

**Faculté des sciences économiques,  
sociales, politiques et de communication**

Commission Doctorale du Domaine des Sciences Politiques et Sociales

# **Towards fairer pension systems: four essays on public pensions**

Niko Väänänen

Thèse présentée en vue de l'obtention du grade de docteur en sciences politiques et  
sociales de l'Université catholique de Louvain

Membres du Jury

Président : Prof. Vincent Vandenberghe

Promoteur : Prof. Axel Gosseries

Promoteur : Prof. Yannick Vanderborght

Autres Membres du Jury :

Prof. Anne Lavigne

Prof. Axel West Pedersen

Année académique 2025-2026

This dissertation is based on the following four original publications:

I Väänänen, N. (2021). Two different paths to sustainability? A comparison of a Finnish and a Swedish public pension reserve fund. *European Journal of Social Security*, 23(3), 298-317.

II Helmdag, J. & Väänänen, N. (2025). Financial sustainability above all else? Drivers and types of pension reform recommendations in EU socio-economic governance. *JCMS: Journal of Common Market Studies* 63(4), 1236-1258.

III Väänänen, N. (2026). A right to early retirement for conscripts. *European Journal of Social Security*, 28(1), 21-38.

IV Väänänen, N. (2026). Pension tiers and childcare credits for parents: three examples from Europe. In Kolaczkowski, J. & van Aggelen, S. & Rutecka-Góra, J. & Stevens, Y. (Eds.) *The Architecture of Pension Systems: Interconnectivity from an Interdisciplinary Perspective*. Routledge. Forthcoming.

## Table of contents

|                                                                                |     |
|--------------------------------------------------------------------------------|-----|
| Summary.....                                                                   | iii |
| Résumé .....                                                                   | iv  |
| Acknowledgements .....                                                         | v   |
| 1. Introduction and discussion.....                                            | 1   |
| 2. Research questions of the dissertation.....                                 | 6   |
| 3. Defining pensions: a historical perspective .....                           | 8   |
| 3.1. Bismarck's founding reform .....                                          | 10  |
| 3.2. The expansion of public pensions.....                                     | 11  |
| 3.3. International legalization and the role of the ILO .....                  | 12  |
| 3.4. Limited but growing influence of the EU .....                             | 13  |
| 3.5. Reorientation of pension policy and the spread of multi-pillar model..... | 15  |
| 3.6. Pension systems today .....                                               | 16  |
| 3.7. Economic and social outcomes of pension systems.....                      | 18  |
| 3.8. Contemporary challenges facing pension systems .....                      | 21  |
| 4. Typology of pension systems.....                                            | 23  |
| 4.1. Different methods of pension financing.....                               | 25  |
| 4.2. Pension benefit designs .....                                             | 27  |
| 4.3. Fragmented pension schemes.....                                           | 31  |
| 4.4. Solidarity in public pensions.....                                        | 32  |
| 4.5. Credited career breaks in European pension schemes.....                   | 34  |
| 5. Financing of pensions .....                                                 | 36  |
| 5.1. Samuelson, Lerner, and the Politics of the PAYGO Metaphor.....            | 38  |
| 5.2. Comparing the returns of the financing mechanisms.....                    | 40  |
| 5.3. Different risks in pension financing .....                                | 42  |
| 5.3.1 PAYGO: demographic exposure and political–fiscal risk.....               | 42  |
| 5.3.2 Funding: market, cross-border and governance risk .....                  | 43  |
| 5.3.3 Why reserve funding emerged?.....                                        | 44  |

|                                                                                             |    |
|---------------------------------------------------------------------------------------------|----|
| 6. Liberal-egalitarian approach .....                                                       | 46 |
| 6.1. Normative foundations .....                                                            | 47 |
| 6.2. Responsibility, background justice, and fair terms of cooperation .....                | 48 |
| 6.3. Implications for pension design.....                                                   | 49 |
| 7. Pensions in political theory .....                                                       | 53 |
| 7.1. PAYGO as a repeated game.....                                                          | 54 |
| 7.2. PAYGO, reciprocity, and their limits.....                                              | 56 |
| Published articles.....                                                                     | 58 |
| What should pension systems compensate or recognise? .....                                  | 58 |
| Why grant earlier access to retirement? .....                                               | 61 |
| A note on the methodology.....                                                              | 63 |
| Article I Responsible investment policies of pension reserve funds.....                     | 65 |
| Article II Pension reform recommendations in the EU.....                                    | 67 |
| Article III A right to early retirement for conscripts .....                                | 69 |
| Article IV Pension tiers and childcare credits for parents: three examples from Europe..... | 70 |
| Conclusions .....                                                                           | 79 |
| References .....                                                                            | 82 |

# Summary

European pension systems are being reformed under pressure from population ageing, fiscal constraints, and the growing role of European Union level socio-economic governance in shaping national reform agendas. These reforms are often presented as technical adjustments, but they necessarily involve value judgments about who should bear risks, burdens, and costs. This dissertation asks what a fair pension reform requires. Drawing on Rawlsian liberal egalitarianism, it treats public pensions as institutions of social cooperation across the life course and between generations.

The dissertation argues that pension systems should recognise certain socially indispensable burdens that fall unevenly on citizens. Military conscription, when justified as necessary for the protection of basic liberties, imposes concentrated costs on those drafted and should therefore be compensated through pension rights, including earlier access to retirement. Childrearing likewise supports intergenerational pension schemes by raising future citizens and contributors. Pension systems should therefore better recognise care work across different pension tiers.

The dissertation also examines institutions that shape pension reform. It shows that EU socio-economic governance has prioritised financial sustainability over adequacy and modernisation, and argues for greater transparency in the recommendation process. Finally, it compares Finnish and Swedish public pension reserve funds to show how institutional design shapes responsible investment policy. The dissertation argues that fair pension reform is not only about ensuring financial sustainability but also about which contributions the system recognises, which burdens it compensates, and how transparently these choices are justified.

# Résumé

Les systèmes de retraite européens sont réformés sous la pression du vieillissement démographique, des contraintes budgétaires et du rôle croissant de la gouvernance socio-économique de l'Union européenne dans l'orientation des programmes nationaux de réforme. Ces réformes sont souvent présentées comme des ajustements techniques, mais elles impliquent nécessairement des jugements de valeur sur la répartition des risques, des charges et des coûts. Cette thèse de doctorat examine ce qu'exige une réforme équitable des retraites. S'appuyant sur le libéralisme-égalitaire de John Rawls, elle analyse les systèmes de pension comme des institutions de coopération sociale tout au long de la vie et entre les générations.

La dissertation soutient que les systèmes de retraite devraient reconnaître certaines charges socialement indispensables qui pèsent de manière inégale sur les citoyens. Le service militaire, lorsqu'il est justifié comme nécessaire à la protection des libertés fondamentales, impose des coûts concentrés aux personnes appelées et devrait donc être compensé par des droits à pension, y compris par un accès anticipé à la retraite. De même, le fait d'élever des enfants soutient les régimes de retraite intergénérationnels en formant les futurs citoyens et contributeurs. Les systèmes de retraite devraient donc mieux reconnaître le travail de soin et de prise en charge dans leurs différents piliers.

La dissertation examine également les institutions qui façonnent les réformes des retraites. Elle montre que la gouvernance socio-économique de l'Union européenne a privilégié la soutenabilité financière au détriment de l'adéquation des prestations et de la modernisation, et plaide pour une plus grande transparence dans le processus de recommandation. Enfin, elle compare les fonds de réserve publics pour les retraites en Finlande et en Suède afin de montrer comment la conception institutionnelle influence les politiques d'investissement responsable. La thèse soutient qu'une réforme équitable des retraites ne consiste pas seulement à assurer la soutenabilité financière, mais aussi à déterminer quelles contributions le système reconnaît, quelles charges il compense, et avec quelle transparence ces choix sont justifiés.

# Acknowledgements

Pensions are intriguing because of their long-term nature. The Finnish context, however, adds another layer, as pensions are a topic that one is not really supposed to research from a normative perspective. The pension system is something of a sacred cow, treated as the preserve of a small circle of insiders.

Against this background, writing a normative PhD thesis on pensions requires either financial and emotional detachment from Finnish society, or a certain degree of madness. Perhaps both help. Unfortunately, I can only claim the latter.

However, I am happy to have embarked on this journey, and I am happy to have learned so much during these years. I am grateful to the supervisors and members of the jury. Axel Gosseries showed me that if something is not built on rigorous logical thinking, anything that follows is perhaps worth not much. Yannick Vanderborght helped me to see the political science when my policy background started pushing too much to the front. Together, they formed a great pair. Vincent Vandenberghe not only guided me forward in my research but also taught me with a large chunk of Belgian and European history. Anne Lavigne's and Axel West Pedersen's prior research and comments given during the private defense helped in developing my thinking.

I also learned a great deal from the members of the Hoover Chair in Social and Economic Ethics during my journey. Manuel Sá Valente helped me to understand Rawls and political philosophy more generally. My dear Italian friends Pietro Intropi and Fausto Corvino were always helpful in clarifying difficult concepts. Pierre André, Kevin Hartmann, Amaël Maskens, Juan Olano and Andrés Salazar Abello were helpful in supporting me with my, perhaps at times, naive questions.

I am grateful to Jyri Liukko, as he was very supportive when we wrote my first academic article together. I was happy to co-write an article with Jan Helmdag, the data wizard. I have also had the chance to work with real pension policy experts. Without Wolfgang Schulz-Weidner's support, later carried forward by Volker Schmitt, I would have stopped working on pension topics a long time ago. Zofia Czepulis-Rutkowska has also believed in me and kindly invited me to publish in journals. Besides their friendship and expertise, Wolfgang, Volker and Zofia have taught me what it means for Europeans to work together and why it is important.

My colleagues Mika, Tero, Antti and Marjukka were patient listeners. Juho, Antti and Tuomo understand what is important in life. I hope we get to do some woodwork again soon. Jarno M. and Jarno V. were great companions in jogging and political discussion.

Tärkeimmät kiitokset kuuluvat myös Rakkaimmalleni ja perheelleni. Olen onnekas, koska minulla on teidät. Minuun ja sisaruksiini on tarttunut loppumaton oppimisen ja oivaltamisen, ehkä myös maailmanparantamisen, halu.

# 1. Introduction and discussion

*“We put those payroll contributions there so as to give the contributors a legal, moral, and political right to collect their pensions and their unemployment benefits. With those taxes in there, no damn politician can ever scrap my social security program. Those taxes aren’t a matter of economics, they’re straight politics.”*

— Franklin D. Roosevelt<sup>1</sup>

Roosevelt’s remark about the political logic of payroll contributions in Social Security—the US federal public pension system created under his presidency in 1935, during the Great Depression—helps explain why pensions have become such resilient and popular political institutions. Once embedded in law, financed through contributions, and tied to citizens’ life plans, they create expectations that make reforming them politically difficult.

Nowadays, public pension systems are among the largest institutions of European welfare states. Pension spending is around 10-15 % of GDP in most EU Member States and is expected to rise further (European Commission, 2024a). Pensions secure income in old age and institutionalise retirement, while reallocating resources over the life course and between social groups and birth cohorts (Esping-Andersen, 1990; Korpi and Palme, 1998; Barr and Diamond 2009). Because they combine insurance, redistribution, and long-term commitments, they crystallize core questions of welfare state design. Their rules decide who are entitled to benefits and should bear which risks, when, and on what terms. Pension institutions are therefore not merely technical arrangements that transfer resources in time. Instead, they are part of the basic structure of society and of the terms of social cooperation (Rawls, 1971).

In contemporary politics, pensions are electorally important. Electoral promises over retirement ages and benefit levels frequently decide elections, and unpopular reforms can topple governments

---

<sup>1</sup> As quoted in DeWitt (2005).

Artificial intelligence tools were used for language editing in the Introduction, with the aim of improving readability and correcting errors in grammar, spelling, and punctuation. No artificial intelligence tools were used in the four articles included in this thesis.

(Pierson, 1994; Bonoli, 2000). Analytically, pensions reach beyond conventional welfare state analysis because their time horizons span decades. They are long-term intergenerational arrangements with pervasive distributive effects. Their finances depend on demographic and macroeconomic developments that are difficult to predict in advance. At the same time, pension rules shape distributive outcomes not only between rich and poor, but also between genders, parents and non-parents, caregivers and workers, and between the short- and long-lived (Barr and Diamond, 2009; Valente, 2022). This makes pensions a paradigmatic case in which questions of feasibility and questions of justice are tightly intertwined.

Although pension systems exist worldwide, this dissertation deliberately takes Europe as its empirical and normative reference point for two related reasons. Empirically, pension institutions are always embedded in specific labour markets, administrative traditions, and political cultures. A Europe-focused design comparison therefore improves analytical discipline. European pension systems share enough background conditions, economic and social integration, relatively extensive welfare states, and broadly comparable administrative capacities, that institutional differences in pension architecture are interpretable rather than artefacts of radically different state–society contexts. By contrast, countries with large informal labour markets must rely on different pension solutions because contributory records cannot be tracked in the same way as in Europe.<sup>2</sup> Second, the dissertation is not only comparative but also normative. It seeks to contribute to fair pension reform in Europe. That task is becoming more urgent as the social and economic integration within the EU intensifies the cross-border implications of national pension choices and strengthens the case for shared normative standards of reform. Simultaneously, the European Commission is becoming more powerful in shaping domestic pension policies through the allocation of different funds (Bokhorst & Corti, 2024).

In terms of political stakes, European welfare states share similar challenges, and they devote a large share of public resources to old age programmes. Demographic ageing, driven by low fertility and rising longevity, keeps the adequacy and long-term sustainability of pensions under recurrent public scrutiny (European Commission 2024a; 2024b). In 2022, more than one fifth of the EU

---

<sup>2</sup> Larry Willmore (2007) has argued that non-contributory basic pensions, which do not require tracking individuals' previous earnings, could be a solution in countries where a large share of the population works in the informal sector.

population was already aged 65 and older, and projections point to a steep increase in the old age dependency ratio in the decades ahead. This development has fuelled two influential lines of contestation. The *competitiveness constraint* diagnosis stresses that economic integration and global competition may limit the generosity and institutional autonomy of European welfare states (Sapir, 2006). The *pro elderly bias* diagnosis instead highlights intergenerational distributive concerns: welfare states risk appearing institutionally skewed towards older generations when pension commitments grow relative to spending categories associated with younger cohorts (Gál et al., 2018). Both contestations ultimately press the same distributional question: by what normative criteria should pension reform trade-offs be assessed? Answering this requires treating pensions as part of the basic structure and asking what principles can be justified to citizens as free and equal.

Under EU law Member States retain primacy in matters of social policy, but Europe is becoming increasingly important. European integration has created a multilevel framework in which national pension policies are shaped. Thus, pension systems of Member States are increasingly embedded in a broader process of Europeanisation (Zeitlin & Vanhercke, 2018). The EU influences reform agendas through instruments such as the Open Method of Coordination, the European Semester, and the wider framework of fiscal and social policy monitoring. These instruments create a setting in which national reforms are shaped by commonly agreed rules and targets. Europeans are therefore not merely choosing among pension designs within separate national polities. They are also debating how social cooperation should be organised within Europe's partly integrated political and economic system. European pension policy therefore warrants attention not only as a matter of law or economics, but increasingly as an object of political science analysis (Windwehr, 2017).

For political science, pensions are a privileged case for connecting political theory with institutional analysis under real-world constraints. The comparative political economy literature has explained why pension reforms are difficult and path-dependent (Pierson, 1994; Myles & Pierson, 2001). Pension reform is also constrained by legal-institutional gradualism. Vested rights, constraints on retroactivity, and constitutional or statutory protections often entrench accrued entitlements and channel reform into incremental adjustments rather than abrupt overhauls (Hartmann, 2023). This legal architecture not only conditions the temporal profile of reforms but also contributes to the

long-lasting path dependence of pension design.<sup>3</sup> This strand of research makes us understand that small reforms are often a more possible pathway forward. Whereas political theory has presented and studied plausible reforms that strengthen intergenerational justice (see, e.g. Gonzalez-Ricoy & Gosseries 2016).

This dissertation complements these works by evaluating the normative desirability of some reform options, not only their practical feasibility. Pensions are an ideal site for genuinely integrative work between empirical analysis and political theory. Empirically, pensions epitomize path dependent institutions reshaped by electoral competition, economic and demographic development as well as long-term governance (Pierson, 1994; Myles & Pierson, 2001; Gonzalez-Ricoy & Gosseries, 2016). Theoretically, they crystallize difficult questions of generational justice, risk sharing, reciprocity and democratic legitimacy.

Putting the two theoretical and the empirical approach together provides an insight that neither can deliver alone. First, political theory makes explicit the normative stakes hidden in parameters presented as technical such as benefit design or financing mechanisms. And, second, it supplies normative principles, such as intergenerational reciprocity (Gosseries, 2009), prudential lifespan fairness (Daniels, 1988), and public justifiability in terms of public reason (Rawls, 1999), against which reform options can be evaluated, not merely explained. Empirical research, conversely, enriches those principles by mapping feasibility constraints and institutional designs, turning abstract principles into testable design claims.

This thesis adopts precisely such a normative empirical strategy. It specifies the normative approach and then interrogates them, with some comparative analysis and institutional designs. The thesis asks, what kind of requirements investment governance of pension funds, EU steering of pensions systems, conscription or child-rearing should play in the design of pension schemes. Rather than stopping at the familiar account of which reforms have been implemented, this thesis asks which reforms should be pursued and why.

---

<sup>3</sup> As a concrete example that (public) pensions are long-standing commitments going across generations, consider the case of the United States. The Civil War ended in 1865, yet a pension linked to Civil War service was still being paid as late as May 2020, when Irene Triplett, the last such pension recipient, died (Shapira 2020). This illustrates that accrued pension entitlements are long-lasting legal commitments. Once rights have been granted, they can persist for more than a century after the original event.

This shift from explanation to evaluation is especially important in the pension domain because pensions are not only instruments of present-day social policy or objects of short-term electoral conflict. They are also long-term institutions that link generations to one another through durable rules and transfers over time. Questions of justice, especially of long-term character, are central to pensions because public pension schemes are basic institutions of societies and structurally open-ended. They are designed to continue across unknown future circumstances and across successive birth cohorts.

Therefore, justice claims in pension politics are routinely framed through a generational distinction, typically divided into intergenerational and intragenerational dimensions. Although the division is not clean, I keep it as informative division because it is a feature of political discourse and therefore helps map how actors publicly justify (and contest) reform. As Gosseries (2023) stresses, generation is used in at least two different senses. It can mean age groups (young vs old at a given moment) or birth cohorts (people born around the same period, who remain members of that cohort throughout their lives). These definitions are not interchangeable: age-group comparisons capture contemporaneous life cycle transfers, whereas cohort comparisons require a lifetime perspective on what successive cohorts receive and pass on. Pension debates typically oscillate between these two meanings, without making the shift explicit.<sup>4</sup>

With that caveat explicit, the distinction can still organise two analytically distinct targets of justice claims. Intergenerational justice refers (in the stricter, cohortal sense) to the fairness of the lifetime terms of cooperation across successive birth cohorts: how the burdens and benefits of pension promises, demographic change, and institutional inheritance are distributed over time. Intragenerational justice refers to distributive questions among contemporaries, how risks and resources are shared within a given time period (and often within cohorts) by income, gender, or employment status. Yet in pension systems, as in many policy fields, these targets are not separable (Gosseries, 2023, 7-13). Reforms that are rhetorically presented as “intragenerational” (e.g., reducing old-age poverty) inevitably have cohortal effects through timing because they alter what current and future cohorts will receive as they age. By the same token, reforms justified in intergenerational

---

<sup>4</sup> For example, in Finnish, the term *ikäluokka* is often used to refer both to birth cohorts and to age groups, although its literal meaning is “age group” or “age class.”

terms often reshape inequalities within cohorts. Pension justice therefore cannot be understood by isolating one dimension from the other.

Furthermore, even where justice is analysed at the group level (be it birth cohort or age group), the relevant unit of concern is the individual person whose effective opportunities are shaped by these institutions. On a real-freedom standard, intergenerational justice functions as a sustainability constraint. Gosseries (2023) points out that “sustainability” is often used as an umbrella term in intergenerational debate, which makes it normatively slippery unless specified. In this thesis when sustainability is used, it should be understood in Gosseries’s deliberately thin, analytic sense of non-decline sustainability. It states that each generation must pass on at least an equivalent level of the relevant opportunity conferring stock as it inherited and must do so in a way that leaves its successors able to transfer at least the same level onward. In simple terms, it is a duty to “sustain the possibility to sustain.” Present cohorts must not predictably erode the opportunity sets available to future citizens, especially the worst off.

## 2. Research questions of the dissertation

This dissertation's guiding research question is: how can a liberal-egalitarian approach to fairness guide the design and reform of public pension systems?

The dissertation consists of four self-contained studies (Articles I-IV), each addressing a specific aspect of the overarching question. The first two studies are more empirical in nature, examining existing institutions and policy dynamics, while the latter two are normative, developing principled arguments for reform.

1. First, do public pension reserve funds invest responsibly? If so, what institutional conditions promote responsible investment?

Article I analyses responsible investment policies and governance in public pension reserve funds in Finland and Sweden. It is based on expert interviews with those in charge of responsible

investments in reserve funds. Reserve funds that invest on behalf of current and future beneficiaries raise questions about responsible investment and the protection of future rights (Gosseries, 2008a; Sandberg, 2011).

2. Second, what kind of pension policy is promoted through EU socio-economic governance? How balanced are the objectives of sustainability, adequacy, and modernisation?

Article II analyses the content and drivers of EU pension reform recommendations under the European Semester. EU-level steering of pension reform raises questions of democratic legitimacy and normative balance, because recommendations can privilege fiscal sustainability framings over adequacy and gender-equality goals. The research is based on a unique dataset on all the recommendations given in the framework of EU's socio-economic governance. We test in the article how well these recommendations are aligned with the jointly agreed and defined objectives of sustainability, adequacy and modernisation.

3. Third, should conscription be recognised in retirement benefits? If so, by what policy design instruments?

Article III develops a liberal-egalitarian argument for compensating conscripts through pension design, including a right to early retirement. It argues that conscripts are harmed through no fault of their own and public pension schemes are suitable institutions for compensation. Conscription imposes concentrated early-life burdens, and if the benefits of national defence are collectively enjoyed, a fair-sharing principle supports institutional compensation, and pension design offers a feasible vehicle through early retirement entitlements and accrual credits.

4. Fourth, should pension systems recognise the unpaid care work of raising children? How should such recognition be integrated to pension tiers?

Article IV develops a fair play case for recognising childrearing and unpaid care in pension benefits. This proposal for an institutional design is labelled Pay-As-They-Raised (PAYTR). According to Rawls' (1971) principle of fair play, individuals have a moral obligation to do their part to support the benefit-producing systems from which they benefit.

The four topics together structure a justice-oriented analysis of contemporary pension design. While pension reform debates have often prioritised financial sustainability, this dissertation keeps fairness at the centre and asks not only which reforms occur, but which reforms should be pursued and why (e.g., Ebbinghaus, 2011). At the same time, it defends the central role that public pension schemes play in modern welfare states. However, the scope of the dissertation is limited. It does not aim to settle all major questions in public pension policy, such as what a fair retirement age should be, how much states should spend on old age pensions, or what contribution rates should be. Instead, it examines a selected set of issues from a fairness perspective.

### 3. Defining pensions: a historical perspective

*This section clarifies the central object of the dissertation: pension systems. It presents pensions as historically constructed institutions whose spread began with industrialisation, shaped by rapid economic growth and changing political conditions. It also discusses who defines and decides on pension systems today, including states, social partners, and supranational institutions. Finally, it presents some contemporary challenges facing pension systems, such as increasing longevity and gender pension gaps. This historical and institutional perspective helps explain why pensions have become important components of modern welfare states and why they occupy such a central role in organising income, work, retirement and social citizenship.*

Before diving into the main questions this dissertation seeks to answer, I must first clarify the very basic concept of this dissertation, namely *pension*. What do we mean when we talk about pensions or pension systems? Although old age has been a distinct phase of human life since the dawn of humanity, the retirement pension systems now closely associated with it in many countries are a

much more recent development (Blackburn, 2002, 36-45). The following subsections trace the evolution of pensions from their nascent forms to the present day.

It was only in the 20th century that old age began to be linked to leisure in the form of retirement in European societies. Before the expansion of public pension systems, most people in pre-industrial Europe and throughout the nineteenth century were expected to remain economically active for as long as they were able. Some occupational groups, notably miners' guilds, developed early mutual aid arrangements that supported sick, injured, elderly, or impoverished members and their dependents, but such protection covered only a limited share of the population.<sup>5</sup> Most people, except for some well-off groups of society, engaged in work until age-induced impairments forced them to withdraw (Laslett, 1991). The situation of those unable to work in old age was far from enviable. To provide a minimal form of protection, labour and poor laws granted such vulnerable individuals limited access to alms, or the right to beg under regulated conditions. In some rural areas, peasants transferred their farm to their descendants against a promise that the latter will keep them fed and housed until their death (Kohli, 1986). However, the need for uncertain assistance left little room for a positive concept of this life phase. One might label this phase as a retirement from work but entrance into precarious hardship. (Ehmer, 2015)

The modern institution of retirement, understood as a distinct stage of life course, emerged out of the social and economic transformations associated with industrialisation. Beginning in late-eighteenth century Britain and subsequently spreading across Europe, industrial growth accelerated urbanisation around factories and mines, detached many households from agrarian livelihoods, and contributed to new forms of urban poverty (Blackburn, 2002, 45–49). Yet industrialisation and related technological change also generated a historically unprecedented rise in productivity and per capita income, particularly in Britain and Western Europe. Between 1820 and 1913, rising productivity and accumulated social wealth gradually created the material

---

<sup>5</sup> An early example is the Goslar charter of 1260, which is understood to be the first documented social security like arrangement. The charter confirmed a miners' guild in the German town of Goslar that provided mutual support for sick, and elderly miners and their dependents. It was not a public pension scheme in the modern sense, but it was an early occupational welfare arrangement and a precursor of later occupational social insurance. See Hielscher and Husted (2020, 256–257).

conditions under which retirement could become financially possible for a growing share of older workers (Maddison, 2001, 97–101).

The societal change combining industrialisation and urbanisation also reconfigured family structures. Migration and wage labour weakened extended kin networks and fostered smaller, more autonomous nuclear households (Anderson, 1988). As informal intergenerational support eroded, especially for older people, states, companies, and social partners started filling the gap with formal retirement schemes, making public pensions an institutional substitute for declining family provision (Thane, 2000, 236-247; Wilensky, 1974). It is therefore no accident that the timing and spread of pension systems track the urban-industrial transition (Blackburn, 2002, 39-43;). Prior to this pension provision had typically began as narrowly targeted arrangement in the 17<sup>th</sup> century for the military and civil servants, and sometimes for workers in strategic industries, before being generalized through statutory schemes as the state gradually assumed a central role from the late nineteenth century onward.

### 3.1. Bismarck's founding reform

The decisive breakthrough for the state's role came with Germany's 1889 old-age insurance law, the first state-backed pension for private-sector industrial workers. Bismarck pursued the scheme to secure the support of the working class toward the monarchical state and thus to undermine support for socialism (Grünewald, 2022, 379). The aim was to stabilise society amid industrialization and waning family support (Kohli, 1986).<sup>6</sup> Contemporary officials called the consequences of the new old-age law a “leap in the dark” (Rudloff, 2000, as cited in Jacobs, 2009), signalling uncertainty about long-run fiscal and social effects. The state's decision to guarantee old age income security inaugurated an institutional setup whose effects on labour markets, family risk-sharing, and intergenerational policies were not foreseeable at the time of adoption. Beyond pre-

---

<sup>6</sup> Another pension pioneering country, Denmark followed a different route from Bismarckian social insurance. The 1891 Old Age Relief Act (*Alderdomsunderstøttelsesloven*) introduced a tax-financed, means-tested old-age benefit for the “deserving” elderly outside the ordinary poor-relief system (Petersen, 1990). Later, the 1956 pension reform established a universal flat-rate basic state pension named *folkepension*. (Abrahamson & Wehner, 2003)

emptying unrest, the reform advanced state-building by shifting poor-relief costs from municipalities, drew support from Christian churches and early social-policy scholars, and extended the authoritarian state's paternalistic mode of intervention (Hinrichs & Lynch, 2021). As Kohli notes, it also helped institutionalise retirement as a distinct, policy-regulated life-course stage, an outcome few foresaw at the time (Kohli, 1986).

The impact on the German society was modest in the beginning. In Bismarck's Germany the statutory retirement age was 70, the replacement rate roughly 20%, and the contribution rate 1.7%, split between employer and employee. Given the high age threshold, the system initially functioned largely as disability insurance and relatively few drew old-age benefits. In 1898, only 2.5% of the insured received invalidity or old-age pensions (Diebolt & Reimat, 1997; Klitzke, 2017, 64).

### 3.2. The expansion of public pensions

At the outset, public pension programmes were narrow and contingency-specific, covering segments of the male industrial workforce. The real take-off came in the twentieth century, when pensions shifted from a patchwork of occupational funds, charity, and family obligation to a core institution of the modern state. Several structural shifts made this both politically feasible and necessary.

First, mass enfranchisement and the rise of party-union alliances (including Christian- and social-democratic currents in Europe) created durable coalitions for social insurance (Huber et al., 1993). Second, industrialisation and modern economic growth increased national wealth, lifetime earnings, and accumulated private resources, making retirement financially possible for a growing share of older workers. Economic-historical evidence suggests that rising income and pension wealth increased older men's withdrawal from paid work, while private asset accumulation also enabled some workers to finance retirement before mature public pension systems existed (Carter and Sutch, 1996; Costa, 1998; Maddison, 2001). Rising affluence alone would therefore have enabled some older workers, especially those with higher lifetime earnings, to leave paid work before physiological decline. Yet the later expansion of mandatory public pension schemes then democratised access to retirement more broadly (Myles, 2002, 130–131). Third, longevity increased sharply. Around 1900 global life expectancy was just over thirty years. By century's end it had more

than doubled, turning old age from a relatively rare status into a mass life stage that required systematic income replacement (Dattani et al., 2023). This demographic change helps to explain the expansion of pension schemes as it raised the salience of old-age risk that stakeholders (parties, unions, and governments) could no longer ignore.

The decisive inflection came with the Great Depression and World War II. The Depression exposed the limits of local poor relief in a wage society (e.g., the U.S. enacted the Social Security Act in 1935 which marked the start of the public pension system), and wartime mobilisation and post-war reconstruction in Europe forged the coalitions that institutionalised broad income security provided by the welfare state. A key input was the Beveridge report and its postwar adaptations across Europe (Huber & Stephens, 2001; Lindert, 2004; Palier, 2014). Furthermore, the demographic structure of the post-war period was unusually favourable to the expansion of public pension systems. European populations were still relatively young and growing, with broad working-age cohorts financing comparatively small cohorts of retirees.

### 3.3. International legalization and the role of the ILO

A further, often underplayed driver of pension prominence was international legalisation. After 1945, the United Nations system supplied the normative vocabulary and minimum standards that helped diffuse and entrench old-age income security. The Universal Declaration of Human Rights (1948) recognised a right to social security (Art. 22) and to an adequate standard of living including security in old age (Art. 25), and the International Covenant on Economic, Social and Cultural Rights (1966), made that right binding for States Parties. This rights language reframed domestic debate in many polities. The question became *how* to realise old-age protection, not *whether* to do so (Grünewald, 2021; Pennings, 2006).

A pivotal actor was the International Labour Organization (ILO), a specialised UN agency mandated to advance social and economic justice through international labour standards. Its social-security instruments have supplied benchmark templates on eligibility rules, benefit formulas, and due-process provisions that are widely used by ministries when drafting and reviewing pension law. ILO Convention No. 102 (1952) on Minimum Standards of Social Security identifies nine branches - including old-age benefits, and lays down minimum requirements for

coverage, qualifying periods, benefit adequacy (replacement rates), and rights of appeal. It further provides that the state bears ultimate responsibility for ensuring benefits are paid and institutions are properly administered, and that social security be financed on a collective basis, through insurance contributions, taxation, or both, so that risks are pooled across the community.

Convention No. 128 (1967) consolidated invalidity, old-age and survivors' benefits, reflecting the mid-century shift from fragmented occupational plans to integrated, life-course-oriented systems (ILO 1952; ILO 1967). The Social Protection Floors Recommendation No. 202 from 2012 articulates a basic guarantee that includes income security in old age and has supported the diffusion of non-contributory social pensions in high-informality contexts (Dijkhoff, 2019). These instruments function as administrative templates, even with uneven ratification across jurisdictions, that narrow the plausible design space by fixing categories, minima and procedures, and by furnishing review benchmarks (Pennings, 2006). They are also invoked in international and domestic jurisprudence (Becker et al., 2013). Analytically, international legalisation cautions against treating old-age income as a stand-alone actuarial problem. Instead, pensions are embedded in a rights-based normative order and a transnational governance regime of international conventions.

### 3.4. Limited but growing influence of the EU

Although statutory pensions remain primarily a national responsibility, European integration has nonetheless shaped pension policy in Member States through several channels, and that influence is likely to grow (Guardiancich et al., 2022; Bokhorst & Corti, 2024). The most basic channel is legal coordination required by free movement. As One of the original goals of the EU was to help the free movement of people, labour mobility increased, Member States had to ensure that cross-border movers were not penalized in old age. In practice, this meant building rules that make pension rights follow the person, by recognising contribution and residence periods accrued in different countries, and by allowing benefits to be paid even when retirees reside abroad. Over time, this coordination logic has also reduced portability frictions in supplementary arrangements, thereby widening the practical scope of EU influence beyond public pension schemes (Kolaczowski et al., 2022).

A second, more indirect, but politically consequential, channel has been economic integration and fiscal discipline. As article III shows, in a monetary union with integrated capital markets, pensions became a central object of surveillance because they constitute one of the largest and most predictable items of age-related public expenditure (Helmdag & Väänänen, 2025). As a result, national pension choices have increasingly been evaluated through a shared macro-fiscal lens as part of the European Semester, which monitors adherence to the EU's economic rules. In addition, periodical long-term financial projections, public-finance risk assessments, and comparative benchmarking have strengthened incentives to adjust pension parameters (for example retirement ages). Even where no binding legal harmonisation is involved, these recurring evaluations have structured domestic reform agendas by narrowing the range of recommended options (Natali, 2008; Carone et al. 2016).

A third channel appears most clearly in periods of crisis, when fiscal stress or external support needs make EU influence more dictating. As an example, after the 2008 global financial crisis, pension reforms in some Member States were treated as key measures for restoring fiscal credibility. Reform packages were therefore accelerated and, in some cases, effectively dictated to Member States, sometimes at the cost of compressed domestic deliberation (Branco et al., 2019). Outside crisis episodes, the EU's influence is more typically exercised through agenda-setting and policy diffusion: repeated comparison, monitoring, and peer scrutiny create a common vocabulary and evaluative frame for pension debates, which national actors then mobilise to justify (or contest) reforms (Guardiancich et al., 2022).

A fourth, more recent, channel of influence operates through results-based financing under NextGenerationEU, especially the Recovery and Resilience Facility (Bokhorst & Corti, 2024). Unlike the softer steering associated with the European Semester alone, this mechanism links EU disbursements to the satisfactory completion of agreed milestones and targets. In the pension field, this gives the European Commission a stronger incentive-based lever: not the power to dictate outcomes unilaterally, but a more consequential capacity to reward compliance, delay funding, and press governments to implement structural reforms to which they have formally committed. The mechanism can be interpreted in two ways. It can be understood either as financial support for national pension reform plans or as a mechanism of external pressure, especially when access to funds is conditional on politically contested reforms. The result is a more materially consequential form of EU influence, even though implementation still depends on domestic politics (Moschella,

2020; Corti and Vesan, 2023). Although the RRF itself is being wound down in 2026, the underlying logic of linking EU disbursements to pension reform commitments may outlive the instrument and reappear in future EU funding arrangements.

The overall result is a set of coordinated constraints and incentives promoted at the EU level that have materially shaped how Member States reform pensions in an integrated economic space and common labour market (Helmdag & Väänänen, 2025).

### 3.5. Reorientation of pension policy and the spread of multi-pillar model

Globally, the tone around pensions changed some thirty years ago. As fertility declined and longevity rose, population ageing accelerated, and governments increasingly confronted the fiscal consequences of mature pension commitments under less favourable demographic conditions (Arza & Kohli, 2008). From the mid-1990s, the multi-pillar agenda, popularized by the World Bank's influential report *Averting the Old Age Crisis*, reframed pensions around fiscal sustainability and capital-market development. In the report, the World Bank presented a three-pillar model for retirement security that was both descriptive and normative.<sup>7</sup> The three pillars are a public pillar one for poverty relief, a mandatory funded earnings-related pillar, and a voluntary savings on top (World Bank 1994).<sup>8</sup>

This template competed with, and sometimes displaced, ILO-style earnings-related insurance with strong emphasis on the first pillar. It also contributed to the financialization of retirement risk, shifting exposure from pooled social insurance to individual retirement accounts in some countries, in Chile for example. The World Bank model has been influential and the result across regions has been hybridization. ILO-conforming minima coexisting with parametric tightening of contributory

---

<sup>8</sup> The concept of the three-pillar model first emerged in Switzerland during the 1970s, gaining traction within European insurance and financial sectors (Leimgruber, 2012). It was the World Bank, however, that played a pivotal role in elevating the model's profile globally by advocating for funded pension schemes and encouraging the development of occupational and individual savings mechanisms.

schemes and, in some cases, partial privatization (Orenstein, 2008). The normative tension between these two approaches is clear. Rights-based instruments stress adequacy and universality. Multi-pillar advocacy stresses solvency, incentives and financial market development. The World Bank model has been especially influential in the pension policies of the Baltic countries in Europe (Casey, 2004). Interestingly, in European comparison these countries witness high at the risk of poverty and social exclusion rates among retirees, persistently hovering around 40% (European Commission, 2024b).

### 3.6. Pension systems today

In short, pensions became prominent in the twentieth century because industrial capitalism created a mass, predictable old-age income risk under democratic politics, and because wars and depressions revealed the limits of voluntary and local relief, and the post-war settlement strengthened the negotiating power of workers. Later the UN institutions, especially through ILO standard-setting and human-rights instruments, converted an array of national experiments into a shared legal and administrative project.

The advent of public pension systems is one major explanation for the decline in labour force participation among older men in the twentieth century. Retirement expanded as a long-term process in which older people increasingly could afford to leave paid work, due to rising incomes, public and private pensions, and accumulated wealth. Both “pull” factors, such as higher wealth and pension entitlements, and “push” factors, such as discrimination against older workers, obsolete skills due to technological change, and ill health, explain why older people left paid labour (Costa, 1998, 6–25). The scale of the change has been huge. Around 1900, labour force participation among men aged 65 and over was 65% in the United States, 61% in Britain, 58% in Germany, and 54% in France. By 1995, labour force participation among men aged 65–69 had fallen to only 27% in the United States, 15% in the United Kingdom, 5% in France, and 4% in Germany (Coile et al., 2019, 3). Thus, the rise of retirement is best understood as the joint result of institutionalised pension rights, increased retirement affordability, changing labour market practices, and the emergence of retirement as a socially legitimate life stage.

As the importance of retirement in the life course increased, public pensions became central institutions of welfare state politics. They create large constituencies of actual and potential beneficiaries and shape both labour market dynamics and electoral outcome (Arza & Kohli, 2008). For this reason, the development of public pensions continues to be influenced, though in different configurations and to varying degrees across EU Member States, by political parties, social partners, and pension institutions themselves. Pension systems generate strong policy feedback effects: they create expectations and vested interests that make visible retrenchment politically costly (Myles and Pierson, 2001). In ordinary political conditions, European pension reform has therefore tended to proceed through incremental and parametric adjustments. More far-reaching structural reforms have usually required exceptional windows of opportunity, such as fiscal crisis, or broad cross-party or corporatist agreements capable of distributing political blame (Myles & Pierson, 2001; Scherman, 2003; Ebbinghaus, 2011).

After the Second World War, during the welfare state's "golden age", the expansion of public pensions formed part of the broader class compromise of advanced capitalist societies, supported by post-war economic growth, organised labour and party competition. Social democratic and labour parties were especially important in the development of Nordic universalist welfare states, while Christian democratic and conservative parties played a central role in many Continental Bismarckian welfare states (Esping-Andersen, 1990; van Kersbergen, 2003; Huber & Stephens, 2001).

Social partners have also played an important, though nationally variable, role in pension development. In countries such as the Netherlands, Denmark, and Sweden employers' organisations and trade unions have been central to negotiating, governing, and managing occupational pension schemes that cover a large share of the workforce (Anderson, 2004). In France mandatory supplementary pensions were created through collective agreements and are managed by trade unions and employer organisations (Naczyk & Palier, 2011). In Austria and Finland, by contrast, social partner influence has been concentrated more strongly within public earnings-related pension arrangements and their governance. This helps explain why occupational pensions have remained comparatively limited in these two countries, despite the influential role of social partners in welfare-state development. Social partners have often viewed occupational pensions as competitors to public pension systems that they, in practice, substantially shape and govern (Wiss, 2018; Väänänen, 2025).

Despite this expansion, and although old-age pensions are the most widespread branch of social security worldwide (Schmitt et al., 2015, 506), coverage remains limited across much of Africa and Asia and to some extent Latin America. In many of these countries, preferential schemes for police, military personnel, civil servants and employees of state-owned enterprises exist but other groups are less covered, reflecting state-building motives reminiscent of nineteenth-century Europe (Palacios & Whitehouse, 2006). Pension schemes were implemented to secure the loyalty of strategically important workers while they were still in service. More broadly, about half of the world's population is not effectively covered by public pensions (or other forms of social protection, except for health benefits), reflecting the prevalence of informal labour markets and leaving many workers uncovered (ILO, 2024).

Historically, public pensions have always been political institutions as opposed to purely savings or insurance mechanisms. Early schemes were introduced in newly industrializing societies to stabilise social order and to consolidate state capacity. Later they were expanded and reshaped through mass parties, trade unions, and social movements. They were subsequently codified in labour and human rights instruments and became central pillars of twentieth century welfare states. The normative core of pensions has also evolved: from mitigating poverty linked to declining productivity in old age to institutionalizing collective commitments to share resources and risks across the life course and between generations.

### 3.7. Economic and social outcomes of pension systems

The central role of pension systems in modern welfare states is reflected in the way they shape economic and social outcomes. The following two tables provide a descriptive overview of some main economic and social outcomes of present-day pension systems in selected European countries. Table 1 focuses on the economic weight of public pensions, including expenditure and contribution rates, while Table 2 turns to social outcomes, such as adequacy, poverty prevention and inequality among older people. Together, they show that pension systems are central mechanisms through which welfare states provide livelihood to over a quarter of the EU's population (Eurostat, 2025).

Table 1. Economic burden of pensions in selected European countries

| Country        | Effective mandatory contribution rate on average earnings (%) | Public and private pension expenditure (% GDP) |
|----------------|---------------------------------------------------------------|------------------------------------------------|
| Belgium        | 16.4                                                          | 12.8                                           |
| Finland        | 24.81*                                                        | 13.7                                           |
| France         | 27.8                                                          | 14.6                                           |
| Germany        | 18.6*                                                         | 11.5                                           |
| Italy          | 33.0*                                                         | 15.5                                           |
| Netherlands    | 22.0                                                          | 11.1                                           |
| Poland         | 19.52 [27.5*]                                                 | 10.8                                           |
| Sweden         | 22.3                                                          | 10.7                                           |
| European Union | -                                                             | 12.3                                           |

Note: Includes contributions to mandatory and quasi-mandatory schemes,. \* = contribution rate also finances disability or invalidity pensions. Pension expenditure includes old-age, disability, survivors' and unemployment pensions. Source: OECD (2025, 221) and Eurostat (2025)

As Table 1 shows, public pensions have become central institutions through which European welfare states redistribute wealth and organise long-term social cooperation. Their economic weight is visible both in pension expenditure, which exceeds ten per cent in relation to GDP in all the selected countries, and in the contribution rate placed on the wages of employees. France and Italy stand out for combining high expenditure with high contribution rates, while Finland also carries a substantial contribution burden. Sweden and the Netherlands appear more moderate in expenditure terms but still rely on sizeable contributions.

Table 2. Social indicators of pensions in selected European countries

| Country     | Retirement duration from first pension (years) | Gender pension gap in pension income (65-79, %) | At risk of poverty (60 %) or social exclusion (AROPE, 65+, %) <sup>9</sup> | Benefit ratio (%) |
|-------------|------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------|-------------------|
| Belgium     | 21.8                                           | 23.8                                            | 20.0                                                                       | 46.4              |
| Finland     | 20.3                                           | 22.8                                            | 15.5                                                                       | 50.8              |
| France      | 23.7                                           | 30.1                                            | 15.4                                                                       | 47.1              |
| Germany     | 19.8                                           | 28.5                                            | 19.8                                                                       | 43.0              |
| Italy       | 22.1                                           | 32.2                                            | 20.0                                                                       | 69.3              |
| Netherlands | 18.8                                           | 40.0                                            | 17.9                                                                       | 67.3              |
| Poland      | 20.1                                           | 17.8                                            | 16.8                                                                       | 44.5              |
| Sweden      | 21.1                                           | 24.8                                            | 16.1                                                                       | 47.0              |

The benefit ratio means the average pension benefit relative to the economy-wide average wage. Both public and occupational pensions are included.

Source: European Commission (2024b),

Table 2 then turns from the economic burden of pension schemes to their social outcomes and depicts their performance across several indicators. The figures suggest that the outcomes different pension designs produce can differ in important ways. France has the longest retirement duration and relatively low old-age poverty, but also a sizeable gender pension gap. Italy and the Netherlands have high benefit ratios, meaning that average benefits are high relative to the economy-wide average wage, yet both display notable weaknesses: Italy has a high old-age poverty or social exclusion rate, while the Netherlands has the largest gender pension gap. Finland and Sweden combine comparatively low poverty risks with moderate benefit ratios and relatively high gender gaps but below several of the other systems. Taken together, Tables 1 and 2 display the two sides of the pension system: the economic costs it imposes and the social consequences it produces.

---

<sup>9</sup> The AROPE indicator for people aged 65+ includes those with equivalised disposable income below 60% of the national median, and those experiencing severe material and social deprivation.

### 3.8. Contemporary challenges facing pension systems

Although public pension systems are major achievements of social citizenship, contemporary pension research has drawn attention to some challenges they face. I will briefly address two of them here. One topical issue is individual heterogeneity and the difficulties it creates for fair pension policy (see, e.g., Baurin, 2022). Public pension rules are typically the same for everyone. The same retirement ages, contribution rules, accrual formulas and indexation mechanisms apply to broad categories of insured persons. Yet individuals differ by socio-economic position, income, gender, health, working capacity and life expectancy. This heterogeneity makes pension design and reform difficult, because equal rules can produce substantively unequal effects. However, Baurin's (2021) research cautions against differentiating retirement age by socio-economic categories, since such categories have limited power to predict individual lifespan and risk misclassifying many individuals. There is large variation within socio-economic groups, not only between them.

So, how should the retirement age react to increasing longevity? As Schokkaert and Van Parijs (2003) argue, if people live longer, a response is to require them to bear the cost through higher saving, longer working lives or lower retirement benefits. Otherwise, the cost is only postponed. John Myles (2002) approaches the issue in a related but more cautious way. While he accepts that increased longevity may justify requiring longer lived cohorts to bear part of the additional cost, his broader proposal is a pension system in which economic and demographic shocks are shared between workers and retirees (this is the logic behind the Musgrave rule which I discuss in more detail in section 4.2.). Yet Myles treats increased cohort longevity as a special case. If a cohort lives longer, then it may be reasonable for that cohort to bear at least part of the cost of its longer retirement. In a situation with no economic growth, this would imply a one-to-one trade off: each additional year of average life expectancy would require one additional year of work. However, Myles also stresses that productivity growth changes this calculation. If economic growth increases resources, the additional working years can be reduced accordingly, so that an extra year of life need not translate into a full extra year of work (Myles, 2002, 154-155). Longevity therefore creates a specific problem for the social contract between workers and pensioners. The extra years must be paid for, but it is not obvious that the whole cost should be shifted to longer working lives.

This argument nevertheless rests on a demanding assumption. It is not enough that average life expectancy rises. The case for linking retirement age to longevity depends on whether longer lives are also healthier lives, whether work capacity improves at older ages, and whether labour markets actually allow older workers to remain employed (Myles, 2002). If these conditions are not met, the policy shifts risk onto individuals who may be unable to work longer. The problem is especially serious because increases in longevity are not distributed evenly across social groups. Average life expectancy continues to rise, but substantial longevity gaps remain across occupation, education, income, and wealth (Chetty et al., 2016). Increases in retirement age may therefore be defensible from an intergenerational point of view while still raising intragenerational concerns. Groups with shorter and less healthy lives may be asked to work longer without enjoying the same increase in years of retirement as better off groups (Vandenberghe, 2025).

This problem is practically important because raising the statutory or effective retirement age has become one of the main policy levers used by governments facing demographic and fiscal pressure. Such reforms can increase employment among older workers and improve the fiscal position of pension systems, but they also shift risks onto individuals whose capacity to extend their working lives differs considerably. Around one quarter of OECD (2025) countries now link retirement ages to life expectancy. Some systems use a one-to-one link, which aims to keep expected time in retirement broadly constant. Others use a two-thirds adjustment, which is more cautious because part of the longevity gain is still spent in retirement and part in work. This second approach better preserves the ratio between working life and retirement and is therefore more attractive from the standpoint of real freedom.

This also raises the question of flexible retirement, which allows individuals to retire within an age band rather than at a single fixed age. As Schokkaert and Van Parijs (2003) point out from the standpoint of real freedom, individuals should have some choice over the allocation of working longer or having lower benefits. They should be able to choose their pattern of life, but against a realistic trade off between the level of their pension and the duration of retirement. Working longer should therefore lead to a higher pension, while retiring earlier should normally imply a lower pension. This way the pension system allows for greater flexibility on economically realistic terms (Schokkaert & Van Parijs 2003, 256).

