Abstract

Transition from Pay-As-You-Go (PAYG) to a funded pension system makes implicit pension debt explicit. Under the current partly funded pension system, pension deficits and notional accounts come to gain wide concerns. This paper mainly analyzes the most important instruments for financing Chinese old-age insurance.

Key words: Funding; China; Transitional pension insurance

I. Introduction

For a long-time, Chinese pension system was Pay-As-You-Go (PAYG) in nature, i.e., the working generations contribute to finance the benefits to the retirees. Under this system, population growth would benefit each preceding generation since there would be more young people supporting the retirees. However, problems arose when population growth rates began to decline. The Chinese PAYG system was no longer sustainable due to two severe problems: the urgent and immediate problems of the pension burden of state-owned enterprises (SOE), and the longer-term problem arising from rapid aging of the population (World Bank 1997).

Like other countries, the direction for Chinese pension reform is to move from PAYG to a funded system. That is, contributions are from current employees, and accumulated contributions and investment returns are used for their future pension benefit. After considering many factors, the Chinese government adopted a partly funded system as the transitional pension system. This system mixed three elements
of a basic public pension based on a PAYG basis, fully funded pension financed by mandatory contributions, and voluntary personal savings, in which the basic public pension plays a major role.

During the Chinese pension transition, the implicit pension debt to each upcoming generation becomes explicit as the current generations save for their personal accounts. Estimations regarding this debt are quite different, varying from 1 trillion Yuan to 10 trillion Yuan. Most researchers, however, believe that 3 trillion Yuan is the appropriate estimation.

Under the new pension system, the debt problem has become urgent based on three facts: (1) underestimated contribution base (Yun-Qing Zhang, 2000); (2) early retirement (Zuo-Ji Zhang 2000) and (3) the unique one-child policy of China. To illustrate, pension deficits occurred in 5 provinces in 1997, increasing to 21 in 1998 and 25 in 1999. Considering the whole Chinese pension insurance balance, we find that China’s pension deficit was 5.7 billion Yuan in 1998, and further rose to 7.3 billion Yuan in 1999 (Jian-Min Yang 2000). Moreover, the fund in the notional account has been increasing with the introduction of new pension system: it was more than 14 billion Yuan in 1997, 45 billion Yuan in 1998, and more than 100 billion Yuan in 1999 (Xiao-wu Song 2000).

Since the usual instruments cannot solve the problems of explicit debt, the government has to find other alternatives, and the issue of funding started to gain increasing concerns. The World Bank, for example, proposed some suggestions by issuing bonds, selling assets, etc. Recently domestic researchers also began to analyze this problem. However, both domestic and alien studies had one common limitation: they are not specific. And the purpose of this paper is to outline an effective and detailed package for funding the transitional cost.

Basically speaking, there are three sources for the finance of Chinese old-age insurance (see diagram 1): (1) collecting from the private sector. Increasing pension contribution can be done by either increased contribution rate or extended coverage. As we will discuss later, the former alternative is not suitable at present, and we just focus on the latter choice; (2) adjusting governmental budget; and (3) selling part of SOE asset. So, this paper is organized as follows. Section 2 analyzes the possible
effects of extending coverage policy, and some further suggestions. Section 3 is about the most popular suggestion in China—transferring SOE assets in the capital market, and comments are made on the suggestions of some influential economists. Section 4 analyzes fiscal adjustment and final section concludes the paper.

Diagram 1    Sources for Chinese Transitional Pension System

We should point out that we focus primarily on the most important instruments in our paper. Other alternatives, such as issuing a lottery, can partly help the government survive the current crisis in some areas, but this is not a long-term alternative. In addition, the choice of pension collection, such as fee or tax, will be left for future research. Finally, transitional pension system here only refers to its major part: Unified Enterprise Pension System.

