
WORKER RESPONSE TO CHINESE PENSION SYSTEM REFORM

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Abstract

This study examines workers' responses to the current reform of social security in China. Based on a survey conducted in June, 1998 among 500 workers with various backgrounds in Guangzhou (Canton), the paper draws seven conclusions. First, over eighty percent of workers support the reform. Second, there is consensus that the responsibility for providing old-age insurance should be shared among individuals, society, and the government. Third, workers prefer a partially-funded pension system to either the pay-as-you-go system or a fully-funded system. Fourth, most workers do not want the government to increase the legal retirement age at the present time. Fifth, a majority of workers worry about their future retirement income adequacy and consider it a potentially serious social problem. Sixth, workers perceive that state-owned enterprises offer the best pension plans while foreign-owned companies provide the worst. Finally, the survey shows that most workers desire, and would participate in, a program that would educate them about investment alternatives. These findings provide important insights for both Chinese policy-makers and future research into China's social security reform.

Introduction

Before general economic reform started in the late 1970s, the Chinese employment system was often called "the iron rice bowl." Workers of state-owned enterprises were tied permanently to their respective work units and enjoyed lifetime benefits that included housing, medical care, and

pensions. Work units took the sole responsibility for providing old-age insurance for their employees and retirees (Song and Chu, 1997; World Bank, 1997). Since urban pension reform started in 1984, the “iron rice bowl” has been broken and the employment system is moving to a labor contract system. Though this contract system improves labor mobility and efficiency, it makes pension benefits less secure. In fact, many Chinese workers believe that their retirement income security is threatened.

The older system was not sustainable. At the macro-level, China’s population is aging rapidly due to the one-child policy and longer life expectancy. This aging of the population leads to a much higher dependency ratio, indicating a much heavier pension burden. Without reform, the old pay-as-you-go pension system would not be sustainable in the long term. At the micro-level, enterprises still carry a large share of pension responsibilities for their retirees. Hence, pension burden and benefits vary greatly across enterprises, especially between older and newer enterprises and between state-owned and other types of enterprises. This disparity not only reduces pension income security for retirees in older enterprises and private- or foreign-owned companies but also puts older and state-owned enterprises at a disadvantage when competing against newer and private- or foreign-owned companies.

China started its social security reform in 1984, with pilot pension pooling programs in some cities and counties. Many studies have documented this reform and its progress (e.g. Hussain, 1994; Wang, 1997; World Bank, 1990, 1997; Zhang, 1997; and Song and Chu, 1997). Most studies have focused on such issues as why the old system did not work or on how to build a new pension system to accommodate the structural changes and demographic trends in China. No study has investigated workers’ responses toward the on-going pension reform. Yet workers’ perceptions and opinions on pension reform have economic, social, and political implications for the long-term growth of Chinese economy. Workers will be affected most and directly by the success or failure of pension reform, which could result in a major political victory or disaster for the government. Understanding workers’ preferences would help policy-makers plan reforms that facilitate achieving the goals of economic reform. Workers’ understanding and cooperation would reduce the social costs of the reform and speed up the reform process.

This study fills the gap in prior research. Based on a recent survey in Guangzhou (Canton), a southern Chinese city, the study documents responses to the reform of the Chinese pension system from 500 workers in various types of enterprises. Specifically, this paper examines workers’

responses (and their implications) to the following questions: (1) Should China reform the pension system? (2) Who should bear the major responsibility for old-age insurance? (3) What kind of pension system do workers prefer? (4) Should the current legal retirement age be changed? (5) Do workers worry about the inadequacy of their retirement income? (6) What type of company has the best or worst pension plans? (7) Should educational programs on savings and investments be offered to workers?

The next section of the paper provides background on the current pension reform efforts in China and its challenges. Section Three describes the survey used in this paper. Section Four discusses survey findings and implications. The final section summarizes the study's findings.

Pension System Reform in China

The Chinese social security system has two central features. First, it consists of separate urban and rural subsystems with different organizations and benefits. Second, the urban system is segmented according to the ownership status of the employment unit (Hussain, 1994). In this paper, pension system reform refers to the urban system only.

The old pension system in urban China was started in the early 1950s. Generally speaking, the system was a pay-as-you-go defined benefits system that mainly covered workers in state-owned enterprises. At the beginning, workers' retirement benefits, which depended on working years, were paid partly by their work units and partly by a labor insurance fund managed by the National Workers' Union, a government agency in charge of workers' welfare. During the Cultural Revolution, the responsibility of the National Workers' Union disappeared and the retirement benefits became the sole responsibility of work units. In consequence, social security became enterprise-based insurance. This downgrade of risk-sharing reduced income security for retirees and caused a larger disparity of pension burdens across enterprises and localities. Without reform, this enterprise-based pension system would hinder general reform and economic development in China.

