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Retirement Patterns in China

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Abstract

We describe patterns of retirement in China using the national baseline in CHARLS. We document the large differences in retirement patterns between urban and rural residents, and explore possible explanations. We find that the advantage in social security and family wealth of the urban elderly contributes largely to the urban/rural difference in retirement, and the rural elderly's reliance on support from their children post-retirement is not adequate, implying the importance of extending the retirement age in the urban areas and enhancing the incentives embedded in the rural pension system.

Introduction

China is now experiencing unprecedented aging. In the next 15 to 20 years, it is projected that the old-age dependency ratio will climb from the current 10 percent level up to 40 percent by 2050 (see Adamchak (2001) for the dynamics of the retirement age population). However, unlike in advanced industrialized countries such as the U.S. and European countries that have experience with an aging population, and whose social safety nets cover the majority of the elderly population, China is aging at a relatively low level of development with a several times lower per capita income, and under-developed political and financial institutions (see Chensnais and Wang (1990) for the analysis of living conditions of the Chinese elderly).

The public has been paying close attention to how China can deal with the aging problem, and how the economy can survive with its growing shortage of working age adults (James, 2002). One political proposal suggests encouraging workers to retire later to supply sufficient labor. It is thus important to clearly describe retirement behaviors in China, and to understand the mechanisms under these behaviors.

In this paper, we use the newly collected national baseline of China Health and Retirement Longitudinal Study (CHARLS) to describe retirement patterns for the Chinese elderly. We find completely opposite retirement patterns for urban and rural China. The urban elderly retire at astonishingly early ages, while the rural elderly work very old. We then attempt to explain these patterns through five mechanisms: the urban mandatory retirement policy, the social security system, family wealth, support from children, and the expected source of elderly support.

We find that the advantage in social security and family wealth of the urban elderly contributes largely to the urban/rural difference in retirement, and the rural elderly's reliance on support from their children post-retirement is not adequate.

The remainder of the paper is organized as follows. In Section 2, we briefly describe the data employed in this study. In Section 3, we describe the patterns of

retirement in China in detail. The possible explanations for the urban-rural differences in retirement are explored in Section 4. Section 5 provides further evidence with multivariate regressions and Section 6 concludes the paper.

2. The CHARLS Dataset

The China Health and Retirement Longitudinal Study (CHARLS) is designed to be complementary to the Health and Retirement Study (HRS) in the United States and other similar surveys around the world. CHARLS covers 150 counties randomly selected across China. Twenty-eight provinces are represented in the data.[1] Counties are grouped into 8 geographic regions, and stratified by rural/urban status and by per capita county GDP.[2] The counties are then sampled, stratified, with probability proportional to the population (PPS).[3] Within the counties, we sampled three administrative villages or urban neighborhoods (resident committees) as our primary sampling units (PSU), again using PPS.[4]

The sampling goal within primary sampling units was 24 households with an age eligible member, defined as a person of age 45 or older. Sampling rates varied by PSU. We first mapped all of the dwellings in the PSU, using Google Earth maps, adjusted from the ground by our mapping teams.[5] From this, we obtained a sampling frame of dwelling doors. We then randomly sampled 80 doors, and obtained information

[1] Tibet was excluded from the study. Two other provinces, Hainan and Ningxia, both very small in population, are not represented among the CHARLS counties.

[2] Data sources were the Population Statistics by County/City of PRC, 2009 (data from 2008) and the provincial statistical yearbooks (for GDP per capita).

[3] This was done by listing the stratified counties and selecting counties with a fixed interval and random starting point. This way, we ensure that all parts of the GDP per capita distribution are covered.

[4] Data on population sizes are provided by the National Bureau of Statistics (NBS).

[5] CHARLS mapping staff first went to the areas with GPS devices and took readings of the administrative boundaries, which were used to extract the Google Earth maps. A few primary sampling units had unreadable or no Google Earth maps, in which case we constructed the maps from the ground up. In all cases, we checked the maps from the ground and added to them when they were not up to date.

on the age of the oldest person and whether the dwelling was vacant (which some were). Using this information, we calculated age eligibility rates, and then determined PSU-specific sampling rates to ensure 24 age-eligible households were resampled from the initial dwelling list. If a dwelling had multiple households living in it, we randomly sampled one with an age-eligible person. Households were defined as living together, sharing meals and at least some other expenses. After sampling our final list of households, we again checked for age eligibility and then randomly sampled one person age 45 or over, and their spouse (regardless of age), as our respondents.

The national baseline was fielded from late summer 2011 until May 2012 (see Zhao et al., 2012, for details). Among all households, the age eligibility rate was 62% and the response rate among eligible households was 85%, 91% among rural households, and 79% for urban households.[6] These rates compare very well with other HRS surveys in their initial waves. Sample size is 17,766 respondents from 10,281 households.

[Insert Table 1 about here]

Following protocol of the HRS international surveys, the CHARLS main questionnaire in the 2011–12 survey consists of 7 modules, covering 1) demographics, 2) family background, 3) health status, 4) health care and insurance, 5) work, retirement and pension, 6) income, expenditure, and assets, and 7) environment (community questionnaire and county-level policy questionnaire) (Zhao et al. 2012). All data were collected in face-to-face, computer-aided personal interviews (CAPI). Retirement information comes from Module 5 “work, retirement and pension.”

[6] Of those who did not respond, about half refused and half could not be found.

3. Retirement Patterns in China

In this paper, retirement is defined as not engaging in any farm and non-farm work, and not searching for a new job. We describe the patterns separately for urban and rural China, while urban/rural is defined by Hukou status.[7] The intuition comes from the large institutional segregation by Hukou in China.

