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Regulating the retirement age—Lessons from Nordic pension policy approaches

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Abstract

The likelihood that longevity will continue to increase has generated a search for regulation that make people work longer as they live longer, and thus not just containing pension expenditure but also enlarging labor supply, economic growth, and tax revenue. In public pension policy, Nordic countries have led the world with three types of approaches aimed at making people retire later. The first came when Sweden, followed by Finland and Norway, installed life expectancy coefficients in benefit calculation formulas. The second followed as Finland introduced age-related accrual rates and the third when Denmark indexed the pensionable age to developments in life expectancy. Since economic incentive-based regulations failed to raise exit ages sufficiently, Finland and Sweden subsequently linked pensionable ages to life expectancy like Denmark. While this policy brings out inequalities in health and workability, the fact that countries found it necessary to index the pensionable age to longevity instead of just relying on economic incentives in regulating retirement behavior may hold lessons for other countries.

Keywords: increasing retirement age, life expectancy indexation, Nordic pensions, pension reforms, regulating retirement ages.

1. Introduction

Regulating public pension system so they retain both adequacy and sustainability in a situation of radically changing demographics is a challenge for governments and policy makers in all developed countries (Holzmann & Hinz, 2005).

Population aging as caused by falling fertility and increasing longevity challenge the adequacy and sustainability of pension systems. The decline in fertility since the mid-1960's in most developed countries has led to the current transition from large to small cohorts of working age and from small to large cohorts above retirement age. But once fertility decline has tapered off, a better balance of cohort sizes will emerge after a transition period.

By contrast the growth in life expectancy for people aged 60+ appears to be a more permanent process (Ayuso et al., 2021). Increasing longevity was a challenge before the baby-boomers began reaching retirement age and is set to continue after the current transition between cohorts of markedly different sizes is over. Longevity risks are inherent to pensioning. But it is primarily in the last three decades that life expectancy of people *above* retirement age has accelerated and, in most countries, become the main cause of advances in life expectancy, and thereby a fundamental structural challenge (OECD, 2017).

The big regulation question concerns how the cost of longer lives can and should be shared. The long-standing practice in public defined benefit pensions of simply backloading the cost to active generations offers neither stability nor intergenerational fairness. Hence, developed countries have looked for innovative mechanisms that enable their public pension systems to adjust dynamically to longevity growth. If reforms could install structures that would make people extend their working lives in tune with developments in life expectancy not just system sustainability, but also benefit adequacy could be maintained. Beyond savings on pension expenditure, higher labor supply, economic growth, and tax revenues would be among the gains. Importantly, it could also avoid the political conflicts resulting from recurrent pension reform.

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Since the mid-1990's consecutive waves of public pension reforms directed at adjusting to population aging have engulfed most developed countries (Carone et al., 2016; OECD, 2006, 2019). But reforms addressing the longevity risk question with dynamic mechanisms have largely been absent in the first reform waves.

In this context, the three Nordic countries of Sweden, Finland, and Denmark have led the world in devising new, seemingly durable pension solutions to longevity growth—and Norway has followed the example of Sweden. Pension reforms in Sweden and Finland established mechanisms, which in one way or another indexed benefit levels to developments in life expectancy and thus sought to set financial incentives to work longer. These mechanisms followed the conventional understanding of pension experts and policy makers that retirement behavior result from the economic incentives surrounding labor market exit and therefore can be altered by adjusting these inducements (see e.g., Blöndal & Scarpetta, 1999; Duval, 2004; Gruber & Wise, 2004). By contrast when Denmark mandated that pensionable ages increase in line with longevity it introduced a regulatory instrument based on a broader understanding of retirement behavior as primarily formed by institutional frameworks in the labor market and social norms.

For most policy makers, the Swedish and Finnish regulations appeared smarter and less outlandish than the Danish (see Ayuso et al., 2021). But it was the greater long term potential of the Danish approach to bolster the fiscal sustainability of pension systems that caused the European Commission and the European Council to make life expectancy linking of the pensionable age a pivot of the heavy doses of pension reform advice, which from 2011 was administered to Member States in the annual country specific recommendations (see e.g., European Commission, 2012, 2015a, 2015c; and for a critique see Krekula & Vickerstaff, 2020).

This article sets out, first, the intentions and reflections behind the different approaches initially taken. Second, it recounts the reconsiderations made and policy adjustments adopted when policy instruments failed to alter retirement behavior to the extent intended. Third, it discusses possible reasons why pioneering economic incentive mechanisms failed to deliver the results hoped for and why Sweden and Finland, therefore, have introduced regulations like the one pioneered by Denmark. The article concludes by discussing the implications of the Nordic experiences for reforms that seek to make people retire later. Pension reforms obviously have many aspects and a wealth of economic and social implications, but the focus of this article is limited to experiences with mechanisms aimed at extending working lives in line with developments in life expectancy (for a broader view of the effects of pension reforms see e.g., von Nordheim & Kvist, 2022a, von Nordheim & Kvist, 2022b).

2. Regulation of retirement ages

The four Nordic countries have a lot in common. They have extensive welfare states, highly unionized labor markets regulated by collective agreements, and high employment rates for both genders (see De la Porte et al. 2022, this issue). In old age security their performances have until recently all been characterized by relatively low rates of at-risk-of-poverty and good replacement rates. While they have somewhat different demographics and institutionally different pension systems, the social adequacy and financial sustainability of their old age income security programs are all challenged by the continuous increase in life expectancy of people 60+. Hence, all four countries have implemented regulatory mechanisms to try to extend working lives and thereby adjust to longevity growth. In this section, we set out the three approaches they have taken.