Pension reform started in 1984 with pension pooling experiments in some cities and counties. Enterprises participating in pooling programs put a portion of their total wages into pension funds managed by local old-age insurance bureaus. Workers could voluntarily contribute their savings to have individual supplemental pension accounts for their future retirement incomes. City and county governments set uniform contribution rates and

benefits within their respective jurisdictions. Actual reforms in different places, therefore, are different (see Song and Chu, 1997 for many examples and World Bank, 1997 for relevant statistics). For example, Shanghai started pension reform in 1993. All enterprises are eligible to join the retirement insurance program. Workers contribute 3 percent of their annual income and their respective work units contribute 13 percent to workers' individual retirement accounts. Hence, higher income workers would accumulate higher retirement incomes in their accounts (Tian, 1997). Pension pooling programs achieved steady progress. By 1991, 2270 cities and counties had established pension pools at city or county levels for state-owned enterprises, covering more than 50 million permanent workers, 12 million contractual workers, and 10 million retirees. By 1994, the coverage had expanded to more than 80 million workers and 18.5 million retirees (State Statistical Bureau, March 1995).

Between 1991 and 1995, the State Council issued several rules to promote pension system reform. For example, the State Council made twelve decisions about old-age insurance reform on June 28, 1991. These decisions provided guidelines for all major areas of pension system reform such as specification of responsibilities and determination of contributions and benefits. In November, 1993, the Chinese Congress announced three fundamental principles to guide social security reform. The first is to establish a multi-layered social security system. Social security practices for urban and rural residents should be different (the word "should" is typically used in Chinese government documents). Commercial insurance should be developed as a supplement to social insurance. Second, expenditures for old-age pensions for workers and staff in cities and towns are to be shared by work units and individuals and by combining mutual assistance funds with individual accounts. Retirement benefits should be determined on a contribution basis. Third, the administration of social security and management of social insurance funds should be separated. On July 5, 1994, the Chinese Congress passed a Labor Law that requires all enterprises and individual workers to join social security pooling programs. In August 1997, the State Council issued a rule that calls for four types of unification: "unified system, unified standard, unified management, and unified fund usage." These are to apply to all types of enterprises and workers.

The current reform is to establish a three-tiered old-age insurance system. The first tier provides a basic pension to all workers in urban sectors. The second tier consists of enterprises' additional contributions to the basic pension and depends on the availability of enterprise bonus and welfare funds. The third tier is mandatory individual pension accounts

layered on top of the first two tiers (Song and Chu, 1997). Future retirement incomes will come from two major sources: one paid by work units and another paid by workers themselves.

The new pension system moves away from the old system in the following directions: (1) In the old system, enterprises were solely responsible for workers' pensions. In the new system, responsibility is shared among employees, work units, and the government. Now all three parties contribute to old-age insurance. (2) The old system was essentially an enterprise-based insurance. Work units were not only the sole contributor to the pension insurance but also responsible for managing pension funds and delivering retirement benefits. The new system establishes pension pools across various enterprises and asks both work units and workers to contribute to them. Pension funds are managed by social security agencies and retirement benefits are delivered directly from the pension pools. This separation of fund management from enterprises enhances the protection of social security and reduces an enterprise's burden on pension fund daily operation. (3) In the old system, the pension recipients were supposed to have the same level of living as their working counterparts. The new system aims at providing retirees income only for basic living needs. (4) The old system was a pay-as-you-go defined benefits system. The new system is a combination of pay-as-you-go and fully funded systems, which sometimes is called a partially funded system (Wang, 1997; Liu, 1998).

Survey Method

Based on the literature review, a questionnaire was developed in Chinese focusing on worker's responses toward reform of China's current pension system. The questionnaire was pre-tested and finalized based on the feedback from the pre-testing. Sponsored by the Guangdong Commerce College, trained student investigators administered the survey. Using a quota sampling method, the data were collected in June, 1998 in Guangzhou (Canton), a major city in Southern China and the capital of Guangdong Province. A quota matrix in terms of gender, age, and company type was followed in the survey. Gender and age variables are self-explanatory. The survey classifies companies into five categories: (1) state-owned enterprises that are the main traditional employer in China, (2) collective-owned companies that include various forms of public trading companies and traditional collective-owned companies, (3) private-owned companies that are owned by individuals, (4) foreign-owned companies that are invested by foreign capital, especially capital from developed countries

and regions such as the USA, Japan, Hong Kong, and Taiwan, and (5) joint ventures that are invested by both Chinese and foreign capital.

