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Satu Nivalainen

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Retirement Intentions and Increase in Statutory Retirement Age: 2017 Pension Reform and Intended Retirement Age in Finland

Satu Nivalainen Ph.D.

Research Department, Finnish Centre for Pensions, Eläketurvakeskus, Helsinki, Finland

ABSTRACT

To extend working lives, the 2017 Finnish pension reform introduced a gradually rising statutory retirement age, from 63 to 65 years and over. We investigate how the intended retirement age has adjusted after the reform. Survey data from 2008 ($N = 1,346$) and 2018 ($N = 1,386$) include employees aged 50–62. The results indicate that, unlike in many countries, in Finland the intended retirement age has increased in tandem with the statutory retirement age. One explanation for this might be knowledge: due to the extensive information campaign, the Finns know about the reform and can make realistic retirement plans.

Introduction

Due to population aging and growing pressure on public finances, many countries have announced reforms to their public pension systems with the aim to postpone retirement. In Finland, employment rates in the 55+ age groups have constantly been much lower than in other Nordic countries. In 2019, only 67% of the Finnish population aged 55–64 was employed, compared to 71% in Denmark, 73% in Norway and 78% in Sweden (Finnish Centre for Pensions, 2020). Moreover, retirement in Finland almost always means total withdrawal from the labor force. To lengthen working careers has therefore become a central goal of Finnish pension policy.

The Finnish pension system was reformed in 2017. To improve the financial sustainability of the pension system, the reform aimed at postponing retirement and lengthening working careers. Prior to the reform the statutory old-age retirement age was 63 years, and it was believed that financial incentives would encourage people to retire later. However, the financial incentives did not work very well in this respect (e.g., Nivalainen et al., 2020). Therefore, in the 2017 reform it was agreed that the old-age pension retirement age will be increased by three months for each birth cohort until it is 65 years (see e.g., Reipas & Sankala, 2015). The first cohort affected was that born in 1955. Their

CONTACT Satu Nivalainen, ✉ satu.nivalainen@etk.fi ✉ Eläketurvakeskus, Helsinki, FI-00065 Finland

retirement age rose to 63 years and 3 months. For those born in 1962–1964, the retirement age will be 65 years, after which it will be linked to the increase in life expectancy. Only if the reform succeeds in postponing retirement can the sustainability of the pension system be secured.

As a rule, the actual behavioral effects of pension reforms become visible only after several years has passed. This is because current pensioners are typically not strongly influenced, while future retirees must take the changing pension rules into account when planning their retirement. Therefore, to evaluate the behavioral effects of a pension reform, knowledge is needed on how future pensioners adapt to changes in pension regulations and how they plan to retire. To this end, information on retirement intentions of the cohorts affected is central.

Inspecting retirement intentions is justified since retirement is a multi-phased process that starts years before actual retirement (Feldman & Beehr, 2011). The model of retirement decision-making describes how workers gradually approach retirement. It distinguishes between retirement preferences, retirement intentions and the act of retiring, and describes a process of increasing decisiveness. The first phase in the retirement process is thinking about the general possibility of retirement or having an idea of a preferred time for retirement. The second phase proceeds to more detailed retirement planning, to assessing and deciding when it is time to let go. These plans translate into the intended or expected retirement age. In the third and final phase, the person retires: articulated plans to retire at a certain age are expected to take the form of actual retirement. There are not many studies that specifically investigate the correlation between retirement intentions and actual retirement, but those few that do, have discovered a clear link between these two phases (e.g., Henkens & Tazelaar, 1997; Solem et al., 2016). In Finland, retirement plans, as indicated by the intended retirement age, are found to materialize with quite high accuracy (Nivalainen & Järnefelt, 2017; Nivalainen, 2020). For example, based on the 2008 Quality of Working Life Survey and follow-up register data, Nivalainen (2020) found that almost half of the respondents retired at the exact age they intended to. The mean of the difference between the actual and the intended retirement age was zero.

Individuals can only respond to changes brought about by a pension reform, if they know the contents of the reform and can evaluate what the reform in practice mean for them. For example, in the absence of sufficient information about the effect of retirement timing on pension level, retirement decisions can be made based on assumptions, which are not necessarily correct (Chan & Stevens, 2004; Liebmann & Luttmer, 2015). It has been found out that pension information has a positive impact on workers' knowledge and retirement planning (Debets et al., 2018; Kritzer & Smith, 2016). Therefore, it is fundamental for policymakers to adequately inform people to ensure they understand the pension system and its reforms. Pension information and

knowledge can help citizens to understand the rationale behind reforms and to oppose less when changes in legislation are needed. Research has shown that individuals who have more knowledge about the basic functioning of a pension system are more willing to accept reforms (Boeri & Tabellini, 2012).

In Finland, increasing knowledge of the 2017 pension reform was highly prioritized. There was an extensive information campaign of the changes brought about by the reform. The key message in the campaign was that the old-age retirement age will increase gradually by cohort. Besides a website concentrating solely on the reform, the campaign widely utilized public media: TV, radio, and newspapers. In addition to the information campaign, the reform gained considerable media attention. Therefore, it could be expected that the Finns are quite well informed about the pension reform of 2017. Indeed, research has shown that 70% of 55–64-year-old Finns know that the eligibility age for old-age pension is different for every cohort (Tenhunen et al., 2020). To understand the process of the 2017 reform and the factors affecting people's knowledge about the reform, a more detailed description of the reform process and the information campaign, as well as the media attention that the reform gained, is presented in Section 2.

