Mechanism of Action of Policy-Related Factors on Chinese Employees' Early Retirement Behavior

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Abstract

Nowadays, aging is a global challenge to most of countries. Retirement age, as an important factor to aging problem, has become a hot issue in the academic world. Especially in China, how to adjust retirement age is a complicated but interesting problem. This study, based on the CHARLS (China Health and Retirement Longitudinal Study) data of 2011, explored the influencing factors for Chinese employees' early retirement behavior, and focused on the influencing mechanism on policy-related factors working age and pension. In Part One, binary logit regression method was used to research the influencing factors for the early retirement of Chinese staff and workers, as well as the influence relation between working age and pension, concluding that a longer working age led to a higher pension level but a lower probability of early retirement, and finding that employees' re-employment after early retirement under pressure from life caused by the lower average pension level in China was a major reason for the negative correlation between pension and early retirement. In Part Two, an "Moderated Mediator" model was built based on an analysis of the preliminary study and an interview with the employees in different types of units, result showing that pension had some intermediary effects between working age and early retirement, and meanwhile the effects were under the positive adjustment of work in public institution. Finally, some policy suggestions were put forward in this study for the adjustment of retirement policy.

Keywords: early retirement, working age, pension, public institution, moderated mediator.

1. Introduction

Aging of population has become a global hot issue in modern society. Giddens (2006) pointed out that the dual effect of globalization and aging would renovate people's living during a long period of time in this century. Moreover, Peng & Hu (2011) also proposed that aging of population would become normal in human society. As an important countermeasure to aging problem, how to adjust retirement age has become a focus of discussion in the academic world. In China, a particularly violent debate on extension of retirement age has been caused. The opponents argue that extension of retirement age is a means for burden shifting adopted by the government to relieve the financial pressure brought about by pension payment and this will put a great many young people out of work (Dong *et al.* 2004). They hold the view that it's necessary to consider how to increase employment opportunities and improve economic efficiency, because in this way not only will the problem of employment be solved, but pension will be increased in a broader way (Jiang & Chen 2004). The supporters argue that compared with employment, the sustainability of old-age security is more important (Lin 2001), and a reasonable extension of retirement age will be able to postpone high payment rate effectively (Rao *et al.* 2005), as well as that the impact on employment will be reduced greatly if retirement age is postponed year by year progressively (Dong & Yang 2011). Although scholars' approval of postponed retirement is prevailing, in reality, several waves of early retirement have taken place since the establishment of China's pension system (Zhao & Xu 2001). Some survey shows that the amount of pension paid by such 13 provinces and cities as Shandong, Shanghai and Guangdong, etc. to early retirement from 1995 to 1997 accounts for 16.5%, 25.2% and 27.2% of the total retirement expenses in each year (Guo 2005). The major reason for this phenomenon is that endowment insurance system and retirement system can hardly stimulate employees to postpone retirement, but instead induce them to retire in advance (Wang & Zeng 2004). Moreover, in China, there is a lack of enough researches on retirement, so it's difficult to develop mature theories and positive results to provide reference for the formulation of policy framework. All in all, an in-depth study about Chinese employees' retirement behavior is in demand. It is not only meaningful for Chinese policymakers to adjust the Chinese retirement policy, but valuable for national scholars to further explore this issue. So this paper, based on the CHARLS data of 2011, carries out a study on the influencing factors for Chinese employees' early retirement, and focuses on mining the influencing mechanism on policy-related factors, to provide reference for the design of an incentive framework for retirement policy, and meanwhile call for attention from the domestic academic world to the microscopic study of employees' retirement behavior, to strengthen the relevant academic researches. This is also the purpose and significance of this paper.

2. Literature Review

An international microscopic study of employees' retirement was started from the late 1960s. In the beginning, Barfield & Morgan (1969) set a dummy variable about whether retirement should be taken before 65 years old, and found based on binary logit model that anticipated retirement income was the most important influencing factor. Afterwards, lots of interdisciplinary researches and theories were applied to retirement study one after another. Chung & Jung (2014), based on the concept of "Age Norm", researched the attitude of the Koreans in different age groups towards whether the old people aged above 65 should retire in accordance with Activity Theory, Disengagement Theory and Modernisation Theory. Many theories related to retirement contain "Cost-Benefit" framework, holding that the main reason for individuals to make a decision on retirement is that the net benefit brought by retirement exceeds the net benefit brought by continuing work (Feldman & Beehr 2011). Hanna & Kène (2014), researched the correlation between work-related factors and laborers' wish for retirement by using the panel data of the laborers aged above 50 in Holland, finding that a better work environment and social identification (including colleagues' approval and leaders' support) could stimulate laborers to postpone their retirement. Some other scholars, with retirees' re-employment as an entry point, combined interview method with questionnaire method for investigation, finding that desire for output and positive motivation factors had appreciable impacts on retirees' wish for re-employment, and further that social identification had significant regulating effects on the correlation between desire for output and retirees' wish for re-employment (Wöhrmann *et al.* 2014).

