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Chapter 2

Youth and pensions in a European comparison – How pension systems consider early adulthood and life course uncertainties

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2.1 Introduction

Reforms of public pension systems over the past couple of decades, the most notably the tightened the link between lifetime employment and pension benefits, have made early adulthood an increasingly important life course stage for future pension income. At the same time, the pension security of younger generations is being compromised by changing labour markets (e.g., Hofäcker et al., 2017). Research into the pension security of young people remains scarce, however. We continue to lack knowledge of how pension systems across Europe take account of youth and early adulthood and the uncertainties in these life course stages. Young people often engage in non-standard work and experience frequent career breaks (Flek et al., 2018; OECD, 2019), whilst pension systems are typically based on the premise of continuous full-time employment. Depending on the rules of pension schemes, young people may have difficulty building up their pension pots and securing adequate old-age income. This chapter sheds light on this topical issue by describing and analysing differences in pension design and pension parameters from a European comparative perspective.

When public pension systems were first established, life courses were rather different from today. People often entered the labour force at a very young age, yet only a small minority ever reached pensionable age (Kohli, 1987). Owing to the rules of pension calculation, youth was earlier on, however, a less relevant life course phase for final pension income. Although access to public

pension was from the outset closely linked to employment, the level of pension income was not always straightforwardly determined by lifetime earnings and/or contributions but rather by earnings achieved during a number of "best years" or "last years" prior to retirement (Hinrichs and Lynch, 2010). Because of this, and because earnings typically increase over the working career, early earnings were often excluded from pension calculations and work in young age had a minor relevance for final pension income.

In most countries today, pension benefits are calculated based on earnings or contributions over the entire working career, or much longer periods than before (Hinrichs and Lynch, 2010). The tightened link between contributions and earnings history on the one hand, and benefit levels, on the other, means that employment trajectories, including early career employment, have become increasingly important to pension security, although in many countries age of retirement still has a greater effect on the level of pension than age at entry into the labour market. A further factor underlining the importance of the early stages of employment to adequate pension income is the declining level of public pensions. Replacement rates for mandatory pensions are projected to fall over the next few decades, and therefore younger generations in many countries will see their pensions relative to previous earnings decline (Ebbinghaus, 2021; European Commission, 2021). This means that today's youth will need to build up additional income in order to secure a decent living in old age.

One area of special concern for younger generations are the rules of public pension accumulation, particularly insofar as they relate to the type of work that young people often do. Pension systems have traditionally been based on the notion of an institutionalized "normal life course", which determines what is "standard" and "atypical" in terms of calculating and granting benefits (Kohli, 1987). However, young people work in fixed-term employment, part-time jobs and low-paid occupations more often than older workers (see e.g., Flek et al., 2018; OECD, 2019). Typical employment in the early stages of the working career involves features that can adversely affect young people's pensions. These features can put young people at a disadvantage if public pension schemes have eligibility criteria concerning minimum earnings and/or working time. The growth of non-standard, particularly temporary and part-time work has raised concerns about adequate future pension protection, as public pension systems have generally provided reduced pension entitlements to non-standard workers (Börsch-Supan et al., 2019; European Commission, 2017;

Hinrichs and Jessoula, 2012). In particular, the development of new forms of work has caused concern about the old-age income prospects of future generations of retirees (Hofäcker et al., 2017).

Young people are also more likely than older workers to experience career breaks due to unemployment (e.g., Flek et al., 2018) or age-typical life events, such as studying and childcare. Apart from their immediate effects on income, career breaks can have far-reaching consequences for later-life income. Research has shown that early youth unemployment has 'scarring effects' that result in permanent income loss (de Fraja et al., 2021; Schmillen and Umkehrer, 2017). Similar effects have been found for parental leaves, especially in the case of mothers (Möhring, 2018; Angelov et al., 2016; Budig and England, 2001). Long-term effects can extend into retirement time, not only in the form of reduced earnings but also reduced pension security (Bravo and Herce, 2022). The impacts of interruptions in employment vary greatly across pension systems, however (e.g., Möhring 2018). Pension system design may or may not ease the impact that periods of time away from paid work have on retirement income. Thus, in addition to early employment, the ways in which pension systems take account of early career uncertainties and age-typical life events are crucial for young people. If pension systems do not recognize these breaks and lack cushioning elements, young people will be at risk of lower pension benefits.