Figure 1 shows the retirement rate of Chinese elderly compared to other countries.[8] The top panel is for men and the bottom is for women, both presented by age group. For each panel, the last three sets of bars are for "China aggregate" (CH), "China rural," and "China urban" respectively. As shown in this figure, Chinese urban workers retire at astonishingly young ages. The retirement age for urban men is not only lower than other developing countries, but also than that of developed countries such as the United States, South Korea, and Japan, and is similar to the retirement age seen in Western Europe. Even urban Chinese women retire earlier than Western European women. However, the situation for their rural counterparts is completely different. Rural Chinese retire very late, the age of which is much higher than in other countries, except for India and Indonesia.

[Figure 1 here][9]

Table 2 gives specific numbers for the retirement rates of Chinese elderly by Hukou, gender, and age, and a more straightforward age pattern is shown in Figure 2. As seen, throughout all ages, the retirement rates of urban Chinese are always higher

[7] Hukou is a special term in China that shows the legal residence registration of the Chinese. A person's Hukou status is determined at birth by his/her parents, and can only be changed under special conditions; for example, a rural person may be able to change his/her status to urban if he/she is admitted to a university.

[8] The data for other countries comes from "An Aging World: 2008," issued by the National Institute of Aging (NIA) of the National Institute of Health (NIH), the US Department of Health and Health Services. Due to data accessibility, the survey year varies by country, with India 2001, France and Indonesia 2005 and all the other countries 2006. The age group also has some difference: For USA, 45–49 is replaced by 45–54; for India, 45–49 is replaced by 40–49, 60–60–64 by 60–69, and 65+ by 70+; for Indonesia, 65+ is replaced by 60+.

[9] The large gap in rural/urban retirement rate is also investigated in Pang, Brauw and Rozelle (2004).

than their rural counterparts. The retirement rate of the former jumps to a high point from age 60, and increases quickly from then on, while that of the latter remains at a low level even until age 65, and increases slowly afterwards. The urban/rural difference in retirement patterns exists in both men and women, and the discrepancy starts earlier in women than in men (about 50 vs. 60).

[Insert Table 2 about here]

[Insert Figure 2 about here]

In Figure 3, we examine the retirement pattern from another perspective. The sample is restricted to retirees 60 and above, and we draw the cumulative retirement rate based on the retirement age they report. From this figure, we see that a large fraction (40%) of urban females retires before age 50, and the fraction increases to near 70% by age 55. The cumulative retirement rate is much lower for their rural counterparts. Once again, we obtain similar information, that is, urban Chinese retire much earlier than their rural counterparts.

[Insert Figure 3 about here]

4. The Underlying Mechanisms of Chinese Retirement

As described before, there is a large difference in retirement patterns between rural and urban China. In this section, we explore possible explanations for this pattern.

4.1 Mandatory Retirement Policy

The first most likely driving force for the urban-rural difference in retirement behavior is the mandatory retirement policy in urban China. The Chinese retirement system was established in the 1950s to cover government employees and urban workers in government-run enterprises and later (from 1997) was required to cover all urban enterprises. As is the case with many other forms of social protection, rural Chinese are left to fend for themselves, as they have not been included in any

substantial government-run retirement system. In the state sector consisting of government and state-owned enterprises, the retirement age ceiling is strictly enforced. Anyone who reaches retirement age must process retirement and end employment.[10]

In the urban sector, because the government nationalized nearly all private businesses in the 1950s and self-employment was nearly eliminated, the retirement system effectively covered all workers before the economic reform. Thus, any urban worker who started 10 years—the minimum years of work to qualify for retirement—prior to the retirement age expected to receive a pension.

Although management of the pay-as-you-go retirement system has gone through dramatic changes since its inception, program rules governing retirement age and benefits have remained relatively stable. The program was initially administered by the national government, but because hardly anyone had become eligible for retirement in the initial years, management was mere personnel record keeping. During the chaotic Cultural Revolution (1966–1976) and the near collapse of central authority, management of enterprise pensions was delegated to individual firms, while government employees remained the responsibility of the central government. Starting in the late 1980s and into the 1990s, the government gradually elevated the pooling of enterprise pensions from individual firms to government level management (Feldstein, 1999). County or city level governments now administer the pension pools, and a small portion of contributions is in individual accounts.

China has some of the world's youngest official retirement ages: age 60 for men, age 50 for blue-collar women, and age 55 for white-collar women. The retirement ages have not changed since the retirement system's inception in the 1950s.

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[10] More detailed description on the Chinese retirement policy and pension system can be found in Du (1997), West (2007), and Song and Chu (2007).

As we have seen, urban people do not all retire at the mandatory retirement ages. That may be due to several reasons: first, the private sector is less likely to enforce mandatory retirement policy so the retirement age of their employees is more flexible. Second, early retirement is enforced in certain cases. For example, government policy allows workers to retire 5 years before the official retirement age if they are in jobs that are dangerous, harmful to their health, or extremely onerous.[11] Civil servants also qualify for early retirement if they have worked for 30 years and are within 5 years of the retirement age.

Table 3 presents the processed administrative retirement rate by Hukou, gender, and age. Usually administrative retirement needs to be processed before a worker actually stops their work. As this process is usually for legal retirement, it mainly exists in urban workers.[12] This is proved in Table 3, where we can see that processed retirement largely happens in the sixties for urban men and about 50–55 for urban women, while that of the rural, regardless of gender, is trivial.

[Insert Table 3 about here]

Those people who have processed retirement may continue to work for the following reasons: 1) It takes a while for the retiree to end his/her work; 2) The same employer rehires the retiree; 3) The retiree finds a different job. Table 4 describes the actual retirement rate among those who have processed their administrative retirement. It can be seen that the retirement rate among those who have processed administrative is much larger than that among the general population shown in Table 3. This indicates that administration may be one reason for actual retirement. Furthermore, rural people who have been administratively retired are much less likely to actually retire. This is true for both men and women of all age groups, except for rural women 75 and above, the sample size of whom is very small.