But in China, there are relatively less studies of this kind. Feng & Hu (2008) used CHNS (China Health and Nutrition Survey) data to research the influence relation between laborers' unemployment probability and their decision on early retirement, finding that when unemployment probability increased by every 1 percentage point, the probability for males to retire would increase by about 0.25 percentage point and the probability for females to retire would increase by around 0.32 percentage point. Liao (2012), based on the CGSS (China General Social Survey) data of 2008, found that urban population's early retirement behavior pattern had significant differences between males and females, and educational level only had a significant impact on females' early retirement behavior, while social security system only had a significant impact on males' early retirement behavior. Qian & Shen (2012) introduced an interactive effect model, finding that a good health condition could positively regulate the impact of economic income on wish for retirement, and meanwhile the healthier a laborer was, the greater the impact of economic income on his wish for retirement would be.

As a matter of fact, compared to employees' personal feature and economic society's environment characteristic, such policy factors as condition for retirement and endowment insurance system appear more important due to their operability (Yang 2014). In China, working age is one of the two conditions for normal retirement, and employees won't be eligible for normal retirement unless they come of mandatory age for retirement and lawful working age simultaneously (Note 1). Moreover, pension, as a major capital source after employees' retirement, is an economic factor controllable to policy, and working age is determinative to pension to some extent (Note 2). However, most of the domestic related studies investigate only pension and ignore the importance of working age, much less explore the two policy-related variables simultaneously. Therefore, this paper, based on the CHARLS data of 2011, explores the influencing factors for Chinese employees' early retirement, and primarily investigates the influencing mechanism on such two policy-related factors as working age and pension, to provide important data for the adjustment of retirement policy and the establishment of incentive framework, and point out the next research direction according to the issues discovered and the shortcomings of this study.

3 Preliminary Study: The Influencing Factors for Chinese Employees' Early Retirement

3.1 Data sources and variable measurement

CHARLS aims to collect a set of high-quality micro-data that represents middle aged and elderly people and individuals aged 45 and above, for an analysis of Chinese aging problem, to promote interdisciplinary researches on aging problem. In 2011, a baseline CHARLS was carried out, with 17 thousand people from around 10 thousand households in 150 county-level units and 450 village-level units covered. What is adopted in this paper is the CHARLS data of 2011.

About the concept of retirement, OECD (1995) proposes 3 different definitions: (1) a standard based on whether pension is drawn, regardless of employment status; (2) a standard based on whether one exits labor market, regardless of whether he draws pension; (3) a standard based on the retirement state subjectively assessed by an individual, regardless of whether he exits labor market or draws pension. There are three questions related to it in questionnaire: (1) "How old will you be when you go through retirement formalities"; (2) "When did you go through (formal/early) retirement formalities"; (3) "When did you begin to draw pension (retirement pay)". Question 1: what is obtained is laborers' wish for retirement. With age increasing and due to the impact of some external factors, the current wish for retirement may be greatly different from actual retirement behavior, and so there may be a big error between the research result and actual result (Anderson *et al.*

1986; Henkens & Tazelaar 1997). Question 2: what is obtained is the actual retirement age in laborers' subjective cognition, consistent with the third definition. Question 3: what is obtained is the time when laborers begin to draw pension. If it's regarded as actual retirement age, it's consistent with the first definition. Since the academic world generally selects the first definition for retirement, this paper selects the data tested in Question 3 to reflect laborers' actual retirement age. As is regulated in The State Council's Interim Measures on placing Old, Weak, Sick and disabled Cadres and The State Council's Interim Measures for Workers' Retirement and Resignation, males' retirement age is 60, female cadres' retirement age is 55 and female workers' retirement age is 50. It's feasible to determine the normal retirement age in each sample according to the question "Were you a cadre or worker when you retired?" This paper builds binary variable ER to reflect whether laborers retire in advance. If a laborer's actual retirement age is less than his normal retirement age, ER=1, and he retires in advance. Conversely, ER=0.