Given the importance of retirement intentions in determining future labor supply, surprisingly few studies have investigated whether individuals alter their expected or intended age of retirement in response to pension reforms which raise the statutory retirement age. Moreover, the results obtained vary considerably. Some studies have found evidence of an increase in the expected retirement age after the reform (e.g., Bottazzi et al., 2006; Coppola & Wilke, 2010; De Grip et al., 2013). Others have found no connection between the reform and the expected retirement age (e.g., Barret & Mosca, 2013; Kanabar & Kalwij, 2019).

Bottazzi et al. (2006) investigated change in retirement expectations in response to the whole set of reforms that took place in Italy in 1992–1997. A comparison of the expected retirement age of employed persons before and after the reforms showed that the expected retirement age increased the most in the groups that were the most affected by the reforms. In Germany, Coppola and Wilke (2010) analyzed the change in the expected retirement age following a pension reform in 2007 that increased the statutory retirement age of certain groups by two years, from 65 to 67. A comparison of the expected retirement age before and after the reform revealed that it increased by 1.739 years (1 year and 9 months; significant at 10% level) for the groups that were affected by the reform.

In the Netherlands, the effects of a pension reform in 2010 on the expected retirement age was examined by De Grip et al. (2013). For certain cohorts, the retirement age for the old-age pension increased by one year from 65 to 66 years, and for certain cohorts by two years, to 67 years. Inspection of retirement expectations of public sector employees after the reform showed that the

cohorts who were affected by the reform raised their expected retirement age. Those whose retirement age rose by one year increased their expected retirement age by 0.302 years (3.6 months; significant at 10% level) while those whose retirement age rose by two years increased their expected retirement age by 0.904 years (10.8 months; significant at 1% level).

Barret and Mosca (2013) investigated whether individuals in Ireland adjusted their expected retirement age in response to a pension reform in 2010, which increased the state pension age of certain cohorts from 65 to 66, 67 or 68 years. A comparison of pre- and post-reform retirement expectations showed that there was no change in the expected retirement age after the reform. Kanabar and Kalwij (2019) inspected the change in the expected retirement age in the UK following reforms introduced in 2011 and 2014. The reforms increased the state pension age by up to one year for men and two years for women. A comparison of the expected retirement age of employees before and after the reforms indicated that the expected retirement age for men or women did not increase after the reforms.

This study adds to the sparse empirical evidence investigating the intended retirement age before and after a pension reform, as well as to even rarer literature that specifically analyses how a rise in the eligibility age for the old-age pension is related to the planned timing of retirement. In this study we focus on the change in intended retirement age in Finland after the 2017 pension reform. By investigating to what extent and how retirement intentions have changed after the 2017 reform, we can assess whether a reform raising statutory retirement age will be successful in postponing retirement and, consequently, in securing the sustainability of the pension system.

The process of the 2017 pension reform and factors affecting people's knowledge

Unlike in many countries, the principles of the Finnish statutory earning-related pension scheme are negotiated and agreed upon between the central labor market organizations, that is, between employees (represented by three trade union confederations) and employers (represented by two employer organizations). Formally, the reforms are negotiated in a tripartite manner, including the State. The State has the right to set some conditions that the agreements must fulfill (e.g., regarding the fiscal sustainability gap), but the central labor market organizations are the *de facto* decision makers for the legislation of the earnings-related pension system. The negotiations rely greatly on background work done by experts. In Finland, parliamentary debates on statutory earnings-related pensions are rare, and pension reforms seldom cause unrest in the form of demonstrations or strikes. (Väänänen & Liukko, 2022.)

The central labor market organizations reached an agreement on a proposal of changes to pensions at the end of September 2014. The preparation of the government bill (by the Ministry of Social Affairs and Health) was completed in May 2015. The government bill was presented to Parliament in September 2015 and the bill was passed in Parliament in November 2015. The President of the Republic of Finland confirmed the acts in January 2016. The reform took effect as of the beginning of 2017.

The agreement attracted considerable media attention. In the week following the signing of the agreement in 2014, the leading nationwide newspaper, Helsingin Sanomat, alone published at least six separate articles about the reform. At the same time, the topic was also broadly covered in TV news (YLE and MTV)[1], in tabloids and nationwide and local newspapers, as well as in magazines. Moreover, following the agreement, the trade union confederations published Q&A sections and slide share packages on their websites, where the details of the reform, as well as the justification for the changes were explained. It is worth pointing out that Finland has a high union density, with over 70% of employees in unions in 2016 (Statistics Finland, 2022).

The information campaign of the 2017 reform started as early as in spring 2014, when a website concentrating solely on the reform, Eläkeuudistus.fi, was created. "Eläkeuudistus" means pension reform. At first, the aim of the website was to offer impartial and up-to-date information about the negotiations for citizens and journalists. Later, the focus shifted to offering facts about the reform. In addition to basic information concerning the new pension system, the website included examples and calculators, as well as a Q&A section. This website was maintained up until the end of 2017. In its prime weeks, it had over 50,000 visitors.

A more intensive information campaign took place around the time when the reform took effect, from October 2016 to February 2017. The aim was to reach Finns aged 50–60 and to get them interested in how the pension reform affects their lives. The key message in the campaign was that the retirement age increases for each cohort gradually until it is 65. The information campaign included TV and radio spots and print advertisements in newspapers and magazines. It also utilized web advertisements and social media. For example, the TV spots were presented several times a day in the nationwide free-to-air public service TV channel YLE in weeks 46/2016 and 1/2017. An important component of the campaign was also the information brochure about the reform that was mailed to every non-retired Finnish resident born between 1955 and 1964 (around 700,000 persons). The brochure was mailed at the end of November 2016. The website Eläkeuudistus.fi was promoted throughout the campaign. In addition, in November 2016, two free-of-charge training sessions about the reform was organized especially for journalists.

