

Pension age reform and changes in retirement patterns: the case Estonia in the 2000s

Lauri Leppik, Marden Nõmm, Allan Puur
Estonian Institute for Population Studies, Tallinn University

1. Background

Older people today live longer and healthier lives than previous generations did. When public pension systems were first established, people could typically look forward to only a few years of life in retirement (even if they were lucky enough to reach pension age). But in 2010, life expectancy at age 65 averaged nearly 17 years for men and 21 years for women in OECD countries (OECD 2011). The probability that a newborn boy survives until age 65 is over 80%; the figure is over 90% for a girl on average in the OECD countries. Furthermore, the estimates of life-expectancy increases on which pension policy decisions have been based, regrettably, often turned out to be wrong. The growth of life expectancy, especially at pensionable age, has consistently been underestimated (Oeppen and Vaupel 2002; Vallin and Meslé 2009).

In many developed countries, the increase in life expectancy came at the same time as in the effective retirement age has declined and employment rates among older population decreased: the average retirement age fell to a nadir in the early 1990s (Turner 2007). As a result, public spending on old-age pensions have grown more rapidly than national income, and this trend is expected to continue in nearly all countries over the several next decades. Beginning in the 1990s, governments started to take actions to counter the trends towards earlier retirement and put in place reforms to increase pension age. The rationale behind these reforms has been to encourage older workers to delay the transition to retirement, and to improve the financial sustainability of the pension systems.

These changes have important implications for older population and for the ways the costs of reforms will be borne. Although there are good reasons to expect that raising the statutory pension age will increase employment among older workers, this may not be always the case. For instance, low human capital, poor health and limited labour market opportunities may force older workers to leave the labour market before reaching the statutory pension age. Also, the previous research has demonstrated that these challenges are modulated by country-specific institutions, such as generosity of pension and welfare systems, flexibility of the labour market, and employment sustaining policies of the welfare state (Buchholz, Hofäcker, and Blossfeld 2006). As a result, the outcomes of pension age reforms tend to significantly vary across countries and broader regions.

In this study, our aim is to investigate the change in retirement pattern in Estonia in the 2000s and, particularly, how the increase in statutory pension age has mattered to the take-up of pensions and to employment dynamics surrounding the latter, based on the data from administrative registers.

In comparative perspective, Estonia offers a particularly interesting context for studying these issues. The early years of economic transformation were tumultuous but the country eventually became one of the most successful reformers in Eastern Europe. The reform package adopted early in the 1990s stipulated the increase of statutory pension age from 60 (men) and 55 (women) to 63 years for both sexes. The increase, aimed to reduce the fiscal burden on the pension system, was scheduled for the period 1994–2016, so that in each birth cohort, the age limit would climb by 0.5 years. The asynchronous schedule of the raise — among men, the target was reached already in 2001 while women will attain it only in

2016 — provides us with a quasi-experimental situation that divides the population into exposed and non-exposed part. In addition, the alteration of rapid economic growth and recession allows us to cast light on the role of varying macro-economic conditions.

Our study extends the previous analyses based on the Estonian pension register (Tiit et al. 2004; Aaviksoo et al. 2011) in multiple ways. First, it explicitly focuses on the take-up new old-age and incapacity pensions. In the life course perspective, the latter represents a pivotal and in most cases irreversible event by which individuals are transformed from contributors to beneficiaries of the pension system. Second, the study links pension benefit data to pension insurance contribution data allowing us to capitalise on the longitudinal features of the registers and scrutinize the change in employment status associated with the take-up of pension at individual level. Finally, we employ several analytical indicators that are seldom used in the analyses of retirement patterns (e.g. total take-up rates).

2. Research question and hypotheses

In this study, we investigate the developments in two main aspects of retirement process in Estonia in 2002–2011.