II. Analysis on Extending Coverage

Extending pension coverage is expected to increase pension contribution, reduce dependency rate, and lower the pressure of paying off pension debt. Based on above beliefs, the Chinese government regards the extension as an important channel for finance. For instance, one part of China's Tenth Five-Year-Plan (2001-2005) is "to expand the coverage of basic pension funds on the basis of regulations and relevant policies, and all the enterprises including state-owned enterprises, urban collective-owned enterprises, foreign funded enterprises, private enterprises and others should
be brought into public pooling system, and pooled at the provincial level.”

The authors view that the direction to enlarge coverage is on the right track since it reflects the trend of standardized pension systems. There are still some problems, however, in the aggressive plan of extending pension coverage specifically the following factors:

(1) The room for further expansion of the coverage is limited. Based on Table 1, the ratio of participating SOE employees to the participating employees of all enterprise declined by 10%, while the corresponding ratio on other enterprises rose by 10%. Since the employees participating in the old insurance were mainly from SOE and urban collective-owned enterprises (amounting more than 87% of total employees contributing to old-age insurance), the room for aggressively extending other enterprises’ coverage is obviously constrained.

Table 1. The Ratio of Employees Contributing to Old-Age Insurance (%)  

<table>
<thead>
<tr>
<th>Year</th>
<th>SOE</th>
<th>Urban Collective-owned Enterprise</th>
<th>Other Ownership Enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>80.4</td>
<td>16.6</td>
<td>2.9</td>
</tr>
<tr>
<td>1997</td>
<td>79.4</td>
<td>16.6</td>
<td>4.0</td>
</tr>
<tr>
<td>1998</td>
<td>78.4</td>
<td>16.2</td>
<td>5.4</td>
</tr>
<tr>
<td>1999</td>
<td>74.6</td>
<td>17.1</td>
<td>8.3</td>
</tr>
<tr>
<td>2000</td>
<td>70.9</td>
<td>16.1</td>
<td>13.0</td>
</tr>
</tbody>
</table>


(2) Administration cost will increase. With the expansion of pension coverage, two kinds of related costs will also increase. One is due to the resistance from enterprises: when the government is expected to extend coverage, employees in the new enterprises will think the government is shifting social burden to them, and they will respond by trying to evade it. Another kind of cost concerns covering individual business and the self-employed, since the task of monitoring these enterprises is very
(3) Future pension payment burden will also increase. If China rapidly increases the number of employees contributing to pension insurance in such a short time, it is definite that the highly concentrated pension payment burden will occur in the future.

(4) Some drawbacks in extending the coverage are.

First, the policy will hurt the rural old farmers. Chinese rural social security is still traditional in which elder farmers depend mainly on transfers from their children who stay with them or who migrate to urban areas. When government increases coverage to self-employed that emigrate from countryside to city, the new immigrants will have less disposable income to submit to their farmer parents. Of course, it is fair for the new contributors themselves since they can get defined benefits in the future. But their parents will suffer due to this increased coverage in new system.

Second, the welfare level for the poor will decrease since they are too poor to participate any kind of pension system. The poor households’ income is enough to meet consumption only for necessity, and saving for old age is not that much of a priority. They put much greater value their value on consumption today than tomorrow. Since savings for the poor households is almost impossible, forced participation will reduce their current welfare.

Finally, constraints on the self-employed will increase. Mandatory pension system imposes constraints on the investment in productive inputs of the self-employed rather than on their ability to smooth consumption. Due to huge amount of non-performing-loans, Chinese commercial banks are unwilling to extend loan to them. The interest rate for their investment can be very high, while the net marginal returns to a unit of capital invested will be considerably higher than that of investment of the social security agency within their provinces.

The task of extending pension coverage is therefore difficult from the participant’s point of view. High administration cost, poor contributors, and potential financial pension pressure will hinder the process of extending coverage. Thus, the coverage should be extended gradually rather than rapidly so that pension contributions will be efficiently collected with smaller obstacles and smaller cost.
In addition, balance between efficiency and fairness should be made. On the one hand, the government needs to design a scheme that will increase contributor's incentive while it enlarges pension coverage. On the other hand, welfare effect on the poor, both from rural areas and from urban cities, should be considered.