In addition to the information campaign, every pension insurance company informed their own customers separately about the reform, for example via
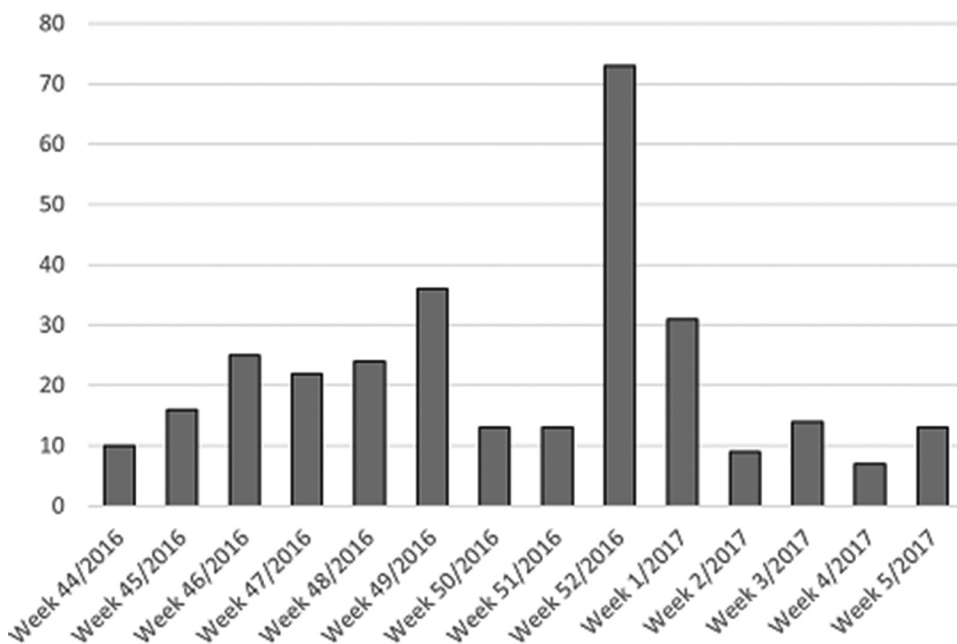
Figure 1. Number of news items including key word 'eläkeuudistus' around the time when the 2017 reform took effect.

their websites. In Finland, most persons insured under the earnings-related pension acts have their insurance in one of four pension insurance companies.

The news value of the reform, especially the rising retirement age, was high. Between weeks 44/2016 and 5/2017, the key word "eläkeuudistus" was mentioned in 306 news items in total, with a peak in week 52/2016 (see Figure 1). For example, in weeks 52/2016 and 1/2017, Helsingin Sanomat published in total three articles about the reform. In weeks 50–52/2016, tabloids and other nationwide newspapers published several articles concerning the topic. The reform was also featured in local newspapers. In week 52/2016 alone, 37 separate articles were published in local newspapers, followed by 38 articles in total in January 2017. In the last week of 2016, six different magazine articles were also published. In weeks 51/2016 and 1/2017, the reform was also covered on the YLE News.

Since the website Eläkeuudistus.fi was closed down, people have been able to check their own retirement age via the website Työeläke.fi. The website provides versatile and clear information about pensions. The site also includes different calculators. For example, people can estimate their future pension amount and test how the retirement age affects their estimated pension amount. There is also a live chat service. This site is visited 1.78 million times per year. For comparison, around 40,000 persons retire on an old-age pension per year. In addition, every pension insurance company offers

a considerable amount of pension information, including retirement ages, on their websites. Pension providers also send a printed pension record including information on the annual earnings for which a person has accrued pension (separately for every employment relationship) and the amount of accrued pension to every insured Finnish resident every three years. The pension record points out that the old-age retirement age depends on a person's birth year. The pension record also includes an estimate of the effect of the life expectancy coefficient and lists the age after which no pension accrues. Once a person turns 58, the pension record is sent every year. The pension record can also be checked online via Työeläke.fi.

The Finnish pension system in a nutshell

The Finnish pension system consists of three pillars. The statutory pension system (1st pillar) includes the employment-based earnings-related pension, a residence-based national pension and a guarantee pension. The national and guarantee pensions aim at ensuring a basic income security, while the tasks of employment-related pensions are income smoothing and, to a reasonable degree, maintaining the income level achieved during working life. In Finland, minimum and earnings-related pensions are institutionally separate; there is no minimum pension in the earnings-related system (Väänänen & Liukko, 2022).

The earnings-related pension system is a defined benefit system where the pension level is determined by the length of work history and the amount of past earnings. The earnings-related system is mandatory and covers all workers and virtually all earnings. The pension accrues throughout working life with contributions paid by employees and employers. Statutory pensions are broad in scope, and there is no ceiling to the pensionable earnings or the pension amount. Contrary to what is the case in many other countries, the role of second-pillar or third-pillar supplementary pensions is minor in Finland. Second-pillar supplementary pensions are collective industry- or employer-specific pension schemes. Third-pillar supplementary pensions in Finland are accrued via private pension insurance or long-term savings. In 2008, the combined share of second- and third-pillar pensions of the total pension provision was 5.8%, and in 2020 the respective figure was 5.0% (Finnish Centre for Pensions, 2022).

The Finnish earnings-related pension system was reformed in 2017. Prior to the reform, the statutory retirement age was 63 years for all, independent of cohort. In the 2017 reform, it was agreed that the retirement age will be increased by three months for each cohort until it reaches 65 for the cohort born in 1962. For those born in 1963–1964, the threshold is also 65 years. As of those born in 1965, the old-age retirement age will be linked to life expectancy. After that, the rise in the retirement age can be two months per cohort at most.