2.1. The life expectancy coefficient in the Swedish NDC system

One key aspect of the seminal Swedish pension reform of 1999/2003, which transformed the earnings-related public pension into a NDC (Nonfinancial Defined Contribution) scheme, was a mechanism to ensure that pensioners would share in the cost of longer lives. At retirement, notional assets in individual accounts are converted to an annuity using the “annuity divisor,” which includes the expected remaining unisex life expectancy for each cohort (European Commission, 2015b, 2018a). Pensioners thereby pay for the growth in life expectancy until their retirement, while the cost of further increases during their time as pensioners are backloaded to coming cohorts (Palmer, 2000). At the same time, the pensionable age with full actuarial consequences was made flexible from the age of 60.

With later retirement, the pension benefit will grow significantly since the divisor then decreases while pension assets increase. The reverse is true when people take early retirement. This bonus/malus system aimed to set strong incentives for individuals to avoid premature exit and continue to work beyond the standard retirement age to make up for the way increasing longevity lowered pension benefits (Palmer, 1999). Simultaneously, it intended to allow utility maximizing individuals a certain freedom to follow their preferences about the time of retirement (Könberg & Palmer, 2020).

Pension planners were seeking to establish a scheme where individual preferences under full actuarial consequences would lead to a self-balancing system of adequate benefit provision (Palmer, 2000). The flexibility in pension age sought to minimize the need for separate schemes for early retirement while permitting individuals to maximize their pension benefits through longer working lives (Könberg et al., 2006). Expectations that the full actuarialism and the life expectancy coefficient would raise average exit ages sufficiently to make up for major parts of longevity developments were therefore high (e.g., Könberg, 2008; Palmer, 2000).

2.2. Age-related accrual rates and longevity coefficients in the Finnish reform

As in Sweden, the 2005 Finnish public pension reform was designed to combat challenges to sustainability from demographic developments. But unlike Sweden Finland had an entrenched culture of early and premature retirement. To break this, the reform set lifetime income instead of the last 10 years as basis for benefit calculation, terminated the early retirement schemes and introduced a flexible retirement age from 63 to 68 years with full actuarial consequences (European Commission, 2015b; Lassila & Valkonen, 2007).

Pensions were adjusted by a life expectancy coefficient to neutralize the extra costs resulting from longevity growth through benefit reductions unless people retained benefit levels by working sufficiently longer and building extra entitlements.

Importantly, further strong financial incentives to work longer were established as the annual accrual rates were raised for older workers. While the accrual rate was set at 1.5% for workers aged 18–52; it rose to 1.9% for workers aged 53–62 and was tripled to 4.5% for workers, who continued to work between the ages of 63–67, before they retired (European Commission, 2015b, 2018a).

Though the invited international reform-reviewer expressed some doubts (Börsch-Supan, 2005) expectations were high that the combination of life expectancy coefficients and age-related accrual rates would contribute significantly to the prolongation of working lives among Finns (e.g., Lassila & Valkonen, 2007).

2.3. Denmark links pensionable ages to life expectancy

Following a sudden, seemingly continuous rise in life expectancy of people above 60 years a large majority in the Danish parliament somewhat reluctantly agreed a pioneering reform of the Danish retirement system in 2006 (von Nordheim & Kvist, 2022b). Since Denmark like Finland had developed a culture of early and premature retirement the reform very much also aimed at limiting and possibly breaking this.

Based on assumptions that longevity growth equals more healthy life and working years, the aim of the reform was to ensure that longer lives would result in longer working lives. Thus, the agreement underlined the necessity of “working longer as we live longer” if during population aging the financing of the welfare state were to be to “future-proofed” (Finansministeriet, 2006). In fact, the reform did not just seek to secure the sustainability of the pension system, but aimed more widely at tackling budget deficits in the decades where aging peaks. As such it became an integral part of long-term public budget planning, which turned out to secure its survival through several changes of governments and occasional eruptions of conflicts over retirement policy (von Nordheim & Kvist, 2022b).

Yet, the idea was not as in Sweden and Finland to motivate people to retire later with life expectancy linked economic incentives. Retirement practices were to be changed by statutory intervention, by simply raising the pensionable age in line with longevity growth. As life expectancy kept growing pensions would only be available at steadily growing ages.

While differences in the earliest ages at which pensions could be drawn would remain, all retirement schemes would be affected by the life expectancy indexing of eligibility ages including the public old age pension, the

Voluntary Early Retirement Pay Scheme (VERPS), the occupational and the individual pension insurance schemes. Likewise, all related age limits in social and employment legislation were to be aligned with this indexing.

This was a revolutionary idea of regulation involving (semi-) “automatic” adaptation of all relevant legislation to changing demographic circumstances. To narrow the gap with already occurred growth in life expectancy the first steps were to raise the eligibility age in pension schemes from 65 to 67 and in the VERPS from 60 to 62. Thereafter the pensionable age would be linked to developments in life expectancy for 60-year-olds by a parliamentary decision to be taken every 5th year with a 15-year warning and a maximum of 1 year’s rise, so people would have ample time to prepare for the rise taking effect. In the longer term, the average duration of pension receipt should be reduced to and maintained at the 14.5 years, it amounted to in 1995 before longevity accelerated (European Commission, 2015b; Finansministeriet, 2006).