Despite the growing importance of early adulthood to later-life pension income, very little is still known about how pension parameters in different countries count towards young people's pension entitlements and how different systems consider possible career interruptions typical of early adulthood in their calculations of benefits. This chapter contributes to filling this gap by analysing rules of public pension schemes that are relevant to the pension protection of young adults and by assessing those pension system elements that are intended to cushion typical early career uncertainties such as studying, unemployment, family formation and compulsory military service. By young adults, we mean persons aged under 30 or so who are in a phase of life characterized by transitioning into the labour force after or while studying as well as by settling into the labour market and family formation. This phase forms an important foundation for later career development and earnings, but it is particularly vulnerable to career breaks and uncertainties.

We adopt a comparative perspective to describe and discuss similarities and differences across seven countries regarding young people's rights to pension benefits. The countries in focus –

Austria, Finland, France, the Netherlands, Norway, Poland and Spain – represent a good cross section of European pension systems. The data is drawn from cross-national institutional databases, the Mutual Information System on Social Protection in Europe MISSOC, OECD Pension at Glance reports and national legislative documents. The data refers to the year 2021 and all euro values are in 2021 prices, rounded to the nearest euro unless otherwise indicated. Our main focus is on mandatory public pension systems because they are the most important base for older people's income security (OECD, 2019). In addition, we concentrate on salaried employees since less than 5 per cent of those in employment between ages 15 to 25 are self-employed (OECD, 2019). The pension coverage of persons in self-employment – a form of non-standard work – is also a source of growing concern in many countries (OECD, 2019).

In the remainder of this chapter, we first discuss different pension system designs and introduce our country selection. We then present those pension system parameters that affect the pension rights of young people. We conclude by discussing how different pension systems cushion insecurities and life course events that are particularly typical of youth.

2.2 Pension systems securing income in old age

Old-age pension systems have two main aims. Firstly, they are aimed at reducing old-age poverty, allowing older people to withdraw from the labour market on a pension benefit. Secondly, pension systems allow for consumption smoothing over the life course: the purpose is for individuals to save up earlier in life so that they can retire and still maintain their consumption later in life. Most pension systems today incorporate these two distinctive aims: they include redistribution towards low-income groups, and they enable redistribution on a lifetime basis towards old age (Barr and Diamond, 2008; Kuitto and Kuivalainen, 2020).

Pension entitlements typically accrue from paid employment. In addition, entitlements accrue from some periods of non-employment in the form of pension credits. These credits can be justified from at least two perspectives. Firstly, they reduce the risk that involuntary career breaks due to unemployment or military service, for instance, lead to old age poverty. Secondly, they ensure

that young individuals can pursue a life course of their choice, such as starting a family, without this significantly affecting their future pension.

The seven countries selected for this comparison – Austria, Finland, France, the Netherlands, Norway, Poland and Spain – differ with respect to how their statutory pension schemes approach poverty reduction and income maintenance. In addition, they have different rules as regards pension benefit calculation and eligibility criteria. All these differences contribute to how career breaks and other life course events affect pension adequacy in old age.

Different types of pension systems. In developed welfare states, the level of pension benefits is generally linked in some way to previous employment history and/or other aspects of the individual life course. However, pension systems vary in how this link between old-age benefits and previous life courses is designed. In the literature, pension systems are divided into two archetypes. In a Beveridgean system, everyone receives the same pension benefit irrespective of the employment history, provided they meet the required residence periods. Thus, atypical employment (part-time or temporary employment) is less relevant for entitlement. In a Bismarckian system, pension benefits are based either on earnings or contributions paid during employment and are thereby strongly linked to previous earnings (see Bonoli, 2000; Ebbinghaus, 2011).

Simply put, a Beveridgean system is less dependent on earnings during working life and therefore career breaks do not affect the level of pension benefits. In a Bismarckian system, by contrast, career breaks might have an impact on later income adequacy. To counteract this negative effect on pension levels, Bismarckian systems are usually complemented with minimum pensions or credits for career breaks due to certain social risks (such as unemployment), or both.

Today, more than 70 per cent of public pension systems follow the Bismarckian logic (Grünewald, 2020). In our country sample the only Beveridgean case is the Netherlands, which operates a residence-based public pension scheme that is neither income- nor pension-tested. The system builds on a statutory national insurance scheme that covers all persons living or working in the country. Therefore, public pension benefits are unaffected by interruptions in employment as eligibility is determined by residence. However, as most employees are covered by supplementary occupational pension schemes, career breaks may have an impact on total pension provision.