First, we examine the trends in the take-up of new old-age pensions. To cast light on the effects of the rise in statutory pension age, we systematically distinguish between normal and early old-age pensions. The analysis also encompasses the take-up of incapacity of pensions that have become an increasingly common as a pathway towards early retirement in Estonia. We hypothesise that that the postponement of entitlement to normal old-age pension may have increased the demand for early retirement thereby cancelling out part of the gains expected from the pension age reform.

Second, we address employment patterns associated with the take-up of old-age pension. Our expectations concerning employment before and after the take-up of pension are mixed. On the one hand, the relatively poor health status of older population in Estonia (Jagger et al. 2006), and low expenditures on active labour market policies renders keeping a job increasingly difficult for older workers in the context of increasing pension age. On the other hand, the relatively high educational attainment of older age population and low replacement rate of old-age pensions in Estonia may have effectively outweighed these difficulties (Aaviksoo et al. 2011).

3. Data and methods

This study is based on micro-data from several administrative registers. The main source of information is the national pension register operated by the Estonian Social Insurance Board (ENSIB). The extract of the pension register used in this study includes episodes of pension payment starting from year 2000; for each episode, the extract contained start- and end date, type of pension and some additional characteristics. If arranged in a temporal order, the episodes made up pension histories of individuals. The ENSIB also provided us with the data on monthly pension insurance contributions, including the type and amount of taxable income.¹

The take-up of (new) pension is operationalised based on the start date of the earliest pension episode of particular type. Ideally, our approach would have required complete

¹ A register-based system for collecting individual-level data on pension insurance contributions was introduced in 1999 in Estonia. This renders 2000 the earliest year for which the micro-data on pension insurance contributions are available for analysis.

retrospective pension histories but the ENSIB data were left-censored (the episodes that began prior to January 1, 2000 are not included in the register extract). To overcome this limitation, we shifted the beginning of the observation to 1 January 2002: we defined new pensioners as persons who were not entitled to pension benefits in 2000–2001 and whose entitlement started in 2002 or later. This approach left us with 217 495 new pensioners in 2002–2011 (121 475 old-age pensioners and 96 023 incapacity pensioners).

To analyse the changes in employment, associated with the take-up of pension, we took advantage of the longitudinal register data and followed, retrospectively and prospectively, the 2002–2010 cohorts of new old-age pensioners. We linked the take-up of new pensions to monthly pension insurance contributions, so that employment status of each new pensioner could be observed at pre-defined intervals before and after the take-up of pension. The change in employment rates between these dates provided us an account of the degree to which the exit from employment is associated with the take-up of pension. Further, we plan to use this information to develop a typology retirement patterns. In its simplest form, the resulting typology consists of four alternative pathways along which the transition to retirement can occur: i) employment prior to the take-up, non-employed after the take-up; ii) employment prior to the take-up, employment after the take-up; iii) non-employed prior to the take-up, non-employed after the take-up; iv) non-employed prior to the take-up, employment after the take-up.

The study applies period approach and uses calendar years as main units of analysis. The period 2002–2011 includes moderate economic growth, economic boom, and the recession, so that the changes in retirement patterns can be compared across different macro-economic contexts. To explore the trends in the intensity and timing of pension take-up, and the changes in employment associated with it, the study employs mainly descriptive methods. As the increase in statutory pension age was limited to women in the period covered by the study, the analysis is gender-specific throughout.

4. Main results

Our results show that the increase in statutory pension age has significantly reduced the take-up of old-age pensions in Estonia. Among women, the estimated reduction amounted to slightly over 50% of the new old-age pensioners in 2002–2011. The tempo-adjusted measures of pension-take-up, calculated according to Bongaarts and Feeney method (1998), suggest that the observed reduction in the pension take-up is directly proportional to the rise in statutory pension age.

We suspected that the postponement of entitlement to normal old-age pension may increase the demand for early retirement and thereby cancel out part of the gains expected from the reform. However, the results do not support these concerns: neither the number of early old-age pensioners nor their proportion among new old-age pensioners reveal a shift towards early retirement. Similarly, our results pertaining to the timing of the pension take-up show no widening in the age gap between the normal and early old-age pension in the period covered by the study (Table 2). The increase in statutory pension age has shifted the take-up of early old-age pension almost proportionally towards later age.