Specifically, two alternatives are proposed to bridge this dilemma. First, the government can opt to subsidize coverage. Although this method might be criticized since it will consume already limited governmental resources, the rational of this suggestion is that the subsidy is significant for the poor, and is better than tax treatment policy on voluntary contribution that usually benefits high-income individuals only (World Bank 2001). Learning from international experiences like Mexico, China can design a scheme where the government deposits a flat average wage into individual defined contribution accounts.

Second, cooperation with an existing group through an industry-wide scheme can reduce transitional costs for individuals in the same sector. Some organizations, such as non-government organizations (NGOs), are similar with record keeping and money transfer for those of the self-employed in the construction and entertainment industries. The government can take advantage of this to improve efficiency. In fact, empirical study indicates that the governments both in Peru and in India work well with NGOs to expand coverage in the pension scheme (World Bank 2001). Also, China can learn from the above successful experiences. Meanwhile, the crucial issue for the Chinese government at present is the section of a highly efficient organization through competitive bidding.

III. Analysis on Transferring SOE Asset

Transferring part of SOE asset for implicit pension debt is widely suggested by economists, because the facts of the former Chinese economic development model were low salary, low consumption and high capital formation. Specifically speaking, parts of young workers' wage incomes were transferred to SOEs, and SOEs transferred them to the state in the form of profit and tax. The government then invested the revenue back to its SOEs around the country. As a result, the value of
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SOE asset ballooned at the cost of low wages of the young workers. For example, growth rate of real wage was only 0.38% during 1952-78, while growth rate of capital formation climbed from 21.4% to more than 36.5% in the same period (Qixiang Sun 2001).

When these young workers retired, they had insufficient wealth to support themselves. And their wage incomes were seriously exploited during the Cultural Revolution (1966-1976); as a result, workers were not able to save enough for their future. Therefore, it is the responsibility of government to pay off pension benefit for the current retirees who were young at that time. And this suggestion is fair both for the government and the current elders. The typical alternative is to liquidate SOE assets by reducing state shareholding.

According to the China Securities Regulatory Commission’s tentative plans, the amount of shares owned by the State should be reduced from 62% of the shares of all listed companies on the domestic stock market to 51% for a minimum absolute majority holding. 30 billion shares out of the 284.6 billion shares would then become non-State in the near future, to be followed by another 91 billion shares during second phase.40

The purpose of this scheme was to fund the pension system by collecting 10% of net proceeds in selling SOEs assets, or in issuing new non-tradable share by listed firms. However, based on Box 1, the behavior towards the reaction clearly indicated that the Chinese stock price was negatively affected by the scheme of reducing state shareholding. The main reason was mainly due to the unfairness to tradable shareholders.

In China, A share was classified as “tradable share” and “untradable share”, the classification was based on the ideas that capital market should serve for SOEs. In other words, SOEs with untradable share have access to capital market. Because the major part of share was untradable, the price of limited tradable share was easily “overvalued”.45 And only tradable shareholders, instead of untradable counterparts (SOEs), had to buy new share at the market price. For SOE shareholders, they could increase investment on new project with capital from tradable shareholders and benefit from profit without much risk, and the value of State share increased.
Box 1 The reaction of the reducing state-owned holding

In December 1999, China Security Regulatory Commission picked two listed companies to try out the sale by placing State shares with existing public shareholders, but sales were largely flat because the shares were overvalued.

When chairman of China Securities Regulatory Commission (CSRC) said in June 2000 that he was not so optimistic to this scheme, indices fell thoroughly since 1994.

By 23rd October 2001, the share indices had fallen about 30% since the scheme took effect in July 2001, wiping more than 1.8 trillion Yuan (US$217 billion) of A-share market capitalization. The loss was about 18.8 % of GDP in 2001.

On 23rd October 2001, regulators were forced to suspend this scheme, and indices soared nearly 10 %.