Table 1. The old-age retirement age by cohort after the 2017 pension reform.

Cohort	Retirement age
1956	63 yrs 6 mos
1957	63 yrs 9 mos
1958	64 yrs
1959	64 yrs 3 mos
1960	64 yrs 6 mos
1961	64 yrs 9 mos
1962–1964	65 yrs
1965	65 yrs 2 mos
1966	65 yrs 3 mos
1967	65 yrs 4 mos
1968	65 yrs 6 mos

Table 1 summarizes the cohort-specific retirement ages for the old-age pension after the 2017 pension reform for the cohorts included in this study (2018 data). Within the framework of this study, the first cohort affected by the reform was that born in 1956. Its retirement age increased to 63 years and 6 months. The last cohort was born in 1968, with a retirement age of 65 years and 6 months.

Before 2017, continuing at work after reaching one's retirement age (63) was rewarded with an increased accrual rate of 4.5% of annual earnings until age 68. After the 2017 reform those who do not claim their pension at the lowest retirement age have received an 4.8% increase in accrued pension for every subsequent year. At the same time, new pension rights are accrued from employment (1.5% of annual earnings). As a result of the reform, the upper age limit for insurance obligation will increase from 68 to 70 years.

One of the key elements of the Finnish pension system is the life expectancy coefficient which reduces accrued pension benefits. This is an automated mechanism designed to limit the growth of pension expenditure due to rising life expectancy and to encourage people to extend their working lives. The life expectancy coefficient is determined annually for each cohort at the age of 62. It is applied when the level of the pension benefit is determined; no subsequent changes are made once the pension has started. When life expectancy increases, the cuts to pensions will also be increased for future cohorts. The cut in the monthly pension benefit can be offset at least in part by working longer.

When it comes to early retirement options, full time retirement before the statutory retirement age is possible via the disability pension. The disability pension requires that the working capacity is permanently reduced by at least 60%. Until 2013 it was also possible to retire early via the early old-age pension, available at age 62, but with a permanent reduction in the pension benefit. Very few (around 4% of all retirees) chose to take out the early old-age pension each year.

For the long-term unemployed born before 1950, full time retirement was possible via the unemployment pension, which was granted at age 60 after at least two years of unemployment. The last unemployment pensions were granted in 2011. After that, an unemployment pathway to retirement has been available. This is an arrangement in which the long-term unemployed receive unemployment benefits for an extended period until they are entitled to a full old-age pension. For the long-term unemployed born before 1958, the full old-age pension was available at age 62. For the long-term unemployed born between 1958 and 1961, the full old-age pension is available at age 64. However, the long-term unemployed can also postpone retirement and stay on the unemployment benefit until age 65.

Method

Data

The data originate from the 2008 and 2018 Quality of Working Life Surveys (QWLS) of Statistics Finland. Based on a sample of 4,392 and 4,110 employees in 2008 and 2018, respectively, the survey is representative of the working-age employee population in Finland. Our focus in this study is on employees aged between 50 and 62 (at the time of the survey). Hence the data set includes persons that are born between 1946 and 1958 (2008) and between 1956 and 1968 (2018). In 2008, those born in 1958 were 50 years old and those born in 1946 were 62 years old. The statutory retirement age was 63 for all. In 2018, those born in 1968 were 50 years old and those born in 1956 were 62 years old. The statutory retirement age varied as shown in Table 1.

The retirement intentions were measured with a QWLS item in which respondents were asked to indicate the age at which they expected to retire full time. This question was only asked from people aged 50 and older. We excluded persons 63 or older from our sample due to selection; it is likely that these individuals are systematically different (in an unobservable way) from the rest of the sample as they are working at or past their statutory retirement age. Limiting inspection to persons who have not reached their retirement age yet is a common practice in studies investigating retirement expectations (e.g., Barret & Mosca, 2013; Crawford, 2013; Järnefelt & Nivalainen, 2016; Kanabar & Kalwij, 2019; Nivalainen & Järnefelt, 2017). There were 59 individuals (4.2%) in 2008 and 59 individuals (4.1%) in 2018 who answered ´I don't know´ to the question of intended retirement age. In addition, in 2018 there were two individuals who responded 98 and 100 years as their intended retirement age. Moreover, there were N2008 = 2 and N2018 = 3 persons with missing intended retirement age. These persons were dropped from the analysis. Dropping ´I don't know´ and missing responses is a standard practice in retirement expectation literature (e.g. Crawford, 2013; Goda et al., 2011;

Helppie McFall, 2011; Kanabar & Kalwij, 2019; Nivalainen & Järnefelt, 2017; Nivalainen, 2020; Sargent-Cox et al., 2012). In 2008, those who were dropped were younger and more often upper secondary educated than those who were included. In 2018, those who were dropped were younger, were more often men, had less often a good work ability and had more often experienced unemployment during the past five years.[2] The final sample includes 1,346 and 1,386 persons in 2008 and 2018, respectively.

In addition to retirement intentions, QWLS includes detailed information relating to the respondents' socio-economic status, education, employment history, family situation, personal values and health. The questionnaire has been validated in numerous QWLS since 1977 (see Statistics Finland, 2019).