Based on the quota matrix, investigators were assigned to collect information from workers with specific characteristics. In this study, workers' characteristics include their health status, life expectancy, gender, occupation, housing type, company type, family monthly income, education, age, marital status, working years for the current company, and total working years. Five hundred completed questionnaires were collected and used in this research. Among the 500 workers who participated in the survey, 50 percent were from each of the two gender groups, 20 percent from each of the five age groups (29 years or younger, 30-39, 40-49, 50-59, 60 years or older), and 20 percent from each of the five types of enterprises. Chi-square tests were conducted and a p-value of 5 percent was used as the cutoff point for the significant level.

Two limitations should be noted before the findings are summarized. The first is that the sample is not representative of the worker population nationwide or even of the city since it used the non-random quota sampling approach. The second is that only bivariate analyses have been conducted. Multivariate analyses could better explain workers' behavior and opinions in regard to old-age insurance and pension reform. However, the survey findings are still useful for detecting workers' responses to the current pension reform, which provide insights and directions for formulating more realistic and socially acceptable reform plan proposals. The findings also lay the foundation for future research on this topic, including further multivariate analyses.

Findings and Discussions

This section presents survey findings and discusses their implications. For each question, results are summarized in terms of proportion of positive responses according to workers' characteristics. A chi-square test is performed on each variable to examine whether there is a significant disparity across different groups of workers. Implications are derived based on empirical evidence.

Table 1
Responses to "Should We Reform the Pension System?" (%)

	yes	no/don't know	Chi-square	p-value
Total sample	82	18		
<i>Health</i>				
very good	89	11	6.731	0.035
Good	82	18		
fair/not too good	77	23		
<i>Life expectancy</i>				
70 years or younger	75	25	12.19	0.002
71-80	81	19		
81 or older	91	9		

Necessity of the Reform

In response to the question, "Do you think the pension system in our country should be reformed?" 82 percent of workers gave positive answers (Table 1). Chi-square test results showed that only two factors, perceived health status and life expectancy, significantly affected workers' responses to this question. For example, 89 percent of workers with very good health supported the reform, while 77 percent of workers with fair or poorer health gave positive responses. Workers who perceived longer life expectancies were more likely to support the current reforms of the pension system. This finding suggests that the current reforms receive support from the vast majority of Chinese workers. They seem to acknowledge that reform is economically necessary and also politically acceptable.

As pointed out by some studies (e.g., World Bank, 1997), the current pension system can deal with neither the short-term problem of pensions in state-owned enterprises nor the long-term problem of old-age security in China, because pooling is limited, noncompliance and exemptions are high, and the fast growing non-state sector is not well covered. The current

pension system also fails to contribute to economic development since it still ties welfare with enterprise management, impedes labor mobility, cannot increase capital accumulation, and makes inefficient capital allocations. It seems that the surveyed workers have a general understanding of these inadequacies.

Table 2
Responses to Responsibilities for Old-age Insurance (%)

	yes	no/don't know	Chi-square	p-value
<i>1. Should individual, family, society, and government have joint responsibility for old-age insurance?</i>				
Total sample	77	23		
<i>Gender</i>				
Male	82	18	6.053	0.014
Female	73	27		
<i>Life expectancy</i>				
70 years or younger	87	13	15.097	0.001
71-80	77	23		
81 or older	67	33		
<i>2. Should individual and family have major responsibility for old-age insurance?</i>				
Total sample	26	74		
<i>Occupation</i>				
managerial/professional	17	83	17.361	0.004
executive/administrative	22	78		
technical/sales/administrative support	31	69		
crafts/repairs	18	82		
operators/laborers	40	60		
other	29	71		
<i>Housing type</i>				
own house	31	69	6.824	0.033
working unit's house	20	80		
renting/borrowing/other	23	77		
<i>3. Should workers instead of government be responsible for own retirement finances?</i>				
Total sample	33	67		
<i>Company type</i>				
state	21	79	11.317	0.023
collective	30	70		
foreign	39	61		
joint venture	38	62		
private	39	61		
<i>Family monthly income</i>				
1500 yuan or lower	22	78	13.549	0.009
1501-2500 yuan	30	70		
2501-3500 yuan	29	71		
3501-4500 yuan	32	68		
4501 yuan or higher	46	54		

Responsibilities for Old-age Insurance

To the question, “*Should individual, family, society, and government have joint responsibility for old-age insurance?*” 77 percent answered yes (Table 2, panel 1). Chi-square tests showed that males and workers who perceived shorter life expectancies were more likely to answer positively. In response to the related question, “*Someone suggests that according to our country’s situation and oriental cultural characteristics, individual and family should have major responsibility for old-age insurance. Do you agree?*” only 26 percent said yes. Workers in different occupations and with different housing tenures showed different responses to this question (Table 2, panel 2).

