

Training Policies and retirement behavior

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What is this paper about?

- We investigate whether training policies of firms can be successful in stimulating later retirement.
- We use unique matched employer-employee survey data collected in 2012 for the Dutch public sector.
- Main findings:
 - Training policies are positively related to the expected retirement age.
 - Training policies only increase the likelihood to participate in general training
 - The relationship between training policies and the expected retirement age is strongly moderated by reciprocal inclinations of individual employees: behavioral explanation

Context

- Implications of rapidly ageing global workforce for:
 - Funding of pension systems.
 - Labor markets (increasing replacement demand).
 - Ability of organizations to manage human capital.
- Extending people's working life is a key policy aim:
 - Focus on increasing the eligibility age for social security.
 - Focus on decreasing the generosity of pension systems.
- But less attention to organizational factors that may influence retirement behavior.
- A major question is whether employer policies can actively support an extension of the working life.

Literature I

- Strong focus on the relationship between on-the-job training, wages and employee productivity
 - Human capital theory predicts that further training will prolong employees' working life by enhancing productivity and increasing wages (*Becker, 1962*)
 - Most empirical studies use firm-level data and find a positive effect of training on productivity (*Bartel, 1994; Barret and O'Connel, 2001; Zwick, 2006*)
 - Other studies find a positive effect of training on productivity as well as wages (*Bartel, 1995; Dearden et al., 2006; Fersterer et al. 2008; Konings and Vanormelingen, 2009*) or only a significant effect on productivity (*Conti, 2005*)

Literature II

- Only a few studies that directly analyse the relationship between individual training and retirement (different causal directions).
- Retirement \longrightarrow Training
 - Human capital theory predicts that extending working life may increase training participation (*Becker, 1975; Ben Porath, 1976; Lau and Poutvaara, 2006*).
 - Empirical studies buttress this theoretical prediction (*Bassanini et al., 2005; Fouarge and Schils; 2009; Montizaan et al., 2010*).
- Training \longrightarrow Retirement
 - Evidence on the effects of training participation on retirement is mixed.
 - *Picchio and Van Ours (2013)* find that training participation increases labor participation of older workers, while *Lune et al. (2010)* find no effect of adult education on retirement behavior.

Literature III

- These studies on training and retirement did not focus on the training opportunities firms offer their employees: they only estimate the effect of training among trained workers.
- Our paper is related to Herrbach et al. (2009) who
 - used individual survey data from a sample of 514 late career managers and found that training decreases the likelihood of early retirement
 - used information on the availability of certain types of training

Problem with their measure:

managers have to rate the availability of training opportunities adapted to their present needs. It is possible that training opportunities are still present and may be of use when investments are needed in future.

Contribution of the paper

1. Our paper complements previous research by uniquely integrating employee and employer data on training policies and retirement behavior into one framework.
2. Focus on the extent that training courses targeted at older workers are applied in organizations.
 1. instead of individual training participation or training budgets
 2. This also reduces the likelihood of reverse causality between training and individual retirement expectations.
3. The data allow us
 1. to test different alternative hypotheses that can explain the positive relationship between training policies and the expected retirement age
 2. to control for other HR-practices and organization characteristics.

Data I

Matched employee-employer surveys and administrative data on Dutch public sector workers:

- Administrative data from the pension fund (ABP)
 - Individual pension rights, annual wage income, tenure in the public sector, sub-sector
- The employer survey
 - The survey was sent to all 2,500 employers in the public and the education sector.
 - The survey was answered by HR-advisors, HR-managers, and managing directors.
 - Response rate was 31%.
 - The survey included detailed questions on training and HR-practices.