Yet, unlike the reform measures in Sweden and Finland implementation of the Danish reform was programmed for a rather distant future. Eligibility ages were to be raised in VERPS from 2019 to 2022, in public pensions from 2024 to 2027 and life expectancy indexing would start with a rise to a pensionable age of 68 in 2030.

The agreement also spoke of stepping up efforts aimed at reducing attrition, improving working environments and work practices, removing age discrimination, and enhancing the employment opportunities of older workers (Finansministeriet, 2006). Parties were, thus, aware that facilitators beyond a simple 1-year rise in the statutory eligibility age would be needed to secure that the desired equivalent 1-year rise in the average exit age would be realized. Subsequently, the Ministry of Employment established a special division devoted to promoting labor market conditions and working environments conducive to longer working lives.

2.4. Norway follows the lead of Sweden

After a decade of discussions and preparations, Norway in 2011 implemented a modified version of the Swedish NDC pension reform (Christensen et al., 2012). The reform included a flexibilization of the retirement age with full actuarial consequences between the ages of 62 and 75 and introduced longevity adjustments of benefits (Pedersen, 2010) that as in Sweden and Finland would lower benefits for successive cohorts in line with increases in life-expectancy unless people worked to higher ages to make up for the extra cost of longer lives.

The 2011 reform furthermore increased flexibility by allowing continued employment for old age pensioners, without reductions in pensions. A change that took on particular significance as the AFP early retirement scheme in the private sector, which had involved a high implicit taxation of earnings after age 62, was transformed to an actuarially neutral supplementary pension scheme offering lifelong benefits. The flip side of this new ability to combine pension receipt with earned income was that people, who had no intention to retire early found it attractive to start drawing a pension from age 62, while continuing to work (Pedersen, 2010, 2019).

Like in Sweden and Finland, the reform aimed at making public old age pension expenditures invariant to the individual timing of taking out a pension and at shifting the expenditure risk associated with increases in longevity from taxpayers to each cohort of pensioners (European Commission, 2018a, 2021a).

Despite the long preparation, the reform left some questions to be settled in follow-up agreements and legislation. In 2015, the upper age limit at which employment protection expires was raised from 70 to 72 and the possibility for employers to operate with lower, company-specific age limits strongly limited (Pedersen, 2015). In 2017, an expert commission proposed to drop the survivor pension and the ability for survivors to inherit the pension accruals of the marriage partner thus moving toward a fully individualized system (Pedersen, 2017). Whereas the occupational pillar in the private sector had been adjusted to the new system from the start it took until 2018 before an agreement to also adapt the occupational schemes for public sector employees was reached (Pedersen, 2018).

Still given the flexibility and the various incentive mechanisms introduced in 2011 expectations were rather high that these would produce a self-regulating system where people worked more and longer including by adjusting their retirement age to developments in life expectancy (Stølen et al., 2020).

TABLE 1 The average exit age by gender in the Nordic countries, 2015–2019

Year	2005		2009		2014		2016		2019		Increase 2005–2019	
	M	W	M	W	M	W	M	W	M	W	M	W
Denmark	61.2	60.7	63.2	61.4	65.6	63.4	65.2	64.2	65.0	64.1	3.8	3.4
Finland	61.8	61.7	62.3	61.1	63.6	63.1	63.9	63.2	63.9	63.5	2.1	1.8
Norway	63.1	63.1	63.0	63.1	65.6	64.7	65.9	65.1	66.0	64.7	2.9	1.6
Sweden	64.3	63.0	64.7	64.0	65.8	64.5	65.9	64.7	65.6	64.5	1.3	1.5

Note: The average effective exit age from the labor market is based on the Cohort Simulation Model's cumulated exit probabilities for the reference age group 51–74 and may thus differ from official national exit age calculations (for more details on Cohort Simulation Model and the labor force participation rates see in particular chapter 2 of the European Commission, 2021b). *Sources:* European Commission (2012, 2015b, 2018a, 2021a).

3. Disappointing impacts on later retirement leading to reconsiderations

Policymakers' expectations of more people working more and longer were largely disappointed. How this led to a rethink of initial reforms and the launch of follow-up reforms is the theme of this section.

3.1. Exit age disappointments and deadweight costs motivate life expectancy link in Finland

The economic incentives to postpone retirement and work longer introduced with the 2005 reform did not affect retirement patterns to the extent expected. In fact, the European Commission estimated that the average effective exit age increased by only 0.5 years for men and decreased by 0.6 years for women in the immediate years after the reform, see Table 1. Moreover, Finnish studies found that the moderate increase in the average exit age mainly resulted from the abolishment of the unemployment pension and the tightening of other early retirement options (Kangas, 2014). Even though rising life expectancy lowered benefits if people did not work longer the huge spike in retirements at the lowest pension age of 63 continued. Professional groups benefitting from the tripling of the accrual rate by working for some years after age 63 had primarily been those professions that anyway tended to retire in their late 60s. Thus, the rise in the accrual rate had not produced a marked rise in exit ages, but primarily involved a heavy deadweight cost (Barr, 2013a).

In fact, the 2005 reform had winners and losers related to the socio-economic structure. Salaried employees and academics generally have far better opportunities to benefit from postponement incentives than skilled and unskilled workers. The closing down of early exit routes did increase the retirement age, but it also increased unemployment among older manual workers (Kangas, 2014).