The responses have two implications. First, workers believe neither that old-age insurance should be entirely family-oriented nor that the government should take the sole responsibility. The implication is that they are willing to contribute part of their current incomes to their pension insurance. Traditionally, family and children bore the responsibility for old-age insurance, as described by a Chinese saying “yang er fang lao” (raising children is for old-age insurance). During the 1950-70s, state-owned work units took the sole responsibility for providing pension benefits to their retirees. Dependency on work units and the government developed under this system. Since general economic reform started in the late 1970s, however, the share of the state-owned sector has been shrinking while the share of the non-state sector has expanded. Though many companies in the latter sector offer higher salaries and wages, they usually do not provide retirement benefits to their employees. Further, the family structure of 1-2-4 (one child has two parents and four grandparents) due to the one-child policy increases the risk of a family-oriented old-age insurance. The responses show workers moving away from both the traditional value of the family and the value of dependency on enterprises and the government. Second, the finding suggests that workers recognize that the dynamic economy and various forms of ownership could jeopardize retirement income security if the government does not play an important role in providing old-age insurance. On the other hand, with a huge aging population and limited resources, workers understand that the government alone is unable to provide adequate pension benefits to all retirees.

Another relevant question emphasized individual responsibility: “*Someone says that the government should not manage retirement funds directly, but workers should be responsible for their own retirement*

finances. Do you agree?" Only 33 percent of workers responded positively (Table 2, panel 3). The results of Chi-square tests showed that workers with higher household incomes and employees in the private sector were more likely to prefer to manage their own retirement funds than other types of workers. This finding is interesting for four reasons. First, the low proportion of positive responses indicates that workers' dependency on the government extends to both pension administration and fund management.

Second, the finding could suggest that, due to workers' lack of training in making investment choices and the capital market, it is premature to allow workers to invest their own pension money. Third, higher income workers have more confidence about their future retirement income and thus want more flexibility in investing their pension funds. Fourth, workers in the private sector have experienced a "free" market environment, explored ideas of small government and capitalism, and obtained some skills that help make better investment decisions, with the result that they are more likely to prefer greater choice. To increase public confidence in investing and managing their own pension funds, the government should provide education programs, create a better legal environment, and further reform the financial sector.

Table 3
Responses to What Models to Follow (%)

	yes	no/don't know	Chi-square	p-value
<i>1. Do you think other cities should follow the Shanghai model?</i>				
Total sample	75	25		
<i>Education</i>				
elementary school	65	35	11.564	0.021
junior high school	72	23		
high school	66	34		
tech/trade school	79	21		
college	82	18		
<i>Housing type</i>				
own house	72	28	6.787	0.034
working unit's house	76	24		
renting/borrowing/other	89	11		
<i>2. Should we follow the Chile model?</i>				
Total sample	62	37		
<i>Family monthly income</i>				
1500 yuan or lower	48	52	17.861	0.001
1501-2500 yuan	60	40		
2501-3500 yuan	54	46		
3501-4500 yuan	69	31		
4501 yuan or higher	74	26		
<i>Education</i>				
elementary school	23	77	26.917	0.001
junior high school	54	46		
high school	60	40		
tech/trade school	64	36		
college	72	28		
<i>3. Should we follow the U.S. model?</i>				
Total sample	64	36		
<i>Age</i>				
29 years or younger	78	22	10.478	0.033
30-39	65	35		
40-49	60	40		
50-59	62	38		
60 years or older	57	43		
<i>Life expectancy</i>				

70 years or younger	67	33	8.308	0.016
71-80	69	31		
81 or older	55	45		
<i>Company type</i>				
state	68	32	15.545	0.004
collective	78	22		
foreign	67	33		
joint venture	55	45		
private	56	44		

Reform Models

The survey provided some background information on three pension models abroad and in China. Specifically, the first is the pay-as-you-go system, which is similar to the U.S. social security system. In this model, workers pay social security tax to finance pension benefits for current retirees. After retirement, they will receive pensions from the social security funds contributed by younger generations. The second is a fully funded system, which is currently practiced in Chile (Piñera, 1995/96). In this model, workers are mandated to save a certain percentage of their incomes as personal retirement funds and they have the right to choose banks or investment companies to invest these funds. In principle, this model requires workers to save for their future incomes by themselves. The third is a partially funded system, which is similar to the model used in Shanghai. This model lies between the first two. In this model, workers pay social security taxes and contribute to their personal pension accounts. But the former is less than the pay-as-you-go system requires and the latter is smaller than the savings required under the fully funded system.

