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Chapter 6

Employment in youth and pension accumulation in Finland – How recent pension reforms account for early career employment

Ilari Ilmakunnas and Kati Kuitto

6.1 Introduction

The labour market situation of young people has gained much attention during recent years both among researchers and policy makers. The way in which careers begin often shapes employment, income and career development in later working lives (e.g., Scarpetta et al., 2010; Bravo and Herce, 2022). Because recent reforms of public mandatory pension systems have in many cases strengthened the link between employment, earnings and pension contributions across the whole life course, employment and thus pension accrual also in the earliest years has become more important for old age security. The early years of employment therefore also impact pension income in old age via multiple pathways.

One particular feature related to pension accrual in the earliest years of labour market attachment is whether the pension scheme has a lower age limit for pension accrual, that is, from when employment counts towards one's pension. Because youth employment is often seasonal, part-time or otherwise of low intensity – factors that are associated with a low level of earnings, it also matters if there is a lower income limit for pension to accrue. Age and income limits can result in a lower level of pension benefits. Both aspects have been given little attention in pension research so far.

In this study, we focus on employment and pension accrual among young individuals in Finland. Finland is an interesting case to examine the link between early career employment in youth and pension accumulation for several reasons. First, the two latest major reforms of the mandatory public earnings-related pension scheme that were implemented in 2005 and 2017 both included a lowering of the age limit at which pension accrual starts. Prior to the 2005 reform, pension started to accumulate only as of

age 23, although the employer was obliged to insure the employee and to pay pension contribution regardless of age. This age limit was rather high in international comparison (see Chapter 2 in this volume). The 2005 reform brought the age limit down to 18, thus increasing the years of pension accrual by five years. After that, pension accrued from any work between the ages of 18-68. In the reform of 2017, the age limit was further lowered to 17. Both pension reforms thus included important enhancements for youth and strengthened the relevance of employment already at the very beginning of working life for pension income.

Second, the Finnish case depicts some features that are interesting in relation to labour market status, employment, and early pension accrual of youth. First, the proportion of highly educated people in Finland is overall comparably high; few young people do not continue to secondary or tertiary education. However, a relatively high share drops out of high school or vocational training, and those who start higher tertiary education often begin somewhat later than in many other countries (Loukkola and Tuononen, 2019). On the other hand, part-time work, seasonal employment and working during education is rather common among Finnish youth (Saloniemi et al., 2013). Second, Finland belongs to the few European countries that have universal compulsory conscription for men (voluntary for women), and the time completing military or civilian service, often at the age of 19-20, might delay or cause breaks in entry to education and the labour market especially for young men. Third, the Finnish labour market shows a rather high gender segregation compared to many European countries and the wage gap between women and men is significant despite the overall attempts to improve gender equality in Finnish society (Kuivalainen et al., 2019). Finally, the share of immigrants in the population is comparably low in Finland (though rising) and immigrants are much more vulnerable in the labour market than those of Finnish background. (Busk and Jauhiainen, 2022). All these labour market- and education-related features are associated with employment rate and earnings among young individuals in Finland. For this reason, these features also have an impact on to what extent earnings-related pensions accrue. The features also point to potential factors generating inequalities both in employment and in pension accrual.

In this chapter, we therefore analyse i) the prevalence and intensity of early employment in Finland and ii) how employment in young years accrues pension. In particular, we seek to assess the role of the pension reforms lowering the age limit for pension accrual. By early employment we refer to employment occurring at the ages of 17-22. Prevalence refers to how typical being employed is and intensity refers to the number of months in employment during a reference period. We utilize register data from the Finnish Centre for Pensions covering the whole population. The dataset includes all individuals in the cohorts born 1986-2003, and all employment spells that have accrued pension for 2005-2019ⁱ.

The study proceeds by first describing the labour market situation of young people in Finland and the pension system rules that are relevant for pension accrual in early employment in part two. We then present our data and the measures in part three and the results of our empirical analysis in part four. In the results section, we first describe the prevalence and intensity of early employment by gender and Finnish/foreign background and then show whether young individuals have gained – and if so, how much – in terms of pension accrual from the pension reforms lowering the accrual age limit. We conclude by discussing the results in the light of the general debate on labour market attachment of young people and its consequences for pension income in old age.