Bismarckian systems can be divided into several sub-types. Historically, the most common type is the defined benefit (DB) system, where individuals are promised a benefit that is a function of their previous earnings. As the benefits are guaranteed, the system is kept in financial balance by adjusting contribution rates or by channelling other funds, such as budget revenue, into the system. Four of the Bismarckian countries in this comparison have DB systems: Austria, Finland, France and Spain.

The second main type is the defined contribution (DC) pension system. Recently some of these DC systems have been developed into notionally defined contribution-type systems (NDC), where pension benefits are based on paid contributions and the interest earned on those contributions. As the contribution rate is fixed, financial balance is usually maintained through benefit changes, such as indexation cuts (Holzmann and Palmer, 2006). In DC plans, therefore, individuals and retirees bear more risk in the level of pension benefit, which can be particularly challenging for those who have contributed less due to atypical employment, for example. In our comparison, Poland follows the NDC system logic. Norway can be characterized as a quasi-NDC system. Despite life-expectancy adjustment to the benefit, the Norwegian system has no balancing mechanism to fully stabilize the contribution rate.

Benefit rules and calculation methods. In earnings-related systems, pension calculation can be based on different earnings reference periods. If the calculation is based on whole work history, early career breaks will also reduce benefit levels if they are not compensated through pension credits. In the systems included in this comparison, career breaks are generally credited in pension accrual. In the Spanish and French systems, pension credits are typically counted in as periods that extend career length. In Norway and Poland, pension credits for career breaks are granted either in the form of a guaranteed minimum accrual or through contributions paid by the state or a social security institution.

Pension reforms in recent decades have lengthened the reference periods for benefit calculation (OECD, 2019). Today, pension benefits are calculated on the 20 best earnings years in France and on the last 25 years in Spain. In Finland, Poland and Norway, calculations are based on total career earnings. Austria is also gradually lengthening the reference period to the whole career. Some

systems furthermore require minimum insurance periods for benefit eligibility. Austria, France and Spain require a minimum of 15 years of contributions to reach pension eligibility (although in Austria only seven years must be employment-related). Finland has no minimum length requirement for contribution payment in order to achieve eligibility for earnings-related pensions. Table 2.1 summarizes the main features of the pensions systems in the seven countries under study. In the following section we move on to analyse in more detail the pension rules in these countries insofar as they apply to the pension rights of young people.

Table 2.1. Main features of national statutory pension systems

	Austria	Finland	France	Netherlands	Norway	Poland	Spain
Bismarckian or Beveridgean	Bismarckian	Bismarckian	Bismarckian	Beveridgean	Bismarckian	Bismarckian	Bismarckian
DB/DC/NDC	DB	DB	DB	DB	(quasi) NDC	NDC	DB
Benefit calculation method	Total career	Total career	Best 20 years	Residence/insurance periods	Total career	Total career	Last 25 years
Minimum insurance requirement	15 years	-	15 years	1 year	-	-	15 years
Type(s) of pension credit for career breaks	Defined earnings	Defined earnings	Insurance periods and in some cases percentage increase	Not applicable	Defined earnings	Defined earnings	Insurance periods and in some cases percentage increase

2.3 Pension system parameters affecting pension rights of young people

Depending in part on the type of pension system, pension rights and accumulation are determined by different kinds of parameters. In this section, we compare the rules and eligibility conditions and entitlement criteria affecting the pension rights of young people in the countries included in this study. We focus on key parameters regarding age and work, on the one hand, and typical career breaks in early adulthood, on the other. Table 2.2 displays the key parameters analysed.

Table 2.2. Key parameters of pension eligibility and entitlement for young people

Rules regarding age and work	**Rules regarding typical career breaks in early adulthood**
• Minimum age threshold	• Studying

• Minimum earnings requirements • Minimum working time requirements	• Unemployment • Childbearing and childrearing • Military and civil service

Besides the minimum age threshold for pension accrual, pension rights are first and foremost determined by employment-related factors. Our focus here is to discuss earnings and working time requirements. Even though these requirements are the same for all irrespective of age, they are particularly relevant for young people because they are more frequently engaged in non-standard employment and low-wage occupations. In addition to age and work requirements, our analyses cover specific rules for pension accrual during career breaks and life course events that are typical of young adults, namely studying, unemployment, childcare and military and civil service. These breaks can cause shortfalls in expected old-age income, although the degree of those shortfalls depends on how different pension systems cushion or reinforce these risks. Our aim here is to analyse how pension systems differ in their capacity to buffer these career and life course risks and, more generally, how pension systems differ with respect to providing young people access to public pension benefits.