The responses indicate that Chinese workers prefer to have a partially funded pension system. In answering three questions regarding different models, 75 percent of workers supported the Shanghai model, while only 62 percent supported the Chile model and 64 percent supported the U.S. model (Table 3). There are demographic differences in support for different models. Workers with a higher education level (technical/trade school and college) and living in a working unit's house or renting and borrowing houses were more likely to support the Shanghai model. Higher income (3,501 yuan per month or higher) and higher educated workers were more likely to support the Chile model. The U.S. model was more likely to be preferred by workers at a younger age (39 years or younger), those who perceived a shorter life expectancy (80 years or shorter), and those working in state, collective, and foreign-owned companies.

Table 4
Responses to the Question “Should Retirement Age be Postponed?” (%)

	yes	no/don't know	Chi-square	p-value
Total sample	35	65		
<i>Life expectancy</i>				
70 years or younger	31	69	12.709	0.002
71-80	30	70		
81 or older	48	52		
<i>Company type</i>				
state	30	70	9.705	0.046
collective	35	65		
foreign	48	52		
joint venture	35	65		
private	28	72		
<i>Working years for current company</i>				
5 years or shorter	42	58	11.499	0.009
6-10 years	29	71		
11-15 years	40	60		
16 years or longer	26	74		
<i>Education</i>				
elementary school	32	68	14.73	0.005
junior high school	22	78		
high school	31	69		
tech/trade school	33	67		
college	45	55		
<i>Family monthly income</i>				
1500 yuan or lower	27	73	19.976	0.001
1501-2500 yuan	29	70		
2501-3500 yuan	28	72		
3501-4500 yuan	34	66		
4501 yuan or higher	51	49		

Retirement Age

Responding to the question, “Should legal retirement age be increased?” only 35 percent of workers said yes (Table 4). Several factors, such as perceived life expectancy, company type, years working for current company, education, and family income, affected workers’ responses.

Workers with a perceived 81 years or longer life expectancy, with college education and higher monthly family income, were more likely to support the increase of the legal retirement age than other types of workers (48 percent, 45 percent, 51 percent respectively). Employees of foreign-owned companies and workers with working experience for a current company of 5 years or shorter, or 11-15 years, tended to give positive responses (48 percent, 42 percent, 40 percent vs. 35 percent). The survey results provide important insights into the current debate as to whether China should increase the legal retirement age, currently 60 for male workers and 55 for female workers. One side argues that the legal retirement age should be postponed to 65 for men and 60 for women on the grounds that the current retirement ages were formulated in 1951 when the national life expectancy was about 50 (Song and Chu, 1997; World Bank, 1997). With similar life expectancies, retirement comes earlier in China than in other countries. By increasing retirement ages, pension expenditures could be lowered temporarily and during the transition. The other side argues that workers in state-owned and collective-owned companies should retire five years earlier, at least temporarily, to allow more younger people to enter the labor market (Zhang, 1997). Early retirement would mitigate the current pressure of high unemployment in urban China. From the perspective of economic growth, the social security and pension system provides a mechanism to buy older workers out of the labor force to the benefit of the whole economy (Sala-i-Martin, 1996), which implies support for earlier retirement. The finding in this research shows that at least in present China, most workers do not want to retire later and do not want to increase the legal retirement age. This perception, however, could be changed when the tension of high unemployment is lessened and the high cost of retirement pensions becomes more evident.

Table 5
Responses to the Question “What should the legal retirement age be?” (%)

<i>1. What should the legal retirement age be for males?</i>					
	50-58 years	60 years	62-70 years	Chi-square	p-value
Total sample	19	48	33		
<i>Life expectancy</i>					
70 years or younger	27	51	22	29.324	0.001
71-80	20	50	30		
81 or older	9	42	49		
<i>Company type</i>					
state	22	53	25	19.628	0.012
collective	20	39	40		
foreign	18	39	43		
joint venture	11	55	34		
private	25	50	25		
<i>Family monthly income</i>					
1500 yuan or lower	28	52	20	23.602	0.003
1501-2500 yuan	24	49	27		
2501-3500 yuan	20	48	32		
3501-4500 yuan	12	58	30		
4501 yuan or higher	15	38	47		
<i>2. What should the legal retirement age be for females?</i>					
	48-54 years	55 years	57-80 years	Chi-square	p-value
Total sample	28	38	34		
<i>Marital status</i>					
Married	28	36	36	6.669	0.036
Other	27	49	24		
<i>Health</i>					
very good	19	40	41	9.515	0.049

good	33	37	30		
fair/not too good	28	37	35		
<i>Life expectancy</i>					
70 years or younger	34	43	23	26.074	0.001
71-80	30	39	31		
81 or older	18	31	51		
<i>Working years for current company</i>					
5 years or shorter	23	36	41	16.066	0.013
6-10 years	30	43	27		
11-15 years	23	32	45		
16 years or longer	36	39	25		
<i>Family monthly income</i>					
1500 yuan or lower	38	39	23	26.641	0.002
1501-2500 yuan	33	44	23		
2501-3500 yuan	31	37	32		
3501-4500 yuan	21	44	35		
4501 yuan or higher	21	30	49		

