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### Retirement concerns and planning of cooperative members : a study in the Dutch healthcare sector

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# Working Paper

**Retirement concerns and planning of cooperative members:  
A study in the Dutch healthcare sector**

George APOSTOLAKIS & Gert VAN DIJK

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**Retirement concerns and planning of cooperative members:  
A study in the Dutch healthcare sector**

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**Working paper CIRIEC No. 2018/03**

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## ***Abstract***

Retirement planning is a key component in achieving retirement goals and fulfilling retirement expectations. Although several socio-economic and psychological factors associated with retirement planning have been reported in the literature, little is known about the influence that specific retirement-related issues have on retirement planning. In this paper, we examine the influence of five retirement concerns – the individual's financial situation, living situation, care provision, health condition, and loneliness – on retirement planning. Our dataset is derived from a 2010 web-based survey in the care and wellbeing sector in the Netherlands.

**Keywords:** healthcare; retirement planning; uncertainty

**JEL Codes:** D12; D60; G23; I31; J26

## 1. Introduction

Several socio-economic and psychological factors that relate to individuals' levels of concern and that influence retirement planning decisions have been reported in the literature, including income and wealth levels, financial literacy, and future time perspective. Other factors related to uncertainty that have been less extensively examined in the literature include a variety of concerns, such as those involving living standards, care provision, future health condition, social inclusion, and loneliness. Owen and Wu (2007) posit that an unstable financial environment is likely to increase the level of retirement-related concerns. Knoll (2010) further argues that the recent economic turmoil has increased people's concerns about their retirement savings. However, little research has focused on the impact of retirement concerns on retirement planning and preferences. This study aims to fill this gap by addressing whether and to what extent retirement concerns are associated with retirement planning.

In this study, we test whether retirement concerns have an influence on retirement preferences and on retirement planning. On the one hand, planning ordinarily acts as an alleviative mechanism, which decreases concerns about future outcomes. On the other hand, a high level of concern increases the propensity toward planning. However, we stress that we do not attempt to establish a causal relationship between retirement concerns and planning. We seek to investigate the relationship between retirement concerns, the perception of an ideal post-retirement situation, and the likelihood of someone engaging in retirement planning.

In this study, we make several contributions to the literature on retirement planning (Hershey, Jacobs-Lawson, McArdle, and Hamagami, 2007; Van Rooij, Lusardi, and Alessie, 2011, 2012). First, we examine the impact of retirement concerns on the propensity to plan for retirement based on a sample of cooperative members involved in the Dutch healthcare sector. Second, we examine individual preferences regarding ideal post-retirement situations. In particular, we focus on perceptions of the ideal financial situation and the impact of retirement concerns on such perceptions. In this study, we employ concerns regarding an individual's post-retirement financial situation, living situation, care provision, health condition, and loneliness. This study thus aims to further the understanding of these five factors and their role in retirement planning and in shaping individuals' post-retirement preferences.

## 2. Data and Methods

### 2.1. Sample

Our data are derived from a 2010 survey on attitudes regarding post-retirement life preferences. Members received an invitation to participate in an internet-based study via the member newsletter in October 2010. From the 13,926 collected questionnaires, and given that this study focuses on retirement planning for members aged between 45-65, we randomly took a sample of 1,288 members.

In all, 825 of the respondents (66%) were women, and 436 (34%) were men. A high percentage of female respondents is expected because the health care sector in the Netherlands is dominated by women.<sup>1</sup> Although this sample of respondents is not representative of the entire Dutch population, studying the attitudes and preferences of those who work in the care sector and who have more first-hand knowledge of the difficulties of aging with respect to post-retirement issues may lead to interesting insights. In terms of education, nearly half of the participants (47%) hold a degree from an institution of higher education (HBO, University). Finally, 81% of the participants own a house; 41% have worked over 30 years in the healthcare sector; and 41% have been working more than 32 hours per week.

### 2.2. Measures

*Dependent variables.* The survey instrument included the question, “Do you ever think about your retirement?” Possible responses included “a lot,” “regularly,” “sometimes,” and “(almost) never.” Approximately 43% of the members indicated that they thought about retirement “regularly,” whereas 36% indicated that they did so “sometimes.” Approximately 17% of the respondents reported that they thought about retirement “a lot,” and only 5% indicated that they “almost never” did so. The low levels of thinking about retirement might be influenced by the limited involvement that the Dutch pension system requires from pension beneficiaries (Hershey *et al.*, 2007; Van Rooij *et al.*, 2011). Van Rooij *et al.* (2011) find that, in a different type of pension system, such as that in the US, respondents are likely to think about their retirement substantially more often than respondents under the Dutch pension system.