[11] Completely disabled workers qualify for early retirement if they satisfy a minimum work duration requirement and are medically certified.

[12] Some rural workers, e.g. those who work in the township government sectors, may also be subject to this policy.

[Insert Table 4 about here]

In summary, urban people are far less likely to administratively retire, and conditional on being administratively retired, they are also less likely to actually retire. This raises the hypothesis that rural people may enjoy lower pensions even if they are administratively retired, so they have to keep working, which will be examined in the next section.

4.2 Social Security Coverage, Generosity, and Embedded Incentives

Pension incentive for retirement is well documented in the literature, especially on the choice of retirement date (Stock and Wise, 1990; Coile and Gruber, 2001). In the urban sector, the pension program associated with the mandatory retirement policy is well established, in which qualified retirees will receive a pension of an amount based on certain characteristics (Feldstein, 1999). However, the new rural pension program (NRPP) has only been introduced recently from 2009, and is much less developed than the urban pension system regarding coverage, generosity and embedded incentives.

[Insert Table 5 about here]

Table 5 describes pension coverage in urban and rural areas. From the bottom line, we see 70% of the urban elderly covered by at least one pension, while the fraction is as low as 41% for their rural counterpart. The urban pension comes mainly from the firm or government institution pension, while rural people are mainly covered by the NRPP, which is much less generous than the former. In addition, the urban-rural difference in pension coverage is more pronounced among those who have retired. This is partly due to the shorter period of implementation of the rural pension program, and partly reflects that pension coverage may be a driving force of retirement.

[Insert Figure 4 about here]

The pension incentive for retirement is illustrated in Figure 4, which shows that the retirement rate for those covered by a pension is higher than those who are not.

While this pattern is significant in urban areas, the difference in the rural is trivial, implying that rural pension may not be sufficient to support after-retirement life.

Table 6 further presents pension income for retirees, which shows a large urban-rural gap: pension income is much higher for the urban retired. Even if we take into consideration the difference in living costs between urban and rural areas, this gap is still large.

[Insert Table 6 about here]

One may suspect that this large urban-rural gap in pension income may only be induced by the difference in the pension coverage rates, as demonstrated previously in Table 5. Therefore, we show the urban-rural difference in pension income only for those who have at least one pension. As shown in Table 7, the average amount of pension income conditional on being covered by at least one pension is much larger than the unconditional one, and the urban-rural difference remains with an even larger magnitude.

[Insert Table 7 about here]

Why is rural pension income so low? This may be due to the incentives embedded in the rural pension system. The pension fund consists of two main parts: an individual premium and a government subsidy. The individual premium is comprised of five categories: 100, 200, 300, 400, and 500 RMB per year per person, and is adjusted according to rural residents' increase in per capita net income. Each premium level corresponds to a certain payment schedule. The higher the premium, the higher the nominal payments received in the future. However, the pension system is not properly designed so the net benefit of an individual is larger for the lower scales. This results in higher participation into the lower-scale plans that accumulate more slowly and have a lower level of nominal pension benefits, which are less sufficient to providing old age support. Table 8 gives evidence of this problem. From CHARLS data, we actually see that the rural tend to choose pension plans with lower premiums.

[Insert Table 8 about here]

4.3 Family Wealth

The importance of family wealth in the decision to retire is well documented in literature (Poterba et al., 2011). Retired households are dependent on annuitized income streams (pension income) that they have built up during their working careers and on the wealth that they have accumulated in other forms. CHARLS does have wealth measures such as assets and home equity, but due to the potentially large measurement errors, we turn to an alternative measure, the household per capita (consumption) expenditure (PCE), to proxy wealth effects on retirement.[13]

Table 9 presents the urban-rural difference in PCE by gender and age. PCE is much larger for the urban sample than for the rural among all the age groups, and the discrepancy is larger for the older cohorts. We note that these differences may be partly due to the different living costs in urban and rural areas, but may also reflect the difference in wealth accumulation if we accept that consumption is, to some extent, smoothed over life cycles and reflects wealth levels.

[Insert Table 9 about here]

4.4 Availability of Child Support

In addition to the pension income that they have built up during their working careers and the wealth that they have accumulated in other forms, support from children may also constitute an important source of elderly support, especially in China (Cai et al., 2006; Zhang and Goza, 2006). The two major types of child support are non-monetary support and monetary transfer, while the former is measured by help received from children.

[13] Having noted the limitations of this measure, we will incorporate the wealth measure in the future when it is cleaned and its accuracy is confirmed.

Table 10 reports the urban-rural difference in proportion receiving help from children for the retired. Different from the pattern as before, here rural elderly are more likely to receive help from their children when they are retired. But we can observe that the urban/rural difference declines or even reverses with age. This may be partly due to the fact that rural people have in general more children available and the difference in number of children is smaller among older cohorts.

[Insert Table 10 about here]

We then turn to the other type of support, monetary transfer from children. Table 11 presents the fraction of receiving transfer from children among the retired. Similar to the prior table, this one shows a large urban-rural difference, with the retired rural more likely to receive transfers from their children than their urban counterparts.

[Insert Table 11 about here]

However, receiving transfer does not mean much if the amount of transfer is small. Therefore, in Table 12 we further examine the median amount of transfers conditional on a positive value. It shows that except for the few relatively young male retirees, all the other groups have higher median amount of transfers for the urban retired than for the rural ones. These findings are consistent with that in Lee and Xiao (1998) and Yu et al. (1990), especially on the rural/urban difference.

The results in this section indicate that although child help and transfer may be important sources of support for the rural elderly, it may not be sufficient in providing equal guarantees as pensions and wealth do for the urban elderly.