In terms of independent variable, apart from working age and pension that are focused in this paper, we have added such underlying variables as employees' gender, education and self-rated health. Considering that many scholars regard spouse's situation as an important factor and put it in model (Damman *et al.* 2011; Von Bonsdorff *et al.* 2010; Yang 2011), and some other scholars investigate position (Yang 2011) and work unit type (Liao 2012) by considering them to be relevant factors, this paper further adds spouse's retirement and health status to reflect spouse's situation, adds cadre identity to reflect position, and meanwhile divides work units into government agency, public institution, enterprise and other four types to describe with 3 dummy variables. This paper doesn't select age as a variable to be investigated, for the main reason that there isn't significant correlation between current age and retirement behavior for the laborers who have retired. The measurement of explanation of all variables are as shown in Table 1. After screening and removing ineffective samples, we obtain 1,513 effective samples.

Table 1. Variables measurements and explanation

Variable	Symbol	Variable Type	Related Questionnaire
Early retirement	ER	Binary variable (ER=1, early retirement)	When did you begin to draw pension (retirement pay)?
Working age	YOEW	Continuous variable (year)	What was your working age when you retired?
Pension	Pen	Continuous variable (one hundred yuan per month)	How much was your pension (including various subsidies) when you retired?
Self-rated health	Heal	Ordial (1 not good, 2 so-so, 3 good, 4 very good, 5 extremely good)	How about your physical condition when you [retired normally/in advance/ resigned]?
Government agency	Gov	Dummy variable (Gov=1, employed in government agency)	
Public institution	Ins	Dummy variable (Ins=1, employed in public institution)	What's the type of the unit from which you [retired/ resigned]?
Enterprise	Firm	Dummy variable (Firm=1, employed in enterprise)	
Gender	Gender	Dummy variable (Gender=1, male)	Direct observation record
Education	Edu	Ordial (1 illiteracy, 2 literacy, 3 old-style private school, 4 primary school, 5 junior high school, 6 senior high school, 7 technical secondary school, 8 junior college, 9 bachelor degree, 10, master, 11, doctor)	What's your highest education?
Cadre status	Cadre	Dummy variable (Cadre=1, a cadre)	Were you a cadre or worker when you retired?
Spouse's retirement	S_R	Dummy variable (S_R=1, spouse has retired)	Did your spouse go through retirement formalities when you [retired normally/in advance/ resigned]?
Spouse's health status	S_H	Ordial (1 1 not good, 2 so-so, 3 good, 4 very good, 5 extremely good)	How about your spouse's physical condition when you [retired normally/in advance/ resigned]?

3.2 Descriptive analysis and regression result

The descriptive statistical result of all the 1,513 samples is as shown in Table 2, including mean value, standard

deviation, variance inflation factor and relevant matrix. The variance inflation factor of all variables is less than 1.51, and there isn't obvious problem of multiple colinearity.

Among the samples there are 650 people who retired in advance, accounting for around 43% of the total sample size. Their average working age is 31.54 years and average pension is ￥846 yuan per month. 129

Table 2. Mean, standard deviation, variation inflation factor and correlation matrix table

Variable	Means	S.D.	Vif.	ER	YOEW	Pen	Gov	Ins	Firm	Gender	Edu	Heal	Cadre	S_R
ER	0.43	0.50		1.00										
YOEW	31.54	8.92	1.43	-0.08***	1.00									
Pen	846.16	796.10	1.34	-0.19***	0.31***	1.00								
Gov	0.09	0.28	1.26	-0.04	0.15***	0.10***	1.00							
Ins	0.18	0.39	1.51	-0.08***	0.10***	0.22***	-0.14***	1.00						
Firm	0.43	0.50	1.51	0.10***	-0.04	-0.13***	-0.27***	-0.42***	1.00					
Gender	0.53	0.50	1.33	0.21***	0.42***	0.14***	0.11***	0.02	-0.17***	1.00				
Edu	4.88	1.98	1.45	-0.07**	0.20***	0.41***	0.09***	0.28***	-0.07**	0.03	1.00			
Heal	3.20	0.96	1.17	0.11***	0.00	-0.09***	0.00	0.00	-0.05*	0.10***	-0.07**	1.00		
Cadre	0.30	0.46	1.41	-0.08***	0.29***	0.28***	0.19***	0.25***	-0.25***	0.23***	0.42***	-0.03	1.00	
S_R	0.30	0.46	1.13	-0.05*	0.27*	0.18***	0.05*	0.04	0.02	0.23***	0.12***	0.01	0.18***	1.00
S_H	3.29	0.96	1.17	0.00	0.07	-0.02	0.05	-0.01	-0.06**	0.11***	-0.05	0.36***	0.01	0.04