The questionnaire also asked, “*What should the legal retirement age be?*” Regarding male worker’s retirement age, 19 percent of the sample said it should be earlier, ranging from 50 to 58 years old, 48 percent said it should be 60 years old (unchanged), and 33 percent said it should be later, ranging from 62 to 70 years old (Table 5, panel 1). Workers with shorter perceived life expectancy and lower family income (with one exception) were more likely to support a younger retirement age. Employees in foreign-owned companies and joint ventures tended to support an older retirement age. Regarding female worker’s retirement age, 28 percent of the sample suggested that it should be earlier, ranging from 48 to 52 years old, 38 percent wanted to keep it at 55 years old (unchanged), and 34 percent suggested a later one, ranging from 57 to 80 years old (Table 5, panel 2). Attitudes toward female worker’s retirement age, however, vary greatly among different groups of workers. While workers having worked in a current company for 6-10 years or 16 years or longer were more likely to suggest a younger or the current retirement age, many other groups tended to support an older retirement age. The latter groups include married workers, physically healthier workers, workers with longer perceived life expectancy, and higher income workers. It is worth noting that the suggested retirement ages had a wider range for female workers

(from 48 to 80 years old) than for male workers (from 50 to 70 years old). It is also interesting that more workers support an older retirement age than want a younger retirement age. For male retirement age, 33 percent of workers stated that retirement age should be postponed but only 19 percent of responses indicated a preference for a younger retirement age. For female retirement age, 34 percent of workers stated that retirement age should be postponed while 28 percent of responses indicated a preference for a younger retirement age.

Table 6
Responses to “Do you worry about the inadequacy of retirement income?” (%)

	yes	no/don't know	Chi-square	p-value
Total sample	61	39		
<i>Age</i>				
29 years or younger	46	54	13.272	0.01
30-39	68	32		
40-49	68	32		
50-59	59	41		
60 years or older	59	41		
<i>Marital status</i>				
Married	63	37	5.434	0.02
Other	49	51		
<i>Health</i>				
very good	48	52	11.982	0.003
good	64	36		
fair/not too good	67	33		
<i>Occupation</i>				
managerial/professional	59	41	22.22	0.001
executive/administrative	52	48		
technical/sales/administrative	48	52		
support				
crafts/repairs	76	24		
operators/laborers	77	23		
other	65	35		
<i>Education</i>				
elementary school	62	38	21.471	0.001
junior high school	77	23		
high school	67	33		
tech/trade school	61	39		
college	49	51		
<i>Family monthly income</i>				
1500 yuan or lower	77	23	34.651	0.001
1501-2500 yuan	75	25		
2501-3500 yuan	66	34		
3501-4500 yuan	48	52		
4501 yuan or higher	46	54		

Adequacy of Retirement Income

In response to the question, “*Do you worry about the inadequacy of family income after retirement?*” 61 percent of the sample said yes (Table 6). Economically, educationally, and physically disadvantaged workers were more likely to worry about pension income security, such as low-income workers, crafters/repairers, operators/laborers, junior and high school graduates, and employees in poor health. This finding indicates that retirement income security is not perceived confidently by Chinese workers, especially among those who have lower current incomes and poorer job security. It is interesting that age showed an inverse-U shape effect on the responses. Workers aged 30-49 years old were more likely to worry about inadequacy of retirement income (68 percent vs. 61 percent). This probably suggests that older workers have more confidence in the current pension system and young workers are too young to start worrying about their future retirement incomes.

Table 7
Responses to “Do you think the inadequacy of retirement income will be a serious social problem?” (%)

	yes	no/don't know	Chi-square	p-value
Total sample	73	27		
<i>Life expectancy</i>				
70 years or younger	78	22	6.826	0.033
71-80	75	25		
81 or older	65	35		
<i>Health</i>				
very good	66	34	7.159	0.028
good	73	27		
fair/not too good	81	19		
<i>Company type</i>				
state	83	17	11.433	0.022
collective	62	38		
foreign	74	26		
joint venture	74	26		
private	72	28		

The survey also asked a related question, “*Do you think inadequacy of retirement income could become a serious social problem?*” Seventy-three percent of the sample said yes (Table 7). Workers with poor health and employees in state-owned enterprises had higher proportions who believe

that this inadequacy could be a big problem in China (81 percent and 83 percent respectively). The above survey results clearly imply that Chinese workers not only worry about their future retirement incomes but also consider the inadequacy of pension benefits as a potentially serious social problem. No doubt, the current pension system deserves more attention and needs further reforms.