6.2 Early employment and pension accrual in Finland

A crude comparison with other countries shows that young people in Finland start employment in rather early years: the employment rate for 15–19-year-olds was 24.3 percent and for 15–24-year-olds in 41.1 percent in 2020 while the in the EU as a whole the rates were 13.6 and 31.4 percent (Eurostat, 2022). However, it is important to look also beyond the employment rate when studying youth employment. For instance, employment is often seasonal, part-time and fixed term at the beginning of the career in Finland (Loukkola and Tuononen, 2019; Saloniemä et al., 2021). For instance, young people often work in summer jobs during the school holidays, employment being allowed for young people from the age of 15 with some protecting regulations (and with stricter conditions, from the age of 14). Youth in Finland often have a gap year or even more before tertiary education and therefore begin their higher tertiary education at universities later, resulting in later graduation (Breen and Buchmann, 2002; Loukkola and Tuononen, 2019). Therefore, young individuals enter the labour market with regular employment in their professions somewhat later by international comparison. On the other hand, a high share of young people also works already during gap years and during their studies (Saloniemä et al., 2013). The patterns of youth employment can be also related to the fact that young adults tend to leave their parental homes early and may need to work to uphold their independent livelihood (Iacovou and Skew, 2010).

The Finnish pension system consists of a mandatory earnings-related pension scheme for the employed and self-employed. There is also a national, residence-based pension scheme providing basic income security for those without any pension income or whose earnings-related pension is too low to satisfy the minimum income threshold (Kuivalainen and Kuitto, 2022). The earnings-related pension scheme is nearly universal in the sense that pension accrues with the same rules from any employment with

earnings exceeding 62.88 euros (in 2022) and with an accrual rate of 1.5 percent. Because of the nearly universal coverage of the first pillar mandatory schemes, occupational or private pensions play a minimal role in pension provision in Finland (Kuivalainen and Kuitto, 2022).

Since 2005, pension has also accrued during unpaid periods during studies leading to a degree, and also during childcare, unemployment, disability, sickness, and rehabilitation (Ritola and Tuominen, 2021). In early career and after finishing education, unpaid career breaks mainly occur due to childcare. Those affect women's employment, earnings, and pension accrual both directly and indirectly to a much higher degree than men, since about 90 percent of all parental leave and home care days are taken by women (Kuitto, Salonen and Helmdag, 2019). Pension accrual throughout the career not only cumulates old age pension, but also determines the level of disability and survivor's pension that are regulated within the earnings-related pension scheme. Earnings and pension accrual in early years of the career are therefore also particularly important because of the increasing number of young individuals with work disability particularly due to mental disorders (Blomgren and Perhoniemi, 2022).

Since 1962, earnings-related pension accrued only from work after the age of 23. However, the importance of working and earnings at a young age for pension accrual has been recognized in the latest pension reforms that were implemented in 2005 and 2017. In particular, the pension reform of 2005 included important modifications for enhancing the position of young people. The age limit of pension accrual was lowered from 23 to 18 years. Simultaneously, the responsibility of pension insurance was increased to cover all employees from the age of 18. Previously, all work had to be insured regardless of the age of the employee, regardless of whether pension was accrued, so that there were situations where pension contributions were paid for a young person working for example from age 15 until 23, but without pension accrual for this period (Hämäläinen, 2004; Börsch-Supan, 2005). In addition, the 2005 pension reform introduced accrual during career breaks and education (see above), and in conclusion, strengthened and equalized the pension rights of young people. In the pension reform of 2017, the lower age limit for pension accrual was further lowered to begin in the calendar month following the 17th birthday (for the self-employed, the age limit of 18 years still applies).

As a consequence, earnings throughout the whole career (including the earliest years of employment) now count for pension accrual in Finland and the rules are more favourable for young people today than before. So far, there is little empirical evidence of the consequences of these reforms. With our analysis, we contribute to closing this gap and provide insights into the relevance of employment in young years for pension accrual as well as the effects of the lowering of the age limit that was implemented in the recent pension reforms on pension accrual.

6.3 Data and measures

The analyses of the study are based on individual-level information derived from the registers of the Finnish Centre for Pensions. The information used includes basic demographic information and detailed information on employment of all individuals living in Finland. Individual-level information from different years can be linked, making it also possible to follow individuals over time. The analyses focus on ages 17-22 and birth cohorts 1992-1999. Employment and earnings information from the years 2010-2019 are used.

The dataset used has many strengths. These include detailed, accurate, up-to-date information on employment, no bias related to sampling, and the possibility to study employment at both annual and monthly levels. One of the limitations of the dataset is that employment is only included insofar as it accrues pensions. This means that the analyses do not include employment before the age of 17 and other employment that does not accrue pension (e.g. voluntary work). Additionally, the dataset does not include information on working hours.

We use information on both earnings and employment relationships. Also, entrepreneurs and their income are included in these variables. Information on both annual and monthly earnings is used. Annual earnings refer to earnings during a calendar year. Monthly earnings refer to earnings paid during a specific calendar month.