The other issue that must be raised is the gender difference in pension benefits. Gender is important for two things. First, on average women outlive men. In the EU, the life expectancy at birth is 5.3

years more for women than for men. Second, the difference in paid pension benefits between men and women – the gender pension gap. In 2024 in Europe, the average gender pension gap is 25 % meaning that women's pension benefits are on average one quarter lower than those of men (Eurostat, 2026). Only in Estonia, a country that used to have a flat-rate benefit structure based on working years, the average gender pension was close to five percent. Whereas in Austria, the Netherlands and Malta the average gender gap was over 35 % in favour of men.

The monthly pension gap is sometimes downplayed by pointing out that women receive pensions for a longer period because they live longer. When pension receipt is calculated over the whole retirement period, this can considerably reduce the lifetime pension gap and, in some cases, even reverse it (Ekheden et al., 2019, 10-11). This observation does not, however, provide satisfactory justification for the gender pension gap. As Valente (2025) argues, the gender pension gap concerns monthly pension income and the resource constraints women face during old age, not merely the total amount received over a longer lifetime. The relevant question is whether women have adequate resources during those years. Given women's lower lifetime earnings, greater care responsibilities and weaker access to paid employment, longer life does not cancel the injustice of lower monthly pensions. Article IV addresses one of the distributive issues closely connected to this gendered structure, namely child-rearing and the question of how pension systems should recognise the care work through which future contributors are raised.

## 4. Typology of pension systems

*This section provides the conceptual vocabulary needed for the rest of the dissertation. It explains how pension systems can be classified according to their main design features, such as financing, benefit design, fragmentation, solidarity, and credited periods. The aim is to clarify which design features can be changed in pension reform and what each design feature implies. This is necessary because terms such as PAYGO, funded, DB, DC, and NDC are often used without clarifying what each term means and what it does not mean. By separating these dimensions, the section helps the reader understand what is at stake when pension systems are compared and reformed.*

This dissertation analyses fairness in pension design and proposes pension reforms to European welfare states. Doing that well requires conceptual discipline so that proposals can be discussed under a shared framework. This is needed because pension systems across Europe differ markedly in their structure and design even when common rules and goals put pressure for more convergence. Pension debates routinely suffer from category mistakes, treating labels such as *PAYGO*, *funded*, *DB*, or *DC* as if each label automatically implied a particular distributive profile, fixed risk-sharing pattern, or ideological position. Yet these labels refer to distinct design dimensions that can, in principle, be combined in many ways. Orszag and Stiglitz (2001) explicitly warn that pension policy discussions frequently conflate different design features, even though these features are analytically separable. This confusion is not merely academic. It impedes mutual learning across Europe. Even experts often misread “foreign” pension schemes because they interpret them through domestic categories and inherited reform narratives (see, e.g. Stevens, 2019; Väänänen & Liukko, 2023). As Yves Stevens (2019) argues, European countries exhibit distinct “pension identities” embedded in national political cultures. These identities shape what pensions are understood to be *for* and which kinds of pension promises are regarded as legitimate. Path dependence reinforces this notion. National debates often exclude some reform options straight away even when technically feasible, and reformers commonly look for inspiration mostly in culturally proximate neighbouring countries (see, e.g. Pedersen, 2005).

The purpose of the typology in this section is therefore not to propose a new classification for its own sake. It is to provide a shared analytic vocabulary that makes cross-national understanding and normative evaluation possible. If we cannot specify *which* design margin is being changed, we cannot properly assess *who bears risk*, *which solidarity claims are being made*, or *what trade-offs a reform is actually selecting*.

At a minimum, the core features of any pension scheme can be located by answering three questions:

1. Financing: Does it rely on PAYGO or funding (pre-funding)?
2. Benefit formula: Does it rely on defined benefit, defined contribution, or an intermediate formula? Or is it a flat-rate benefit?

3. Coverage and architecture: Is the scheme unified or fragmented along occupational or status lines?

A crucial point, and the source of many public misunderstandings, is that these three dimensions are analytically independent. Financing method does not determine the benefit formula, and neither determines whether a system is unified or fragmented into different professional categories. The table below summarises the standard combinations of financing and benefit design.

**Table 3.** Main pension design features

|                      | <b>Defined benefit</b> | <b>Defined contribution</b>             | <b>Mixed / intermediary</b>           |
|----------------------|------------------------|-----------------------------------------|---------------------------------------|
| <b>Pay-as-you-go</b> | PAYGO–DB               | Nonfinancial defined contribution (NDC) | Musgrave rule                         |
| <b>Funded</b>        | Funded DB              | Funded DC                               | Collective defined contribution (CDC) |

The remainder of this section briefly introduces each dimension and explains why it matters in pension reform debates.

#### 4.1. Different methods of pension financing

Public pensions are financed mainly by mandatory contributions (payroll taxes) from workers and employers and/or by general tax revenue. Once collected, revenues can be used in two main ways. First, PAYGO (pay-as-you-go) financing means that current contributions (and/or taxes) are used directly to pay current benefits. In PAYGO, today's workers finance directly the pensions of today's retirees. Second, pre-funding (funded financing) means that contributions are set aside and invested in financial markets. These assets are later sold, and/or their returns are drawn down to finance retirement consumption of that day in the future.

Debates over pension financing are often ideologically charged: prefunding is portrayed as siding with capital, whereas PAYGO is associated with solidaristic redistribution. In public discourse PAYGO is sometimes dismissed as a Ponzi scheme, whereas funding is portrayed as “real saving.” This rhetoric is misleading because, in an economic sense, both financing strategies organize claims on future output under different institutional and risk structures (Barr, 2021). Future services such as health care, care work, haircuts cannot be stored. And even for goods, physical storage is limited and due to rapid technological development nonsensical. What pension schemes ultimately do, in both PAYGO and funded forms, is allocate future production between workers and non-workers via a pre-defined rule.

A simple illustration clarifies the point on the financing mechanisms. A car workshop mechanic, Joe, can finance his retirement either by holding a claim on the workshop's future profits (a funded claim) or by holding a claim on future workers' earnings through a PAYGO scheme. But if later when Joe retires the workshop becomes obsolete, because all vehicles become electric, both arrangements collapse. There is neither wage income to tax nor profits to draw down. This example illustrates that the core constraint is intertemporal and real. Each period's resources must be produced in that period irrespective of the financing mechanism.

Thus, the PAYGO versus funding debate cannot be settled by treating funding as “real saving” and PAYGO as mere “spending.” Both are institutional ways of allocating claims on future output, and neither can protect retirees if future productive capacity fails. An argument for replacing PAYGO with funding is therefore incomplete unless it states clearly how the shift, under given assumptions about demography, growth and market returns, would change risk exposure and the distribution of burdens and benefits across cohorts and social groups. A further and philosophically difficult issue concerns the transition itself. Its assessment depends on the (potential) discount rate used to compare present and future costs and benefits. If discount rate is used, first must be decided what is being discounted, and second, why it is being discounted. These choices have huge intergenerational consequences (Gosseries 2023, 142-148).

Even so, the mode of financing still matters politically and distributively. PAYGO and funding differ in governance, risk exposure and transition costs. Funding ties pensions more closely to financial markets and intermediaries such as asset managers. PAYGO ties them more directly to demographic change, labour market performance and tax politics. The transition problem is especially important. PAYGO can pay benefits immediately from current revenues. Funding

requires either a build-up period or an explicit initial transfer through borrowing, taxation or the conversion of public wealth into pension assets. As Orszag and Stiglitz (2001) note, if contributions are redirected into funded accounts, current retirees must still be paid. This usually creates a double burden during the transition, financed through higher taxes or public debt.

## 4.2. Pension benefit designs

Benefit formulas specify how contribution histories translate into old-age entitlements. The most useful way to compare benefit designs is to ask: which parameters adjust when demographic or economic conditions change? In other words, where does risk show up in contributions, in benefits, in retirement ages, or in some combination?

The classical distinction is between two pension designs named after political figures: Bismarckian and Beveridgean systems. The Beveridgean model refers to flat-rate benefit schemes. Beveridgean pensions are defined-benefit schemes because the level of the benefit is determined by a fixed rule in advance. They are often based on residence within a state and are paid irrespective of previous labour-market participation. Unlike many minimum-income schemes in welfare states, Beveridgean pensions are not means-tested. For this reason, a Beveridgean pension system can be understood as an age-restricted, categorical form of universal basic income (UBI) (Van Parijs & Vanderborght, 2017, 158-162). Like a UBI, it is an unconditional cash benefit without a means test or work requirement, but unlike a full UBI, it is paid only to older adults rather than to all adult citizens or residents (Van Parijs & Vanderborght, 2017).

From a Rawlsian perspective, the main advantage of the Beveridgean model is that as the entitlement is not tied to previous contributions, it offers stronger protection to the worst off. It functions as an old age social minimum, giving more to those who would receive least under a pension system strictly proportional to past contributions. Thus, it responds to van Parijs and Vanderborght's (2017, p. 104-105) concern for a UBI to maximise "what is received by those who receive least".

Yet, from a Rawlsian perspective<sup>10</sup>, the strength of a Beveridgean system is also its limitation. Rawlsian justice does not require equal benefits for all. Rather, it permits social and economic inequalities when they work to the greatest benefit of the least advantaged (Rawls, 1971, 83). A purely Beveridgean system secures a basic floor, but it gives little weight to contribution-related differentiation, including cases where individuals' work and contributions help sustain the cooperative scheme from which others also benefit. This is also where the standard economic understanding of pensions becomes relevant (Barr & Diamond, 2009). In economics, pension systems are understood as insurance and income smoothing mechanisms. They insure individuals against the loss of earnings that follows retirement from paid work, and they allow consumption to be spread across the life course, since most individuals generate labour income only during part of their lives.

The second classical design, the Bismarckian model, gives greater weight to this dimension by linking pension entitlements to previous earnings, contributions, or employment histories. Bismarckian designs differ considerably in how tightly they translate contribution records into pension benefits and in how much redistribution and what type of risk-sharing they build into that link.

### **Defined benefit (DB)**

In a DB scheme, the benefit level is specified ex ante by a statutory formula, typically a function of years of contributions and pensionable earnings. Rights are often expressed as an accrual rate or replacement rate conditional on eligibility. Indexation rules (to wages, prices, or a mix) then shape how pension rights evolve over time. A *point system* is a type of defined benefit scheme in which earnings generate pension points, often relative to average earnings, and the final pension equals accumulated points multiplied by a point value whose indexation determines whether benefits follow wage growth or shift more risk to retirees.

---

<sup>10</sup> Please refer to Section 6.1 for further details on Rawls's theory, where I present it in more detail.

DB can be organised under PAYGO or funding. In practice, PAYGO DB remains common in public first pillars, while funded DB has become less common in many occupational settings as sponsors seek to limit the risk related to the financing of defined benefits which at times require finding new income to finance the promised benefits. The key analytic point is risk allocation. In a DB scheme, the default adjustment margin is financing. If promised benefits are to be paid, contribution rates and/or tax transfers must adjust, meaning that risk is borne primarily by contributors/taxpayers (and, institutionally, by the sponsor/guarantor). Retirees can still bear risk when indexation is suspended or reduced, thereby lowering benefits in real terms, and, in more severe cases, when accrued entitlements or pensions in payment are cut (Lavigne, 2025a). But under normal circumstances the DB baseline logic is that benefits are protected and contribution rate is increased.

### **Defined contribution (DC) and nonfinancial defined contribution (NDC)**

In a DC scheme, contributions are recorded in individual accounts and uprated by a rule-based rate of return. In funded DC, the account grows with financial market returns. In PAYGO DC, usually called nonfinancial defined contribution (NDC), accounts are “notional” as there are no real assets in the accounts. Instead, the accounts track paid contributions and are uprated by a formula linked to wage growth, the contribution base (wage sum), or other macroeconomic indicators. NDC mirrors funded DC bookkeeping while remaining financed by PAYGO (Blanchet, 2023).

At retirement, accumulated (real or notional) capital is converted into an annuity using cohort-specific life expectancy (and sometimes a technical discount rate). The decisive point is that the final benefit is not fixed when contributions are paid. In DC designs, the default adjustment margin is the benefit: if longevity rises or returns remain low, either pensions fall, retirement is postponed, or both. This, unless legal or political constraints block or mitigate reductions in pension benefits.

### **Intermediary designs: the Musgrave rule and CDC**

The broader point to understand in pension reform debates is the following. When politicians argue that a system is “more sustainable” because it is NDC instead of DB, they are often implicitly arguing

for a shift in the burden of adjustment away from contributions/taxes and toward benefit levels, i.e., a shift in who bears risk.

Many recent reforms have transformed systems toward NDC schemes as it is a way to target the pro-elderly bias and resource constraint criticism, because pensioners are always paid a fixed proportion of income. Yet, Musgrave rule has proven to be a reform that largely sits between these two different extremes. It understands that the risk ought to be shared between both parties and provides guidance for prudent risk sharing (Schokkaert & van Parijs, 2003).

The idea behind Musgrave rule is simple. If the wage sum weakens, both contributions and benefits adjust so that workers and pensioners share the loss and their relative net positions remain broadly stable. And if the wage sum strengthens, adjustments work in the opposite direction both benefiting from the strong finances. Thus, the aim of the Musgrave (1986) rule is to keep the relative economic position of workers *vis-à-vis* pensioners stable in economic shocks. In other words, a deficit or surplus, caused by an unexpected shock in economic activity, is shared equally by both groups.<sup>11</sup> Viewed from a life course perspective, this is not only a matter of sharing risks between separate groups. Most individuals will be workers during one part of their lives and pensioners during another. The Musgrave rule can therefore also be understood as a way of allowing individuals to share risks with themselves over time, by protecting both their present position as workers and their future position as retirees. This assures younger cohorts that their relative position will not deteriorate because of unexpected shocks and gives them reason to maintain the system.

Collective defined contribution (CDC) schemes, currently being implemented in Dutch occupational pensions, are funded arrangements that sit between individual DC and DB (Lavigne, 2025a). The contribution rate is fixed and assets are invested collectively, but benefits are only targeted, not guaranteed. If the collective funding position changes, benefits are adjusted according to predefined collective rules. In favourable conditions, indexation may be granted or increased, future target benefits may be revised upward, and pensions in payment may be increased. In adverse conditions, indexation may be reduced or suspended, future target benefits may be revised

---

<sup>11</sup> Of course, the Musgrave rule does not ask whether the initial relative position of workers and retirees is itself fair or optimal. It takes that position as given and then adjusts contributions and benefits so that the relative position remains fixed (Myles, 2002).

downward, and pensions in payment may be reduced. intergenerational feature is that these adjustment rules distribute risks across cohorts of workers and retirees, rather than placing them entirely on individual account holders (Lavigne, 2025a).

### 4.3. Fragmented pension schemes

Beyond financing and formula, pension systems differ in institutional architecture: some operate a single statutory scheme, while some countries' pension systems are organised as multiple schemes covering different labour market statuses or occupations.

Historically, statutory coverage often expanded in waves, from civil servants and the military outward, later encompassing private-sector employees and the self-employed (Blackburn, 2002). Many countries have since then consolidated schemes, often by aligning civil-service rules more closely with private-sector rules. Yet substantial occupational segmentation persists across Europe. Moreover, second-pillar occupational pensions are, by definition, organised along occupational or sectoral lines in many European countries.

Swedish pension systems lies in the unified pole. One statutory scheme and similar rules apply across occupations from parliamentarians to self-employed reindeer herders, supplemented by sectoral occupational pensions in most professions (Hagen, 2013). France lies closer to the fragmented pole. Dozens of sectoral schemes (and more if mandatory complementary tiers are included) coexist with differentiated rules (Lavigne, 2025b). Belgium sits between these poles. Three major public schemes for employees, civil servants, and the self-employed reflect the traditional division between subordinate employment, statutory service, and independent work.

Why does this matter? From a Rawlsian perspective, pensions are part of the basic structure, understood as the main social, economic, and political institutions that shape citizens' life prospects, and should therefore be justifiable to citizens as free and equal persons under common public principles. This creates a presumption in favour of a unified architecture, because a unified scheme more readily frames old-age security as a general social right attached to membership and can best protect the worst off. By contrast, fragmented schemes more readily frame pensions as occupation-linked statuses with group-specific expectations and separate terms of solidarity. That

difference matters politically. In segmented systems, reforms are more easily contested as violations of group-specific entitlements, even when those entitlements rest mainly on inherited scheme boundaries rather than on independently defensible principles of justice.

A related (but distinct) issue concerns occupation-specific rules within general schemes, such as earlier retirement ages for arduous or hazardous work. Many such special regimes have been narrowed or discontinued, partly because “occupation” is often a blunt proxy for actual working conditions (e.g., administrative vs frontline roles within the same occupation) (see, e.g. Vandenberghe, 2023). Task-based criteria for arduousness are increasingly recommended as a more defensible approach (OECD, 2023).

#### 4.4. Solidarity in public pensions

The typology above clarifies how pension systems are structured. To evaluate them normatively, however, it is also necessary to distinguish between two separate questions: what solidarity in pension schemes consists in, and what institutional conditions are needed to sustain it. Following Van Parijs (1996), it is useful to distinguish conceptually between weak and strong solidarity.

Weak solidarity refers to the pooling of uncertain risks within a common insurance arrangement. Individuals support the scheme because they face contingencies such as longevity, disability, or interruptions in working careers, and collective pooling protects them better than self-insurance could. In that sense, weak solidarity remains compatible with mutual advantage under uncertainty: all participants may reasonably accept the scheme because each is exposed to risks whose timing and incidence cannot be known in advance.

Strong solidarity refers to something more demanding. It consists in the deliberate redistribution of pension rights towards persons or groups whose disadvantage is structurally foreseeable rather than merely accidental. The point is not only to insure against bad luck, but to build protection for predictable disadvantage into the scheme itself. Such disadvantage may arise from low earnings capacity, interrupted careers, unpaid caregiving, or other socially patterned sources of unequal pension accumulation. Strong solidarity therefore departs from strict actuarial equivalence: it treats the mitigation of structural disadvantage as part of the purpose of pension design rather than as an external correction added afterwards.

This conceptual distinction has institutional consequences, but the institutional issue should be kept separate from the definitional one. Weak solidarity requires a sufficiently broad and stable risk pool. In practice, that usually means mandatory or quasi-mandatory participation in the scheme and limits on exit, risk selection, or cream-skimming. Without such conditions, even ordinary insurance pooling becomes fragile. Strong solidarity requires those same background conditions, but it also requires explicit redistributive rule elements that move beyond pure insurance logic. These may include minimum pensions, non-contributory credits, progressive benefit formulas, or other mechanisms that protect predictably disadvantaged groups. Van Parijs's concern about dualization belongs at this institutional level. When better-off groups peel off into separate private arrangements, the problem is not merely a change in financing. It is that the political and moral basis for sustaining more demanding redistribution, strong solidarity, within a shared scheme is weakened over time as it is not institutionally mixed with elements of weak solidarity. For the system to remain durable over time, both weak and strong solidarity are necessary within the same institutional structure. Weak solidarity gives large groups a continuing stake in the scheme through insurance and risk pooling, while strong solidarity preserves redistribution toward those with weaker contributory capacities and greater needs, thereby benefiting the worst off.

This distinction matters because the insurance mechanics of pension systems can themselves produce regressive outcomes even when those systems are described in solidaristic terms. In unified schemes with a single retirement age and uniform benefit rules priced around average longevity, longevity pooling may disadvantage short-lived groups while benefiting long-lived groups. Since life expectancy is strongly correlated with income and education, this can generate cumulative advantage: better-off individuals tend, on average, both to earn more and to draw benefits for longer. This is often described as a Matthew effect. Initial advantages such as higher earnings and longer life expectancy compound into larger lifetime gains under the same institutional rules, thereby widening inequality over the life course (Rigney, 2010). Identifying this pattern is not an argument against collective insurance as such. It is, rather, a diagnosis of a regressive bias that specific design choices, such as minimum pensions, pension credits, progressivity in pension accrual, and differentiated retirement options, may mitigate.

The relevance of strong solidarity becomes especially clear when one asks where, in practice, it is implemented in pension systems. One central site is the treatment of non-contributory periods. Caregiving credits are a paradigmatic case, because they compensate for later pension inequalities

linked to socially valuable but unpaid work. Sickness, disability, and unemployment are harder to classify. In one sense, they belong to weak solidarity: they insure people against interruptions to earning capacity that many may face over the life course. But they can also express strong solidarity when pension rules take account of the fact that these risks are not evenly distributed. Some occupations involve greater health risks, some groups face more unstable employment. How these periods are treated therefore matters. Pension systems can either carry existing labour market inequalities into old age, or partly correct them.

#### 4.5. Credited career breaks in European pension schemes

If strong solidarity consists in building protection for predictable disadvantage into pension rules, the next question is where that protection is actually institutionalised. In European public pensions, one of the main answers is the treatment of non-contributory periods. Across Europe, statutory pension schemes commonly credit or assimilate periods in which contributions are interrupted by caregiving, unemployment, sickness, disability, military service, or other socially recognised contingencies. These credits are not a technical appendix to otherwise contribution-based systems. They are one of the principal devices through which pension institutions decide whether socially necessary unpaid work and unequal exposure to labour-market risks will be collectively absorbed or instead converted into lower income in old age.

How this works depends on pension architecture. In earnings-related or contributory (Bismarckian) systems, interruptions to paid work would normally reduce pension rights, since accrual is tied to contributions or recorded earnings. Credited periods therefore play a constitutive role. They may count towards qualifying conditions and/or generate imputed earnings within the benefit formula. In residence-based or flat-rate first pillars, by contrast, career breaks matter less directly for the basic pension because accrual depends primarily on residence or insurance years rather than on paid contributions. In those systems, solidarity is embedded less through special credits that repair contribution gaps and more through the basic structure of entitlement itself.

Belgium illustrates the first logic. In the Belgian employee scheme, many non-work periods are treated as assimilated periods and enter the pension calculation through a fictitious salary, either at the previous earnings level or at a limited level linked to statutory minima. Recent reforms have

narrowed this solidaristic element by moving several unemployment and end-of-career spells from the normal to the limited base. More broadly, many contributory pension systems in Europe credit unemployment and sickness when the person receives a social security benefit (MISSOC, 2026). Recognition of care-related interruptions has also expanded, although unevenly across Europe. Child-related breaks are the most widely recognised, albeit through different institutional instruments, as examined in Article IV of this dissertation (European Commission, 2024b). These credits are not marginal. In Belgium, roughly 30 per cent of men's and 37 per cent of women's pensionable career time consists of assimilated non-wage periods (Schols et al., 2022).

Residence-based pensions illustrate the contrasting logic. Denmark's *folkepension* is prorated according to years of residence, so work interruptions do not in themselves interrupt accrual as long as residence conditions are met. The Netherlands' basic pension (AOW) similarly accrues through insured years of residence over a fifty-year window. Non-residence reduces accrual, but not through contribution histories. In other words, residence-based systems locate solidarity differently. Where contributory systems must decide whether and how to compensate for interruptions to paid work, residence-based systems are neutral toward such interruptions. (Pedersen, 2021)

The normative significance of credited periods now becomes clear. In contributory pensions, they are one of the main levers through which systems can prevent labour market inequality and socially necessary unpaid work from being mechanically translated into old-age inequality. They are therefore a central site at which weak and strong solidarity intersect. Some credits extend insurance against uncertain interruptions to earning capacity; others compensate for structurally foreseeable disadvantage, especially where care responsibilities or other socially necessary forms of non-wage labour predictably depress pension accrual. This makes credited periods analytically central for a liberal-egalitarian assessment of pension design. It also explains the focus of Articles III and IV, which argue that pension systems should recognise certain non-wage labour periods more fully, most notably conscription and child-rearing, if they are to treat citizens fairly over the life course.

## 5. Financing of pensions

*This section explains the basics of pension financing and why the language used to describe it matters. It shows that PAYGO and funding are essentially about what kinds of claims workers build on future output, and how risks are allocated between workers and retirees. By detailing the Samuelson–Lerner debate, it also shows why PAYGO can be framed either as an intergenerational return mechanism or as a tax-transfer arrangement. Equally, it explains what kinds of risks the two mechanisms are associated with and why this matters. The section also clarifies why the core of public pension finance should remain PAYGO, while reserve funding may still be justified when it helps smooth burdens between cohorts.*

The previous sections analysed pension systems mainly in terms of entitlement rules and solidarity. But the normative assessment of those rules cannot be separated from how pensions are financed. Measures such as minimum benefits, credited periods, or progressive benefit formulas will be judged differently depending on whether the pension scheme is understood as a collective institution of intergenerational reciprocity or as a quasi-individualised device for converting contributions into returns. This is why the PAYGO-versus-funding controversy belongs to this dissertation. The aim is to clarify the economic vocabulary through which the fairness and feasibility of pension reform are publicly contested.

No major pension reform is politically viable unless its proponents can offer a plausible case both for its ethical acceptability and for its economic defensibility (Van Parijs, 1990). In European policy discourse, the contrast between pay-as-you-go (PAYGO) and funded schemes is routinely articulated in the language of “returns,” “saving,” and “earned entitlements.” These terms are not merely descriptive. They shape what counts as a fair pension claim, whether redistributive elements appear justified, and how the burdens of reform are allocated across cohorts. The controversy over financing is therefore not external to the normative questions addressed in this dissertation. It helps determine the terms in which those questions are asked.

In standard neoclassical analysis, pension arrangements are often compared by reference to their expected rate of return relative to available outside options. This helps explain why PAYGO and funding are so often evaluated in the same analytical register. In a PAYGO system, current workers’

contributions finance current retirees' benefits. In the overlapping-generations framework associated with Paul Samuelson, and later extended in wage-based form, this arrangement can be represented as yielding an implicit return equal to the growth rate of the contribution base. In stylised form, that return corresponds to labour-force growth plus productivity growth,  $n + g$ . This representation invites comparison with the market return on capital in a funded scheme.

However, the analogy between PAYGO and saving has long been contested. After Samuelson's (1958) article Lerner (1959) offered the first contrasting interpretation: PAYGO should be understood not as a savings device, but as a tax-transfer arrangement between coexisting generations. Current workers support current retirees on the expectation that later workers will do the same for them. On this view, the legitimacy of PAYGO rests not on a private-insurance analogy, but on a publicly sustained understanding of intergenerational ascending reciprocity. As Cesaratto (2005) argues, Samuelson's language of implicit returns can be read as an attempt to assimilate PAYGO to the conceptual framework of private old-age insurance. Historically, that rationalization from Samuelson came only after nationwide PAYGO schemes were already in place (Bányar, 2014). Earlier economic thinking had treated such schemes more plainly as tax-transfer mechanisms, whereas only funded arrangements were classified as saving in the strict sense.

The disagreement is not merely classificatory. It bears directly on the normative grammar of pension politics. If PAYGO is understood primarily through the language of individual returns, then redistributive features such as credited periods, minimum pensions, or care-related credits more readily appear as deviations from insurance logic or as infringements on earned entitlements. If, by contrast, PAYGO is understood as a publicly justified system of intergenerational reciprocity, then such features can be seen as integral to the scheme's solidaristic purpose rather than as exceptions to it. The same financing mechanism thus supports different political interpretations of who owes what to whom, and on what grounds.

This section therefore pursues three aims. First, it clarifies what rate-of-return comparisons between PAYGO and funding do, and do not, establish. Second, it shows why the metaphor of "saving" can mislead when it suggests that funding escapes the basic intertemporal constraint that pensions must ultimately be paid out of future output. Third, it identifies the political-theoretic stakes of financing choices: the governance of risk and discretion, the allocation of transition burdens across cohorts and social groups, and the public justification of pension entitlements under conditions of economic constraint and political contestation.

## 5.1. Samuelson, Lerner, and the Politics of the PAYGO Metaphor

The canonical Samuelson–Lerner contrast shows that the PAYGO/funding dispute is partly a dispute about what pensions are taken to be. Are they an insurance-like arrangement for a positive risk (longevity) with an implicit return, or a tax-transfer scheme grounded in reciprocity among coexisting cohorts? These alternative framings provide rival justificatory repertoires in real reform conflicts: reforms may be defended as restoring actuarial fairness (Queisser & Whitehouse, 2006) or criticised as reneging on a collective duty. Making this framing contest explicit helps avoid later category mistakes, especially when policy actors infer distributive conclusions directly from labels such as “funded,” “PAYGO,” “insurance,” or “saving.”

The contrasting interpretations offered by Samuelson and Lerner are therefore more than a matter of economic classification (Cesaratto, 2005, 31-37). They shape the political framing and normative evaluation of pension systems. Samuelson’s overlapping-generations model formalised PAYGO in terms of an implicit rate of return and thereby made it comparable, in a stylised sense, to the return on capital in a funded scheme. On this view, PAYGO can be described as an insurance-like arrangement. Workers contribute today in exchange for a future claim whose value depends on demographic and wage growth. This framing has been politically influential because it resonates with individualised understandings of fairness: pension entitlements, even when financed on a PAYGO basis, can then be presented as earned rights, analogous in some respects to saving, rather than as designed distributive transfers between persons and cohorts.

Lerner’s interpretation starts from a different premise. On his view, PAYGO should not be assimilated to saving or insurance. It is better understood as a tax-transfer scheme grounded in reciprocity among coexisting cohorts, in which current workers finance current retirees on the expectation that later workers will do the same for them. Pensions are therefore not deferred wages backed by hypothetical accumulated assets, but a collective arrangement sustained over time through publicly organised transfers. In normative terms, this points toward a scheme of collective responsibility for securing income in old age across generations. The central issue is then not the implicit return on individual contributions, but the fairness of a publicly sustained arrangement for allocating burdens and benefits over time.

From the standpoint of contemporary political theory, the choice between these framings has significant implications for debates about intergenerational fairness. The description of PAYGO as an insurance-like arrangement clarifies why demographic and productivity growth matter and why participants may compare PAYGO with funded alternatives. But it also encourages a view of pension rights in which contribution–benefit proportionality appears normatively primary. Redistributive elements such as minimum pensions, care credits, or the recognition of conscription can then be represented as deviations from an otherwise earned entitlement structure. By contrast, the description of PAYGO as a tax-transfer scheme grounded in reciprocity among coexisting cohorts makes the political and distributive character of public pensions more explicit. It offers a clearer basis for evaluating pension rules in terms of solidarity, public justification, and collective responsibility, and it makes it easier to see why non-market contributions and structurally predictable disadvantage may legitimately be recognised in pension design.

Neither framing should simply be dismissed. Each highlights real features of PAYGO while obscuring others. The Samuelsonian framing captures the fact that participation in PAYGO has an intertemporal logic and that citizens may reasonably care about the relative return on their contributions. The Lernerian framing captures the fact that PAYGO does not accumulate tangible capital and that its legitimacy depends on maintaining a fair and publicly defensible pattern of transfers across generations.

The passage shows that the way pension financing is framed in economic literature, it shapes the normative understanding of pension entitlements. If pension systems are described as insurance mechanisms, central concepts are earned rights, equivalence principle, and actuarial fairness. If pension systems are described as transfer schemes between people of different ages, central concepts are solidarity, public justification, and fair division of burdens and benefits. As the choice of financing method has an impact on governance and division of risks, debates on financing are central in the analysis of pensions. They are one of the principal sites at which disputes about intergenerational fairness and social solidarity are translated into concrete reform proposals, precisely the link between normative evaluation and institutional design that this dissertation seeks to clarify.

## 5.2. Comparing the returns of the financing mechanisms

One reason the Samuelson–Lerner contrast matters is that debates about pension financing are often translated into a comparison of returns. In standard economic analysis, a pay-as-you-go (PAYGO) scheme and a funded scheme are compared in terms of how well they can secure income in old age. It is therefore useful to explain what this comparison shows, and what it does not show.

In a PAYGO scheme, current workers finance current retirees. In the standard overlapping-generations framework, the return from a mature PAYGO scheme can be described as depending on the growth of the contribution base. In a simplified form, this is often written as  $n + g$ , where  $n$  is population or labour-force growth and  $g$  is wage or productivity growth. A funded scheme, by contrast, links pensions to the return on accumulated assets,  $r$ . This creates the standard comparison between the two financing mechanisms.

Aaron (1966) developed this comparison more clearly. According to the Aaron condition, a PAYGO scheme gives a higher financial return than a funded scheme when  $n + g$  is greater than  $r$ . If  $r$  is higher, funding looks better in financial terms. This comparison is important because it frames the choice between PAYGO and funding as a choice between demographic and wage growth, on the one hand, and capital-market returns, on the other.

Historical evidence is often used to support the view that funding has an advantage in this comparison. Piketty (2013) argues that, over long periods, the return on capital has usually been higher than aggregate economic growth, except in unusual periods such as wars and major crises. Jordà et al. (2019), using long-run data for advanced economies, find that the average real return on capital was about 6.1 per cent per year, while real GDP growth averaged about 3.1 per cent, leaving a gap of about 3 percentage points. The same study also shows that the real return on equities has been much higher than the return on safer assets such as government bonds. According to Jordà et al. (2019), the equity risk premium was about 4 per cent before the First World War, negative during the Great Depression, rose to as much as 14 per cent in the 1950s, and has been around 4 per cent since 2000. These findings help explain why funded pensions are often presented as financially attractive.

Still, these findings do not settle the question. A first reason is that Piketty's well-known  $r > g$  claim is not the same as the Samuelson–Aaron comparison. Piketty compares the return on capital with

the growth rate of the economy as a whole. By contrast, Samuelson and Aaron compare the return on capital with the growth of the contribution base that finances a PAYGO scheme, commonly described as  $n + g$ . The two comparisons are related, but they do not compare the same thing. For that reason, evidence that  $r$  has often been higher than aggregate growth does not by itself prove that funding is always superior to PAYGO.

A second reason is that higher returns on capital do not come for free. They are linked to risk, price fluctuations, and management costs. A simple comparison of average returns therefore leaves out an important point: PAYGO and funded schemes expose participants to different kinds of uncertainty. Funded schemes may offer higher expected returns, but they also expose pension outcomes more directly to financial market risk and volatility.

A third reason is that return comparisons often leave out transition costs. Moving from PAYGO to funding is not a simple move from a lower-return system to a higher-return system. During the transition, some cohorts must still finance existing retirees while also saving for their own retirement. Higher expected returns do not remove this double burden.

There is also a deeper limit to the argument for funding. Even funded pensions do not escape the basic fact that pensions must in the end be paid out of future production. In open economies, pension funds can invest across borders, and this may partly reduce exposure to domestic population ageing by giving access to younger or faster-growing economies. But this advantage should not be overstated. In the Solow growth model, slower labour force growth, with technology held constant, increases the amount of capital per worker and lowers the marginal product of capital, which puts downward pressure on returns (Solow, 1956). Capital produces returns only when it can be used productively together with labour (Blanchet, 2023). If labour and capital cannot fully replace each other, demographic decline can create problems for both PAYGO and funded pensions. It weakens the wage base that supports PAYGO, and it can also reduce the returns on funded assets by lowering profitable investment opportunities.

The main point is therefore clear. Comparing PAYGO and funding in terms of expected returns is not enough. It helps explain why funding is often presented as more attractive in economic debate. But once risk, transition costs, and the dependence of both systems on future output are taken into account, the financing mechanisms approach each other and there is no simple ranking between them.

### 5.3. Different risks in pension financing

Because pension entitlements extend over several decades, the economic, demographic, and political conditions that sustain them do not remain unchanged. Any pension scheme therefore faces periodic adjustment. The key point for this dissertation is that the choice between PAYGO and funding is not mainly a choice between safe and risky pensions, or between solidaristic and individualised one. It is a choice between different risk governance regimes. Each regime organises claims on future output in a different way, distributes risks differently and places discretion in different institutions.

#### 5.3.1 PAYGO: demographic exposure and political–fiscal risk

Pay-as-you-go (PAYGO) financing is sometimes presented as comparatively safe because it does not depend on financial markets but on the development of the wage bill and the size of the labour force (Barr & Diamond, 2009). This is at best a partial truth. PAYGO schemes avoid market volatility, yet they are structurally exposed to demographic and wage-bill risk (longevity, cohort size, employment and wage growth) and, crucially, to political–fiscal risk. Benefits, indexation rules, retirement ages, and contribution rates are statutory parameters. When demographic pressure rises or fiscal consolidation becomes politically urgent, governments can and do revise them.

This is also where an intergenerational political risk arises. Electorally strong cohorts may seek to protect or expand net entitlements while deferring costs, thereby shifting adjustment burdens onto other cohorts and increasing implicit pension liabilities (Gonzalez-Eiras & Niepelt, 2008). European retrenchment episodes illustrate that PAYGO entitlements can be cut, re-indexed, or made costlier through higher contributions, sometimes rapidly and with major distributive consequences (Pierson, 1994; Bonoli, 2000; Hinrichs, 2021). In short, PAYGO's distinctive vulnerability is not “markets,” but the fact that adjustment is mediated through the politics of taxation and legislation, under conditions where demographic change creates recurring distributive conflict.

### 5.3.2 Funding: market, cross-border and governance risk

Pre-funding does not remove political risk. Instead, it relocates and transforms it. At the simplest level, funding exposes pension wealth to market risk through asset price volatility. Beyond this familiar point, funding also creates exposure to legal and geopolitical risk. Assets are governed by the law and authorities of the jurisdictions in which they are held. Where legal protection is weaker, or where interstate relations deteriorate, foreign holdings can become vulnerable to freezes, discriminatory regulation, or de facto expropriation. Climate transition dynamics add a further layer of uncertainty through repricing, stranded assets, and liability risk. These features also sharpen ethical dilemmas. Cross-border holdings can make it harder to monitor supply chains, labour conditions, environmental harms, and corporate conduct, while the scale of public pension wealth raises the stakes of profiting from exploitative background conditions.

These points show that pre-funding is sensitive to totally different types of risks than PAYGO financing. However, the main *normative* point for this dissertation concerns a further distinctive vulnerability of funded architectures: a governance and legitimacy problem. Even when the legislature retains formal authority over pension rules, a funded system makes the effective generosity and security of entitlements partly mediated by financial markets and by the intermediaries and infrastructures through which public pension wealth is invested. This mediation matters because it introduces discretionary points of control in governance of public wealth that can affect net returns and volatility. Where funding ratios and investment outcomes are translated into contribution rates, indexation, benefit levels, or eligibility ages, such discretion becomes rights-affecting. Funding predictably shapes what citizens must contribute and what they can receive as pension benefits.

Following Cordelli's (2020) account of the privatized state, the legitimacy issue is not delegation as *such* but delegation of rights-determining discretion to actors who do not occupy a public office and are therefore not structurally bound by public-law duties of justification, transparency, and contestation. An objection to this is that this is normal outsourcing and modern states routinely delegate complex tasks to private actors. Yet this reply underestimates two features of funded pension governance. First, investment mandates are necessarily incomplete. Due to the complicated nature of financial markets, it is impossible to design a mandate so tightly that it would not involve discretionary, private decisions on where to invest. Second, ordinary private-law

accountability is not functionally equivalent to public-law accountability: even well-regulated asset managers are not automatically subject to the same requirements of public reason-giving and contestability that attach to public office. When discretion that foreseeably affects citizens' pension rights and contribution duties is exercised outside channels of public authorization and review, funding becomes vulnerable to a "privatized state" dynamic in Cordelli's sense.

The institutional implication is that if pension entitlements are structurally mediated by investment governance, the locus of discretion must itself be publicly constituted. Public pension wealth therefore needs to be housed in a public-law institution functionally equivalent to public office, with fiduciary duties defined in statute, enforceable obligations of transparency and reason-giving, and avenues for administrative or judicial review. Without such constraints, pre-funding risks converting a formally public pension promise into de facto dependence on private judgments that are not fully contestable by citizens. And thereby they undermine public equality (Cordelli, 2020).

### 5.3.3 Why reserve funding emerged?

Against a backdrop of slower wage-bill growth, population ageing, and increasingly deep capital markets, many governments introduced partial pre-funding, either by building public reserve funds within statutory schemes or by expanding mandatory funded components. The stated objectives were to smooth cohort-size pressures and to diversify pension financing away from exclusive reliance on current payroll contributions. This shift also reflected policy diffusion and broader financialization, reinforced by empirical work on long-run asset returns that made funded provision appear attractive relative to the implicit return of PAYGO (Blackburn, 2002; Jordà et al., 2019; Hinrichs, 2021).

One defensible rationale for reserve funds within statutory schemes is inter-cohort smoothing. When the contributor-to-beneficiary ratio is favourable, contributions can be set somewhat higher so that collective reserves accumulate; those reserves can then be drawn down when large cohorts retire or demographic conditions deteriorate (Sundén, 2006; Hannikainen & Vauhkonen, 2012). This logic parallels Daniels's concern with cohort equity in social insurance: mature schemes should not concentrate adjustment burdens on cohorts retiring under less favourable conditions in ways

that are difficult to justify eroding perceived fairness and political legitimacy (Daniels, 1988). Prefunding, understood as the accumulation of collective reserves in favourable periods, can therefore be seen as one device—alongside shared benefit restraint or other adjustments—for spreading demographic costs more evenly across cohorts and keeping cohort differences in benefit ratios within a defensible range.

A further, but narrower, justification can be drawn from Rawls's just savings principle. Rawls's (1971, 251-258) just savings principle does not require collective prefunding, nor does it require each generation to keep making later generations richer. Its point is rather that savings are required when they are needed to establish and preserve a just basic structure over time. Once just institutions are securely in place, savings may fall to the level required to maintain them. On that reading, collective pension reserves are best understood as one possible device for preserving just institutions under demographic stress and for avoiding abrupt cohort-specific shocks that would be difficult to justify publicly. That reading also supports Daniels's view that the burdens of adverse retiree–worker ratios should be shared across cohorts and that approximate equality in cohort benefit ratios is a reasonable practical target.

The conclusion is that PAYGO and funding expose participants to different kinds of risk. And only the state or other public authority with the right to levy taxes can credibly organize pensions through the PAYGO method in the long run. For that reason, the core of public pension finance should remain PAYGO. It keeps basic pension rights tied to the wage bill and to public decisions on taxation and legislation, rather than making entitlements or contribution rates depend directly on asset prices and investment outcomes. At the same time, limited collective funding can play a useful supplementary role when successive birth cohorts differ markedly in size. In such cases, reserve funds can spread adjustment costs more evenly across cohorts and reduce abrupt changes in contribution rates or benefits. That supplementary role is, however, conditional. If pension rights are mediated through investment governance, the fund's mandate must satisfy the public-law conditions stressed by Cordelli. The relevant discretion must be publicly constituted, transparent, reviewable, and exercised under statutory duties. Funding can therefore supplement PAYGO for inter-cohort smoothing, but it should not replace PAYGO as the main basis of pension finance.

This brings the argument from diagnosis to evaluation. The question is not only what a pension system can deliver under given economic constraints, but whether its rules can be justified to citizens as free and equal persons. That requires an approach attentive to how risks, burdens, and

benefits are distributed across cohorts and social groups, and to which disadvantages should be treated as matters of collective responsibility rather than left to individual choice. The next section develops that normative approach.

## 6. Liberal-egalitarian approach

*This section presents the liberal egalitarian framework underpinning the dissertation. It justifies the choice of liberal egalitarian theory over competing theories and introduces Rawls's main principles alongside the idea of responsibility sensitivity. The section then presents a concrete pension design built around Rawlsian egalitarianism, responsibility sensitivity, and recognition of cooperative burdens. It connects the dissertation's normative argument to concrete institutional design.*

Political theory has often discussed fair pensions at a high level without showing how such principles can guide reform. Social policy research has often focused on empirical outcomes and egalitarian concerns without giving much attention to responsibility (Hyde & Shand 2017). This dissertation tries to connect these debates. It identifies criteria and policy mechanisms that can make egalitarian commitments usable in pension reform. These proposals should then be tested in democratic debate and assessed considering national institutions and political traditions. Public pensions, like all welfare institutions, express ethical choices that should be debated openly (White 2021).

To choose a normative framework for these ethical choices, I draw on Gosseries' (2008b) comparison of theories of intergenerational justice. Since pensions are long-term institutions, the relevant framework must be able to assess distributions both within and between generations. This dissertation does not adopt other theories of justice as its framework because they do not provide a sufficiently balanced standard for evaluating pension reform. Utilitarianism may justify heavy sacrifices by present or worse-off generations in order to maximise total welfare in the future (Gosseries, 2008b, 65). Lockean approaches focus too narrowly on whether one generation leaves enough for the next and say too little about how pension burdens and benefits should be distributed within and between cohorts (Gosseries 2008b, 66–67). Sufficiencyarianism, in the Brundtland sense,

insists that future generations must be able to meet their needs, but it may still allow unfair inequalities or significant dissaving once that threshold is met (Gosseries, 2008b, 69). Liberal egalitarianism is therefore the most suitable theoretical framework for this dissertation. It can assess pension systems as long-term institutions that distribute benefits and burdens, while giving priority to basic liberties and to the worst off (Gosseries, 2008b, 67–69). The next subsection specifies what this liberal-egalitarian framework concretely means.

## 6.1. Normative foundations

Liberalism in the Rawlsian sense accepts that citizens hold different views about the good life. The task of just institutions is to specify fair terms of social cooperation that citizens, as free and equal persons with different conceptions of the good life, can accept. The state should therefore justify laws and institutions by public principles of justice that can be accepted in a pluralistic society, rather than by appealing to a specific conception of the good life (Rawls, 1993, 15–33). This makes the basic structure of society the primary subject of justice, since it shapes the background conditions under which citizens pursue their own conceptions of the good life. Egalitarianism in the Rawlsian sense means that these fair terms must also regulate the distribution of social and economic advantages.

Rawls's (2001, 42–44) theory is built around two principles of justice:

1. The first principle requires that each person have an equal claim to a fully adequate scheme of basic liberties compatible with the same scheme for all.
2. The second principle governs social and economic inequalities. It requires fair equality of opportunity, meaning that offices and social positions must be genuinely open to similarly endowed and motivated persons, and it includes the difference principle, according to which inequalities are permissible only if they are arranged to the greatest benefit of the least advantaged.

These principles are ordered according to priority. Basic liberties have priority over distributive gains, and fair equality of opportunity has priority over the difference principle.

Applied to pensions, this means that pension systems are institutions of the basic structure that shape citizens' life chances, distribute risks over the life course, and affect the real value of opportunities. Pension reform should therefore be assessed and judged by how it distributes benefits, burdens, and risks, especially for people with weaker opportunities and bargaining power, including low earners, people with interrupted careers, and those who cannot easily work longer.

This framework differs from communitarian approaches that ground welfare obligations mainly in shared traditions and communal bonds (Walzer 1983; Baldwin 1990). Such traditions help explain how European welfare states developed and how solidarity is mobilised in practice. They are not the main normative standard of this dissertation. My claim is that pension institutions must be justified as fair terms of cooperation among free and equal citizens and must meet egalitarian standards in the distribution of risks and resources.

I use a liberal framework because it gives a common way to justify policy across Europe's diverse welfare states. These systems differ in design, but they can still be assessed against a shared commitment to treat citizens as free and equal persons. Liberalism also leaves room for institutional diversity. States may choose different pension designs as long as they respect basic principles of justice. For that reason, the dissertation speaks first to debates within liberal democracies, but some of its arguments may also be useful to those who do not share a liberal framework.

## 6.2. Responsibility, background justice, and fair terms of cooperation

Egalitarianism is not one simple formula. It requires answers to two separate questions (Bidadanure & Axelsen 2025). First, what should count in assessments of justice? Possible answers include welfare, resources, capabilities, primary goods and opportunity sets. Political theorists often call this the currency of justice. Second, how should distributions be ranked? One view aims at strict equality. Another aims to reduce inequality, for example through a measure such as the Gini. A third gives priority to those who are worst off, as in maximin or leximin views. This is the principle of justice.

Questions about responsibility sensitivity cut across this distinction. Even if we agree on what should be distributed, we may still disagree about which inequalities call for correction. In the luck egalitarian view associated with Dworkin (2011), the key distinction is between brute luck and option luck (Dworkin 1981, 293). Brute luck refers to disadvantages that arise from unchosen circumstances or chance. Option luck refers to outcomes that follow from deliberate risks or gambles. On this view, justice should mitigate inequalities that arise from brute luck, but it need not remove inequalities that result from responsible choice. This distinction matters for pension policy. But it is often hard to apply in practice, because many cases reflect both choice and circumstance. Responsibility sensitive approaches therefore need clear rules and careful specification.

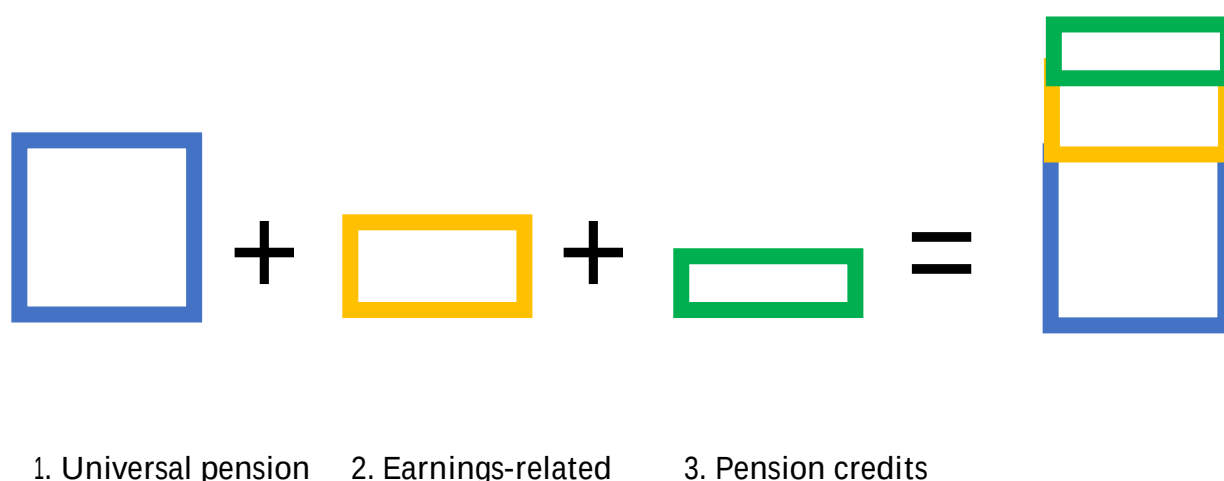
As mentioned, I rely on a Rawlsian approach when I argue for fair terms of cooperation. Ideally, society is a fair system of cooperation between free and equal citizens across the whole of their lives. The basic structure, taxation, education, labour law, and pensions, sets the *terms* under which citizens cooperate and share both the benefits and burdens of joint social production (Rawls, 1971, 6-9). Two ideas are central. First, citizens must be able to *endorse* these terms under the veil of ignorance, without knowing their class, talents, or life course. Second, those terms must not impose *strains of commitment* so great that, once the veil is lifted, reasonable persons could not be expected to comply with them (Rawls, 1971, 153). Together, these ideas imply that justice is secured mainly through institutions. The task of the basic structure is to establish fair background conditions. Individuals remain free, within those conditions, to pursue their own conceptions of the good life and are expected to bear the usual consequences of their choices.