Table 8
Perceived Best Pension Plans by Company Types (%)

	state	collective	foreign	joint	private	Chi-square	p-value
Total sample	80	5	8	6	1		
<i>Gender</i>							
male	78	7	10	5	0	11.502	0.021
female	83	3	6	6	2		
<i>Life expectancy</i>							
70 years or younger	81	1	11	4	3	18.352	0.019
71-80	79	5	9	6	1		
81 or older	79	9	6	6	0		
<i>Total working years</i>							
10 or shorter	76	2	10	11	1	23.918	0.021
11--20	71	8	13	6	2		
21-30	84	5	7	3	1		
31 or longer	86	5	6	2	1		
<i>Family monthly income</i>							
1500 yuan or lower	93	4	0	2	2	32.498	0.009
1501-2500 yuan	82	4	8	4	2		
2501-3500 yuan	82	6	8	4	0		
3501-4500 yuan	77	6	5	11	1		
4501 yuan or higher	71	3	19	6	1		

Table 9
Perceived Worst Pension Plans by Company Types (%)

	state	collective	foreign	joint	private	Chi-square	p-value
Total sample	2	7	15	4	73		
<i>Age</i>							
29 years or younger	2	5	13	9	71	28.407	0.028
30-39	5	7	16	3	69		
40-49	1	6	21	2	69		
50-59	0	8	8	2	81		
60 years or older	0	6	18	3	73		
<i>Life expectancy</i>							
70 years or younger	1	11	8	4	76	18.298	0.019
71-80	2	6	16	2	73		
81 or older	1	3	21	5	70		
<i>Occupation</i>							
managerial/professional	1	6	9	5	79	35.354	0.018
executive/administrative	0	6	14	6	74		
technical/sales/administrative support	6	6	19	2	67		
crafts/repairs	2	10	14	0	74		
operators/laborers	3	1	20	4	72		
other	0	16	18	0	65		
<i>Company type</i>							
state	0	8	10	2	80	31.649	0.011
collective	2	5	26	0	67		
foreign	1	7	8	5	79		
joint venture	2	4	14	8	72		
private	3	11	18	3	65		
<i>Working years for current company</i>							
5 years or shorter	4	4	14	5	73	25.564	0.012
6-10 years	0	6	21	4	69		
11-15 years	0	15	12	0	73		
16 years or longer	0	9	11	2	77		

<i>Education</i>						
elementary school	0	8	8	0	84	26.71 0.04 5
junior high school	3	9	16	1	71	
high school	2	5	26	2	65	
tech/trade school	2	5	14	8	70	
college	1	7	9	4	79	

Pension Plans and Company Types

The survey asked two related questions: “*What type of company provides the best pension plans? What type of company offers the worst pension plans?*” Eighty percent of surveyed workers said that state-owned enterprises provide the best pension plans (Table 8). Female workers and employees with longer working time or lower monthly family income were more likely to report that state-owned enterprises had the best pension plans. On average, 73 percent of workers responded that private companies offer the worst pension plans and 15 percent of workers responded that foreign-owned companies offer the worst pension plans (Table 9). Workers aged 50-59 years old had a higher proportion reporting that private-owned companies had the worst pension plans (81 percent), while workers aged 40-49 years old were more likely to report that foreign-owned companies offer the worst pension plans (21 percent). Workers with longer perceived life expectancies were more likely to report that foreign-owned companies had the worst plans and less likely to report that private companies offer the worst plans. Workers in technical/sales/ administrative support and operators/laborers had higher proportions reporting that foreign-owned companies offer the worst plans, while workers in managerial/professional, executive/administrative, and crafts/repairs occupations had higher proportions to report that private companies offer worse pension plans. It is interesting to note that employees in foreign-owned companies had the lowest proportion stating that foreign-owned companies offer the worst pension plans, and employees in private companies had the lowest proportion to state that private companies offer the worst pension plans. Workers who have worked for 6-10 years in the current company had a higher proportion reporting that foreign-owned companies offer the worst pension plans, while workers with 16 years or more working experience in the current company had a higher proportion reporting that private companies offer the worst pension plans. Education had an inverse-U shape effect on reporting “foreign-owned companies offer the worst pension plans” but had a U shape effect on reporting “private companies offer the worst pension plans.” The above results suggest that

responses largely depend on workers' perceptions and knowledge. A more reliable judgement could be made only when various pension plans are directly compared in terms of their respective pension contributions and retirement benefits. However, the workers' perceptions of pension benefits from different types of companies may affect their labor force participation and choices.