Variables

Outcome variable

In the 2008 QWLS, retirement intentions were investigated by asking question F18: "At what age do you reckon you will retire on a full-time pension?" The answers were given in full years. In 2018, in turn, the retirement intentions were based on two different questions. Question F103: "The life expectancy coefficient decreases the amount of the final pension benefit. For your cohort the reduction is __ per cent of your accrued pension. Every additional month of working decreases the effect of the life expectancy coefficient and increases the amount of the final pension benefit. When you think about this now, do you reckon: 1) You might postpone retirement; 2) You will not postpone retirement?" Question F104: "Until what age might you postpone retirement? (your lowest old-age retirement age is __ years and __ months)" was then asked only from those who in question F103 had answered that they might postpone retirement (29% of the respondents). The answers were given in years and months. From those who indicated in question F103 that they will not postpone retirement (71% of the respondents), the retirement intentions were obtained by asking question F18: "At what age do you reckon you will retire on a full-time pension?" The answers were given in years and months. All respondents had been informed about their statutory old-age retirement age earlier in the survey in question F101: "The lowest old-age retirement age for your cohort is __years and __ months. Were you aware of this age limit?" It is noteworthy that based on this question, 83% of the respondents knew their own retirement age for the old-age pension in advance. The outcome variable – the intended retirement age – is a combination of the answers to mutually exclusive questions F104 and F18 and is measured in years and months. For those who answered F104, the intended retirement age is as indicated in F104, and for those who answered F18, the intended retirement age is as indicated in F18. A similar measure of the intended retirement age in 2018 (F104 and F18 combined) has been used by Statistics Finland (2019) when comparing the

intended retirement age in 2018 with the intended retirement age in previous years (as measured by question F18).

Independent Variables

There are two independent variables of interest: the survey year (variable "Post-reform") and the old-age retirement age in years and months (variable "Statutory retirement age"). In 2008, the retirement age was 63 for all, and in 2018, each cohort had their own statutory old-age retirement age (see Table 1). It is expected that both the post-reform period ("Post-reform") and the retirement age for the old-age pension ("Statutory retirement age") are positively associated with the intended retirement age.

Control Variables

Following the literature, we include several control variables which are believed to be associated with retirement expectations. We control for the usual demographic and socio-economic characteristics and include measures for health, employment history, family situation and personal values. In addition, we control for employer's attitudes toward older workers and the occurrence of organizational downsizings. When introducing the expectations regarding control variables, the emphasis is on Finnish literature.

Focusing first on the demographic characteristics, we include controls for gender and age (at one-year intervals). Gender is not expected to be associated with the intended retirement age in Finland, but older age is expected to relate to a higher intended retirement age (Nivalainen & Järnefelt, 2017; Nivalainen, 2020).

Turning to the socio-economic characteristics, we include controls for: highest obtained level of education (basic, upper secondary, lower tertiary and higher tertiary) and socio-economic status based on occupational classification (manual worker, lower-level and upper-level employee); and a dummy variable for whether the respondent is a public sector employee or not. Higher education and higher socio-economic status are expected to be connected with later retirement intentions (e.g., Sargent-Cox et al., 2012; in Finland: Järnefelt & Nivalainen, 2016). Public sector workers in Finland are expected to retire later than private sector employees (Järnefelt & Nivalainen, 2016; Nivalainen, 2020). Traditionally, public sector workers in Finland have had a fixed personal retirement age, typically between 63 and 65 years. However, the share of public sector workers with a personal retirement age has decreased in recent years.

We also include a dummy variable for good self-reported work ability (responses 8–10 on a scale 0–10) and for sickness absences over 20 days during the past year. Health is a central factor in explaining retirement timing. A good work ability is expected to be associated with later retirement intentions and sickness absences with earlier retirement intentions (Van Solinge & Henkens, 2014; in Finland: Nivalainen & Järnefelt, 2017;

Nivalainen, 2020). Previous unemployment experience and family situation (spouse working, spouse not working, divorced, widowed, never married) are also controlled for. Based on evidence from Finland, unemployment is expected to be conducive to earlier retirement intentions (Nivalainen, 2020). The effect of family relations is not clear. In Finland, being married vs. non-married does not influence retirement intentions (Nivalainen & Järnefelt, 2017; Nivalainen, 2020). There is no previous Finnish evidence on the connection between more detailed marital status and retirement. In other countries, it has been observed that divorced persons tend to retire later while widowed persons have been found to retire earlier (Radl & Himmelreicher, 2015). Findings regarding the spouse's labor market status in Finland are also limited. Evidence from other countries vary; some studies have concluded that the work status of the spouse is not associated with the intended retirement age (e.g., Van Solinge & Henkens, 2014), while others have observed that having a non-working spouse relates to earlier retirement intentions (e.g., Eismann et al., 2019). We also consider the individual's work attachment with a dummy variable measuring how important work is for the individual. Based on Finnish evidence, it is expected that work being highly important is conducive to later retirement intentions (Järnefelt & Nivalainen, 2016; Nivalainen, 2020). Moreover, we control for the importance of hobbies (hobbies very important in life). As far as we know, previous studies have not used this variable in their models of intended retirement age.

Finally, we include a dummy variable for whether the individual thinks that the employer supports older workers' continued employment. It is expected that the employer's positive attitude toward older workers is associated with later retirement intentions (e.g., Van Solinge & Henkens, 2014; in Finland: Järnefelt & Nivalainen, 2016; Nivalainen, 2020). A variable capturing layoffs at the workplace during the past three years is also included. Layoffs can cause insecurity among the remaining employees and is expected to increase early retirement intentions, as shown in earlier Finnish studies (Järnefelt & Nivalainen, 2016; Nivalainen, 2020). Table 2 provides descriptive statistics for the variables used in this study, as well as the average intended retirement ages in each group before and after the reform.