Beyond such unintended inequalities in outcomes, Finnish policy makers realized that if the 2005 reform continued unchanged both the adequacy and the sustainability of the pension system could be threatened. The life expectancy coefficient would seriously reduce benefits and the replacement rate. Possibly even leading to a marked rise in old-age poverty. By contrast, if the “super” accrual rate of 4.5% over time managed to motivate most workers to postpone retirement and work until their late 60s, it would make the system economically unsustainable. New reforms therefore began to be discussed (European Commission, 2015b, 2018b).

The main discussions took place between employers and unions as the Finnish employment-related pensions are administrated by the social partners. Unsurprisingly, the partners had different preferences. Employers demanded stronger and more rapid measures to combat increases in pension expenditure and in the employer contributions that are the main source financing the system. Representatives of trade unions were somewhat divided. White-collar unions emphasized the importance of “super” accrual rates in the higher end of work careers to motivate postponement of retirement. Blue collar unions insisted on better pension accumulation in the earlier parts of work careers. Hence, it was a challenge for policy makers and social partners to jointly find ways to substantially increase the employment rates of older workers. The result was the 2017 pension reform (Kangas, 2014).

Under the 2017 pension reform, the lowest pensionable age is gradually being increased from 63 to 65 years between 2018 and 2027, see Table 2. The increase in the pensionable age is 3 months per cohort, beginning with the cohort born in 1955. Hereafter the flexible age span of 65–70 will be linked to life expectancy.

TABLE 2 Main regulation aimed at raising retirement ages in recent Nordic pension reforms**SWEDEN**

1999 NDC reform: Flexible pensionable age with full actuarial consequences between ages of 60 and 65 in earnings-related scheme with cohort specific, unisex *life expectancy coefficient* included in annuity conversion formula. Pensionable age for “guarantee” pension set at 65.

2020 reform: Flexible pensionable age span in earnings-related scheme *raised* gradually to 64–69 in 2026 and hereafter *linked to developments in longevity*. To keep constant the relation between working years and retirement years the pensionable age will rise by 8 months for every year longevity increases. The retirement age necessary to neutralize the effect of longevity growth since the 1994 pension reform agreement signaled as new “normative” pension age and upper age limits in social, health and employment legislation to align with this. Hence, the right to remain in employment to be raised from 67 to 69 in 2023. Pensionable age for social minimum “guarantee” pension to be raised to 66 in 2026 but maintained at 65 for people with a work record of minimum 44 years, whereafter both will be linked to life expectancy.

FINLAND

2005 reform: Cohort specific, unisex *life expectancy coefficient* included in the annuity conversion formula of earnings-related pension, where the normal accrual rate of 1.5 is raised to 1.9 for people working between ages 53 and 62 and tripled to 4.5 for people working between the ages of 63 and 68. Early retirement schemes abolished.

2017 reform: Flexible pensionable age span in earnings-related scheme *increased* from 63–68 to 65–70 in 2027 and thereafter *linked to developments in longevity*. To keep constant the relation between working years and retirement years the pensionable age will rise by 8 months for every year longevity increases. Current life-expectancy coefficient combined with higher pensionable ages until 2027, whereafter it will be modified. Accrual rate changed to 1.5 for all age groups. Deferral of pension beyond the lowest pensionable age will raise benefits by 0.4% per month. Those in arduous jobs, with a work career of 38 years, can continue to draw their pension at age 63.

DENMARK

2006 reform: To narrow gap with longevity developments since 1995 the eligibility ages are raised from 65 to 67 in People’s Pension (PP) 2027 and from 60 to 62 during 2019–2022 in the VERPS. To further narrow the gap and to keep up with future life expectancy developments the eligibility age in PP linked to developments in life expectancy for 60-year-olds and entry ages in all other retirement pensions whether public or private defined in relation to that. From 2015 pensionable age raised proportionally 1/1 in line with longevity growth by a parliamentary decision every 5th year with a 15-year warning and a maximum of 1 year’s rise. First rise from 67 to 68 to come in 2030 and subsequent foreseen to 69 in 2035, 70 in 2040 etc. In the long-term average pension duration to be returned to the 14.5 years it constituted in 1995.

2011 reform: Changes moved 5 years forward so entry ages raised in PP from 2019 to 2022 and in VERPS from 2014 to 2017. VERPS closed to new members, non-retired members encouraged to leave, benefits to be off set against private pension savings and benefit duration reduced from 5 to 3 years from 2018 to 2023, so eligibility age reaches 64 years.

2020 reform: Second confirmation of decision to raise pensionable age in line with life expectancy: from 68 to 69 in 2035. Introduced “Early Pension” for persons with extra-long work records to give a dignified exit from the labor market and “Seniorpension” for persons with seriously reduced work capacity to strengthen public support for life expectancy indexing of the pensionable age.

NORWAY

2011 NDC reform: Slightly modified version of Swedish NDC system introduced with flexible pensionable age span from 62 to 67 with full actuarial consequences, possibility to take out pension while continuing to work and *life expectancy coefficient* in benefit calculation formula. Eligibility age for guarantee pension set at 67.

Possible coming reform: Some form of linking of pensionable ages to developments in longevity inspired by Swedish developments plausible—though nothing decided as of yet.

As the aim is to keep the share of retirement in life constant, pension ages will be increased by 2/3 of the increase in life expectancy so that 3 years increase in longevity will raise the pensionable ages by 2 years. At first, the reform combines the life-expectancy coefficient with higher pensionable ages, but from 2027 the coefficient will be modified. In line with expected increases in life expectancy, the pensionable age will annually increase by 1–2 months per cohort (born in 1965 and later) from 2030.