In December 2001, Chinese government announced China would eventually resume the sell down of State-owned shares as a "long-term" undertaking.

In January 2002, CSRC announced 7 kinds of schemes by considering about 4300 schemes from all levels of society, and indices fell again.

Source: http://www1.cei.gov.cn/forum50/

When government initiated the scheme of reducing state shareholding under such situation, individual investors were forced to buy new reducing-state-share together with new share. They thought it unfair to purchase new share with overvalued price, and they were not confident in getting high dividend from capital market in the future. Because of the lack of market confidence, the stock market shrank soon after the initiation of new scheme.

Reducing state shareholding to finance for social security is regarded as a long-term strategy, since China has a huge amount of asset to supply, and domestic investors basically have the ability to buy. The key issues are determining proper price of SOE asset and dealing with the procedure of the scheme.
(1) Determination for the Price of SOE Asset

Price is essential for market exchange. In the past schemes of reducing state shareholding, assets prices were so high that investors could not afford to buy them. As a result, the capital market almost collapsed. Prudent price policy needs special attention for the coming scheme. That is, China should set up a nationwide public bidding committee to select the best offers for the stakes on sale, with thresholds set for the buyer's qualifications.

(2) Can we transfer SOEs asset directly to National Social Security Fund (NSSF)?

Currently, when SOEs sell their shares in the capital market, a part of revenue from reducing state shareholding finally flows to the NSSF, which manages and invests funds in the capital market. Some economists then suggest that change SOEs untradable share to tradable share directly, and then transfer it to the NSSF. In this case, it is the NSSF rather than individual SOE that reduces state shareholding. Zhi-wu Chen (2001) pointed out that this method had the following advantages: it could collect pension and restructure SOEs at the same time; avoid the procedure of designing proper price; stabilize capital market; and reduce transaction fee. Yi-lin Li (2001) suggested transferring part of SOE asset to the social security fund, and setting up individual accounts for “old person”, part of “middle person” as well as “new person” with notional account. Fan Yang (2002) even argued transferring half of SOE asset, and the remaining half could be given to shareholders freely.

The common character of the above suggestions is the shift of the task of reducing state shareholding to NSSF. Questions arise as to the suggestions. First, how can the NSSF deal with government bureaus or SOEs when the government transfers public asset to NSSF? How do individual pensioners monitor the operation of NSSF as they principally have the ownership right on SOE asset? Second, how to keep the process of reducing state shareholding transparent if the NSSF operates “in silence and in secret” based on the suggestion of Zhi-wu Chen (2001)? How can the price remain reasonable? There are fears that the NSSF will increase SOEs asset value again with a strategy similar to the former one. As a result, the burden of implicit pension debt will finally be shifted to investors. Is this scheme feasible? Probably not, because once investors have the expectation that the government is
still taking money from their pockets with an unfair regulation (i.e. investors have to
pay higher price to purchase stock), they will respond to any reducing state
shareholding decision by "voting with their feet" and withdrawing from the capital
market again.

IV. Analysis on Fiscal Adjustment

When all of the above alternatives are not effective, adjusting fiscal sources is the
final choice. China has four kinds of fiscal instruments to fill the gap. The first is
to use the budget surplus. The second is to adjust expenditure structure, in which
the government can compensate retirees by reducing other governmental expendi-
tures. Increasing tax revenue is the third choice. And the last alternative is to issue
Treasury bonds. These instruments to pay off Chinese old-age insurance debt will be
described and evaluated in more detail below.

(1) Using Budget Surplus

Making use of the budget surplus is the best way to fund pension insurance
because of minimum political or economical resistance. However, this method does
not apply to China since it has had a budget surplus only twice (1981 and 1985)
between 1980 and 2000 (See Table 2). Moreover, budget deficit has been increasing
since 1986. 