### 6.3. Implications for pension design

I now turn to a concrete pension design that addresses the concerns about fairness discussed above. Pension policy should start from a Rawlsian concern for fair background conditions. It should also correct disadvantages that arise from unchosen circumstances and from socially necessary burdens that fall unevenly on some citizens. Accordingly, it should (i) guarantee an adequacy floor; (ii) above that floor, allow responsibility for choices to shape entitlements; and (iii) offset inequalities generated by cooperation-essential burdens. In pensions, this requires three elements:

1. A universal pension floor as social minimum that protects the worst off and secures the primary goods needed to plan a life, including effective access to free time in old age to everyone. This can be organised as an unconditional basic income at a sufficient level (see van Parijs and Vanderborght, 2017).
2. Choice-sensitive accrual where differences in benefits can partly reflect *reasonable* differences in lifetime earnings and contributions, so long as it satisfies the difference principle. Since this accrual is added on top of the basic pension, covered paid work gives individuals additional pension rights beyond the universal floor. The system therefore preserves an incentive to engage in paid labour.
3. Recognition for cooperation-essential burdens. Where the basic structure depends on tasks that are structurally indispensable, whether legally mandated (e.g., conscription) or collectively non-discretionary for system viability (e.g., child-rearing), and that impose concentrated and verifiable costs. Outcomes should be adjusted so that these contributions are valorized in pension benefits.

**Graph 1.** Structure of the pension benefit



In the figure, the blue rectangle represents the universal pension floor granted to all senior residents. The yellow rectangle represents the earnings-related, choice-sensitive component

accruing from labour income. This component is calculated as a defined benefit: each year of covered employment accrues 0.5% of annual pensionable earnings, up to a statutory ceiling.<sup>12</sup> Finally, the green rectangle represents the flat-rate credits for cooperation-essential burdens. These credits are tied to the activity rather than prior earnings. As an example, one year of mandatory conscription generates an additional flat-rate amount in pension entitlement.

Take Germany as an illustration. Suppose the annual basic pension is set at 25 per cent of GDP per capita, a level that van Parijs and Vanderborght (2017, 10-11) discuss as feasible for an unconditional basic income. In 2024, this would imply a basic pension of about €12,700 per year, or about €1,060 per month. Relative to the median gross annual earnings of full-time employees in Germany, €52,150, this is about one quarter of the median wage (DeStatis, 2026). The basic pension would form the floor and an earnings-related component would be added on top. If a person worked for 35 years at the median wage, and if the defined benefit accrual rate were 0.5 per cent of earnings for each year, the earnings-related component would be about €760 per month. If we then add €100 per month for mandatory conscription, because one year of service is valued at an accrual four times the average wage, and €100 per month for child-rearing, the total monthly pension would be about €2,020

On a responsibility-sensitive view, redistribution is justified less by the costs of voluntary life plans as such than by burdens that citizens incur through roles they are assigned or cannot reasonably avoid. Many voluntary choices that predictably reduce lifetime earnings or pensionable years, such as lifestyle-driven career breaks, therefore do not generate the same redistributive claims. Within just background institutions, citizens may permissibly bear the foreseeable costs of their plans. By contrast, state-assigned roles or socially indispensable roles that fall predictably and unevenly on some citizens have a stronger claim to compensation through pension credits, provided that they satisfy explicit admissibility criteria: the role must be indispensable, essential to the provision of a public good, and lacking an adequate market substitute. The same liberal egalitarian logic also supports pension credits for involuntary labour market interruptions, such as sickness leaves or unemployment spells. These periods should accrue flat rate benefits to protect the old age position

---

<sup>12</sup> A pensionable earnings ceiling limits regressivity by capping accrual for high earners, who tend to live longer and consequently receive pensions for longer. Contributions above the ceiling would still be collected but used to finance basic pensions.

of those who are worst off through no fault of their own. A responsibility sensitive pension tier may therefore distinguish between voluntary career breaks, which individuals can normally be asked to internalise, and involuntary interruptions, which should not be allowed to compound disadvantage across the life course. Flat rate accrual for sickness and unemployment is especially important because earnings-related credits would otherwise reproduce prior labour market inequality in old age.

On a responsibility-sensitive egalitarian view, it is unjust when individuals end up disadvantaged under unfair background conditions (Vandenbroucke, 2012). Earnings-related pensions track market productivity and therefore systematically disadvantage those whose productive contribution takes the form of non-market activity, such as childrearing and other essential unpaid care work. By contrast, when such roles are effectively state-assigned or socially indispensable and fall predictably and unevenly on some citizens, they have a stronger claim to redistribution within the pension system via pension credits, provided the activity is indispensable, produces an essential public good, and has no adequate market substitute. Childrearing plausibly meets these conditions because it supplies future citizens and contributors on whom the sustainability of pension system depends, while imposing durable opportunity costs that a purely market-based pension formula would otherwise treat as if they were merely the consequence of private preference for non-wage activity.

By having stated my normative framework explicitly, I follow Schokkaert and Van Parijs (2003), who argue that clarity about ethical principles is essential because debates on pension reform are often couched in actuarial or economic jargon that obscures the underlying value judgements. Reform is frequently presented as technocratic necessity, even though any must in pension design requires an articulated ethical standpoint. How a society divides the surplus of social cooperation is a political choice. Proposals should therefore be translated into plain language that makes the embedded trade-offs explicit. The second article of this dissertation (Helmdag & Väänänen, 2025) sheds light to the opaque process and the metrics used that generate EU-level pension recommendations which becoming binding for Member States once approved by the EU council. Scrutiny of these recommendations is warranted as every parametric or paradigmatic reform shifts burdens and benefits. And at the population level, a reform is seldom a Pareto improvement. Most non-trivial pension reforms involve distributive trade-offs between individuals.

Although this dissertation focuses on old-age pensions, it does not treat pension design as a self-contained question of distributive justice. Pensions are one part of a broader intergenerational structure of cooperation, and a pension scheme that is fair on its own terms may still be unjust if the wider background distribution is unfair (Gosseries 2008b). The claims advanced here are therefore conditional: they specify what justice requires of pension design given fair background conditions.

## 7. Pensions in political theory

*This section situates public pensions within political theory. It explains how the implicit intergenerational cooperation of PAYGO schemes is understood and analysed in political theory. It presents the idea that pensions involve repeated cooperation across cohorts, explains why this cooperation is vulnerable to demographic, fiscal, and legitimacy pressures, and shows how concepts such as indirect reciprocity, zipper arguments, and assurance problems help explain the stability of intergenerational cooperation. It also clarifies the limits of reciprocity as a full justification of pension justice.*

With the normative framework presented in the previous section now in place, the next step is to situate pensions more explicitly within political theory. Public pensions are not only instruments of old-age income protection or financially supported free time. They are also institutionalised schemes of intergenerational cooperation that bind successive cohorts to one another over time. The advent of public pensions was a major advance in social citizenship, but it also created distinctive normative and institutional questions. In PAYGO systems, current workers directly finance current retirees. The arrangement is open ended and depends on continued cooperation across cohorts. Three constraints matter. First, a resource constraint. Benefits must be financeable given demography, productivity and employment. Second, a stability constraint. Later cohorts must expect the scheme to continue and must believe that others will keep complying. Third, a legitimacy constraint. The burdens imposed on later contributors must be justifiable as fair terms of social cooperation. Sustainable pension design must satisfy all three constraints. This is true of

all pension schemes. But the participation constraint is especially acute in PAYGO, because the scheme depends directly on later cohorts continuing to finance earlier ones. The analytical question, then, is under what conditions such an intergenerational arrangement is sustainable, and under what principles the state may justifiably require one cohort to finance another.

### 7.1. PAYGO as a repeated game

A PAYGO pension scheme can be understood as a continuum of intergenerational promises: today's workers pay pensions to today's retirees because they expect that, when they retire, the next cohort of workers will pay for them. If the institutional setup is effectively open-ended, i.e., each cohort expects the system to continue, this expectation can sustain cooperation as a stable equilibrium. In essence, the cooperation hinges on the expectation that future workers will do the same that was done before them. This dynamic can be modelled as a repeated game of cooperation across generations.

In public debates, intergenerational justice in pensions is typically indirectly invoked through the so-called zipper arguments which claim that because cohorts overlap and coexist (G1–G2, G2–G3, etc.), duties of justice between coexisting cohorts can generate duties *regarding* more remote future cohorts (e.g., if duties hold between G1 and G2 and between G2 and G3, then duties can also hold between G1 and G50) (Meijers, 2024). This remains the case even when direct duties to distant, non-coexisting, future persons are philosophically contested (Gosseries & Meyer, 2009, 18-20). At the same time, it must be accepted that such chain-based justifications are fragile. If earlier cohorts shape institutions so that later cohorts lack the capacity to comply, an ought-implies-can constraint undermines the linkage. Furthermore, intentional or non-intentional non-compliance by an intermediate cohort can break the chain.

Still, the thought experiment matters when termination becomes credible or when reciprocal expectations weaken. This can happen when a working generation starts to believe that later cohorts will not keep paying. Under those conditions, younger workers may withdraw political support from PAYGO and favour funded saving instead. This does not mean that funded schemes are inherently more secure. They are not. Any pension scheme is a claim on future output. The difference is that funded schemes rely less on the continued willingness of later domestic cohorts

to tax themselves and more on returns from accumulated assets, legal claims and diversification across firms and countries. For that reason, they may appear less exposed to the demographic and political risks of an ageing community.

Under ordinary open-ended conditions, contractarian accounts therefore describe PAYGO not as a direct exchange between adjacent generations, but as a cooperative practice sustained by indirect reciprocity. Each cohort supports the current old because it expects later cohorts to support it in turn (Heath, 2013). Binmore's (2011) example of two daughters and a mother illustrates the point. The transfer game can settle in a cooperative equilibrium, where each cohort transfers, or in a non-cooperative equilibrium, where nobody does. Which equilibrium prevails depends on expectations and norms. Cooperation is stable when people believe that defection today will be met by non-cooperation tomorrow. Once the end of the chain becomes credible, that reciprocal logic weakens and the scheme can unravel.

At this point it is useful to distinguish a stronger and a weaker claim in the literature. The stronger claim is that indirect reciprocity grounds duties of justice to future generations. The weaker claim is that it can help stabilise intergenerational institutions. Heath's argument is best read in this second way. In an open-ended scheme, each cohort has reason to comply because it expects later cohorts to do the same, so indirect reciprocity can sustain a cooperative equilibrium (Heath, 1997; 2013). Arrhenius objects that this mechanism is more fragile than it first appears. It relies on demanding assumptions about information, rationality and backward induction across generations (Arrhenius, 1999; Gardiner, 2009). On this reading, repeated game reasoning helps explain how PAYGO can persist under ordinary conditions, but it does not by itself settle what justice requires between generations. A later way of putting the point is that such arguments are better at explaining duties regarding future people than at grounding full duties to them (Meijers, 2024).

Brandstedt (2023) captures the same dynamic as an assurance problem. Even if PAYGO can be mutually advantageous, each cohort needs reassurance that others will continue to cooperate. If the expected return from PAYGO falls below what private saving seems likely to yield, early defection becomes tempting according to Brandstedt. The policy conclusion is therefore not just to keep PAYGO solvent, but to keep it credibly fair and credibly open-ended, so that last cohort beliefs do not take hold. One class of *assurance devices* are automatic adjustment rules that share shocks transparently across workers and retirees. The Musgrave rule is a leading example. When the wage sum weakens, both contributions and benefits adjust so that workers and pensioners share the loss

and their relative net positions remain stable. And when the wage sum strengthens, adjustments work in the opposite direction both benefiting from the strong finances.

## 7.2. PAYGO, reciprocity, and their limits

The previous section explained when PAYGO can remain stable. The present section asks a different question. Can reciprocity justify the compulsory transfer that PAYGO imposes, and can it tell us how large that transfer should be? This matters because public pensions are not voluntary gifts. They are compulsory transfers between cohorts therefore it must be morally enforceable. The issue is especially important because reciprocity is often the most intuitive public defence of PAYGO. If that defence fails, the scheme needs another normative basis.

Gosseries (2009) interprets PAYGO as a case of indirect ascending reciprocity. The basic idea is that generation G3 supports G2 because G2 supported G1. Gosseries distinguishes two issues. The first is justificatory. It asks why G3 owes anything to G2. The second is substantive. It asks how much G3 owes. In the ascending model, the substantive rule is one of at least equivalence: G3 owes G2 at least as much as G2 transferred to G1 (Gosseries, 2009). This captures the moral logic behind many everyday defences of PAYGO. We pay because earlier cohorts paid.

Yet the model faces an immediate founding problem. The first retired cohort receives benefits without having first financed an older retired cohort. There is no earlier transfer to point to. Gosseries therefore allows a prospective version of ascending reciprocity. In the founding case, the transfer can be justified by the expectation that later cohorts will continue the chain (Gosseries, 2009). Reciprocity can therefore help explain why PAYGO begins and why people may comply with it. But this already shows one limit. Reciprocity may justify the existence of a transfer without yet telling us what a fair transfer is.

A deeper problem concerns the justificatory claim itself. Barry's objection is that the mere fact of having received something does not by itself create a duty of justice to give something back (Barry, 1989; Gosseries, 2009). Gosseries partly replies by treating reciprocity as a way of avoiding free riding. A later cohort may wrong earlier ones if it consumes inherited goods, or lets institutions that earlier cohorts sustained decay, without helping to maintain them in turn (Gosseries, 2009).

Even so, this move remains incomplete. Reciprocity may explain why non-compliance looks unfair or parasitic. It does not on its own provide a full principle of pension justice.

The substantive claim is also fragile. If cohorts shrink, longevity rises, or growth slows, requiring each cohort to do at least as much as the previous one can impose much heavier burdens on later cohorts. One cohort may pay full contributions to its parents and then receive lower pensions from its own children because the chain has weakened, contracted or partially broken. In that case, it bears more of the cost of the scheme than it can pass on. More importantly, ascending reciprocity compares transfers in isolation. It does not ask how well off the cohorts are over their lifetimes. A cohort that is much better off than its children may still claim an equivalent return. From a liberal egalitarian perspective, that is not persuasive. Justice may require some cohorts to receive less than they contributed, and others to receive more.

One response is to move from ascending to double reciprocity. On this view, old age claims are grounded not only in what a cohort paid to its parents, but also in what it did for its children through child-rearing and education (Cosandey, 2003; Gosseries, 2009). This makes the account more sensitive to social reproduction and simultaneously raises new issues. Its plausibility depends on difficult comparisons between pension transfers, care and education. It can also overlook the wider bundle of social, institutional and natural capital that each cohort passes on unless its material scope is broadened considerably (Gosseries, 2009). For that reason, double reciprocity may improve the moral logic of PAYGO, but it still does not remove the need for an independent distributive standard.

The discussion so far has clarified the dissertation's normative point of departure. Reciprocity helps explain the moral appeal of PAYGO and the intuitive force of claims about continuity between generations, but it does not by itself determine what justice requires under conditions of demographic change and unequal lifetime prospects. The dissertation therefore proceeds on the view that pension institutions must be assessed against an independent liberal-egalitarian standard. The published articles are inspired by this standard from different angles. Together, they examine how prefunding, childrearing, conscription and EU pension policies shape the just distribution of pension burdens and benefits across cohorts.

## Published articles

The following chapters reproduce the published articles on which this dissertation is based. The introductory remarks preceding each article indicate its specific analytical role, and provide context, or extensions not included in the published version. Some of these remarks address constraints of space or genre in the original publication process, whereas others reflect arguments or connections that became clearer only in the course of writing the dissertation. The articles can therefore be read individually, but the accompanying introductions help understanding how they form a cumulative argument.

This applies in particular to Article IV, whose treatment here is more fully elaborated and somewhat differently focused than in the published book chapter. The published chapter states the core claim briefly and mainly discusses how three European countries have implemented childcare credits. The introduction here develops the core claim more fully and addresses two objections that might be raised against it. It may therefore be read independently of the published chapter.

### What should pension systems compensate or recognise?

Articles III and IV both challenge the view that pensions should simply mirror labour market earnings, a view that has become more consequential as many European pension systems have tightened the link between lifetime employment, earnings, and pension benefit levels (Kuivalainen et al., 2023). I therefore need to defend my approach by clarifying what each article seeks to compensate or recognise, and why pension systems are the right institution for doing so. More precisely, the two articles expand and partly redefine what should count as a contribution in public or private pension systems. A pension contribution should not be understood only as a cash contribution registered through payroll taxes. Instead, it should also include socially necessary or state imposed activities that sustain the cooperative scheme on which pensions depend.

Article III treats conscription as a compulsory contribution in kind to the public good of national defence and proposes a corrective pension measure, namely pension credits and earlier access to retirement without actuarial penalty. Article IV develops the broader implication more directly. It

argues that childrearing is a contribution to the human capital base of pension systems, because future contributors, taxpayers, workers, and carers do not appear without costly parental investment. Olsaretti (2013) argues that the relevant issue is not whether children generate benefits for others, but whether it is fair for social institutions to distribute the benefits of children broadly while leaving a substantial part of the necessary costs of raising them with parents. In Olsaretti's terms, children should be understood not merely as private goods, nor straightforwardly as public goods, because their benefits are not naturally available to all, but as socialised goods, because social and economic institutions are structured so that the benefits of parents' labour are shared by parents and nonparents alike (Olsaretti 2013, 252).<sup>13</sup> The claim in Article IV is that pension systems depend on the successful raising of future contributors, and that it is unfair for those systems to socialise the pension related benefits of childrearing while treating the labour of raising children as purely private activity.

This also explains why the remedy should be located in pension systems, rather than only in cash benefits. Pension benefits are understood as a reward for, or an institutional return on, accumulated contributions. We typically understand it as fair that an individual receives a higher pension because they have contributed, in one way or another, more than another individual who receives a lower pension. Cash benefits, such as child allowances, may compensate some immediate costs, but they do not translate into higher retirement benefits. I argue that pension credits for childrearing recognise the relevant period as part of the person's accumulated contribution to the cooperative scheme. In a globalized world, where migrants become essential workers and generate tax revenue elsewhere, the scheme could be institutionalised so that parents receive pension benefits from the countries to which their tax producing children have moved. This would ensure that parents whose children migrate also benefit from the scheme. However, the claim is to recognise parents collectively as contributors to the production of the next generation whose benefits are socialised through welfare institutions (Olsaretti, 2013, 236-237). The same logic would apply internationally. The contributions of migrants from a given country could be pooled, and the corresponding pension recognition directed to parents in the country of origin as a group. This would preserve the central normative idea that, when the benefits of childrearing are socialised,

---

<sup>13</sup> As Olsaretti (2013) discusses, we could, in theory, set up welfare schemes that separate parents and nonparents as beneficiaries of children's later contributions. However, such a system would be normatively unattractive from a liberal egalitarian perspective and institutionally difficult to defend.

including across borders, the recognition of that contribution in pension benefits should also be socialised rather than individualized.

This point on migrants also explains why I focus compensation on the benefit side rather than on other margins, such as retirement age, contribution rate, or accrual rate, since these cannot easily be exported abroad when migrants come from different jurisdictions. I also want to ensure that my model does not exclude those who raised migrant children. In this respect, the proposal resembles an institutionalised analogue to remittances: instead of relying on private transfers from individual migrants to their own parents, it would publicly recognise, through pension benefits, the contribution made by parents in countries of origin to the production of workers and taxpayers who later sustain welfare institutions elsewhere.

This does not make cash benefits irrelevant. Conscripts may be owed wages because they perform work for the state. Parents may be owed child allowances, parental leave benefits, or childcare services because children create immediate costs; European welfare states typically provide such benefits. Cash benefits address present costs, income loss, or remuneration, whereas pension credits address the later pension consequences of activities that sustain public goods or intergenerational cooperation. A wage or allowance may compensate outside the pension system, but a pension credit is how the pension system itself records contribution. This distinction is important because the public/socialised goods argument should not be read as implying that all costs of childrearing must be socialised. As Shields (2025) argues, the fair play argument requires careful attention to which child related costs are genuinely connected to the production of the public good and how much of those costs may fairly be shared. In the pension case, the relevant claim is narrower. Childrearing should be recognised insofar as it contributes to the future workforce, tax base and contribution base on which pension systems depend.

Articles III and IV thus argue that public pensions sometimes ought to recognise activities and burdens that are relevant for pension systems as intergenerational cooperative schemes. They do so in different ways. Article III concerns compensation for a state-imposed disadvantage through a corrective pension measure. Article IV concerns recognition of a socially necessary contribution and fair sharing of its costs. The common claim is limited but important. Pension schemes need not compensate every disadvantage, nor recognise every valuable activity. Yet they should not define contribution so narrowly that they ignore the very activities that are needed for the very existence of the pension scheme in the long run.

## Why grant earlier access to retirement?

In article III I defend the claim that conscripts should be allowed to retire earlier. I have to defend the position because I grant special treatment to a group and this claim may be contested. What makes conscription sufficiently special to justify this treatment? The answer is not simply that conscription is arduous, although that matters. As I argue in Article III, many conscripts perform work that is physically demanding, dangerous and exposed to accidents. Conscripts also differ from workers in ordinary arduous occupations because they do not choose this work as part of a career. They are placed under military law, often with minimal labour rights, limited exit options. In addition, many states retain the option to command conscripts to perform emergency or restorative work after disasters, accidents or other crises, often after relatively brief training. The OECD (2023, 98-99) notes that military work is among the occupations covered by special pension provisions and that such provisions have a stronger case where work at older ages creates health and safety risks, a point relevant to refresher exercises in which former conscripts may be called up later in life. These features make the analogy with arduous work relevant, even if the core of my argument lies elsewhere.

The core of the argument is about free time over the life course. Conscription is a state-imposed temporal duty. A period in (young) adulthood is put under public command. During that period, the conscript cannot use his time for work, education, care, leisure, or other projects that he might have chosen. Even nominal free time during service is heavily constrained by military discipline and restrictions on movement. The loss is therefore a loss of autonomous time. Since free time is a general condition for pursuing almost any conception of the good life (Rose 2019), this loss has significance beyond the months formally spent in service.

This explains why the argument is parallel to Grégory Ponthière's (2023) case for reverse retirement, even though the underlying injustice is different. Ponthière's concern is premature mortality. Existing pension systems distribute retirement at the end of life, but some people die too early to enjoy it. On his view, the short lived suffer not only the misfortune of premature death, but also contribute to schemes that benefit only those who live longer. His proposal for reverse retirement is designed to make some retirement time available earlier in life, so that even those who die

prematurely may enjoy a period of secured time before death. Ponthière therefore treats pension design as a possible social insurance against the risk of a short life.

Unlike Ponthière, my argument is not primarily about differential mortality, but about free time. The two arguments are nevertheless structurally parallel. Ponthière (2023, 2) asks what the value of retirement is for those who may not live long enough to reach it. I ask what the value of a formally longer life is if the state appropriates part of it for compulsory service. In both cases, the relevant good is time under one's own control. A longer life is not valuable merely because it contains more chronological units. It is valuable because it gives persons time to form, revise and pursue their own plans. If that time is unavailable, or postponed beyond the point at which it can meaningfully serve the person's projects, then the pension system has failed to distribute one of the goods it is supposed to secure. As Myles (2002, 146) points out the gain in additional retirement time benefits those with shorter life expectancy proportionally more than those with longer life expectancy.

This point has a further liberal egalitarian implication. Those who are worst off often also face the least control over their working lives: worse working conditions, more inconvenient time schedules, and longer commutes. Their position can therefore be improved by allowing them earlier access to retirement. Yet the proposal need not force retirement on those who prefer to continue working. It is fully compatible with allowing individuals to combine work and retirement, since retirement should be understood as secured free time rather than compulsory work free leisure. As Valente (2024) argues, retirees should be able to use their retirement pensions as they see fit, including by continuing to work, and individuals should have some discretionary control over how they combine work and retirement across time.

This point also explains why cash compensation is insufficient. A wage may compensate the labour performed during service, but it does not restore the autonomous time that was taken. Nor does it guarantee that the former conscript will later be able to convert money into secure free time. Public retirement benefits directly secure the relevant good: a legally protected period of financially supported time outside labour market dependence. This is why Article III argues that free time in retirement is the closest institutional substitute for the free time lost to conscription.

The proposed remedy should therefore be proportionate. Conscripts should receive a wage because they perform work for the state. But wage compensation and pension compensation address different things. The wage remunerates service as labour. Pension credits and earlier access to

retirement correct the life course disadvantage created by compulsory service. They compensate in the currency most closely connected to the loss: secured free time. Ponthière seeks to protect those whose lives may be too short to enjoy retirement. Article III seeks to compensate those whose life course has been coercively shortened in another sense, because the state has taken part of their autonomous time and directed it to a collective duty.

## A note on the methodology

Because the dissertation combines empirical and normative articles, a brief methodological note is warranted. The overall strategy is mixed: the normatively oriented articles develop and apply principles of fairness to concrete institutional design problems, while the empirically oriented articles diagnose how pension governance operates in practice and under what constraints policies are discussed, prioritised, and implemented.

The article II on European pension policies builds an original dataset of European Union pension related recommendations compiled specifically for that article. We collected all pension-related recommendations issued under the European Semester and under European Union financial assistance programmes from publicly available sources. Each observation corresponds to a country in a given year. We coded whether that country received any pension related recommendation in that year (PRR takes value 1 if yes and 0 otherwise). Each recommendation is then classified into fifteen categories. Three categories capture broad objectives aligned with the goals agreed in the Open Method of Coordination, namely adequacy, sustainability and modernisation. Twelve categories capture more specific policy levers, such as statutory retirement age, early exit pathways, adjusting contributions, strengthening occupational pensions or indexation rules. The distinction matters because general recommendations mainly state an objective while leaving considerable national discretion, whereas specific recommendations identify the mechanism expected to change.

To analyse what predicts pension recommendations and how they relate to these goals, we used indicators that correspond to each goal. For adequacy, we relied on measures such as elderly poverty, the relative income position of older people, and replacement rates. For sustainability, we relied on pension expenditure and indicators of labour market performance at older ages, including

older worker employment and working life duration. For modernisation, we used measures that capture gender gaps in poverty, income and replacement rates. We also include demographic and fiscal controls that capture baseline pressures on pension systems and fiscal space, including the old-age dependency ratio, life expectancy at age 65, the budget balance and public debt, alongside a dummy for country years under European Union financial assistance, reflecting conditionality and heightened reform pressure.

The statistical models follow the structure of the outcomes. To estimate the probability that a country receives any pension recommendation in a given year, we used logistic regression, which is designed for yes or no outcomes and can be interpreted in terms of predicted probabilities. To estimate how many pension recommendations a country receives in a year, we used negative binomial regression, which is suitable for count data where the dispersion is higher than in a simple Poisson model. For interpretability, we reported predicted probabilities and expected counts rather than only coefficients. We estimate three versions of each model: one using only the goal-related indicators, one using only the demographic and fiscal controls, and one combining both. Across models, being under European Union financial assistance is the strongest predictor of receiving recommendations, and weaker labour market performance at older ages is also associated with a higher likelihood of recommendations. The full specification correctly classifies more than three quarters of outcomes.

The article I examines responsible investment policies in public pension reserve funds through two structured interviews with the officials directly responsible for these policies, one in each fund. Both respondents answered the same predefined questions, which supports transparency and comparability. The sample is intentionally small, but the interviewees are central to policy design and implementation, so the interviews provide direct insight into decision making practices and organisational reasoning that is appropriate for the chapter's explanatory aims.

Overall, the dissertation uses a mixed methodological strategy. It combines deductive argumentation grounded in the literature with two forms of empirical evidence: a unique dataset analysed with statistical models, and a structured interview chosen because it provided direct access to institutional practice where documentary sources alone are often insufficient.

# Article I Responsible investment policies of pension reserve funds

Several countries have accumulated public pension reserve funds. In the United States, the Social Security Act (1935) established the Social Security Trust Fund, and reforms in the early 1980s deliberately built-up surpluses to help finance the retirement of the baby-boom cohorts. Yet the Trust Fund is legally restricted to investing in US government obligations, making the balance primarily a claim on the Treasury and ultimately on future taxpayers rather than a diversified pool of private assets (Pattison, 2015). Canada, by contrast, created a large diversified public fund (the Canada Pension Plan Investment Board) in 1999. Sweden and Finland also hold sizeable reserve funds: Sweden's AP funds (since 1960) and Finland's public-sector reserve arrangements (since 1988) aim to buffer contribution rates and stabilise financing as cohort sizes vary. Once reserve funds invest in capital markets, however, the key governance question is how such collective assets ought to be invested in the long-term on behalf of a heterogeneous constituency.

Article I examines a part of pension politics that is often treated as secondary: the investment governance of public pension reserve funds. Yet this issue fits directly into the wider argument of the dissertation. Public pensions do not only distribute resources through contribution rules and benefit formulas; they also govern large pools of collective capital on behalf of present and future beneficiaries. The article compares Finland's Keva and Sweden's AP4 and shows two different institutional paths to responsible investment. In Sweden, responsible investment is more clearly embedded in legislation, coordinated through the Council of Ethics, and supported by stronger disclosure practices. In Finland, by contrast, the legal mandate is looser, and responsible investment has developed more through professional practice and insider interpretation than through explicit public steering. The comparison therefore shows that pension justice also concerns how collective assets are governed, under what mandate, and with what degree of public accountability.

Sandberg (2013) helps clarify why this matters normatively. His point is that pension funds are distinctive institutions because they manage long-term savings for beneficiaries spread across generations. If they ignore climate and other long-run social risks, they may protect current returns while shifting serious harms onto younger and future beneficiaries. But Sandberg's solution is not to stretch fiduciary duty until it vaguely includes every social goal. His claim is more precise: if

societies want pension funds to take environmental and social concerns seriously, these concerns should be stated explicitly in law or in binding mandates, given real priority in cases of conflict, and backed by governance arrangements that make them publicly visible and enforceable. This is what makes Article I important for the dissertation as a whole. It shows that fair pension design depends not only on who receives benefits, but also on how pension wealth is invested and on whether the rules governing that investment are defensible to present and future citizens.

# Two different paths to sustainability? A comparison of a Finnish and a Swedish public pension reserve fund

**Niko Väänänen** 

Université Catholique de Louvain, Louvain-la-Neuve, Belgium

## Abstract

The role played by finance in allocating resources has become crucial in modern economies. Responsible Investing, i.e., the integration of non-financial criteria (such as environmental, social, and governance (ESG), negative/positive screening, and active ownership) into the investment process, has gained an important role. Does this apply to pension funds, too? This article compares two public pension reserve funds, one from Finland and one from Sweden, and describes their path towards responsible investments. The article shows that although having taken different paths, responsible investing has been clearly integrated into the investment process of both funds during the last decades. In Finland, the role played by pension fund insiders has been remarkable. In Sweden, legislators have played an active and significant role in the process. The design of the pension system equally plays an important role in the overall process. In Sweden, cooperation is promoted in responsible investments. In Finland, pension system design fosters competition, thereby reducing cooperation in investments. This article adds more information on the scarce comparative research on public pension reserve funds.

## Introduction

The role played by finance in allocating resources has become crucial in modern economies. In recent decades, non-financial concerns have gained importance in investment decisions. The aim of this comparative article is to investigate different paths to responsible investment policies. We study two public pension funds: (1) Keva, a Finnish pension

---

### Corresponding author:

Niko Väänänen, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.

E-mail: niko.vaananen@student.uclouvain.be

fund of the public-sector pension scheme; and (2) fjärde AP-fonden (or, as typically abbreviated, AP4<sup>1</sup>), a Swedish pension reserve fund of the general pension scheme. The funds were selected based on the typical case-study method (Seawright and Gerring, 2008: 299-300). Keva and AP4 are both reserve funds and their sizes, measured as assets under management, are relatively equal. Both funds are a representative case of a fund operating in the public pension system of each country.

The guiding idea, which has led the research, was to investigate the role of institutions and, more precisely, their roles in the development of sustainable investments of public pension reserve funds (PRFs). The article adds more information on the scarce comparative research on public pension reserve funds, which are colloquially known as ‘buffer funds’. As a rule, unlike private pension providers, PRFs do not fall under either the Institutions for Occupational Retirement Provision (IORP) II or Solvency II directives of the European Union (EU). Instead, PRFs are regulated by national legislation.<sup>2</sup>

Pension funds are large investors who, according to the financial logic, primarily seek the highest returns on their investments. In recent decades, the financial logic has been complemented by an increasing emphasis on the social goals of investments (Yan et al., 2019). Sandberg (2017) has argued that pension funds, due to their intergenerational nature, should take an active role in safeguarding the interests of future generations and fragile stakeholders, as they have enormous influence on societies. Because of their nature, pension funds must consider the interests of people of different ages. If a pension fund is overly short-term oriented, it may favour older beneficiaries over younger ones (Johnson and de Graaf, 2009).

One way to consider the interests of future generations is through responsible investing (RI). Typically, RI is understood as an approach in which criteria other than directly financial ones are integrated into the investment process (Sandberg et al., 2009: 153). Nowadays, it is widely understood that these non-financial factors can influence the long-term profit-making potential of firms. RI is a phenomenon that takes a different shape across countries and jurisdictions. In the case of public pension funds, the most important non-financial factors integrated into the investment process are domestic ones. It is pertinent to study large public pension funds because public pension funds have been found to be most likely to engage in responsible investment, while larger funds (measured by assets, staff, and participants) more often have responsible investment strategies in comparison with smaller ones (Sievänen et al., 2012). Public pension funds have a long history in RI: their managers were among the first to apply environmental, social, and governance (ESG) screening on investment choices (Munnell and Sundén, 2005).

The countries for this article were chosen because they provide for a good comparative setting: in Sweden, the practice of responsible investment is more established than in Finland, where it has become more common only in the last decades. Scholtens and Sievänen (2013: 609) point out that socially responsible investments (SRIs) started in Sweden in the 1960s, but Finland saw its first SRI activity in 1999. Therefore, compared with Sweden, Finland does not have a long tradition in the field of responsible investments. The methodological approach is that of a qualitative comparative case study. Most of the data were gathered from previous studies and publicly available

1. AP is shortened from *allmänna pension*, which would translate to ‘general pension’. The complete Swedish name, *fjärde allmänna pensionfonden*, would literally translate to ‘fourth general pension fund’.

2. It should be noted that Finnish private-sector pension providers are equally exempt from Solvency II and IORP II regulations for the statutory pension they offer. However, the private-sector funds must follow other relevant EU legislation, such as laws on competition and investments.

information. In addition, two interviews were conducted with a representative working with responsible investments in each Keva in Finland and AP4 in Sweden.

### *Public pension reserve funds and responsible investments*

Our approach is institutionalist. Following Hall and Soskice (2001), we understand that institutional structures condition investment strategies. Many institutional factors that condition the behaviour of PRFs remain nation-specific. Therefore, we find a comparative approach salient for our study. Our unit of analysis is at the level of pension funds, but we equally pay attention to the political and legal environment, which is different in Finland and Sweden. Sievänen (2013) argues that responsible investment should be examined at the level of pension funds, as neither the macro-level (culture, economy) nor the micro-level (values, beliefs) cannot provide for an adequate answer to the question on what drives their responsible investments.

Equally, we apply the principal agent theory. According to this theory, employees of public pension reserve funds are agents who should act according to the interests of the principals, i.e., the current and future beneficiaries of the fund. In brief, the theory explains the problems of a situation in which one actor (the agent) acts on behalf of or in the name of another actor (the principal). Principals want to make sure that agents' interests align with their own. This is done by creating incentives or rules or by monitoring (Shapiro, 2005).

Both Keva and AP4 are public pension reserve funds. Their legal nature differs from private funds, in that they do not have a solvency framework to follow. Yet, by rule, their assets cannot be used for anything other than to finance public pensions. However, due to their place within the public domain, public reserve funds are at risk of unpredictable political interference. Governments can modify the relevant legislation and tap into the funds to finance current government spending instead of future pension benefits (for an overview of recent cases, see Casey, 2014).

The OECD (2018) has defined pension reserve funds that are "*set up by governments or social security institutions with the objective of contributing to finance the relevant pay-as-you-go pension plans*" as sovereign and public. Both funds under scrutiny fall under this definition: the Swedish AP4 finances the general pension scheme, while the Finnish Keva finances the statutory local government pension scheme. Both schemes operate, as public pension schemes typically do, on a pay-as-you-go (PAYG) basis. In a PAYG scheme, current retirement benefits are financed directly by contributions levied from current workers.

The relevant stakeholder groups for PRFs are the plan participants, the government, asset managers, and taxpayers. The plan participants (current and former) are interested in the performance of the scheme, while the government is interested in the costs and, occasionally, the investment policies of the system. Ultimately, though, taxpayers bear the final risk related to financing if the pension system has any benefit-level guarantees (Mitchell, 2002). Yet, the asset managers play an enormous role, as they make the individual decisions on investments.

The two funds differ in what we understand by the term 'public'. AP4 is a reserve fund to the general (public) pension scheme. Keva is public in the sense that it manages the pension assets of local government employees and pays out the pensions of any employee working in the public sector. As we understand that the pension '*ecosystem*'<sup>3</sup> is important in defining pension policies,

---

3. By ecosystem, we mean the different roles given to institutions and stakeholders in a given pension system, in addition to the legislative framework.

**Table 1.** Characteristics of the two funds.

|             | Staff in<br>responsible<br>investments<br>(out of total) | Assets under<br>Management<br>(in 2019) | Average real<br>return<br>(2011-2020) | Asset class                                                                         | Share of<br>pension<br>contributions | Share of<br>pension<br>benefits |
|-------------|----------------------------------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|
| <b>AP4</b>  | 8 (of 53)                                                | EUR 39 billion                          | 8.6%                                  | 31% Fixed<br>income<br>56%<br>Equities<br>13% Real<br>assets                        | 25%                                  | 25%                             |
| <b>Keva</b> | 2 (of 501)                                               | EUR 57 billion                          | 4.8%                                  | 35% Fixed<br>income<br>53%<br>Equities<br>6% Real<br>estate<br>6%<br>Hedge<br>funds | 27% of the<br>workforce              | 36% of<br>pension<br>recipients |

Source: AP4, 2019; Keva, 2020a; ETK, 2021a; UNPRI, 2020a, 2020b.

we will briefly describe the pension systems of the two countries (Table 1). Keva is a bigger fund by the size of assets under management and the number of staff. Yet, the number of staff working in responsible investments is only one-quarter of that in AP4. This is due to Keva's role as a pension provider, whereas AP4 only manages assets without any customer contact.<sup>4</sup> The shares of fixed-income and equities are relatively close in both funds. As the shares of contributions, workforce, pension benefits, and pension recipients show, both pension funds play an important role in the statutory pension system. Between 2011 and 2020, the average real return on investments was relatively higher for AP4 (8.6%) compared with Keva (4.8%; Table 2). Both funds employ a variety of responsible investment policies and, on paper, it is hard to find a big difference between them. For exclusions, AP4 publicly discloses that it does not invest in the following products: nuclear weapons, tobacco and cannabis, cluster munitions and mines, and certain fossil-based companies that are not aligned with the Paris Agreement. In addition, it has listed 17 companies that it has excluded on the recommendation of the Council of Ethics. Keva's exclusion list covers all companies that produce controversial weapons (namely, anti-personnel landmines, cluster munitions, and chemical, biological, and nuclear weapons). Since 2021, Keva has also applied a climate-scenario analysis on its assets.

4. For example, Keva is responsible for making decisions on rehabilitation and disability benefits, paying out pension benefits, and communicating with customers on pension applications.

**Table 2.** Responsible investment policies of the two funds.

|      | ESG integration | Exclusion list | Screening                           | Climate-scenario analysis | Endorse UN sustainable development goals |
|------|-----------------|----------------|-------------------------------------|---------------------------|------------------------------------------|
| AP4  | Yes             | Yes            | Negative, positive, and norms-based | Yes                       | Yes                                      |
| Keva | Yes             | Yes            | Negative and norms-based            | Yes                       | Yes                                      |

Source: AP4, 2019; Keva, 2020a, 2020b; UNPRI, 2020a, 2020b.

## Overview of the Finnish pension system

The Finnish pension system consists of a single, mandatory pillar with two tiers: a statutory earnings-related pension (second tier), which is complemented by a pensions-tested and residence-based national pension (first tier).<sup>5</sup> Due to the comprehensive coverage of the statutory systems, lack of tax incentives, and the absence of a pension ceiling (neither in income nor in pension), the significance of supplementary pensions - that is, occupational pensions (second pillar) or individual pension insurance (third pillar) - is negligible in Finland (Vidlund and Preusker, 2013).

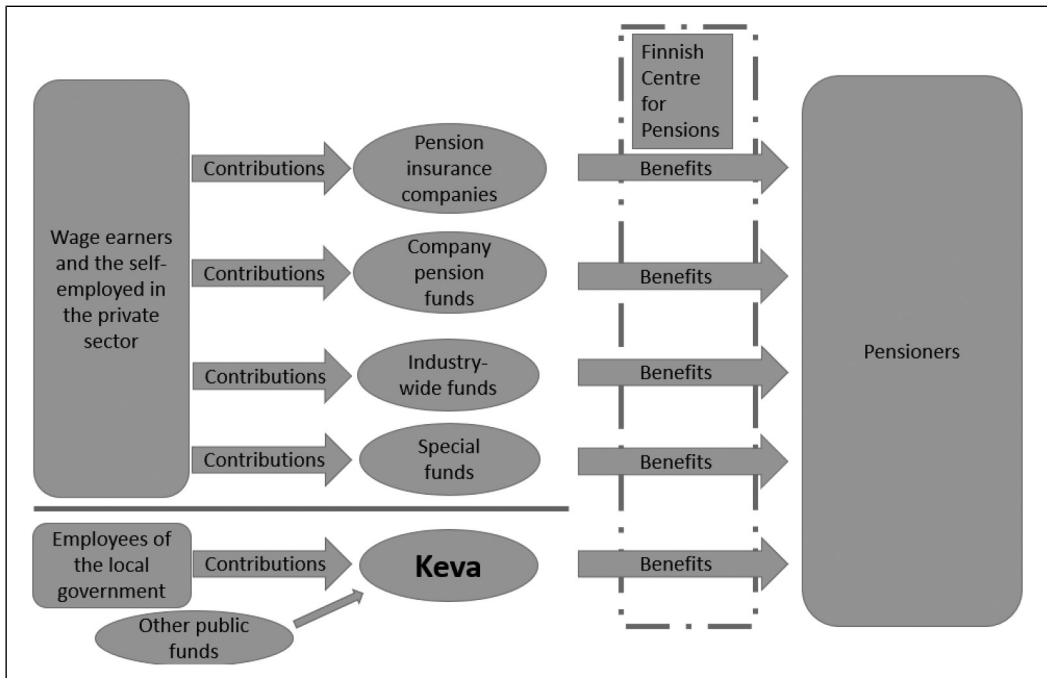
Earnings-related pensions are mostly financed by contributions and the use of funds. In 2020, the wage-based pension contribution fee for the private and public sectors was, on average, 24.4% of one's salary (ETK, 2020a).<sup>6</sup> In the earnings-related scheme, the state takes care of the contributions for certain social security benefit recipients. The financing method is PAYG with significant partial funding (Ambachtscheer, 2013).

The management of private-sector pensions is decentralised due to the origins of the scheme: the Finnish earnings-related pensions have been partially pre-funded since the creation of the scheme in 1962 (Hannikainen and Vauhkonen, 2012: 15). These private pension providers compete against each other. However, the providers have a joint liability for all accrued pension benefits, which significantly decreases competition (Johanson and Sorsa, 2010). It is the task of the Finnish Centre for Pensions to calculate the liabilities of each pension provider regarding the pay-out of the pension benefit (ETK, 2021b). If a provider falls into bankruptcy, the other providers are liable for the accrued pensions of that provider. The Finnish pension system could be described as a semi-closed ecosystem, wherein existing providers compete over their market share and possibly merge, but it is highly unlikely that newcomers will enter the market. Since 2000, the number of pension providers has decreased from 62 to 27 (ETK, 2021c; Figure 1).

At the beginning, part of the contributions were lent back to the employers in the form of a premium loan. This provided capital for domestic industrial production. The interest rate for these premium loans was fixed for over three decades (Sorsa, 2011: 138). Later, mainly after the opening of the Finnish financial sector in the 1980s, premium lending lost its importance. Pension providers started becoming more diversified and international (Hannikainen and Vauhkonen, 2012: 15). McCarthy et al. (2016: 7) have described the evolution of investment policies as *"a shift from long-term loan provision for domestic industrial production to actively*

5. Both these pension schemes are covered by the EC Regulation on the Coordination of Social Security Systems (883/2004).

6. In addition, Keva charged 3.99% expenditure-based contributions to its members in 2020.



**Figure 1.** The flow of contributions in the Finnish earnings-related pension system. Source: Author's elaboration.

*managed, internationally diversified portfolios since the late 1990s.*" The reforms of investment rules in 1997 and 2007 promoted an equity-driven investment policy and required extensive diversification of equity portfolios (Hannikainen and Vauhkonen, 2012: 15).

### *Keva – a public pension reserve fund*

As mentioned before, the 'principals' of Keva are the plan participants, i.e., current and future beneficiaries. Keva has two roles in the public pension system: it is the pension provider for all employees of the public sector, as it pays out pensions directly to beneficiaries, and it is the pension reserve fund of the local government. Keva was established in 1964 as a pension institution for employees in the local government (Barr, 2013). The earnings-related pension is of a defined-benefit type, and investment returns have no direct impact on the pension benefit. As accrued pension benefits are understood to be protected by the right to property, the guarantors of this promise are ultimately the taxpayers (ETK, 2021d).

Keva has quite a long but rather narrow history in investments. From 1967, it offered affordable loans to municipalities. A big change in investment policy came in 1988, when it was decided that Keva would start accumulating assets for a reserve fund so it could prepare for the increasing pension expenditures of the 21<sup>st</sup> century (Blomster, 2004). The first year in which the pension expenditure was bigger than pension income was 2017. The decision to pre-fund was supported by the fact that the private-sector pension system had been partially pre-funded since the creation

of the pension scheme in 1962. At the end of 2015, the financial assets held by the Finnish pension providers equalled 91% of GDP. The majority of the assets were held in the first pillar (ETK, 2020b). Keva is the biggest pension fund in Finland by the size of its assets, which amounted to almost 24% of GDP, or EUR 57 billion, at the end of 2019. The Ministry of Finance oversees the concerning legislation. The Finnish Financial Authority supervises Keva's investment policies and reports the findings to the Ministry of Finance every year.

### *Who decides on investments?*

Keva's administrative structure is crucial in finding the locus for decisions on investment policies. As a PRF, relevant stakeholders for Keva are plan participants, (local) government, asset managers, and taxpayers. It is an independent entity with a legal personhood. It has a two-tier governance structure, which consists of a council and a board of directors (BoD). The latter is appointed by the council and is responsible for strategic decisions. Keva's board of directors consists of eleven members, of which three represent employees, two represent employers, and six represent taxpayers. Those members representing taxpayers are nominated by the association of Finnish municipalities. Thus, the majority of the board are political actors representing the interests of local-level taxpayers.<sup>7</sup> The task of the BoD is, among others, to approve Keva's strategy and, on a yearly basis, approve the investment plan of Keva's assets. According to the act on Keva, the BoD must approve principles of corporate governance. A yearly report must be produced on the application of these principles. Members of the BoD are given training in financial competences by Keva. As part of the training, information on responsible investment is given.

According to the website (Keva, 2020b), *"Keva's council consists of 30 members. Four represent employee organisations, four employer organisations, and the rest are appointed by political parties reflecting the most recent municipal election results."* The task of the council is to represent the interest of the principals. The council decides how many assets are transferred to the reserve fund. Thus, we can conclude that both the council and the BoD reflect the political composition of Finnish municipalities and the interests of municipal-level actors. Typically, the Centre Party<sup>8</sup> has had the most municipal councillors in Finnish local governments. Also, the CEO of Keva has typically been closely affiliated with the Centre Party.

Yet, it is up to the portfolio managers and analysts to make the individual decisions on investments. Their work should reflect the strategic decision taken by the strategic bodies. Keva uses both in-house and external managers in investments. The principal-agent asymmetry is more present in the case of external managers, as they often incur higher costs and might have diverging motives, as acknowledged by Keva (Karhunen et al., 2017).

### *Finnish Legislation sets few requirements*

Keva's operations are based on the Public Sector Pensions Act and the Act on Keva (66/2016). No specific legislation exists on investments other than the mention in the act that Keva is a long-term investor that must ensure the safety of and return on investments. The general principle

---

7. In Finland, municipalities are self-governing units and they have the right to tax their residents.

8. The Centre Party belongs to the Alliance of Liberals and Democrats for Europe (ALDE) Party. Nationally, the Centre Party is considered a party of agrarian origins and one that is positioned in the centre of the political spectrum.

governing the investment operations of earnings-related pension providers is that pension assets must be invested profitably and prudently, taking into consideration the long-term liabilities of the fund. This applies equally to Keva, and there are no other legislative regulations regarding investments for Keva (Viherkenttä, 2020). As such, the mandate is vague and does not give any specific targets or measures against which to evaluate the fund's performance.