2.3.1 Minimum age, earnings and working time requirements

Minimum age. The first eligibility condition we must consider in relation to young people's right to pension security concerns the earliest age of pension accrual. Among the seven countries included in our comparison, only Norway and Finland have set a minimum age threshold for pension accrual. In Norway, however, the minimum age, which was lowered from 17 to 13 years in 2011, is the same as the legal working age limit, which in practice renders meaningless this specific age limit. In Finland, accrual of statutory earnings-related pension begins at age 17. Recent reforms have seen the age limit drop from 23 to 18 years in 2005 and further from 18 to 17 years in 2017 (see Chapter 6). These changes have improved the access of young people to pension security and are line with the principle of pension accruing from lifetime earnings. Nevertheless, it is noteworthy that in Finland, pension accrual starts four years later than in Norway and means that those under 17 remain uncovered by pension schemes. Both countries also have non-contributory national pension schemes that provide compulsory coverage for all residents. Interestingly, the age limit under these schemes is 16 years.

There is no minimum age threshold for pension insurance in Spain, France, Austria or Poland. All underaged persons who are legally eligible for employment are also covered by pension insurance (the legal working age in Austria and France is 14, in Poland 15 and in Spain 16 years). In Spain, Austria and France, the full amount of pension depends on the length of contributory time and therefore age at entry into labour market is a relevant factor with regard to future pension income: the later the start of the individual's employment career, the harder it will be to complete the required contribution period. Spain, Austria and France have also recently extended their minimum contributory periods. In France, for example, the 2014 reform increased the required length of insurance by one-quarter of a year for each three birth years, rising to 172 quarters for those born in or after 1973. The message from these reforms is that adequate public pensions increasingly depend on longer careers. The changes made to the required contributory periods mean that people will have to work longer careers, either by starting earlier and/or by staying on at work longer, or by achieving greater career continuity. A full public pension thus requires a greater input from younger generations – which can be highly challenging especially if working careers are turning more fragmented.

The only country with separate pension accrual rules for young people is Austria. From the beginning of 2022, persons who have started working before age 20 are eligible to receive an early starter bonus (Frühstarterbonus). This bonus requires at least 25 years of contribution payment, 12 months of which must come before age 20.

The Netherlands takes a different approach in that the age at which pension begins to accrue is linked to retirement age. A full pension is achieved after 50 years of living or working in the Netherlands. For persons retiring in 2021, for example, the insurance period extends from age 15 years 4 months through to the retirement age of 66 years 4 months. The statutory retirement age has been gradually raised and will be linked to life expectancy in 2025, with pensionable age increasing by 8 months for every one-year gain in life expectancy. The ages at which pension rights are accrued move up in line with eligibility age, and thus each cohort will have its own age limit at which the accrual of entitlements starts (European Commission, 2021).

Our focus here is on statutory or first pillar public pension benefits, though it should be noted that in some countries earnings-related pension provision is mainly through occupational pension

schemes (Ebbinghaus, 2011). The Netherlands serves as a case in point: participation in a sector-wide pension fund is obligatory in many sectors and most of the workforce is covered by occupational pensions. Under the Pension Act governing occupational pension plans, employers with a pension scheme must include employees from the age of 21, although individual schemes may have lower age limits. Young people are therefore at greater risk of being excluded from early occupational pension accrual.

Minimum earnings thresholds. In countries where public pension entitlements are based on higher earnings levels, lower earnings may limit the access of young people to pension benefits in that they are typically engaged in low-paid and part-time jobs. Minimum earnings requirements are specified in Finland, Austria and France. In Finland, the minimum earnings threshold is very low, 61 euros (gross) per month. Its impact on pension accrual is therefore marginal. In Austria and France, the thresholds are higher. In Austria, the earnings threshold for pension insurance is 476 euros per month. Employees whose monthly income is below the earnings threshold may opt into the old-age insurance scheme voluntarily. In France, the pension system is based on the principle of quarters, and the acquisition of a quarter depends on the amount of earnings. To earn one quarter of contribution history, one has to earn income equivalent to 150 hours on minimum salary (SMIC) in one calendar year. In 2021, this translated into 1,538 euros. Similarly, to earn four quarters, the individual has to work 600 hours on minimum salary (6,152 euros).