Table 2. Government Revenue and Expenditure

Units: 100 million Yuan RMB

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Revenue (1)</th>
<th>Total Expenditure (2)</th>
<th>Balance (1) - (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>1159.93</td>
<td>1228.83</td>
<td>-68.9</td>
</tr>
<tr>
<td>1981</td>
<td>1175.79</td>
<td>1138.41</td>
<td>37.38</td>
</tr>
<tr>
<td>1982</td>
<td>1212.33</td>
<td>1229.98</td>
<td>-17.65</td>
</tr>
<tr>
<td>1983</td>
<td>1366.95</td>
<td>1409.52</td>
<td>-42.57</td>
</tr>
<tr>
<td>1984</td>
<td>1642.86</td>
<td>1701.02</td>
<td>-58.16</td>
</tr>
<tr>
<td>1985</td>
<td>2004.82</td>
<td>2004.25</td>
<td>0.57</td>
</tr>
<tr>
<td>1986</td>
<td>2122.01</td>
<td>2204.91</td>
<td>-82.9</td>
</tr>
<tr>
<td>1987</td>
<td>2199.35</td>
<td>2262.18</td>
<td>-62.83</td>
</tr>
<tr>
<td>1988</td>
<td>2357.24</td>
<td>2491.21</td>
<td>-133.97</td>
</tr>
<tr>
<td>1989</td>
<td>2664.9</td>
<td>2823.78</td>
<td>-158.88</td>
</tr>
<tr>
<td>1990</td>
<td>2937.1</td>
<td>3083.59</td>
<td>-146.49</td>
</tr>
<tr>
<td>1991</td>
<td>3149.48</td>
<td>3386.62</td>
<td>-237.14</td>
</tr>
<tr>
<td>1992</td>
<td>3483.37</td>
<td>3742.2</td>
<td>-258.83</td>
</tr>
<tr>
<td>1993</td>
<td>4348.95</td>
<td>4642.3</td>
<td>-293.35</td>
</tr>
<tr>
<td>1994</td>
<td>5218.1</td>
<td>5792.62</td>
<td>-574.52</td>
</tr>
<tr>
<td>1995</td>
<td>6242.2</td>
<td>6823.72</td>
<td>-581.52</td>
</tr>
<tr>
<td>1996</td>
<td>7407.99</td>
<td>7937.55</td>
<td>-529.56</td>
</tr>
<tr>
<td>1997</td>
<td>8651.14</td>
<td>9233.56</td>
<td>-582.42</td>
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<tr>
<td>1998</td>
<td>9875.95</td>
<td>10798.18</td>
<td>-922.23</td>
</tr>
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<td>1999</td>
<td>11444.08</td>
<td>13187.67</td>
<td>-1743.59</td>
</tr>
<tr>
<td>2000</td>
<td>13395.23</td>
<td>15886.5</td>
<td>-2491.27</td>
</tr>
</tbody>
</table>

Source: China Statistical Year Book (2001), pp.245
Note: Total government expenditures include the payment for interest of domestic and foreign debts from 2000

(2) Adjusting Governmental Expenditure

China can also cut other expenditures to compensate pension insurance. The scope and depth of expenditure adjustment depends on the role of the government in a new stage. The Chinese economy is now in transition, that is, it is transforming from a highly planned economy to a market-oriented economy. This transition requires a corresponding change of governmental role in the economy. Specifically, the new role of government is not to replace the market, but to make the market operate efficiently. In other words, government activity should be mainly based on intervention in case of “market failure”--- such as imperfect competition; public goods; externalities; incomplete market; imperfect information; unemployment and
other macroeconomic disturbances (Joseph E. Stiglitz 2000).

Based on the above theory of public finance, the Chinese government should reduce its expenditure in these competitive areas, and the ratio of the expenditure on economic construction to total expenditure should correspondingly decrease. And the ratio of expenditure in public areas (such as cultural and educational expenditure) to total governmental expenditure should increase step by step, or at the very least, remain at its previous level.

In the case of China, expenditure on administration should also be reduced with the adjustment of governmental role: overstaffed bureaus or agencies that were set up in the planned-economy and are not necessary to market operation should be cut.