Finland lacks parliamentary tradition in issues related to pension policies, as reforms have typically been negotiated among the labour market parties and only approved by Parliament after the labour market parties have reached an agreement (Hannikainen and Vauhkonen, 2012). Any pension-related initiative not coming from the main decision-makers of the scheme – i.e., the labour market parties – has a typically low chance of success. In recent years, due to the political composition of Keva's administration, some politicians have occasionally proposed increasing domestic exposure of pension investments; however, these discussions have been quickly silenced by the pension industry. There has been no political debate on responsible investments of the pension funds so far.

The political agents taking part in the governance of Keva are typically municipal councillors who have entered politics to decide on local-level affairs, such as health care and culture services, as well as infrastructure. It is safe to assume that, on average, municipal councillors have a limited knowledge of issues related to responsible investments. The law does not set any requirements on financial knowledge. Neither is there any special training provided by Keva. The lack of knowledge increases the role played by the employees of Keva, who are the industry insiders, in the development of investment strategies.

The Finnish Financial Authority oversees Keva's investments. Responsible investments are based on voluntary and non-quantifiable issues; therefore, they remain largely outside the supervisor's scope. However, according to the law on Keva, every year, the BoD has to confirm the principles of corporate governance. Equally, the law requires the BoD to publicly disclose how it has implemented the corporate governance in practice and justify any possible deviations. Yet, the stipulations on corporate governance are mostly procedural, stating the principles that Keva uses for ownership steering; as such, they do not make any explicit requirements on sustainability. The corporate governance principles seek to assure Keva of returns to its investments. The exact content of the corporate governance principles remains for the BoD to decide. The Financial Authority does not supervise responsible investments, but it can give non-binding recommendations, although it has given no such recommendations so far.

In the absence of legislative acts, recommendations and principles steer investors' approach to responsible investment. In Finland, it is up to the pension provider to independently define its own investment and ownership policy; still, as aforementioned, the law on Keva sets some requirements on the procedural aspects of corporate governance. Previously, pension providers shared common guidelines on responsible investments (Tela, 2008). Savilaakso (2015) saw these guidelines, drafted by the pension fund lobby organisation Tela, as having contributed to the spread of responsible investment policies in the pensions industry. Since 2008, these guidelines have not been updated. As Sorsa and Roumpakis (2017: 176) point out, the investment rules of pension providers have been reformed on several occasions to enable investing in riskier and more profitable assets on a global scale. As pension providers compete on investment returns,<sup>9</sup> this is the primary target of

---

9. Pension providers can offer rebates for their customers based on their investment returns (Ambachtscheer 2013: 18).

their investments. Decreasing cooperation has led to all pension insurers having their own procedures and principles for assessing and reviewing the responsibility of investments. It could be argued that the responsible investment approach is another aspect of competition between funds in attracting customers. Therefore, the concept of responsible investment at the national level is rather vague.

However, the responsible investment strategies of private and public pension funds in Finland are rather similar and it is hard to find significant differences between them (Viherkenttä, 2020: 179). All the Finnish first-pillar pension funds are signatories to the United Nations Principles of Responsible Investments (UNPRI). Also, Keva uses the UNPRI guidelines - which it signed in 2008 - to guide its responsible investment process. The aim of the guidelines is to integrate ESG criteria into investment decision-making and ownership practice. It is still uncertain whether adherence to UNPRI guidelines is sufficient alone for achieving this. A recent study (De Groot et al., 2021) on the asset managers of PRI signatories showed they do not vote in favour of environmental and social issues any more often.

Keva cooperates with other pension providers on responsibility issues, but makes decisions on its own. Even though Keva has a unique role and task in the Finnish pension system, its investment success is most often compared to Finnish private-sector funds. Its responsible investment approach resembles that of private-sector pension providers in many ways, whose governance and investment standards are similar to those required of Keva.<sup>10</sup> As Ambachtscheer (2013) concludes for Sweden, we observe that in Finland, pension funds have 'herded' together with similar investment policies and hence similar investment results. This probably equally applies to responsible investment strategies, as the funds are mainly compared to each other based on returns on their investments in domestic discussions.

### *Responsibility: on the increase?*

Keva's BoD reformed its steering of investments markedly in 2017 when it approved principles on investments for the first time.<sup>11</sup> In the same year, principles on responsible investments were also approved. Due to the lack of regulation in sustainable investments or investments in general, the role of the BoD is very important in shaping and deciding responsible investments. According to these principles, Keva's investment strategy is to integrate a sustainability or 'ESG' approach, as this is understood to bring extra value in the long run through higher returns and lower risk (Karhunen et al., 2017). This document, that guides portfolio managers in their operations, states that responsible investing is only possible with a long-term investment approach, as ESG risks are mostly long term.

Keva has a Responsible Investment Steering Group, which coordinates and develops responsible investing (Vidlund et al., 2015). Yet, this body is internal and does not publish its documents or meeting details. Although Keva competes over its customers only to a limited extent, peer pressure exists in the form of national-level comparisons. Nationally, Keva's investment returns and

---

10. In 2019, a working group set up by the Ministry of Social Affairs and Health and Ministry of Finances proposed the merging of the local government and private-sector earnings-related pension systems for employees. Currently, a tripartite working group is implementing such a plan. The deadline set by the working group is the end of December 2021. This would mean that Keva's monopoly on local government pension insurance arrangements would be abolished.

11. Sustainability has been part of the investment strategy since 2002 and the first corporate governance document was approved in 2003.

administration costs are compared to those of private-sector pension providers, and not to foreign reserve funds. Due to the size of the pensions industry, rules regarding partial funding, and the relatively small number of investment professionals in Finland, the funds closely follow each other's investment strategies and success.

Keva measures the achievement of its responsible investment targets by looking at investment returns in the long run, ameliorating the mechanisms of active ownership, measuring the environmental targets of its real estate investments, looking at the share of ESG investments in the passive portfolio, decreasing the carbon intensity of the portfolio, and enhancing the mechanisms of active ownership. Keva follows the external asset managers' voting and engagement analysis through an annual ESG questionnaire. External asset managers make more than 80% of investments in equities. The exceptions are real estate and fixed income, where staff make most of the investments (so-called 'direct investments'); yet, even then, external actors make almost 40% of investments. In 2018 and 2019, Keva replaced the benchmark indexes of its passive portfolios with ESG indexes. Keva does not invest in controversial weapons. This exclusion stems from international conventions banning the use of controversial weapons. In addition, Keva sees that the UN Global Compact serves as the basis for international norms. However, Keva's aim is always first to encourage compliance with international norms. The recent EU taxonomy for sustainable finance will not be directly applicable to Keva and it is still unclear how the fund will follow the taxonomy approach.

We can conclude that responsible investment has grown to be an important part of Keva's investment strategy. Yet, it remains subordinate to the main economic aim of generating safe returns on investments. Responsible investment is about improving the profit-to-risk ratio. The Finnish funds do not publicly disclose all information on investments. Keva's increasing focus on responsible investment is largely driven by industry insiders, while legislative changes and public debates are lacking. Tela, the pension fund lobby organisation, was previously a driver in the development of responsible investments; however, this is no longer the case, as competition has increased and all pension providers now have their own strategies. Keva follows international development and best practices in the field of responsible investments where it sees fit. Yet, more transparency would help in monitoring the work of 'agents' (industry insiders) in the eyes of the 'principals' (current and future beneficiaries of the fund). Another option would be to create rules designed to increase transparency.

## **Overview of the Swedish pension system**

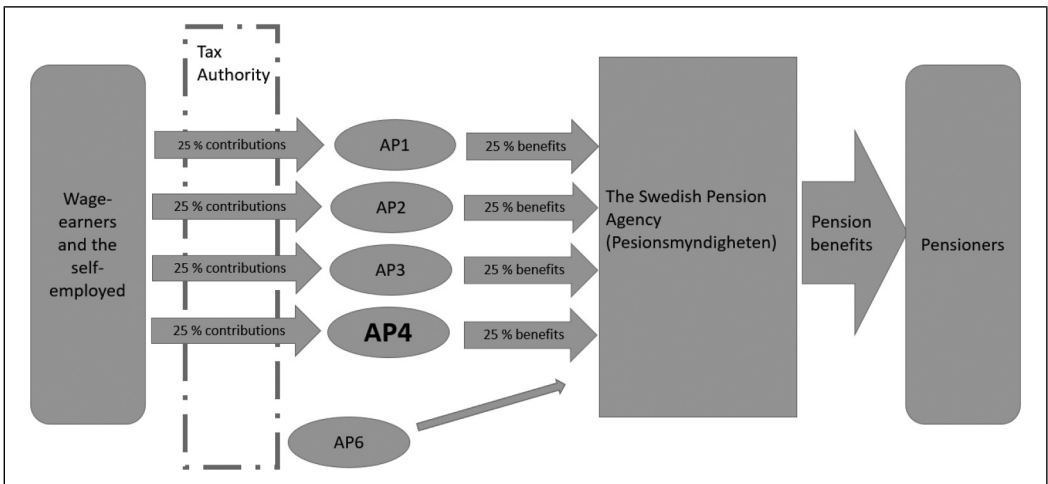
The Swedish public old-age pension system covers everyone who has worked or lived in Sweden. It consists of an earnings-related component based on notional accounts, a private, mandatory defined-contribution system (the premium pension), and an income-tested top-up (a minimum guarantee pension). The public pension system is the same for all occupational groups, the self-employed, and both private-sector and public-sector workers. On top of the public pension system, most employees are covered by occupational pension schemes (Lindquist and Wadensjö, 2011). Private, third-pillar pension savings are relatively uncommon. This might be because tax deductions for private savings were abolished in 2016.

The public pension system has amassed assets since the start-up of the pension scheme. The national reserve pension funds - the so-called 'AP funds' - were set up when the earnings-related pension tier (ATP) was created in 1960. Their role was to administer pension capital and they were initially responsible for outgoing pension payments (Hagen, 2017: 39). Today, the Swedish Pension

Agency (PM) pays out the pension benefits. During the starting years of the ATP system, the contribution rate was set higher so that the system could accumulate reserves, which would mitigate the need to cyclically adjust the pension contribution rate. Another aim was to offset the decrease in private saving due to the increased capital available for lending (Sundén, 2006). AP funds are separate from the state budget and have a global portfolio. In the long run, they should cover the expected increase in pension expenditure. Historically, these funds were primarily used to finance such goods as affordable housing. Investment in equities came only later, on a relatively small scale (Anderson, 2004: 18). AP funds were created with the same starting point and same mandates. The main objective of creating these multiple pension funds was to stimulate competition between them and guarantee a better return (Björkmo and Lundbergh, 2010; Figure 2).

The current structure of AP funds came about as part of a larger pension reform at the turn of the millennium. In January 2001, each of the four AP funds (1-4) received a similar amount of starting capital. At the same time, a specialised fund (AP6) was set up. The funds operate independently and autonomously from the Swedish Parliament. Such autonomy was one of the main goals of the legislative change in 2001 (Stalebrink, 2015). One-quarter of the social security contributions made towards the state pension system are directed by the Tax Authority into the first four AP funds. In turn, each of the four funds pays out one-quarter of the benefits due from the general pension system.

Pension policies in Sweden are decided in Parliament by a cross-party working group, *Pensionsgruppen*. The topics that the pension group discuss include questions related to the pension contribution level and benefits, but also the investment regulations of AP funds. Six parties are represented in the group. Together, they have typically held a clear majority in Parliament. Thus, if they have reached a consensus, they have been able to push it through Parliament. The parties of the pensions group are the Social Democratic Party, the Moderate Party, the Centre Party, the Green Party, the Christian Democrats, and the Liberals. Of the parties present in the Swedish Parliament, the Swedish Democrats and the Left Party do not participate in the cross-party working group.



**Figure 2.** The flow of contributions in the Swedish public pension system. Source: Author's elaboration.

## *National pension funds in Sweden*

Jointly, the four AP funds manage assets that amounted to roughly 32% of GDP, or EUR 154 billion, in 2019 (Swedish Government, 2020). The capital assets of AP4 amounted to some 8% of GDP, or EUR 39 billion, at the end of 2019. The AP funds are, by law, committed to providing long-term returns while also considering ethical and environmental issues in their investment choices. Their mandate is thus stricter than that of Keva, which only consists of providing long-term returns. The Swedish AP funds are legally sovereign, with their own investment and ownership policies and risk management plans. They are not under the direct steering of the Swedish government or Parliament, but they are under obligation to compile annual financial reports for the country's government. The investments are steered in acts. These acts include quantitative investment limitations and a low risk level requirement.

The role of the AP funds in the pension system is twofold. Firstly, they provide liquidity by financing pensions when incoming pension contributions do not fully cover outgoing pension benefits. Secondly, they invest any surplus that results when pension contributions exceed pension benefits, thereby strengthening the long-term financing of the pension system by generating the best possible returns on assets. The first four funds are governed by the same legislation. The four AP funds are government agencies. The Swedish government appoints their boards and auditors, approves their annual results, and evaluates their administration. AP6, a private equity specialist, is governed by its own legislation and is a closed fund. It does not receive yearly contributions nor does it have a duty to finance pension benefits (Mielonen et al., 2020).

The Swedish earnings-related pension is of a defined-contribution (DC) type; thus, the investment success of the reserve funds impacts on the level of pensions through a balance-ratio mechanism, which divides the current market value of the reserve funds plus contribution assets by a measure of pension liabilities (future pension obligations) (Barr and Diamond, 2011). The balance-ratio mechanism, colloquially known as the “brake”, ensures that the system remains fiscally sustainable in the long term. The mechanism slows down indexation if the balance-ratio falls below the agreed level.<sup>12</sup> The brake has been activated several times; according to Stalebrink (2015), this has led to a significant increase in the interest on AP funds' activities. It feels safe to argue that the DC character of the benefit, together with the brake mechanism - which directly influences individuals' current and future benefit levels- have increased the public's interest in the AP funds' investment activities, including sustainable investments.<sup>13</sup> There is clearly a “skin in the game” element in the Swedish pension system, as negative returns decrease pension benefits. Conversely, the Finnish pension system is a defined-benefit (DB) scheme by design; thus, investment success has no direct impact on benefit levels. This could be one reason for the lower public interest in pension funds' investment policies in Finland - including responsible investments - as they have no impact on the benefit level.

Some studies have been critical towards the benefits of the fragmented system and whether it fosters competition, reduces the risk of political influence, or diversifies investment risk

12. Equally, a “gas” mechanism exists, which enhances indexation if the balance-ratio goes above an agreed level.

13. In recent years, there have been two large scandals involving fraudulent (Falcon Funds) or questionable (Allra) behaviour by pension funds in the Swedish premium pension system (Fixsen, 2020). It seems reasonable to assume that these scandals have also increased media and public interest in the investments of public pension actors.

(Ambachtscheer, 2013; Björkmo and Lundbergh, 2010). Ambachtscheer (2013: 26) argues that the strategy of competing reserve funds has not achieved the goals of competition or the diversification of investment risk, as the AP fund managers have followed each other, with very similar investment policies and very similar investment results.

The boards are of an institutional type. They consist of nine members (including two representatives nominated by organisations representing employees' interests and another two representing employers' interests). The chair and vice-chair are nominated by the government. According to the law, the fund's board and operations should not be controlled by government directive or economic policy interests.

### *National legislation requires exemplarity*

As the AP funds invest on behalf of a very heterogeneous group of people – namely, current and future citizens of Sweden – they have sought to find the lowest common ethical factor that does not compromise the financial targets of the funds (Sandberg et al., 2014). As a solution, the AP funds rely on national law and international standards that set out the minimal norms by which investments are expected to abide (Hoepner and Schopohl, 2018). The national parliament is understood to be the best representative of the will of the Swedish people. The most recent legal text, valid since January 2019, states: *“The four AP funds must manage their funds in an exemplary way through responsible investments and responsible ownership. When managing funds, special emphasis must be given to how sustainable development can be promoted without compromising on the overall objective regarding return and risk”* (AP4, 2021). The national parliament introduced the objective for the funds to manage pensions assets in a way that contributes to sustainable development. Even though AP4's investment mandate is more strictly defined than that of Keva, it does not give any specific targets or measures against which to evaluate the fund's performance on sustainability. Richardson (2009) has proposed that investors should be legally required to meet certain sustainability benchmarks that have been set independently.

According to legislation, the AP funds have to consider the international conventions ratified and international agreements backed by Sweden. Therefore, these international agreements and conventions serve as tools for the AP4 to interpret what 'responsibility' means to the Swedish population. Yet, this leaves discretion for the fund to do the final interpretation on how the requirements of the convention can be applied to, or integrated into, the investment process. In recent years, following internal assessment, the AP4 has decided not to invest in companies for which thermal coal or oil sands account for more than 20% of sales. This decision is based on the interpretation of the UN's Climate Convention and the Paris Agreement. Similarly, the Council of Ethics has made recommendations to divest companies that manufacture anti-personnel mines or cluster bombs, as Sweden is a signatory to the Mine Ban Treaty and the Convention on Cluster Munitions. These are clear examples on how the agreements and conventions signed by Sweden flow into the investment decisions of AP4.

As the actual interpretation of the investment mandate is left to each of the funds, Severinson and Stewart (2012) have argued that investment objectives are disparate and inconsistent. The lack of distinct, specific, and long-term investment objectives that are consistent across funds has meant there are no clear and objective targets against which funds' performance can be measured (Severinson and Stewart, 2012).

### *Cooperation to increase transparency*

Since 2001, it has been a legal requirement that AP funds consider ethical and environmental aspects in investment policies (Sandberg et al., 2014). The four AP funds established a joint Council of Ethics in 2007 to coordinate the funds' sustainability work on the ethical and environmental compliance of their foreign holdings. In domestic equities, AP funds are well-known, powerful investors who alone can influence companies. AP4 is very transparent in its holdings and discloses all the listed and unlisted shares and bonds that it owns on its website every six months. It also publishes how it has voted in the Annual General Meetings of the companies that it owns. Both the work of the Council of Ethics and the public disclosure of voting behaviour provide the 'principals' with more information on the actions of 'agents'. The Council of Ethics acts by giving recommendations on exclusions and by collaborating and engaging in dialogue with companies on behalf of the AP funds. The council also publishes these recommendations, while the AP funds publish the assets they have excluded based on these recommendations. The council has been active in giving recommendations, and the AP funds have followed them. This collaboration gives the funds greater leverage in their influence efforts and increases the efficiency of their engagements with companies (Hoepner and Schopohl, 2016). Yet, the AP funds are independent when it comes to exercising their voting rights (Severinson and Stewart, 2012). Whilst the Council of Ethics has contributed to the emerging sustainability discourse of investments in Sweden, it has not challenged the primary goal of economic return. Despite the increase of sustainability discourse over time in the council's reports, the other (sustainability) aspects are treated as restrictions on the primary goal of maximising economic returns (Boudin and Olsson, 2021).

The EU's impact is less clear. Current work to implement the Sustainable Finance Disclosure Regulation and EU Taxonomy Regulation will not be directly applicable to the AP Funds, but it is highly likely the funds will voluntarily follow the obligation to provide information, as required by the regulations. In the future, the funds expect that the EU will have an impact on more uniform reporting on sustainability issues. AP4 follows closely the example set by the Dutch pension funds, as these funds are considered front-runners when it comes to responsible investments. The most recent legislation gave the Swedish AP funds more possibility to invest in illiquid and alternative assets, reduced the minimum portfolio allocation to interest-bearing securities from 30% to 20%, and removed the requirement for the funds to use external managers for a proportion of their assets.

The core values shared by the AP funds require them to consider openness and efficiency in their investment strategies. The AP funds' websites explicitly state these core values and how they have been achieved. The websites publish how the AP funds have voted in holdings, the investments' carbon footprint, and how they are contributing to the UN's global sustainable development goals. AP4's sustainability reporting follows this structure in jointly drafted guidelines. It describes the work on integrating sustainability into asset management while taking into account the Annual Accounts Act, Global Reporting Initiative (GRI) reporting standards, the United Nations Principles for Responsible Investments, carbon footprint reporting in accordance with the Task Force on Climate-related Financial Disclosures (TCFD), opportunities to contribute to the UN's Global Sustainable Development Goals, voting as a shareholder, and the AP Funds' work in the Council of Ethics of the Swedish National Pension Funds (AP4, 2019).

It is argued by Sandberg et al. (2014) that the closed market environment of the AP reserve funds puts weaker force on the reserve funds to respond quickly to and think proactively about the government's ethics directive. Therefore, they might have less need to communicate complex investment choices to the public. Furthermore, in the absence of an active customer, Sandberg et al.

(2014) argue that the beliefs and attitudes of financial analysts and investment managers have a big impact on the funds' decisions. Thus, the agents wield serious power over their principals. Hence, while the AP funds are officially obliged to show ethical and environmental concern in the management of their assets, it is neither specified in the law how they are to go about doing this, nor are the funds really evaluated against any such dimensions (Sandberg et al., 2014). It remains to be seen whether the new law will bring a change to this.

## Conclusion

The path towards responsible investment has been different in Keva, the Finnish pension fund, versus the Swedish AP funds. The role of legislative drivers has been remarkable in the latter. The Swedish Parliament has actively reformed legislation on the investment policies of public pension funds. This has meant that the public pension reserve funds have had to consider more responsibility in their investments based on legislation. The creation of the Council of Ethics has further contributed to this by increasing transparency in investment decisions.

In Finland, the path has been different. There has not been much development in the legislation – or, more precisely, there has been none. Neither has been there much of a public debate. Yet, we can see that Keva has integrated responsible investments into their investment process in a holistic way. The investment policies are not as transparent as in Sweden, which might be because Finnish pension funds compete against each other and not all reporting related to investments is public. There is no formal cooperation in responsible investments in Finland. It seems that the increase in responsible investments has been an industry-driven process, where the gatekeepers within industry have been influential in promoting responsibility as part of the investment process. In other words, the process has been led by agents who are inspired by national and international developments. The general development of ESG and public commitments of pension funds have resulted in a situation in which all actors have developed their own guidelines and policies. This is remarkable considering there are only two persons who directly work on responsible investment issues in Keva. The Finnish pension ecosystem fosters competition over customers, and the competition aspect has intensified in recent years. This has meant that previous cooperation, such as commonly agreed guidelines on responsible investments, has been abandoned. Keva's membership is based on legislation, hence it does not compete over customers in a similar way to the private funds; and yet, it is not as transparent in its investment activities as the Swedish AP funds.

In Sweden, the AP funds all receive a fixed share of contributions; therefore, they do not need to compete over customers and can freely engage in cooperation. The Ethics Council is a tool for cooperation: through its recommendations, it increases the transparency of responsible investments. Transparency is very important for public funds, as membership is compulsory. Transparency decreases the principal-agent asymmetry. It gives more information and helps principals in analysing the decisions taken by agents. The insured do not have any choice over investment policies; therefore, it is the industry insiders who influence the fund's responsibility approach. In Sweden, this approach is shaped by legislation, international processes, and the works of the Ethics Council. In Finland, the approach is shaped mainly by international processes and national adaptations of them.

The design of the pension benefit matters. In Sweden, the notional defined contribution (NDC) design and "brake" mechanism put all the risk related to pension financing on the pension benefit. The benefit can decrease if investment returns are low. This understandably increases public interest in investments, as it has a direct impact on the financial situation of retirees. This is not the case in

Finland due to the defined-benefit (DB) design. Yet, if the level of the benefit is made more dependent on investment returns, the interest in investment policies could increase in Finland.

Europeanisation,<sup>14</sup> understood as downloading EU directives, regulations, and institutional structures to the domestic level, has been weak in these two reserve funds. It could be argued that national reserve funds are one of the few financial institutions that remain largely outside the framework of EU legislation. Whether the EU's taxonomy will make a difference remains to be seen. It is probable that it will make reporting more uniform between different types of funds. Due to the strategic and economic importance of national reserve funds, it is to be expected, based on history, that they will follow their own pathways in investment policies.

This article has proven that it is very important to consider the whole ecosystem in which public reserve funds operate to understand the role that different drivers might play in advancing responsible investments. Further research would be needed on the more exact roles of the industry insiders who shape the responsible investment policies of public pension reserve funds, especially in the low-interest environment.

### Acknowledgements

The author is grateful to an anonymous referee for comments and suggestions. The author is equally grateful to Alexia Autenne, Kevin Hartmann Cortés, Maria-Cristina Degoli and to the participants of the Sustainable Pensions through Sustainable Investments? Workshop held at Université Catholique de Louvain on 10<sup>th</sup> of November 2020 for valuable suggestions and comments. The author would equally like to thank Mika Vidlund and Christos Louvaris Fasois for having shared their expertise. All remaining errors and shortcomings are my own.

### Data access

The data were retrieved from two interviews and by a separate questionnaire sent to these experts.

### Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Fédération Wallonie-Bruxelles (grant number ARC Research project No 18-23-088).

### ORCID iD

Niko Väänänen  <https://orcid.org/0000-0001-6784-1398>

### References

- Ambachtscheer, K (2013) *The pension system in Finland: Institutional structure and governance*. Evaluation of the Finnish pension system, part 2. Vaasa: Finnish Centre for Pensions.

---

14. For the definition, see Howell (2004).

- Anderson, K (2004) Pension politics in three small states: Denmark, Sweden and the Netherlands. *Canadian Journal of Sociology*. 9(2): 289–312.
- AP4. (2019) Annual report 2019. Available at: <https://www.ap4.se/globalassets/dokument/rapportarkiv/2019/arsredovisning-2019/4ap-fonden-ar-2019-eng-web-200624.pdf> (accessed 14 August 2020).
- AP4. (2021) The First, Second, Third and Fourth AP Funds' common core values for managing funds, Available at: <https://www.ap4.se/globalassets/dokument/vardegrund/ap-funds-common-core-values.pdf> (accessed 15 November 2020).
- Barr, N (2013) *The pension system in Finland: Adequacy, sustainability and system design*. Evaluation of the Finnish pension system, part 1. Vaasa: Finnish Centre for Pensions.
- Barr, N and Diamond, P (2011) *Improving Sweden's automatic pension adjustment mechanism*. Number 11(2), January. Chestnutt Hill, MA: Center for Retirement Research at Boston College.
- Björkmo, M and Lundbergh, S (2010) Restructuring Sweden's AP funds for scale and global impact. *Rotman International Journal of Pension Management*. 3(1): 30–36.
- Blomster, P (2004) *Kunnallisen eläkejärjestelmän historia [The history of the municipal pension scheme]*. Helsinki: Keva.
- Boudin, J and Olsson, J (2021) Sustainability in public pension funds? A longitudinal study of the council on ethics of the Swedish AP funds. *Sustainability*. 13(1): 429.
- Casey, B (2014) From pension funds to piggy banks: (perverse) consequences of the stability and growth pact since the crisis. *International Social Security Review*. 67(1): 27–48.
- De Groot, W, De Koning, J and Van Winkel, S (2021) *Sustainable voting behavior of asset managers: Do they walk the walk?* February 10, 2021. SSRN Working Paper. DOI:10.2139/ssrn.3783454
- ETK (Finnish Center for Pensions) (2020a) Pension contributions. Available at: <https://www.etk.fi/en/finnish-pension-system/financing-and-investments/pension-contributions/> (accessed 11 August 2020).
- ETK (Finnish Center for Pensions) (2020b) Pension assets and contributions. Available at: <https://www.etk.fi/en/work-and-pensions-abroad/international-comparisons/financing-and-investments/pension-assets-and-contributions/> (accessed 11 August 2020).
- ETK (Finnish Center for Pensions) (2021a) Investment return on pension assets. Available at: <https://www.etk.fi/en/work-and-pensions-abroad/international-comparisons/financing-and-investments/investment-return-on-pension-assets/> (accessed 26 June 2021).
- ETK (Finnish Center for Pensions) (2021b) Division of costs. Available at: <https://www.etk.fi/en/finnish-pension-system/financing-and-investments/division-of-costs/> (accessed 28 May 2021).
- ETK (Finnish Center for Pensions) (2021c) Statistical database. Available at: <https://tilastot.etk.fi/pxweb/en/ETK> (accessed 28 May 2021).
- ETK (Finnish Center for Pensions) (2021d) Regulatory mechanism. Available at: <https://www.etk.fi/en/finnish-pension-system/administration-and-supervision/regulatory-mechanisms/> (accessed 28 May 2021).
- Fixsen, R (2020) Swedish Pensions Agency battles on against premium pension, *Investments and Pensions Europe*, 26 February 2020. Available at: <https://www.ipe.com/news/swedish-pensions-agency-battles-on-against-premium-pension>

- pensions-agency-battles-on-against-premium-pension-case/10043945.article (accessed 18 May 2021).
- Hagen, J (2017) Pension principles in the Swedish pension system. *Scandinavian Economic History Review*. 65(1): 28–51.
- Hall, PA and Soskice, D (2001) An introduction to varieties of capitalism. In: Hall, PA and Soskice, D (eds) *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford: Oxford University Press, pp. 1–68.
- Hannikainen, M and Vauhkonen, J (2012) *The history of Finnish earnings-related pension in the private sector*. Helsinki: Finnish Literature Society.
- Hoepner, AGF and Schopohl, L (2016) On the price of morals in markets: An empirical study of the Swedish AP-funds and the Norwegian government pension fund. *Journal of Business Ethics*. 151: 665–692.
- Howell, KE (2004) Developing conceptualisations of Europeanisation: A study of financial services. *Politics*. 24(1): 20–25.
- Johanson, J-E and Sorsa, V-P (2010) *Pension governance in Finland - a case study on public and private logics of governance in pension provision*. Reports 2/2010. Helsinki: Finnish Centre for Pensions.
- Johnson, KL and De Graaf, FJ (2009) Modernizing pension fund legal standards for the twenty-first century. *Rotman International Journal of Pension Management*. 2(1): 44–51.
- Karhunen, J, Koskela, M, Lassila, P, et al. (2017) *Näin sijoitamme -keskustelupaperi. sijoittamisen periaatteet [This is how we invest principles of investment]. Discussion Paper*. Keva.
- Keva (2020a) Annual report 2020. Available at: <http://www.keva.fi/globalassets/2-tiedostot/tama-on-keva-tiedostot/sijoitukset-talous-ja-raportointi/2021/keva-annual-report-2020.pdf> (accessed 14 August 2020).
- Keva (2020b) Administration. Available at: <https://www.keva.fi/en/this-is-keva/administration/> (accessed 15 November 2020).
- Lindquist, G and Wadensjö, E (2011) Sweden: A Viable Public-Private System. In: Ebbinghaus B (ed) *The varieties of pension governance in Europe*. Oxford: Oxford University Press, pp. 240–261
- McCarthy, MA, Sorsa, V-P and van der Zwan, N (2016) Investment preferences and patient capital: Financing, governance, and regulation in pension fund capitalism. *Socio-Economic Review*. 14(4): 751–769.
- Mielonen, A, Risku, I, Vidlund, M, et al. (2020) *Eläkkeiden rahoituksen automaattisista vakautusmekanismeista Alankomaissa, Japanissa, Kanadassa, Ruotsissa ja Saksassa [On the automatic balance mechanisms of pensions in the Netherlands, Japan, Canada, Sweden and Germany]*. Reports 10/2020. Finnish Centre for Pensions. Available at: <http://urn.fi/URN:ISBN:978-951-691-306-6>
- Mitchell, O (2002) Redesigning public sector pensions in developing countries. Working paper 2002/9, Wharton School — Pension Research Council. Philadelphia: University of Pennsylvania.
- Munnell, A and Sundén, A (2005) Social investing: Pension plans should just Say ‘No’. In: Entine, J (ed) *Pension fund politics*. Washington, DC: AEI Press, pp. 13–55.

- OECD (2018) Annual survey of large pension funds and public pension reserve funds 2016. Report on pension funds' long-term investments. Available at: <http://www.oecd.org/finance/survey-large-pension-funds.htm>.
- Richardson, BJ (2009) Keeping ethical investment ethical: Regulatory issues for investing in sustainability. *Journal of Business Ethics*. 87(4): 555–572.
- Sandberg, J (2017) Pension funds, future generations, and fiduciary duty. In: González-Ricoy, I and Gosseries, A (eds) *Institutions for future generations*. Oxford: Oxford University Press, pp. 385–399.
- Sandberg, J, Juravle, C, Hedesström, TM, et al. (2009) The heterogeneity of socially responsible investment. *Journal of Business Ethics*. 87(4): 519–533.
- Sandberg, J, Siegl, S and Hamilton, I (2014) The regulation of institutional investment in Sweden: A role model for the promotion of responsible investment? In: Hawley, JP, Hoepner, A, Johnson, K, Sandberg, J and Waitzer, E (eds) *Cambridge Handbook of Institutional Investment and Fiduciary Duty*. Cambridge: Cambridge University Press, pp. 59–71.
- Savilaakso, A (2015) Responsible investment in Finland. In: Hebb, T, Hawley, J and Hoepner, A et al. (eds) *The routledge handbook of responsible investment*. Abingdon: Routledge, pp. 327–335.
- Scholtens, B and Sievänen, R (2013) Drivers of socially responsible investing: A case study of four Nordic countries. *Journal of Business Ethics*. 115: 605–616.
- Seawright, J and Gerring, J (2008) Case selection techniques in case study research: A menu of qualitative and quantitative options. *Political Research Quarterly*. 61(2): 294–308.
- Severinson, C and Stewart, F (2012) Review of the Swedish national pension funds. OECD Working Papers on Finance, Insurance and Private Pensions, No. 17. Paris: OECD Publishing.
- Shapiro, S (2005) Agency theory, *Annual Review of Sociology*. 31: 263–284.
- Sievänen, R (2013) Exploring the drivers of responsible investment in European pension funds. Academic Dissertation. Helsinki: Unigrafia.
- Sievänen, R, Rita, H and Scholtens, B (2012) The drivers of responsible investment: The case of European pension funds. *Journal of Business Ethics*. 117: 137–151.
- Sorsa, V-P (2011) Pension fund capitalism in Europe: Institutional organisation and governance of Finnish pension insurance companies. Doctoral Dissertation. Oxford: Oxford University.
- Sorsa, V-P and Roumpakis, A (2017) Contingency in risk management: The case of pension funds in Sweden and Finland. In: Sorsa, V-P (ed) *Rethinking social risk in the nordics*. Brussels: Foundation for European Progressive Studies, pp. 168–197.
- Stalebrink, OJ (2015) Public pension funds and alternative investments: A tale of four Swedish national pension funds. *International Journal of Public Administration*. 39(2):107–121.
- Sundén, A (2006) The Swedish experience with pension reform. *Oxford Review of Economic Policy*. 22(1): 133–148.
- Swedish Government (2020) Redovisning av AP-fondernas verksamhet t.o.m. 2019 [A statement on the AP funds operations to the year 2019]. Available at: [https://www.riksdagen.se/sv/dokument-lagar/arende/betankande/redovisning-av-ap-fondernas-verksamhet-tom-2019\\_H801](https://www.riksdagen.se/sv/dokument-lagar/arende/betankande/redovisning-av-ap-fondernas-verksamhet-tom-2019_H801)

- FiU6/html#:~:text=K%C3%A4lla%3A%20Skr.,2019%2F20%3A130.,fr%C3%A5n%2010%20till%2016%20procent (accessed 14 May 2021).
- Tela (2008) *Työeläkevakuuttajien vastuullisen sijoittamisen periaatteet [The principles of sustainable investments of the statutory pension providers]* Available at: [http://www.tela.fi/instancedata/prime\\_product\\_julkaisu/tela/embeds/telawwwstructure/14111\\_130208TyoelakevakuuttajienVastuullisenSijoittamisenPeriaatteet.pdf](http://www.tela.fi/instancedata/prime_product_julkaisu/tela/embeds/telawwwstructure/14111_130208TyoelakevakuuttajienVastuullisenSijoittamisenPeriaatteet.pdf) (accessed 15 June 2021).
- UNPRI (2020a) RI transparency report 2020. AP4. Available at: [https://stpublic.blob.core.windows.net/pri-ra/2020/Investor/Public-TR/\(Merged\)\\_Public\\_Transparency\\_Report\\_AP4\\_2020.pdf](https://stpublic.blob.core.windows.net/pri-ra/2020/Investor/Public-TR/(Merged)_Public_Transparency_Report_AP4_2020.pdf) (accessed 22 April 2021).
- UNPRI (2020b) RI transparency report 2020. Keva. Available at: [https://stpublic.blob.core.windows.net/pri-ra/2020/Investor/Public-TR/\(Merged\)\\_Public\\_Transparency\\_Report\\_Keva\\_2020.pdf](https://stpublic.blob.core.windows.net/pri-ra/2020/Investor/Public-TR/(Merged)_Public_Transparency_Report_Keva_2020.pdf) (accessed 22 April 2021).
- Vidlund, M and Preusker, U (2013) *ASISP country document 2013. Finland. Pensions, health and long-term care*. Brussels: European Commission.
- Vidlund, M, Rissanen, M, Mielonen, A, et al. (2015) *International comparison of the regulation of pension asset investments*. Surveys 02/2015. Finnish Centre for Pensions. Available at: <http://urn.fi/URN:NBN:fi-fe2015112620087>
- Viherkenttä, T (2020) Sijoitustoiminnan ohjaus julkisissa eläkerahastoissa [Investment regulation in public pension funds]. In: Poutiainen, E and Tenhunen, S (eds) *Sijoitustoiminta suomen eläkejärjestelmässä [Investments in the Finnish pension system]*. Turenki: Finnish Centre for Pensions, pp. 161–186.
- Yan, S, Ferraro, F and Almandoz, J (2019) The rise of socially responsible investment funds: The paradoxical role of the financial logic. *Administrative Science Quarterly*. 64(2): 466–501.

## Article II Pension reform recommendations in the EU

Article II, *“Financial Sustainability Above All Else? Drivers and Types of Pension Reform Recommendations in EU Socio-economic Governance,”* shifts the dissertation from national pension design to the supranational setting in which pension reforms are increasingly framed. The article asks what kind of reform agenda EU institutions promote and why that matters normatively. This question is important for the dissertation because pension justice in Europe can no longer be analysed exclusively within separate national containers. Even though public pensions remain primarily national institutions and solidarity is still organised mainly within domestic welfare states, European integration increasingly connects citizens’ opportunity sets through common labour markets, rights attached to EU citizenship, and binding legal and economic arrangements. Article II therefore supports the dissertation’s more modest Rawlsian claim: even without a fully unified European welfare polity, once shared European institutions constrain national pension reform, the priorities embedded in those reforms must be publicly justified to those affected by them.

The article studies pension recommendations issued in EU socio-economic governance between 2011 and 2023. At the formal level, EU pension coordination recognises three objectives—adequacy, sustainability, and modernisation. The question, however, is whether these objectives are treated in a balanced way in actual reform guidance. Co-authored with Jan Helmdag, the article examines all pension-related recommendations issued through the European Semester, together with pension recommendations contained in the adjustment programmes for crisis countries. We classify these recommendations according to the three stated objectives and analyse whether their incidence and frequency are explained by the indicators attached to them.

The main finding is clear. Pension reform recommendations are strongly skewed towards financial sustainability. Roughly 70 per cent of the recommendations concern sustainability, and the dominant prescriptions call for higher retirement ages, tighter restrictions on early retirement, and the gradual removal of special pension schemes. By contrast, adequacy and modernisation, including old-age poverty and gender equality, receive much less attention. The likelihood and frequency of receiving recommendations are also driven mainly by sustainability-related indicators rather than by indicators of weak adequacy outcomes. Article II thus shows that EU pension governance is not merely a neutral mechanism of coordination. It embeds a specific normative

ordering of pension goals in which fiscal sustainability is treated as the primary problem to be addressed.

This finding is central to the dissertation as a whole. The dissertation asks how pension institutions should distribute burdens, protections, and recognition fairly across cohorts and social groups. Article II shows that these questions are already filtered through a supranational governance framework that narrows which pension problems are treated as politically important and which reforms appear responsible. The issue is therefore not simply that European institutions influence pension reform. It is that they do so in ways that privilege one contested interpretation of fairness over others.

The normative implication is not that financial sustainability is unimportant. It is that financial sustainability cannot be treated as a self-sufficient or self-interpreting standard of justice. As Gosseries (2019) argues, the fairness of pension burdens cannot be read directly from contribution rates or aggregate expenditure levels at a single point in time. What matters is how pension institutions distribute burdens and protections over complete lives. Under equal life expectancy, higher contributions may simply shift consumption from working life to retirement without being obviously unfair. Under unequal longevity, however, formally uniform pension rules can become distributively problematic, because some groups systematically have fewer years in which they can benefit from retirement. From that perspective, Article II helps show why pension reform recommendations at the European level require explicit public justification rather than a narrow technocratic reliance on cost-containment metrics. The Musgrave rule serves here as a useful benchmark: instead of loading unexpected economic or demographic shocks entirely onto workers or entirely onto retirees, it offers one explicit standard of fairness according to which such shocks should be shared between them. Read in this way, Article II supports one of the dissertation's broader claims: pension reform is never merely technical, because it always embodies contestable choices about how risks, resources, and retirement time are distributed across generations (Schokkaert et al., 2020).

# Financial Sustainability Above All Else? Drivers and Types of Pension Reform Recommendations in EU Socio-economic Governance

JAN HELMDAG<sup>1</sup>  and NIKO VÄÄNÄNEN<sup>2,3</sup>

<sup>1</sup>Swedish Institute for Social Research (SOFI), Stockholm University, Stockholm <sup>2</sup>Finnish Centre for Pensions (ETK), Helsinki <sup>3</sup>University of Louvain, Louvain-la-Neuve

## Abstract

The average age of the population and the ratio of workers to pensioners in the European Union (EU) are rising, putting increasing pressure on the long-term sustainability of pension systems. To counteract this development, a large number of pension reform recommendations (PRRs) have been issued within EU socio-economic governance. In this article, we analyse the extent to which PRRs are consistent with the three main objectives of the open method of coordination (OMC), which emphasise (i) *financial sustainability*, (ii) *benefit adequacy* and (iii) *modernisation* with respect to gender equality. Using an original dataset, we code 438 PRRs from 2011 to 2023 and analyse the extent to which these are consistent with the three main objectives of the OMC. Our results show that PRRs are primarily focused on financial sustainability, to the detriment of adequacy and modernisation, and that they are driven solely by sustainability concerns.

**Keywords:** comparative public policy; European Semester; open method of coordination; pensions; socio-economic governance; welfare state

## Introduction

Pension systems are at the nexus between social policy and macroeconomic stability, as they represent one of the largest items of social expenditure in the member states of the European Union (EU) and account for the majority of income for many older people. The asymmetry between macroeconomic objectives on the one hand and the social dimension on the other is one of the most discussed issues in European social policy-making (Aranguiz, 2018; Scharpf, 2002). Although the member states of the EU are fiscally sovereign, public financial positions are coordinated to be aligned with the common fiscal rules. As pension systems are ultimately institutionalised, large-scale transfers of wealth, their sustainability plays an important role for states and societies and also ultimately for the EU as a whole.

Due to progressing demographic ageing, caused by a combination of lower fertility rates and increased longevity, EU countries have had to reform their pension systems to keep them financially and socially sustainable. In 2022, more than one fifth (21.1%) of the EU population was already 65 years and older. According to forecasts by Eurostat, the average age of the EU population will continue to rise from 44.4 years in 2022 to 48.8 years at the end of the century. Whilst this trend is already worrying, it becomes even more alarming when looking at projections for the old-age dependency ratio, which is expected to rise from 33% in 2022 up to 57.1% in 2100 (European Commission, 2023). Overall, this development will put immense pressure on all pension systems. Those that

are organised on a pay-as-you-go basis will see their contribution base weakening as they rely on the national tax base and labour force (Ebbinghaus and Möhring, 2021). On the other hand, pre-funded schemes are sensitive to ageing as they represent financial claims on future output, which is itself dependent on demography (Barr, 2001).

Over the past 15 years, the European Semester has acknowledged the problems that pension systems face and decisively shaped the pension reform agenda in Europe. The European Semester is a yearly cycle for the coordination and supervision of mainly economic and also employment and social policies. A key instrument in this process is the country-specific recommendations (CSRs), which are first issued by the European Commission and then approved by the Council.<sup>1</sup> Officially, the EU economic policy coordination aims at ensuring sound public finances whilst also promoting employment and the social dimension of the European Monetary Union (EMU). Yet many argue that the social dimension has been left on the side as the process is led by economic short-term rules and financial sustainability (Blyth, 2013; Graziano and Hartlapp, 2019). Others claim that the semester has become more socialised during the years (Zeitlin and Vanhercke, 2018), whereas some find a more nuanced picture in which the social dimension depends on the national context (Eihmanis, 2018; Haas et al., 2021). As public pensions are part of social protection, they fall within the scope of the open method of coordination (OMC) with its predefined working methods and targets. However, in the past 10 years, pension policies have been increasingly covered within the framework of the European Semester.

Previous studies show that the European Semester exerts a significant impact on national pension policies, although its impact varies widely and strongly depends on country-specific characteristics (de la Porte and Natali, 2014; Guardiancich and Guidi, 2022; Guidi and Guardiancich, 2018; Windwehr, 2017). However, more research is needed on the determining factors of pension recommendations and how these country-specific characteristics can be generalised across the member states of the EU. This is because the EU does not have any binding regulations regarding re-distributive policies and the pensions strand of the OMC is guided by three objectives, that is, *adequacy*, *sustainability* and *modernisation* of pensions that leave room for discretion. Furthermore, the pensions OMC itself has been criticised for its high technicality and lack of democratic quality. Transparency is weak because the relevant documents are hard to access. Democratic control is low, as the general public is not well informed nor involved in the process (de la Porte and Nanz, 2004).

In this article, we take a deeper look at the pension policy reforms that the institutions of the EU promote in the European Semester. This answers the research question of which of the three objectives of the OMC the European Semester attaches the greatest importance to and which underlying indicators, ostensibly used within the evaluation process, determine a recommendation for pension reform. To answer this question, we take a longitudinal approach and create a novel dataset that captures all pension-related reform recommendations (PRRs) within the European Semester that were given from its inception in 2011 until the most recent round in 2023. In addition, we include the PRRs given as a part of the financial rescue packages to some countries

<sup>1</sup>Throughout the article, we refer to the *Council of the European Union* (alt. Council of Ministers) as ‘the Council’.

during the European debt crisis.<sup>2</sup> In a subsequent step, we look at empirical determinants of the occurrence and frequency of recommendations by running time-series logit and negative binomial models incorporating the primary indicators of all three main objectives of the OMC's pension section. By doing so, this allows us to assess to what extent the PRRs are in line with each of the goals of the OMC on the one hand and with the economic governance and fiscal rules on the other. Ultimately, our approach provides a detailed picture of where the EU is trying to steer its members in pensions policy and which of the three objectives is most strongly emphasised. As D'Erman et al. (2019) have pointed out, the lack of clarity behind the recommendations has made it difficult to understand the direction of the reforms that the EU promotes. In general, the same criticism applies to the long-term strategies and real priorities of EU institutions (Casagrande and Dallago, 2022). Our article contributes to making the policy direction and priorities of pension recommendations clearer.

## I. Theoretical Background

European pension systems are under immense pressure because of population ageing. The combination of higher life expectancy and lower fertility ultimately increases the number of pensioners relative to the working population, leading to higher age dependency, which in turn drives up social spending. Although this phenomenon is not homogeneous across the EU, all of its member states are to some degree affected by this challenging development. Multiple options to respond to this challenge exist, and countries can adjust the parameters of their pension systems in a variety of ways. First, revenues can be boosted by an increase in pension contribution rates or diverting more tax revenues to finance these systems. However, this increases the cost of labour or tax rates and might be problematic from an intergenerational perspective, as it places a greater financial burden on the younger birth cohorts. Second, retirement can be postponed by financial (dis)incentives or legislative changes to the statutory retirement age. Empirically, this is what the majority of EU countries have done in the past, despite it being rather unpopular (Kuitto and Helmdag, 2021). However, due to the uneven distribution of life expectancy across socio-economic groups, lower income groups are disproportionately more affected by a higher retirement age. Third, pension benefits can simply be reduced to ease the burden on social security systems. However, this also lowers the livelihood of pensioners due to increased poverty amongst the elderly, and if pension reductions are done in an ad hoc manner, they undermine the trust in the pension system. Furthermore, the fiscal sustainability of pension systems could be enhanced from the supply side. Countries could expand public pension coverage to some previously uncovered groups (such as the self-employed in Germany). Or member states could allow in more working migrants to strengthen the contribution base and keep the population structure younger. Or governments could raise wages in the public sector or set the minimum wage to a higher level and thus increase revenues of the pension system. It is worth pointing out that if policy-makers decide to not address the demographic changes at all, the financial, social and political sustainability of pension systems is put under enormous pressure because it

<sup>2</sup>To clarify, the term 'pension reform recommendation' (PRR) is used throughout this text to encompass both those recommendations made as part of the European Semester and those made as part of the bailout programmes. The term 'CSR' is used exclusively to refer to recommendations made as part of the European Semester.

is an unrealistic scenario that productivity growth would fully compensate for the increasing old-age dependency ratio and thus cancel out the need for pension reforms.

In order to weigh these reform options and make joint, informed and strategic decisions, the EU has introduced the OMC. The OMC is an EU-level policy-making method based on soft law mechanisms including guidelines, indicators, benchmarking and sharing of best practices (de la Porte and Pochet, 2012). It was formally initiated by the Lisbon European Council in 2000, and its main goal is to complement economic growth with social cohesion, promoting best practices through mutual learning (Van Vliet, 2010, p. 3). Originally, the OMC was understood as a purely soft method, and the monitoring process was essentially based on the will to learn from each other. The goal was to achieve upward convergence in policies in which the treaty base for EU competence is weak or non-existent or where diverging interests of member states prevent EU legislation (Radaelli, 2008). Thus, the aim is not to describe prescriptive policies but instead to set general guidelines and objectives, because it does not have binding instruments and cannot exert legal enforcement (Craig and De Búrca, 2020, p. 166). The guidelines for pension systems and reforms are led by three main objectives (Natali, 2009). The first objective is social adequacy (i), which encompasses the prevention of social exclusion, the maintenance of living standards and the promotion of solidarity between generations. Second, financial sustainability (ii) is promoted, which includes high levels of employment, longer working lives, the sustainability of pension systems whilst ensuring sound fiscal policies, a balanced adjustment of benefits and contributions, and the adequacy and financial soundness of private pensions. Third, modernisation (iii) is pursued, which aims to adapt systems to more flexible employment and career patterns, improve gender equality and make pension systems more transparent and adaptable to changing circumstances. All the three objectives are expressed by a common set of primary and secondary indicators (Daly, 2006; de la Porte and Pochet, 2002). These objectives can be used to evaluate the progress of the pension systems over time. Formally, all three are on an equal footing. A closer look reveals that adequacy and sustainability seem to be primary dimensions. Modernisation refers to, *inter alia*, differences in income and poverty risk between males and females and is therefore a kind of secondary measure of the adequacy dimension (Chybalski and Gumola, 2018).