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<sup>1</sup> [http://ec.europa.eu/health/workforce/docs/staff\\_working\\_doc\\_healthcare\\_workforce\\_en.pdf](http://ec.europa.eu/health/workforce/docs/staff_working_doc_healthcare_workforce_en.pdf)

*Independent variables.* The survey included a question regarding the subjective level of concern about retirement based on five important features of post-retirement life conditions. The survey participants rated five statements (from 1 = “not worried at all” to 5 = “very worried”) regarding concerns about financial situations, living situations, care provision, health conditions, and loneliness. With respect to the five retirement concerns, Table 1 illustrates that, on average, respondents were most concerned about care provision and their financial situation, followed closely by concerns regarding their health, and that living concerns and loneliness were the least important concerns among the five.

Next, the five different aspects of retirement concerns were combined into a single scale to measure the aggregate level of retirement concerns. To check whether the five items measured could be used as a single measure of retirement concerns, we submitted the data to exploratory factor analysis<sup>2</sup> and estimated Cronbach’s alpha for scale reliability (Cronbach’s alpha = 0.74). Importantly, we do not mean to imply that the different aspects of retirement concerns are one-dimensional by combining the variables that represent these aspects into a single retirement concern measure. Nonetheless, the positive pairwise correlations among retirement concerns suggest some underlying common variance.

*Control variables.* Finally, we controlled for a number of socio-demographic variables that have been commonly found to influence attitudes toward retirement in the literature (Van Rooij, Kool, and Prast, 2007; Hershey, Jacobs-Lawson, *et al.*, 2007; Hershey, Henkens, and Van Dalen, 2010). In particular, we controlled for gender (male = 1, and female = 0) and level of education (lower, medium, higher level of education). Moreover, as home ownership may be considered an important asset, we used it as a proxy of housing wealth. Therefore, we used a dummy for living conditions (renter, homeowner, non-homeowner, or other). Finally, we controlled for the number of working years (working for less than five, 5–10, 11–20, 21–30 years, and more than 30 years) and working hours (working less than 8, 8–15, 16–32 hours, or >32 hours).

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<sup>2</sup> The five items load onto a single factor. The Kaiser–Meyer–Olkin (KMO) measure is 0.73. The p value for Bartlett’s test of sphericity is 0.

**Table 1 - Means, standard deviations, and coding of variables**

Variables	Mean	Stand. Dev.	Coding	Description
<b>Dependent variables</b>				
<i>Retirement planning</i>				Four-category variable ranging from: yes, a lot, yes, regularly, yes, sometimes, and no, (almost) never
yes, a lot	0.1646	0.3710	0–1	
yes, regularly	0.4293	0.4952	0–1	
yes, sometimes	0.3587	0.4798	0–1	
no, (almost) never	0.0474	0.2125	0–1	
<i>Retirement planning (dummy variable)</i>	0.9526	0.2125	0–1	Dummy variable coded 1 if the respondent thought about retirement
<b>Explanatory variables</b>				
<i>Retirement concerns</i>				
Financial concerns	3.2469	0.9726	1–5	One-item scale variable ranging from 1 (not worried at all) to 5 (very worried)
Living concerns	2.3160	0.9322	1–5	One-item scale variable ranging from 1 (not worried at all) to 5 (very worried)
Care concerns	3.2469	1.0495	1–5	One-item scale variable ranging from 1 (not worried at all) to 5 (very worried)
Health concerns	2.9658	0.9405	1–5	One-item scale variable ranging from 1 (not worried at all) to 5 (very worried)
Loneliness	2.2710	0.9280	1–5	One-item scale variable ranging from 1 (not worried at all) to 5 (very worried)
Aggregate retirement concerns	2.8093	0.6785	1–5	Five-item scale variable ranging from 1 (not worried at all) to 5 (very worried). Cronbach's alpha = 0.7436.
<b>Control variables</b>				
Male vs female	0.3385	0.4734	0–1	Dummy variable coded 1 if male
Renter vs. homeowner	0.1786	0.3831	0–1	Dummy variable coded 1 if renter
Non-homeowner vs. homeowner	0.0054	0.0735	0–1	Dummy variable coded 1 if no-homeowner
Other home situation vs. homeowner	0.0101	0.1000	0–1	Dummy variable coded 1 if other
Lower vs. higher education level (HBO-WO)	0.1211	0.3264	0–1	Dummy variable coded 1 if lower education
Middle vs. higher education level (HBO-WO)	0.4092	0.4919	0–1	Dummy variable coded 1 if middle education
Working years, < 5 vs. > 30	0.0543	0.2268	0–1	Dummy variable coded 1 if working years <5
Working years, 5–10 vs. > 30	0.0691	0.2537	0–1	Dummy variable coded 1 if working years 5-10
Working years, 11–20 vs. > 30	0.1964	0.3975	0–1	Dummy variable coded 1 if working years 12-20
Working years, 21–30 vs. > 30	0.2725	0.4454	0–1	Dummy variable coded 1 if working years 21-30
Working hours, < 8 vs. > 32	0.0124	0.1108	0–1	Dummy variable coded 1 if working hours <8