Eligibility ages in all retirement pensions will be aligned when the pensionable age goes up as will all related social and employment legislation.

The age-related accrual rates introduced in the 2005 reform have been abolished and a uniform accrual rate of 1.5% is re-installed. There will be a transition period until the end of 2025, when the accrual rate will still be a bit higher (1.7) for those aged 53 to 62.

Since 1996, an employee's pension contribution has been deducted from their pensionable salary. The reform of 2017 abolished this rule and pension calculations are now based on total income, which partly compensates for the lowering of the accrual rate in older ages and ameliorates the accrual for younger cohorts.

Pension deferral becomes possible, and the pension accumulated will be increased by 0.4% for each month deferral beyond the lowest pensionable age. This increase replaces the previous higher accrual rate between ages 63 and 68.

People in arduous jobs can qualify for the years-of-service pension at the age of 63, after 38 years of employment.

The 2017 reform has demonstrated the desired effect of annually postponing the effective retirement age by 0.2 years. As pension-accruing careers will be longer the benefit reducing effect of the life-expectancy coefficient will be counteracted and in turn impact positively on the adequacy and the long-term sustainability of the pension scheme. Hence, the 2017 reform seems to have abolished the need for further major changes although there is (always) room for optimization (Andersen, 2021).

3.2. Poor exit age increase leads Sweden to link pensionable ages to life expectancy

Helped by collective agreements and legislation protection senior employment Sweden in the late 1990's already had high levels of employment of older workers aged 55–64 and a workforce with healthy life years at age 65 at a comparatively high level, also by Nordic standards. Possibilities for extending working lives thus appeared promising (European Commission, 2018b).

Though a wider spread in retirement practices did indeed develop after the 1999 reform, policymakers have largely been disappointed that the financial incentives and the flexibilization of the pension age failed to result in a clearer shift upwards of the average retirement age. The average effective exit age increased with 1.5 years for men and women from 2005 to 2014 and remained stable after that. Among the Nordic countries Sweden thus experienced the smallest increase in retirement ages.

The 1999/2003 reform apparently did little to motivate people to make up for the reductions in their pension benefit caused by life expectancy by working beyond the longstanding pensionable age of 65 (see Palme, 2018, 2019). This led to the establishment of a government inquiry on the pension age in 2010.

Reporting in 2012 and 2013, the Commission leading the inquiry documented that the rise in the average exit age was markedly behind the longevity growth of more than 2 years per decade and that the life expectancy coefficient therefore rather quickly reduced the replacement rate and in time would threaten the adequacy of the NDC pension (Pensionsålderutredningen, 2012, 2013; see, also Barr, 2013b). The reports highlighted how the social norm of retirement at 65 was reinforced by workplace and labor market conditions as well as by employment and social legislation. The Commission, therefore, suggested that it would be necessary to raise the pensionable ages and to make sure that legislation and labor market terms aligned with these and with the general need to work to ever higher ages. It also pinpointed that the effects of the life expectancy coefficient tended to be buried in the annuity conversion formula and therefore was too difficult for individuals to turn into a strategy for working to a higher age. The retirement age corresponding to the neutralization of longevity growth ought to be published so the social partners could plan working lives accordingly. Thus, the idea of a sort of “recommended” retirement age (“riktålder”), which could help guide everyone involved, was born.

Over the next years, the Commission reports informed the work and negotiations in the Pension Group of representatives from the parliamentary parties that had prepared and agreed the 1999 NDC reform (Palme, 2018). In 2017, the Pension Group presented its proposals including several increases in the age-related pension ages inspired by the suggestions from the government inquiry (Pensionsgruppen, 2017). Importantly, the Pension Group also highlighted that the provisions necessary to ensure that working lives increase in line with life expectancy extended to policy fields far beyond the pension system proper and the remit of the group. In a subsequent report, the Ministry of Social Affairs turned the Pension Group proposals into a catalogue of new legislation on eligibility ages in the pension system and other parts of social security (Socialdepartementet, 2019). As

background it also documented how the average age of taking out a pension since 1998 had declined by 0.4 years whereas longevity had grown by more than 2 years. Even though not everybody stopped working altogether while drawing a pension, this was hardly the development reformers had hoped for. In line with the Pension group, the Ministry carefully argued the need to replace the life expectancy coefficient with a life expectancy link of the pensionable age. Many of the findings of the inquiry on the pensionable age and the Ministry of Social Affairs were also confirmed and elaborated when the government appointed Delegation on Senior Labor reported in 2020 (Delegation för senior arbetskraft, 2020). The Delegation identified major impediments to longer working lives in the way the ingrained retirement-at-65-norm was reflected in labor market structures, tariff agreements, management attitudes and workplace practices and in employment and social legislation. Again, the inability of economic incentives in the pension system to change retirement practices on its own was emphasized and instead a whole range of mutually reinforcing initiatives outside pension legislation was suggested as necessary elements. Thus, the focus shifted from factors “motivating” to factors “enabling” people to work longer.

The Pension Group’s reform deal from 2017 included agreements on legislation to raise the pensionable age, see Table 2. While continuing to be flexible in a 5-year span, the pensionable ages in the income pension and premium pension will be gradually raised, while all associated security systems will be aligned with these adjustments (Regeringen, 2019).

