

Technology, Labour Market Institutions and Early Retirement: Evidence From Finland

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Across OECD countries, promoting longer working lives is an important policy agenda for mitigating fiscal pressures from increasing pension and healthcare expenditures. There are, however, two significant barriers to increasing employment of older workers, especially in the context of digitalisation. First, workers engaged in codifiable, routine tasks are prone to being displaced by computers and robots (Gentile et al., 2020), a trend that may have been accelerated by the COVID-19 pandemic (Baldwin, 2020; Chernoff and Warman, 2021). Older workers are particularly exposed to this risk because, with

shorter remaining working lives, they have weaker incentives to acquire new skills that would allow them to switch to tasks that are less likely to be automated. They may instead choose to retire early when facing rapid technological change (Ahituv and Zeira, 2011; Hægeland et al., 2007). Second, a number of OECD countries have in place institutions that encourage early retirement, such as exceptional entitlements for older workers or looser criteria for unemployment and disability benefits than for other workers. These two factors reinforce each other in pushing older workers out of employment: older workers who are more exposed to new technologies are more likely to exit the labour market when they have access to institutional pathways to early retirement; and older workers who have access to early retirement pathways are more likely to use them when they are more exposed to technological change.

Our paper explores such complementarity for Finland, a country renowned for its intensive use of digital technologies but also with a considerably lower employment rate for older individuals than in other Nordic countries (OECD, 2020). The latter is driven importantly by early retirement through the so-called unemployment tunnel, which is the combination of the entitlement to unemployment benefit of up to 500 working days and the extension of unemployment benefit until the retirement age reserved for the unemployed aged 61 or over who have exhausted their regular unemployment benefit entitlements. From an empirical analysis exploiting a rich Finnish employee-employer database and the OECD data capturing exposure to digital technologies, we find that:

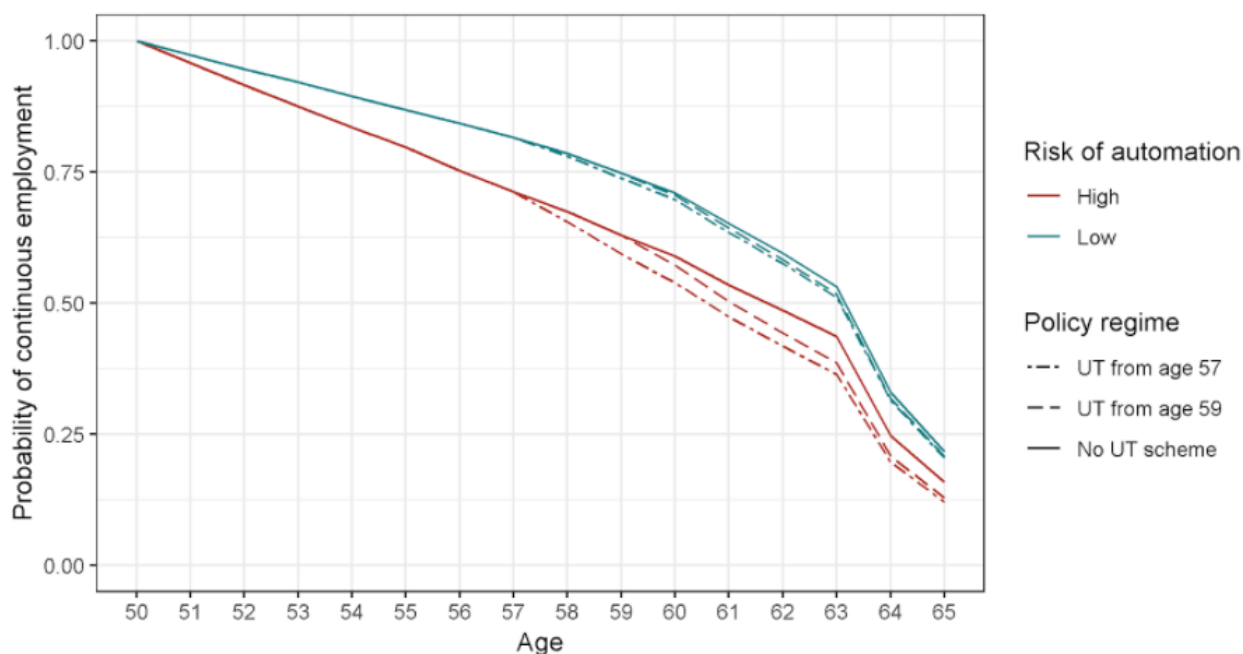
- An individual aged 50 or above in occupations exposed to a standard deviation higher than the average risk of automation (computed by Nedelkoska and Quintini, 2018) faces a 1.1 percentage point higher probability of exiting employment every year, if he or she does not have access to the unemployment tunnel.
- This probability is 2.2 percentage points higher if the

individual has access to the tunnel.

- Gaining access to the unemployment tunnel increases the exit probability of an individual exposed to an average level of automation risks by 1.8 percentage points.
- The overall impact of higher automation risks and the unemployment tunnel therefore amounts to 4 percentage points, which implies an 80% increase in the probability of exiting employment for individuals aged 57-58.

We obtain similar results when using other indicators to capture the exposure to digital technologies, such as intensity in routine tasks (Marcolin et al., 2016) or ICT skills (Grundke et al., 2017). Using the estimated coefficients, we simulate the impact of reforms that tighten access to the unemployment tunnel. Figure 1 illustrates that such reforms extend substantially the working lives of older workers exposed to high automation risks, but have little effect on individuals exposed to low automation risks.

Figure 1. The probability of continuous employment under different unemployment tunnel (UT) scenarios



This figure plots the average probability of remaining employed from age 50 onwards for two groups of older workers, one subject to higher than average automation risks (red lines) and another subject to lower than average risks (green lines). Three reform scenarios are considered: (i) backtracking: the unemployment tunnel (UT) is made available earlier, at the age 57, as it was during 2012-2014; (ii) it is made available at age 59 as it is now, and (iii) extended unemployment benefit is abolished. See the source for detailed information. Source: Yashiro et al. (2021), "Technology, labour market institutions and early retirement: evidence from Finland", OECD Economics Department Working Papers 1659, OECD Publishing, Paris.

This paper underscores the importance of labour market reforms that tighten access to institutionalised early retirement pathways in ensuring the inclusion of older workers in the future of work. While previous policy discussion often emphasised boosting lifelong learning opportunities, older workers will only have weak incentives to take up such opportunities if these early retirement pathways are left open. The recent decision by the Finnish government to abolish extended unemployment benefit by 2025 for persons born in 1965 or after is likely to encourage older workers relatively exposed to technological change to work longer and participate in upskilling opportunities. This, however, calls for targeted measures to increase the employability of groups most affected by this reform, namely low- and middle-skilled male workers in occupations exposed to high automation risks, involving more routine tasks and less use of ICT skills. Highly tailored training programmes as well as effective schemes for identifying the training needs of these older workers and certifying their acquired skills are important for boosting their upskilling efforts (OECD, 2020; 2019). Policy makers should also step up measures for getting older workers displaced by new technologies back into employment. In the case of Finland, such measures may include strengthening the capacity of the employment service to provide these workers with more personalised counselling and better monitoring of their activation requirements (OECD, 2020), as well as enhancing the role of social partners in facilitating job transitions even before dismissals take place, as in Sweden (OECD, 2016).

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Further reading

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