Note: n=1513, *p<0.05, **p<0.01, ***p<0.001.

people retired from government sector, 277 people retired from public institution, and 658 people retired from enterprise, accounting for 9%, 18% and 43% of the total sample size respectively. Among the samples there are 454 people who retired as a cadre, accounting for 30% of the total sample size. 460 ones' spouse retired as well, accounting for 30%. According to relevant matrix, pension, working age, education, cadre identity, spouse's retirement state and working in public institution are negatively correlated to early retirement, while gender, self-rated health and working in enterprise are significantly positively correlated to early retirement.

To get a more rigorous result, this paper adopts Stata12.1 and takes Chinese employees' retirement behavior as a dependent variable for stepwise logit regression, the result shown in Table 3. All dependent variables but working age and pension are put in $Model$1. The result indicates that gender and self-rated health are significantly positively correlated to employees' early retirement, while cadre identity, spouse's retirement and spouse's health status are significantly negatively correlated to employees' early retirement. In terms of unit type, only enterprise is positively correlated to early retirement, while government agency and public institution aren't significantly correlated to it. Dependent variable pension is introduced into $Model$2 based on $Model$1. Maximum likelihood test (LRT) (p<0.001) suggests that due to the introduction of variable pension, the model's likelihood ratio rises significantly, showing that $Model$2 has a stronger explanatory power. Meanwhile $Model$2 displays that pension is significantly negatively correlated to early retirement (b=-0.06，p<0.001，$S.E.$=0.01). That is, those with a lower pension are more declined to retire in advance. Dependent variable working age is introduced into $Model$3 based on $Model$2. Maximum likelihood test (LRT) (p<0.001) tells that the explanatory power of $Model$3 is significantly enhanced, and the result displays that there is a significant negative correlation between working age and early retirement (b=-0.04，p<0.001，$S.E.$=0.01).

Table 3. Results of logit regression on influencing factor for early retirement in China

Dependent Variable	Early retirement		
	$Model$1	$Model$2	$Model$3
Gender	1.21***	1.32***	1.60***
Education	-0.02	0.06	0.06
Self-rated Health	0.25***	0.22***	0.22***
Cadre status	-0.42**	-0.40**	-0.32*
Spouse's retirement	-0.47***	-0.36**	-0.27*
Spouse's health status	-0.14*	-0.13*	-0.12*
Government agency	-0.10	-0.02	0.13
Public institution	-0.06	0.05	0.13
Enterprise	0.52***	0.51***	0.63***
Pension		-0.06***	-0.05***
Working age			-0.04***
LRT（$Model$1 $Model$2）	p<0.001		
LRT（$Model$2 $Model$3）		p<0.001	

Note: n=1513, *p<0.05, **p<0.01, ***p<0.001.

3.3 Analysis and discussion

$Model$1 shows that in China, the male employees who have a good health status and work in an enterprise are more declined to retire in advance, while those who hold a high position, whose spouse has retired and whose

spouse has a good health status, choose to retire later. The influence relation between policy-related variable pension and early retirement is investigated in *Model*2, and it's found that the higher pension is, the lower the probability for employees to retire in advance will be. This is contrary to the result of most scholars' research (Hanna & Kène 2014; Damman *et al.* 2011; Yang 2011). This paper holds that as a major source of income after retirement, pension has an approximate substitution effect and income effect on individual laborers. In the developed countries and regions (Holland and Guangdong, China, etc.) where social security is strong and pension level is high, substitution effect is greater than income effect, and employees are more willing to give up the part of income, to enjoy a healthy, leisurely and comfortable late life as early as possible, so the conclusion that those who with a higher pension are more declined to retire in advance is drawn. But for the whole China, due to the low social security and pension level in most provinces and cities, many employees can't lead a late life with only pension, and income effect is far greater than substitution effect. Some studies indicate that re-employment rate will decline somewhat only when pension level is higher than a critical point (Yang 2014), while employees are even willing to work until death in cases of low income and security (Xiao 1996). An investigation on sample data shows that mean pension level is ￥846 yuan per month, and half of employees' pension is less than ￥600 yuan per month, so this paper holds that China's average pension level is below the critical point mentioned by the predecessors, so employees, when ensuring they can draw pension, tend to retire in advance for re-employment due to life pressure. A good health status is the capital of re-employment, and the positive influence relation between self-rated health and early retirement in the model is highly consistent with this explanation. Meanwhile, in accordance with the question "Did you work after [retiring normally/in advance/resigning]", we find that the re-employment rate of those who retired in advance is 1.5 times as much as that of those who retired later. This also proves the above explanation to some extent.