We use different approaches for defining individuals as being employed. We mainly use a definition that an individual was employed if they had earnings during the reference period (most of the analyses use a calendar year as the reference period). Another approach that is used is based on information on employment relationships. In this case, employment refers to an individual having had an employment relationship during the reference period. These definitions do not fully overlap since, for instance, it is possible to receive earnings after the last day of the employment relationship. We use earnings information for illustrating the distribution of earnings during 2019. Additionally, based on earnings information we estimate how much pension is accrued by employment in ages 17-22. Employment at a monthly level refers to whether an individual was in an employment relationship at the end of a calendar month. We use information on monthly employment to calculate the total time in employment during a given reference period.

We use two different ways to define the age of an individual. First, we follow a typical practice in which age refers to the situation at the end of the calendar year. This practice is used when employment in

2019 is analyzed. We also utilize a cohort approach in which we calculate employment and earnings at different ages for various birth cohorts. In this approach, age is defined accurately using information on the year and month of birth. There are two reasons for having a cohort perspective. First, pensions start to accrue during the month after reaching a specific birthday (currently 17th birthday). Thus, for obtaining precise estimates there is a need to define when individuals reach the age limit for pension accrual. Second, income information follows the rules of pension accrual and, thus, analysing incomes and pension accrual for the ages 17 (2017 onwards) and 18 (before 2017) required this approach.

We analyze employment also by studying differences by gender and immigration background. We expect that these factors are associated with labour market attachment and school-to-work transition more generally among young adults. The variable for immigration background has two groups: individuals with Finnish and foreign background. Having a 'Finnish background' means at least one parent was born in Finland. Foreign background refers, in the main, to both parents or the only known parent having been born outside Finland, or the individual having a mother tongue other than one of the official languages of Finland: Finnish, Sami or Swedish. Among 18-22-year-olds, 93,7 percent had a Finnish background and 6,3 percent had a foreign background in 2019. Additionally, 51,5 percent were men and 48,5 percent women.

6.4 Results

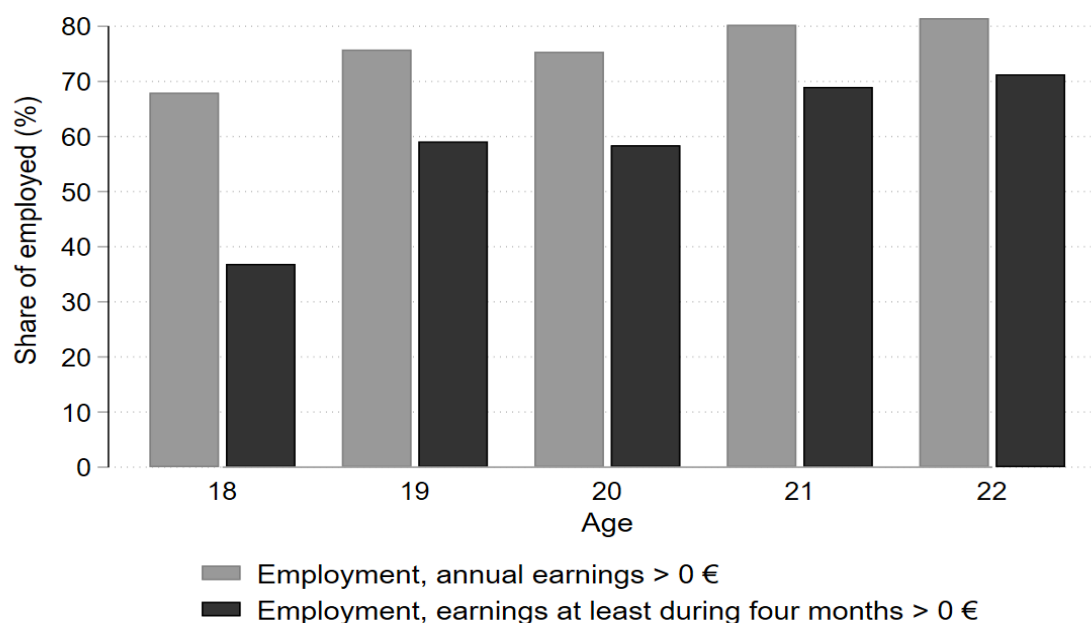
6.4.1 Frequency of youth employment

First, we look how frequent employment is at different ages (Figure 6.1). Here, age refers to the situation at the end of 2019. Employment is analyzed using information on annual earnings as well as a criterion of having earnings during at least four calendar months. Overall, employment becomes more typical with age. Among 18-year-olds, 68 percent had earnings in 2019 and 37 percent had earnings during more than three different calendar months. Among 22-year-olds, the shares were 81 and 71 percent respectively. The shares do not increase between the ages of 19 and 20, most likely due to the military and civil service that typically occurs at these ages.