Table 10
Responses to Educational Programs on Saving and Investment
(%)

	yes	no/don't know	Chi-square	p-value
<i>1. Should we have educational programs on savings and investment for workers?</i>				
Total sample	90	10		
<i>Occupation</i>				
managerial/professional	86	16	12.464	0.029
executive/administrative	94	6		
technical/sales/administrative support	95	5		
crafts/repairs	93	7		
operators/laborers	90	10		
other	81	19		
<i>Working years for current company</i>				
5 years or shorter	91	9	9.835	0.02
6-10 years	89	11		
11-15 years	79	21		
16 years or longer	95	5		
<i>Education</i>				
elementary school	73	27	10.62	0.031
junior high school	91	9		
high school	93	7		
tech/trade school	89	11		
college	92	8		
<i>2. Would you participate in the savings and investment educational programs if available?</i>				
Total sample	78	22		
<i>Marital status</i>				
Married	76	24	3.939	0.047
Other	86	14		
<i>Life expectancy</i>				
70 years or younger	84	16	6.497	0.039
71-80	73	27		
81 or older	79	21		
<i>Total working years</i>				
10 or shorter	87	13	9.341	0.025
11--20	74	26		
21-30	78	22		

31 or longer	72	28		
<i>Working years for current company</i>				
5 years or shorter	83	17	10.739	0.013
6-10 years	80	20		
11-15 years	73	27		
16 years or longer	68	32		

Saving and Investment Education

Two questions in the survey are related to saving and investment education: “Do you think that the government should provide savings and investment education programs? Would you participate in such programs if available?” Ninety percent of workers responded that the government should provide them savings and investment education programs, and 78 percent of them would participate in such programs if they are offered (Table 10). Workers in executive/administrative, technical/sales/administrative support, and crafts/repairs occupations had a stronger desire to have the government offer such educational programs. Surprisingly, workers with only elementary school education had the least desire to see such programs offered. This result may be due to the fact that lower educated workers are less likely to have investments like bonds and stocks. Using the data from the same data set, among the workers with elementary education, only 4 percent had stocks and 8 percent had bonds, while among the workers with higher levels of education, percentages of stock and bond holding ranged between 8-33 percent and 15-22 percent, respectively. Regarding workers’ willingness to join the educational programs, the survey found that workers with shorter perceived life expectancies and fewer working years were more likely to participate in the programs, while married workers were less likely to join the programs. Overall, the responses send a strong signal that Chinese workers want to have educational programs on savings and investment. Once these programs are available, most workers would participate to improve their knowledge and skills for making better choices in savings and investment. Though such educational programs are not a focus of the current reform on China’s pension system, they certainly help workers make better personal investments. In turn, these programs improve workers’ future income security – the final goal of any efforts at social security reform. Because of the economic and social structural changes in China, there are many opportunities for consumer educational programs in a variety of settings (Xiao, 1998). Workplace savings and investment education is another example of the opportunities.

Conclusions

This study has surveyed a sample of workers in state, collective, foreign, joint, and private-owned companies in Guangzhou (Canton), China on issues related to pension system reform. Based on the survey results, the majority of workers support pension reform in China. The workers are more likely to agree to have individual, family, society, and government jointly responsible for old-age insurance, but less likely to agree to have only individual and family or workers themselves responsible for retirement security, which provide references for the future planning of the reform. At the present time, most workers still want the government to manage retirement funds. Only about one-third of workers would like to be responsible to their own pension finances. Workers are more likely to accept the partially funded model than either the pay-as-you-go model and or a fully funded model in terms of the expected pension system. The majority of workers do not agree with postponing the legal retirement age. In addition, opinions about changes of retirement age for males and females are different among workers. Since this issue is discussed and controversial, policy makers should consider workers' intentions to reduce social and political costs in the reform. Over three fifths of the workers worry about their future retirement income adequacy and over seventy percent believe that retirement income inadequacy could be a potentially serious social problem. Policy makers should be concerned about it and take measures to help workers smoothly go through the transitional process. Eighty percent of the workers perceive that state-owned companies have the best pension plans, while 73 percent perceive private companies and 15 percent perceive foreign companies as having the worst pension plans. Future research is needed to explore how accurate the workers' perceptions are and the impact of the perceptions on workers' labor force behavior. Ninety percent of the workers agree that it is necessary to have savings and investment education programs for workers and 78 percent would participate in them if available. If policy makers would like workers to take more responsibilities in their future retirement security, they should consider to offer this type of educational program systematically. Even though these results cannot be generalized to the population of Chinese workers because of the limitations of the methodology, they provide valuable and needed information for policy-makers and industry leaders when they make and implement pension reform plans.

For policy-making purposes, future research could focus on two aspects. The first is to design and implement larger-scale random sampling

surveys regarding key policy issues among workers in various types of enterprises nationwide. The second is to perform more rigorous hypothesis tests and develop multivariate models to better explore workers' pension attitudes and behavior.

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