Analytical strategy

The variable indicating intended retirement age was used as a dependent variable in the linear regression (OLS) models. At first, only the connection between the post-reform period and the intended retirement age was examined (model 1 in Table 3). After that, the connection between

Table 2. Data description and average intended retirement age in 2008 and 2018, and change in intended retirement age between 2008 and 2018, Quality of Working Life Surveys 2008 and 2018.

	Share (%)		Average intended retirement age, years		
	2008	2018	2008	2018	Change
Total (N)	1,346	1,386	62.7	64.7	2.0
Gender					
Male	42.3	45.1	62.6	64.6	2.0
Female	57.7	54.9	62.8	64.7	1.9
Age, years					
50–56	60.5	55.2	62.4	64.9	2.5
57–60	29.9	31.1	62.9	64.4	1.5
61–62	9.6	13.7	64.1	64.4	0.3
Education					
Basic	20.6	8.7	62.4	64.4	2.0
Upper secondary	38.4	40.2	62.6	64.4	1.8
Lower tertiary	30.5	33.7	62.8	64.8	2.0
Higher tertiary	10.5	17.4	63.5	65.2	1.7
Socio-economic status					
Manual worker	30.8	28.8	62.3	64.4	2.1
Lower-level employee	42.6	41.8	62.8	64.6	1.8
Upper-level employee	26.5	29.4	63.1	64.9	1.8
Employment sector					
Private	56.0	60.6	62.5	64.7	2.2
Public	44.0	39.4	63.0	64.7	1.7
Good work ability					
Yes	79.9	81.7	62.9	64.9	2.0
No	20.1	18.3	62.1	63.8	1.7
Sickness absences during past year (over 20 days)					
Yes	13.5	10.3	62.3	64.0	1.7
No	86.5	89.7	62.8	64.7	1.9
Unemployment experience during past 5 years					
Yes	11.0	18.4	62.6	64.9	2.3
No	89.0	81.6	62.7	64.6	1.9
Family situation					
In a relationship, spouse working	60.1	56.5	62.6	64.7	2.1
In a relationship, spouse not working	18.0	17.8	62.9	64.5	1.6
Divorced	12.9	13.7	62.9	64.6	1.7
Widowed	2.5	3.0	62.4	64.1	1.7
Never married	6.5	9.0	62.8	64.9	2.1
Work very important in life					
Yes	56.1	66.3	62.8	64.9	2.1
No	43.9	33.7	62.5	64.1	1.6
Hobbies very important in life					
Yes	43.9	43.2	62.6	64.5	1.9
No	56.1	56.8	62.8	64.8	2.0
Employer's support for continued employment					
Yes	29.5	30.9	62.9	64.8	1.9
No	70.5	69.1	62.6	64.6	2.0
Layoffs at workplace					
Yes	22.6	24.8	62.1	64.6	2.5
No	77.4	75.2	62.9	64.7	1.8

statutory retirement age and the intended retirement age was investigated (model 2 in Table 3). In the final step, all control variables were added to the models 1 and 2 (models 3 and 4 in Table 3). Individuals with missing information on covariates were included in the lowest categories in case of dummy variables. Item non-response was, however,

Table 3. Intended retirement age (years and months), coefficients and standard errors (SE) of linear regression models, Quality of Working Life Surveys 2008 and 2018.

	Model 1	Model 2	Model 3	Model 4
	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)	Coeff. (SE)
Post-reform	1.954*** (0.095)		1.770*** (0.096)	
Statutory retirement age (years and months)		0.996*** (0.050)		1.031*** (0.051)
Female			−0.040 (0.105)	−0.022 (0.103)
Age			0.045*** (0.013)	0.129*** (0.013)
Education (ref. Basic)				
Upper secondary			0.059 (0.144)	0.072 (0.142)
Lower tertiary			0.233 (0.165)	0.237 (0.163)
Higher tertiary			0.686*** (0.216)	0.635** (0.213)
Socio-economic status (ref. Manual worker)				
Lower-level employee			0.227+ (0.130)	0.237+ (0.129)
Upper-level employee			0.234 (0.165)	0.254 (0.163)
Employment sector (ref. Private)				
Public			0.130 (0.104)	0.139 (0.103)
Good work ability			0.808*** (0.120)	0.815*** (0.119)
Sickness absences during past year (over 20 days)			−0.351* (0.146)	−0.347* (0.144)
Unemployment experience during past 5 years			0.288* (0.134)	0.299* (0.132)
Family situation (ref. In a relationship, spouse working)				
In a relationship, spouse not working			0.031 (0.129)	0.003 (0.127)
Divorced or separated			0.059 (0.142)	0.064 (0.140)
Widow			−0.454 (0.288)	−0.461 (0.285)
Never married			0.311+ (0.178)	0.313+ (0.176)
Work very important in life			0.536*** (0.096)	0.525*** (0.095)
Hobbies very important in life			−0.275** (0.093)	−0.291** (0.092)
Employer's support for continued employment			0.222* (0.100)	0.210* (0.099)
Layoffs at workplace			−0.293** (0.113)	−0.306** (0.111)
Constant	62.708 (0.067)	0.110 (3.169)	59.037 (0.764)	−10.651 (3.469)
N	2,732	2,732	2,732	2,732
R^2	0.135	0.129	0.190	0.208
Adjusted R^2	0.135	0.128	0.184	0.202

Standard errors in parentheses.
+$p < .10$, * $p \le .05$, ** $p \le .01$, *** $p \le .001$.

very low (2008: at most 3.4% or $N = 46$; 2018: at most 4.8% or $N = 66$). The coefficients of the model, standard errors and the model fit (R2) are presented in Table 3.