The influence relation between policy-related variable working age and early retirement is investigated based on *Model*4 and *Model*3. We find that the longer working age is, the more employees are declined to retire normally or later. This is consistent with the conclusions drawn by Montalto *et al*. (2000) and Gümüs *et al*. (2012) The usual explanation is that owing to more work experience and social connection resources accumulated, as well as leader's recognition and colleagues' respect, the employees with a longer working age are more willing to continue working on the original position. However, some other scholars drew an opposite conclusion. When researching whether employees retired of their own volition, Szinovacz & Davey (2005) found that the longer working age was, the higher the probability for female employees to retire willingly was. Clarke *et al*. (2012) found that the shorter working age was, it meant the lower working stability was, so employees were more declined to continue working. A possible interpretation is that working age has a significant indirect impact on retirement behavior, and the direction and level of its impact largely depends on mediators, while due to the difference between different countries in retirement policy, and there are differences between the mediators which play a leading role, so the impact of working age on retirement produces different results. This paper carries out a further study on this issue, to investigate the indirect effect and influencing mechanism of working age on early retirement behavior in Chinese context.

4 Further Study: Explorations on the Indirect Relationship between Working Age and Early Retirement
4.1 Hypothesizing

About the investigation on the relationship between working age and retirement, the previous studies lead to different conclusions. A reasonable explanation is that there is an indirect relationship which cannot be neglected between working age and retirement. However, since there are varying degrees of differences between various countries in retirement-related policy, the influencing mechanism is also different to some extent, and this is the main reason for the inconsistency of the final conclusions. In China, working age is one of the main conditions for employees' normal retirement (Note 1). Meanwhile, enterprise employees' basic old-age pension drawing equation indicates that working age is decisive to pension to a certain degree. As can be seen from *Model*3 in Table 3, working age and pension are significantly negatively correlated to employees' early retirement. Therefore, in Chinese context, pension is likely to serve as a mediator and form an indirect influencing mechanism between working age and early retirement, so this paper gives Hypothesis 1: employees' pension is a mediator between working age and early retirement.

Owing to the low pension level in China, the lower personal pension is, the more likely employees will retire in advance for re-employment under life pressure. Then, re-employment risk and anticipated income are two important factors that must be considered. In addition, because of the difference between the new unit and the original one in type, re-employment risks and anticipated incomes are also entirely different, so we have the reason to guess that different employees have different intentions to retire in advance by reason of different unit types, as well as different re-employment risks and incomes. To verify this guess for a further study, this paper randomly selected the employees of Hefei Municipal Human Resources and Social Security Bureau, Hefei Municipal Construction Quality Test Station and Anhui Jianghuai Automobile Co., Ltd. for interview, with 5 employees selected from each unit by accidental sampling. Two questions were primarily raised: "I. Will you

plan to retire in advance if that' all right?", "II. Will you plan to be re-employed after retirement? How about the difficulty of re-employment and expected pay".

After interview we found that the 5 employees of Hefei Municipal Human Resources and Social Security Bureau, a government agency, were unwilling to retire in advance, and 4 of them would not find another job after retirement, while 1 was willing to help a relative with business after retirement. About the difficulty of re-employment and expected pay, all of them thought the difficulty was great and pay wasn't ideal. It's learned that work in government agency is highly socially identified, sense of honour at post is strong, and welfare guarantee level is high, while many social resources obtained during service will be lost after retirement, and that the staff in government agency mainly do clerical work and few do technical work, so they can't find a better job after retirement. An interviewee told us that there was simply no good unit that wanted to extend an olive branch to the unit leaders who didn't master many resources after their retirement. Therefore, they were more willing to continue working and even retire later. Moreover, owing to the dramatic decline of individual utility after retirement, this trend is rarely affected by other factors.