The EU, and in particular its executive arm, the European Commission, has become more involved in national pension reform processes in the last decade. The most important turning point can be identified immediately after the Great Recession in 2008 and the subsequent European sovereign debt crisis, which ushered in a new phase of economic governance in the EU. A substantial transformation was the addition of the European Semester, a policy process that put under its name much of the surveillance mechanisms related to EU economic governance. The sovereign debt crisis revealed the shortcomings of the previous system based on vague guidelines within the Stability and Growth Pact (SGP). Previously, enforcement was ultimately left to the member states themselves, and the Council often shunned the Commission's recommendations for fiscal discipline (Baerg and Hallerberg, 2016). A culmination was when Germany and France famously ignored the provisions of the SGP in 2003 (Heipertz and Verdun, 2004).

Consequently, with the creation of the European Semester, coordination was upgraded from vague guidelines to detailed policy prescriptions with clear timetables for implementation (Hodson, 2018). To the public, the European Semester has become visible through

the delivery of CSRs on a wide range of public policy issues, which attracted attention in the national media and triggered public and political debates (Zeitlin and Vanhercke, 2014). This new procedure gave the European Commission, which is responsible for drafting the recommendations, more power to influence national policies (Savage and Verdun, 2016), although the Council can still make changes to some of them before their final adoption (Tkalec, 2019). The rules of the Semester imply that countries implement CSRs within 12–18 months after they have been formally approved by the Council. Arguably, the Semester has been one of the most substantial reforms in EU governance in recent decades. Economic rules are currently being negotiated, which might also bring changes to the Semester (Blanchard et al., 2021). A visible change to the Semester came in 2020 with the COVID-19-induced NextGenerationEU recovery plan. To receive grants from the plan's main instrument, the Recovery and Resilience Facility (RRF), member states need to show the Commission how they tackle the challenges addressed in the CSRs (Vanhercke and Verdun, 2022). This way, the implementation of the national recovery plans has been integrated into the European Semester (Bokhorst, 2022). It is presumed that the new setup strengthens the position of the Commission. It can exert more pressure on member states by controlling grants from the RRF (Pisani-Ferry, 2020).

## II. PRRs in the European Semester

Since 2010, the core of the economic and social governance architecture has been the European Semester of policy coordination, through which the Commission, the Council and the European Council set priorities for the Union, review national reform programmes and issue CSRs to member states (de la Porte and Pochet, 2012; Zeitlin and Vanhercke, 2018). Simply put, the European Semester is a framework that tries to bridge the problematic gap that the EMU is a currency union without a sophisticated economic framework (Costamagna, 2013). Therefore, there is a need to coordinate member states' fiscal and economic policies. The European Semester is an annual policy coordination cycle consisting of a wide range of EU governance instruments with different legal bases and sanctioning authority, from the SGP, the Macroeconomic Imbalances Procedure (MIP), and the Fiscal Treaty to EU-level strategies and Integrated Economic and Employment Guidelines.

Under the European Semester, the Commission first proposes CSRs, which are then approved as such or amended by the Council (Bauer and Becker, 2014, p. 222). These recommendations, which by nature are rather policy oriented, offer guidance on how countries should reform their public policies. They can be related to budgetary policies, macroeconomic imbalances or other schemes having an impact on growth, employment, social policies or financial market stability (Mariotto, 2022). The European Semester process has given the EU institutions, especially the Commission, a more visible and intrusive role than ever before in scrutinising and guiding national economic, fiscal and social policies (Costamagna, 2013). Member states that do not follow the public debt or budget deficit rules may end up in Excessive Deficit Procedure (EDP) (Bekker, 2020b). If a country breaches the rules in the EDP, the Commission proposes to sanction member states, and unless a qualified majority of member states votes against it in the Council, the sanctions will be effective (Bekker, 2020a).

It should be noted that not all of the recommendations analysed in this article were made in the context of the European Semester. This is due to the fact that those countries that received rescue packages during the European debt crisis (2009–2015) were not provided with CSRs as part of the European Semester. Instead, they agreed to implement a comprehensive reform programme in collaboration with the EU, the International Monetary Fund (IMF) and the European Central Bank, which was subject to separate monitoring. The country programmes included PRRs that closely followed the format of the European Semester and even referred to the three main goals of the OMC. Despite not being part of the European Semester, we have included these recommendations in our analysis due to their irrefutable similarity.<sup>3</sup> We are convinced that this inclusion is justified, given that the Commission was a central actor responsible for the management of the bailout programmes (Henning, 2017).

Reform recommendations in the context of the European Semester are based on country-specific assessments that dissect macroeconomic developments in a given country. Therefore, it is important to analyse what tools are used in the review process to explain the occurrence and scope of PRRs. Officially, upward convergence in social policy is to be achieved through the OMC, but does it play a role in the European Semester and does it consider social adequacy issues and economic issues on an equal footing? Due to its focus on the economic aspects of pension provision, the social rights aspect can sometimes be neglected within the process. Previously, many have argued that the social side has been drastically marginalised (Costamagna, 2013; de la Porte and Heins, 2015; Guidi and Guardiancich, 2018), although some find that the process has become somewhat more social over the years (Zeitlin and Vanhercke, 2018). Others argue that the process of the European Semester can reflect both a neoliberal and a social Europe, depending on the circumstances and national context (Eihmanis, 2018; Haas et al., 2021). This is because, on the one hand, the recommendations aim at an overall reduction of public spending, but on the other hand, they also suggest stronger social protection for vulnerable groups.

The steps from the drafting of recommendations to implementation each depend heavily on a country's initiative to intervene in the process and subsequently implement the recommended reforms. Once the Commission has drafted the recommendations for CSRs, they must be endorsed by a qualified majority in the Council. Before going for adoption by the Council, the recommendations are discussed in different advisory committees such as the Employment Committee (EMCO), the Social Protection Committee (SPC) and the Economic Policy Committee (EPC). In these committees, member states can lobby for a change in the wording of the recommendations they have received. A smoother wording leaves more margin of manoeuvre for their implementation. As an example, Finland lobbied successfully in 2012–2014 so that the Commission's

<sup>3</sup>In terms of similarity of recommendations, we found clear continuities when coding the recommendations. For example, the recommendation for Spain in 2012 within the European Semester was to '[e]nsure that the retirement age is rising in line with life expectancy when regulating the sustainability factor foreseen in the recent pension reform' (European Union, 2012, p. 84). One year later, now under the financial assistance programme, the recommendation for Spain was to 'ensure the long-term financial stability of the pension system, including by increasing the effective retirement age by aligning the retirement age or pension benefits to changes in life expectancy' (European Commission, 2013, p. 56). On this basis, we are confident that the evaluation principles follow the same – or at least very similar – criteria and can therefore be analysed together.

recommendation of ‘aligning statutory retirement age to changes in life expectancy’ was modified into a Council recommendation ‘increasing the effective retirement age’. After having received this recommendation three times in a row, in 2014, Finland decided on a pension reform in which the retirement age will first increase by 2 years and then it will be linked to life expectancy from 2030 onwards (Ritola and Väänänen, 2024). This suggests that the softening of the original wording was done for domestic political signalling, leaving more discretion to domestic decision-makers.

In the field of pensions, most changes by the Council to CSRs concerned the Commission’s recommendation of linking the retirement age to life expectancy. Most times, the wording was modified to be more generic to address the increasing longevity, as in the Finnish case (Guidi and Guardiancich, 2018). In general, the Council rarely interferes with the Commission’s recommendations and accepts them as proposed without significant changes (Guardiancich et al., 2022; Guidi and Guardiancich, 2018). However, when the Council does make efforts for altering recommendations, these tend to be more substantive rather than negligible (Tkalec, 2019). Even though a non-compliance with the CSRs might lead to sanctions under the SGP and the MIP, Baerg and Hallerberg (2022) find no evidence that the relationship between the Council and the Commission would have become more controversial since the creation of the European Semester. To the contrary, their research suggests that the Council implements fewer changes to the Commission’s policy documents than before the European Semester. On the other hand, Mariotto (2018) showed that between 1999 and 2015, the Council tightened almost half of the CSRs proposed by the Commission. This tightening specifically occurred during the financial crisis and against highly indebted countries, whereas recommendations to larger countries were less likely to experience similar adjustments.

In the case of countries that received bailout packages but did not participate in the European Semester, there was limited scope for negotiation with regard to the content of the recommendations. Therefore, the institutional dynamic of bailout recommendations differed from that of CSRs. In essence, countries receiving bailouts were compelled to implement a reform programme, the specifics of which were largely dictated by the European Commission, the European Central Bank, the IMF and other EU member states (Henning, 2017). In return for financial assistance, the so-called programme countries were required to implement the reforms.

The involvement of different stakeholders in different phases of the Semester illustrates well that it is ‘neither a centralised form of hierarchical steering nor a purely intergovernmental exercise’ (Bekker, 2020b, p. 116). The subsequent implementation of the CSRs is up to national policy reform within the member states. The pace and scope of implementation can vary widely from country to country and also depend on what is called for in the recommendation itself. From 2011 to 2014, the rate of implementation of CSRs went down from 40% to only 29% (Darvas and Leandro, 2015). In 2015, with the arrival of the Juncker Commission, the CSRs became less precise (Bekker, 2020b). The new Commission decided to take a more cautious approach to politically sensitive issues (Bokhorst, 2022). Simultaneously in 2015 came a substantial drop in the number of CSRs (Guidi and Guardiancich, 2018). However, this new approach did not seem to enhance the execution of the recommendations. The implementation of recommendations worsened over time, and particularly, PRRs were poorly executed (Bokhorst, 2022). The reasons for heeding or disregarding CSRs can be varied, ranging from proximity to elections to

inflationary pressures and higher costs of enforcement (Mariotto, 2022). In response to the pandemic, the rules of the SGP were suspended, which allowed the 2020 CSRs to come out strongly in favour of more social investment to reduce the social impact of the pandemic (Rainone and Aloisi, 2021). The suspension of the rules was accompanied by national bailouts and the creation of the RRF, which focuses on greening the economy, digitising society and tackling inequalities (Schmidt, 2022; Vanhercke and Verdun, 2022). The recommendations developed a somewhat more pronounced social dimension, which was very short-lived and soon returned to previous patterns 2 years later (Rainone, 2020, 2022).

To date, the literature lacks comparative empirical evidence on the extent of CSRs in pension reform proposals and whether their scope is consistent with OMC objectives. A previous study examining how the Commission's drafts were amended or adopted by the Council between 2011 and 2016 found that age-related measures that increase effective retirement ages were the most frequently addressed pension reform issue (Guidi and Guardiancich, 2018). However, given the publication date of the study, the temporal dimension is rather limited, and in addition, its research focus is on the interaction between the two institutions rather than on the goals of the OMC itself. Building on this, we will gather data on PRRs between 2011 and 2023 and conduct a quantitative-empirical assessment to which extent the recommendations are consistent with the goals of the OMC. In a second step, we will use the OMC indicators that are officially used in country-specific assessments and examine whether these indicators can predict the occurrence and frequency of PRRs or whether alternative explanatory factors have better explanatory power.

### III. Data and Method

We collected data on PRRs in the European Semester framework for all EU member states that participated in the process from its inception in 2011 until 2023.<sup>4</sup> As a primary source, we used the *Official Journal of the European Union*, which documents the country descriptions and resulting CSRs in the European Semester each year. For those countries that received additional financial assistance (i.e., Cyprus, Greece, Hungary, Ireland, Latvia, Portugal, Romania and Spain), we also relied on additional country-specific sources that document recommendations in other ongoing processes such as the Economic Adjustment Programme (EAP), the Financial Adjustment Programme (FAP), the Supplemental Memorandum of Understanding (SMoU) and the Technical Memorandum of Understanding (TMoU), as well as the Balance of Payments Assistance Programme (BAP).<sup>5</sup>

For the coding of the PRRs, we performed a content analysis of the retrieved text documents and coded all relevant instances that included a recommendation. This procedure was carried out in three steps: first, we checked whether a country had received a separate

<sup>4</sup>We coded PRRs for all current or previous 28 member states. As Croatia accessed the EU in 2013 and participated in the European Semester for the first time in 2014, the data cover the years 2014 to 2022. The United Kingdom is included up until 2020, which marks the last year of its participation in the European Semester. For all other EU member states, the data cover the period from 2011 to 2023.

<sup>5</sup>All relevant documents can be accessed on EUR-Lex (<https://eur-lex.europa.eu/>) as well as an additional website provided by the Commission ([https://economy-finance.ec.europa.eu/eu-financial-assistance\\_en](https://economy-finance.ec.europa.eu/eu-financial-assistance_en)) that documents which EU countries have received additional financial assistance.

description on the topic of pensions or pension reform in the country-specific report. Second, we coded a binary variable indicating whether the country in question received a PRR (coded as '1') or not ('0').<sup>6</sup> In a third step, we coded the detailed instructions of the recommendation, for which we formed a total of 15 categories (3 general and 12 specific) describing the nature of each recommendation. The first three categories focused on whether the recommendations contained general advice that addressed the OMCs main goals of *adequacy*, *sustainability* and *modernisation*. These categories serve as general indicators of whether the Council has given less specific advice on pension reform. Because these more general recommendations are not particularly specific in terms of what kind of reforms or policy instruments need to be implemented, they leave a lot of room for manoeuvre for the country concerned. All the recommendations we have classified as general recommendations do not necessarily contain specific instructions on *how* to achieve a particular objective, but only that this objective must be achieved by the member state. The remaining 12 categories address the specific PRRs that go beyond the more broader OMC goals and entail advice on which particular aspect (e.g., retirement ages, early exit paths and benefit indexation) of the pension system needs to be reformed in order to achieve the more general goal of the OMC.<sup>7</sup>

In total, we look at 358 country-years of which 161 (45%) are characterised by at least one PRR.<sup>8</sup> The countries with the most years in which they get at least one recommendation are Luxembourg and Poland, with 11 cases each. In contrast, Estonia, Sweden and the United Kingdom never received a PRR during the entire period. The country that accumulates the most recommendations under the period of observation is Greece (41 in total), which forms almost 10% of all recommendations within the entire sample. Lithuania receives the second most recommendations (36), closely followed by Slovenia (33) in third place. Cyprus and Lithuania record the most PRRs in a given year, with eight each. Whilst a first glance at these values could lead to the ad hoc hypothesis that mostly economically weaker member states from Southern and Eastern Europe receive many recommendations, a look at the subsequent ranks shows that Western countries such as Austria (28), Luxembourg (27) and France (24) accumulate a substantial number of recommendations, whilst Hungary (3) and Estonia (0) receive considerably fewer recommendations.

Turning to the categorisation of PRRs and their relative share, Table 1 offers an insight on the distribution of recommendation types. In total, we coded 438 PRRs, of which 177 (40%) were of a more general character and 261 (60%) more specific on which reform steps should be undertaken. We observe that more than 70% of all general recommendations are aimed at financial sustainability, whereas adequacy and modernisation form a minority of PRRs (19% and 11%, respectively). This shows that, empirically, the focus of the European Semester is clearly on the financial sustainability of pensions, whilst the topics of adequacy and modernisation are less frequently addressed.

When looking at the specific recommendations, we can see that increasing the retirement age was addressed most frequently, with more than a quarter (27%) of all specific recommendations. When combined with the recommendations on harmonising retirement

<sup>6</sup>Coding examples are provided in the supporting information of the paper.

<sup>7</sup>Coding examples for general and specific recommendations are provided in the supporting information.

<sup>8</sup>An overview of the PRRs by country and year is provided in Tables S1 and S2.

Table 1: Types of Pension Reform Recommendations in European Institutions, 2011–2023.

|                                        | <i>Number</i> | <i>Share in %</i> |
|----------------------------------------|---------------|-------------------|
| General recommendations                |               |                   |
| Sustainability                         | 124           | 70.1              |
| Adequacy                               | 34            | 19.2              |
| Modernisation                          | 19            | 10.7              |
| Total                                  | 177           | 100.0             |
| Specific recommendations               |               |                   |
| Increase retirement age                | 70            | 26.8              |
| Prevent early exit                     | 51            | 19.5              |
| Phase out special schemes              | 31            | 11.9              |
| Change benefit indexation              | 21            | 8.0               |
| Strengthen occupational pension        | 19            | 7.3               |
| Harmonise retirement ages              | 15            | 5.7               |
| Decrease/freeze benefits               | 14            | 5.4               |
| Decrease old-age poverty               | 12            | 4.6               |
| Decrease invalidity/disability schemes | 10            | 3.8               |
| Strengthen private pension             | 9             | 3.4               |
| Modify social security contributions   | 8             | 3.1               |
| Increase coverage                      | 1             | 0.4               |
| Total                                  | 261           | 100.0             |
| General recommendations                | 177           | 40.4              |
| Specific recommendations               | 261           | 59.6              |
| Overall                                | 438           | 100.0             |

Notes: Own data collection. PRRs are either CSRs in the European Semester or reform recommendations made by institutions involved in various financial assistance programmes of EU member states. Abbreviations: CSRs, country-specific recommendations; EU, European Union; PRRs, pension reform recommendations.

ages across gender, which exclusively implies increasing statutory retirement ages for women, we observe that one third (33%) of all specific recommendations are directed towards increasing the retirement age in one form or the other. The second most frequent specific type of recommendation we observe addresses prevention of early exit from the labour market by closing pathways to early retirement for older workers with about 20% of all specific recommendations. The third most frequent specific recommendation addresses phasing out special schemes (12%) for certain privileged or hazardous occupations that have their own specific schemes that come with additional benefits or allow for earlier retirement than the general public scheme. On the other hand, issues that mostly concern benefit adequacy and modernisation such as addressing old-age poverty and increasing coverage of public pensions constitute only 5% of all recommendations. Thus, if one were to broadly categorise the specific recommendations most frequently raised, it would appear that the financial sustainability of public pension systems through cost containment measures is given the highest priority in the European Semester and the EU socio-economic governance as a whole.

The original data we gathered put the focus of the European Semester in a quantitative perspective and provided evidence for the general direction of reforms that the framework is pushing for. The descriptive analysis of PRRs shows that a majority is geared towards the goal of financial sustainability at the cost of adequacy and modernisation. Both the general recommendations and the ones that are more specific are characterised by having

financial sustainability as a prime objective that is unrivalled by the other two goals. In a next step, we attempt to find determinants for why and how many PRRs a country receives and if we are able to identify common patterns across countries. To this end, we will use the indicators officially listed as determinants of country-specific assessments under the European Semester, as well as alternative macroeconomic controls that we introduce.

### *Indicators for OMC Policy Objectives and Control Variables*

To answer our research question about what factors determine PRRs and whether they are consistent with the OMC's three goals, we use the employment and social inclusion indicators that are part of the OMC's pension domain, as well as some additional macro-demographic and macroeconomic controls. The explanatory variables from the pensions strand of the OMC represent three main objectives of the OMC, that is, *adequacy*, *sustainability* and *modernisation*.<sup>9</sup> Because we want to keep our models parsimonious and some of the secondary indicators do not fully cover the entire observation period, we only include all primary indicators for each target in our empirical models. This leaves us with the following variables from the pension strand of the OMC: for *adequacy*, we use (i) at-risk-of-poverty rate of elderly people, aged 65 or older; (ii) median relative income ratio of elderly people, aged 65 or older; and (iii) aggregate replacement ratio excluding other social benefits. For *sustainability*, we use (iv) total current pension expenditure as a share of gross domestic product (GDP), (v) employment rate of workers aged 55–64 and (vi) the average duration of working lives. Finally, for *modernisation*, we include gender differences in (vii) the at-risk-of-poverty rate, (viii) relative median income ratio and (ix) the aggregate replacement ratio of elderly people. As controls, we include two macro-demographic (i.e., old-age dependency ratio and life expectancy at 65 years) and two macroeconomic variables (i.e., annual government deficit and total government debt as a share of GDP) into our models. The macro-demographic variables capture important aspects of the general population trend and the increasing pressure that the ageing society is exerting on the financing of pensions, which in our opinion are missing in the overall country assessment. The macroeconomic variables, on the other hand, control the fiscal aspects that play an important role in the framework of the Euro convergence criteria (also known as the Maastricht criteria), which in turn have a substantial impact on the compliance of EU member states with fiscal targets. In addition, we also include a dichotomous variable that captures whether an EU member state receives additional financial support.<sup>10</sup> We assume that financial assistance is a strong predictor of the occurrence and incidence of PRRs, as more institutional pressure can be put on domestic policy-makers to implement proposed reforms by making them conditional on debt guarantees and fiscal transfers because pension systems are an important expenditure item in public budgets. A summary statistic of all variables used in the analysis is provided in Table S3.

<sup>9</sup> All primary and secondary indicators for each objective as well as a short description of the objective itself are listed online at <https://ec.europa.eu/eurostat/web/employment-and-social-inclusion-indicators/social-protection-and-inclusion/pension>.

<sup>10</sup> The country-years that were coded as a country receiving financial assistance are the following: Cyprus, 2013–2016 (EAP); Greece, 2011–2018 [ESM, (S)MoU]; Ireland, 2011–2013 (EU, IMF); Latvia, 2011–2012 (EU, IMF); Portugal, 2011–2014 (EFSM); Romania, 2011–2013 (BoP); and Spain, 2013 (MoU). Details on the programmes can be accessed at [https://economyfinance.ec.europa.eu/eu-financial-assistance\\_en](https://economyfinance.ec.europa.eu/eu-financial-assistance_en).

### *Method of Analysis*

The analysis in this article concentrates on what exogenous factors impact if EU member states receive a PRR and, if that is the case, the quantity of those. For the estimation of whether or not a country gets a recommendation, we are conducting time-series cross-sectional logistic regression models that determine the probability of recommendation occurrence. Regarding the number of recommendations, we calculate time-series cross-sectional negative binomial regression models because linear models would not be suited to correctly estimate the number of events of a non-negative integer variable (Cameron and Trivedi, 2013; Wooldridge, 2013). For both estimation procedures, we present additional plots displaying predicted probabilities and values, because these are more intuitive to interpret than log-odds or incidence ratios. We estimate an identical set consisting of three models, the first of which includes all primary indicators of each of the objectives of the pension strand of the OMC. The second model contains only the control variables, whilst the third model combines both sets of variables from the previous two models.

## **IV. Determinants for the Occurrence and Frequency of PRRs**

In Table 2, we show the time-series cross-sectional logistic models that estimate the probability of a country receiving PRRs. As can be seen from the model fit parameters, all models correctly predict the outcome in at least two thirds or more of all observed cases, with the full model performing best in predicting more than three-quarters of all outcomes. The first model captures the primary indicators of the OMC and shows that employment rates of older workers and the duration of working lives are the only independent variables that exert a statistically significant impact on the outcome. According to the OMC primary indicators model, lower employment rates correlate with an increased probability of receiving a recommendation, whilst lower working life duration is correlated with a decreased probability. Whilst the former of the two relationships is intuitively comprehensible, the latter is less so, showing that the overall process of countries receiving a PRR does not follow a coherent picture according to our model. In the second model, we exclusively regress the outcome on our controls. The results indicate that lower old-age dependency ratios and a surplus in the public household correlate with a higher probability of receiving a recommendation. Additionally, the results show that member states that receive financial assistance by the EU are about 70 times more likely to receive a recommendation compared to the baseline probability. The majority of estimated effects of the OMC model and the one with controls are reaffirmed by the full model, which essentially displays similar results and a slightly higher explanatory power.

Figure 1 shows how the probability of a country receiving a PRR changes over the value range of employment rates and financial assistance receipt.<sup>11</sup> Sub-figure (a) shows that the probability of receiving a recommendation is significantly higher when employment rates are below 49.5%, which corresponds to about 39% of observations within the sample. At the other end of the distribution, the probability becomes significantly lower

<sup>11</sup>Predicted probabilities over the range of employment rates of older workers are taken from the OMC model, whereas the probability for receiving a pension-related recommendation when the country in question is a recipient of financial assistance is taken from the full model. In both examples, all other covariates are set to their observed mean.

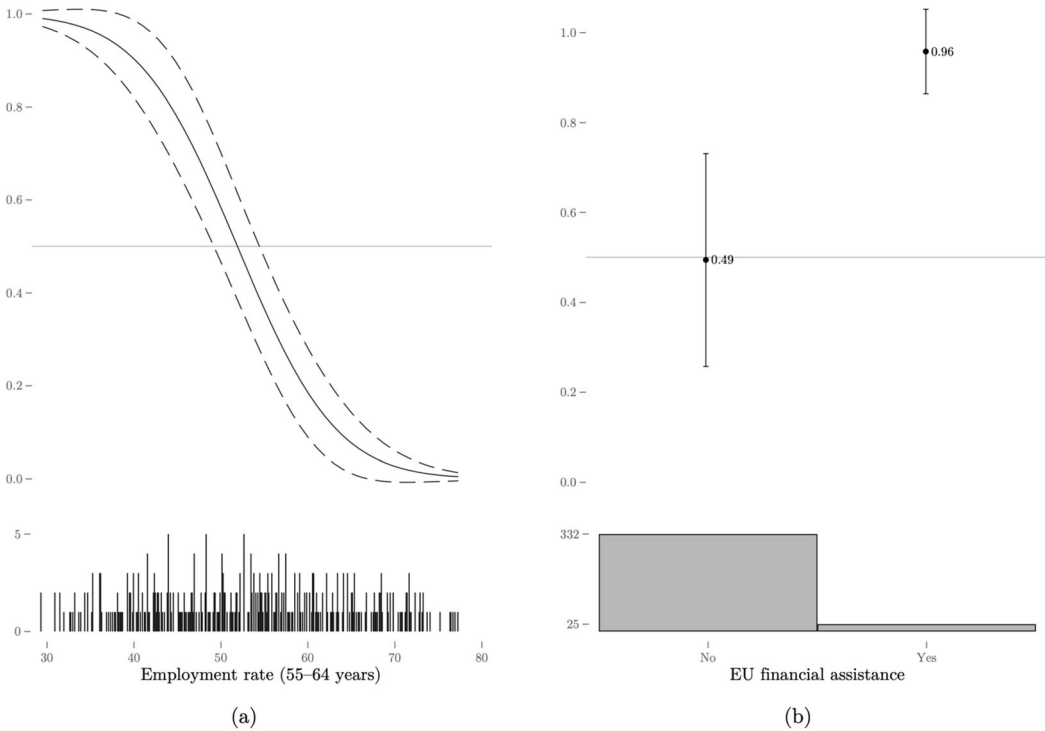
Table 2: Determinants for Receiving a PRR, 2011–2023.

|                                                                  | <i>Recommendation (occurrence; 'yes' = 169; 'no' = 188)</i> |                     |                    |
|------------------------------------------------------------------|-------------------------------------------------------------|---------------------|--------------------|
|                                                                  | <i>OMC</i>                                                  | <i>Controls</i>     | <i>Full</i>        |
| <b>Adequacy</b>                                                  |                                                             |                     |                    |
| At-risk-of-poverty rate (65+ years) <sub><i>t</i>−1</sub>        | 1.004<br>(0.10)                                             |                     | 1.044<br>(1.01)    |
| Median relative income ratio (65+ years) <sub><i>t</i>−1</sub>   | 0.977<br>(−0.57)                                            |                     | 1.004<br>(0.10)    |
| Aggregate replacement ratio <sub><i>t</i>−1</sub>                | 0.994<br>(−0.20)                                            |                     | 0.978<br>(−0.65)   |
| <b>Sustainability</b>                                            |                                                             |                     |                    |
| Total pension expenditure (% of GDP) <sub><i>t</i>−1</sub>       | 0.799<br>(−1.67)                                            |                     | 1.215<br>(1.13)    |
| Employment rate (55–64 years) <sub><i>t</i>−1</sub>              | 0.773***<br>(−6.10)                                         |                     | 0.863**<br>(−2.99) |
| Duration of working life <sub><i>t</i>−1</sub>                   | 1.498*<br>(2.43)                                            |                     | 1.163<br>(0.82)    |
| <b>Modernisation</b>                                             |                                                             |                     |                    |
| At-risk-of-poverty rate (gender diff.) <sub><i>t</i>−1</sub>     | 1.037<br>(1.11)                                             |                     | 1.036<br>(1.05)    |
| Median relative income (gender diff.) <sub><i>t</i>−1</sub>      | 0.986<br>(−0.69)                                            |                     | 0.979<br>(−0.92)   |
| Aggregate replacement ratio (gender diff.) <sub><i>t</i>−1</sub> | 0.988<br>(−0.49)                                            |                     | 1.013<br>(0.45)    |
| <b>Controls</b>                                                  |                                                             |                     |                    |
| Old-age dependency ratio (65+ years) <sub><i>t</i>−1</sub>       |                                                             | 0.600***<br>(−5.99) | 0.801*<br>(−2.31)  |
| Life expectancy at 65 years <sub><i>t</i>−1</sub>                |                                                             | 0.868<br>(−0.57)    | 1.034<br>(0.14)    |
| Deficit/surplus <sub><i>t</i>−1</sub>                            |                                                             | 1.140*<br>(2.20)    | 1.133*<br>(2.14)   |
| Government debt <sub><i>t</i>−1</sub>                            |                                                             | 1.001<br>(0.06)     | 0.975*<br>(−2.04)  |
| EU financial assistance                                          |                                                             | 70.285**<br>(2.89)  | 52.138**<br>(2.82) |
| <i>n</i>                                                         | 357                                                         | 357                 | 357                |
| <i>N</i>                                                         | 28                                                          | 28                  | 28                 |
| <i>T</i>                                                         | 12.8                                                        | 12.8                | 12.8               |
| $\chi^2$                                                         | 53.6***                                                     | 46.5***             | 59.6***            |
| Count R <sup>2</sup>                                             | 0.714                                                       | 0.683               | 0.742              |
| Count R <sup>2</sup> <sub>adj.</sub>                             | 0.396                                                       | 0.331               | 0.456              |

Notes: Odds ratios from time-series cross-sectional random-effects logit models with *z* values in parentheses. The OMC model exclusively contains the primary indicators of the pensions strand of the OMC. Controls were selected by the authors. Abbreviations: EU, European Union; GDP, gross domestic product; OMC, open method of coordination; PRR, pension reform recommendation. \**p* < 0.05. \*\**p* < 0.01. \*\*\**p* < 0.001.

when employment rates exceed 55%, which corresponds to around 43% of observed cases. At both tail ends of the distribution, the predicted probability of the corresponding outcome is very close to its maximum value, showing that the impact of employment rates is substantial. The sub-figure on the right-hand side shows that countries that receive no

Figure 1: Predicted Probability of Receiving a Pension Reform Recommendation over Employment rates (a) and European Union (EU) Financial Assistance (b).



financial assistance have a predicted probability of receiving a recommendation of 49%, which is indifferent from the critical value of 0.5 (i.e., a coin flip). However, countries that do rely on financial assistance are almost certain to receive a recommendation with a predicted probability of 96%.<sup>12</sup>

In Table 3, we estimate the number of PRRs. As before, only variables that capture the OMC goal of financial sustainability exhibit a statistically significant impact on our outcome variable. Similar to the previous models that estimate recommendation occurrence, the effect of employment rates of older workers also remains persistent in the full model when estimating their number. In the model that exclusively contains control variables, only the old-age dependency ratio and receipt of financial assistance exert a non-random effect, of which the latter also remains persistent in the full model. Other factors such as overall life expectancy or public debt and deficits do not exert any significant impact on the number of recommendations.

Figure 2 plots the number of predicted recommendations over employment rates and receipt of financial assistance.<sup>13</sup> It shows that countries with employment rates lower than

<sup>12</sup>The delta method shows that the difference between the two estimates (i.e., 0.47) is statistically significant at  $p < 0.001$ .

<sup>13</sup>Again, estimates are based on the OMC model for employment rates and the full model for financial assistance. All other covariates are set to their observed mean.

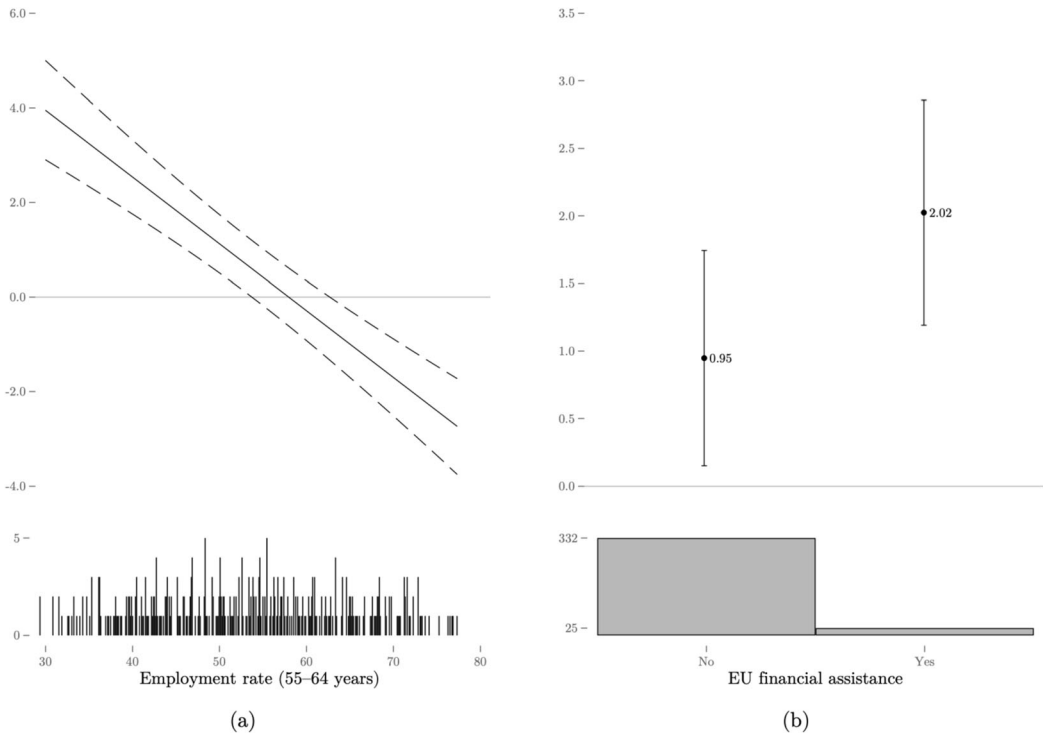
Table 3: Determinants of the Number of PRRs, 2011–2023.

|                                                     | <i>All recommendations (frequency; <math>y = 1.22</math>; <math>\sigma = 1.72</math>)</i> |                     |                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------|---------------------|
|                                                     | <i>OMC</i>                                                                                | <i>Controls</i>     | <i>Full</i>         |
| <b>Adequacy</b>                                     |                                                                                           |                     |                     |
| At-risk-of-poverty rate (65+ years) $_{t-1}$        | 0.996<br>(−0.20)                                                                          |                     | 1.012<br>(0.61)     |
| Median relative income ratio (65+ years) $_{t-1}$   | 0.977<br>(−1.24)                                                                          |                     | 0.978<br>(−1.18)    |
| Aggregate replacement ratio $_{t-1}$                | 1.000<br>(−0.03)                                                                          |                     | 1.000<br>(0.00)     |
| <b>Sustainability</b>                               |                                                                                           |                     |                     |
| Total pension expenditure (% of GDP) $_{t-1}$       | 0.880*<br>(−2.06)                                                                         |                     | 1.012<br>(0.14)     |
| Employment rate (55–64 years) $_{t-1}$              | 0.870***<br>(−7.82)                                                                       |                     | 0.904***<br>(−4.19) |
| Duration of working life $_{t-1}$                   | 1.259**<br>(3.02)                                                                         |                     | 1.124<br>(1.35)     |
| <b>Modernisation</b>                                |                                                                                           |                     |                     |
| At-risk-of-poverty rate (gender diff.) $_{t-1}$     | 1.006<br>(0.41)                                                                           |                     | 1.011<br>(0.77)     |
| Median relative income (gender diff.) $_{t-1}$      | 0.987<br>(−1.75)                                                                          |                     | 0.983*<br>(−2.20)   |
| Aggregate replacement ratio (gender diff.) $_{t-1}$ | 0.999<br>(−0.11)                                                                          |                     | 1.006<br>(0.67)     |
| <b>Controls</b>                                     |                                                                                           |                     |                     |
| Old-age dependency ratio (65+ years) $_{t-1}$       |                                                                                           | 0.804***<br>(−7.63) | 0.941<br>(−1.36)    |
| Life expectancy at 65 years $_{t-1}$                |                                                                                           | 1.018<br>(0.17)     | 1.105<br>(0.83)     |
| Deficit/surplus $_{t-1}$                            |                                                                                           | 1.023<br>(1.07)     | 1.032<br>(1.17)     |
| Government debt $_{t-1}$                            |                                                                                           | 0.999<br>(−0.14)    | 0.988*<br>(−2.06)   |
| <b>EU financial assistance</b>                      |                                                                                           |                     |                     |
|                                                     |                                                                                           | 2.793***<br>(3.68)  | 2.934***<br>(3.63)  |
| <i>n</i>                                            | 357                                                                                       | 357                 | 357                 |
| <i>N</i>                                            | 28                                                                                        | 28                  | 28                  |
| <i>T</i>                                            | 12.8                                                                                      | 12.8                | 12.8                |
| <i>Log-likelihood</i>                               | −467.0                                                                                    | −472.5              | −457.1              |
| $\chi^2$                                            | 105.8***                                                                                  | 97.4***             | 122.6***            |

Notes: Incidence rate ratios from time-series cross-sectional random-effects negative binomial regression models with  $z$  values in parentheses. The OMC model exclusively contains the primary indicators of the pensions strand of the OMC. Controls were selected by the authors. Abbreviations: EU, European Union; GDP, gross domestic product; OMC, open method of coordination; PRRs, pension reform recommendations. \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

54% (53.5% of observations) receive significantly more recommendations and get up to four pension-related recommendations more, on average. Contrary to that, countries with employment rates higher than 63% (23% of observations) receive significantly fewer recommendations. In terms of financial support, our model shows that countries that do not rely on transfers receive fewer than one recommendation (0.95) on average, whereas

Figure 2: Predicted Number of Pension Reform Recommendations over Employment rates (a) and European Union (EU) Financial Assistance (b).



those that rely on support measures and transfers receive an average of 2.02 recommendations per year.<sup>14</sup>

The variables we employed as controls show consistent, yet sometimes counterintuitive, results. For example, the budget variable indicates that a surplus increases both probability and frequency of recommendations, implying that countries with higher revenue than expenses receive significantly more recommendations than those that register a deficit. For general government debt, we observe that countries with higher debt-to-GDP ratios receive significantly less recommendations than those with lower ratios. These two findings indicate that the assessment process within the European Semester is not inherently biased against economically disadvantaged or otherwise weaker member states. It can be argued that the process is in fact more lenient towards those who may not have the financial means to implement reforms, provided that they are not directly reliant on financial support and have a high employment rate of older workers.

In summary, our models show a clear misalignment between the PRRs and the goals of the OMC. By using the main OMC objectives used in the country-specific assessments as predictors of recommendations in our models, we are able to show that indicators of financial sustainability, in particular the employment rate of older workers and the length of working lives, are the most important explanatory factors for PRRs. The indicators

<sup>14</sup>The delta method shows that the difference between the two estimates (i.e., 1.07) is statistically significant at  $p < 0.001$ .

for the other two goals, representing pension adequacy and modernisation, do not have a statistically significant impact on PRRs. Taken together, both our descriptive and inferential analyses show that the financial sustainability dimension of EU socio-economic governance is much more frequently addressed in both the outcomes and the drivers of PRRs. Whilst it may not be surprising that the most common outcome (i.e., sustainability) is driven by explanatory factors originating from the same OMC dimension, we were able to show that even this relationship is not so clear-cut, as it is mostly a single predictor (i.e., the employment rate of older workers) and not all variables within the sustainability dimension that exert an evenly distributed influence.

The two remaining dimensions (i.e., adequacy and modernisation) are not addressed as frequently as financial sustainability, and their indicators do not appear to exert a comparable influence. If we draw on our additional analyses, in which all three dimensions are examined separately, a picture emerges in which both dimensions are obviously treated as subordinate and not as primary objectives on an equal footing with financial sustainability. However, if we inspect country-specific characteristics more closely, we can detect clear signals that the adequacy and modernisation dimensions should be addressed. For example, although no recommendation for pension reform was ever made there, the at-risk-of-poverty rate for older people in Estonia is one of the highest in the entire sample at around 40%. Similarly, Romania displays considerable gender differences in the at-risk-of-poverty rate but has never received a recommendation on adequacy or modernisation but rather on financial sustainability and raising the statutory retirement age for women.

## Conclusion

In this study, we set out to answer the question of the extent to which the PRR practices in the EU socio-economic governance are consistent with the OMC's policy objectives and what factors determine whether and how many PRRs a member state receives. The original dataset we gathered on all recommendations that were given from 2011 to 2023 reveals that the majority of recommendations are directed towards the financial sustainability of pension systems at the expense of adequacy and modernisation, which are only seldomly put on the reform agenda. Our descriptive analysis shows that 70% of all general recommendations are geared towards the financial viability of public pension systems, particularly through cost containment measures. The distribution of specific recommendations amplifies this notion and shows that the majority of those are concerned with increasing statutory retirement ages, particularly for women, and extending working lives by closing paths to early retirement and phasing out special pension schemes that are more generous and allow for earlier retirement. The subsequent analysis of the determining factors for incidence and frequency of recommendations shows that both heavily depend on indicators that capture the sustainability of pensions, in particular the employment rate of older workers. Our analysis also shows that none of the primary indicators that capture pension adequacy and modernisation exert any significant impact, further establishing the finding that PRRs are mostly driven by a rationale that focuses on financial sustainability to the detriment of the other two goals. We have therefore found strong support for the argument that the OMC indicators are subordinate to the economic rules that govern the European Semester. This is particularly true for member states receiving

financial support from EU institutions, as they are more vulnerable due to their dependence on guarantees and transfers.

Our results are in line with previous findings that the European Semester primarily focuses on financial sustainability above all else and that this focus has not shifted over the years (Costamagna, 2013; Guidi and Guardiancich, 2018; Zeitlin and Vanhercke, 2018). Additionally, we could demonstrate that countries that are dependent on financial assistance by the EU are most frequently targeted by PRRs, which mostly aim at prolonging working lives by increasing retirement ages, closing early exit pathways and discontinuing special pension schemes. Although the SGP was suspended during the COVID-19 pandemic and the Semester focused on mitigating the negative economic impact of the global pandemic, the majority of general recommendations in the last two rounds of the Semester again focused primarily on financial sustainability (7 out of 10 in 2022; 5 out of 6 in 2023), indicating a clear return to previous recommendation patterns.

This study did not examine member states' compliance with the recommendations, but it is an issue worth considering. In some cases, the threat of the excessive debt procedure may encourage compliance with fiscal sustainability recommendations. However, the reputational costs of non-compliance with the other two OMC objectives (modernisation and adequacy) make these recommendations less of a priority in the European Semester. The political leverage and higher costs of non-compliance are more significant for countries receiving financial assistance than for those only participating in the Semester. This is evident in the higher incidence of recommendations on financial sustainability: 31% for all countries, rising to 81% for those receiving aid. Conversely, non-compliance with outside recovery programmes seems less costly. For instance, Poland's pension system was addressed six times during the Semester (2016–2019 and 2022–2023), with assessments showing 'no progress' or 'limited progress'. Despite this, Poland has not taken a comprehensive approach, and its pension financing is projected to worsen if left unaddressed (Chłoń-Domińczak, 2021).

The analysis presented here also raises concerns about the extent to which the three goals of the OMC are captured by the primary indicators. Are employment rates of older workers and the duration of working lives adequate indicators to capture the financial sustainability of pension systems, or are there alternative measures that could better capture this concept? Whilst pay-as-you-go schemes are potentially more reliant on these labour market-related measures than funded schemes, the assessment of financial sustainability in its current form ignores key aspects that apply to funded pension schemes. Possible indicators that take account of the special characteristics of funded schemes that could potentially be employed in the country assessments are funding ratios, rates of return, and the degree and effectiveness of government supervision. Furthermore, from the perspective of intergenerational justice, an indicator showing the ratio of average pension benefit to average wage, net of pension contributions (i.e., the Musgrave ratio), would provide information on the relative position of workers and retirees vis-à-vis each other over time (see, e.g., Schokkaert et al., 2020). Of course, some of these indicators are hard to come by, and both their construction and application require further discussion.

As we demonstrate in our analysis, the employment rate of older workers has been the single strongest and most consistent predictor identified in the evaluation process for more than a decade. However, its suitability for capturing the sustainability dimension

can certainly be questioned, which in turn raises questions about the objectives of the European Commission. To make the evaluation process, its underlying criteria and the observed results more transparent, we consider it necessary that the indicators used to assess the performance of a member state should be more in line with the theoretical dimension of the underlying concept. In addition, European institutions must also address the underlying expectations and the extent to which a goal can be fulfilled in the context of demographic ageing. We therefore argue in favour of a discussion that addresses both the theoretical dimension of the concepts covered by the OMC objectives and the question of how well these are captured by the specific indicators used. Furthermore, it is necessary to carry out regular empirical assessments to determine the extent to which these indicators are taken into account and the extent to which one objective takes precedence over another.

To this end, future research should address why financial sustainability is deemed to be the prime goal at the cost of the other two prime objectives and why pressing issues such as adequacy and modernisation receive less attention, although they can both contribute to sustainability. In addition, policy-makers should invest time into considering how to overcome the bias on the financial sustainability of the OMC and what can be done so that the process is not perceived as yet another institutionalised promotion of neoliberal austerity measures that primarily prioritises retrenchment of social policies and leaves the member states alone with figuring out how to establish a modernised form of adequate pension provision. This is necessary as the role of the Commission has presumably been strengthened with the integration of the resilience and recovery plans into the European Semester, allowing the Commission to exert more influence on the political reforms of the member states. Credibility to the process would be restored if member states could expect a holistic assessment of aspects of their pension provision, especially as this has been severely neglected in the past (Ebbinghaus, 2021). It would also provide a nuanced perspective that recognises that allocating funding to ageing policies does not necessarily come at the expense of other social policies (Birnbaum et al., 2017). Ultimately, the challenge that lies ahead of Europe in terms of progressing demographic ageing may turn out to be a litmus test for the EU institutions and their acceptance across member states, which will inevitably deteriorate if they keep on solely prioritising financial sustainability at the cost of adequacy and modernisation of pensions.

### **Acknowledgements**

We would like to thank the participants at the European Network for Research on Supplementary Pensions (ENRSP, Coimbra 2022) and the Annual Conference of the Swedish Section of the European Social Policy Analysis Network (ESPAnet, Umeå 2022) for their valuable comments on earlier versions of this article. We also thank the three anonymous referees who reviewed the manuscript for their comments and suggestions. All errors remain ours.

### *Correspondence:*

Jan Helmdag, Swedish Institute for Social Research (SOFI), Stockholm University, Stockholm, Sweden.

email: [jan.helmdag@sofi.su.se](mailto:jan.helmdag@sofi.su.se)

## References

- Aranguiz, A. (2018) 'Social Mainstreaming Through the European Pillar of Social Rights: Shielding 'The Social' From 'The Economic' in EU Policymaking'. *European Journal of Social Security*, Vol. 20, No. 4, pp. 341–363.
- Baerg, N. and Hallerberg, M. (2016) 'Explaining Instability in the Stability and Growth Pact: The Contribution of Member State Power and Euroscepticism to the Euro Crisis'. *Comparative Political Studies*, Vol. 49, No. 7, pp. 968–1009.
- Baerg, N. and Hallerberg, M. (2022) 'Council Checks of the Commission Under the European Semester: Does Member State Power and Euroscepticism Still Matter?' *JCMS: Journal of Common Market Studies*, Vol. 60, No. 1, pp. 58–80.
- Barr, N. (2001) *The Welfare State as Piggy Bank: Information, Risk, Uncertainty, and the Role of the State* (Oxford University Press).
- Bauer, M.W. and Becker, S. (2014) 'The Unexpected Winner of the Crisis: The European Commission's Strengthened Role in Economic Governance'. *Journal of European Integration*, Vol. 36, No. 3, pp. 213–229.
- Bekker, S. (2020a) 'The European Semester: Understanding an Innovative Governance Model'. In Cardwell, P.J. and Granger, M.-P. (eds) *Research Handbook on the Politics of EU Law* (Edward Elgar Publishing), pp. 67–81.
- Bekker, S. (2020b) 'Hardening and Softening of Country-Specific Recommendations in the European Semester'. *West European Politics*, Vol. 44, No. 1, pp. 114–133.
- Birnbaum, S., Ferrarini, T., Nelson, K. and Palme, J. (2017) *The Generational Welfare Contract: Justice, Institutions and Outcomes* (Edward Elgar Publishing).
- Blanchard, O., Leandro, A. and Zettelmeyer, J. (2021) 'Redesigning EU Fiscal Rules: From Rules to Standards'. *Economic Policy*, Vol. 36, No. 106, pp. 195–236.
- Blyth, M. (2013) *Austerity: The History of a Dangerous Idea* (Oxford University Press).
- Bokhorst, D. (2022) 'The Influence of the European Semester: Case Study Analysis and Lessons for Its Post-pandemic Transformation'. *JCMS: Journal of Common Market Studies*, Vol. 60, No. 1, pp. 101–117.
- Cameron, A.C. and Trivedi, P.K. (2013) *Regression Analysis of Count Data* (2nd edition) (Cambridge: Cambridge University Press).
- Casagrande, S. and Dallago, B. (2022) 'Socio-economic and Political Challenges of EU Member Countries: Grasping the Policy Direction of the European Semester'. *Comparative Economic Studies*, Vol. 64, No. 3, pp. 487–519.
- Chłóń-Domińczak, A. (2021) 'Towards Sustainable and Adequate Pension Systems: Old-Age Pension Reforms After Economic Transition and EU Accession in Central-Eastern and South-Eastern Europe'. In Landesmann, M. and Székely, I.P. (eds) *Does EU Membership Facilitate Convergence? The Experience of the EU's Eastern Enlargement* (Vol. 2) (Springer), pp. 295–331.
- Chybalski, F. and Gumola, M. (2018) 'The Similarity of European Pension Systems in Terms of OMC Objectives: A Cross-country Study'. *Social Policy & Administration*, Vol. 52, No. 7, pp. 1425–1440.
- Costamagna, F. (2013) *The European Semester in Action: Strengthening Economic Policy Coordination While Weakening the Social Dimension?* LPF-WEL Working Paper No. 5.
- Craig, P. and De Búrca, G. (2020) *EU Law: Text, Cases, and Materials* (Oxford University Press).
- Daly, M. (2006) 'EU Social Policy After Lisbon'. *JCMS: Journal of Common Market Studies*, Vol. 44, No. 3, pp. 461–481.
- Darvas, Z.M. and Leandro, Á. (2015) *The Limitations of Policy Coordination in the Euro Area Under the European Semester*. Bruegel Policy Contribution No. 2015/19.

