination of Chinese families' emphasis on education, strong economic growth into the foreseeable future, and the current lack of income smoothing at the individual level makes borrowing now and taxing future generations a fairer and more cost-effective way to finance the transition cost.

The Dismal State of China's Pension Reform

The long-standing debate on China's pension crisis eventually reached a consensus that China should establish a partially funded pension system. That consensus is embodied in the existing government reform program that aims to establish a three-pillar system. The first pillar is a PAYGO pension financed by pooling funds citywide. The second pillar is a system of individual savings accounts funded by both employees and employers. The third pillar is a supplementary pension funded by employers.

Although China's pension reform is reasonable, its implementation has been dismal. There are three major problems. First, there is widespread payroll tax evasion. According to China's Ministry of Social Security, the deficit of the social pooling funds has been deteriorating. In 1999, the deficit was RMB 18.7 billion, and in 2000 the deficit was nearly RMB 35.7 billion. If the current situation persists, the accumulated deficit will reach RMB 1,800 billion in 25 years. On average, the deficit will be RMB 71.7 billion each year.

Second, the social security agencies have been using workers' in-

dividual savings accounts to cover the deficit of the pooling funds and to pay the pensions of current retirees. Thus, the individual savings accounts exist in name only. The amount transferred from individual savings accounts to the pooling funds has already reached RMB 199 billion (about 2 percent of GDP), which creates an implicit future liability for the pension system.

The third problem is that the remaining funds in individual savings accounts are improperly managed. The funds have been put in state banks, earning very low rates of return that are lagging behind the growth of real wage rates in many regions. Thus, the current practice defeats the purpose of individual savings accounts.

The root problem of the dismal state of China's pension reform is the lack of a coherent transition plan to bridge the gap between the old PAYGO system and the new partially funded system. In particular, the problem is to ensure that individual savings accounts are fully funded while at the same time honoring the government's obligation to pay current retirees. Due to the lack of a proper transition plan, it is inevitable that the social security agencies in China are using pension pooling funds and diverting existing individual savings accounts to pay current retirees. After all, paying current retirees is a more urgent political issue than honoring future obligations.

The Transition Plan: Two Basic Options

Conceptually, there are two basic options for the transition from a PAYGO pension system to a fully or partially funded pension system. Variations of each of the options as well as mixtures of the two basic options are also possible. One option is to tax the current generation (TCG) to pay the full transition cost. The government may directly tax the current workers or, equivalently, tax their employers, and use the revenue to finance the pension of the current retirees. Under this plan, the current working generation is sustaining a double burden: they must put funds into their individual savings accounts for their own retirement, and they must pay taxes to support current retirees.

The second option is to tax the future generation (TFG) to pay for the transition cost of supporting today's retirees. The simplest way to do this is by issuing public debt and using the funds to pay the pensions of current retirees. Future generations will pay more taxes to the government than otherwise so that the government will be able to pay off the debt.

Under China's existing arrangement, the current generation of workers are paying the full cost of the transition, but they cannot expect to benefit from their individual savings accounts. We believe it

would be a winning strategy to abandon this ill-fated transition plan and adopt option two, the TFG plan.

Using Debt to Fund China's Pension Reform

We argue that in the Chinese case, it is better to adopt the debt option by issuing an earmarked pension reform debt (PRD) and use the funds to finance the pensions of current retirees. The PRD should be specially managed by an independent government agency and should be separate from any existing debts.

We base our policy proposal on the assumption that China will continue to liberalize its economy and enjoy strong growth. We also expect China to continue its one-child family planning program. If our assumptions are correct, real wage rates will continue to rise at a fast rate, the return to human capital will increase, and Chinese parents will continue to make large investments in their children's education.

By inducing today's parents to make more investments in their children's education, the PRD will improve the long-term growth prospect of the economy. In other words, the PRD arrangement is efficiency improving. The reason is that the supply of loanable funds to finance a child's education is very limited, especially below the college level. A child's future human capital cannot be used as collateral for their parents to borrow today. By using debt rather than payroll taxes to fund the transition to the new pension system, the government will increase the wealth of the current generation of workers.¹ The higher wealth of the parents, which includes their investment in the PRD, induces them to increase their investment in their children.