Random sample of 1,288 respondents.

### 3. Results

#### 3.1. Retirement Planning

Table 2 introduces the results of the baseline retirement planning model in which financial concerns and the control variables are included in the ordered logistic regression. Interpreting our findings, men are 3.5% and 5.5% more likely than women to think their retirement “regularly” or “more often”, respectively. Financial concerns and health concerns significantly influence the likelihood of retirement planning: members with greater financial and health concerns are more likely to think their retirement regularly or more often. In Panel B, the results show that the aggregate measure for retirement concern is significantly associated with an increased propensity to plan for retirement for those who think very often and regularly their retirement. More precisely, those with higher retirement concerns are 9% more likely to think retirement very often.

Figure 1 depicts the probability of retirement planning by gender and retirement concerns. The 2 lines that start at the top left show that the probability of thinking retirement sometimes is around 55% for those who do not concern at all and less than 20% for those who concern very much. Conversely, the 2 lines that start at the bottom left show that those who do not concern at all, hardly think about their retirement very much, and those who concern very much reach less than 10%. In both these cases, women are more likely to plan their retirement than men.

**Table 2 - Ordered logistic results of retirement planning**

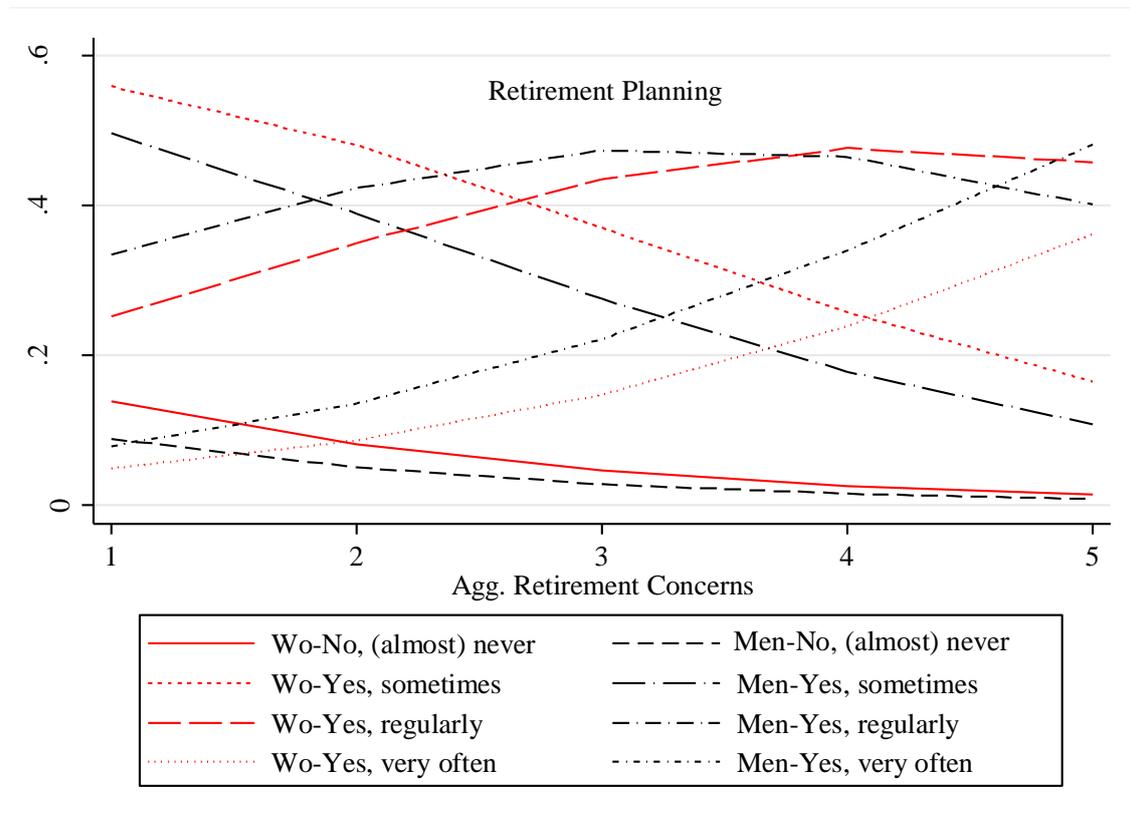
Retirement planning	1	2	3	4
Explanatory variables	No almost never	Yes, sometimes	Yes, regularly	Yes, very often
Panel A				