[Insert Table 12 about here]

4.5 Expected Types of Support

The CHARLS dataset provides interesting information on expected post-retirement living resources. Respondents are asked about their main expected support type while retired, and can choose from the following options: supported by children, supported by own savings, supported by pension or salary, and others.

Table 13 summarizes these statistics. Unsurprisingly, the urban elderly mainly expect support from pensions or salaries, and rural elderly largely expect to rely on their children. This is consistent with the previous analysis on differences in pension and the availability of child support. We may understand this in a different way: Support from pensions and own savings may be more reliable than child support, so urban people expecting the former can retire earlier.

[Insert Table 13 about here]

5. Multivariate Regressions

In this section, we use simple multivariate regressions to show the mechanisms for retirement behavior. Demographic variables such as gender, age, education and marital status, self-reported health status and county dummies are included as control variables. We separately estimate on the urban and rural samples and compare the coefficients of variables that can test the aforementioned hypotheses. These variables of interest are added sequentially into the regressions and are reported in the different columns of Table 14.

[Insert Table 14 about here]

Looking at this table, we see that pension income is more important for retirement for urban people, and it only matters for rural people when the amount is large enough (larger than 1000 RMB per month), which is relatively rare. Similarly, PCE is more important in retirement decisions for urban people, and is only important for extremely high-PCE groups among rural people.

Number of children matters for both urban and rural elderly, but the effect is still larger for the urban, that is, having one additional child will encourage urban parents to retire more than it does for rural parents. This may be due to a larger mean number of children for rural parents.

Receiving help from children is not significant in either, and the amount of child transfer is more important for the rural elderly, implying a significant reliance on child monetary support. Urban retirement behavior is more sensitive to elderly

support, while it is not for their rural counterparts. This may be because of the high expectations on child support of the latter. In general, regression results are consistent with our previous analysis based solely on statistics and are also consistent with Benjamin et al. (2000) that indicates rural elderly are not necessarily well taken care of in comparison with the urban elderly (Benjamin et al., 2000)

6. Conclusions

At lower levels of economic development and vulnerable safety networks, China is now experiencing an unprecedented aging process. In order to deal with the challenges, it is important at this stage to clearly describe the patterns of labor force participation and better understand the mechanisms under these patterns.

Taking advantage of the newly collected national baseline of China Health and Retirement Longitudinal Study (CHARLS), this paper describes the retirement patterns of the Chinese elderly, focusing mainly on the urban/rural difference in the retirement patterns and the driving forces behind the differences. We find that although mandatory retirement policy may contribute to early retirement for the urban elderly, the advantages in social security and family wealth may be the main driving forces behind this behavior. On the other hand, a lack of sufficient guarantees from either the pension program or individual wealth accumulation, the rural elderly's reliance on child support is not enough for their post-retirement elderly support, resulting in far later retirement. With a declining number of children, this sort of support will be even less reliable.

The results here call to attention to the importance of developing and unifying the Chinese old-age support system. One possibility to reducing the huge urban-rural discrepancy is to delay the retirement age in urban sectors, and at the same time redesign the rural pension system and increase its incentive to participating in plans with a higher level of accumulation and higher benefits in the future that are sufficient for elderly support.

References

Adamchak, D.J., 2001, “The effects of age structure on the labor force and retirement in China”, The Social Science Journal, 38: 1-11.

Cai, F., J. Giles and X. Meng, 2006, “How well do children insure parents against low retirement income? An analysis using survey data from urban China”, Journal of Public Economics, 90: 2229-2255.

Chesnais J. C. and S. Wang, 1990, “Population Ageing, Retirement Policy and Living Conditions of the Elderly in China”, Population: An English Selection, 2: 3-27

Coile, C., and J. Gruber, 2001, “Social security incentives for retirement”, In Themes in the Economics of Aging, ed. D. Wise, 311-341. Chicago: University of Chicago Press.

Du, J., 1997, “China’s Social Security System: Current Situation and Reform Plans”, paper presented at seminar on Social Security Funds Management, Beijing, China, 2-4 April.

Feldstein, M., 1999, “Social security pension reform in China”, China Economic Review, 10(2): 99-107

Lee Y. J. and Z. Xiao, 1998, “Children’s Support for elderly parents in urban and rural China: Results from a national survey”, Journal of Cross-Cultural Gerontology, 13: 39-62.

Pang, L., A. de Brauw and S. Rozelle, 2004, “Working until You Drop: The Elderly of Rural China”, The China Journal, 52: 73-94.

James, E., 2002 “How can China solve its old-age security problem? The interaction between pension, state enterprise and financial market reform”, Journal of Pension Economics and Finance, 1: 53-76.

Poterba, J.M., S. F. Venti and D. A. Wise, 2011, “The Composition and Draw-down of Wealth in Retirement”, NBER Working paper, No. 17436.

Song, S. and G. Chu, 1997, “Social Security Reform in China: The Case of Old-Age Insurance”, Contemporary Economic Policy, 6: 85-93

Stock, J., and D. Wise, 1990, “Pensions, the option value of work, and retirement”,

Econometrica 58(5): 1151-1180.