The use of debt to finance transition costs is not only more efficient than the TCG plan, it is also welfare improving. Given that the Chinese economy is likely to continue following the path of rapid growth, the living standard of future generations is likely to be much higher than the current generation. The transition debt, in essence, is a massive income redistribution from the future generation to the current generation—that is, from a high-income group to a low-income group. Such an income-smoothing scheme is certainly welfare improving.

Let us use a simple numerical example to illustrate our proposal.

¹We implicitly assume that the Ricardian equivalence of debt financing and tax financing is not working in today's China due to the liquidity constraint parents face in borrowing for their children's education.

Suppose that the total obligation of the government to existing retirees is RMB 1,000 per household per year during the economic life of the household. The annual income of each household is RMB 10,000, and each household saves 30 percent of its after-tax permanent income and spends 20 percent on its child's education, that is, on investment in human capital. Table 1 compares the two options of financing the pension transition obligation.

We see that, in comparison with tax financing of the pension obligations, the PRD option induces higher investment in human capital, which boosts long-term economic growth and encourages higher consumption by the current generation. The only drawback is that the PRD plan reduces the flow of savings to China's financial market by RMB 700. That weakness, however, is unlikely to have a significant cost.

First, China's financial market has been highly inefficient in channeling savings into effective investments, which can be characterized as a mild financial repression (Li 2001). The banking sector is domi-

TABLE 1
AN ILLUSTRATION OF THE IMPACT OF TAX FINANCING VERSUS
DEBT FINANCING OF CHINA'S PENSION REFORM
(RMB Per Household per Year)

	Tax the Current Generation (TCG)	Issue Pension Reform Debt (PRD)
Total obligation to the current retirees	1,000	1,000
Household permanent income (PI) before tax	10,000	10,000
Household PI after tax	9,000	10,000
Current consumption (50% of PI after tax)	4,500	5,000
Child's human capital investment (20% of PI after tax)	1,800	2,000
Total household savings (30% of PI after tax)	2,700	3,000
Holding of PRD	N/A	1,000
Savings flow to the financial market	2,700	2,000

nated by four state banks, which have been ineffective in making good project selections. The securities markets are not only very small (accounting for about less than 15 percent of total new investments in recent years) but also highly inefficient. According to a recent study by Wang, Xu, and Zhu (2002), five years after being listed in China's stock markets, most companies failed to improve their economic efficiency.

Second, given the large amount of foreign capital inflows in the form of foreign direct investment (FDI), a moderate reduction in domestic savings is likely to be filled by foreign investment.

Another very common concern is whether the total amount of debt of the Chinese government as a result of issuing the PRD will be too big to be sustainable. Our answer is optimistic. We base our answer on a set of simple calculations. There are four sources of government debt: (1) explicit domestic debt due to budget deficits, (2) foreign debt, (3) implicit debt in the form of nonperforming loans (NPLs) of the state banks, and (4) the PRD issued to cover obligations to the current generation of retirees. In the following calculations, we will disregard future interest payments on the debt, assuming that the rate of growth of GDP is the same as the real interest rate. An assumption that seems quite reasonable for China.

The explicit domestic public debt is now around 15 percent of GDP and is expected to be 45 percent by 2018, assuming 10 years of deficits equal to 3 percent of GDP and then balanced budgets thereafter. As for the level of foreign debt, we assume that the current level of 15 percent will be maintained, given the large amount of FDI that has reduced the need of debt financing.

The amount of implicit debt due to the NPLs of state banks is a controversial issue. Currently, the percentage of NPLs is reported to be around 20 percent of outstanding loans. Suppose that the ratio will swell to 30 percent and that the total outstanding loans of the state banks is roughly the same size as China's GDP. Also, assume that about 50 percent of the NPLs cannot be recovered. Thus, the implicit debt to the central government due to state banks' poor asset quality will be around 15 percent of GDP.