Figure 6.1 also gives a rough view of how large a share of individuals in each age group benefits from the pension reforms that have lowered the age limit for pension accrual. Since this is only a cross-sectional picture, the actual share of beneficiaries is higher. Additionally, since pension accrual is based on the

total amount of earnings, this analysis gives only a very limited picture. Upcoming analyses will shed further light on these issues.

Figure 6.1. The share of individuals employed during the year 2019 in Finland.

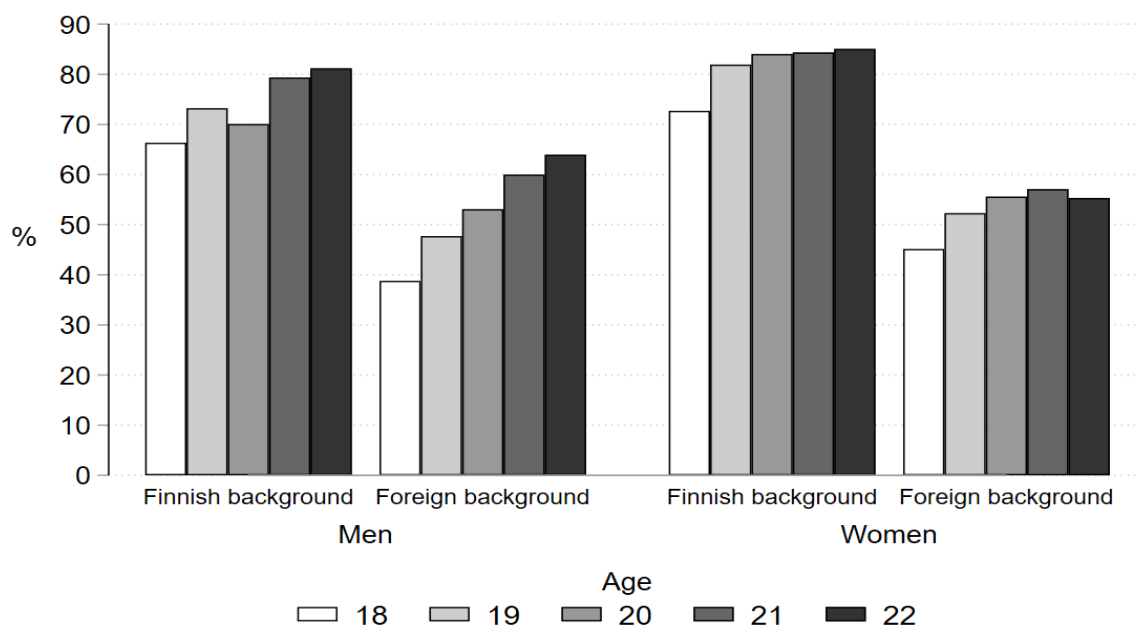


Source: The registers of the Finnish Centre for Pensions, own calculations.

Figure 6.2 gives a closer look at employment among young individuals in Finland by examining it by gender and immigrant background. Overall, those with a foreign background have substantially lower rates of employment compared to individuals with a Finnish background. Among 22-year-old men, the difference was 17 percentage points while among women it was 30 percentage points.

Among men, an increasing trend in employment by age can be found regardless of foreign or Finnish background. Among 22-year-old men with a Finnish background, the share of those having annual earnings was 8 percentage points higher compared to 19-year-olds. Among women, we do not observe as strong pattern of increase in labour market attachment with age. Among 22-year-old women with a Finnish background, the share of those having annual earnings was only 3 percentage points higher compared to 19-year-olds. The smaller increases among women from the age of 19 onwards can be explained by women's higher participation in tertiary education in Finland. Though the level of employment is higher than among men with a Finnish background. Interestingly, employment of young women with a foreign background decreases between the ages of 21 and 22. It is also noteworthy that employment of Finnish men drops from age 19 to 20, as this is the most common age to complete military or civilian service.

Figure 6.2. The share of individuals employed during the year 2019 in Finland, by gender and immigrant background.



Note: Employment is defined as having earnings during the calendar year. Source: The registers of the Finnish Centre for Pensions, own calculations.

Table 6.1 illustrates employment during the 12-month period at a given age for birth cohorts 1992–2000. Applying a cohort perspective for analysing employment trends by age gives a more nuanced picture of the development of employment by age as well as giving an opportunity to evaluate recent – pre-COVID-19 – trends in youth employment.