Financial concerns	-0.0233*** (-5.5055)	-0.0885*** (-8.5719)	0.0463*** (7.2987)	0.0655*** (7.7275)
Living concerns	-0.0040 (-1.2174)	-0.0151 (-1.2310)	0.0079 (1.2220)	0.0112 (1.2327)
Care concerns	0.0040 (1.4190)	0.0151 (1.4072)	-0.0079 (-1.4177)	-0.0112 (-1.4042)
Health concerns	-0.0114*** (-3.5555)	-0.0432*** (-3.8813)	0.0226*** (3.7351)	0.0320*** (3.8617)
Loneliness	0.0035 (1.0468)	0.0134 (1.0601)	-0.0070 (-1.0511)	-0.0099 (-1.0618)
Male	-0.0176*** (-2.9981)	-0.0732*** (-2.8869)	0.0353*** (3.0527)	0.0555*** (2.8106)
Renter vs. homeowner	0.0051 (0.7142)	0.0186 (0.7417)	-0.0102 (-0.7107)	-0.0135 (-0.7556)
Non-homeowner vs. homeowner	-0.0126 (-0.7214)	-0.0546 (-0.6358)	0.0229 (0.8475)	0.0442 (0.5800)
Other home situation vs. homeowner	0.0009 (0.0249)	0.0034 (0.0251)	-0.0018 (-0.0248)	-0.0025 (-0.0253)
Lower vs. higher education level	-0.01027 (-1.281)	-0.03925 (-1.261)	0.01992 (1.356)	0.02960 (1.208)
Middle vs. higher education level	-0.0075 (-1.279)	-0.02783 (-1.306)	0.01472 (1.305)	0.02061 (1.296)
Working years, < 5 vs. > 30	0.0386** (2.3555)	0.1501*** (3.5410)	-0.0814** (-2.4773)	-0.1073*** (-4.0621)
Working years, 5–10 vs. > 30	0.0432*** (2.9850)	0.1616*** (4.5655)	-0.0910*** (-3.2171)	-0.1137*** (-5.1404)
Working years, 11–20 vs. > 30	0.0339*** (3.8836)	0.1374*** (5.1341)	-0.0713*** (-3.9878)	-0.1000*** (-5.4813)
Working years, 21–30 vs. > 30	0.0204*** (3.4171)	0.0938*** (4.0468)	-0.0412*** (-3.4103)	-0.0729*** (-4.1537)
Working hours, < 8 vs. > 32	-0.0179 (-1.2011)	-0.1053 (-0.9945)	0.0168 (1.1358)	0.1063 (0.8025)
Working hours, 8–15 vs. >32	0.0259* (1.7845)	0.0951** (2.1823)	-0.0547* (-1.8223)	-0.0663** (-2.3483)
Working hours, 16–32 vs. > 32	0.0145** (2.355)	0.05919** (2.361)	-0.03019** (-2.379)	-0.04351** (-2.341)
Observations	1,288			
Pseudo R-squared	0.0627			
Wald Chi-squared	162.44			
	1	2	3	4