Results

Next, we investigate the change in intended retirement age between the pre- and post-reform period. The dependent variable is the intended retirement age in years and months. The results of the linear regression models are presented in Table 3. In model 1, only the post-reform year is controlled for. The results show that in the post-reform year the intended retirement age is almost two years higher than before the reform. To be more specific, post-reform the intended retirement age is one year and 11 months higher ("Post-reform" coefficient 1.954) than pre-reform. Model 2, in turn, inspects how the statutory retirement age is associated with the intended retirement age. The coefficient of "Statutory retirement age," 0.996, shows that the intended retirement age has increased almost at the same pace as the retirement age. In other words, if the retirement age has increased by, for example, one year, the intended retirement age has increased by almost one year.

Models 3 and 4 control also for other factors that are known to be associated with the intended retirement age (see section *Control variables*). When other factors are controlled for, the difference between the inspection years decreases somewhat, but in the post-reform year the intended retirement age is still one year and nine months higher ("Post-reform" coefficient 1.770) than before the reform. The connection between the statutory retirement age and the intended retirement age, in turn, strengthens somewhat when other factors are controlled for. Based on model 4, when the retirement age has increased by, for example, one year, the intended retirement age has increased slightly over one year ("Statutory retirement age" coefficient 1.031). As a robustness check, the models were rerun using only those respondents (in 2018) who knew their retirement age in advance (as indicated by F101). The results did not change.[3]

As for other factors, models 3 and 4 give almost identical results. In line with expectations, gender is not associated with intended retirement age. Age, in turn, is related to intended retirement age: the older the respondent, the higher the intended retirement age. As expected, those with a higher tertiary education intend to retire later than others. Somewhat at odds with expectations, the intended retirement age does not vary much by socio-economic status or employment sector. Only lower-level employees have a tendency to intend to retire later.

As expected, good work ability is conducive to a higher intended retirement age. Sickness absences, in turn, are related to earlier retirement intentions. Somewhat surprisingly and contrary to expectations, unemployment experience is associated with higher intended retirement age. Family situation is not very strongly related to intended retirement age: only those who have never married tend to intend to retire later. As expected, a work-centered life is

associated with later retirement intentions. If hobbies are considered very important, the intended retirement age is lower.

In line with expectations, work-related factors are associated with the intended retirement age. If the respondent feels that their employer supports older workers' continued employment, the intended retirement age increases. Instead, layoffs at the workplace are conducive to lower intended retirement age.

Discussion

Due to the population aging and relatively low employment rates in the older age groups, the central goal of the Finnish pension reform of 2017 was to make individuals delay retirement and lengthen their working life. To achieve this target, the reform introduced gradually rising cohort-specific retirement ages for the old-age pension. In this article we used individuals' intended retirement age as a proxy for future cohorts' actual retirement age. We considered whether individuals have adjusted their intended retirement age after the 2017 pension reform and if the direction of adjustment is consistent with the policy objective. We used representative sample of Finnish employees aged 50–62 and were able to observe retirement intentions pre-reform (year 2008) and post-reform (2018).

The results show that the intended retirement age in the post-reform year was considerably higher than before the reform. Modeling results demonstrate that the intended retirement age was almost two years higher in the post-reform period. Moreover, the modeling results indicate that the intended retirement age has increased at about the same pace as the statutory retirement age. These results hold in fully adjusted models. When evaluating these results, it should be noted that, in Finland, the intended retirement age predicts the actual retirement age very well (Nivalainen & Järnefelt, 2017; Nivalainen, 2020). Hence, based on retirement intentions, it seems that the goals of the reform of 2017 – to delay retirement and lengthen working lives – are about to be realized.

How do we know that the post-reform variable in fact measures the correlation with pension reform and not with systematic changes in the economy over a decade? For example, an economic downturn might influence retirement expectations so that people whose wealth or savings have been reduced prefer later retirement and longer careers. The empirical literature suggests that the effects for individuals approaching retirement may be small. Barret and Mosca (2013) did not observe a significant change in the direction of later retirement expectations among persons aged 50 or over during a severe recession in Ireland in 2010–2011. Likewise, Grawford (2013) found no evidence that the wealth shock arising from the financial crisis between 2008 and 2009 affected the retirement plans of employees aged 50 or over in

England. Helppie McFall (2011) observed that an average wealth loss due to the Great Recession increased the planned retirement age of older workers in the US with a few months between 2008 and 2009. However, Goda et al. (2011) evidenced that fluctuations in the stock market or in housing wealth did not influence the expected retirement age of employees aged 50 and over in the US between 2006 and 2008. The financial crisis of 2008 also hit Finland and was followed by a recession with a negative GDP growth in 2009, but the 2008 data was collected in the spring of 2008 when the economy was still growing. Likewise, in the years preceding 2018, the annual GDP growth was around three per cent. Hence, the economic situation should not have any particular impact on the intended retirement age. Since private pension savings only play a minor role in old-age security in Finland, changes in savings or savings behavior are not plausible explanations to the change in retirement intentions.