- de la Porte, C. and Heins, E. (2015) 'A New Era of European Integration? Governance of Labour Market and Social Policy Since the Sovereign Debt Crisis'. *Comparative European Politics*, Vol. 13, No. 1, pp. 8–28.
- de la Porte, C. and Nanz, P. (2004) 'The OMC – A Deliberative-Democratic Mode of Governance? The Cases of Employment and Pensions'. *Journal of European Public Policy*, Vol. 11, No. 2, pp. 267–288.
- de la Porte, C. and Natali, D. (2014) 'Europeanisation of Pension Reform in the Context of the Great Recession: Denmark and Italy Compared'. *West European Politics*, Vol. 37, No. 4, pp. 732–749.
- de la Porte, C. and Pochet, P. (2002) 'Supple Co-ordination at EU Level and the Key Actors' Involvement'. In da la Porte, C. and Pochet, P. (eds) *Building Social Europe Through the Open Method of Co-ordination* (Brussels: PIE Peter Lang).
- de la Porte, C. and Pochet, P. (2012) 'Why and How (Still) Study the Open Method of Co-ordination (OMC)?' *Journal of European Social Policy*, Vol. 22, No. 3, pp. 336–349.
- D'Erman, V., Haas, J., Schulz, D.F. and Verdun, A. (2019) 'Measuring Economic Reform Recommendations Under the European Semester: 'One Size Fits All' or Tailoring to Member States?' *Journal of Contemporary European Research*, Vol. 15, No. 2, pp. 194–211.
- Ebbinghaus, B. (2021) 'Inequalities and Poverty Risks in Old Age Across Europe: The Double-Edged Income Effect of Pension Systems'. *Social Policy & Administration*, Vol. 55, No. 3, pp. 440–455.
- Ebbinghaus, B. and Möhring, K. (2021) 'Studying the Politics of Pension Reforms and Their Social Consequences'. In Nelson, K., Nieuwenhuis, R. and Yerkes, M.A. (eds) *Social Policy in Changing European Societies* (Edward Elgar Publishing), pp. 85–100.
- Eihmanis, E. (2018) 'Cherry-Picking External Constraints: Latvia and EU Economic Governance, 2008–2014'. *Journal of European Public Policy*, Vol. 25, No. 2, pp. 231–249.
- European Commission (2013) *Financial Assistance Programme for the Recapitalisation of Financial Institutions in Spain, Fourth Review – Autumn 2013*. Occasional Papers, Vol. 163. [https://ec.europa.eu/economy\\_finance/publications/occasional\\_paper/2013/pdf/ocp163\\_en.pdf](https://ec.europa.eu/economy_finance/publications/occasional_paper/2013/pdf/ocp163_en.pdf)
- European Commission (2023) Population Structure and Ageing. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population\\_structure\\_and\\_ageing](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing)
- European Union (2012). 'Council recommendation of 10 July 2012 on the National Reform Programme 2012 of Spain and delivering a Council opinion on the Stability Programme for Spain, 2012–2015'. *Official Journal of the European Union*, C219, Vol. 55, pp. 81–84. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2012:219:FULL>
- Graziano, P. and Hartlapp, M. (2019) 'The End of Social Europe? Understanding EU Social Policy Change'. *Journal of European Public Policy*, Vol. 26, No. 10, pp. 1484–1501.
- Guardiancich, I. and Guidi, M. (2022) 'The Political Economy of Pension Reforms in Europe Under Financial Stress'. *Socio-Economic Review*, Vol. 20, No. 2, pp. 817–840.
- Guardiancich, I., Guidi, M. and Terlizzi, A. (2022) 'Beyond the European Semester: The Supranational Evaluation Cycle for Pensions'. *Journal of European Social Policy*, Vol. 32, No. 5, pp. 578–591.
- Guidi, M. and Guardiancich, I. (2018) 'Intergovernmental or Supranational Integration? A Quantitative Analysis of Pension Recommendations in the European Semester'. *European Union Politics*, Vol. 19, No. 4, pp. 684–706.
- Haas, J.S., D'Erman, V.J., Schulz, D.F. and Verdun, A. (2021) 'Economic and Fiscal Policy Coordination After the Crisis: Is the European Semester Promoting More or Less State Intervention?' In Howarth, D. and Verdun, A. (eds) *Economic and Monetary Union at Twenty* (Routledge), pp. 40–57.

- Heipertz, M. and Verdun, A. (2004) 'The Dog That Would Never Bite? What We Can Learn From the Origins of the Stability and Growth Pact'. *Journal of European Public Policy*, Vol. 11, No. 5, pp. 765–780.
- Henning, C.R. (2017) *Tangled Governance: International Regime Complexity, the Troika, and the Euro Crisis* (Oxford University Press).
- Hodson, D. (2018) 'The Macroeconomic Imbalance Procedure as European Integration: A Legalization Perspective'. *Journal of European Public Policy*, Vol. 25, No. 11, pp. 1610–1628.
- Kuitto, K. and Helmdag, J. (2021) 'Extending Working Lives: How Policies Shape Retirement and Labour Market Participation of Older Workers'. *Social Policy & Administration*, Vol. 55, No. 3, pp. 423–439.
- Mariotto, C. (2018) 'Negotiating implementation of EU fiscal governance'. *Journal of European Integration*, Vol. 41, No. 4, pp. 465–486.
- Mariotto, C. (2022) 'The Implementation of Economic Rules: From the Stability and Growth Pact to the European Semester'. *JCMS: Journal of Common Market Studies*, Vol. 60, No. 1, pp. 40–57.
- Natali, D. (2009) 'The Open Method of Coordination on Pensions: Does It De-politicise Pensions Policy?' *West European Politics*, Vol. 32, No. 4, pp. 810–828.
- Pisani-Ferry, J. (2020) European Union Recovery Funds: Strings Attached, but Not Tied Up in Knots. Bruegel Policy Contribution No. 2020/19. <http://hdl.handle.net/10419/237654>
- Radaelli, C.M. (2008) 'Europeanization, Policy Learning, and New Modes of Governance'. *Journal of Comparative Policy Analysis*, Vol. 10, No. 3, pp. 239–254.
- Rainone, S. (2020) *An Overview of the 2020–2021 Country-Specific Recommendations (CSRs) in the Social Field: The Impact of COVID-19* (European Trade Union Institute (ETUI)).
- Rainone, S. (2022) *The 2022 Country Specific Recommendations in the Social Field: Quo Vadis, EU Recovery? An Overview and Comparison With Previous European Semester Cycles* (European Trade Union Institute (ETUI)).
- Rainone, S. and Aloisi, A. (2021) Time to Deliver? Assessing the Action Plan on the European Pillar of Social Rights. ETUI Research Paper – Policy Brief 2021.08.
- Ritola, S. and Väänänen, N. (eds) (2024) *Understanding Finnish Pensions* (SKS Kirjat).
- Savage, J.D. and Verdun, A. (2016) 'Strengthening the European Commission's Budgetary and Economic Surveillance Capacity Since Greece and the Euro Area Crisis: A Study of Five Directorates-General'. *Journal of European Public Policy*, Vol. 23, No. 1, pp. 101–118.
- Scharpf, F.W. (2002) 'The European Social Model'. *JCMS: Journal of Common Market Studies*, Vol. 40, No. 4, pp. 645–670.
- Schmidt, V. (2022) 'Economic Crisis Management in the EU: From Past Eurozone Mistakes to Future Promise Beyond the COVID-19 Pandemic'. In Ryde, A.W. (ed.) *EU Crisis Management* (Swedish Institute for European Policy Studies (SIEPS)), pp. 19–39.
- Schokkaert, E., Devolder, P., Hindriks, J. and Vandenbroucke, F. (2020) 'Towards an Equitable and Sustainable Points System. A Proposal for Pension Reform in Belgium'. *Journal of Pension Economics & Finance*, Vol. 19, No. 1, pp. 49–79.
- Tkalec, I. (2019) 'The Council's Amendments to the Country-Specific Recommendations: More Than Just Cosmetics?' *Journal of Contemporary European Research*, Vol. 15, No. 2, pp. 212–227.
- Van Vliet, O. (2010) 'Divergence Within Convergence: Europeanization of Social and Labour Market Policies'. *European Integration*, Vol. 32, No. 3, pp. 269–290.
- Vanhercke, B. and Verdun, A. (2022) 'The European Semester as Goldilocks: Macroeconomic Policy Coordination and the Recovery and Resilience Facility'. *JCMS: Journal of Common Market Studies*, Vol. 60, No. 1, pp. 204–223.
- Windwehr, J. (2017) 'Europeanization in Pension Policy: The Crisis as a Game-Changer?' *Journal of Contemporary European Research*, Vol. 13, No. 3, pp. 1301–1318.

- Wooldridge, J.M. (2013) *Introductory Econometrics: A Modern Approach* (5th edition) (Boston: Cengage Learning).
- Zeitlin, J. and Vanhercke, B. (2014) Socializing the European Semester? Economic Governance and Social Policy Coordination in Europe 2020. SIEPS Report 2014/7, Swedish Institute for European Policy Studies (SIEPS).
- Zeitlin, J. and Vanhercke, B. (2018) 'Socializing the European Semester: EU Social and Economic Policy Co-ordination in Crisis and Beyond'. *Journal of European Public Policy*, Vol. 25, No. 2, pp. 149–174.

## Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**Table S1.** Number of pension reform recommendations, 2011–23 (by country).

**Table S2.** Number and type of PRRs, 2011–23 (by year).

**Table S3.** Summary statistic of variables used in the analysis.

**Table S4.** Robustness check I (CSR occurrence in the European Semester).

**Table S5.** Robustness check II (CSR frequency in the European Semester).

**Table S6.** Robustness check III (alternative dependent variable).

**Table S7.** Robustness check IV (alternative dependent variable).

**Table S8.** Robustness check V (alternative dependent variable).

**Table S9.** Robustness check VI (alternative dependent variable).

## Article III A right to early retirement for conscripts

The third article, “*A right to early retirement for conscripts*,” develops one of the dissertation’s central normative claims: public pension systems should not merely reproduce labour-market earnings, but should also correct state-imposed disadvantages that are predictably concentrated on particular groups. The article argues that conscription imposes a distinctive early-life burden—lost time, delayed labour-market entry, and weaker pension accrual—through no fault of the conscript. Because national defence is a collectively enjoyed public good, these costs should not remain privately borne by those compelled to serve.

The article therefore defends pension credits and earlier retirement without actuarial penalty, proportionate to the duration and hardship of service, as a justified design response within public pension schemes. Its broader significance for the dissertation is that it shows why fairness in pensions is not exhausted by fiscal sustainability or actuarial symmetry. Pension rules also allocate time, risks, and recognition over the life course. The conscription case makes that allocation especially visible: when the state imposes a cooperation-essential burden on a subset of citizens, a fair pension system should neutralise the resulting disadvantage rather than reproduce it in old-age income. This is why Article III belongs to the dissertation’s wider argument for evaluating pension reform through a liberal-egalitarian standard of fairness, not through financial criteria alone.

# A right to early retirement for conscripts

**Niko Väänänen** 

Hoover Chair of Economic and Social Ethics, Catholic University of Louvain,  
Louvain-la-Neuve, Belgium

## Abstract

Sometimes democratic societies draft adult citizens to perform a task. Many states draft young adults to the military. From a Rawlsian perspective, conscription is justified only if it is needed for the protection of basic liberties. Military service is a very stressful life event that leaves conscripts disadvantaged for the remainder of their lives. Conscripts must use private resources and time, as well as mental and physical capacity, to produce a public good - national defence. I argue that conscripts are owed, as a matter of justice, earlier access to retirement to compensate for the disadvantage they experience and the free time they lose. Public pension schemes are suitable instruments of distributive justice as they distribute financially supported free time to individuals.

## Keywords

Social security, distributive justice, disadvantage, public pensions, free time, conscription, retirement, John Rawls

## 1. Introduction

It is surprising how limited the academic debate on social security and conscription remains, considering the widespread practice of military conscription. One-third of the world's countries have conscription. The majority (60%) of people in the armed forces are conscripts, and many European countries are considering the reintroduction of military conscription (Crain and Crain, 2023).<sup>1</sup>

---

1. Equally, those countries that suspended conscription, such as Belgium, typically retain the option to re-introduce it later in case of a large-scale conflict.

---

## Corresponding author:

Niko Väänänen, Hoover Chair of Economic and Social Ethics, Catholic University of Louvain, Place Montesquieu, Louvain-la-Neuve, 1348, Belgium.

Email: niko.vaananen@uclouvain.be

Furthermore, historically, there has been a strong link between military efforts and the expansion of the welfare state (Obinger and Schmitt, 2020). In this article, I ask if social security could play a role in compensating conscripts. I conclude that conscripts should be granted the right to early retirement as compensation, because military service leaves impacts them negatively for the rest of their lives.

There is ample evidence that conscripts are disadvantaged. Conscripts experience a stressful life event in the military; they lose time and are left with a lower level of human capital and poorer health. The value of military service is the good it produces, national defence, and protection against specific threats. Conscripts provide something that members of society find valuable. In addition to protecting the lives and basic liberties of members of the public, national defence protects against the potential destruction of institutions, infrastructure, cultural and natural heritage, and public and private property, to name a few. This protection is important in an insecure world. I argue that, as a matter of justice, conscripts are owed compensation for the disadvantage they suffer while producing this valuable good, and social security could play a role in providing this compensation.

The remainder of this article is organised as follows. Section 2 discusses the permissibility of conscription in liberal democracies, analyses the relevant legal framework and presents examples from European countries. Section 3 describes the disadvantages caused by military conscription. Section 4 explains how countries with conscription provide pension cover for conscripts. Finally, in section 5, I argue that granting conscripts free time in the form of earlier retirement pensions is a fair way to compensate them for the disadvantage they suffer. Section 6 concludes the article.

## 2. When is conscription permissible?

I begin by outlining a Rawlsian liberal-egalitarian framework that justifies conscription in a liberal democracy (Rawls, 1999). According to this view, conscription is permissible under one and only one condition:

1. Conscription is permissible if it is required to protect (other) basic liberties.

Thus, conscription can be justified under certain conditions and remains compatible with the framework of political liberalism (Rawls, 1993). According to this view, individuals are not personally bound by the principles of justice when choosing their occupation. Moreover, as the state cannot dictate the occupational choices of individuals, and principles of justice need not guide their choices, thus, even in a society with an efficient labour market, there is no guarantee that the goods and services required to fulfil basic rights will be produced (Berkey, 2018; Stanczyk, 2012). Consider the case of some poor countries that lack trained medical personnel, who work in richer countries instead.

### 2.1 *Conscription to protect the basic liberties*

Thus, according to Rawls, the state may impose conscription when necessary to secure basic liberties, even if it violates the same basic liberties. Citizens are drafted to perform a certain type of work, whether they want to do it or not. According to Rawls' priority of liberty, the principles of justice are ranked in a lexical, strict priority order, where basic liberties take precedence over

other concerns, such as utilitarian considerations or the other principles within justice, including fairness (fair equality of opportunity and the difference principle). Consequently, military conscription is only justified if it is necessary to preserve other basic liberties to a greater extent.<sup>2</sup> Permissibility is not fairness: showing that a practice can be justified within a liberal constitutional order does not, by itself, determine whether the burdens and benefits it creates are distributed justly. According to Rawls's (1999) account of a just basic structure, the unavoidable costs of collective security must be shared on fair terms. When some citizens are compelled, in young adulthood, to give up months of their time and accept heightened risks for a public good, reciprocity requires compensation from the rest of society. This article examines what justice requires as compensation for conscripts.

## 2.2 *The right to conscientious objection*

While conscription is justified under the previous conditions, just societies must also uphold the right to conscientious objection. Individuals should have the right to refuse military service, but not everyone can conscientiously object, as some must serve. Otherwise, no one would be left to fight the (just) war. The war in Ukraine has shown that, even in modern times, military success is labour intensive. Therefore, some countries rely on universal conscription. I agree with the just war theorist Jeff McMahan (2013) that conscientious objection should be allowed under two conditions: first, the individual's convictions must meet a reasonable threshold of plausibility and sound reasoning; second, there should be a measure to test the sincerity of the objection. The measure could involve mandatory undesirable public service (Hyams and McKinnon, 2015) or, as I propose, early retirement eligibility for those opting for civilian service could be more limited, reflecting their comparatively lower exposure to military-specific harms. These measures aim to ensure that only those with well-considered and sincere objections are exempted from military service.<sup>3</sup>

## 2.3 *International and European legal framework on conscription*

European and international legal instruments shape the permissibility of conscription and determine how conscripts or conscientious objectors must be treated. The following four instruments, in particular, frame the legal context of conscription and fair compensation. ILO Convention No. 29 excludes compulsory military service from the definition of forced labour. Equally, Article 4(3)(b) of the European Convention on Human Rights likewise exempts 'service of a military character' and, where recognised, civilian substitutes from forced labour.<sup>4,5</sup> Under the European Social Charter (Revised), the European Committee of Social Rights reads Article 1(2) as abolishing forced labour but allowing conscription subject to safeguards: alternative civilian service must be genuinely civilian, non-punitive, and not materially longer than military service (approximately 1.5

---

2. I leave to professionals of national defence the topic of when, and for how long, (military) conscription is required for the protection of basic liberties.

3. For an inspiring model to organise conscription in a liberal democracy, see Sagdahl (2018).

4. ILO Convention (No 29) concerning Forced or Compulsory Labour (28 June 1930), Art. 2(2)(a).

5. European Convention on Human Rights (ECHR), Art. 4(3)(b).

times at most).<sup>6</sup> Furthermore, Article 10(2) of the EU Charter recognises the right to conscientious objection under national law, reinforcing the need to avoid punitive or discriminatory designs.<sup>7</sup>

Finally, evolving European Court of Human Rights case law guides the design of non-discriminatory compensation schemes and clarifies the permissible limits of differential treatment of recognised conscientious objectors. The Court recognises conscientious objection as protected under Article 9 of the ECHR. It has found violations where states use unfair or opaque procedures to recognise objectors or fail to offer a genuine, non-punitive civilian alternative to military service. The Court has also held that penalising objectors beyond what is necessary can amount to discrimination (Article 14, read with Article 9). These cases are directly relevant when designing fair compensation schemes for conscripts. Compensation or early retirement schemes should be extended to civilian service on comparable terms, with any differential credits justified by demonstrable differences in risk or burden to avoid violating Articles 9 and 14 of the Convention.<sup>8</sup>

## 2.4 Conscription in the European Union

Currently, nine countries in the European Union have conscription. Austria, Cyprus, Greece, and Finland rely on universal (male) conscription, and civilian service is offered as an alternative. However, the two services differ in terms of length of service. In Finland, civilian service (CS) is automatically 12 months, while military service (MS) lasts from between six and 12 months, depending on the training. In Austria, MS lasts for six months, while CS lasts for nine months. In Greece, CS is always three months longer than MS (e.g. 12 and 15 months, respectively). In Cyprus, the typical MS is 14 months, while CS lasts 19 months. In all the countries, the longer duration of CS likely reflects a combination of two aims: testing the sincerity of conscientious objection and offsetting the heavier demands of MS. The other five EU countries (Denmark, Estonia, Latvia, Lithuania, and Sweden) rely on a combination of motivated individuals supplemented by a draft lottery to reach the desired number of conscripts. The length of MS varies from six to 18 months. Similarly, Norway, Switzerland, and Ukraine, which are not members of the EU, have compulsory military service.

Conscripts who are drafted through universal conscription or lottery end up in an unfortunate situation through no fault of their own. Individuals are born into different geopolitical contexts, over which they have no control. A state is more likely to resort to military conscription when it perceives there to exist a significant military threat. During times of geopolitical stability, military service is shorter. Thus, conscription has different effects for each generation and cohort as the prospect of military threat evolves over time, as does the need for conscription. For example, in 2016, Cyprus decided to shorten military service from 24 to 14 months, resulting in significant life course differences between successive birth cohorts.

After serving in the army, individuals stay on the reserve list and can be called up for duty until they reach a certain age (e.g. 50 or 60 years). The different cohort effects of conscription and related

6. European Social Charter (Revised) (ETS No 163, 3 May 1996) Part I, Art. 1(2) and Appendix; see further European Committee of Social Rights (ECSR), *Quaker Council for European Affairs (QCEA) v Greece*, Complaint No. 8/2000, decision on the merits, in 2001.

7. Charter of Fundamental Rights of the European Union [2012] OJ C 326/391, Art. 10(2).

8. Related Court cases are: *Bayatyan v. Armenia*, Appl. 23459/03 (ECtHR, 7 July 2011); *Papasivalakis v. Greece*, Appl. 66889/14 (ECtHR, 15 September 2016); *Adyan and others v. Armenia*, Appl. 75604/11 (ECtHR, 12 October 2017); *Thilemmos v. Greece*, Appl. 34369/97 (ECtHR, 6 April 2000).

duties are important elements supporting my claim for early retirement. Because conscription functions as a time-tax imposed at varying rates on some birth cohorts, there is a moral duty to compensate for the disadvantages that arise.

### 3. Why must conscripts be compensated?

In the following section, I present four ways in which conscripts are disadvantaged. These four different forms of disadvantage build the core of my claim that conscripts are entitled to compensation in the form of earlier access to retirement.

I present all four forms of disadvantage separately, although they interlink to some extent, and discuss whether these disadvantages could be remedied as a first-best option. If a remedy were possible, it would reduce the need to compensate conscripts later through retirement pensions. I argue that it is improbable or undesirable that the situation of conscripts can be significantly improved in all four areas. Thus, societies should compensate conscripts later in life to mitigate their disadvantage.

#### 3.1 *Basic training is arduous work*

Military work is not just any type of work. It is highly arduous and dangerous. Upon arriving at the barracks, conscripts start basic training, which is a very burdensome activity even without the risk of being deployed to a military operation (Lo Bue, 2015). This training involves strict discipline, repetitive drills, and an intense period of subjugation to instil military methods and hierarchy.

As an example, Devorah Manekin (2017) describes the first days of a conscript:

[u]pon induction, new recruits are given uniforms, their hair is cut, and any facial hair must be shaved. They are assigned a strictly enforced schedule and communication with family and friends is severely restricted. Cadets must relearn skills they had mastered long before, from properly tying shoelaces to ways of addressing young men only several months their seniors, now occupying a command position. They are shouted at and harassed, and their most minor infractions are punished. They undergo rigorous exercise and suffer physical strain and mental stress. Commanders are given extreme authority, and soldiers must demonstrate complete obedience.

The example above, drawn from the Israeli army, broadly applies to many other conscript armies. Basic training aims to develop conscripts' ability to follow commands promptly and without question. Another aim is to ensure that recruits perform effectively under extreme conditions, such as sleep deprivation and intense physical and psychological demands (Lo Bue, 2015). Basic training is marked by high physical and mental strain, as reflected in the high dropout rates. In the Netherlands and the United Kingdom, 20% to 25% of military recruits quit during basic training (Lo Bue, 2015), while in Belgium, over 50% drop out before completing it (Clevers, 2014). However, dropping out is impossible for conscripts who are obliged to serve.

As Wright (2013) points out, many workers in capitalist societies are subject to 'workplace dictatorships' and exploited by (private) companies. Many professionals, such as surgeons, cooks, guards and firefighters, also must perform in highly stressful and demanding work environments. However, basic training in the military stands out for two key reasons.

First, civilian workers are protected by standard labour law. In contrast, conscripts fall under the scope of military law and special conscription legislation. For example, conscripts in Finland (including civil service) and Sweden do not have employment contracts and are exempt from

ordinary labour rules related to wages, working hours, employment contracts, and occupational safety regulations. In both countries, legal recourse differs from that of employees; conscripts pursue complaints chiefly through the chain of command and external ombudsmen. Conscripts also do not have the right to strike or bargain collectively. These features place conscripts in a structurally more disadvantaged position *vis-à-vis* employees in terms of pay, working time regulations, collective voice, and effective remedies.

Second, conscripts in countries with universal conscription, or those drafted through a lottery, do not voluntarily choose to join the military. Instead, they must do so by national law, in contrast to other high-stress professions, where individuals typically undergo competitive selection processes and accept the role's challenges as part of the chosen career. In other words, the demanding nature of such professions is accepted in exchange for personal aspirations. In contrast to ordinary jobs, conscripts have no pure exit options. By law, they must serve either in the military or civil service, and the latter generally requires a longer commitment. This limits the formal alternatives, and the limited choice likely intensifies the psychological stress associated with conscription.

Furthermore, conscripts are trained to handle lethal weapons and explosives, and to operate in combat-like conditions with standard military equipment. Such training necessarily involves hands-on use and brings with it the risk of accidents. The hazards and physical demands are qualitatively greater than those encountered in civilian service.

Basic training is a demanding period that often has a negative impact on conscripts' well-being. Studies from several countries have reported spikes in psychological distress in the first weeks of service. In Norway, approximately half of the conscripts screened positive for distress, with scores linked to service conditions (Schei, 1994). In Greece, anxiety and depressive symptoms noticeably increased during the first three weeks (Alexopoulos et al., 2021). The prevalence of mood and anxiety disorders has also been reported in Singaporean conscripts (Cheok et al., 2000). The physical toll is evident. Finnish cohort studies have found that around one in three conscripts develops a musculoskeletal disorder during standard service, and about one in five reports back problems (Suikkanen, 2023). A Swiss longitudinal study likewise describes basic training as a stressful life episode (Sefidan et al., 2021). Taken together, these findings demonstrate a consistent reduction in well-being during basic training and early service.

States could improve the conditions of conscripts by easing the demands of basic training and military duties, but I do not find this desirable. First, strict discipline is required for the military to be effective. Reducing discipline below a certain threshold undermines an army's primary purpose: to fight and win wars. Soldiers must be prepared to use lethal force, when necessary, with errors carrying significant, often fatal, consequences. A high level of discipline is essential to prevent such outcomes and to maintain operational effectiveness.

Therefore, I do not believe that basic training can be significantly relaxed without endangering an army's core purpose. Military personnel should be treated fairly and protected from unnecessary risks, provided that these measures do not compromise an army's primary objective. As Parsons (2020) frames it: 'The purpose of the military service is to fight and win wars, and this purpose overrides the rights of the service member.'

### 3.2 Conscription has an opportunity cost

Conscripts must use private resources (mental and physical capacity) for a specific period when they are young and able-bodied. Conscription has an opportunity cost; conscripts lose free time

that they could use for other things. Julie Rose (2019) defines free time as the time that remains after an individual has met one's own, or one's dependents', basic needs. Rose understands basic needs as those required to attain a basic level of functioning in society. Military service sustains a public good, national defence, but for conscripts it is primarily a compulsory time commitment rather than an experience that benefits them individually.

Service is a full-time activity that requires putting other life plans on hold for the time an individual is a conscript. Sometimes it is even more, for example, if military service prevents a person from studying sufficiently for an entrance exam organised only once a year, or if military service prevents a person from applying for a job or internship that rarely becomes available. This life plan is not postponed by the length of time spent in the military, but possibly by much more. It may be abandoned altogether if the window of opportunity closes. For elite athletes, in particular, whose careers are short and concentrated at a young age, compulsory military service can be detrimental to their sports careers.<sup>9</sup> Short-lived individuals may face premature death during or shortly after military service. The shorter an individual's life, the greater the proportional amount of free time that is lost due to military service.

Conscription compresses the timeframe available for many life activities, such as pursuing education or a career, enjoying leisure, starting a family, or caring for elderly relatives. Biology and cultural norms set limits to many of these activities. Young adulthood, marked by peak physical and mental capacities, is particularly valuable for learning new skills and making investments that yield significant long-term returns, amplifying the opportunity costs of conscription.

Biological differences require us to highlight the issue of gender. Conscription is a social practice that predominantly targets young, and able-bodied men, whereas women are rarely conscripted. In Estonia, 1% of conscripts is female, while in Finland and Lithuania, the figure stands at 4%. Even in countries like Norway and Sweden, with gender-neutral conscription, only 20% to 25% of conscripts are women (Jonsson et al., 2024). This gender dimension needs to be mentioned for biological reasons.

In a selective conscription system, where only motivated individuals enrol in the service, there is perhaps no special reason to consider gender. Both women and men can be equally motivated to serve. However, in the case of gender-neutral universal conscription, where all individuals are drafted except those with medical conditions, or in a gender-neutral draft lottery system, special consideration for women is necessary. Men and women face different time constraints in early adulthood, particularly due to roles in reproduction. Women's fertility begins to decline in their early thirties, with a more significant drop around age 35 (ESHRE, 2005). Losing one or two years as a young adult could delay potential motherhood, which is a concern given the pressures many women already face regarding their biological clocks. One possible solution is to shorten the duration of military service for women and assign them roles that require less extensive training.

### ***3.3 Conscripts are left with lower human capital and poorer health***

Conscription risks the depreciation of pre-service human capital. Military service has been shown to produce long-lasting adverse effects, although the findings are not uniform. In respect of education,

---

9. To accommodate better sports professionals, service could be split so that it is completed during the off-season(s).

exemption from or the abolition of conscription is associated with higher attainment. In the UK, abolition raised men's educational attainment slightly, Italy's earthquake-based exemption increased boys' high-school graduation rates by some 2 percentage points, and Dutch conscription reduced university completion rates (1.5 percentage points at the population level and 4 percentage points for conscripts) (Buonanno, 2006; Cipollone and Rosolia, 2007; Hubers and Webbink, 2015). Earnings results vary by country and cohort: no long-term effect has been found for post-war UK cohorts (Grenet et al., 2011), while Dutch studies report negative effects, of 5% ten years after service (Imbens and Van der Klaauw, 1995), and 3% to 4% roughly 18 years after service (Hubers and Webbink, 2015). Danish lottery evidence shows a negative average effect, with losses concentrated among higher-skilled men, with an estimated \$23,000 lifetime penalty (Bingley et al., 2020). Using Spanish data, Cáceres Delpiano (2025) shows that conscription reduces employment, limits work experience, and cuts earnings by roughly 20% for those who were not part of the labour market at the time of conscription. According to wartime US data, short- to medium-term losses of approximately 15% were found for white Vietnam-era veterans (Angrist, 1990), although these had ceased to be felt by the early 1990s (Angrist et al., 2011). Furthermore, Torun (2019) suggests that conscription affects labour market outcomes even before service, as the expected interruption in civilian life reduces teenagers' motivation to search for work and employers' willingness to hire them. Additionally, former conscripts are more likely to engage in unhealthy behaviour, such as consuming more alcohol and cigarettes, years after their service (Bethmann and Cho, 2023). Military service can also exacerbate pre-existing behavioural problems, leading to higher rates of criminality (Galiani et al., 2011; Hjalmarsson and Lindquist, 2019).

Despite the well-documented adverse effects of conscription, it is important to note that military service can benefit specific groups. For instance, some of those who perform the best in physical and cognitive tests are selected for officer training. The leadership training received during conscription increases the likelihood of attaining a managerial position later in life (Grönqvist and Lindqvist, 2016). However, the selection process, which includes cognitive and physical testing, picks out those who would perform well later in life because of their cognitive skills as young adults. Conscription can also positively impact the future earnings of minorities due to the networking opportunities it provides (Asali, 2019). Studies from Portugal and the US have demonstrated that military service can be a valuable educational experience for the worst-off disadvantaged men, increasing their wages in the long term. (Angrist, 1998; Card and Cardoso, 2012; Hirsch and Mehay, 2003). For some less educated groups, military service may offer an opportunity to enhance cognitive and non-cognitive human capital, leading to lifelong benefits.

All things considered, the average net impact of military service on conscripts appears to be more negative than positive, although the leadership training brings benefits to some, and military conscription provides an opportunity for some disadvantaged men to enhance their human capital. On average, conscripts experience reduced educational attainment, lifetime wages, and health outcomes due to their time in the military. Given the importance of internal resources such as health and education for individuals, conscripts have fewer pieces with which to play the game of life (Wolff, 2002). As a result, they are worse off for the rest of their lives than if they had not served.

The actual cost of conscription is often overlooked in public debates. Military spending is typically measured as a share of GDP, but this does not account for the direct and indirect costs of conscription. Without considering these costs, a draft system may appear cheaper for the state budget in the short term compared to an all-volunteer army (Poutvaara and Wagener, 2011).

However, the short-term ‘savings’ from conscription come at the expense of the conscripts, who must accept whatever compensation is provided. Over time, the cost-benefit analysis worsens as military service has lasting adverse effects on individuals, particularly those exposed to armed conflict, who may experience depression long after their service ends (Kibris and Goodwin, 2024).

In essence, military conscription disrupts human capital development, leading to lower levels of education, decreased labour productivity, and marked GDP losses (Lau et al., 2004; Poutvaara and Wagener, 2011). In the long run, individuals and societies are economically worse off due to conscription. This situation arises for two main reasons: first, conscripts cannot work or study during their service, and second, the overall human capital of conscripts is lower than it would have been without the interruption caused by military service.

### ***3.4 Conscription leaves some cohorts worse off than others***

The significant cohort, generational, and gender differences in the burdens imposed by conscription are also noteworthy. Luckier cohorts, namely, those born in peaceful environments, have to serve for shorter periods of time or are exempted totally, as is the case currently in most EU countries, while unluckier cohorts might have to for serve longer periods of time with a more credible threat of being deployed into military operations. Furthermore, these cohorts might be called up for refresher training after completing mandatory service. As many countries retain male-only conscription, the gender dimension is real. Conscription is a duty imposed on men, altering their life course, while not having a direct impact on women.

The above are not only hypothetical, and real differences between generations exist, as the following examples show. Historically, length of service has differed between cohorts and genders, and it will continue to reflect the geopolitical context. For example, in France, from 1950 to 1963, military service for men lasted between 18 and 30 months. Later, mandatory service was gradually suspended so that those born in 1979 and later no longer had to serve. In Denmark, military service was extended to include women in July 2025, and length of service will be extended from four to 11 months starting from 2026 to make conscripts more operational in combat-like situations (Forsvarsministeriet, 2024). Due to heightened tensions, Finland announced in April 2022 that it would increase the number of people having completed mandatory refresher exercises by approximately 50% in the coming years (MoD, 2022). Reservists may be ordered to attend up to 200 days in total over their reserve career, depending on role and rank.

The conscription of individuals at a relatively young age results in a disadvantage; however, it does not entirely negate their life prospects. Young adults are still establishing their life trajectory, and conscription typically postpones other plans but does not render them impossible to achieve. However, when Austrian, Cypriot, Greek or Finnish conscripted males compete for early career positions against other Europeans, they typically tend to compete with younger birth cohorts and might suffer from a disadvantage because of their higher age.

## **4. How do countries compensate conscripts?**

Regarding pension coverage, Austria, Cyprus, Estonia, Latvia, Lithuania, and Sweden assimilate or credit time in military service, and the time served counts towards pension entitlements. In Austria, the assessment base for military or civil service is €2,300.10 per month. In Sweden, the assessment base is roughly equivalent to about half the average income in the country. In Denmark, conscripts receive a wage that starts accruing them pension benefits after the first four months. In Finland and

Greece, military service does not directly count towards pension entitlements; however, in Greece, a buy-back option exists, and military service is treated as a pensionable period if required contributions are paid later. (MISSOC, 2025)

#### 4.1 Four examples of pension coverage for conscripts

During their time in service, conscripts currently receive minimal compensation. Consider the following five examples of conscription. First, in Finland, on turning 18, all male citizens must attend a call-up to check their fitness. All able-bodied and mentally fit men must complete military service before the age of 30. Depending on the training, military service lasts between 165 and 347 days. The non-military service lasts 347 days. Conscripts are paid a small daily allowance (€6 to €14, based on service length), and their service time does not count towards pension benefits.<sup>10</sup>

Second, Norway, which has gender-neutral mandatory military conscription, provides a fairer example. All individuals who are 19 years of age must attend a muster at an army base, where their health and personal motivation will be assessed. Those unwilling to serve are usually exempted, even if otherwise fit. More women than men express a lack of motivation to serve, resulting in females making up about one-third of conscripts. Approximately 15% of the cohort is drafted for up to 18 months of unpaid military service (Jonsson et al., 2024). Conscripts receive a daily allowance, and their service grants pension rights equal to about half the average full-time wage.<sup>11</sup>

Greece maintains universal male conscription. At the age of 18, men must register for conscription during the first quarter of the year. Thereafter, they are liable for call-up between the ages of 19 and 45. Service currently lasts 12 months, and in designated border units, the length of service is nine months. Conscripts receive only a monthly allowance (between €50 and €100). The time spent in military service does not automatically accrue pension rights. Instead, conscription can be recognised as credited insurance time to be purchased through the social security institution.

Switzerland provides a different example. All men must serve, and those deemed unfit pay a 3% 'exemption tax' until they turn 37 (Confédération Suisse, 2025).<sup>12</sup> Service typically involves several months of initial training followed by short annual refresher training over some years. Conscripts accrue public pension rights, and employed conscripts typically remain covered by their occupational pensions as well. Recognised conscientious objectors may perform civilian service, which is 50% longer than military service.

These examples highlight that even wealthy nations often fail to provide conscripts with fair pay. To address this disparity, as a first step, countries should define the pay conscripts receive as a wage and increase it to a decent level, considering that some of the living costs are already taken care of. Similarly, states pay wages to healthcare workers who are obliged to work during health emergencies.

10. Finnish men accrue, on average, about €50 in monthly pension per working year (Finnish Centre for Pensions, 2025). One year in military service therefore reduces the eventual pension by €50 per month, or €12,000 over a typical 20-year retirement, in addition to lost earnings.

11. To my knowledge, only Denmark pays conscripts a wage in Europe. Others provide stipends or per diems. Switzerland compensates those employed before service for lost income.

12. However, such a tax is problematic on equity and non-discrimination grounds, as it targets health status and men only. Policy should compensate ex-conscripts, rather than penalising the exempted. Such a policy would align burdens with benefits, avoid gender or health status penalties, and address the cohort lottery that conscription creates.

Thus, European countries that have conscription in place or are considering its reintroduction have failed to focus enough attention on the unique role that conscription plays in people's lives. Recent pension reforms across Europe have reinforced the link between lifetime earnings or contributions and pension benefits, making any gaps in contribution records more evident in final pension outcomes (Hinrichs, 2021). In Nordic countries, there is no specific reference period for calculating pension benefits. Instead, each year of paid employment contributes to pension benefits. Old-age pensions are granted based solely on reaching a chronological age, rather than requiring a certain number of years of contributions. Therefore, lifetime earnings and pension entitlements are lower if a career is shorter due to military service. On the other hand, if an individual extends their working life by the duration of military service, the time spent in retirement is correspondingly shorter.

The lack of real compensation is unfair on conscripts. Next, I turn my attention to the fair compensation that conscripts are owed.

## 5. What are conscripts owed?

Military conscription is a social practice that disadvantages those who serve. It is characterised by high levels of stress, loss of autonomy, and a reduced amount of free time. These disadvantages occur due to no fault of the conscripts themselves. Society has a duty of justice to compensate for the disadvantages conscripts suffer while producing a necessary good for society.

I have argued that not much can be done to reduce stress in military service. It is an inherently stressful experience. However, the utmost should be done to enhance the well-being of conscripts to the greatest extent possible, while ensuring that this does not compromise the purpose of the military.

### 5.1 *Why does free time matter?*

As discussed previously in this article, conscription is about temporal justice. Conscription has an opportunity cost: it takes free time that could be used for study, work, care, or leisure. Julie Rose (2019) has argued for the need to treat free time as a distinct object in theories of justice. Rose argues that free time should be classified as a resource required to pursue one's conception of a good, whatever it may be. Typically, in theories of justice, free time has been considered a specific good that individuals value differently according to their conception of the good life. Liberal egalitarians are not typically worried about the division of specific goods, as it reflects different conceptions of the good life, unless it results from unfair background conditions.

However, Rose convincingly challenges this assumption, as she shows us that free time is an all-purpose resource required to pursue any conception of the good life. Rose does this by pointing out that for effective freedom, individuals must have the ability or real opportunity to exercise this right. Effective freedoms cannot be fully realised without free time, even if one has financial resources. Conversely, lacking financial resources can restrict effective freedoms, even if free time is available. Both are needed for effective freedom. In modern societies, apart from the rich and the sick, people of working age must engage in paid work to meet their needs. This trend has grown further as many countries have imposed welfare-to-work programmes in the last decades that push social assistance recipients to work (see, e.g. Eleveld et al., 2020).

## 5.2 *The time cost of conscription*

Conscripts perform a time-consuming activity. In the evenings, conscripts remain confined to barracks with limited privacy and few opportunities to engage in activities they find meaningful. They are allowed only a small number of personal belongings and must follow strict military rules that significantly restrict their ability to make use of their free time. While the provision of housing, meals and clothing by the military may technically free up time, since conscripts typically do not need to cook or do laundry, their options for using their 'free time' remain very limited. Barracks are often located far from families and friends, and curfews begin early. As a result, even if a conscript's schedule were empty from 5 p.m. to 8 p.m. on a weekday, they would still lack the effective freedom to use that time in ways they would choose, whereas those performing civil service retain more liberties.<sup>13</sup>

As discussed, individuals could spend the time lost to military service differently; some would be working, some studying, some providing care, or some might dedicate that time to charity activities or travelling. Although we cannot give free time the same use value for those who are no longer young, we can give it a different use value later in life.

Public pension systems exist as institutions to ensure that individuals have both the material and temporal means to exercise their formal liberties. In other words, individuals have free time without having to engage in paid work at all, an unexceptional adult life situation in welfare states (Valente, 2022). Thus, free time can be increased in European welfare states by granting earlier access to retirement pensions.

## 5.3 *Is there a money-time substitutability?*

On perfectionist grounds, one could argue that justice does not require granting former conscripts free time, but money instead. If money can purchase many things, time among them, giving money is better than imposing a certain conception of the good life by simply increasing free time. Assuming that money and time are broadly substitutable, many political philosophers have been interested in income and wealth as background resources (Rose, 2019). If income and wealth were all that mattered, one might argue that compensating conscription with higher wages would be preferable to granting additional free time.

However, I reject the idea of total substitutability between the two. Time and money are only imperfectly substitutable, especially when the good at stake is retirement as free time. Conscription curtails free time in early adulthood. Higher wages increase wealth but do not guarantee that a person can actually stop working earlier.

Higher wages would require individuals to 'buy' free time via private market instruments. This is inferior to public arrangements for the following five reasons. First, the volatility and unpredictability of financial markets make it difficult to plan reliably for future periods of free time with individual savings alone. Second, individuals differ in their real ability to turn extra money into free time (due to sectoral norms, employer power, care responsibilities, and health). Third, individuals make poor financial decisions, leading to losses that jeopardise their ability to afford free time later. Fourth, financial institutions are not infallible; bankruptcies can occur, resulting in the loss of personal savings. Fifth, in a low interest rate environment, the cost of purchasing annuities has risen significantly, meaning that individuals must have considerably more savings to finance even a

---

13. This passage stems from the author's personal experience as a conscript in Finland.

single year of free time, and their guarantee against inflation is not very secure. In other words, money, in the form of individual savings, buys only an unstable and unequal period of free time, depending on market circumstances.

Free time in retirement is the right substitute for the free time lost to conscription. A collectively financed, publicly organised right to earlier retirement compensates in the same currency as the loss, and is fairer, more stable and more effective than increasing wages, and leaving individuals to fund time off through private saving.

#### 5.4 When to grant free time?

Admittedly, what I have outlined above does not address the question of *when* individuals should be granted free time. Contemporary societies are typically structured so that older individuals, through retirement pensions, enjoy extended periods of free time, while those of working age often experience significant time constraints. This temporal imbalance may justify rethinking the allocation of free time, potentially advocating for its provision earlier in life, through sabbaticals or other institutionalised mid-career breaks when individuals feel time-pressured due to their obligations towards their parents and children.

While I do not oppose proposals that would allocate free time earlier in life in principle, I contend that, from the standpoint of practicality and political feasibility, the initial priority should be to secure the right to free time within the framework of existing retirement-based arrangements. Once such a policy is firmly established, discussions about more flexible or earlier allocations of free time may be more viable.

Therefore, public pension systems are particularly suitable for compensating for conscription because they are existing institutions and suitable instruments for justice. Furthermore, old-age retirement is a unique, consecutive, and long period of free time (Valente, 2024). Extending access to retirement by a year for those who served a year adds a higher level of temporal well-being later in life. This policy is particularly advantageous for individuals from lower socioeconomic groups who have lower limited life expectancies and consequently enjoy shorter retirement periods (Chetty et al., 2016), especially in light of the fact that as shown in section 3, that military service is known to increase unhealthy behaviour, such as smoking and alcohol consumption, which are associated with reduced longevity. It is important to note that, historically, individuals enrolled in higher education have often received preferential treatment in military service. This includes easier access to leadership positions and, in some cases, complete exemption from service. As a result, the negative impact of military service has often been felt more acutely by lower socioeconomic groups than by those who are better off. Men from lower socioeconomic groups tend to live shorter lives and have lower career earnings and pension benefits. In other words, they are disadvantaged in terms of free time, income and wealth.

Perhaps in some cases, where conscripts have served in more stressful environments, further compensation is required. For example, conscripts who have spent time participating in military operations are owed more resources, such as privileged access to education or different training programmes, to equalise their chances of reaching an educational goal or getting an important job later in life.

In extreme cases, where individuals require more help transitioning into civilian life, access to retirement at a young age could be granted through reverse retirement or a storable pension at all life stages. In reverse retirement, people are granted retirement benefits when they are young adults instead of when old, and in storable pension schemes, individuals are allowed to draw from a

flexible pension, supporting periods of rest, education, or transition throughout the life course (Ponthière, 2020; Valente, 2024).

### 5.5 A policy proposal for Finland

To illustrate how existing social security systems could be reformed to better account for conscription, Finland could provide conscripts with a modest wage during their service. The wage would entitle them to pension rights, like any other paid job. In addition, the retirement age of former conscripts should be reduced by an amount that corresponds to the time they served in the military (up to 12 months),<sup>14</sup> although there could be differences in the reduction rate depending on the type of military service, reflecting differences in hardship. As a result, former conscripts could retire earlier, with higher pension benefits. However, they could keep working above the retirement age if they wished. If they opted for an earlier retirement, their pension benefit would not be reduced. For former civil service members, the right to early retirement could be granted at a lesser rate considering the more intense and hazardous nature of military work, while keeping in mind the legal constraints. This policy would resemble the current policy in the Dutch armed forces, where career soldiers can ‘earn down’ their statutory age of discharge for time spent on peacekeeping or humanitarian missions. Each day deployed counts as half a day towards bringing the discharge age forward, capped at two years.<sup>15</sup>

The costs would be manageable. For example, in Finland, if one-third of each birth cohort undertook compulsory service, conscripts would earn, on average, eight months of early retirement, and the long-run fiscal impact would be modest. Additional pension expenditure, *ceteris paribus*, for earlier retirement would be about €330 million a year, roughly 0.12% of GDP. If conscripts were paid a training wage during service, for example, 40% of the median monthly wage, the gross payroll would be around €300 million a year, or 0.11% of GDP. The early retirement and payroll costs would amount to 0.23% of GDP. If we assume that service would also accrue pension rights worth €20 per month at retirement, the pension expenditure would rise by about €5 million per year per birth cohort (and €100 million when the scheme was mature assuming that individuals spent 20 years on average in retirement). Because the scheme would allow people to leave the labour market earlier, average careers would shorten. Consequently, this would translate into associated reductions in household earnings, lower tax revenue for the state and lower GDP.

Where conscripts in frontline Member States also provide a European public good of collective defence, fairness in burden-sharing could support the idea of pension credits co-financed by the EU. Defence at the Union’s borders benefits all Member States, including non-frontline countries. Sharing some of the private costs borne by conscripts aligns private burdens with Union-wide benefits. Without burden-sharing, cohorts concentrated in a few Member States bear the private costs of providing a public good whose benefits are non-excludable across the EU.

---

14. Paying wages normalises military service as *paid labour*, and early retirement compensates the *life course* harms and reduced *free time* that monetary transfers cannot address. The two instruments are complementary, and do not amount to double compensation. I thank the reviewer for pressing me on this point.

15. Algemeen militair ambtenarenreglement (AMAR), 25 February 1982, Stb. 1982, 279, Art. 39.

## 6. Conclusion

In this article, I have addressed the relationship between conscription and public pensions. I argue that conscripts are entitled to special compensation in the form of free time. The reasoning is that conscripts are disadvantaged because they must serve in the military. First, being a soldier is a burdensome activity. Second, conscripts lose free time, limiting their opportunities to engage in activities as young adults. Third, conscription results in lower human capital and poorer health outcomes. As a result, conscripts have fewer resources for the rest of their lives. States must recognise that conscripts end up worse off while providing a necessary service for the state, and that they are owed fair compensation.