The French and Austrian minimum earnings thresholds are so high that they can potentially hamper the pension accrual of young people. In both countries, eligibility to a full pension also depends on the length of contributory time. If young people fail to meet the eligibility criteria because of their low earnings, it may be more difficult for them to achieve a full public pension, especially given the longer requirement for contributory time. That being the case, younger generations may be more vulnerable to a risk of economic uncertainty in retirement and to remain increasingly dependent on other sources of income. France has recently amended its pension rules in order to achieve increased coverage. In 2014, the earnings threshold was lowered from the equivalent of 200 to 150 hours of work at the minimum wage per quarter (OECD, 2019).

Minimum working time requirements. Rules for working time and length of employment are also more relevant for young people, who work in part-time jobs and on fixed-term contracts more

often than older workers. None of the countries studied have minimum working time requirements for pension entitlement. The guiding premise is that employees should be in a regular employment relationship. However, certain other groups such as digital platform workers, agency contract workers and apprentices may have inadequate access to public pension benefits due to their employment status. In Poland, for instance, temporary work is common under contracts of mandate where the employer has more limited obligations, whereas in France time spent in apprenticeship counts towards the individual's old-age pension, even if earnings are below SMIC.

At this point, it is important to reiterate that our focus is limited to statutory public pension benefits. Fixed-term employees are less frequently included in occupational pension plans (Börsch-Supan et al., 2019; Hofäcker et al., 2017). Occupational pensions have been more common among the most privileged workers, echoing status differences between occupational groups and having stratifying effects (Oesch, 2008). In the Netherlands, for example, the Pension Act governing occupational pension plans stipulates a maximum waiting period of two months for old-age pension accrual after the onset of employment. An exception can be made for temporary workers, for whom the maximum waiting period is six months. This rule adversely affects the pension security of temporary workers and reduces pension coverage. In countries where employer-based occupational pension schemes are central to the provision of old-age income security and where it is more difficult for non-standard workers to gain access to occupational pensions, people with fixed-term contracts are at risk of lower pension accumulation.

2.3.2 Pension credits for typical career breaks in early adulthood

Early adulthood typically involves various life events that can lead to career breaks; examples include transitioning to the labour market and family formation. Depending on the pension rules in place, these breaks may give rise to shortfalls in future pension income. The subsequent section examines the specific qualification criteria and calculation rules for pension benefits that are available to credit interruptions in employment due to certain typical life events: studying, unemployment, childcare and compulsory military/civil service The Netherlands makes a noteworthy exception among the countries studied here: as the Dutch public pension scheme is residence-based, interruptions in employment do not affect the amount of public pension payable as time spent out

of paid employment is automatically covered by residency. In all other countries, career breaks have some, albeit varying impact on public pension security.

Studying. Completing school, studying and getting a degree are significant life events and transitions in early adulthood. The duration of training and education has increased over time in most OECD countries, and at the same time the average age of entry into the labour market has gone up (OECD, 2020). Delayed entry may directly lower pension entitlements, especially in countries where pension benefits are more closely tied to years of contribution payment. OECD's (2015) simulation shows that the pension gap averages 7 per cent between average-income workers who start work at age 20 compared to those who delay their labour market entry until age 25. Time in education can thus mean a substantially lower pension income. However, it should be noted that those with higher education typically have higher lifetime incomes, and these returns on investment in education can offset the income losses during education (OECD, 2020).

Pension accrues for periods of study in two of the seven countries in our comparison, i.e., the Netherlands and Finland. In Finland, pension entitlements have accrued for studies leading to vocational upper secondary qualifications (for three years) or a university degree (five years) since the 2005 pension reform. No accrual is granted if no qualification or degree is achieved. The basis for pension accrual is 767 euros per month (about a quarter of average earnings) and the accrual rate is 1.5 per cent. In Austria and France, it is possible to voluntarily self-insure for periods spent in education. In OECD countries in general there has been a tendency to phase out credits for periods of higher education (OECD, 2015), but Finland has been moving in the opposite direction. A main reason for discontinuing these pension credits is that they are potentially regressive, as they reward people who will likely have higher lifetime earnings (OECD, 2015).