Our expectations concerning employment before and after the take-up of old-age pension were mixed. The results suggest that although the increase in women's employment was less extensive than that for men, significant rise in statutory pension age among women precipitated neither the expansion in preterm exit from employment nor the decrease in propensity to remain employed in post-pensionable age (Table 3). Moreover, it seems plausible that the postponement of entitlement made a contribution to the increase in

employment rate among older age groups and is partly responsible for the country's high ranking in international comparisons.² An account drawn from retirement patterns closely corroborates the above findings — the analysis disclosed no explicit negative side-effects that could be associated with the increase in statutory pension age.

However, against the backdrop of relatively successful adjustment to the increase in statutory pension age, the results demonstrate to the rapid expansion in the take-up of incapacity pensions that offers an alternative pathway to early retirement. In the period covered in the study, new incapacity pensions outnumbered new early old-age pensions 1.8 times. The relatively stable take-up of incapacity pensions until 2008 was followed by a sharp increase by nearly 50% in 2009–2010 showing the link to macro-economic conditions.

5. Discussion of the findings

We think that there are several explanations for the absence of adverse effects of the pension age reform in Estonia in the 2000s. First, the favourable macro-economic development for most of the 2000s could be included among the correlates of the observed outcome. The salient role of economic context is demonstrated in the trends since 2008 (the upsurge in demand for early retirement, fall in employment rates prior to and after the take-up of pension and the concurrent shift in retirement patterns).

Our second explanation relates to women's attachment to the labour force that contributes to high employment rates before as well as after the pension age. Estonia has ranked high in international comparisons of female employment since the late 1960s (Puur 2000; ESA 2013). Unlike in many former state socialist countries, the extent of employment decline during the market transition was similar for men and women; on the eve of the 2008 economic recession, the full-time equivalent employment rate of Estonian women was highest among of all the EU member states (European Commission 2009).

Third, a modest income support for non-employed persons in working age and the relatively low income replacement capacity of old-age pensions, coupled with the possibility to claim full old-age pension while employed, can be seen as strong incentives not to leave employment before the entitlement to old-age pension, and if possible, continue working for some years beyond that. Reflecting a social policy stance that is focused on self-responsibility and work incentives, Estonia stands out in international comparison in terms of relatively low social spending directed at the working-age population (OECD 2012). The modest income-replacement capacity of old-age pensions becomes particularly evident in comparison with the "old" EU member states. At the beginning of the period covered in the study, the theoretical net replacement rates in the EU-15 countries started from 66% while in Estonia it was 43% (Tiit et al. 2004).³ By 2010 the net theoretical replacement rate in Estonia had increased to 46%, but still remained by far the lowest among the enlarged EU-27 (European Commission 2013).

Finally, the evidence from the Population Policy Acceptance (PPA) survey suggests that in Estonia, the relatively late pension age has been internalised in the expectations of the population to a greater degree than in most of the 15 countries that participated in the PPA survey (Jozwiak, Kotowska, and Abramowska 2008).

² In 2005–2009, Estonia ranked second or third among the EU-27 countries with regard to employment rate in the age group 55–64. As a result of extensive shrinking in employment opportunities during the economic recession, Estonia ranked 7th in 2010 (Eurostat 2012).

³ Theoretical replacement rate is calculated for a hypothetical person who has worked 40 years and earned average income, participates in the most common pension scheme and retires at age 65.