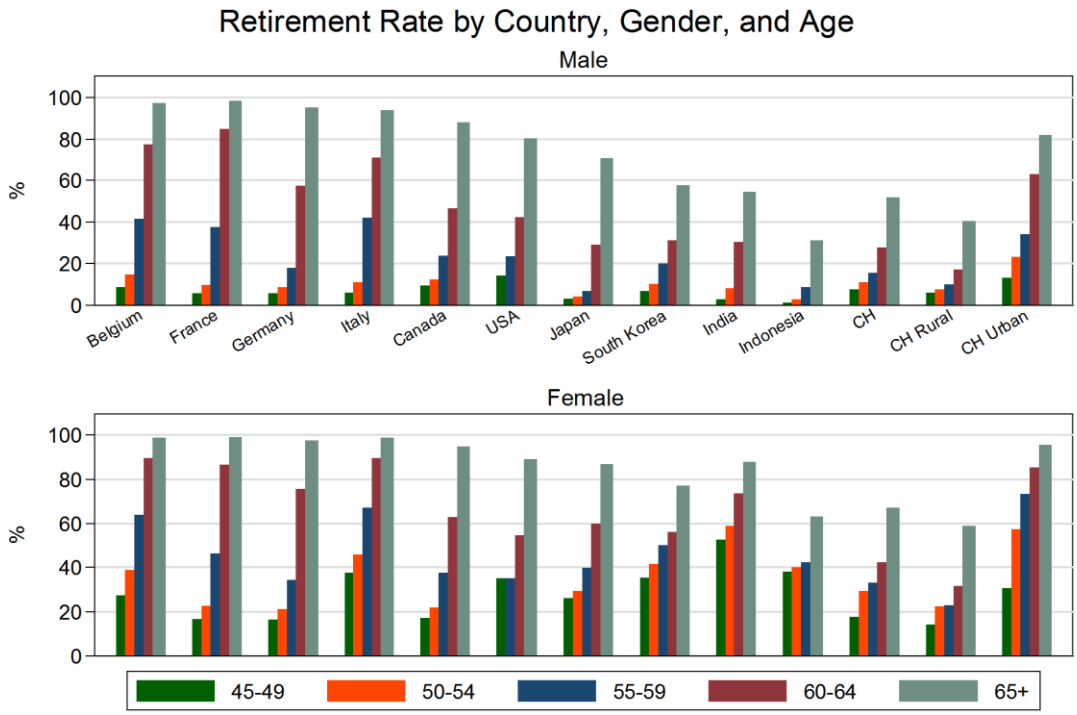
Yu, L. C., Y. Yu and P. K. Mansfield, 1990, “Gender and Changes in Support of Parents in China: Implications for the One-Child Policy”, Gender and Society, 4(1): 83-89.

West, L. A. 2007 “Pension reform in China: Preparing for the future”, Journal of Development Studies, 35(3): 153-183.

Zhang, Y. and F. W. Goza, 2006, “Who will care for the elderly in China? A review of the problems caused by China's one-child policy and their potential solutions”, Journal of Aging Studies, 20: 151-164.

Zhao, Y., J. Strauss, G. Yang, J. Giles, Y. Hu, and A. Park. 2012. "The CHARLS User Guide", China Center for Economic Research, Peking University

Figure 1: Retirement Rate by Country, Gender, and Age



Data for China comes from CHARLS, data for other countries come from "An Aging World: 2008", issued by NIA of NIH, U.S. Department of Health and Health Services

Table 1: CHARLS 2011-2012 Sample Size and Response Rate

	Total	Rural	Urban
Assigned households	23,590	10,675	12,915
Age eligible rate(%)	62.17	72.03	53.49
Response rate(%) (cv complete)	88.65	93.34	84.2
Sample Households	10,703	6,206	4,497
Response rate(%) (roster complete)	85.16	91.08	79.11

Table 2: Retirement by Hukou, Gender and Age

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	22.4	10.5	13.2	6.2	30.6	14.1
50_55	40.9	15.2	23.1	7.7	57.4	22.3
55_60	53.2	16.7	34.3	10	73.4	23
60_65	73.4	24.5	63.1	17.1	85.4	31.7
65_70	80.8	30.3	72.6	21.9	92.2	38.5
70_75	88.8	50.1	81.9	40.3	97.5	60.3
75_80	93	66.6	89.7	57.9	97.1	74.7
80+	97.5	83.7	96.6	77.4	98.6	87.9
Total	59.9	25.3	50.3	18.2	70.3	31.9
OBS	3,845	13,461	2,006	6,431	1,838	7,020