Unemployment. Another typical life event in youth is entering the labour market. This transition after leaving school can take some time, leaving many to experience repeated unemployment spells (Quintini et al., 2007). Overall young people face a higher risk of unemployment, and they are likely to move in and out of unemployment and experience unemployment more frequently than older workers (e.g., Flek et al., 2018). Beyond the immediate negative effects of unemployment on income and subsequent earnings development, youth unemployment has longer-term effects on pension income as well, depending on the pension system's capacity to cushion these

career breaks. According to OECD (2015) calculations, an average-wage worker aged 35 who experiences a three-year unemployment spell will on average face a 3 per cent pension reduction compared to someone with an unbroken career. The pension gap grows with the duration of unemployment. In many countries the gap would be wider without cushioning mechanisms.

In the Netherlands, unemployment breaks are covered by the residence-based public pension scheme, while other countries typically only provide pension credits for unemployment during periods of unemployment benefit. In Poland, for example, unemployment benefit spells are credited at 80 per cent of the assessment basis and in Austria at 70 per cent. In France, by contrast, time in receipt of an unemployment benefit is counted into the individual's insurance history.

While pension credits seem quite effectively to mitigate the pension loss caused by unemployment breaks (OECD, 2015), this does not necessarily mean that periods of unemployment are as comprehensively covered for young people. Entitlement to unemployment benefits requires that certain minimum standards of work experience or income are met, but these requirements are often beyond the reach of young people (Leschke and Finn, 2018). In Finland, for example, eligibility requires at least 26 weeks of employment (a minimum of 18 hours a week) during the past 28 months. Similar rules exist in other countries as well. The only country with relaxed eligibility rules for young people is Austria. The qualifying period for first-time claimers under age 25 is 26 weeks during the past 28 months, while for others it is 52 weeks during the past 24 months. Given these eligibility rules, young people are usually left to claim unemployment assistance or social assistance. Unemployment assistance, and social assistance in particular, is rarely counted towards pension credits. France is an exception: here, a first-time unemployment spell without unemployment benefits is counted towards the individual's insurance history.

Consequently, young people often go through unemployment spells early in their working careers without receiving pension credits. This is because the conditions for the receipt of unemployment benefits are hard to satisfy and because, unemployment (or social) assistance rarely qualifies for pension credits. Overall, current public pension provisions for young people facing unemployment today are largely inadequate, and unemployment periods are likely to have long-term scarring effects on their pension income.

Childcare. For many young adults, starting a family is one of the most important phases of their life. Although there has been some progress towards parental equity in childcare responsibilities, it is still primarily women's labour market outcomes that are affected by the birth of a child (Kuitto and Kuivalainen, 2021). Indeed, there have been growing calls that the calculation of pension benefits should better reflect women's contributions through unpaid family work (Frericks and Maier, 2007). In recent decades, many Bismarckian countries in particular have made improvements to this type of pension credits (Hinrichs & Lynch, 2010;). Today, most OECD countries seek to protect periods of absence from the labour market to care for children, albeit to varying degrees (OECD 2019).

All countries included in our study offer credits for periods of maternity and childcare, yet the length of the periods covered vary, as do the ways in which childcare periods count towards pension entitlement and the reference periods on which the credits are based. In some countries, such as Finland and Austria, both of which have father-specific paternal leaves, paternity periods also accrue pension entitlement. In the Netherlands, childcare periods are automatically covered by the public pension scheme.

Norway covers the longest period for childcare, and its child credit is among the highest. The parent receiving child benefit will receive credited care earnings for the year in which he or she has cared for children under the age of six. The care earnings correspond to pension earnings from an annual income of 4.5 times the basic amount (approx. 47,130 euros). In Austria, childcare credits cover career breaks for childcare until the child reaches the age of four, and credits (1.78%) are based on the notional pensionable salary of 1,986 euros a month. In the other countries, the length of the period covered is a bit shorter, a maximum of three years per child.

In Finland, credits are awarded until the child is three years old. During maternal and paternal leave, pension accrues on the basis of earnings prior to parental leave (121%), and in the case of no earnings, on a flat rate amount. After that, from the time the child is about 10 months and if the parent continues to care for the child at home, pensionable earnings are computed on a flat rate amount of 767 euros a month. In Poland, parental leaves are credited at 80 per cent of monthly earnings 12 months prior to birth. In France and Spain, childcare periods count towards qualifying periods. In Spain, the first three years of parental leave to bring up a child are

considered contributory for assessing entitlement to a pension and for the calculation of the pension amount by increasing the rate applicable to the calculation base. In France, one of the parents is awarded in total eight quarters per child: four quarters for parental leave and four quarters for taking care of a child under four years of age.