The findings pertaining to sharp increase in new incapacity pensions deserve careful attention. As the health status of the population cannot undergo such large fluctuation in a matter of few years, our results lend support to the view that under relatively limited availability of income support for working-age population, the disability system serves partly for the latter purpose. The disproportionately intensive take-up of incapacity pensions also catches eye in international comparison. Among the OECD countries, Estonia ranks in the top with regard to increase in disability-related entitlements in the 2000s (OECD 2012). Several considerations render the observed tendency undesirable. The proliferation of incapacity pensions has become so extensive that it threatens to bring the effort to increase pension age to virtually nil. Income support through incapacity pensions implies very high long-term costs, and moreover, it lacks an activation role that is essential for enhancing the earnings potential of benefit recipients. An important implication of our findings therefore underscores the need for a holistic approach to pension system and social protection at large. Optimisation in specific policy sectors should not lose a broader view and consider side-effects that entail costs in related sectors. Recent government policy documents indicate that this lesson has been learnt in Estonia (NAO 2010).

Finally, although the results demonstrate the usefulness of the Estonian pension register for the analysis of retirement patterns, a few limitations of this study should be mentioned. First, the lack of a broader range of socio-demographic variables in the dataset prohibited investigation of how the take-up of pension and exit from employment varies between different sub-groups of the population, aside from men and women. Inability to account for household characteristics is also an important limitation in our approach. In future research, bringing in the information from other sources could provide insight into the factors that shape retirement decisions in population groups with different resources as well as potentially different preferences with regard to retirement.

References

- Aaviksoo, A., Kruus, P., Leppik, L., Sikkut, R., Veldre, V., Võrk, A. (2011). *Eesti sotsiaalkindlustussüsteemi jätkusuutliku rahastamise võimalused*. [Sustainable Financing Possibilities for the Estonian Social Security System]. Tallinn: Praxis.
- Bongaarts, J., Feeney, G. (1998). On the Quantum and Tempo of Fertility. *Population and Development Review* 24(2): 271–291.
- ESA 2013. *Statistics Estonia. Statistical database*. <http://pub.stat.ee/px-web.2001/dialog/statfile1.asp>. Accessed 18.10.2013.
- European Commission (2009). *Employment in Europe 2009*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2013). *Adequacy and Sustainability of Pensions*. http://ec.europa.eu/europe2020/pdf/themes/04_pensions.pdf
- Buchholz, S., Hofäcker, D., Blossfeld, H.-P. (2006). Globalization, accelerating change and late careers. A theoretical framework. In: H.-P. Blossfeld, S. Buchholz and D. Hofäcker (Eds). *Globalization, Uncertainty, and Late Careers*. London and New York: Routledge.
- Jagger, C., Gillies, C., Moscone, F., Cambois, E., Van Oyen, H., Nusselder, W., and the EHLEIS team (2008). Inequalities in healthy life years in the 25 countries of the European Union in 2005: a cross-sectional meta-regression analysis. *Lancet* 372:2124–31.
- Jozwiak, J., Kotowska, I., and Abramowska, A. (2008). Activating Older Workers: Policies Versus Opinions and Expectations. In: C. Höhn, D. Avramov, and I. E. Kotowska, (Eds.), *People, Population Change and Policies, Vol. 2* (pp. 221–243). Berlin: Springer.
- NAO (2010). *The State's Activities in Supporting Disabled People and Persons Receiving Pension for Incapacity for Work. Does the Support System Meet its Objectives?* Tallinn: National Audit Office.
- OECD (2011). *Pensions at a Glance. Retirement-income systems in OECD and G20 countries*. Paris: OECD Publishing.
- OECD (2012). *OECD Economic Surveys. Estonia*. Paris: OECD Publishing.
- Oeppen, J., and Vaupel, J.W. (2002). Broken limits to life expectancy. *Science* 296(10): 1029–1031.
- Tiit, E.-M., Leppik, L., Võrk, A., and Leetmaa, R. (2004). *Euroopa Liidu ühiste pensionieesmärkide mõju Eesti pensionisüsteemile*. [The Impact of EU pension goals on the Estonian Pension System] Praxise toimetised nr. 14.
- Vallin, J., Meslé, F. (2009). The segmented trend line of highest life expectancies. *Population and Development Review* 35(1): 159–187.