The lowest pensionable age was raised to 62 in 2020 and will be further raised to 63 in 2023 (Socialdepartementet, 2019). That year will also see the age limit for the “guarantee” pension raised to 66 years, with the exception that people, who have worked for at least 44 years will retain the possibility to receive a “guarantee” pension from the age of 65.

In 2026, the flexible age span for the NDC income pension will be raised again to 64–69. Thereafter the pensionable ages for both the NDC and the “guarantee” pension will be linked to developments in longevity through the introduction of a new mechanism. A so-called “directional—or recommended—age” will indicate to cohorts the age they will need to work to neutralize developments in longevity in their active years. The aim is to maintain the share of retirement years in the length of life. For every year longevity grows, the pensionable age will be raised by 8 months. This equals the 2/3 factor also applied in Finland, while differing from the 1/1 used in Denmark.

A new statutory regulation will likewise raise the lowest age at which occupational pensions can be drawn—exactly how was subject to further investigation and negotiation in the Autumn of 2021. As part of the alignment of related legislation the upper age limit for the Employment Protection Acts will be raised from 67 to 69 in 2023.

3.3. With the rise in exit ages likely to fall behind life expectancy growth Norway reconsiders

Before the 2011 reform took effect key pension experts pointed to a number of reasons why the expectations about its ability to effect major changes in the retirement behavior of Norwegians were unrealistically high (e.g., Pedersen, 2010). Yet, even if by 2019, the most optimistic expectations had not quite been met, a rise of almost 2 years in the average exit age had in fact taken place after the 2011 reform came into force (2.9 years for men and 1.6 for women according to estimates by the European Commission, see Table 1). Studies by the Frisch Center found significant effects on retirement behavior of new economic incentives for those covered by the former early retirement scheme in the private sector (Hernæs et al., 2016; Hernæs & Jia, 2013). Some experts doubted that the rise could be seen merely as an effect of the incentives in the main parts of the reform (Pedersen, 2019). General structural trends toward longer working lives and later retirement linked to changes in the composition of older workers (e.g., higher educational achievement levels, better health, far more service sector employment) were also at work (European Commission, 2015a). Importantly, experts interpreted the rise in the effective retirement age as most likely a one-off reaction to the removal of blatantly negative incentives to working after age 62 in the private sectors AFP retirement scheme. In their view, it seems unlikely that Norwegians as effect of the life expectancy coefficient will postpone their retirement sufficiently in line with future longevity growth. While life expectancy is projected to rise by about 5 years between 2013 and 2060, the coefficient is only estimated to increase the exit age by about half as much (Stølen et al., 2020).

Remarkably, the possibility to draw a pension when continuing to work has had unexpected negative consequences. Rather than primarily motivating people who intended to retire early to work some years more, it has led a wide part of workers, who already plan to work till age 67 to take out their pension already at age 62 and combine it with their wage. As this obviously draw down assets, pension benefits risk being inadequate when people must start living on these alone. At the same time, public pension expenditures have become unexpectedly large in the first years after the reform took effect (Pedersen, 2019). When something similar has been avoided in Sweden, it is because the Swedish tax system makes it much less lucrative than the Norwegian to take out pensions on top of a full-time wage.

Eight years into the 2011 reform the initial fast rise in the average exit age connected to the transformation of the AFP pension was slowing down. After the first rise, Norwegians did not seem ready to retire later in line with future longevity increases, see Table 2. Generally, it seems uncertain to which extent the life expectancy coefficient can motivate people to postpone their retirement until their originally envisioned pension level has been restored. Hence, the life expectancy coefficient may—like in Sweden and Finland—primarily result in ever lower benefits. Given free choice a majority of people would not appear able to select the options most in their long-term interest.

Pension experts have, therefore, begun suggesting that Norway—as before—should follow the Swedish role model and link pensionable ages and related legislation to developments in longevity (e.g., Hippe & Pedersen, 2019; Pedersen, 2019). Since pensionable ages in Norway are less behind the longevity curve than in Sweden no initial gap closing increases would be necessary. Moreover, experts found no reason to delay the linking of ages until the 2030's as in Sweden. Like in Finland and Sweden the suggestion is to go for a mechanism, which maintains retirement as a constant share of life and avoid the more rigid Danish solution where 1 year's growth in longevity generates 1 year's rise in the pensionable age.

3.4. Denmark tightens and advances the timing of its retirement reform while also backtracking

Following the economic crisis of 2008–2010, a majority in the Danish Parliament in 2011 decided to further limit access to VERPS while also moving the implementation of the other elements of the 2006 reform agreement 5 years forward (Finansministeriet, 2011; see von Nordheim & Kvist, 2022a, von Nordheim & Kvist, 2022b).

The gradual changes to the VERPS took effect from 2014 and in 2015 parliament adopted the first life expectancy growth induced increase in the pensionable age. The Ministry of Finance interpreted increases in the employment rate of older workers and in the average exit age as resulting from the 2006 and 2011 reforms (Finansministeriet, 2017a, 2017b, 2017c). Yet, as increases had started before reforms were agreed and long before they were implemented improvements probably also resulted from structural changes in the educational, health and employment conditions of older workers (see e.g., European Commission, 2015a).

Even though it was moved 5 years forward by the 2011 reform the implementation still happened in a rather moderate tempo with the first actual rises in the eligibility age for public pensions from 65 to 67 gradually implemented from 2019 to 2022, and the first 1-year automatic rise to 68 in 2030.