In three of the countries studied, additional benefits are credited to large families. Since 2016, Spain has paid a supplement of 5 per cent of the pension amount to women who have had two children, rising to 10 per cent for three children and 15 per cent for four or more children. This supplement is reduced if the pension reaches the maximum amount. In 2019, Poland introduced a supplementary benefit "Mama 4+" to a person who has raised at least four children and who lacks the necessary means of subsistence. In France, a 10 per cent pension increase is awarded to each parent who has at least three children. These additional credits specifically compensate for earnings losses related to having multiple children and the resulting pension loss, in France for both parents of at least three children, in Poland and Spain only for mothers with a lower income. In the latter two countries, additional credits thus function not only to equalize gender differences in pensions but also income differences.

Childcare credits in principle help to boost pension entitlements for young women in particular because mothers still take more time off work than men to look after the family's children. Even though care credits have a positive effect on mothers' pension entitlements, the systems in place rarely are enough to fill the gaps caused by career breaks (OECD, 2015; Möhring, 2018). Childcare credits are mainly awarded within the public pension system; time spent in childcare is rarely taken into account in additional occupational pensions. In Dutch occupational pension schemes, it is noteworthy that during pregnancy and maternity leave periods (at least 16 weeks in total), the employer is obliged to pay the employee a salary, which means that pension entitlements continue to accrue as well. Sometimes the collective labour agreement includes provisions for additional leave. This to some extent cushions the loss of pension, but overall, the childcare credits awarded in occupational pension childcare credits only reinforce the gender differences in pension benefits. Younger generations, and younger women in particular, are though better protected against shortfalls in expected old age income due to extended childcare credits in the pension system.

Compulsory conscription. The final life event discussed here is time spent in compulsory military or civil service. This results in a career break or postpones labour market entry, and therefore also potentially causes shortfalls in pension income, depending on pension accrual rules. There are marked differences in this respect between the seven countries included in our comparison. Three of these countries have compulsory military service. In Austria and Finland, conscription is compulsory only for men, in Norway for both men and women. In Austria and Norway, pensions continue to accrue during military and civil service, but not so in Finland, even though the length of military service is roughly the same: in Austria it is six months, in Norway and Finland between six and twelve months. In Austria, 1.78 per cent of 1,986 euros is credited to the person's pension account for each month of service. In Norway, persons engaged in compulsory or voluntary service accrue pensionable earnings corresponding to an annual pensionable income of 2.5 times the basic amount, equivalent to about half the average income in Norway. In both countries, however, the value of pension credits for military and civil service falls short of childcare credits. Table 2.3 summarizes the key parameters analysed in our comparison.

Table 2.3. Overview of key parameters of public pension eligibility and entitlement for young people in the countries studied

	Austria	**Finland**	**France**	**Netherlands**	**Norway**	**Poland**	**Spain**
Minimum age	no minimum age threshold	for earnings-related pension 17, national pension 16	no minimum age threshold	age linked to retirement age	for earnings-related pension 13, for national pension 16	no minimum age threshold	no minimum age threshold
Minimum earnings threshold	if monthly income below €476, no compulsory insurance	if monthly earnings below €61, exemption to take out insurance	one quarter's insurance is acquired, equivalent to 150 hours of work at minimum wage, €1,537.50	no minimum earnings threshold	no minimum earnings threshold	no minimum earnings threshold	no minimum earnings threshold
Minimum working time requirements	no minimum working time threshold	no minimum working time threshold	no minimum working time threshold	no minimum working time threshold	no minimum working time threshold	no minimum working time threshold	no minimum working time threshold
Studying	voluntary credits for some periods	studies leading to a degree	voluntary credits for some periods	covered by residence-based public pension	no pension credit for studies	no pension credit for studies	no pension credit for studies
Unemployment	only for periods in receipt of unemployment benefit	only for periods in receipt unemployment benefit	periods in receipt of unemployment benefit, in addition to quarters for unemployment that is not insured	covered by residence-based public pension	only for periods in receipt of unemployment benefit	only for periods in receipt of unemployment benefit	only for periods in receipt of unemployment benefit
Childcare	pension credits for maximum of four years	maximum of three years per child	two years per child	covered by residence-based public pension	caring for children up to six years of age	three years per child	three years
Military/civil service	period of military /civil service credit pension	no pension accrual for compulsory conscription	no compulsory conscription	no compulsory conscription	period of military /civil service credit pension	no compulsory conscription	no compulsory conscription

2.4 Discussion

Pension reforms in the 21st century have made early adulthood a more important life cycle stage for future retirement income. Most significantly, the reforms have tightened the link between lifetime employment and pension benefits. This has coincided with growing concern about the fragmentation and destabilization of working careers. In this chapter, we have addressed this topical but underexplored theme and analysed how pension parameters in Austria, Finland, France, the Netherlands, Norway, Poland and Spain count towards pension entitlement among young people and how different pension systems consider possible career interruptions typical of early adulthood in their benefit calculations.