Table 1. The take-up of new pensions, Estonia 2002–2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<i>Number of new pensioners: men</i>										
Old-age pensions	6572	5912	6538	6062	5624	5484	5670	7195	7167	6460
Normal old-age pensions	3721	3537	4027	3517	3036	2918	3034	3706	3922	3794
Early old-age pensions	2851	2375	2511	2545	2588	2566	2636	3489	3245	2666
Up to 3 yrs before statutory pension age	1192	955	931	839	884	852	1015	1683	1662	1202
On special conditions	1659	1420	1580	1706	1704	1714	1621	1806	1583	1464
Incapacity pensions	4616	4540	4793	4606	4568	4555	4683	5739	6522	5813
<i>Number of new pensioners: women</i>										
Old-age pensions	4016	4226	6829	4829	5580	8114	5266	6002	8786	5143
Normal old-age pensions	2392	2262	4490	2454	2984	5650	2904	3010	5909	2850
Early old-age pensions	1624	1964	2339	2375	2596	2464	2362	2992	2877	2293
Up to 3 yrs before statutory pension age	632	751	1129	817	967	1156	733	1182	1568	889
On special conditions	992	1213	1210	1558	1629	1308	1629	1810	1309	1404
Incapacity pensions	3714	3791	4229	4182	4358	4098	4082	4866	6328	5940
<i>Total take-up rate: men</i>										
Old-age pensions	0.98	0.93	1.03	0.97	0.97	0.99	1.01	1.20	1.11	0.99
Normal old-age pensions	0.55	0.54	0.61	0.56	0.57	0.61	0.64	0.71	0.66	0.61
Early old-age pensions	0.43	0.39	0.42	0.41	0.40	0.38	0.37	0.49	0.45	0.38
Up to 3 yrs before statutory pension age	0.17	0.16	0.17	0.16	0.16	0.14	0.15	0.24	0.24	0.18
On special conditions	0.26	0.23	0.25	0.25	0.24	0.24	0.22	0.25	0.21	0.20
Incapacity pensions	0.57	0.56	0.59	0.57	0.56	0.55	0.57	0.69	0.78	0.70
<i>Total take-up rate: women</i>										
Old-age pensions	0.54	0.56	0.92	0.58	0.62	0.91	0.57	0.64	0.94	0.54
Normal old-age pensions	0.34	0.32	0.65	0.32	0.34	0.65	0.32	0.32	0.63	0.30
Early old-age pensions	0.20	0.24	0.27	0.26	0.28	0.26	0.25	0.32	0.31	0.24
Up to 3 yrs before statutory pension age	0.08	0.09	0.13	0.09	0.10	0.12	0.08	0.13	0.17	0.09
On special conditions	0.12	0.15	0.14	0.17	0.18	0.14	0.17	0.19	0.14	0.15
Incapacity pensions	0.39	0.39	0.44	0.43	0.45	0.43	0.43	0.51	0.68	0.64

Source: authors calculations based on ENSIB pension register

Table 2. The timing of new pensions, Estonia 2002–2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<i>Mean age at the take-up: men (years)</i>										
Old-age pensions	61.1	61.2	61.2	61.0	60.8	60.7	61.0	61.1	61.3	61.3
Normal old-age pensions	63.0	63.0	63.0	63.1	63.1	63.1	63.1	63.1	63.0	63.1
Early old-age pensions	58.5	58.4	58.2	58.1	58.0	58.0	58.5	59.1	59.2	58.9
Up to 3 yrs before statutory pension age	60.6	60.6	60.5	60.5	60.5	60.4	60.6	60.6	60.7	60.5
On special conditions	57.1	57.0	56.8	57.0	56.8	56.8	57.2	57.7	57.6	57.6
Incapacity pensions	46.1	45.8	45.9	45.9	45.8	46.1	45.8	45.4	45.1	45.0
<i>Mean age at the take-up: women (years)</i>										
Old-age pensions	57.6	57.7	58.3	58.3	58.6	59.3	59.4	59.7	60.3	60.4
Normal old-age pensions	58.5	58.5	59.0	59.5	59.5	60.0	60.5	60.6	61.0	61.5
Early old-age pensions	56.3	56.7	56.8	57.0	57.6	57.7	57.9	58.8	58.9	59.0
Up to 3 yrs before statutory pension age	56.9	57.0	57.3	57.8	58.0	58.3	58.8	59.2	59.4	59.9
On special conditions	55.9	56.5	56.4	56.6	57.4	57.3	57.5	58.6	58.3	58.5
Incapacity pensions	45.2	45.6	45.8	46.5	46.9	46.5	46.8	46.3	46.4	47.0