In practice, however, governmental expenditure operation does not always reflect this requirement. For example, as shown in Table 3, the ratio of administration expenditure to total expenditure did not slow down; instead, it rose by 5% (from 12.22 % in 1991 to 17.42 % in 2000). This clearly indicates that there is a long way to go to reform government agencies.

Despite this, there is still some room to cut administration cost if the Chinese government makes efforts to do so. And the government can also gradually withdraw from competitive investment fields, which can provide some funds for Chinese old-age insurance.

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Construction</th>
<th>Social, Culture</th>
<th>National Defense</th>
<th>Governmental administration</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>42.18</td>
<td>25.09</td>
<td>9.75</td>
<td>12.22</td>
<td>10.75</td>
<td>100</td>
</tr>
<tr>
<td>1992</td>
<td>43.1</td>
<td>25.92</td>
<td>10.1</td>
<td>12.38</td>
<td>8.5</td>
<td>100</td>
</tr>
<tr>
<td>1993</td>
<td>39.52</td>
<td>25.38</td>
<td>9.17</td>
<td>13.66</td>
<td>12.26</td>
<td>100</td>
</tr>
<tr>
<td>1994</td>
<td>41.32</td>
<td>25.92</td>
<td>9.51</td>
<td>14.63</td>
<td>8.61</td>
<td>100</td>
</tr>
<tr>
<td>1995</td>
<td>41.8</td>
<td>25.74</td>
<td>9.33</td>
<td>14.6</td>
<td>8.47</td>
<td>100</td>
</tr>
<tr>
<td>1996</td>
<td>40.74</td>
<td>26.21</td>
<td>9.07</td>
<td>14.93</td>
<td>9.04</td>
<td>100</td>
</tr>
<tr>
<td>1997</td>
<td>39.5</td>
<td>26.74</td>
<td>8.8</td>
<td>14.72</td>
<td>10.24</td>
<td>100</td>
</tr>
<tr>
<td>1998</td>
<td>38.71</td>
<td>27.14</td>
<td>8.66</td>
<td>14.82</td>
<td>10.68</td>
<td>100</td>
</tr>
<tr>
<td>1999</td>
<td>38.38</td>
<td>27.59</td>
<td>8.16</td>
<td>15.32</td>
<td>10.54</td>
<td>100</td>
</tr>
<tr>
<td>2000</td>
<td>36.18</td>
<td>27.6</td>
<td>7.6</td>
<td>17.42</td>
<td>11.19</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: All ratios are calculated on the basis of China Statistical Year Book (2001), pp.252

(3) Increasing Government Revenue

The Chinese government can also compensate the old-age insurance by increasing its revenue collection. All things being equal, either broadening tax base or increasing tax rate can increase tax revenue. This method has the advantage of reducing future contribution rate. Otherwise, if the contribution rate (or tax rate) does not increase, the task of compensating old-age insurance will be finally borne by future generations that might find the contribution rate too high to bear. In this case, increasing contribution rate by increasing tax burden is a good alternative in terms of inter-generational fairness. However, the tax burden in China, measured as the ratio of broader government revenue to GDP (in 2000, it was 25.1%), is a little bit higher than other developing countries in which tax burden varies from 16% to 20% (Ti-fu An 2002). Also, a heavy tax burden will affect China's economic competitiveness and sustained economic growth: leading to high production costs for enterprises, decreased exports and foreign direct investment, etc.

(4) Issuing Bonds

Issuing bonds is also regarded as another useful alternative for funding. The
advantage of issuing bonds is that it serves as a temporary reduction in the burden on current generations. The drawback, however, is a worsening of social burden on the future generation. In China, the amount of domestic bonds has been increasing with the exception of 1993, implying increased social burden on the future generation.

**Figure 1. Trend of Domestic Debts (1990-2000) (Units : 100 million Yuan RMB)**

Source: Finance Year Book Of China (2001), pp. 368

Note: Chinese government has issued domestic bonds very rapidly since 1997 due to its anti-recession fiscal policy.