4 employees of Hefei Municipal Construction Quality Test Station, a public institution, tended to retire normally, and 1 hoped to retire in advance. About Question II, 3 employees were ready to be re-employed, 2 would make a decision as appropriate, and meanwhile all of them thought it was not hard to be re-employed and they could get a good pay. The interviewees told us something in detail. On the one hand, the employees of public institute don't have less sense of honour or poorer social benefits than that of government agency, and those with a title of a senior professional post are paid much higher than civil servants, so they can also accumulate lots of social capital during service. On the other hand, most public institutions usually undertake strongly practical and technical work (such as quality supervision department, higher education institution and patent administration unit), so the employees are welcomed by the relevant enterprises after retirement. Some senior ones who master many resources and have a high title can be hired with high salary more easily, and can get a wage several times more than the original one. Therefore, we think the retirement behavior of the employees of public institution is much more flexible than that of government agency, and their decision on retirement is more susceptible to pension level. So this paper hypothesizes as follows: Hypothesis 2a: the impact of pension on early retirement behavior can be positively adjusted in terms of work in public institution.

2 employees of Anhui Jianghuai Automobile Co., Ltd. were ready to retire in advance while the rest 3 tended to retire normally, and 4 of them would make a plan about re-employment. About the difficulty of re-employment and expected income, the 5 interviewees thought it was not hard to be re-employed, 3 of whom thought salary wouldn't be too high, and 3 thought salary would be pegged to technical content. It's learned that the work in which the employees of enterprise are engaged, as a key component of labor market, is most practical. However, because of the low pension level, they will have to increase income in another way after retirement. Even for the enterprise employees who aren't highly skilled, although they will get a lower pay after retirement, they will still increase income on the premise that their pension is guaranteed. Therefore, similar to public institution, enterprise employees' retirement behavior is also quite flexible and susceptible to pension level. So this paper hypothesizes as follows: Hypothesis 2b: the impact of pension on early retirement behavior can be positively adjusted in terms of work in enterprise. Based on the above hypothesis, this paper built a "Moderated mediator" model, as shown in Figure 1.
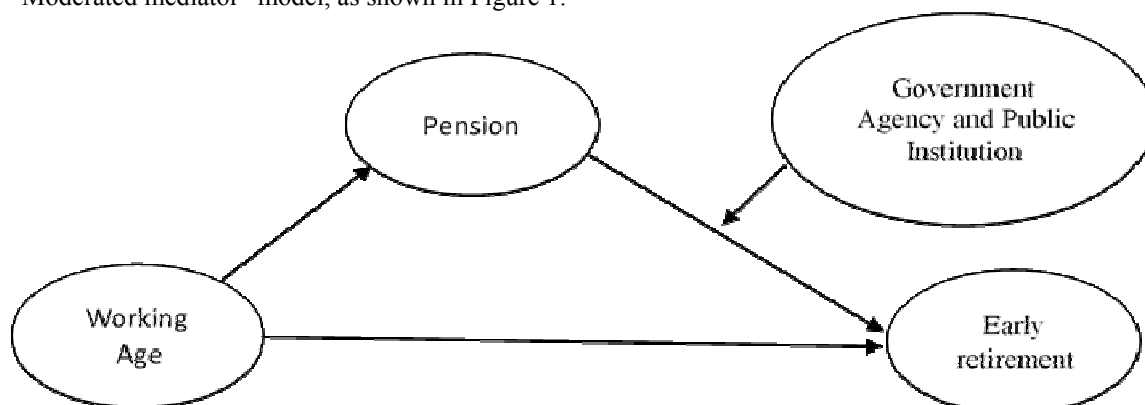

Figure 1. Analysis Concept Model

4.2 Hypothesis verification and model test

According to the "Moderated mediator test method" proposed by Wen *et al*. (2006), this paper used Stata12.1 to regress the models one by one, the regression results shown in Table 4. *Model*4, *Model*5 and *Model*6 were used to inspect pension's intermediary role. In *Model*4, working age was significantly negatively correlated to early retirement (b=-0.05, p<0.001, *S.E.*=0.01); in *Model*5, there was a significant positive influence relation

between working age and pension (b=0.18，p<0.001，$S.E.$=0.02); in $Model$6, both working age and pension had a significant negative influence on employees' early retirement behavior (b=-0.05，p<0.001，$S.E.$=0.01；b=-0.04，p<0.001，$S.E.$=0.01), proving that pension had some intermediary effects between working age and early retirement behavior. Hypothesis 1 is verified.