Source: authors calculations based on ENSIB pension register

Table 3. Employment rates prior to and after new pensions, Estonia 2002–2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<i>Employment rate 12 months prior to take-up: men (%)</i>										
Old-age pensions	57.3	59.8	60.9	61.9	62.2	62.5	65.3	64.8	63.7	58.8
Normal old-age pensions	60.3	59.7	62.4	61.5	62.6	63.0	63.4	64.9	64.8	61.1
Early old-age pensions	53.3	59.9	58.5	62.6	61.7	61.8	67.6	64.7	62.3	55.4
Up to 3 yrs before statutory pension age	32.0	41.2	34.4	36.7	34.7	33.2	48.2	49.6	52.8	37.4
On special conditions	68.7	72.5	72.7	75.3	75.8	76.1	79.7	78.7	72.3	70.1
Incapacity pensions	44.0	48.4	45.8	46.5	49.1	51.9	59.2	55.9	51.1	47.1
<i>Employment rate 12 months prior to take-up: women (%)</i>										
Old-age pensions	63.5	66.6	65.3	66.3	68.2	67.3	71.8	71.1	69.4	64.9
Normal old-age pensions	69.0	71.2	70.1	70.5	72.1	70.7	73.2	72.3	72.1	67.5
Early old-age pensions	55.5	61.3	56.1	62.1	63.8	59.4	70.0	69.9	63.9	61.7
Up to 3 yrs before statutory pension age	37.2	47.0	41.0	48.8	52.1	46.6	59.2	62.6	58.5	50.4
On special conditions	67.2	70.2	70.2	69.1	70.7	70.7	74.9	74.6	70.4	68.9
Incapacity pensions	51.6	57.7	57.7	57.3	61.1	62.7	69.4	67.0	64.5	63.4
<i>Employment rate 12 months after take-up: men (%)</i>										
Old-age pensions	37.4	38.4	42.3	43.7	45.8	45.1	37.6	31.8	33.5	NA
Normal old-age pensions	43.3	42.7	45.8	46.7	49.4	48.2	40.6	37.9	41.1	NA
Early old-age pensions	29.7	32.0	36.6	39.5	41.6	41.5	34.2	25.4	24.3	NA
Up to 3 yrs before statutory pension age	1.6	1.2	2.9	1.3	1.7	1.8	1.1	1.5	1.7	NA
On special conditions	50.0	52.7	56.5	58.3	62.3	61.3	54.9	47.6	48.1	NA
Incapacity pensions	22.1	25.4	27.9	30.6	34.5	33.8	32.6	29.5	32.2	NA
<i>Employment rate 12 months after take-up: women (%)</i>										
Old-age pensions	44.6	44.4	46.4	47.5	47.8	48.7	46.6	39.4	40.9	NA
Normal old-age pensions	53.8	54.6	55.4	57.7	58.0	56.7	51.9	47.1	49.5	NA
Early old-age pensions	31.0	32.7	29.1	37.0	36.2	30.2	40.0	31.7	23.4	NA
Up to 3 yrs before statutory pension age	0.6	1.2	3.0	2.1	1.0	1.4	2.0	2.4	1.2	NA
On special conditions	50.4	52.2	53.4	55.3	57.0	55.7	57.1	50.8	50.0	NA
Incapacity pensions	31.6	35.0	41.6	41.1	48.5	49.4	47.1	43.0	44.7	NA

Source: authors calculations based on ENSIB pension register