Finally, how large is the PRD? If urban retirees represent about 15 percent of the urban work force, or 4 percent of the total work force, and wages are about 75 percent of GDP, then the government needs to pay retirees 3 percent of GDP to maintain their living standard at the same level as the current labor force. Assuming that a representative retiree is currently 60 years old and will live another 15 years, the PRD would be 45 percent of GDP (Table 2).

Given our assumptions, we expect the total amount of Chinese

TABLE 2
AN ESTIMATION OF CHINESE CENTRAL GOVERNMENT DEBT
BY 2018

Sources of Debt	Percentage of GDP by 2018
Domestic Public Debt	45
Assuming budget deficits remain at 3% of GDP for 10 years before balancing and that existing government debt is around 15% of GDP.	
Foreign Debt	15
Assuming no change from 2003.	
Nonrecoverable Nonperforming Loans of State Banks	15
Assuming 30% of outstanding bank loans are nonperforming, 50% of which are nonrecoverable, and that total outstanding loans of state banks are 100% of GDP.	
Pension Reform Debt (PRD)	45
Assuming that urban retirees are 15% of the urban labor force, or 4% of the total labor force, and live an average of 15 years after retiring at age 60, and that wage income is 75% of GDP. Thus, the flow to pensioners is 3% of GDP a year for 15 years.	

SOURCES: China Statistical Year Book (various years) and author's calculations.

government debt to be around 120 percent of GDP by 2018 (Table 2). Is that level too high to be sustainable? In most countries, it might be. In the Chinese case, we argue that it is sustainable. The main argument is that the Chinese government also has a large amount of assets. According to various estimates, the book value of total capital stock in China is around 2.5 to 3 times GDP (Chow 1993, Zhang and Zhang 2003). The Chinese government owns about one half of all assets. Thus, the book value of the Chinese government's assets is about 125 to 150 percent of GDP, which more than offsets the peak level of government debt. Second, and more important, the seemingly alarming amount of debt is accumulated due to economic reform. If reform is successful, it will generate a steady expansion of the economy, enabling a rapid reduction of government debt relative to GDP.

Selling Governments' Equity Shares in State-Owned Enterprises

In recent years, many analysts have proposed that the various governmental organs should sell their holdings of equity shares in state-owned enterprises (SOEs), especially shares of SOEs listed on the stock exchanges, as a way to finance the pension reform. Although such plans may solve the cash flow problem of the current pension system, we believe that, in general, they are inferior to the PRD program.

In the best scenario, the program of selling government equity shares is equivalent to the PRD plan. By selling equity shares, government agencies at various levels forgo future benefits. Therefore, the governments will need to raise more taxes from future generations to cover the lost benefits of reduced equity holdings. Meanwhile, if the government can sell the equity shares at prices equal to the discounted sum of future dividends and price increases, the revenue from the sales can be used to cover current liabilities to existing retirees, relieving the burden on the current generation of workers. Thus, in this scenario, the program of selling equity shares is equivalent to issuing the PRD.

However, there are many complications in selling governments' equity shares, given the primitive state of China's stock markets. The bottom line is that the issue of selling state equity shares is tangential to that of financing a transition of the pension system and should be discussed separately. Specifically, the main policy objective of the equity sales should be improving corporate efficiency and promoting more efficient stock markets rather than raising revenue to cover the transition costs of the pension reform, which can be more easily accomplished by issuing the PRD.

Conclusion

The absence of a well-designed transition program has been the root cause of the dismal state of China's pension reform. China should adopt a transition plan based on the use of pension reform debt (PRD) to cover the transition costs. Our PRD plan promotes efficiency and improves fairness by inducing faster long-term economic growth and smoothing income across generations. Meanwhile, we argue that the issue of selling governments' equity shares in SOEs is at best tangential to that of the pension reform and should be left to the discussion of SOE reform and improving the function of the stock markets.

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