Not only a recession, but also the unemployment rate could potentially affect retirement expectations. A higher unemployment rate could make people insecure and pessimistic about their future employment and result in earlier retirement expectations. The empirical support for the connection between the unemployment rate and retirement expectations is fairly weak. Goda et al. (2011) observed that, among employees aged 50 and over, a 10% increase in the unemployment rate decreased the expected probability of working after age 62 by 0.8 percentage points during the Great Recession in the US. However, the unemployment rate had no effect on the probability of working after age 65 or on the expected retirement age. Furthermore, Szinovacz et al. (2014) found no connection between the change in unemployment rate and the change in retirement expectations among employed persons aged 50–64 in the US between 2006 and 2008. Likewise, Goda et al. (2012) did not find a significant connection between the unemployment rate and the change in the expected retirement age among employees aged 50 and over between 1998 and 2008 in the US. The overall unemployment rate in Finland was 6.4% in 2008 and 7.4% in 2018. The unemployment rate of 55–64-year-olds was 5.4 in 2008 and 6.9 in 2018, and in both years the unemployment rate was about one percentage point lower than in the preceding years. Based on existing empirical evidence, this magnitude of change in the unemployment rate is not likely to explain the observed change in the intended retirement age. Moreover, we controlled for recent layoffs at the workplace in the models, which should at least partly capture the effect of a higher unemployment rate. Furthermore, if people's behavior would have gone in the direction of later retirement due to systematic changes in the economy or due to other factors, this development would most likely have manifested itself in actual retirement behavior. However, between 2006 and 2017, there was no change in the actual retirement age (Nivalainen, 2022).

Earlier studies concerning retirement intentions or expectations in other countries have shown either a smaller change in the intended retirement age

than in the statutory retirement age or no change in the retirement intentions after pension reforms introducing a rising statutory retirement age (Barret & Mosca, 2013; Coppola & Wilke, 2010; De Grip et al., 2013; Kanabar & Kalwij, 2019). The results of the present study indicate that, unlike in many other countries, the intended retirement age in Finland has risen in tandem with the old-age retirement age.

It seems that information on the contents of the 2017 pension reform, especially the raising of the old-age retirement age, has reached Finns approaching their retirement age quite well. Four in five of the respondents of the 2018 QWLS knew their own statutory retirement age in advance. Other surveys have also observed a similar level of knowledge (e.g., Tenhunen et al., 2020). At least part of the knowledge is likely to stem from the information campaign about the reform. Besides a website concentrating solely on the reform, which was created as early as in 2014, there was a more intensive campaign carried out around the time when the reform took effect, at the end of 2016 and beginning of 2017. The campaign actively utilized TV and radio spots and newspaper advertisements, as well as web advertisements and social media. One of the innovations of the campaign was to send a brochure about the reform to every Finnish resident whose retirement age the reform would affect in the next 10 years or so. To some degree, the awareness of the changes caused by the reform may also be related to a high news value of the reform; the reform was a popular topic in newspapers, tabloids and magazines, and was also featured in TV news at the end of 2016 and the beginning of 2017. Then again, the high media attention may be at least partly explained by the active information campaign, which also included educating journalists about the reform.

Finns' pension knowledge suggests that the various ways of distributing information on the 2017 reform were efficient and successful. Providing understandable information to citizens via multiple channels (including web-site, public media, personal contacts, such as a letter in the mailbox), and offering journalists clear facts about the reform, are tools that also other countries reforming their pension systems could and should consider in increasing their citizens' knowledge about the contents of pension reforms.

Limitations

An obvious limitation of the study is that we inspected retirement intentions, and not actual retirement behavior. However, this shortcoming can be accepted, since in Finland retirement intentions have been observed to predict actual retirement behavior quite accurately (e.g., Nivalainen, 2020). Nevertheless, it should be noted that, due to changes in, for example, health or life circumstances, some might not be able to retire as planned (e.g., Nivalainen & Järnefelt, 2017).

Another limitation might be that we investigated retirement intentions of employed persons only. Those who are fully retired, unemployed or not in the labor force are not represented in the data. Unemployed persons or persons outside the labor force may have an expectation to retire at some age. Those who exit work at earlier ages are typically low-educated persons. Hence, by focusing on persons at work in older ages, we may to some degree focus on persons with a higher education. However, when investigating employed persons we also examine persons who are actually likely to be able to select their retirement age in the future, and whose choices therefore influence the future development of working careers. Moreover, our focus on employed persons should not be a particular concern since investigating retirement expectations of employed persons only is a common practice in the literature (e.g. Crawford, 2013; De Grip et al., 2013; Goda et al., 2011; Helppie McFall, 2011; Kanabar & Kalwij, 2019; Sargent-Cox et al., 2012; Szinovacz et al., 2014).

Yet another limitation is that even if we controlled for a versatile set of individual characteristics and also some work-related factors, we did not control for job-related characteristics, such as mental or physical job demands, or job control, which have been associated with work stress (Karasek, 1979), which in turn could be reflected in retirement intentions. However, the aim of the study was not to inspect the connection between job characteristics and retirement plans, but to inspect the change in the intended retirement age following a pension reform. We believe this aim could be reached with the current set of controls.

Conclusion

Based on retirement intentions, raising statutory retirement age seems to be an efficient way to extend working lives and in this way support financial sustainability of the pension system. It is, however, very important to inform citizens about the contents of a pension reform, especially regarding the age limit for old-age pension. Only this way people can make realistic retirement plans.

Notes

1. Finland has only two nationwide free-to-air news channels: one public service (YLE) and one commercial (MTV).
2. To confirm that dropping of the observations does not affect the results, multiple imputation (the mi impute regress command in Stata 16) was used to impute the intended retirement age for the observations that were dropped. Multiple imputation was performed separately for both years. The modelling results did not change when multiple imputed full data was used. The results are available from the author upon request.
3. To test the effect of the estimation method on the results, tobit models were also run. The results did not change. Additional results are available from the author upon request.

- We investigated the connection between policy change and retirement intentions.
- Intended retirement age has increased in tandem with the statutory retirement age.
- Many countries have found minor changes in retirement intentions following a reform.
- Other countries should also utilize information campaigns to make the reforms known.

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ORCID

Satu Nivalainen Ph.D. iD http://orcid.org/0000-0002-1166-8677

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