While in each birth cohort the share of employment increased with age, there are differences between the cohorts in the magnitude of increase. Especially at younger ages, the differences between birth cohorts in the prevalence of employment can be several percentage points. Those born in 1992-1994 were employed at a higher rate at ages 18-20 than those born in 1995-1996. Yet, at the age of 22 a higher share of those born in 1995 or 1996 were employed. Additionally, those born in 1997-2000 had higher employment rates than older cohorts when looking the most recent measurements. The strong general economic and employment growth during the late 2010s in Finland seem to have particularly affected employment of 18–20-year-olds. The finding also implies that the general economic situation when individuals enter the labour market can have large effects and produce potential inequalities across birth cohorts.

Table 6.1. The share of individuals employed by age, birth cohorts 1992-1999, %.

Year of birth	Age				
	18	19	20	21	22
1992	67.7	73.2	75.5	78.2	78.6
1993	68.5	72.0	74.3	77.2	78.5
1994	67.0	70.8	73.1	77.1	79.3
1995	64.3	68.9	72.4	77.4	79.9
1996	63.3	68.8	74.1	79.1	81.1
1997	63.8	71.3	76.5	80.6	
1998	65.7	73.2	77.7		
1999	68.5	75.1			
2000	70.7				

Note: Employment refers to an individual having had an employment relationship at a specific age. Age refers to a 12-month period following the birthday. Source: The registers of the Finnish Centre for Pensions, own calculations.

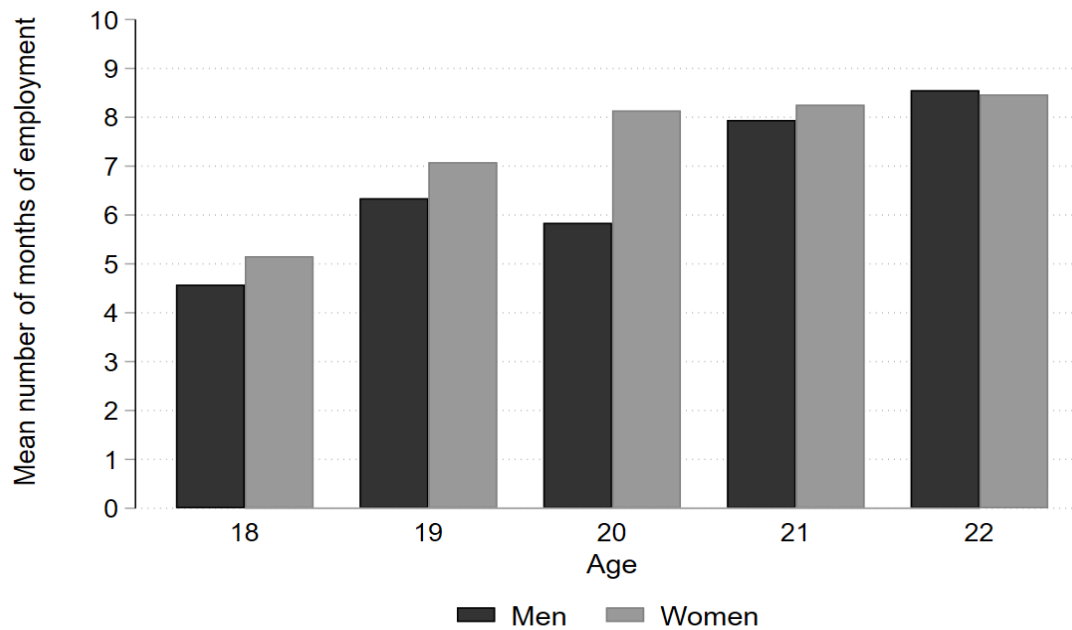
6.4.2 The intensity of employment among young individuals

The previous figures give a limited view of youth employment. It is likely that there is significant variation among young individuals. This may range from individuals having employment only in seasonal and other short-term jobs to individuals who have moved to more permanent employment already at a relatively young age. Next, we analyze the intensity of employment, utilizing information on both earnings and the time in employment.

The average number of months in employment during a calendar year among employed individuals increases with age (see Figure 6.3). The increase is particularly strong during ages 18-19 and 20-21 among men and ages 18-20 among women. Auxiliary analyses illustrate that the ages 18-19 are characterized by a higher share of employment during summer relative to all employment during a calendar year compared to the ages 20-22.

The employed 20-year-olds were in employment around five months during 2019, while among 22-year-olds the mean number was around eight and half months. Among men there is, however, a drop at the age of 20. This can be explained again by military and civil service. Among women, the increase in the average number of months in employment increases slowly during ages 20-22. Again, the most likely explanation is related to higher participation in education among women. All in all, in addition to women being employed more often than men (see Figure 6.2), their time in employment during a calendar year is also higher. Interestingly, the gender difference disappears – or is even slightly reversed – among 22-year-olds.