Data II

The employee survey

- We were allowed to approach 12,000 public and education sector workers (aged 35-63) by e-mail to participate into an internet survey.
- Response rate was 49% (6,000)

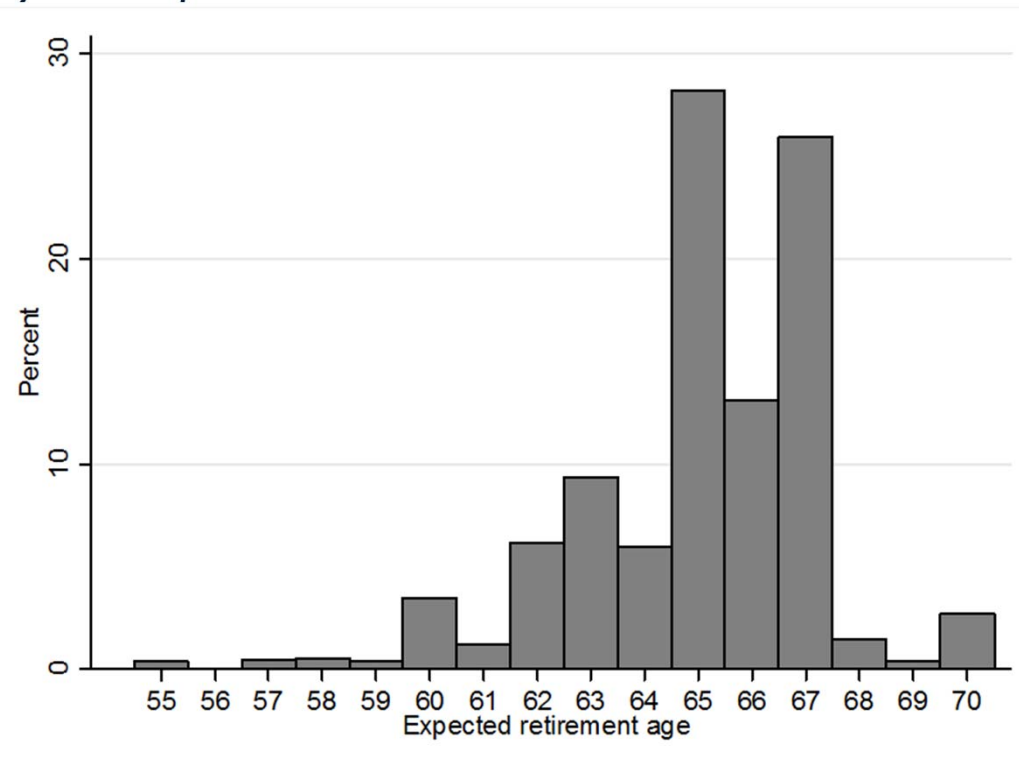
Match employer-employee survey

- Answers of 1000 employees can be matched to data of their employer.
- Due to item non-response, we can only match the answers to questions of 845 employees to the answers of 300 employers that are relevant for our analyses.
- Matches equally distributed over sub-sectors.
- Employee characteristics are similar between those with and without a match

Data III

Dependent variable (from employee survey):

- *When do you expect to retire?*

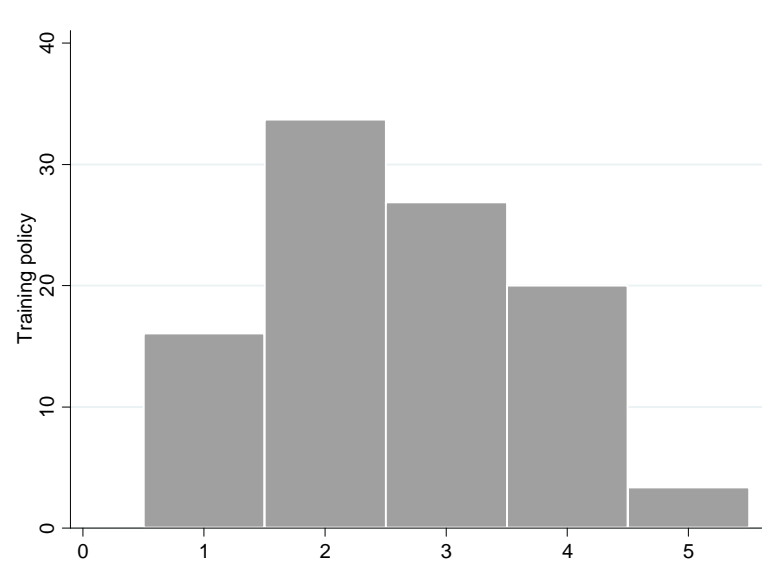


Data IV

Independent variable:

To what extent does your organization apply the following HR-instruments that are specifically targeted towards older employees? ... Extra education or training participation

5-point Likert scale ranging from 1 "Applied to no older employee" to 5 "Applied to all older employees" (standardized in our analyses)



Data V

Control variables:

- Four indicators that measure the incidence of HR practices focusing on older workers (constructed by means of a factor analysis on 15 items).
 - Task adaptation (e.g. adaption of the work place)
 - Financial incentives (e.g. demotion, promotion)
 - Work hours policies (e.g. seniority days, reduction of work hours)
 - Retirement policies (e.g. part-time retirement, early departure arrangements)
- Personal characteristics: age, education level, sub-sector, wage contractual work hours, tenure, gender, marital status
- Personality: Big Five personality traits derived from the abbreviated 15-item Big Five validated by McManus and Furnham (2006) and Furnham et al. (2003)
- Job tasks: Measured using 18 questions from the Princeton Data Improvement Initiative (PDII) Survey
- Actual training participation: Dummy variable indicating whether someone has trained and the number of training courses

Basic results

Expected retirement age	(1)	(2)	(3)	(4)
<i>Training policy</i>	0.115**	0.112**	0.106**	0.103**
	(0.047)	(0.045)	(0.046)	(0.046)
HR practices focused on older workers	Yes	Yes	Yes	Yes
Personal characteristics	Yes	Yes	Yes	Yes
Personality traits	No	Yes	Yes	Yes
Job tasks	No	No	Yes	Yes
Actual training participation	No	No	No	Yes
Observations	845	845	845	845

A one standard deviation increase in the intensity of training policy is associated with a 3 months higher expected retirement age

Alternative explanations I

Training policy may be endogenous!

- Self selection of highly educated and motivated employees into organizations in which employees retire later and where training policies are more prevalent.
- Training policies and individual retirement expectations may be influenced by the productivity of the workforce.
- Training policies and individual retirement expectations may depend on the financial situation of the organization.
- The existence of other HR-practices may drive our results.
- Reverse causality: A higher average retirement age may induce employers to train more

Alternative explanations II

Dependent variable: Expected retirement age	(1)	(2)	(3)	(4)	(5)
<i>Training policies</i>	0.083** (0.040)	0.095** (0.040)	0.090** (0.041)	0.127** (0.053)	0.236** (0.105)
<i>Characteristics of workforce</i>					
Percentage of highly educated workers	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.003 (0.002)	-0.006 (0.005)
Prepared to participate in more training courses	0.095** (0.044)	0.105** (0.044)	0.107** (0.044)	0.079* (0.046)	0.151 (0.097)
Prepared to participate in a course aimed at improving skills for the present job	0.057 (0.043)	0.040 (0.046)	0.042 (0.046)	0.061 (0.048)	0.106 (0.102)
Prepared to participate in a course aimed at improving general skills	0.100** (0.050)	0.105** (0.053)	0.104* (0.053)	0.051 (0.058)	0.057 (0.118)
Job engagement	0.040 (0.031)	0.034 (0.033)	0.033 (0.033)	0.016 (0.038)	0.013 (0.079)
<i>Productivity indicators</i>					
Level of productivity compared to the level one year ago (self-assessed)		-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Bad health (self-assessed)		-0.073 (0.066)	-0.077 (0.066)	-0.121* (0.071)	-0.219 (0.149)
Number of sick days (self-assessed)		-0.001 (0.002)	-0.001 (0.002)	0.000 (0.002)	-0.001 (0.005)
<i>Financial situation of organization</i>					
Financial situation			0.040 (0.050)	0.084 (0.064)	0.187 (0.128)
Likelihood that the organization has to cut down expenses in the coming five years			0.046 (0.054)	0.047 (0.066)	0.127 (0.133)
<i>HR policies focused on older workers</i>	Yes	Yes	Yes	Yes	Yes
<i>Personal characteristics</i>	Yes	Yes	Yes	Yes	Yes
<i>Personality indicators</i>	Yes	Yes	Yes	Yes	Yes
<i>Individual training participation</i>	Yes	Yes	Yes	Yes	Yes
<i>Job tasks</i>	Yes	Yes	Yes	Yes	Yes
<i>Overall personnel management</i>	No	No	No	Yes	Yes
<i>Organization random effects</i>	No	No	No	No	Yes
Observations	838	807	807	677	677