Figure 2: Retirement Rate by Age, Hukou, and Gender

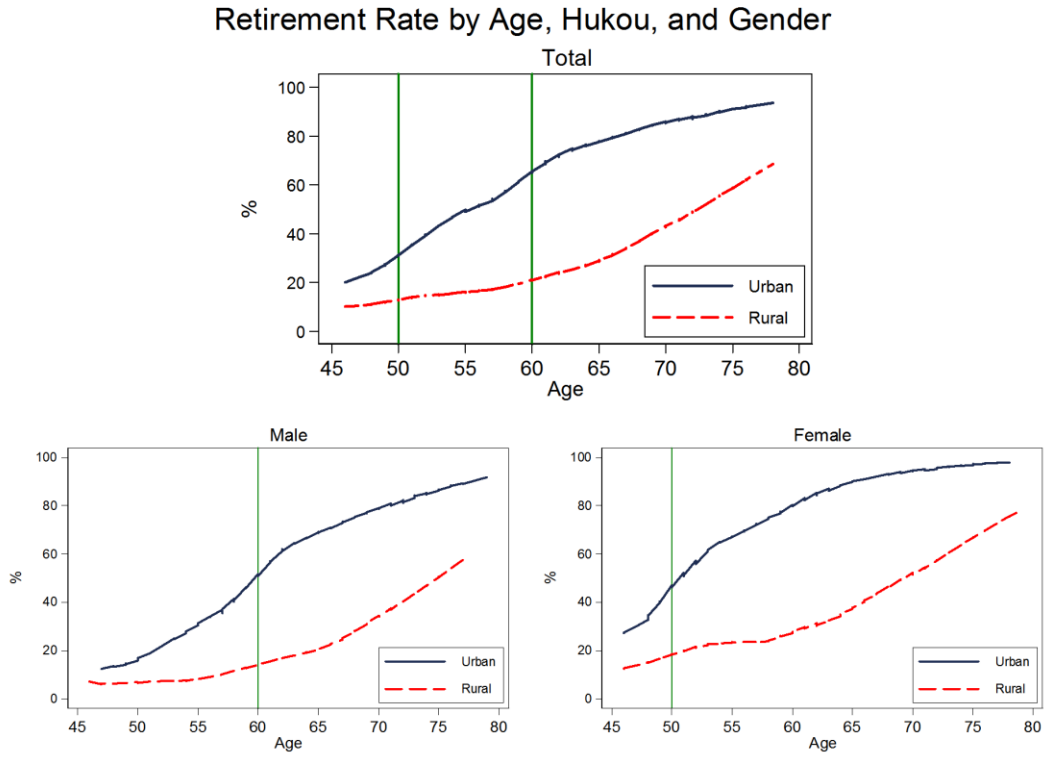


Figure 3: Cumulative Retirement Rate by Retirement Data of Retirees Above Age 60

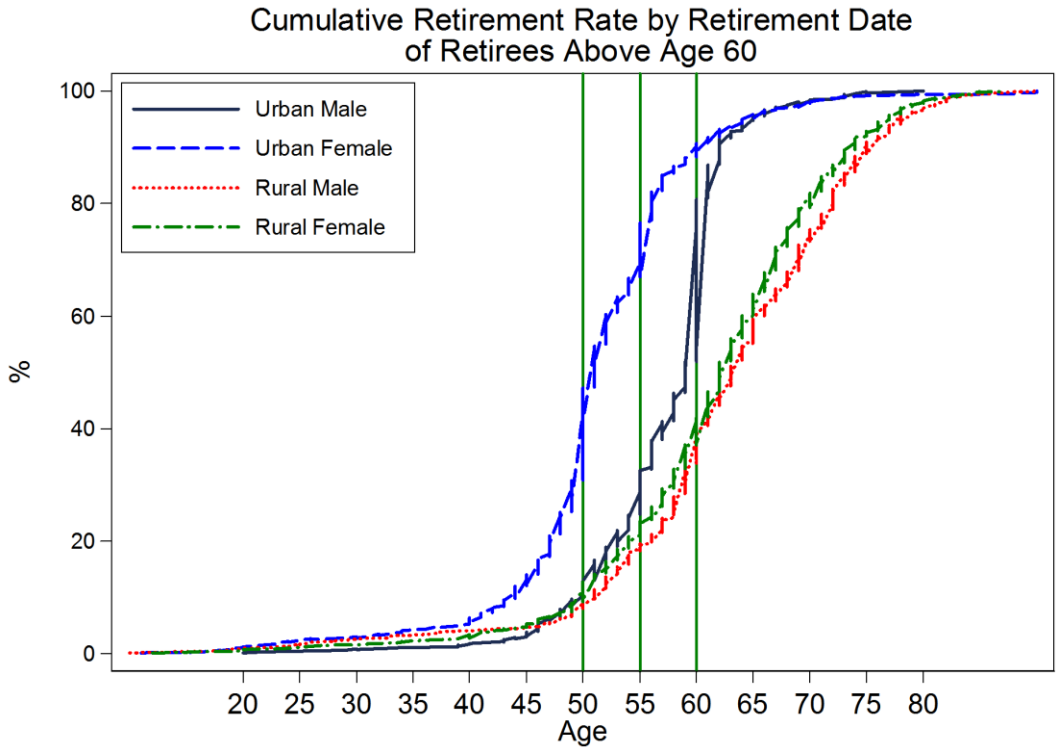


Table 3: Processed Administrative Retirement by Hukou, Gender and Age

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	7.1	0.3	4.2	0.2	9.8	0.3
50_55	31.4	1.3	7.5	0.7	53.7	1.9
55_60	45.6	1.2	28.7	1.2	63.7	1.1
60_65	67.7	2.1	77.5	3.6	56.6	0.6
65_70	73.7	2.8	83.9	4.6	59.7	1.0
70_75	79.8	3.5	91.3	5.7	65.2	1.2
75_80	76.4	3.7	89.7	6.5	60.2	1.2
80+	72.2	4.0	86.4	9.7	54.3	0.3
Total	49.5	1.7	50.0	2.6	48.9	0.9
OBS	3,845	13,461	2,006	6,431	1,838	7,020

Table 4: Retirement of those Processed Administrative Retirement by Hukou, Gender and Age

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	52.9	28.6	28.6	0.0	62.2	50.0
50_55	72.0	25.9	68.4	28.6	72.4	25.0
55_60	76.1	34.4	61.5	25.0	83.2	43.8
60_65	78.6	31.9	70.2	20.0	92.0	100.0
65_70	83.2	46.2	76.0	40.6	97.2	71.4
70_75	89.7	60.0	85.0	58.6	98.1	66.7
75_80	94.3	83.3	92.9	80.0	96.8	100.0
80+	98.2	90.0	98.7	89.5	97.4	100.0
Total	82.1	48.5	77.4	46.4	87.2	53.8
OBS	1,869	231	985	166	884	65

Table 5: Pension Coverage

Pension	Total			Retired			Unretired		
Type	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Pension Subsidy to the Oldest Old	0.5	1.7	1.4	0.7	2.9	2.0	0.1	1.2	1.1
New Rural Social Pension Insurance	1.5	**27.2**	21.6	1.1	**25.5**	15.8	2.1	**27.8**	24.5
Urban Residents' Pension	8.1	0.4	2.1	9.4	0.5	4.1	6.2	0.3	1.1
Residents' Pension	2.3	0.8	1.1	2.2	0.7	1.3	2.4	0.9	1.1
Rural Pension	0.9	10.1	8.0	0.8	12.0	7.5	1.1	9.4	8.3
Firm's Pension	**18.6**	0.8	4.8	**19.4**	0.8	8.2	**17.2**	0.9	3.0
Government or Institutions' Pension	**21.0**	2.1	6.3	**22.1**	2.5	10.3	**19.5**	2.0	4.3
Conmmercial Pension	1.3	0.7	0.9	1.0	0.5	0.7	1.7	0.8	0.9
Other Pension	4.1	0.9	1.6	4.6	1.5	2.8	3.3	0.7	1.0
Any Pension	**70.2**	**41.2**	**47.6**	**78.0**	**42.7**	**56.8**	**59.0**	**40.7**	**43.1**