Figure 6.3. The mean of months in employment among employed in 2019 in Finland, by gender.



Note: Employment refers to having had an employment relationship at the end of calendar month.
 Source: The registers of the Finnish Centre for Pensions, own calculations.

Earnings are an important dimension when analyzing labour market attachment. Income also has a direct link with pension accrual. As expected, younger ages are characterized by small annual earnings among the employed (see Table 6.2). This is likely a result of both shorter periods of employment and lower wages. There is a general pattern of steady increase of earnings between ages 18-22. Median annual earnings of 18-year-olds was around 2 600 euros while the median was around 12 700 euros among 22-year-olds in 2019. Between the ages of 18 and 19, there are large (relative) increases in earnings. Additionally, the difference between the highest and lowest earnings somewhat decreases over time: among 18-year-olds the earnings of the 90th percentile are over 20 times higher than the 10th percentile but among over 20-year-olds the corresponding figure is around 13. The increase in earnings of those having small annual earnings is the main driver of this trend.

Table 6.2. The distribution of annual earnings among the employed in 2019 in Finland by age (in euros).

Age	Mean	p10	p25	p50	p75	p90	p99
18	3 944	405	1 040	2 561	5 140	9 267	20 998
19	8 666	1 026	3 002	6 925	12 622	18 699	30 831
20	10 672	1 187	3 587	8 465	15 794	23 500	35 575
21	14 031	2 181	5 651	11 459	21 314	29 359	42 118
22	15 769	2 590	6 344	12 716	24 264	32 560	46 413

Note: Being employed refers to having earnings during the year 2019. The table illustrates the mean of earnings and earnings at different percentiles of earnings distribution. For instance, earnings at the 10th percentile (p10) means that 10 percent of individuals had earnings below this level. The 50th percentile is equivalent to the median. Source: The registers of the Finnish Centre for Pensions, own calculations.

As auxiliary analyses, the distribution of annual earnings among 18-22-year-olds was analyzed separately by gender and by immigrant background. Men seemed to be overrepresented among both those with small annual earnings (approximately less than 3 000 €) and high earnings (over 25 000 €). Interestingly, women were overrepresented among those having annual earnings around 4 000 – 12 500 euros. These differences may highlight gender differences in part-time and fixed-term working. Individuals with a Finnish background were overrepresented among those having annual earnings over 5 000 euros. Those with a foreign background were more likely to have earnings below 4 000 euros, but especially less than 2 000 euros.

6.4.3 How many young individuals gain from the pension reforms, and how much?

Since pension accrual is possible from the beginning of the month following the month during which individuals reach the lower age limit, a longitudinal approach was needed to evaluate how many, and how much, young individuals have gained from recent pension reforms that lowered the age limit first to age 18 and then to 17. Next, employment of individuals of two birth cohorts is studied using information on the month of birth and monthly employment. First, for the cohort born in 1996, the time in employment during the ages 18-22 is studied. The follow-up began when the individuals turned 18. This analysis illustrates the significance of the 2005 pension reform using the most recent cohort, who had fully benefited from that reform, in the data. Second, for the cohort born in 2001, we illustrate how much individuals work during the 12-month period following the 17th birthday. This illustrates the significance of the pension reform in 2017. Lastly, the accrued pension was estimated.

Table 6.3. The months in employment during the ages of 17 (birth cohort 2001) and 18-22 (birth cohort 1996).

Employment at the age of 17 (birth cohort 2001)	%
0 months	42.0
1-3 months	31.1
4-9 months	18.4

10-12 months	7.4
Total	100
<hr/>	
Employment at ages 18-22 (birth cohort 1996)	%
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0 months	8.7
1-6 months	8.2
7-12 months	8.0
More than a year, max. 2 years	18.7
More than 2 years, max. 4 years	40.6
More than 4 years	15.7
Total	100

Note: Employment refers to an individual having had an employment relationship at the end of calendar month. Employment at the age of 17 is based on the follow-up of 12 months after the 17th birthday. Employment at the ages 18-22 is based on the follow-up of 60 months after the 18th birthday. Due to rounding, the shares do not add up precisely to the totals. Source: The registers of the Finnish Centre for Pensions, own calculations.