Table 4. "Mediated Moderator" Model Regression Results

Dependent variable	Pension	Early retirement			
	$Model$5	$Model$4	$Model$6	$Model$7	$Model$8
Gender	0.27	1.56[***]	1.60[***]	1.62[***]	1.60[***]
Education	1.27[***]	0.00	0.06	0.05	0.06
Self-rated health	-0.56[**]	0.24[***]	0.22[***]	0.22[***]	0.22[***]
Cadre status	0.53	-0.32[*]	-0.32[*]	-0.31[*]	-0.32[*]
Spouse's retirement	1.32[***]	-0.34[**]	-0.27[*]	-0.29[*]	-0.27[*]
Spouse's health status	-0.04	-0.12[*]	-0.12[*]	-0.12	-0.12[*]
Government agency	0.64	0.08	0.13	0.10	0.13
Public institution	1.57[**]	0.05	0.13	0.72[**]	0.13
Enterprise	-0.97[*]	0.65[***]	0.63[***]	0.63[***]	0.63[***]
Pension			-0.05[***]	-0.04[***]	-0.05[***]
Working age	0.18[***]	-0.05[***]	-0.04[***]	-0.04[***]	-0.04[***]
Interaction: Pension×Public institution				-0.06[**]	
Interaction: Pension×Enterprise					0.00

Note: n=1513, *p<0.05, **p<0.01, ***p<0.001.

The interaction terms of pension and public institution as well as pension and enterprise were introduced into $Model$7 and $Model$8 based on $Model$6, used to check the moderating effect of work in enterprise and public institution on the models. In $Model$7, the interaction terms of pension and public institution was significant at the significant level 0.01, and the interaction terms were in keeping with the direction of pension's influence on early retirement (b=-0.06), so it could be proved that work in public institution could moderate pension's impact early retirement behavior positively, and Hypothesis 2a was verified, the moderating effect shown in Figure 2. In $Model$8, the interaction terms of pension and public institution weren't significant, showing that work in enterprise couldn't moderate the model obviously, and Hypothesis 2b was false. So far the "Moderated mediator" model built in this paper had been partly proved.
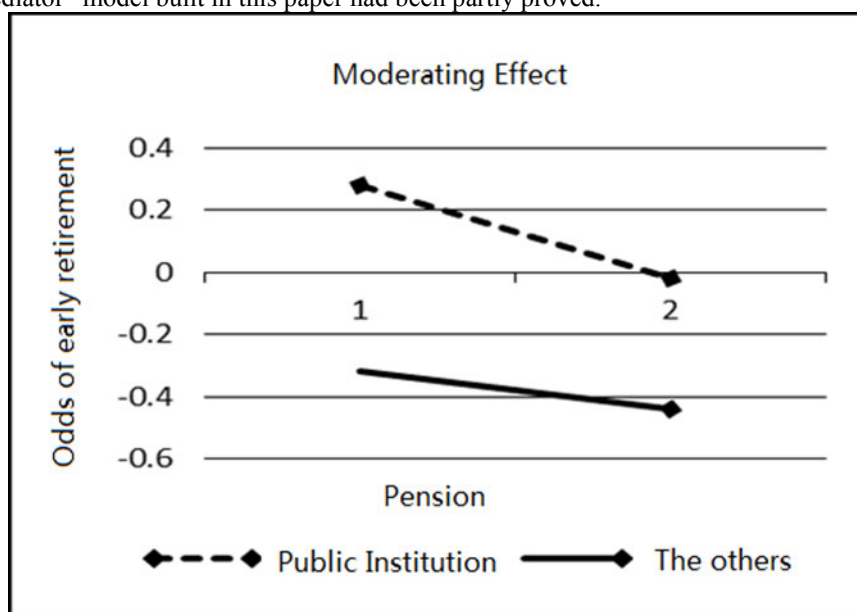

Figure 2. Moderation of institute to relationship between pension and early retirement

5 Discussion on Results

Today, as the trend of aging issues a challenge to the whole world, there is a relative lack of microscopic studies on employees' retirement behavior in domestic, and the existing research level is also shallow. In China, compared with employees' personal feature and economic society's environment characteristic, condition for retirement and pension system, as two policy-related factors, are more important, and that they are closely related to each other in policy. From this perspective, this paper researches the influencing factors for Chinese

employees' early retirement behavior based on the CHARLS data of 2011, and focuses on the influencing mechanism on policy-related variables working age and pension as well as their inner link.