Figure 4: Retirement Rate by Pension Coverage

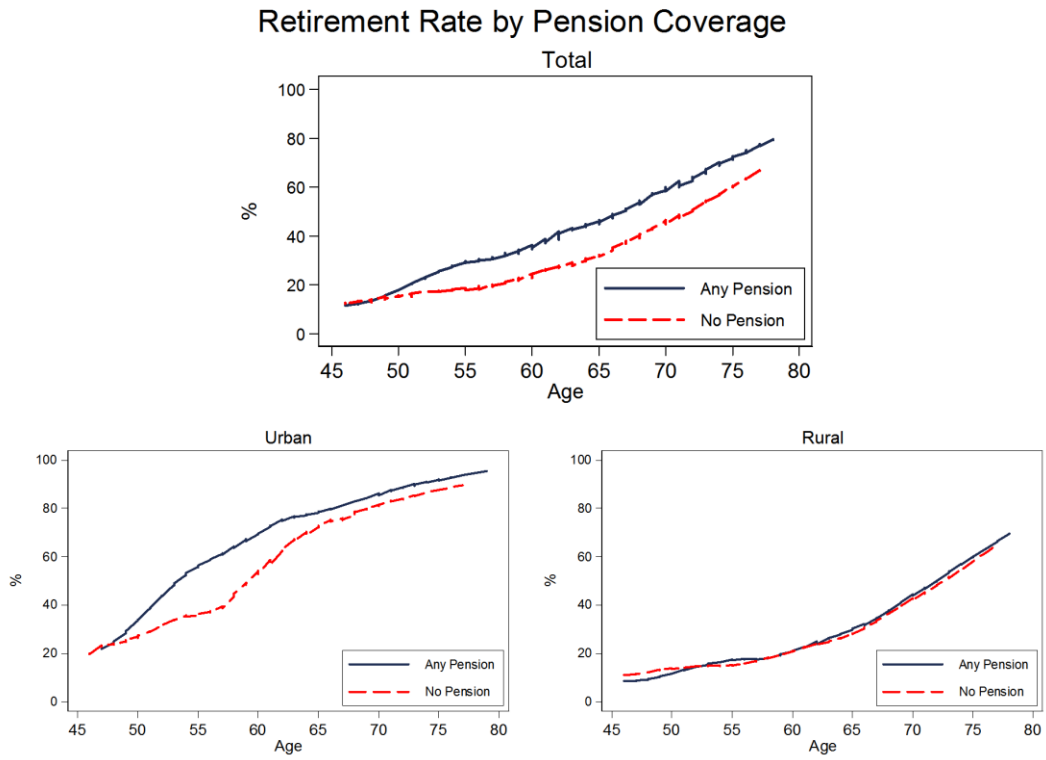


Table 6: Pension Income of those Retired by Hukou, Gender and Age (Unit: Yuan/Month)

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	335	9	356	1	327	12
50_55	870	22	328	0	1022	30
55_60	1129	45	933	22	1217	54
60_65	1456	75	1978	85	1011	70
65_70	1512	93	1821	158	1181	57
70_75	1541	105	1925	164	1123	64
75_80	1585	89	1976	163	1124	36
80+	1759	89	2478	184	878	32
Total	1350	74	1731	122	1053	48
OBS	2,255	3,382	987	1,163	1,267	2,218

Table 7: Pension Income of the Retired with at Least one Pension (Unit: Yuan/Month)

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	1162	122	2204	20	954	160
50_55	1341	369	1312	0	1344	402
55_60	1562	473	1656	388	1532	490
60_65	1799	208	2146	260	1412	185
65_70	1856	214	2028	344	1628	136
70_75	1802	282	1972	404	1551	185
75_80	1919	225	2031	388	1723	94
80+	2249	220	2712	451	1413	81
Total	1771	238	2073	369	1490	160
OBS	1758	1445	835	501	923	943

Table 8: Premium of NRPP (Unit: Yuan/Year)

Premium	Freq.	Percent
<=100	1,716	72.28
(100, 200]	247	10.4
(200, 300]	123	5.18
(300, 400]	56	2.36
(400, 500]	113	4.76
>500	119	5.01
Total	2,374	100

Table 9: PCE by Hukou, Gender and Age (Unit: Yuan/Year)

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	11,302	6,570	11,270	6,612	11,333	6,521
50_55	8,990	6,042	8,913	6,403	9,067	5,703
55_60	9,590	4,872	9,419	4,859	9,773	4,886
60_65	9,974	4,569	9,867	4,813	10,113	4,337
65_70	9,219	4,028	8,399	3,963	10,373	4,092
70_75	9,651	3,548	9,074	3,438	10,378	3,664
75_80	8,182	3,549	8,438	3,651	7,867	3,453
80+	8,878	3,286	10,355	3,347	7,114	3,244
Total	9,733	5,034	9,558	5,112	9,930	4,960
OBS	3,845	13,461	2,006	6,431	1,838	7,020