The original coalition behind the 2006 reform agreement was seriously tested in 2011, when the Social Democrats objected to the gradual abolition of the VERPS. But a substantially larger confrontation over the need for a dignified access to early retirement for worn down workers occurred in the 2019 election campaign. With a claim that the phasing out of VERPS had unhinged the pension system by leaving people with long strenuous working lives and high risk of becoming prematurely worn-down without a dignified route to retirement, the Social Democrats campaigned for a new right to an earlier public pension (see Kvist, 2019). They argued their case with a rare fervour and passion, but still supported continuing the life expectancy linking of the pensionable life because of its longer-term budget implications.

A wide array of pension experts and pundits found the proposal unlikely to succeed for technical, legal, and political reasons. But 16 months later, the Social Democratic government put them all to shame as it concluded parliamentary agreements about two new early retirement schemes: The “Early Pension” and the “Seniorpension” (Regeringen, 2020).

As with the Finnish “years-of-service” pension and the Swedish continued access to the “guarantee” pension from age 65 for people with long working careers, the Danish government sees these schemes as paving the way

for a wider public acceptance of the longevity linking of the pensionable age. Accordingly, the new early retirement options were adopted on the same day as parliament decided to raise the pensionable age to 69 from 2035.

4. The implicit understanding of retirement in the various reform designs

There are two different understandings implicit in the Nordic pension reforms. The initial Swedish, Norwegian, and Finnish attempts of regulating retirement behavior through pension system design were predicated on a modeling of retirement as resulting from a decision made by utility maximizing individuals, where key tools of regulation are mechanisms of economic bonus/malus—similar to the modeling dominating economic retirement research (e.g., Blöndal & Scarpetta, 1999; Gruber & Wise, 2004).

Therefore, policy makers in all three countries expected that the flexibilization of the retirement age under full actuarial consequences in connection with a life expectancy coefficient—and possibly as in the Finnish case a higher accrual rate for people, who worked longer—would lead to significantly later retirement. When this turned out not to be the case or only to a disappointing degree, policymakers realized that they had to review their approach based on motivation through economic incentives.

They found that many workers are unaware of or fail to fully understand the workings of the life expectancy coefficients. They also realized that even when workers are aware of the economic consequences of not extending their working lives, they may not be able to act on the realization given the labor market conditions under which they work and retire. Finally, they observed that workers may prefer to follow social norms and expectations instead of acting primarily on economic incentives.

The second understanding sees retirement behavior as influenced by labor market institutions and social norms. In the deeply collective agreement regulated labor markets of the Nordic countries retirement patterns tend to result less from individual preferences than from (normative) collective behavior. This behavior is influenced by the industrial relations system and its impact on late career labor markets as well as by well-established social norms about the retirement cum pensionable age.

The Danish reform design is to a larger extent in tune with the second understanding, looking at factors affecting retirement patterns among Danes such as tradition, labor market conditions and the changing characteristics of older workers. While improvements in educational achievement levels and average health opened possibilities for longer working lives, policy changes were required to make the most of these opportunities. To change well rooted retirement patterns, one would have to restrict or cancel the possibility of early retirement and raise the regular retirement age. Especially as both were factored into the organization of work and affected the expectations and attitudes of both employers and workers.

Indeed, possibilities to retire earlier have been exploited by both individuals and the social partners to offload the cost of unhealthy work procedures and inadequate maintenance/updating of qualifications to early exit schemes. The Danish VERPS is one case in point. If ingrained early retirement practices are to change it calls for restrictions in the very possibility of retiring early. Statutory interventions provide a powerful way of restricting choice. Indeed, such interventions have been used in most countries, to reduce early exit schemes, including the Danish VERPS.

The implicit understanding, exemplified by the Danish reform, was that big signaling to unions and employers as mega actors in the labor market would be necessary. Life expectancy linking of the pensionable age sends a strong message that the general retirement age will be moving upwards, wherefore collective labor market actors need to take that into consideration in their collective agreements, including in the organization of work (working time, work arrangement, pay, training and updating etc.).

In Sweden, even key original designers of the NDC reform came to acknowledge that the engrained social and labor market norm of retirement at 65 probably influenced people's behavior more than the economic incentives to prolong working lives (Könberg & Palmer, 2020). For other important contributors to the Swedish post-2003 reform developments such as the 2010 Inquiry on Pension Ages (2012, 2013), the Pension Group (2017), the Government (2018, 2019), and the Delegation on Senior Labor (2020) it furthermore became clear that a wide set of labor market and workplace provisions also would have to change to facilitate longer working lives and higher exit ages on par with longevity growth. They also concluded that the life expectancy coefficient had to be

replaced or at least underpinned by pensionable ages rising in line with life expectancy. Finnish policy makers reflected and concluded in similar ways.

In the Nordic experiences relying only on economic incentives has thus proved insufficient when trying to get people out of ingrained early exit behavior and certain retirement patterns tied to industrial relations and a longer standing pensionable age.

When reflecting on the factors influencing the outcome, it is also important to note that the word “retirement” conflates two processes, which tend to be governed by different logics: stopping and exiting from work and taking out a pension benefit and becoming a pensioner. Economists—and with them many policy makers—typically tend to forget that the first primarily is governed by workplace and labor market conditions, where collective behavior plays a substantial role. Just as they most often neglect that the second first and foremost is influenced by social conventions, not least if tied to a long-standing eligibility age. Pension legislation may influence labor markets, but it does not determine, how they are structured and function. The same goes for social norms about age and life phases.