Firstly, this paper made a preliminary study on the influencing factors for Chinese employees' early retirement behavior, finding that gender and self-rated health were significantly positively correlated to enterprise employees' early retirement, while cadre identity, spouse' retirement and spouse's health status were significantly negatively correlated to early retirement. After variables pension and working were introduced one by one, the models' explanatory power was enhanced significantly. An interesting finding was that pension was significantly negatively correlated to employees' early retirement behavior, for the main reason that compared to some economically developed countries and regions with a high old-age security level, China's general economic development and old-age security are still at a low level, and the income effect of pension on employees is far greater than substitution effect, so many employees, when unable to live a late life with only pension, are forced to increase income by retiring in advance for re-employment. As a result, the lower pension is, the more likely employees will retire in advance for re-employment. Since the reform and opening-up, owning to the impact of multiple factors, such as economic system changes, central policy orientation, intensity of local reform and regional strategic decision-making, great difference has been witnessed among regional economic development levels, which then has led to a difference in the pattern of retirement. In the developed regions like Shanghai and Guangdong, etc., the employees can lead a good late life with the money they save in service and their high pension, so for them, early retirement means that they can disburden work earlier to spend their remaining years in comfort. In these regions, employees' early retirement can be suppressed if pension payment is reduced euphemistically. But in those economically undeveloped regions like Yunnan and Guizhou, etc., the employees are usually hard up and even behindhand in their circumstances after retirement by reason of their low salary in service and low-level pension, so for them, early retirement means that they can get re-employed earlier, to earn both salary and pension. So in those regions, to enhance security level and improve pension level properly is still an effective way to stimulate employees to retire later.

Secondly, we found in the preliminary study that working age had a significant negative impact on employees' behavior. On this conclusion, different views were developed in the previous studies. A reasonable explanation is that there is an indirect influence between working age and employees' retirement behavior, and different results are derived from different indirect mechanisms in different environments. Therefore, this paper further explores the indirect influence between working age and employees' retirement in Chinese context. Based on interview and regression analysis method, this paper verified an "Moderated mediator" model, that is, pension is partly mediator between working age and employees' early retirement behavior, and positively regulated by work in public institution. As policy-related factors, working age and pension are closely related to each other in China's retirement and endowment insurance system. The longer working age is, the higher pension level will be, and some of its influences are passed through pension. But for public institution, due to the high technical contents and rich social resources, the employees have a better re-employment prospect compared to those in other units, so their retirement behavior is more susceptible to pension. In the face of the problem about pension payment and labor shrinkage brought by rapid aging, China hopes to relive pension pressure and allocate labor resources rationally by adjusting retirement policy. According to the result of this research, policy makers should pay attention to the following several points: first, there isn't "a single solution" for all retirement policies, and specific adjustments should be made based on regional differences. To stop employees from retiring in advance, economic less-developed regions should still improve pension level properly, while developed regions should reduce pension payment appropriately. Second, for the employees in different types of units, it's necessary to issue corresponding incentive policy in accordance with their retirement mode, to relieve pension pressure while retaining highly-competent people. For example, Yang (2011) proposed "a dual-structural pension plan for public institution", to relieve pension pressure when ensuring not to reduce the pension of the employees in public institution. Third, early retirement will be deterred to some extent if mandatory working age is prolonged properly. Meanwhile, this research reveals the complex influencing mechanism of working age on early retirement behavior, and provides a basis for policy makers to make an adjustment plan for working age.

6 Conclusion

This research mainly has the following shortcomings: (1) what's adopted in this research is public CHARLS data, which can't well serve the research objective, and there are some problems about sample selection and variable measurement. (2) The research scope covers the whole China. But in fact, there are huge differences between different parts of China, so this research can't be reflected. (3) The sample region in interview survey is too limited, with strong selectivity, unable to represent the whole country.

Future research can start with the following aspects: (1) Select several representative regions in the western and eastern China, and survey the influencing mechanism on employees' early retirement behavior with specific questionnaire, to research the difference among different regions. (2) Enterprise employees' regulatory

effect in this research fails to pass verification, for the possible reason that the selection of interview sample has strong selectivity or the selection of data sample isn't representative. It's feasible to carry out a specific study on enterprise employees by designing a questionnaire, to verify our conjecture. (3) Select one kind of occupation to study employees' early retirement behaviour with specific questionnaire and explore its feature. (4) Force on the influence from employees' spouses and find out the main factors, which is from their spouses. Maybe we can get some interesting results.

Notes
Note 1. No. [1978]104 File issued by the State Council and No. [1997]26 File issued by the State Council.
Note 2. No. [1997]26 File issued by the State Council and No. [2005]38 File issued by the State Council.

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