V. Conclusions

When making a policy for financing transitional pension insurance, the Chinese government should not only consider its needs, but also the effect on contributors and investors. In addition, the trade-off between efficiency and fairness should be carefully examined.

1. Aggressively increasing pension coverage is not suitable, and a gradual pace in expanding coverage is suggested. Meanwhile, some measures are needed to provide incentive for collection and to provide fairness for the poor.

2. Although the assumption of transferring SOE asset for current retirees is theoretically feasible, it is still regarded as a long-term undertaking by the Chinese government. The reason is due to unreasonable price for investors. Future agenda is about the determination of market price and proper procedure of transferring SOE
(3) It is impossible for China to transfer budget surplus for pension insurance. Considering the balance between efficiency and fairness, it is better not to increase tax burden at present. Funding through bond insurance is not a real solution since the cost of bonds will finally be borne by future generations. In this case, the cost of issuing bonds can be regarded as another kind of implicit pension debt. Furthermore, issuing more bonds for old-age insurance funds might be politically rejected. Thus, the only feasible solution for the government is to reduce its expenditure. Concretely, if the ratio of pension allowance to total governmental expenditure rose to 10% per annum, the 3 trillion Yuan implicit pension debt estimated by the World Bank could be paid within the next 20 years (Kang Jia 2000).

In short, we prefer adjusting budget expenditure and gradual extending coverage when making policy on financing old-age insurance so far. In the long run, however, transferring SOEs asset might be a good alternative.

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(1) Here deficits refer to the difference between pension expenditure and pension contribution (excluding budget allowance).

(2) Even in the United States, where tax compliance is high, more than half of the self-employed are thought to evade contributions to Social Security. The figures look much worse in other countries: in the first year that the self-employed were covered by law in Korea, only about one-third declared any income. Recent figure reveals that only one in 20 self-employed contributed in Argentina and in Turkey, only 1% of the members of special scheme for self-employed workers were making contributions, see the World Bank (2001).

(3) The estimated total amount of non-performing-loan in China is about 3 trillion Yuan or 25% of total loans or more than 30% of GDP in 2001, see Xie, P. (2002).

(4) For more information, see http://search.chinadaily.com.cn/iresarch/l_textinfo.exe?dbname=cnny_printedition&listid=13868&selectword=STATE%20SHAREHOLDING

(5) For more information, see http://www1.cei.gov.cn/forum50/

(6) GDP in 2001 was 9.59 trillion Yuan, see Government Report of China by Rong-Ji Zhu (2002).

(7) For example, urban and rural saving deposit in 2000 amounted to 6.4 trillion Yuan, while the amount of operating asset in 2000 was 6.86 trillion Yuan, see China Statistical Yearbook (2001), pp. 637 and Finance Year Book Of China (2001), pp. 407.

(8) On 20th December 2001, Ministry of Finance and Labor and Social Security Ministry issued Temporary Order of National Social Security Fund Investment. The order indicated that the NSSF could invest a certain portion of the funds in equity market besides the present investment range of banking deposits and state bonds. For more information, see http://finance.sina.com.cn/y/20011220/156953.html

(9) The "old person" refers to the pensioners who retired before new pension system built in 1997; the "middle person" refers to the current employees who participated in working before 1997; and the "new person" includes those who began to work after 1997.

(10) In fact, adjusting budget to compensate pension deficit is popular among market-oriented countries, although the forms of allowances that they provide are various, see Jia, etc (2000).

(11) There are some different definitions of budget deficits. Here it is defined as the difference between government revenue and government expenditure.

(12) Meanwhile, government cannot withdraw from all competitive fields during transition, since it has to upgrade industrial composition and develop high-tech industry, and this ratio will not reduce quickly in a short time, see Jia, etc (2000).

(13) Here we do not mention the factor of management such as administration enforcement.

(14) Broader government revenue = government revenue + extra-budget income + extra-mechanism income.

The latter two parts include the income form all levels of government departments and or public agencies, and they are controlled out of government budget.