Table 6.3 illustrates that slightly over 40 percent of individuals born in 2001 were employed at the age of 17. However, the number of months in employment is often limited. Almost one third of 17-year-olds were employed for only 1-3 months. 18 percent had 4-9 months of employment and 7 percent were employed for 10-12 months. During ages 18-22, the time in employment is much higher, as expected. Only around 9 percent of individuals born in 1996 were without any months of employment. Thus, almost all young individuals benefitted from the 2005 reform, but naturally there was significant variation in the total time being employed. Sixteen percent had been employed, but the total time in employment was not more than a year. Nineteen percent had been employed for more than a year but no more than two years. More than two years, but a maximum of four years' employment history accounted for 41 percent of individuals while 16 percent had been in employment for over four years during ages 18-22.

Auxiliary analyses illustrated that among 17-year-olds women more often had a work history. Gender differences could be seen regarding groups who had been employed for more than three months. Individuals with a foreign background more typically have no employment at the age of 17. Men had more often no work history or only a short total duration of employment during ages 18-22 compared to women. Women, on the other hand, had more often than men worked more than four years. Individuals with a foreign background compared to individuals with a Finnish background more often had no work history or only 1-6 months in employment during ages 18-22. Individuals with a Finnish background had been more typically employed for a longer period than two years.

Lastly, we estimated the actual pension accrual from earnings that is due to the 2005 and 2017 pension reforms. Table 6.4 illustrates estimates for pension accrual in euros per month. When individuals in these cohorts start receiving earnings-related pension, the accrual will be multiplied with the pension

index to ensure its purchasing power. Pension will be also adjusted by the life expectancy coefficient.ⁱⁱ The estimates of young individuals' pension accrual can also be compared to some other pension-related figures: in 2020, the pension accrual from employment with those having a median monthly salary (around 3 200 euros; Official Statistics Finland, 2020) for 12 months was 48 euros per month and the average monthly earnings-related pension was around 1 450 euros (Finnish Centre for Pensions, 2021a). Regarding young individuals' pension accrual, it should be also kept in mind that, for instance, studying – if it leads to a degree – accrues pension. Thus, the actual accrual regarding these ages is higher for most individuals than illustrated here. Overall, it can be said that the 2017 reform had only a very limited effect, but the 2005 reform, which decreased the age limit by five years, had an impact. However, there is significant variation between individuals.

Among individuals born in 2001, 63 per cent had pension accrual from employment at age 17. The median pension accrual from employment of 17-year-olds was only slightly less than 2 euros per month. Even in the 90th percentile, pension accrual was less than 8 euros per month. The mean was around 3 euros. Among individuals born in 1996, 92 per cent had pension accrual from employment between the ages of 18 and 22. Consequently, the cumulative pension accrual from employment between ages 18-22 was also considerably higher. For the birth cohort 1996, the median pension accrual during this age period was 47 euros per month and the mean was 57 euros. At the higher end of the distribution of incomes, there were pension accruals that are significantly above 100 euros. For the 90th percentile, the accrual was 120 euros.

Table 6.4. Estimates of pension per month accrued based on earnings at ages 17 and 18–22, individuals with accrual from earnings.

Percentiles	Birth cohort 2001 (age 17)	Birth cohort 1996 (ages 18–22)
p10	0.4 €	7.0 €
p20	0.8 €	21.6 €
<i>Median</i>	<i>1.9 €</i>	<i>46.6 €</i>
p75	4.3 €	82.7 €
p90	7.9 €	120.5 €
p99	20.5 €	184.5 €
<i>Mean</i>	<i>3.4 €</i>	<i>56.6 €</i>

Note: Pension accrual is calculated using information only on earnings. Estimates do not consider changes in prices or the level of earnings over time. The table illustrates the mean of accrual and accrual at different income percentiles. Accrual at the 10th percentile (p10) means that 10 percent of individuals had accrual below this level. The 50th percentile (p50) is equivalent to the median. Source: The registers of the Finnish Centre for Pensions, own calculations.

6.5 Conclusion

The beginning of the working career marks an important phase regarding both the life course and labour market attachment. Even though attaining and completing education is among the most important factors in the transition from youth to adulthood (e.g., Settersten, 2007), building the very basis for labour market attachment often occurs early: in Finland, many young people already start working before or during their upper secondary and tertiary studies. Thus, school-to-work transition should be described as a process or a trajectory instead of single status change (Brzinsky-Fay, 2014). Employment and concomitant pension accrual in this earliest phase of career have received little attention in scholarly work and in research on pension adequacy in particular. In addition to the type and general rules of the pension system, particular rules considering especially young people and employment at the beginning of the career, may affect the level of old-age income (see also Chapter 2 in this volume).

In this chapter, we have analyzed patterns of employment and earnings among young Finnish people from ages 17 to 22, and how this accounts for pension accrual within the statutory earnings-related pension scheme. In the most recent pension reforms of 2005 and 2017, amendments to the lower age limit of pension accrual were made that explicitly consider pension accrual at the very early stage of employment. We therefore assess how this lowering of the age limit has affected pension accrual.