Alternative explanations III: controlled for the expected retirement age of colleagues

Dependent variable: Expected retirement age	(1)	(2)
<i>Training and Education</i>	0.095** (0.046)	0.131** (0.058)
<i>Mean expected retirement age of colleagues</i>	0.001 (0.004)	-0.001 (0.005)
<i>HR policies focused on older workers</i>	Yes	Yes
<i>Personal characteristics</i>	Yes	Yes
<i>Individual training participation</i>	Yes	Yes
<i>Characteristics of workforce</i>	No	Yes
<i>Productivity indicators</i>	No	Yes
<i>Financial situation of organization</i>	No	Yes
<i>Job tasks</i>	Yes	Yes
<i>Overall personnel management</i>	No	Yes
<i>Organization random effects</i>	No	Yes
Observations	738	588

Number of colleagues for which we know the expected retirement age:
median == 9 (individuals without colleagues are dropped)

The role of reciprocity

- Experimental economists and psychologists have provided ample evidence that reciprocity is a key driver of human motivation (*see e.g. Bowles, 2008; Fehr and Gächter, 2000; and many other studies for a good literature review*).
- General training can be seen as a gift / organizational support
- *Leuven et al. (2005)* show that positive reciprocity is an important personality characteristic that stimulates employers to invest in general training.
- We elicit reciprocal inclinations of workers: (validated by *Perugini et al., 2003* and used by *Dohmen et al., 2009*)
 - *If someone does me a favor, I am prepared to return it*
 - *I go out of my way to help somebody who has been kind to me before.*
 - *I am ready to undergo personal costs to help somebody who helped me before.*
- *5-point scales: 1 means: "does not apply to me at all"; 5 means: "applies to me perfectly"*

Training policy and individual training participation (with and without firm support)

	No training	Specific training without support of employer	Specific training with support of employer	General training without support of employer	General training with support of employer
Training policy	-0.025 (0.028)	-0.000 (0.006)	0.007 (0.021)	-0.018 (0.016)	0.036** (0.016)

$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors corrected for clustering on organization level. The table shows marginal effects of a multinomial logit on different types of training participation of individual employees with and without support by the employer.

Training policies and reciprocity

VARIABLES	(2)	(3)
Training policies	-0.701*	-1.566*
	(0.362)	(0.805)
Positive reciprocity	-0.051	-0.170
	(0.094)	(0.226)
Training policies x positive reciprocity	0.199**	0.453**
	(0.091)	(0.201)
<i>HR policies focused on older workers</i>	Yes	Yes
<i>Personal characteristics</i>	Yes	Yes
<i>Personality indicators</i>	Yes	Yes
<i>Human capital investments</i>	Yes	Yes
<i>Job tasks</i>	Yes	Yes
<i>Characteristics of workforce</i>	No	Yes
<i>Productivity indicators</i>	No	Yes
<i>Financial situation of organization</i>	No	Yes
<i>Overall personnel management</i>	No	Yes
<i>Organization random effects</i>	No	Yes
Observations	834	670

Conclusions

- We investigated whether firms' training policies can be successful in stimulating later retirement using unique matched employer-employee survey data for the Dutch public sector
- **Main findings:**
 - Training policies are positively correlated with the expected retirement age.
 - This results is robust to the inclusion of several controls, corrections of unobserved heterogeneity etc.
 - Training policies only increase the likelihood to participate in general training.
 - The relationship between training policies and the expected timing of retirement moderated by reciprocity.

IV-analysis V

Expected retirement age	(1) IV regression	(2) First stage on Training and education
Training policy	0.686** (0.327)	
Bonus payments		-0.293*** (0.087)
Observations	844	844
<i>Cragg-Donald F-statistics</i>	76.03	

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors corrected for clustering on organization level.