Our analysis showed that young people do come under public pension coverage, although some gaps still remain. Especially in the case of unemployment, pension security for younger people is largely insufficient. We began our analysis by focusing on requirements relating to age, earnings and employment. The only country in our comparison where age-related eligibility criteria limited pension accumulation for employees under 17 was Finland. In all the other countries studied, the underaged are covered by pension insurance if they are legally allowed to work. Since employment among minors is typically low, the overall importance of such work for pension income often remains marginal. Nonetheless, the issue of minor access to pension security is a matter of principle importance and is likewise in line with the dictum of pension benefits accumulating from lifetime earnings. Therefore, if separate age thresholds are applied, they should be well justified.

The rules for earnings and employment are particularly relevant for young people, who typically work in low-paid and often temporary and part-time jobs. Three countries have set a threshold for minimum earnings. In Finland, this threshold is so low that virtually all work is covered, while in Austria and France it is significantly higher, so much so that young people can be excluded from pension coverage. This, inevitably, has negative implications for young people's pension income. Instead, no country has minimum working time requirements for pension eligibility. This means that temporary and part-time work is also covered – so long as the work is done under a regular employer-employee relationship. In new forms of work, such as platform, zero-hour contracts and commission work, however, pension insurance is certainly not comprehensive. This is bound to be one of the key issues in public pension schemes in the future and should therefore be carefully researched and monitored. The same applies to occupational pensions. As noted, the Netherlands has stricter eligibility conditions for occupational pension schemes. Limited coverage can be a particularly significant issue especially in countries where

occupational pensions are a more important source of retirement income. This, again, is something that will require careful consideration in the future.

Secondly, we examined pension system elements designed to cushion the effects of early career uncertainties typical among young people. The two most significant uncertainties relate to unemployment and childcare. As far as unemployment is concerned, young people are left particularly exposed and largely excluded from pension entitlement. Young people are rarely eligible to receive unemployment insurance benefits because they do not meet relevant work history requirements and because unemployment assistance or social assistance typically do not count towards pension credits. Unemployment, therefore, represents a clear threat to the long-term income of young people. If youth unemployment remains high and persistent, younger generations will be at serious risk of lower pension benefits. Here, it is not just the rules of pension systems but also the rules of unemployment insurance that matter.

Childcare credits, on the other hand, have been improved in recent decades, although for the most part they do not fill the gaps caused by career breaks associated with having children. This concerns especially women and is one of the key drivers of the gender pension gap. Some countries have recently introduced pension supplements for mothers, and in the case of France for both parents with several children. Indeed, such pension policy tools may well assume greater importance as many countries step up their efforts to combat declining birth rates. An examination of the consequences of career breaks clearly attests to the interwovenness of different social security mechanisms throughout the life course. The same goes for unemployment policies as well as other policy areas such as sickness and disability. The question of how to secure adequate pension income must therefore be addressed from a holistic and comprehensive policy perspective.

Old-age pension systems are based on an intergenerational contract. That contract has come under increasing strain with the changes made to pensions systems over the last 30 or so years. The reforms introduced have brought increased contribution rates and automatic adjustment mechanisms, a strengthening of defined contribution schemes, lowered replacement rates and increased retirement ages (European Commission, 2021; OECD, 2021; Barr and Diamond, 2008). Overall, the ratio of contributions to benefits for younger generations differs substantially from the corresponding ratio for older generations, which is bound to give rise to a sense of injustice – which will only get worse if the careers of younger generations become increasingly fragile and fragmented and if their pension security proves inadequate. If the public pension system is to maintain its legitimacy, it is paramount to closely monitor younger generations' career development and to evaluate and adjust pension parameters accordingly.

Pension parameters can play their part here but alleviating the labour market uncertainties faced by young people is a matter for wider public policies, particularly education and employment policies.

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