Conscripts should be paid a wage because they work for the state. I argue that by extending access to retirement, the state can compensate conscripts for the disadvantage they have suffered by enhancing their well-being later in life. Giving individuals free time respects neutrality *vis-à-vis* any conception of the good life, as free time is a resource that is needed for effective freedom, and something that every individual finds valuable.

Public pension institutions exist to provide access to long and consecutive periods of free time as an adult. They offer greater security than private market-based arrangements, implying that the disadvantages suffered by conscripts cannot be fully offset through financial compensation alone.

## Acknowledgements

I thank Manuel Sá Valente, Yannick Vanderborght, Axel Gosseries, Vincent Vandenberghe, Pietro Intropi, Lukas op de Beke, as well as the participants to the Vives Seminar at UCLouvain in Autumn 2023 for very helpful comments and advice. Furthermore, I thank the two reviewers for their remarks and suggestions.

## Declaration of conflicting interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was funded by the ARC research project 'SAS Pensions' at UCLouvain (ARC No 18-23088); Fédération Wallonie-Bruxelles.

## ORCID iD

Niko Väänänen  <https://orcid.org/0000-0001-6784-1398>

## References

- Alexopoulos P, Papanastasiou AD, Economou P, et al. (2021) Associations between APOE-, COMT Val108/158Met- and BDNF Val66Met polymorphisms and variations in depressive and anxiety symptoms, sense of coherence and vital exhaustion in the real-life setting of mandatory basic military training. *Journal of Neural Transmission* 128(1): 105–114.
- Angrist J (1998) Estimating the labor market impact of voluntary military service using Social Security data on military applicants. *Econometrica* 66(2): 249–288.

- Angrist JD (1990) Lifetime earnings and the Vietnam era draft lottery: Evidence from social security administrative records. *The American Economic Review* 80(3): 313–336.
- Angrist JD, Chen SH and Song J (2011) Long-term consequences of Vietnam-era conscription: New estimates using social security data. *American Economic Review* 101(3): 334–338.
- Asali M (2019) Compulsory military service and future earnings: Evidence from a natural experiment. *Defence and Peace Economics* 30(4): 402–420.
- Berkey B (2018) Obligations of productive justice: Individual or institutional? *Critical Review of International Social and Political Philosophy* 21(6): 726–753.
- Bethmann D and Cho J (2023) Conscription hurts: The effects of military service on physical health, drinking, and smoking. *SSM - Population Health* 22: 101391.
- Bingley P, Lundborg P and Vincent Lyk-Jensen S (2020) The opportunity costs of mandatory military service: Evidence from a draft lottery. *Journal of Labor Economics* 38(1): 39–66.
- Buonanno P (2006) Long-term effects of conscription: lessons from the UK. University of Bergamo, Department of Economics, Working Paper 0604.
- Cáceres Delpiano J (2025) The impact of mandatory military service on labor outcomes. Evidence from Spain. *Journal of Applied Economics* 28(1): 2436299.
- Card D and Cardoso AE (2012) Can compulsory military service raise civilian wages? Evidence from the peacetime draft in Portugal. *American Economic Journal: Applied Economics* 4(4): 57–93.
- Cheok C, Ang Y, Chew W, et al. (2000) Adjusting to military life—servicemen with problems coping and their outcomes. *Singapore Medical Journal* 41(5): 218–220.
- Chetty R, Stepner M, Abraham S, et al. (2016) The association between income and life expectancy in the United States, 2001–2014. *JAMA* 315(16): 1750–1766.
- Cipollone P and Rosolia A (2007) Social interactions in high school: Lessons from an earthquake. *American Economic Review* 97(3): 948–965.
- Clevers A (2014) Un jeune soldat sur deux quitte l’armée avant la fin de sa formation. *La Libre*, 4 April. Available at: <https://www.lalibre.be/belgique/2014/04/16/un-jeune-soldat-sur-deux-quitte-larmee-avant-la-fin-de-sa-formation-JRPO4HIHBBBQDPER5M276YADRI/> (accessed 10 October 2024).
- Confédération Suisse (2025) Easy answers about life in Switzerland. Military Service Exemption Tax. <https://www.ch.ch/en/safety-and-justice/military-service-and-civilian-service/military-service-exemption-tax/#how-high-is-the-tax> (accessed 25 August 2025).
- Crain NV and Crain WM (2023) Military conscription and armed conflicts. *Journal of Management Policy and Practice* 24(2): 94–103.
- Eleveld A, Kampen T and Arts J (eds) (2020) *Welfare to Work in Contemporary European Welfare States*. Bristol: Policy Press.
- ESHRE Capri Workshop Group (2005) Fertility and ageing. *Human Reproduction Update* 11(3): 261–276.
- Finnish Centre for Pensions (2025) *Persons insured for an earnings-related pension in Finland 2023*. Statistics from the Finnish Centre for Pensions 2/2025.
- Forsvarsministeriet (2024) Regeringen vil udvide og ligestille værnepligten 13.3.2024, <https://www.fmn.dk/da/nyheder/2024/regeringen-vil-udvide-og-ligestille-varnepligten/> (accessed 8 September 2025).

- Galiani S, Rossi MA and Schargrodsky E (2011) Conscription and crime: Evidence from the Argentine draft lottery. *American Economic Journal: Applied Economics* 3(2): 119–136.
- Grenet J, Hart RA and Roberts JE (2011) Above and beyond the call: Long-term real earnings effects of British male military conscription in the post-war years. *Labour Economics* 18(2): 194–204.
- Grönqvist E and Lindqvist E (2016) The making of a manager: Evidence from military officer training. *Journal of Labor Economics* 34(4): 869–898.
- Hinrichs K (2021) Recent pension reforms in Europe: More challenges, new directions. *Social Policy & Administration* 55(3): 409–422.
- Hirsch BT and Mehay SL (2003) Evaluating the labor market performance of veterans using a matched comparison group design. *Journal of Human Resources* 38(3): 673–700.
- Hjalmarsson R and Lindquist MJ (2019) The causal effect of military conscription on crime. *The Economic Journal* 129(622): 2522–2562.
- Hubers F and Webbink D (2015) The long-term effects of military conscription on educational attainment and wages. *IZA Journal of Labor Economics* 4: 1–16.
- Hyams K and McKinnon C (2015) Political Authority and Obligation. In: McKinnon C (eds) *Issues in Political Theory*. Oxford: Oxford University Press, 9–26.
- Imbens G and Van der Klaauw W (1995) Evaluating the cost of conscription in the Netherlands. *Journal of Business & Economic Statistics* 13(2): 207–215.
- Jonsson E, Salo M, Lillemäe E, et al. (2024) Multifaceted conscription: A comparative study of six European countries. *Scandinavian Journal of Military Studies* 7(1): 19–33.
- Kibris A and Goodwin R (2024) The long-term effects of war exposure on psychological health: An experimental study with Turkish conscript veterans. *Social Science & Medicine* 340: 116453.
- Lau MI, Poutvaara P and Wagener A (2004) Dynamic costs of the draft. *German Economic Review* 5(4): 381–406.
- Lo Bue S, 2015. *Hardiness, in the Heart of the Military*. Doctoral dissertation, University of Leuven. KULeuven Doctoral Defences. Available at: <https://researchportal.rma.ac.be/en/studentTheses/hardiness-in-the-heart-of-the-military> (accessed 10 October 2024).
- Manekin D (2017) The limits of socialization and the underproduction of military violence: Evidence from the IDF. *Journal of Peace Research* 54(5): 606–619.
- McMahan J (2013) The moral responsibility of volunteer soldiers. *Boston Review* 6. <https://www.bostonreview.net/forum/moral-wounds-ethics-volunteer-military-service/>
- MISSOC (2025) Comparative tables on social protection in 31 countries. <https://www.missoc.org/missoc-database/comparative-tables/> (accessed 3 September 2025).
- MoD, Ministry of Defense of Finland (2022) Increased funding for the Finnish Defence Forces strengthens Finland's defence capabilities and the defence forces' preparedness 6.4.2022, [https://puolustusvoimat.fi/web/kansainvalinen-kriisinhallinta/-/1948673/puolustusvoimien-maararahojen-lisaaminen-vahvistaa-suomen-puolustuskyya-ja-puolustusvoimien-valmiutta?languageId=en\\_US](https://puolustusvoimat.fi/web/kansainvalinen-kriisinhallinta/-/1948673/puolustusvoimien-maararahojen-lisaaminen-vahvistaa-suomen-puolustuskyya-ja-puolustusvoimien-valmiutta?languageId=en_US) (accessed 7 September 2025).
- Obinger H and Schmitt C (2020) World war and welfare legislation in western countries. *Journal of European Social Policy* 30(3): 261–274.
- Parsons G (2020) Facing up to the subjugation of military service members. Unpublished essay.

- Ponthière G (2020) A theory of reverse retirement. *Journal of Public Economic Theory* 22(5): 1618–1659.
- Poutvaara P and Wagener A (2011) The Political Economy of Conscription. In: Coyne CJ and Mathers RL (eds) *The Handbook on the Political Economy of War*. Cheltenham: Edward Elgar Publishing, 154–176.
- Rawls J (1993) *Political Liberalism*. New York: Columbia University Press.
- Rawls J (1999) *A Theory of Justice*, Rev. ed Cambridge, MA: The Belknap Press of Harvard University Press.
- Rose J (2019) *Free Time*. Princeton, NJ: Princeton University Press.
- Sagdahl MS (2018) Conscription as a morally preferable form of military recruitment. *Journal of Military Ethics* 17(4): 224–239.
- Schei E (1994) A strengthening experience? Mental distress during military service: A study of Norwegian army conscripts. *Social Psychiatry and Psychiatric Epidemiology* 29(1): 40–45.
- Sefidan S, Pramstaller M, La Marca R, et al. (2021) Resilience as a protective factor in basic military training: A longitudinal study of Swiss Armed Forces. *International Journal of Environmental Research and Public Health* 18(11): 6077.
- Stanczyk L (2012) Productive justice. *Philosophy & Public Affairs* 40(2): 144–164.
- Suikkanen S, Pihlajamäki H, Parviainen M, et al. (2023) Prevalence of and risk factors for back pain among young male conscripts during compulsory Finnish military service. *Military Medicine* 188(3-4): 739–744.
- Torun H (2019) Ex-ante labor market effects of compulsory military service. *Journal of Comparative Economics* 47(1): 90–110.
- Valente MS, 2022. *Ageing as Equals: Distributive Justice in Retirement Pensions*. Doctoral dissertation, University of Louvain. UCLouvain, Institut Supérieur de Philosophie. Available at: <https://philpapers.org/archive/VALAAE-2.pdf> (accessed 10 October 2025).
- Valente MS (2024) Get old or die trying: Longevity justice in social insurance. *Politics, Philosophy & Economics* 15(3): 234–260.
- Wolff J (2002) Addressing disadvantage and the human good. *Journal of Applied Philosophy* 19(3): 207–218.
- Wright EO (2013) Transforming capitalism through real utopias. *American Sociological Review* 78(1): 1–25.

## Article IV Pension tiers and childcare credits for parents: three examples from Europe

The final article shifts focus from the previous article's examination of a duty disproportionately borne by young men, military conscription, to an issue that primarily affects young adults, and especially women: unpaid childcare and its treatment within pension systems. Its central claim is clear: because pension systems are demographically sensitive to the size of successive birth cohorts, societies should acknowledge the costs parents incur in raising and socialising the next generation on whom these systems depend. While the chapter introduces a more integrated approach to recognising childrearing across pension tiers in three countries, its scope limited a fuller elaboration of the proposed reform. This introduction therefore provides additional background for the design I advocate: the Pay-As-They-Raised (PAYTR<sup>14</sup>) scheme. In a PAYTR system, pension credits are allocated to parents in proportion to verified caregiving contributions, up to a defined cap.

The link between demography and pay-as-you-go pension system can be shown by simple examples. Consider a standard overlapping-generations (OLG) economy with three equal life periods: childhood, work, retirement, and no private old-age saving outside the public scheme. All individuals in all generations have the same longevity.

Let  $N_t$  denote the size of the working cohort and  $N_{t-1}$  the size of the cohort now retired. Define the cohort ratio  $n_t = N_t / N_{t-1}$ . The demographic dependence is explicit in both defined-benefit and defined-contribution designs:

- Defined-benefit PAYGO (DB): promised replacement rate  $\alpha$  is fixed, the required contribution rate is  $\tau_t = \alpha/n_t$
- Fixed-rate PAYGO (notional defined contribution, NDC): contribution rate  $\tau$  is fixed and the realised replacement rate is  $r_t = \tau \cdot n_t$

---

<sup>14</sup> Named to emphasize that just as pensions are 'pay-as-you-go' across generations, they should also reward those who 'paid' by raising the next generation.

In the following examples, the wage per worker  $w=\text{€}10$  and replacement and contribution rate are set to be the same ( $\alpha=\tau=0.4=40\%$ ) for easy comparability.

If we assume three cohorts ( $N_1$ ,  $N_2$  and  $N_3$ ) with respective populations of (100, 200, 100). The cohort ratio goes first up and then down, a baby boom followed by a baby bust.

Then,  $n_2 = 200/100 = 2.0$  and  $n_3 = 100/200 = 0.5$

In a DB scheme the contribution rate would change between periods 2 and 3.

In period 2 the contribution rate is  $\tau_2 = 0.4/2.0 = 0.2 = 20\%$

In period 3 the contribution rate is  $\tau_3 = 0.4/0.5 = 0.8 = 80\%$

In an NDC scheme the replacement rate changes between periods 2 and 3.

In period 2 the replacement rate is  $r_2 = 0.4 \cdot 2.0 = 0.8 = 80\%$

In period 3 the replacement rate is  $r_3 = 0.4 \cdot 0.5 = 0.2 = 20\%$

Furthermore, if we assume that the state enters a persistently low total fertility rate of 1.3 after the third generation where each cohort shrinks by 35 % (100, 65, 42).

In a DB scheme, the contribution rate stabilises around 61.5 % ( $\tau_3 = 0.4/0.65 = 0.615 = 61.5\%$ )

In a DC scheme, the replacement rate stabilises around 26 % ( $r_3 = 0.4 \cdot 0.65 = 0.26 = 26\%$ )

What happens if the economy decides to implement the Musgrave rule. Under a Musgrave rule, demographic risk is neither fully shifted onto workers, as in a defined-benefit PAYGO scheme, nor fully shifted onto retirees, as in a fixed-rate PAYGO (NDC) scheme. Instead, the ratio of the average pension to workers' net earnings is held constant.

Let  $\mu$  denote this fixed ratio:

$$\mu = b_t / [(1 - \tau_t)w] = r_t / (1 - \tau_t),$$

where  $b_t$  is the pension level,  $\tau_t$  is the contribution rate,  $w$  is the gross wage, and  $r_t = b_t / w$  is the replacement rate.

Under PAYGO budget balance,

$$r_t = \tau_t n_t.$$

Combining the budget-balance condition with the Musgrave rule gives

$$\mu = \tau_t n_t / (1 - \tau_t).$$

Solving for the contribution rate and the replacement rate yields

$$\tau_t = \mu / (n_t + \mu),$$

and

$$r_t = \mu n_t / (n_t + \mu).$$

Thus, when the cohort ratio  $n_t$  declines, the adjustment is shared: the contribution rate  $\tau_t$  rises, while the replacement rate  $r_t$  falls. This is the central difference between the Musgrave rule and the two benchmark PAYGO schemes discussed above.

To make the example comparable with the DB and NDC cases, suppose that in a benchmark situation with  $n = 1$ , both the contribution rate and the replacement rate are 40 per cent. This implies  $\mu = 0.4 / (1 - 0.4) = 2/3$ .

In a Musgrave scheme, both the contribution rate and the replacement rate would change between periods 2 and 3.

In period 2 the contribution rate is  $\tau_2 = (2/3) / (2.0 + 2/3) = 0.25 = 25 \%$

In period 2 the replacement rate is  $r_2 = ((2/3) \cdot 2.0) / (2.0 + 2/3) = 0.5 = 50 \%$

In period 3 the contribution rate is  $\tau_3 = (2/3) / (0.5 + 2/3) = 0.571 = 57.1 \%$

In period 3 the replacement rate is  $r_3 = ((2/3) \cdot 0.5) / (0.5 + 2/3) = 0.286 = 28.6 \%$

Furthermore, if we assume that the state enters a persistently low total fertility rate of 1.3 after the third generation and, for simplicity, that each cohort shrinks by about 35 % (100, 65, 42), then  $n \approx 0.65$ .

In a Musgrave scheme, the contribution rate stabilises around 50.6 %,
 
$$\tau = ((2/3) / (0.65 + 2/3) = 0.506 = 50.6 \%)$$

In a Musgrave scheme, the replacement rate stabilises around 32.9 %,
 
$$r = ((2/3) \cdot 0.65) / (0.65 + 2/3) = 0.329 = 32.9 \%)$$

These examples show that fertility matters for pension financing. When a large cohort works when the retired cohort is small, contribution rates fall in a DB scheme while the replacement rate stays constant; when a small cohort works when the retired cohort is large, the reverse holds. In an NDC scheme, the replacement rate rises when many workers finance comparatively few retirees and falls when few workers finance many retirees. If a country enters a permanently low-fertility environment, the contribution rate in a DB scheme can stabilise at high levels (in the example above, around 61.5% of wages), while the replacement rate in an NDC scheme stabilises at correspondingly low levels (around 26% of wages). Under a Musgrave rule, by contrast, the contribution rate and the replacement rate stabilise at intermediate levels (in the example above, around 50.6% and 32.9%, respectively), thereby preserving the relative economic position of workers and retirees.

In the real world, productivity, longevity, and migration that vary over time influence the aforementioned levels but not the core of the observation: what matters is the ratio of consecutive cohort sizes.

### **Why should pension benefits depend on child-raising efforts?**

The article defends two premises. Premise one is that child-rearing is costly. Child-rearing imposes substantial direct expenditures (housing, food, childcare/education, hobbies) and large time costs. These costs depress lifetime earnings, with well-documented child penalties that fall disproportionately on mothers (Kleven et al., 2025), producing lower contribution records and higher old-age poverty risks (Möhring, 2018). When time is valued at market rates, parents' cumulative net transfers over the active life-course exceed those of non-parents by a wide margin (Vanhuysse, Medgyesi & Gál, 2023). Family policies that improve work-care reconciliation and reduce the implicit tax on reproduction, notably through childcare provision and housing policy, remain essential (OECD, 2024). They do not, in my opinion, however, settle the pension-justice question.

Premise two is that children become socialised goods when they reach adulthood. Contemporary societies and economies are intentionally structured so that the 'product' of parenting becomes a benefit for all (Bou-Habib & Olsaretti, 2013; Olsaretti, 2021). When children become adults and start working, they integrate into the tax and contribution base underpinning public pensions and other welfare programmes. Parents, especially mothers, thus supply a system-relevant input - future contributors - while simultaneously facing constraints on building their own pension entitlements because resources and time are redirected to childrearing.

If both premises hold, fair play has bite. Those who benefit from a cooperative scheme owe their fair share of its costs. In a PAYGO setting that depends on a sufficient size of successive birth cohorts, it is not normatively innocuous to externalise the costs of producing socialised goods onto the very people whose parenting makes the scheme work.

PAYTR aligns the pension system's benefit formula with its demographic dependence by granting credits to parents in proportion to the time they spent raising children, up to a cap. Unlike cash child benefits aimed at raising families' immediate consumption potential when children are

underage, PAYTR operates within the pension scheme, recognising lifetime contributions of care through higher retirement benefits.

I believe that a just design must satisfy three constraints. First, credits should be conditioned on sustained caregiving involvement, not merely biological parenthood, to avoid rewarding absent parents and to respect fair play. Second, credits must be individualised and divisible between co-parents to avoid reinforcing traditional roles. Third, to avoid strong pronatalism and regressivity, credits should be capped at a socially justified number of children and designed to be distributionally neutral across income deciles (e.g., flat-rate amounts).

Operationally, PAYTR can be implemented in a DB or a NDC system. In DB PAYGO, credits raise the accrual rate for years with verified caregiving or add child-year accruals to the contribution record up to the cap. In fixed-rate NDC, credits take the form of notional contributions posted to the caregiver's account for each verified child-year, indexed to system-wide wage growth.

## **Addressing two objections**

Objections can be raised against my proposal. Here I will address two of them.

(i) *Replacement migration can substitute for lower domestic fertility. PAYTR is unnecessary.*

The strongest version of this objection treats international labour mobility as a functional equivalent to domestic fertility. If a country can admit working-age migrants at scale, it can stabilise support ratios and does not need to recognise parenting efforts within its pension formula. Moreover, importing already-educated adults appears cheaper than bearing the high private and public costs of rearing and schooling children until they become tax-paying citizens. Why do we need to compensate domestic child-rearing at all?

Two distinctions undercut the inference. First, at realistic scales, migration is a complement, not a substitute. The classic replacement-migration calculations show that maintaining pre-ageing support ratios in low-fertility welfare states would require sustained inflows that are politically and

socially implausible (Craveiro et al. 2019). Even if one targets mitigation rather than full stabilisation, inflows large enough to neutralise ageing pressures would have to be maintained for decades. As global fertility falls and more regions enter sub-replacement regimes, the pool of potential migrants tightens. In short, migration can slow ageing, but it cannot be relied upon to *neutralise* it.

Second, migration introduces a cross-border fair-play problem. When receiving countries rely on migrants, they appropriate human capital largely financed by families and taxpayers elsewhere. That may still be mutually beneficial at the macro level (remittances, diaspora networks, education incentives) (Beine et al. 2008). But as a *matter of fairness* it leaves the costs of producing contributors externalised to foreign families and states. The normative logic that grounds PAYTR domestically, recognising the production of a system-relevant input, applies *across borders* when the input is imported.

The policy consequence is not to reject migration but to integrate it into a human-capital compensation mechanism that prevents free-riding and aligns with PAYTR's fair play principle. Put differently, beneficiaries of imported human capital should contribute to those who financed its production. As an example, for each long-term entrant admitted to the European Union at prime working ages, the receiving state (or firms via a payroll surcharge) could transfer a pension-relevant credit to the country of origin. The credit would accrue in tranches and be conditional on the migrant completing a verified number of contribution years in the receiving country, to avoid paying for short stays. The transfer could be split between (i) an earmarked contribution to the origin country's education budget and (ii) a care credit posted to the primary caregiver's pension record, an international analogue of PAYTR. Bilateral social security agreements or an EU-level clearinghouse could handle verification and transfers. This reframes migration as part of a cooperative venture rather than a unilateral appropriation of others' parental investment.

(ii) *Recognising child-rearing in pensions will raise fertility and accelerate ecological degradation.*

The worry is understandable. Any pension recognition tied to children is (at least weakly) pronatalist and results in higher birth rates. In high-consumption societies, additional births carry large lifetime carbon footprints leading to accelerating ecological degradation. Encouraging more births looks ethically problematic under binding climate constraints (Olsaretti 2017; Meijers 2016). If PAYTR increases fertility, it risks trading pension fairness for environmental harm.

I do not deny the environmental externality, but PAYTR can be designed so that it is recognition-based rather than pronatalist. Three design features help achieve this objective. First, the credit should be concave in the number of children: entitlement should saturate early (for example, full credit by the second child), so that the marginal incentive beyond that point is zero.

Second, the design credits parents for *care-years*, not birth events. Credits should be recognised per verified *child-year* of care (e.g., ages 0-4 or 0-8), shareable between co-parents. This way the design targets the actual cost of raising children, rather than the act of procreation. This aligns recognition with the outcome that matters for pensions (the production of future contributors) and weakens any incentive to have children without investing in their quality. In economic research it has been shown that for the quality of children, it is better that many have few children than few have many children (de la Croix & Doepke 2003).

Third, to keep the policy distributionally neutral and gender-egalitarian, the credit should be flat per care-year (indexed to wages) rather than linked to the parent's previous earnings. Credits should be split between co-parents by default (or in proportion to verified care) and eligibility should extend to adoptive parents to avoid privileging biological reproduction.

Furthermore, in settings where children function as old-age security because there is no access to old-age insurance products and capital markets, building reliable pension systems is typically *fertility-reducing* (Danzon & Zyska, 2023; Rossi & Godard, 2022). My focus has been on European

countries that are high-income and low-fertility welfare states. In very high-fertility contexts, the priority is to build pension institutions first.<sup>15</sup>

With these constraints, PAYTR's primary effect is redistributive across the life-course and across individuals. It corrects a structural asymmetry - parents supply a system input at significant private cost, without committing the policy to pro-growth population targets. If ex post monitoring shows non-trivial fertility responses, the saturation point can be lowered (e.g., full entitlement at one child). The design of the scheme is adjustable. The normative commitment is to recognise uncompensated parental care in pension benefits without undermining climate goals.

Objection (i) fails because migration shifts child-rearing costs onto others. Objection (ii) fails if PAYTR is designed around care-years. Together, the two replies tighten the proposal: PAYTR is not a policy to drive population policy *per se* but a fair play mechanism, domestically and, via cross-border compensation, internationally.

In the article 'Pension tiers and childcare credits for parents' I study how different pension tiers interact in childcare credits in three countries. The analysis reveals significant variations in how public and occupational pensions interact in rewarding parents in France, Germany and Sweden. I argue that countries should consider how best to recognise parents' child-rearing efforts in different pension tiers. This is crucial as the importance of the different tiers is changing in Europe

This article closes the dissertation's normative arc. Article III examined compensating conscripts for time taken early in life. Article IV unites these strands by treating parenting as a temporal and productive contribution that current PAYG designs largely externalise. I built an argument, grounded in Fair Play, justifying pension recognition for child-rearing as the production of a socialised good. PAYTR is offered as a principled correction.

---

<sup>15</sup> As mentioned in the introduction of this thesis, an administratively simple way would be to provide a flat-rate pension benefit to everyone above 65 for example. Thus, countries with informal labour markets would not need to track previous labour market histories of individuals.

# **Pension tiers and childcare credits for parents three examples from Europe\***

Niko Väänänen  
University of Louvain  
<https://orcid.org/0000-0001-6784-1398>

## **Abstract**

This chapter examines how different tiers of pension systems interact, or fail to interact, in the recognition of childcare through pension credits. It adopts the normative position that child-rearing should be compensated in pension schemes. Drawing on Rawls' principle of fair play, the chapter argues that parents deserve pension credits because they invest private time and resources to sustain systems that function as intergenerationally beneficial arrangements. The analysis reveals significant variations in how public and occupational pensions interact in rewarding parents in France, Germany and Sweden. Public pension systems grant credits to parents, occupational pensions give fewer credits. Countries should consider how best to recognize parents' child-rearing efforts in different pension tiers and how they should interact. This is crucial as the importance of the different tiers is changing in Europe.

## **1 Introduction**

Pension systems exist to share resources between those who work and those who are no longer earning an income from paid work. They are intergenerational transfers of wealth. Pensions are all about interconnectivity. Essentially, pensions are interactions of different generations within an economic structure. Pension benefits permit older birth cohorts to retire from the labor market while younger birth cohorts assume responsibility for the financing of retirement benefits. In other words, pension systems require the existence of overlapping generations. This is true for pay-as-you-go financed public pensions and it is true for funded private pensions alike. The former raises its revenues by taxing workers and the latter are financial claims on the future output produced by workforce.<sup>1</sup> In modern societies, production relies on a combination of

---

\*As published in *The Architecture of Pension Systems: Interconnectivity from an Interdisciplinary Perspective*  
Editors: James Kolaczowski, Emma Suzanne van Aggelen, Joanna Rutecka-Góra, Yves Stevens

<sup>1</sup> Nicholas Barr, *The Welfare State as Piggy Bank: Information, Risk, Uncertainty, and the Role of the State* (Oxford University Press 2001).

capital and labor. Both are essential, and if robots cannot operate entirely autonomously, capital continues to depend on human labor, and thus on people, for productive activity.

Fertility has decreased in Europe. Children impose costs on parents and having children has become more expensive. Raising children requires time and money, as they must be nurtured and provided with care, housing, education, and other resources needed for their development into autonomous members of society. Many individuals lack the time and money needed to raise children. Some are unable to find a suitable partner for procreation and parenthood. In addition, many other social and economic factors, such as availability of housing, changing preferences or worry about climate change, are in play that influence the decision of when or if to have children. As a result, in the last few decades people have had fewer children than before.<sup>2</sup>

I argue that raising children should be credited in pensions. I rely on the principle of fair play as described by John Rawls.<sup>3</sup> To Rawls a just society is one in which the basic structure of society is fair. By basic structure Rawls refers to those institutions that distribute the main benefits and burdens of social life. These include the distribution of income and wealth.

Public pension systems distribute burdens and benefits of an intergenerational scheme and are major institutions in society, part of the basic structure. Thus, they should be bound to the principles of justice. In addition, according to Rawls, the principle of fair play may apply to various other schemes than political societies, such as associations.<sup>4</sup> It is worth mentioning that Blanc and Meijers argue that firms should share some of the costs of parenting as firms benefit from future educated workforce.<sup>5</sup> Furthermore, Blanc and Al-Amoudi have argued that the weakening of the welfare state requires to reassess whether corporate institutions should be included within the boundaries of the basic structure.<sup>6</sup>

In this chapter, I interpret interconnectivity as the interplay between different pension tiers (public, occupational, and personal pensions). To explore this, the chapter addresses the following questions: How do the different pension tiers of different countries credit parents for their child-

---

<sup>2</sup> Hans-Peter Kohler, Francesco C. Billari and José Antonio Ortega, 'Low fertility in Europe: Causes, implications and policy options' in Fred R. Harris (ed), *The baby bust: Who will do the work? Who will pay the taxes?* (Rowman & Littlefield publishers 2006)

<sup>3</sup> John Rawls, *Political Liberalism* (Columbia University Press 1993).

<sup>4</sup> John Rawls, *A Theory of Justice. Revised Edition* (Belknap Press of Harvard University Press 1999)

<sup>5</sup> Tim Meijers and Sandrine Blanc, 'Firms and parental justice: should firms contribute to the cost of parenthood and procreation?' [2020] *Economics & Philosophy* 1

<sup>6</sup> Sandrine Blanc and Ismael Al-Amoudi, 'Corporate institutions in a weakened welfare state: A Rawlsian perspective' [2013] *Business Ethics Quarterly* 497.

rearing efforts? I examine how the tiers interact, highlighting the presence or absence of inter-connectivity in these systems. My normative standpoint is that parents should be treated fairly in pension systems. Guided by this framework, I examine whether countries have implemented mechanisms across different pension tiers to recognize and credit the efforts of parents in raising children.<sup>7</sup> This approach is important as replacement rates for public pensions are projected to fall over the coming decades, suggesting that occupational pensions are becoming a more important part of retirement income if individuals aim for a certain replacement rate.<sup>8</sup>

The three countries of this chapter represent distinct but well-established types of pension design and are based on diverse national landscapes in pensions.<sup>9</sup> Sweden's public pension is a notional defined contribution (NDC) scheme. Germany's public pension system is based on points and France has a defined benefit system with a low pension ceiling. In addition, the extra-statutory, occupational pension schemes in the countries differ in design and coverage. In Sweden and France approximately 90% of workers are covered by occupational pensions and they are an important part of the pension income in old age. In Germany, the coverage rate of occupational pensions is roughly 50% among employees, with public sector workers and employees in large companies enjoying significantly higher coverage.<sup>10</sup> The self-employed are often lacking occupational pension coverage in all countries. Moreover, the French occupational pension scheme is financed mainly on a pay-as-you-go basis, in contrast to the funded schemes operating in Germany and Sweden.

In the comparative welfare-state literature, Sweden, Germany and France are canonical pension regime types. Sweden's NDC reform has been widely discussed as a paradigmatic model, influencing pension reforms in the Nordic countries and beyond.<sup>11</sup> Germany's pension system

---

<sup>7</sup> My aim is not to define a design of a fair policy or describe how different pension tiers should interact regarding parenting efforts. That would be a much more complicated task than arguing that the principle of fair play requires pension systems to benefit parents for their child raising efforts. For a fuller account of justice and what parents are exactly owed, I would need to study the background distribution in each country, especially when considering Rawls' maximin principle which states that we should aim to improve, to the extent possible, the situation of the worst off (Rawls 1999). Such an exercise is beyond the scope of this chapter.

<sup>8</sup> European Commission, *The 2021 pension adequacy report: Current and future income adequacy in old age in the EU, Volume 1* (European Commission 2021).

<sup>9</sup> Yves Stevens 'The role of the government in creating or enhancing the access to funded or unfunded pensions in the modern welfare state' in Nuno Cunha Rodrigues and Nazaré da Costa Cabral (ed), *The Future of Pension Plans in the EU Internal Market: Coping with Trade-Offs Between Social Rights and Capital Markets* (Springer Nature 2019).

<sup>10</sup> Mika Vidlund and others, *Pension contribution levels and cost-sharing in statutory and occupational pensions : a cross-national study of eight European countries* (Finnish Centre for Pensions 2022)

<sup>11</sup> Robert Holzmann and Edward Palmer (eds) *Pension Reform Issues and Prospects for Non-Financial Defined Contribution (NDC) Schemes* (World Bank 2006); Axel West Pedersen, 'Halvhjertet kopi av brutal original. En sammenigning av Pensjonskommissionens forslag og det nye svenske pensjonssystemet' [2004] *Tidsskrift for velferdsforskning* 7.

has long served as a reference point for Bismarckian social insurance designs, while French arrangements have underpinned social security institutions in many former French colonies in Africa.<sup>12</sup> The experiences and choices embodied in these pension models can inform analysis of policy considerations in other countries.

## **2 Children and pensions – an inseparable connection**

People are having fewer children than before. Fertility rates were higher and life expectancy shorter when public pension systems were introduced starting from the late 19<sup>th</sup> century. During the 20<sup>th</sup> century the coverage of pension systems was expanded, and benefits enhanced.<sup>13</sup> This development was made possible by the rising revenue generated by an expanding population. Mortality decreased whilst fertility remained high. This created the so-called demographic dividend; an increase in the proportional size of the working age population.<sup>14</sup> Today the demography looks different. Life expectancy has increased. Most Europeans alive today can expect to live well above the age of 70 and European countries are witnessing fertility rates that are below replacement levels.

The global fertility rate has dropped by 50% from 1950 when it was 4.95 to 2.5 in 2010. In the EU, the total fertility rate has dropped from 2.6 in 1960 to 1.5 in 2019.<sup>15</sup> European countries are witnessing sustained below-replacement fertility rates. If the cohort fertility drops permanently below 2.1 and no migrants move in, the population, *ceteris paribus*, starts to decrease.<sup>16</sup> The low fertility environment might remain persistent as family policies have not been very effective in raising fertility.<sup>17</sup> Decreasing fertility is a challenge for the financing of pension systems as it shapes the demographic structure of societies. Fewer young people will have to provide for a larger share of old people.

## **3 Why to credit child raising efforts in pension benefits?**

---

<sup>12</sup> Martin Schludi, *The reform of Bismarckian pension systems: a comparison of pension politics in Austria, France, Germany, Italy and Sweden* (Amsterdam University Press 2005); Carina Schmitt, 'Social security development and the colonial legacy' [2015] *World Development* 70.

<sup>13</sup> Robin Blackburn, *Banking on death: or, investing in life: the history and future of pensions* (Verso Books 2002)

<sup>14</sup> Ronald Lee and Andrew Mason, 'What is the demographic dividend?' [2006] *Finance and development* 16.

<sup>15</sup> Agata Szymańska, 'Demographic Changes in the Countries of the Western Balkans – A Comparative Analysis with the European Union' [2022] *Comparative Economic Research. Central and Eastern Europe* 161.

<sup>16</sup> Of course, this assumption is based on a relatively stable life expectancy. If people started to live for five hundred years, the population would continue to grow for a long time, even with very low fertility levels.

<sup>17</sup> Anne Gauthier, 'The impact of family policies on fertility in industrialized countries: a review of the literature' [2007] *Population research and policy review* 323.

In economic theory the decision to have children can be modelled by the 'old age security motive': people have children because they want to secure their own well-being when they are old and can no longer work.<sup>18</sup> Parents hope that their children will provide security and take care of them when they become frail. Thus, children have an instrumental value for well-being in old age. And if they are valued instrumentally, they can be replaced by something that achieves the same result, such as pension benefits that guarantee economic security in old age. In other words, according to the theory, children and pension benefits are substitutes.

The old age security motive is supported by empirical evidence. A large body of research shows that public pension systems have had a significant impact on fertility in the 20<sup>th</sup> century. They are one of the drivers for the observed fertility decline in Europe. As an example, the fertility decline witnessed in Germany in the 20<sup>th</sup> century is partly explained by the early adoption of a public pension system.<sup>19</sup> In line with the old age security theory, pension systems weaken the motive to have children because pension benefits secure the financial well-being of older persons whether they had children or not. The impact that pension benefits have on fertility is stronger when pension coverage is extended to previously uncovered groups and smaller when benefits are enhanced of an already covered group.<sup>20</sup>

It has been argued that pension systems that do not credit for having and raising children are unsustainable and intrinsically ill-designed.<sup>21</sup> They fail to credit for something that secures its long-term financial sustainability. Furthermore, demography partly explains economic growth levels and technological advancement. As an example, German economist Hans-Werner Sinn has argued for a child dependent pension system.<sup>22</sup> His argument is linked to economic growth: a younger age structure is associated with greater economic growth, so those who rejuvenate the age structure should receive more pension benefits. Similarly, Jozef Banyár has argued that the design of pension systems has been misunderstood in a profound way.<sup>23</sup> According to

---

<sup>18</sup> Jeffrey Nugent and R Thomas Gillaspay, 'Old age pensions and fertility in rural areas of less developed countries: Some evidence from Mexico' [1983] *Economic Development and Cultural Change* 809; Alessandro Cigno, 'Children and pensions' [1992] *Journal of Population Economics* 175.

<sup>19</sup> Robert Fenge and Beatrice Scheubel, 'Pensions and fertility: back to the roots: Bismarck's Pension Scheme and the first demographic transition' [2017] *Journal of Population Economics* 93.

<sup>20</sup> Alexandra Danzer and Lennard Zyska, 'Pensions and Fertility: Microeconomic Evidence' [2023] *American Economic Journal: Economic Policy* 126; Pauline Rossi and Mathilde Godard, 'The Old-age Security Motive for Fertility: Evidence from the Extension of Social Pensions in Namibia' [2022] *American Economic Journal: Economic Policy* 488.

<sup>21</sup> As an example, see Jacques Bichot, 'Nous batons de vieillesse – mythes mirifiques et dures réalités des systèmes de retraite sans enfants' [2002] *Panoramiques* 37; József Banyár, 'The outlines of a possible pension system funded with human capital' [2021] *Risks* 66.

<sup>22</sup> Hans-Werner Sinn, 'Europe's demographic deficit a plea for a child pension system' [2005] *De Economist* 1.

<sup>23</sup> József Banyár (n 21).

Banyár, pension benefits should not depend on paid contributions but on the number of children raised instead. To Banyár, a system based on number of children raised is a funded pension system: the capital is the human capital of the raised, new generation, which is repaid to the investors with interest in the form of pension benefits.

However, my claim is different. My approach is one of fair play.<sup>24</sup> Fair play between parents and non-parents. According to Rawls' principle of fair play, individuals have a moral obligation to do their part to support the benefit-producing systems from which they benefit. At the heart of this fair play argument is that parents enable the existence of mutually advantageous intergenerational arrangements such as pension systems. Parents produce 'socialized goods', children who, as adults, become taxpayers, creating positive externalities for non-producers.<sup>25</sup>

This contribution, however, is beneficial to society only under certain conditions, most notably when fertility rates remain at moderate or replacement levels. In contexts of very high fertility, the cumulative environmental and economic burdens of population growth may offset these benefits, and the externalities could become negative rather than positive. Thus, the fair play argument justifies institutional support for parents insofar as their reproductive choices contribute to the sustainability of cooperative intergenerational arrangements, rather than undermining them.

I acknowledge that, in modern societies with widespread access to contraception, having children is generally a choice, and parents bear responsibility for that cost-incurring decision. However, this does not negate the fact that their actions benefit society. Having and raising children is a beneficial activity as it makes intergenerational transfers possible but incurs private costs. These private costs are almost exclusively intra-household. According to recent research (when time transfers are valued at market price), the cumulative transfer burden over the active section of the lifecycle (net of public transfers in old age) is more than twice as large for parents than for non-parents.<sup>26</sup> Therefore, parents have a justified claim to receive their fair share from this mutually beneficial cooperation. Especially this is true for mothers who seem to suffer from a motherhood wage penalty due to family breaks in working life often leaving them with lower pension

---

<sup>24</sup> John Rawls (n 4).

<sup>25</sup> Serena Olsaretti, 'Children as public goods?' [2013] *Philosophy & Public Affairs* 226.

<sup>26</sup> Robert I. Gál, Pieter Vanhuysse and Lili Vargha, 'Pro-elderly welfare states within child-oriented societies' [2018] *Journal of European Public Policy* 944.

levels.<sup>27</sup> It is typically mothers that spend time, money and energy to care, educate and provide food for the children.

The gender pension gap, the difference between the mean pension income between genders is known to exist and is considered a problem. As an example, women receive 61% less in pension compared to men in West Germany. This is mainly due to unpaid care work.<sup>28</sup> Some argue that pension systems have been designed in a gender-blind manner, as benefits are based on paid employment, which has historically been more common among men.<sup>29</sup>

In addition to fairness-based arguments, there may also be scope for policies to support parenthood because of need for them. Beaujouan and Berghammer calculated the fertility gap for women born in the early 1970s. Their results show that actual fertility was lower than desired fertility in all countries included in the study.<sup>30</sup> As an example, the fertility gap was more than 0.5 children for Italy, Greece, and Spain. According to surveys women whose ideal fertility matched their achieved fertility were the most likely to report being very happy and least likely of being unhappy compared to those who had more or fewer children than they desired.<sup>31</sup>

In other words achieving “ideal” fertility is associated with being happier later in life. The observed fertility gap provides evidence that there is scope for policies that assist individuals and couples in attaining their desired fertility rate, thereby enhancing their overall well-being. Becoming a parent is a life plan that most aspire to achieve, and it is reasonable that our societies should support individuals in achieving this aim. Different pension tiers ought to play a role in this.

Having a pension system that credits parents for their efforts in raising children can be a part of a more parental-friendly welfare state helping people to reach their desired fertility levels. Evidence suggests that support for such a policy exists. Norwegian research found out that both

---

<sup>27</sup> Henrik Kleven and others, ‘Child Penalties across Countries: Evidence and Explanations’ [2019] AEA Chapters and Proceedings 122.

<sup>28</sup> Carla Rowold, *An accumulation of gender inequalities in old age? Exploring life course-and gender-sensitive approaches for analysing Gender Pension Gaps* (Doctoral dissertation, University of Oxford 2023).

<sup>29</sup> Jo Grady, Gendering pensions: Making women visible [2015] Gender, work & organization 445.

<sup>30</sup> Eva Beaujouan and Caroline Berghammer, ‘The gap between lifetime fertility intentions and completed fertility in Europe and the United States: A cohort approach’ [2019] Population Research and Policy Review 507.

<sup>31</sup> Lyman Stone, ‘The Fertility Gap and Women’s Happiness’ blogpost Institute For Family Studies, April 9, 2019 <https://ifstudies.org/blog/the-fertility-gap-and-womens-happiness>

men and women, and women more so, expressed positive attitudes towards child credits in pension benefits.<sup>32</sup>

#### 4 The aim of different pension tiers

Multipillarisation, the provision of pensions through different institutional and financial mechanisms, has been a trend in Europe in recent decades.<sup>33</sup> Multi-pillar pension systems seek to address a broad range of goals by combining public and private pensions, different accrual principles and different modes of financing.<sup>34</sup> In the phase of demographic ageing, a combination of lower birth rates and longer life expectancy, countries have reduced the generosity of public pensions. Simultaneously, supplementary pensions have become more common. In some cases, they have been introduced to supplement weaker public pension benefits, or to increase individual choice or diversify sources of pension financing. In many countries pension systems consist of several partly overlapping pension tiers based on different principles. The main motivation for a public pension is to avoid old age poverty and to allow for consumption smoothing over the lifecycle (up to an earnings ceiling). Therefore, typically the level of pension benefit is a function linked to career earnings (either wages or paid contributions) and the length of the working career.<sup>35</sup> In addition, some periods of non-employment (e.g. unemployment, sickness leave or apprenticeships) accrue pension rights for social policy reasons. This way those with interrupted careers can have adequate pension benefits.

Different countries have opted for very different replacement rate levels in their public pension systems. Countries that have a low-income replacement level typically have extensive occupational pension schemes. As an example, a less generous public pension pillar leaves more room for occupational schemes because it leaves more earnings uncovered. In other words, a relatively low pension ceiling is associated with the development of occupational or personal pension schemes for a group of workers, especially middle and high earners. Occupational pensions better enable the smoothing of consumption across the entire earnings spectrum. Typically, social partners are key players in the development of supplementary pensions at the national level.

---

<sup>32</sup> Sigtona Halrynjo, Ragni Hege Kitterød and Axel West Pedersen, 'A woman's cause? Popular attitudes towards pension credits for childcare in Norway' [2019] *European Journal of Social Security* 241.

<sup>33</sup> See Bernhard Ebbinghaus (ed), *The varieties of pension governance: Pension privatization in Europe* (Oxford University Press 2011).

<sup>34</sup> Ole Beier Sørensen and others, 'The interaction of pillars in multi-pillar pension systems: A comparison of Canada, Denmark, Netherlands and Sweden' [2016] *International Social Security Review* 53.

<sup>35</sup> Notable exceptions to this are schemes with flat rate benefits.

The interaction of public and occupational pensions and the distribution of responsibilities between pillars is a key aspect of the political economy of pension systems. As mentioned before, public pensions typically include elements of solidarity whereas occupational pension benefits are more strictly linked with employment (and paid contributions or previous wages). Employers aim to externalize the costs that are not directly linked to their own labor leaving the State to finance accrual from non-work periods through taxes.<sup>36</sup>

The final amount of pension benefits can be attributed to the life choices made by individuals<sup>37</sup>. Individuals make decisions on education, profession, choice of partner, family formation and working arrangements, as well as timing of retirement, even though these choices are shaped and limited by the social and economic constraints they face. These decisions have an impact on earnings and consequently retirement income. Some choices incur additional risks. As an example, a career in the construction sector is often linked to a higher risk of cyclical unemployment, because construction activity tends to contract during economic downturns. However, pension policy can mitigate some of the impact that individual life choices have on retirement income. As an example, it is common that the State awards pension credits for (involuntary) periods of unemployment. In this chapter I analyze the way different pension tiers credit child rearing and procreation. Parenthood is a life choice that many individuals make. And I argue that this choice should be reflected in higher pension benefits. The following section will present three case studies of childcare credits in different countries.

## **5 Sweden grants pension credits for parents of small children**

Since 1999, the Swedish public pension system has worked on the basis of a notionally defined contribution (NDC) plan. The pension contribution rate is permanently fixed to 18.5% of earnings.<sup>38</sup> Its objective is to provide a uniform gross replacement rate for all workers with incomes below a ceiling of approximately 120% of the average wage. Individuals accrue a capital on their notional accounts that consists of the sum of all the contributions paid during working life and the interest earned on them. This capital is transformed into an annuity at the chosen retirement age by a factor that considers life expectancy at that age. In addition to paid contributions

---

<sup>36</sup> This issue is of course more complex than this. As an example, in a fully funded defined benefit scheme forms of solidarity between different birth cohorts can exist in the form of age neutral accrual or contribution rates.

<sup>37</sup> Ole Beier Sørensen and others (n 34).

<sup>38</sup> 16% finance the pay-as-you-go pension (NDC) and 2.5% go to finance the fully funded premium pension (FDC).

and the pure saving logic, the system includes redistribution to some groups in certain life situations. For social policy considerations public pension benefits accrue for certain periods when the person has not been in paid work (e.g military service, time in higher education, sickness leave). The State finances the pension accrual from these periods.<sup>39</sup>

For example, while the parent is in receipt of parental benefit, the parent continues to build up pension, just as they did when they were in work. In addition, extra social policy arrangements for parents exist. One such social policy arrangement in the Swedish public pension scheme is the pension credit for parents of young children (*pensionsrätt för småbarnsår*). The parent with the lower income (or the single parent) accrues extra pension credits for the first four years after childbirth.<sup>40</sup> The credit is calculated on the most favourable option. There are three different ways to calculate the credit:

- 1.) *The individual comparison method* compares earnings before and after the birth or adoption of the child. The credit is supplemented to the previous earnings level.
- 2.) *The general income comparison method* compares earnings before and after the birth or adoption of the child. The credit supplements the pension accumulation to a level corresponding to 75% of the average earnings of the population.
- 3) In *the basic amount method* a supplement equal to the basic income amount (just under 20% of average earnings) is added to the individual's own earnings.

The Swedish Pensions Agency calculates and automatically grants the pension credit that is the most advantageous to the parent. The importance of childcare credits remains low in the final pension benefit. In 2018, on average 4% of a woman's pension was due to childcare credits, while this was nearly 1% of a man's.<sup>41</sup>

The purpose of the child credit is to compensate for the possible loss of pension rights due to extended leave or part-time work. The credit enables wage-earners to reduce their labor market participation to spend time with their child. The pension credit is particularly generous to low-income earners because it brings the pension entitlement of the lowest earners up to the same

---

<sup>39</sup> Edward Palmer and Bo Könberg, B. *The Swedish NDC Scheme: Success on Track with Room for Reflection* (World Bank 2019); Johannes Hagen, 'Pension principles in the Swedish pension system' [2017] Scandinavian Economic History Review 28.

<sup>40</sup> In the case of adoption, the entitlement can be accrued up to when the child is 10 years of age. However, the credit never accrues for longer than four years.

<sup>41</sup> Pensionsmyndigheten, *Orange Report 2020, Annual Report of the Swedish Pension System* (Pensionsmyndigheten 2021)

level as someone earning 75% of the average earnings of full-time workers. The credit is only available for one child per year, even if a parent has more than one child under the age of four who would qualify for the pension credit. This means that in a family with more than one child, the timing of childbearing has an impact on the duration of the credit. According to statistical data, almost 50% of parents have at least one year and three months of overlapping entitlement to pension credit because children are born less than four years apart.