Explanatory variables	No almost never	Yes, sometimes	Yes, regularly	Yes, very often
Panel B				
Aggregate retirement concerns	-0.0274*** (-5.0120)	-0.1083*** (-7.3215)	0.0565*** (6.2757)	0.0792*** (6.8073)
Male	-0.0209*** (-3.5912)	-0.0922*** (-3.5623)	0.0436*** (3.7862)	0.0695*** (3.4031)
Renter vs. homeowner	-0.0012 (-0.1914)	-0.0050 (-0.1900)	0.0026 (0.1924)	0.0036 (0.1889)
Non-homeowner vs. homeowner	-0.0029 (-0.1481)	-0.0119 (-0.1439)	0.0059 (0.1504)	0.0088 (0.1412)
Other home situation vs. homeowner	-0.0119 (-0.4415)	-0.0535 (-0.3897)	0.0226 (0.5188)	0.0429 (0.3547)
Lower vs. higher education level	-0.008 (-1.032)	-0.03367 (-1.016)	0.01715 (1.083)	0.02502 (0.979)
Middle vs. higher education level	-0.006 (-1.104)	-0.02483 (-1.125)	0.01305 (1.122)	0.01817 (1.119)
Working years, < 5 vs. > 30	0.0369** (2.2093)	0.1493*** (3.2675)	-0.0809** (-2.3043)	-0.1053*** (-3.7789)
Working years, 5–10 vs. > 30	0.0381*** (2.7923)	0.1526*** (4.0713)	-0.0836*** (-2.9197)	-0.1071*** (-4.6183)
Working years, 11–20 vs. > 30	0.0323*** (3.8048)	0.1360*** (4.9371)	-0.0705*** (-3.8820)	-0.0978*** (-5.2513)
Working years, 21–30 vs. > 30	0.0201*** (3.3655)	0.0947*** (3.9606)	-0.0421*** (-3.3436)	-0.0727*** (-4.0643)
Working hours, < 8 vs. > 32	-0.0170 (-1.1315)	-0.1028 (-0.9496)	0.0161 (1.0621)	0.1037 (0.7647)
Working hours, 8–15 vs. >32	0.0225* (1.6452)	0.0889** (1.9647)	-0.0495* (-1.6530)	-0.0619** (-2.1213)
Working hours, 16–32 vs. > 32	0.015** (2.405)	0.063** (2.43)	-0.032** (-2.429)	-0.0458** (-2.412)
Observations	1,288			
Pseudo R-squared	0.0429			
Wald Chi-squared	114.03			

*Note:* Robust z-statistics are reported in parentheses. The outcome of the logistic regressions is the average marginal effects (dy/dx) for the discrete change in the dummy variable from 0 to 1.

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01.

**Figure 1 - Retirement planning and aggregate concerning by gender. Aggregate retirement concerns range from 1 = not concern at all to 5 = very concern**



Our findings show that retirement concerns are positively correlated to the propensity to plan for retirement for those who think regularly and very often their retirement. Retirement concerns are negatively related to the propensity to plan for retirement for those who never think or sometimes think about their retirement. In particular, our findings indicate that income uncertainty reflected by mainly by financial concerns may prompt people to prepare more for retirement as a result of motivations related to precautionary saving.

#### 4. Discussion

Limited research has investigated how uncertainty prompts people to plan their retirement and influences their post-retirement preferences by examining both financial and non-financial factors. We find that retirement concerns about financial situation and health condition are associated with a greater propensity to plan for retirement. We find no significant evidence of the influence of health conditions and loneliness on retirement planning. We find

that aggregated retirement concerns are significantly associated with the likelihood of retirement planning. Our findings are consistent with the LCH, i.e., that people with greater concerns will save more and thus plan their retirement to maintain the same standards of living after retirement.

Our findings highlight the influence of factors related retirement concerns on individuals' propensities to plan for retirement and on individuals' preferences regarding the ideal post-retirement situation. This study's findings have important implications for the design of policies that aim to improve individuals' post-retirement welfare. Knowledge regarding individual preferences for retirement and the factors that affect these preferences is important for both pension fund boards and policymakers who are examining solutions beyond income considerations to improve retirees' wellbeing. In particular, our findings have important implications for the design of policies that focus on increasing awareness of the social issues surrounding retirement and on employing financial literacy programs to improve financial knowledge.

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