In this connection, it is remarkable that the initial Swedish, Finnish, and Norwegian reforms not only neglected to take the character of Nordic labor markets into consideration, but also ignored the impact of parallel legislation like employment protection for seniors and widespread collective agreement practices as the Swedish “first in last out.” Particularly since the reforms in these three countries all aimed to tie pension benefits closely to contributions based on the income from lifetime labor market careers, it is curious that so little knowledge about the functioning of the national labor markets entered the pension designs (von Nordheim, 2012).

In the 2005 Finnish reform case, the lack of understanding of the labor market structures and strictures producing retirement patterns is particularly curious in as much as the earnings-related part of the Finnish pension system is owned by the social partners. Changes in pension legislation therefore need to be agreed with the social partners. But apparently, they also “believed” in the behavior changing might of economic incentives.

Our main finding is not that economic incentives are irrelevant or that they do not matter. The contention is that when it comes to raising the average exit age, they cannot do the work alone. Or formulated in another way the utility function is wider than economic gain: It should include the benefits of adherence to social norms and labor market institutions and conditions. At least based on the experiences of these four Nordic countries it would seem safe to conclude that retirement behavior cannot/should not be modeled merely as utility optimizing decisions of economic “men.” Economist explanatory notions such as “the implicit tax on working longer/retiring early” are constructs that—in the context of the heavily collective agreement regulated labor markets such as the Nordic—border on fallacies of composition or at least comes across as poor modeling of the factors causing people to retire or work longer. Long-standing pensionable ages become well-entrenched social institutions with adjacent norms, expectations, and attitudes. Labor markets are structured by organized collective actors—unions and employer associations—and the working practices which follow from their collective agreements (see e.g., Kuitto and Helmdag (2021)).

There are other areas where economic incentives around retirement and pensioning are important. For reasons of fairness and legitimacy, economic incentives should always point the right way. If they are to raise a long-standing pensionable age, bonus/malus constructions must underpin regulation with heavier doses of disablement/enablement combinations, such as the linking of the pensionable age to developments in longevity, whereby early retirement becomes very restricted and pensioning only available at higher ages.

The Nordic experiences would seem to confirm the following: To change established retirement practices *big signaling* is required. If the social partners are to get the message that work arrangements and work practices must change to accommodate ever later retirement, then the general pensionable age must be raised, and the new regulation spelled out very clearly—as is the idea in the Swedish “recommended” retirement age. Only then will retirement norms in the labor market and among social classes and professional groups change sufficiently. Societal discourse and debate must explain that maintaining the adequacy and sustainability of pensions in times of perpetual increase in life expectancy for older people require the general retirement age to go up. It is necessary to create a new adaptable retirement norm: As we live longer, we work longer.

Whether policy makers will be able to continue to neutralize longevity growth by raising the pensionable age is a wider issue. A broad international literature indicates that health and remaining working capacity tend to improve at a markedly slower rate than average life expectancy. Consequently, we have elsewhere argued that a

life expectancy indexing of the pensionable age like the Danish will increase social inequality among older workers and pensioners since the ability to postpone retirement and work longer—as well as remaining life expectancy itself—are very unequally distributed among occupations and across individuals (von Nordheim & Kvist, 2022a, 2022b). Similarly, we have suggested that the economic benefits of raising the pensionable age will decrease as the age goes up and that certain age thresholds may prove difficult to transcend for social as well as biological reasons. However, this thematic falls outside of the present article.

Finally, it can be questioned to which extent increases of working lives are the result of pension reforms or other factors. Indeed, employment rates of older workers and effective exit ages have risen substantially as result of structural changes unrelated to pension reforms. Improvements in the educational achievement levels and health status of older workers as well as in working conditions stemming from the growth of services sector employment at the expense of manufacturing are estimated to be of significant independent importance in recent improvements in average exit ages and the duration of working lives (European Commission, 2015a; Geppert et al., 2019).

5. Conclusion

The first lesson from policy developments in the Nordic countries is that economic incentives alone are unable to make a sufficiently large share of people work longer. Life expectancy coefficients in the pension formula have failed to alter long-standing retirement behavior to a sufficient extent. Economic incentives hidden in pension calculation formulas fail to send the required message or to make it clear enough. In addition, experiences show that those who most need to work longer are the ones retiring early and vice versa. As a result, instruments supposed to protect the interest of both pensioners and the pension system have in certain instances instead become threats to both adequacy and sustainability.

In this situation, Nordic policy makers have looked for other regulatory means. Pension reformers are now moving from economic motivation toward a form of automatically updated statutory interventions. Instead of linking the size of benefits to developments in life expectancy, Finland and Sweden have decided to follow the lead of Denmark in linking the pensionable age to longevity growth.

Thus, the second lesson is that indexing pensionable ages with longevity may provide a promising approach to regulate retirement. Politically, the indexation avoids even more unpopular policies like reducing the adequacy of benefit levels as longevity increases. More importantly, raising the pensionable age as such sends a strong signal to the social partners and the population that retirement practices must change. To function well statutory interventions raising and life expectancy linking the pensionable age must be broad and encompass all relevant aspects related to the retirement decision. That is including not only pensionable ages but also employment protection legislation, and wider workplace and labor market conditions for late career workers. Finally, they must cultivate the new narrative that as we live longer, we work longer.

Conflict of interest

The authors hereby confirm that they have no conflict of interests.

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Data availability statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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