The credit is designed to incentivize, as a rule, employment from the point of view of pension accumulation. Working full-time will result in a higher pension than working part-time. Exceptions are people on very low incomes or those whose earnings from part-time work would exceed the pensionable earning ceiling. In 2013, 82% of the entitlements were granted to women and men received 18%. On average, men were awarded pension credit at age 37 and a woman at age 33.<sup>42</sup>

### **5.1 Occupational pensions in Sweden cover parental leaves**

Over 90% of workers in Sweden are covered by compulsory, collective defined benefit (DB) and defined contribution (DC) schemes set up by collective agreement. Younger generations are typically covered by DC schemes. Contributions in the case of DC schemes are typically 4.5% for incomes below the earnings ceiling in the public pension system and 30% for income above the ceiling up to another ceiling (between EUR4,600 to EUR18,400 monthly). Occupational benefits are more important for workers with earnings above the income threshold of the first pillar. A certain degree of co-ordination between the first and second pillars is achieved through the implementation of this tiered structure of second pillar contribution rates. The rates are relatively low for wages that fall below the income threshold of the first pillar and are markedly higher for wages that exceed the threshold. The contributions are paid by employers.<sup>43</sup>

A typical occupational pension plan for privately employed white collar workers in industry and trade is ITP1. In this scheme that covers those born in 1979 or later, workers contribute 4.5% of their salary from the age of 25 onwards (over a maximum of EUR4,600 monthly).<sup>44</sup> In ITP1 an insurance taken by the employer pays the premiums to the occupational pension fund when an

---

<sup>42</sup> Regeringskansliet, *Equal Pensions? [Jämställda pensioner?]* (Elanders Sverige AB 2016).

<sup>43</sup> Ole Beier Sørensen and others (n 34); Mika Vidlund and others (n 10).

<sup>44</sup> They decide whether a survivor's pension is accrued, how much and who receives it in the event of death (only partner or partner and children are possible options).

individual is on a period of parental leave.<sup>45</sup> Therefore parental leave should leave no gap in the pension rights of the individual. The length of parental leave in Sweden is 240 days for each parent (480 days in total) after a child is born or adopted. However, occupational contributions are paid only up to 390 days of parental benefit.<sup>46</sup>

In the occupational pensions of the public sector, pension credits are more extensive. Under the State's collective agreements, occupational pension contributions are paid for unpaid parental leave and for part-time work when the children are young. Employees in municipalities and regions receive occupational pension contributions for unpaid parental leave and part-time work until the child reaches the age of eight.<sup>47</sup>

## **6 In Germany parents are credited extra points for raising children**

In Germany, the public pension system for workers in the private sector is a system based on pension points – a sort of a hybrid scheme combining elements of defined contribution and defined benefit models. Pension benefits are accrued annually in relation to the average wage. One pension point is accrued for an annual wage equal to the average wage in the economy. However, there is a cap on pensionable earnings of around twice the average wage. The level of pension benefit at retirement is determined by the number of pension points accumulated during a person's career. These points are transformed into an annuity by a coefficient linked to the average wage.

Periods of childcare are credited in pensions. The German Constitutional Court made a landmark decision in 1992, stating that the statutory pension system discriminated against large families with children.<sup>48</sup> To eliminate discrimination in pension system the Constitutional Court considered that it is constitutional to redistribute moderately to the detriment of childless and small families and to credit parents for child-raising periods (*Kindererziehungszeiten*). Raising children has a negative impact on pension benefit at the individual level, as it affects career

---

<sup>45</sup> Davide Natali and others *Study supporting the monitoring of care credits in occupational pension schemes. Final report* (Luxembourg: Publications Office of the European Union 2024).

<sup>46</sup> In the statutory system the first 390 days of parental are earnings-related and the remaining 90 days are flat-rate benefits.

<sup>47</sup> Pensionsmyndigheten, *Time with small children can impact your pension* [Småbarnstiden kan påverka din pension] 2024 <https://www.pensionsmyndigheten.se/forsta-din-pension/vad-paverkar-din-pension/smabarnstiden-kan-paverka-din-pension>

<sup>48</sup> BVerfG (Bundesverfassungsgericht), 1 BvL 51/86, 50/87 and 1 BvR 873/90, 761/91 of 7 July 1992.

development and earning potential. At the same time, it has a positive impact on the sustainability of the pension system: child-rearing maintains solidarity between generations.<sup>49</sup>

In Germany, the mother is the default recipient of the childcare credit, which is calculated at three pension points for each child born. If the parent receiving the childcare credit is employed during the first three years following childbirth, the pension points for childcare and employment are combined (up to the ceiling).<sup>50</sup> Thus, it is possible to combine pension credit awarded for childcare and pension accrual from paid employment.

In 2016, childcare credits constituted an average of 14% of women's public pension benefits, underscoring their importance relative to pension accrual from paid labor. For the small proportion of men who claimed childcare credits, these accounted for 7% of their pension benefits.<sup>51</sup> According to Frommert and Lizon, the German public pension scheme credits childcare more generously than the Swedish system does.<sup>52</sup>

## **6.1 Parental leave in occupational pensions in Germany**

More than half of the German workforce are covered by industry-level occupational pensions and benefits are typically calculated, especially for new members, in a 'DClight' way. There is a minimum guarantee equal to the nominal value of contributions, which prevents nominal losses.<sup>53</sup> A coverage gap in occupational pensions exist for those with low education, migrants, and women. Public sector workers are more covered by occupational pensions.<sup>54</sup>

Some of the occupational plans offer credit to cover periods of childcare or parental leave. As an example, in compulsory occupational pensions for employees in the public sector who are not civil servants (VBLklassik), pension credits are awarded for "social components". This

---

<sup>49</sup> The Constitutional Court argued that 'raising children is still considered to be a private matter, while security in old age is recognized as a societal responsibility'. The citation is from Karen Anderson and Treute Meyer, New social risks and pension reform in Germany and Sweden: the politics of pension rights for childcare. In Klaus Armingeon and Giuliano Bonoli *The Politics of Post-Industrial Welfare States* (Routledge 2007).

<sup>50</sup> Sarah Schmauk and Linda Kridahl. 'Who receives most? Gendered consequences of divorce on public pension income in West Germany and Sweden' [2024] *Ageing & Society* 1.

<sup>51</sup> Wagner Alexandra, Klenner, Christina and Peter Sopp, *Alterseinkommen von Frauen und Männern: Neue Auswertungen aus dem WSI GenderDatenPortal* (Hans-Böckler-Stiftung 2017).

<sup>52</sup> Dina Frommert and Marcel Lizon, 'Teilzeitarbeit neben Kindererziehung – Auswirkungen auf die gesetzliche Rente' [2017] *DRV-Bund Zeitschrift* 273.

<sup>53</sup> Tobias Wiß, 'Divergent occupational pensions in Bismarckian countries: the case of Germany and Austria' [2018] *Transfer: European Review of Labour and Research* 91.

<sup>54</sup> Emmanuele Pavolini and Martin Seelebach-Kaiser, 'Comparing occupational welfare in Europe: The case of occupational pensions' [2018] *Social Policy & Administration* 477.

applies, among other things, to periods in which the employment relationship is suspended due to parental leave or maternity protection periods. These are referred to as social components because pension credits are awarded due to an interruption of employment.

In the VBL scheme, during periods of maternity or parental leave, employees are treated as though they had continued to work at the same level as before, without interruption due to parental leave. These periods are considered as contribution months for the fulfilment of insurance periods. In case compulsory insurance (VBLklassik) exists but the employment relationship is suspended due to parental leave, particular pension points can be credited. For the calculation a notional salary of EUR 500 per month is considered for each full calendar month in which there is an entitlement to parental benefit. A maximum of 36 calendar months is considered for each child. Furthermore, employers in the private sector may have their own voluntary policies to credit parents for their child raising efforts.

## **6.2 Personal pension is strongly subsidized for parents**

This is not the only subsidy linked to parents of children in pension benefits. In 2003, Germany introduced the so-called Riester pension, a taxed supplementary pension scheme named after the Social Democratic minister that introduced a voluntary funded personal pension to compensate for the gap caused by cutbacks in public benefits.<sup>55</sup> The Riester pension is offered by private financial institutions. Riester savings provide a lifelong pension at the public pension retirement age, and 30 % of the saved capital can be withdrawn as a lump sum.

The State subsidises voluntary contributions (up to 4% of salary) of low-income earners and parents with children. In 2018, every other employee (17 million people) had signed up, although not every account was active. The plan has a capital guarantee, individuals select their own level of contributions, and the financial service provider manages the plan's assets.<sup>56</sup>

The state pays contributions directly into a pension savings account for one parent for each child. The contribution is EUR300 for children born after 2008 and it is paid annually until the child reaches the age of 18. As the contributions reduce tax-deductible pension savings, direct

---

<sup>55</sup> Riester pensions are intended for workers and their spouses. There is a similar scheme for entrepreneurs, known as the Rürup pension; Bernhard Ebbinghaus, *Multipillarisation remodelled: the role of interest organizations in British and German pension reforms*. In Anke Hassel and Tobias Wiß (eds) *The Political Economy of Pension Financialisation* (Routledge 2020).

<sup>56</sup> Bernhard Ebbinghaus (ibid.)

child credits to supplementary pension schemes favour low-income earners. Parents can have a joint account, in which case both contributions are directed to it. If a guardian has their own account, they must save at least EUR60 a year in the account to ensure that the state pays their contributions for the minor child. The annual ceiling for tax-deductible savings was EUR2 100 in 2025.

Riester accounts are more popular among wealthier households. Approximately one third of individuals in the highest income quintile have Riester accounts whereas the figure is only 13% for those in the lowest quintile. Employment status and gender play a role. Only ten percent of the unemployed have Riester contracts. However, more women (28%) than men (23%) have them. This gender difference can be explained by the child credits. The low coverage of Riester contracts suggests that subsidised but voluntary policies fail to credit many parents for their child raising efforts.<sup>57</sup>

## **7 Pension bonus for parents of large families in France**

The first-pillar basic scheme (*régime général*) provides a defined benefit pension to private sector wage earners. At retirement, a retiree receives a pension proportionate to the years of contribution and to a reference wage. The full-rate basic pension entitles pensioners to up to 50% of their reference wage. The earnings ceiling is relatively low only EUR 3,925 a month in 2025. Pension can be obtained either at age 62 years and 9 months with a contributory record of 42 years and six months for the age group born in 1963. The age limit will increase as will the career requirement for later birth cohorts.<sup>58</sup>

In France, the credit for child raising is two-fold. Firstly, the pension benefit of each parent is increased by 10% from the third child raised.<sup>59</sup> This top up can increase the pension benefit above the ceiling set for the public pension.<sup>60</sup> Secondly, parents accumulate pension rights in the form of insurance periods. These accumulation periods total two years for each child. The

---

<sup>57</sup> Johannes Geyer, Markus Grabka and Peter de Haan, '20 years of the Riester pension: Personal retirement provision requires reform' [2021] *DIW Weekly Report* 307.

<sup>58</sup> Mika Vidlund and others (n 10).

<sup>59</sup> In such a case, this includes adopted parents. In the case of a dead born child the credit is granted.

<sup>60</sup> Similarly, a child credit is granted in public sector pensions, provided that the individual in question has fulfilled the role of a carer for a minimum of nine years prior to the child's sixteenth birthday. This is to ensure that the credit is allocated to the parent who has utilized resources to raise that child. The credit is available from the third child onwards. In this case, the pension is increased by 10%. From the fourth child onwards, the pension is increased by 5% for each child. However, the increase in the number of children cannot exceed the final salary of the working career.

mother is automatically granted an additional year of insurance history after childbirth. In addition, a second year of insurance is granted for the first four years of the child's upbringing. For adopted children, the first four years are counted from the years after adoption. The parents will agree between themselves how the additional years of insurance will be allocated. By default, the additional years of insurance go to the mother. Between same-sex couples, the additional years of insurance are by default divided in half.

The top up in pension for childcare can be viewed as a form of compensation for the inherent challenges faced by parents in large families when it comes to private saving for retirement. Given the higher consumption during the period when the children are young and thus the difficulty to save privately for retirement, the pension top-up serves as a form of savings support.<sup>61</sup>

In addition, a separate non-universal programme, the Old Age Insurance for Non-Working Parents (AVPF), credits parents who have stopped working or reduced their working hours in order to bring up children. Entitlement is means-tested and conditional on receipt of certain family benefits, namely the family income supplement or the early childhood allowance.<sup>62</sup>

According to research by Bonnet & Rapaport these three different child credits in pensions reduce the pension gap between mothers and childless women completely. For men, only the bonus given to a father of at least three children has a significant effect on the pension level.<sup>63</sup>

### **7.1      *A bonus for parents of large families in the supplementary pension scheme***

In France, membership of a supplementary retirement pension scheme is compulsory for all employees subject to statutory old-age insurance through the general social security scheme. A complementary pay-as-you-go scheme (Agirc-Arrco) provides supplementary pensions for private sector employees. The monthly earnings ceiling in the supplementary pension is EUR 31,400. This scheme is managed by the social partners. Paid contributions buy points throughout the career. The purchase price of a point is set by the scheme and determines how many points can be bought by yearly contributions. The service value of the point and the amount of points accumulated by the time of retirement determine the level of the pension benefit. In the

---

<sup>61</sup> Isabelle Bridenne, *La bonification de la pension de 10 % pour avoir élevé au moins 3 enfants* (Conseil d'Orientation des Retraites 2007).

<sup>62</sup> Carolin Bonnet and Benoît Rapaport, 'Is there a child penalty in pensions? The role of caregiver credits in the French retirement system' [2020] *European Journal of Population* 27.

<sup>63</sup> *Ibid.*

supplementary pension scheme, parents of at least three children, or who have raised at least three children, each benefit from 10% increase to their supplementary pension.<sup>64</sup>

| Country                | Requirement for the credit?               | How much is the credit                                                                                                      | To whom?                                                                                    |
|------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Sweden                 | Custody of a child under the age of four  | Pension accrual as per previous income or at least 75% of average earnings or earnings increased by the basic income amount | By default to the lowest-earning parent                                                     |
| Sweden (occupational)  | Paid parental leave                       | Pension accrues as per previous work income                                                                                 | To the parent(s) receiving the parental benefit                                             |
|                        |                                           |                                                                                                                             |                                                                                             |
| Germany                | Custody of a child under the age of three | Pension accrual based on average salary, in addition to own accrual from employment                                         | Initially granted to the mother, but parents can jointly apply to transfer it to the father |
| Germany (personal)     | Custody of a child under the age of 18    | EUR 300 per year to the Riester account                                                                                     | Initially to the mother, on application to the father                                       |
| Germany (occupational) | Paid maternal leave                       | According to the pensionable salary                                                                                         | To the mother                                                                               |
| Germany (occupational) | Parental leave                            | On the basis of a EUR 500 fictional salary                                                                                  | To the parent whose employment relationship is suspended due to parental leave              |
|                        |                                           |                                                                                                                             |                                                                                             |
| France                 | At least nine years of custody            | 10% increase in pension benefit for the <b>third</b> child                                                                  | To both parents                                                                             |

<sup>64</sup> If a retired parent has dependent children, an increase of 5% is made to the supplementary pension as long as these child(ren) are dependent on the parent(s).

|                       |                                                                            |                                                            |                                                                 |
|-----------------------|----------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------|
|                       | of a child under 16 years of age                                           |                                                            |                                                                 |
| France                | Custody of a child under the age of four                                   | The contributory record is extended by two years           | One year for the mother, another year for either of the parents |
| France                | To a non-working parent receiving certain family benefits                  | Calculated as if contributing at the level of minimum wage | Parent receiving the family benefits                            |
| France (occupational) | Paid maternity, paternity or parental leave                                | Calculated as per previous work income                     | Parent taking the leave                                         |
| France (occupational) | Custody of a child or at least nine years of a child under 16 years of age | 10% increase in pension benefit for the <b>third</b> child | To both parents                                                 |

**Table 1:** Different forms of childcare credits, authors' own work

## 8 Discussion

Having and raising children is a requirement for intergenerational transfers. Most countries are going through demographic transition and have seen their fertility rates decrease. It is expected that this trend will continue in future. This has sparked a vivid discussion about whether welfare states should support parents more. As an example, European countries offer child allowances to families with children. These benefits may support families in the short term, but they do not protect pension rights of parents. Childcare credits, by contrast, ensure that caregivers are not penalised in old age for performing socially necessary work and they allow parents to reduce working hours while their children are young without facing a corresponding reduction in pension benefits. This institutional recognition matters because unpaid domestic and caring labor is not merely “private”. Instead, childcare credits uphold the idea that pension entitlements should reflect both paid and socially necessary unpaid contributions that are essential to society.

According to the principle of fair play, parents should be credited for their child raising efforts in pension benefits. They invest private resources to produce socialized goods, the next generation of contributors, which enables intergenerational arrangements, in this case, pension systems. This creates enforceable duties on nonparents that benefit from the arrangement. Otherwise, non-parents would free ride in a morally wrongful way at the expense of caregivers. From a liberal perspective, the State should remain neutral on family choices about childcare arrangements, and the credit should be gender neutral. Furthermore, as many marriages end in divorce, an increasing number of children have parents living in two different households. According to the principle of fair play, parents who have contributed to the beneficial system should receive benefits regardless of their living arrangements. What matters for the eligibility of the credit is that the parent has invested private resources such as time and money in raising the child. Equally important is that the credit is compatible with employment. This gives parents the greatest possible freedom to organise their private lives in a way that suits them. Many prefer to reduce working hours when children are small which without childcare credits would result in lower pension benefits.

This chapter shows that the principle of fair play is reflected in the tiers of the pension systems in each of the three countries, although in different ways. In public pensions, child raising efforts are recognized through universal pension credits, which are not conditional upon employment interruption in all the countries. These credits target especially low earners but are compatible with employment. The credit is accrued when the child is young, either enhancing the level of the pension benefit and/or accruing insurance periods. However, the French bonus targeted only to parents of at least three children is problematic. It excludes parents who have raised one or two children and used private resources to raise them.

A feature of the credit is that it enables parent(s) to reduce their working hours and spend time when the child is small without having to see their future pension benefit decrease. In this sense it is a form of support for pension savings. This is justified from the perspective that parents have a higher consumption level and thus find it harder to save for their retirement. However, reduced working hours consequently result in lower occupational pensions mitigating the impact of the credit in public pensions.

Credits for periods of maternity or parental leave are also awarded in occupational pensions for employment interruption in all the examples. In addition, France grants a bonus to the parents of three children following the logic of public pensions. It is not common for occupational

schemes to provide universal credits, instead they are typically linked to employment and salary interruption. This is not surprising. Occupational pensions cover those who are in paid employment, and this excludes some parents. The result is that the same child-raising spell can be treated differently across pillars. There is often a lack of interconnectivity: credits may be robust in the public pillar but more restrictive in occupational schemes, so that recognition of care is not fully reflected in the pension system. Childcare credits should therefore be analyzed as a connective mechanism whose effectiveness depends on how coherently they are embedded across the entire pension architecture.

Pension reforms in the 21st century have weakened the generosity of public benefits, and it is expected that the importance of occupational or personal pensions will increase. Thus, special attention should be paid to childcare credits due to fair play concerns. One bureaucratically simple way would be to offer parents a lump sum payment for their child-raising efforts when they retire. Furthermore, societies need to discuss where the right *locus* to credit parents for child raising efforts is. The State has been a central institution distributing burdens and benefits to citizens in modern welfare states. It can do this by pooling risks through levying taxes. But perhaps it is time to rethink the role of occupational pensions in terms of distributive justice. The state can legislate and require occupational pensions to include social policy elements and that they compensate for the costs of raising children, so that recognition of child-rearing is not confined to the shrinking public pillar but is built coherently into the whole pension architecture.

# Conclusions

This dissertation has argued that public pensions must be assessed as institutions of the basic structure. They secure income in old age and institutionalise retirement, while distributing risks, burdens, and benefits across the life course, social groups, and birth cohorts. Yet the unit of justice is always the individual. Pension reform must therefore be judged by whether pension rules can be justified to citizens as free and equal persons. The dissertation has argued that both the situation of the worst off and the principle of fair play must be incorporated into pension system design. On that basis, and through concrete policy proposals, the dissertation argues that a fair pension system must secure an adequate floor of protection, share risks and burdens transparently across workers and retirees, and recognise cooperation-essential burdens that fall unevenly on some individuals. Furthermore, the published articles offer more specific conclusions.

The first conclusion concerns pension finance. The dissertation rejects the view that the choice between PAYGO and funding is merely technical or that funding is superior because of historically better returns. Both financing mechanisms involve risks, but they allocate them differently. The core of public pension finance should remain PAYGO. At the same time, limited collective reserve funding can play a legitimate supplementary role when successive birth cohorts differ markedly in size, because it can smooth adjustment costs across cohorts and reduce abrupt changes in contribution rates or benefits. Article I adds an institutional condition to this argument. Reserve funding is justified only if reserve funds are governed as genuinely public institutions. Their mandate must be set by law, their investment decisions must be transparent and publicly explained, and their exercise of discretion must be open to oversight and review.

The second conclusion concerns European pension governance. Article II reconstructs the normative ordering built into EU pension recommendations. Rather than treating sustainability, adequacy, and modernisation as co-equal objectives, the European Commission consistently elevates financial sustainability above the other two as part of the European Semester. This matters because supranational governance already shapes which pension problems are treated as urgent and which reforms appear recommendable. If EU-level pension steering is to be compatible with liberal-egalitarian legitimacy, that ordering of priorities must be made explicit, publicly contestable, and evaluated against distributive as well as fiscal criteria. At present, the European

Commission gives insufficient attention to social indicators in its pension recommendation process.

The third conclusion concerns what existing pension rules fail to recognise. Article III shows that conscription imposes state-mandated losses of free time, delays labour-market entry and, on average, weakens lifetime earnings and pension accrual. Former conscripts are left worse off through conscription. A fair pension system should correct those disadvantages through pension credits and earlier retirement without actuarial penalty. The primary duty to compensate lies with the state that mandates service. At the same time, the article points to a limited supranational implication. Where conscripts in frontline Member States also provide a European public good of collective defence, fairness in burden-sharing can support EU co-financing of pension credits. This does not displace national responsibility. It fits, rather, a multi-layered view in which Member States retain primacy in matters of social justice, while complementary supranational duties may arise when benefits and burdens are distributed across borders. Article IV shows that childrearing raises a parallel issue. PAYGO schemes depend on future contributors, yet a purely earnings-based accrual formula leaves part of the costs of social reproduction unrecognised. PAYTR is proposed as a principled correction, and the comparative analysis of pension tiers shows that this recognition must be considered across the whole pension architecture and across borders.

As the articles address different issues, this dissertation does not provide a single overarching final conclusion. However, the dissertation has shown that several issues relevant to pension fairness require attention. They are built into financing rules, accrual formulas, investment mandates, and the criteria through which reforms are justified at the European level. Contemporary pension governance has focused too narrowly on fiscal sustainability, while paying insufficient attention to unequal life-course burdens, unpaid care, and intergenerational fairness. A liberal-egalitarian approach corrects this imbalance. It asks not only whether a pension scheme is sustainable, but whether its rules distribute income in old age, access to retirement, risks, and recognition on fair terms.

The dissertation therefore does more than call for ethical reflection. It took pressing pension-policy problems as entry points into questions of fair pension design and developed a liberal-egalitarian framework that combined normative argument with institutional analysis. Its contribution is therefore twofold: it offers concrete guidance for debates on pension financing, governance, and benefit design, and it clarifies more general theoretical standards for evaluating pension reform. At

the same time, it does not defend a single ideal model for all European welfare states. It leaves room for institutional diversity, provided that pension rules satisfy basic principles of justice.

## References

- Aaron, H. J. (1966). The social insurance paradox. *Canadian Journal of Economics and Political Science / Revue canadienne d'Économie et de Science politique*, 32(3), 371-374.
- Abrahamson, P., & Wehner, C. (2003). Pension reforms in Denmark. *Department of Sociology, University of Copenhagen*.
- Anderson, K. M. (2004). Pension politics in three small states: Denmark, Sweden and the Netherlands. *Canadian Journal of Sociology/Cahiers canadiens de sociologie*, 289-312.
- Anderson, M. (1988). *Approaches to the history of the Western family 1500-1914*. Cambridge University Press.
- Arrhenius, G. (1999) Mutual Advantage Contractarianism and Future Generations, *Theoria*, 65: 25–35.
- Arza, C. & Kohli, M. (Eds.). (2008). Pension reform in Europe. Politics, policies and outcomes. London: Routledge
- Baldwin, P. (1990). *The politics of social solidarity: Class bases of the European welfare state 1875-1975*. Cambridge University Press.
- Banyár, J. (2014). Two scenarios of the evolution of modern pension systems. *Financial and Economic Review*, 13(4), 152-177.
- Barr, N. (2021). Pension design and the failed economics of squirrels. *LSE Public Policy Review*, 2(1).
- Barr, N., & Diamond, P. (2009). *Pension reform: A short guide*. Oxford University Press.
- Barry, B. (1989). *Theories of justice: a treatise on social justice*. University of California Press.
- Baurin, A. (2021). The limited power of socioeconomic status to predict lifespan: Implications for pension policy. *The Journal of the Economics of Ageing*, 20, 100339.
- Baurin, A. (2022). *Heterogeneity in pension policy* (Doctoral dissertation). UCLouvain.
- Becker, U., Pennings, F., & Dijkhoff, T. (Eds.). (2013). *International standard-setting and innovations in social security*. Kluwer Law International.
- Beine, M., Docquier, F., & Rapoport, H. (2008). Brain drain and human capital formation in developing countries: winners and losers. *The Economic Journal*, 118(528), 631-652.

- Bidadanure, J., & Axelsen, D. (2025). Egalitarianism. Stanford Encyclopedia of Philosophy. (Spring 2025 Edition), In E. N. Zalta and U. Nodelman (Eds.), <https://plato.stanford.edu/archives/spr2025/entries/egalitarianism/> [Accessed 25.4.2026]
- Binmore, K. (2011). Interpreting Knowledge in the Backward Induction Problem1. *Episteme*, 8(3), 248-261.
- Blackburn, R. (2002). *Banking on death: Or, investing in life: The history and future of pensions*. Verso.
- Blanchet, D. (2023). Individualisme et solidarisme dans le système de retraite: Que reste-t-il du débat répartition-capitalisation? *Regards*, 62(2), 59-68.
- Bokhorst, D., & Corti, F. (2024). Governing Europe's recovery and resilience facility: Between discipline and discretion. *Government and Opposition*, 59(3), 718-734.
- Bonoli, G. (2000). *The politics of pension reform: institutions and policy change in western Europe*. Cambridge University Press.
- Bou-Habib, P., & Olsaretti, S. (2013). Equality, Autonomy, and the Price of Parenting. *Journal of Social Philosophy*, 44(4).
- Branco, R., Cardoso, D., Guillén, A. M., Sacchi, S., & Balbona, D. L. (2019). Here to stay? Reversals of structural reforms in Southern Europe as the crisis wanes. *South European Society and Politics*, 24(2), 205-232.
- Brandstedt, E. (2023), The Assurance Problem for Transfers Between Generations and the Necessity of Economic Growth. In A. Garcia, M. Gunnemyr and J. Werkmäster *Value, Morality & Social Reality*, 55–70. Lund University.
- Carone, G., Eckefeldt, P., Giamboni, L., Laine, V., & Pamies, S. (2016). Pension reforms in the EU since the early 2000's: Achievements and challenges ahead. *European Economy, Discussion Paper 042 (December 2016)*. Publications Office of the European Union.
- Carter, S. B., & Sutch, R. (1996). Myth of the industrial scrap heap: A revisionist view of turn-of-the-century American retirement. *The Journal of Economic History*, 56(1), 5-38.
- Casey, B. H. (2004). Pension reform in the Baltic States: Convergence with “Europe” or with “the world”? *International Social Security Review*, 57(1), 19-45.
- Cesaratto, S. (2005). *Pension reform and economic theory: A non-orthodox analysis*. Edward Elgar Publishing.

- Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., ... & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001-2014. *Jama*, 315(16), 1750-1766.
- Coile, C., Milligan, K. S., & Wise, D. A. (2018). *Social security programs and retirement around the world: working longer—introduction and summary* (No. w24584). National Bureau of Economic Research.
- Cordelli, C. (2020). *The privatized state*. Princeton University Press.
- Corti, F., & Vesan, P. (2023). From austerity-conditionality towards a new investment-led growth strategy: Social Europe after the Recovery and Resilience Facility. *Social Policy & Administration*, 57(4), 513–548.
- Cosandey, D. (2003). *La faillite coupable des retraites: Comment nos assurances vieillesse font chuter la natalité*. L'Harmattan.
- Costa, D. L. (1998). The evolution of retirement. In D. Costa (Ed.) *The Evolution of Retirement: An American Economic History, 1880-1990*, 6-31. University of Chicago Press.
- Craveiro, D., De Oliveira, I. T., Gomes, M. S., Malheiros, J., Moreira, M. J. G., & Peixoto, J. (2019). Back to replacement migration. *Demographic research*, 40, 1323-1344.
- Daniels, N. (1988). *Am I My Parents' Keeper? An Essay on Justice Between the Young and the Old*. Oxford University Press.
- Danzer, A. M., & Zyska, L. (2023). Pensions and fertility: microeconomic evidence. *American Economic Journal: Economic Policy*, 15(2), 126-165.
- Dattani, S., Rodés-Guirao, L., Ritchie, H., Ortiz-Ospina, E., & Roser, M. (2023). Life expectancy. *Our world in data*.
- De la Croix, D., & Doepke, M. (2003). Inequality and growth: why differential fertility matters. *American Economic Review*, 93(4), 1091-1113.
- DeStatis. (2026). Federal Statistical Office of Germany, [https://www.destatis.de/EN/Home/\\_node.html](https://www.destatis.de/EN/Home/_node.html) [Accessed 18.5.2026]
- DeWitt, L. (2005). Research Notes & Special Studies by the Historian's Office. Research Note #23. <https://www.ssa.gov/history/Gulick.html> [Accessed 18.5.2026]
- Diebolt, C., & Reimat, A. (1997). Old-age policies in France and Germany from the last decades of the nineteenth century to the First World War: A quantitative re-definition. *Historical Social Research*, 22(3-4), 181-197.

- Dijkhoff, T. (2019). The ILO Social Protection Floors Recommendation and its relevance in the European context. *European Journal of Social Security*, 21(4), 351-369.
- Dworkin, R. (1981). What is Equality? Part 2: Equality of Resources. *Philosophy & Public Affairs*, 10 (4), 283-345.
- Dworkin, R. (2011). *Justice for hedgehogs*. Harvard University Press.
- Ebbinghaus, B. (2011). The varieties of pension governance. *Pension privatization in Europe*. Oxford University Press.
- Ehmer, J. (2015). Work versus leisure: Historical roots of the dissociation of work and later life in twentieth-century Europe. In Torp, C. (Ed.) *Challenges of aging: Pensions, retirement and generational justice*, 135-164. Palgrave Macmillan.
- Ekheden, E., Linnér, H., Lundberg, K. and Settergren, O. (2019) *Theoretical gender gaps in pensions*. Paper presented at the World Social Security Forum, 33rd ISSA General Assembly, Brussels, Belgium, 14–18 October 2019. Geneva: International Social Security Association, Technical Commission on Old-Age, Invalidity and Survivors' Insurance.
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton University Press.
- European Commission. (2024a). The 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070). [https://economy-finance.ec.europa.eu/publications/2024-ageing-report-economic-and-budgetary-projections-eu-member-states-2022-2070\\_en](https://economy-finance.ec.europa.eu/publications/2024-ageing-report-economic-and-budgetary-projections-eu-member-states-2022-2070_en) [Accessed 18.5.2026]
- European Commission. (2024b). *The 2024 pension adequacy report : current and future income adequacy in old age in the EU. Volume I*. Publications Office of the European Union.
- Eurostat. (2025). *Social protection database*. <https://ec.europa.eu/eurostat/web/social-protection/database> [Accessed 4.5.2026]
- Eurostat. (2026). *Income and living conditions database*. <https://ec.europa.eu/eurostat/web/income-and-living-conditions/database/> [Accessed 4.5.2026]
- Gál, R. I., Vanhuysse, P., & Vargha, L. (2018). Pro-elderly welfare states within child-oriented societies. *Journal of European Public Policy*, 25(6), 944-958.
- Gardiner, S. (2009) A Contract on Future Generations? In Gosseries, A. and Meyer, L. (Eds.) *Intergenerational Justice*, 77-118. Oxford: Oxford University Press.
- Gonzalez-Eiras, M., & Niepelt, D. (2008). The future of social security. *Journal of monetary Economics*, 55(2), 197-218.

- González-Ricoy, I., & Gosseries, A. (Eds.). (2016). *Institutions for future generations*. Oxford University Press.
- Gosseries, A. (2008a). On Future Generations' Future Rights. *Journal of Political Philosophy*, 16(4).
- Gosseries, A. (2008b). Theories of intergenerational justice: A synopsis. *S.A.P.I.EN.S.*, 1(1).
- Gosseries, A. (2009). Three models of intergenerational reciprocity. In A. Gosseries and L. Meyer (Eds.), *Intergenerational justice*, 255-282. Routledge.
- Gosseries, A. (2019). Invecchiamento, longevità ineguali e giustizia intergenerazionale. *Lessico di etica pubblica*, 2.
- Gosseries, A. & Meyer, L. H. (2009). Introduction. In A. Gosseries and L.H. Meyer (Eds). *Intergenerational Justice*, 1-24. Oxford University Press.
- Gosseries, A. (2023). *What is intergenerational justice?*. John Wiley & Sons.
- Grünewald, A. (2021). The historical origins of old-age pension schemes: Mapping global patterns. *Journal of International and Comparative Social Policy*, 37(2), 93-111.
- Grünewald, A. (2022). Power consolidation with welfare designs? The emergence of old-age pensions in nondemocratic regimes around the world. *Democratization*, 29(2), 379-403.
- Guardiancich, I., Guidi, M., & Terlizzi, A. (2022). Beyond the European Semester: The supranational evaluation cycle for pensions. *Journal of European Social Policy*, 32(5), 578-591.
- Hagen, J. (2013). *A history of the Swedish pension system*. PhD thesis. Department of Economics, Uppsala University.
- Hannikainen, M., & Vauhkonen, J. (2012). *Ansioiden mukaan: Yksityisalujen työeläkkeiden historia*. Suomalaisen Kirjallisuuden Seura.
- Hartmann, K. (2023). *Pension reforms and human rights: Bridging the gap between current and future retirees* (Doctoral dissertation). UCLouvain.
- Heath, J. (1997). Intergenerational Cooperation and Distributive Justice, *Canadian Journal of Philosophy*, 27: 361–76.
- Heath, J. (2013). The structure of intergenerational cooperation. *Philosophy & Public Affairs*, 41(1), 31-66.
- Helmdag, J., & Väänänen, N. (2025). Financial sustainability above all else? Drivers and types of pension reform recommendations in EU socio-economic governance. *JCMS: Journal of Common Market Studies*, 63(4), 1236-1258.

- Hielscher, S., & Husted, B. W. (2020). Proto-CSR Before the Industrial Revolution: Institutional Experimentation by Medieval Miners' Guilds. *Journal of Business Ethics*, 166(2), 253-269.
- Hinrichs, K. (2021). Recent pension reforms in Europe: More challenges, new directions. An overview. *Social policy & administration*, 55(3), 409-422.
- Hinrichs, K., & Lynch, J. F. (2021). Old-age pensions. In D. Béland et al. (Eds.) *The Oxford handbook of the welfare state* (2nd ed.), 418-431. Oxford University Press.
- Huber, E., Ragin, C., & Stephens, J. D. (1993). Social democracy, Christian democracy, constitutional structure, and the welfare state. *American journal of Sociology*, 99(3), 711-749.
- Huber, E., & Stephens, J. D. (2001). *Development and crisis of the welfare state: Parties and policies in global markets*. University of Chicago Press.
- Hyde, M., & Shand, R. (2017). *Retirement, Pensions and Justice: a philosophical analysis*. Springer.
- International Labour Organization (1952). *Social Security (Minimum Standards) Convention (No. 102)*. ILO.
- International Labour Organization (1967). *Invalidity, Old-Age and Survivors' Benefits Convention (No. 128)*. ILO.
- International Labour Organization (2012). *Social Protection Floors Recommendation (No. 202)*. ILO.
- International Labour Organization (2024). World Social Protection Report 2024-26. <https://www.ilo.org/publications/flagship-reports/world-social-protection-report-2024-26-universal-social-protection-climate> [Accessed 12.8.2025.]
- Jacobs, A. M. (2009). How do ideas matter? Mental models and attention in German pension politics. *Comparative Political Studies*, 42(2), 252-279.
- Jordà, O., Knoll, K., Kuvshinov, D., Schularick, M., & Taylor, A. M. (2019). The rate of return on everything, 1870-2015. *The Quarterly Journal of Economics*, 134(3), 1225-1298.
- Kleven, H., Landais, C., & Leite-Mariante, G. (2025). The child penalty atlas. *Review of Economic Studies*, 92(5), 3174-3207.
- Klitzke, J. (2017). *Beveridge and Bismarck remodelled: The positions of British and German organised interests on pension reform* (Doctoral dissertation). University of Mannheim.
- Kohli, M. (1986). The world we forgot: A historical review of the life course. In V. W. Marshall (Ed.), *Later life: The social psychology of aging*, 271-303. Sage.
- Kolaczkowski, J., Maher, M., Stevens, Y., & Werbrouck, J. M. (Eds.). (2022). *The evolution of supplementary pensions: 25 years of pension reform*. Edward Elgar Publishing.

- Korpi, W., & Palme, J. (1998). The paradox of redistribution and strategies of equality: Welfare state institutions, inequality, and poverty in the Western countries. *American Sociological Review*, 63(5), 661-687.
- Kuivalainen, S., Mielonen, A., & Väänänen, N. (2023). Youth and pensions in a European comparison-how pension systems consider early adulthood and life course uncertainties. In D. Hofäcker & K. Kuitto (Eds.) *Youth Employment Insecurity and Pension Adequacy*, 15-30. Edward Elgar Publishing.
- Laslett, P. (1991). *A fresh map of life: The emergence of the third age*. Weidenfeld & Nicolson; Harvard University Press.
- Lavigne, A. (2025a). La capitalisation collective permet-elle une équité intergénérationnelle? L'exemple de la réforme des fonds de pension aux Pays-Bas. *Revue d'économie financière*, 158(2), 171-181.
- Lavigne, A. (2025b). *Économie des retraites*. La Découverte.
- Leimgruber, M. (2012). The historical roots of a diffusion process: The three-pillar doctrine and European pension debates (1972–1994). *Global Social Policy*, 12(1), 24–44.
- Lerner, A. P. (1959). Consumption-loan interest and money. *Journal of Political Economy*, 67(5), 512-518.
- Lindert, P. H. (2004). *Growing public: Social spending and economic growth since the eighteenth century* (Vol. 1). Cambridge University Press.
- Maddison, A. (2001), *The World Economy: A Millennial Perspective*, Development Centre Studies, OECD Publishing, Paris.
- Meijers, T. (2016). *Justice in procreation: five essays on population size, parenthood and new arrivals*. Doctoral dissertation, UCL-Université Catholique de Louvain.
- Meijers, T. (2024). Zipper arguments and duties regarding future generations. *Politics, Philosophy & Economics*, 23(2), 181-204.
- MISSOC. (2026). Mutual Information Systems on Social Protection. <https://www.missoc.org/> [Accessed 19.5.2026]
- Möhring, K. (2018). Is there a motherhood penalty in retirement income in Europe? The role of lifecourse and institutional characteristics. *Ageing & Society*, 38(12), 2560-2589.
- Moschella, M. (2020). What role for the European Semester in the recovery plan? Economic Governance Support Unit (EGOV) Directorate-General for Internal Policies PE 651.377, European Parliament.

- Musgrave, R. (1986). *Public Finance in a Democratic Society. Vol. II: Fiscal Doctrine, Growth and Institutions*. New York: New York University Press.
- Myles, J. (2002). A new social contract for the elderly. In G. Esping-Andersen (Ed.) *Why we need a new welfare state*, 1, 130-173. Oxford University Press.
- Myles, J., & Pierson, P. (2001). The comparative political economy of pension reform. In P. Pierson (Ed.) *The new politics of the welfare state*, 305-333. Oxford University Press.
- Naczyk, M. and Palier, B. (2011). France: Promoting Funded Pensions in Bismarckian Corporatism?, In B. Ebbinghaus (Ed.) *The Varieties of Pension Governance: Pension Privatization in Europe*, 89–118. Oxford University Press.
- Natali, D. (2008). *Pensions in Europe, European pensions: the evolution of pension policy at national and supranational level* (No. 64). Peter Lang.
- OECD (2023). *Pensions at a glance 2023*. OECD Publishing.
- OECD (2024). *Society at a glance 2024*. OECD Publishing.
- OECD (2025). *Pensions at a Glance 2025: OECD and G20 Indicators*, OECD Publishing.
- Olsaretti, S. (2013). Children as public goods?. *Philosophy & Public Affairs*, 41(3), 226-258.
- Olsaretti, S. (2017). Children as negative externalities?. *Politics, Philosophy & Economics*, 16(2), 152-173.
- Olsaretti, S. (2021). Family and justice in political philosophy. In W.R. Thompson WR (Ed.) *Oxford Research Encyclopedia of Politics*. Oxford: Oxford University Press
- Orenstein, M. A. (2008). Out-liberalizing the EU: Pension privatization in Central and Eastern Europe. *Journal of European Public Policy*, 15(6), 899-917.
- Orszag, P. R.; Stiglitz, J. E. (2001) Rethinking pension reform: Ten myths about social security systems. In R. Holzmann and J. E. Stiglitz (Eds.) *New ideas about old age security: Toward sustainable pension systems in the 21st century*, 17-56. Washington DC: World Bank.
- Palacios, R. & Whitehouse, E. (2006) *Civil-service pension schemes around the world*. Social Protection Discussion Paper No. 0602. Washington, DC: World Bank.
- Palier, B. (2014). *Gouverner la sécurité sociale: Les réformes du système français de protection sociale depuis 1945*. Presses Universitaires de France.
- Pattison, D. (2015). Social security trust fund cash flows and reserves. *Social Security Bulletin*, 75(1).
- Pennings, F. (2006). *Between soft and hard law: The impact of international social security standards on national social security law*. Kluwer Law International.

- Pedersen, A. W. (2005). Two technical choices with critical implications. *NOVA Skriftserie*, 6(05).
- Pedersen, A. W. (2021). Approaches to minimum-income protection in old age: comparing the three Scandinavian countries. In J. Aidukaite, S. Hort and S. Kuhnle (Eds.) *Challenges to the Welfare State: Family and Pension Policies in the Baltic and Nordic Countries*, 181-202. Edward Elgar Publishing.
- Petersen, J. H. (1990). The Danish 1891 Act on Old Age Relief: A response to agrarian demand and pressure. *Journal of Social Policy*, 19(1), 69-91.
- Pierson, P. (1994). *Dismantling the welfare state?: Reagan, Thatcher and the politics of retrenchment*. Cambridge University Press.
- Piketty, T. (2013). *Le capital au XXI<sup>e</sup> siècle*. Seuil.
- Ponthière, G. (2023). Allocating pensions to younger people: towards a social insurance against a short life. Cham: Palgrave Macmillan.
- Queisser, M., & Whitehouse, E. (2006). Neutral or fair?: Actuarial concepts and pension-system design. OECD Working Papers, 40. Paris: OECD Publishing.
- Rawls, J. (1971). *A theory of justice*. Belknap Press of Harvard University Press.
- Rawls, J. (1993). *Political liberalism*. Columbia University Press.
- Rawls, J. (1999). *Collected papers*. Harvard University Press.
- Rawls, J. (2001). *Justice as Fairness: A restatement*. Harvard University Press.
- Rigney, D. (2010). *The Matthew effect: How advantage begets further advantage*. Columbia University Press.
- Rose, J. L. (2019). *Free time*. Princeton University Press.
- Rossi, P., & Godard, M. (2022). The old-age security motive for fertility: evidence from the extension of social pensions in Namibia. *American Economic Journal: Economic Policy*, 14(4), 488-518.
- Samuelson, P. A. (1958). An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money. *Journal of Political Economy*, 66(6), 467–482.
- Sandberg, J. (2011). Socially responsible investment and fiduciary duty: Putting the freshfields report into perspective. *Journal of Business Ethics*, 101(1), 143-162.
- Sandberg, J. (2013). (Re-)interpreting fiduciary duty to justify socially responsible investment for pension funds?. *Corporate Governance: An International Review*, 21(5), 436-446.
- Sapir, A. (2006). Globalization and the reform of European social models. *JCMS: Journal of Common Market Studies*, 44(2), 369-390.

- Scherman, K. G. (2003). The Swedish pension reform: a good model for other countries. *Scandinavian Insurance Quarterly*, 4(2003), 304-319.
- Schmitt, C., Lierse, H., Obinger, H., & Seelkopf, L. (2015). The global emergence of social protection: Explaining social security legislation 1820–2013. *Politics & Society*, 43(4), 503-524.
- Schols, J., Van Lancker, W., Peeters, H., De Vil, G., & Van Camp, G. (2022). De loopbaansamenstelling van (toekomstig) gepensioneerde werknemers. PensionStat.be
- Schokkaert, E., & Van Parijs, P. (2003). Social justice and the reform of Europe's pension systems. *Journal of European Social Policy*, 13(3), 245-263.
- Schokkaert, E., Devolder, P., Hindriks, J., & Vandenbroucke, F. (2020). Towards an equitable and sustainable points system: A proposal for pension reform in Belgium. *Journal of Pension Economics & Finance*, 19(1), 49-79.
- Shapira, I. (2020) "She was the last American to collect a Civil War pension - \$73.13 a month. She just died." The Washington Post, June 4, 2020. <https://www.washingtonpost.com/history/2020/06/04/she-was-last-american-collect-civil-war-pension-7313-month-she-just-died/> [Accessed 15.9.2025]
- Shields, L. (2025). Children as Public Goods: at what cost?. *British Journal of Political Science*, 55, e3.
- Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, 70(1), 65-94.
- Stevens, Y. (2019). The role of the government in creating or enhancing the access to funded or unfunded pensions in the modern welfare state. In N. da Costa Cabral & N. C. Rodrigues (Eds.) *The future of pension plans in the EU internal market: Coping with trade-offs between social rights and capital markets*, 55-74. Springer Nature.
- Sundén, A. (2006). The Swedish experience with pension reform. *Oxford Review of Economic Policy*, 22(1), 133-148.
- Thane, P. (2000). *Old age in English history: Past experiences, present issues*. Oxford University Press.
- Väänänen, N. (2025). Une idée de l'autonomie: néo-corporatisme et politiques de retraite à long terme en Finlande. *Regards*, 65(1), 101-111.
- Väänänen, N., & Liukko, J. (2023). Justifying a financially and socially sustainable pension reform: a comparative study of Finland and France. *International Journal of Sociology and Social Policy*, 43(5-6), 507-520.

- Valente, M. S. (2022). *Ageing as equals: Distributive justice in retirement pensions* (Doctoral dissertation). UCLouvain.
- Valente, M. S. (2024). Working retirees? A liberal case for retirement as free time. *Ethical Theory and Moral Practice*, 27(4), 523-537.
- Valente, M. S. (2025). Is the Gender Pension Gap Fair? *Journal of Applied Philosophy*, 42(1), 320-336.
- Van Kersbergen, K. (2003). *Social capitalism: A study of Christian democracy and the welfare state*. Routledge.
- Van Parijs, P. (1990). The second marriage of justice and efficiency. *Journal of Social Policy*, 19(1), 1-25.
- Van Parijs, P. (1996). *Refonder la solidarité*. Paris: Cerf.
- Van Parijs, P., & Vanderborght, Y. (2017). *Basic income: A radical proposal for a free society and a sane economy*. Harvard University Press.
- Vandenberghe, V. (2023). Differentiating retirement age to compensate for health and longevity inequality? In G. Bognar and A. Gosseries (Eds) *Ageing without ageism*, 199-213. Oxford University Press.
- Vandenberghe, V. (2025). Career arduousness and [healthy] life expectancy in Europe. *Journal of Pension Economics & Finance*, 1-31.
- Vandenbroucke, F. (2012). *Social justice and individual ethics in an open society: Equality, responsibility, and incentives*. Springer Science & Business Media.
- Vanhuyse, P., Medgyesi, M., & Gál, R. I. (2023). Taxing reproduction: the full transfer cost of rearing children in Europe. *Royal Society Open Science*, 10(10), 230759.
- Walzer, M. (1983). *Spheres of justice: A defense of pluralism and equality*. New York: Basic books.
- White, S. (2010). Ethics. In F.G Castles, S. Leibfried, J. Lewis et al. (Eds) *The Oxford Handbook of the Welfare State.*, 19–31. Oxford: Oxford University Press
- Windwehr, J. (2017). Europeanization in pension policy: the crisis as a game-changer?. *Journal of Contemporary European Research*, 13(3).
- Wilensky, H. L. (1974). *The welfare state and equality: Structural and ideological roots of public expenditures*. University of California Press.
- Willmore, L. (2007). Universal pensions for developing countries. *World Development*, 35(1), 24-51.

- Wiss, T. (2018). Divergent occupational pensions in Bismarckian countries: the case of Germany and Austria. *Transfer: European Review of Labour and Research*, 24(1), 91-107.
- World Bank. (1994). *Averting the Old-Age Crisis: Policies to Protect the Old and Promote Growth*. Oxford: Oxford University Press.
- Zeitlin, J., & Vanhercke, B. (2018). Socializing the European Semester: EU social and economic policy co-ordination in crisis and beyond. In J. Zeitlin and A. Verdun (Eds.) *EU Socio-Economic Governance since the Crisis*, 13-38. Routledge.