Table 10: Any Help for the Retired from Children by Hukou, Gender and Age

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	12.4	40.4	14.6	26.5	11.6	44.8
50_55	39.8	67.1	42.9	56.9	38.7	70.0
55_60	54.9	79.0	50.0	80.0	57.4	78.6
60_65	71.5	81.9	71.4	83.1	72.0	81.3
65_70	73.3	68.7	77.0	72.3	69.3	66.8
70_75	53.5	58.3	59.5	62.3	47.0	55.6
75_80	41.7	46.8	50.0	49.4	32.7	44.9
80+	26.5	26.0	31.3	29.3	20.6	24.0
Total	53.3	60.0	57.6	59.9	50.1	60.1

Table 11: Fraction Receiving Transfer for the Retired by Hukou, Gender and Age

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	3.3	14.3	2.4	8.8	3.6	16.0
50_55	10.2	24.7	8.9	24.6	10.7	24.8
55_60	13.6	39.3	8.1	44.0	16.3	37.3
60_65	23.1	42.4	22.8	42.4	23.4	42.5
65_70	24.6	44.3	25.9	46.1	23.3	43.3
70_75	23.1	34.5	25.2	35.2	20.8	34.0
75_80	21.4	32.1	25.0	33.9	17.3	30.8
80+	9.9	16.4	9.6	15.3	10.3	17.1
Total	18.0	32.5	19.3	33.6	17.1	31.9
OBS	2255	3382	987	1163	1267	2218

Table 12: Median Transfer Amount of the Retired Conditional on Positive Transfer (Unit: Yuan/Year)

	Total		Male		Female	
Age_Group	Urban	Rural	Urban	Rural	Urban	Rural
45_50	1000	1350	1000	2400	1500	1350
50_55	2000	2000	600	2150	2000	2000
55_60	2000	2000	1650	2000	2000	2000
60_65	2650	2350	2200	2000	3000	2900
65_70	2500	2100	2500	2500	2750	2000
70_75	3000	1750	3500	2000	2600	1600
75_80	2600	2100	2500	2100	3120	2050
80+	2500	1400	4000	1600	2500	1050
Total	2500	2000	2550	2000	2500	2000
OBS	394	1067	184	369	210	697

Table 13: Expected Support Type

	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
Children	23.4	80.9	19.7	78.0	27.3	83.6
Savings	3.4	4.2	3.2	4.9	3.7	3.6
Pension or salary	69.5	8.8	74.0	10.2	64.6	7.5
Other	3.8	6.1	3.1	7.0	4.5	5.3

Table 14: Regression Results for Retirement

	Urban					Rural				
VARIABLES	IC	Pension	PCE	Child	ALL	IC	Pension	PCE	Child	ALL
Female	0.214***	0.180***	0.173***	0.170***	0.168***	0.121***	0.126***	0.126***	0.125***	0.121***
Age45_49 (Reference)										
Age50_54	0.177***	0.133***	0.125***	0.112***	0.112***	0.035***	0.018	0.018	0.012	0.012
Age55_59	0.320***	0.229***	0.231***	0.212***	0.212***	0.060***	0.042***	0.045***	0.037***	0.039***
Age60_64	0.526***	0.344***	0.345***	0.311***	0.317***	0.140***	0.124***	0.129***	0.117***	0.116***
Age65_69	0.619***	0.428***	0.429***	0.382***	0.384***	0.198***	0.179***	0.181***	0.162***	0.162***
Age70_74	0.678***	0.465***	0.476***	0.428***	0.429***	0.377***	0.359***	0.365***	0.346***	0.346***
Age75_79	0.733***	0.517***	0.519***	0.463***	0.462***	0.531***	0.496***	0.496***	0.477***	0.478***
Age80+	0.783***	0.563***	0.577***	0.519***	0.517***	0.659***	0.633***	0.639***	0.630***	0.629***
Iliterate (Reference)										
Literate	0.038	0.003	-0.001	0.001	-0.000	-0.001	-0.004	-0.006	-0.002	-0.004
Primary	0.059**	-0.004	-0.010	-0.005	0.007	0.004	0.006	0.006	0.006	0.005
Junior or Above	0.086***	0.012	0.002	0.009	0.018	0.020*	0.014	0.014	0.014	0.014
Widowed	-0.007	0.023	0.029	0.031	0.033	0.100***	0.106***	0.107***	0.109***	0.108***
Divorced or Never Married	0.037	0.040	0.032	0.047	0.033	0.170***	0.211***	0.211***	0.142***	0.129**
Self Reported Health Poor or Very Poor	0.125***	0.123***	0.124***	0.128***	0.123***	0.136***	0.136***	0.137***	0.135***	0.137***
No Pension Income Received (Reference)										
Pension Income 0-1000		0.129***	0.134***	0.130***	0.140***		-0.018	-0.014	-0.018	-0.015

	Urban					Rural				
VARIABLES	IC	Pension	PCE	Child	ALL	IC	Pension	PCE	Child	ALL
PCE Quintile 1 (Reference)										
PCE Quintile 2			0.059*	0.055	0.076**			-0.006	-0.002	-0.006
PCE Quintile 3			0.090***	0.087***	0.104***			0.013	0.010	0.009
PCE Quintile 4			0.051	0.052*	0.070**			0.002	-0.001	-0.001
PCE Quintile 5			0.093***	0.089***	0.104***			0.034**	0.033**	0.033**
Number of Children				0.020***	0.019***				0.007**	0.008**
Any Help from Children				0.021	0.020				-0.010	-0.010
No Transfer Received (Reference)										
Transfer from children 0-2000				0.012	0.005				0.013	0.014
Transfer from Children > 2000				0.025	0.021				0.079***	0.075***
Expect Support by Savings (Reference)										
Expect Support by Children					0.116***					0.030
Expect Support by Pension					0.078*					-0.012
Expect Support by Other					0.130**					0.020
Observations	3,753	3,077	2,804	2,736	2,697	13,310	9,975	9,680	9,453	9,209
R-squared	0.322	0.301	0.307	0.313	0.320	0.245	0.244	0.246	0.253	0.256