Based on the register data from the Finnish Centre for Pensions, we show that youth employment is rather common in Finland. Two-thirds of 18-year-olds had worked in 2019 and over a third had earnings in more than three months of the year. With higher age, both the prevalence and the intensity of working and earning increase as expected. Among 22-year-olds, four out of five already had earnings from employment and more than two-thirds had earnings from more than three months that year. We also observed a steady increase in earnings with age, and especially in the share of those with very low earnings, most probably due to seasonal or other part-time or temporary employment decreasing with age.

There are some notable differences in youth employment by gender and immigrant background. Overall, young people with a foreign background work far less frequently and have lower earnings compared to individuals with a Finnish background. The difference between employment rates of 22-year-old men with a Finnish or foreign background was 17 percentage points. For women of the same age, the difference was 30 percentage points respectively in 2019. While the employment rate and the time in employment during a calendar year is higher among young women than among their male counterparts, the opposite is true for young women with a foreign background. Labour market integration of foreign-born individuals is an important policy goal for the Finnish welfare state during the years to come. This is due to high growth rates in the number of foreign-born individuals, large differences in employment

rates between foreign-born men and women, and somewhat inefficient integration policies (OECD, 2018). In general, young men's employment increases more with increasing age than women's, even though the obligatory military or civilian service causes a temporary drop in men's employment at the ages of 19-20. Women, in turn, tend to participate more frequently in higher education and as a result, by the age of 22, gender differences in youth employment had nearly disappeared. Research has also shown that in Finland – compared to Norway and Sweden – having children at an early age is associated with problematic school-to-work trajectories especially among women (Lorentzen et al., 2019).

Even though earnings are rather low at least in the very first years of the career, pension reforms that have decreased the lower age limit of pension accrual (first from 23 to 18 and then to 17) are relevant. Of those reforms, the 2005 reform has a bigger impact on pension accrual, as could be expected. Following this reform, pension already accrues from employment from the age of 18. For the birth cohort 1996, pension accrual from employment at ages 18-22 was on average about 57 Euros per month (the median being 47 Euros). For those with earnings above the 90th percentile of the income distribution in this age group, pension accrual was as much as 121 Euros. These amounts do not consider index adjustments that are conducted once pension is paid. The further lowering of the age limit to the 17th birthday in the 2017 pension reform, in contrast, has only a minor impact, since employment at this age is less common and associated with low earnings.

For some individuals, early employment does have an important effect on pensions. Yet, pension accrual from early employment can be also a very inaccurate proxy for total old-age earnings-related pensions; for instance, if a low level of earnings is related to enrollment in tertiary education. The lower age limits of pension accrual due to pension reforms can perhaps be considered more important from the perspective of equality since, as a result, the whole working career accrues pension. This can be particularly important if individuals face unexpected gaps in their career or disability later in their life course. However, there is heterogeneity between population subgroups regarding who benefits from the lower age limits of pension accrual. Those with a less intense labour market attachment and lower earnings already at the beginning of the career not only benefit least from the lowering of the pension accrual age limit, but also are more likely to suffer from unstable careers and low earnings later in the life course. For instance, we have showed that young individuals with a foreign background have lower prevalence and intensity of employment than those with a Finnish background. This is the case regarding also older ages (e.g., Busk and Jauhiainen 2022). These patterns can result in vulnerable groups falling even further behind in pensions.

All in all, our study points to patterns of inequalities in youth employment that are relevant not only for later career and earnings during the life course, but also for pension accrual. The strong macroeconomic

conjuncture and employment growth in the late 2010s in Finland advanced the employment of youth, but we also know that economic downturns have the reverse effect. For example, the scars of the deep economic recession at the beginning of the 1990s in Finland are still visible in the careers and employment histories of several cohorts that graduated and entered the labour market at that time (Päällysaho, 2017). Similar negative effects can be expected from the COVID-19 pandemic worldwide – in Finland, there was a drop of 25 percent of those young people entering the labour market for the first time in 2020 compared to the year before (Finnish Centre for Pensions, 2021b). Bolstering labour market attachment at the beginning of the career of young people remains crucial for financial wellbeing throughout the working life, and thus also for adequate pension provision in old age.

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ⁱ Because the mandatory public earnings-related pension accrues from any income above 60.57 euro per month by 1.5%, basically all employment is pension-insured and accrues pension. The rules are universal for all employees.

ⁱⁱ The life expectancy coefficient takes into account increases in life expectancy. As life expectancy increases, the coefficient reduces the amount of the paid monthly pensions. This reduction can be levelled out by working past the regular retirement age until the so-called target retirement age.