



Good or bad (in)stability? A cross-cohort study of the relation between career stability and earnings mobility in Finland

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ABSTRACT

Although recent studies have found no signs of drastic destabilisation of employment and careers, it is possible that the returns of having a stable or unstable career have changed. This study looks at the link between early-career stability and earnings mobility in Finland: 1) What are the size and direction of the relations between various indicators of career stability and earnings mobility in early working life, and 2) Have these relations changed across cohorts? It uses longitudinal register data of earnings and employment from the Finnish Centre for Pensions, covering cohorts born between 1940 and 1980 for the years 1963–2019 (5396 individuals and 72,578 observations). Growth curve models are applied where repeated observations between the ages 23 and 39 are nested within individuals. Earnings are regressed on three types of career stability indicators: cumulative time in non-employment, tenure with the current employer and the cumulative job changes. Results show overall negative associations of earnings with career breaks and positive associations with tenure and job transitions, but also some differences in these associations by gender and education levels. The link between the career stability indicators and earnings mobility is relatively similar across cohorts, with few exceptions. The positive relation with tenure has decreased and even turned negative for women. Moreover, economic crisis in the early 1990s might have presented a temporary shock to the relation between career breaks and job changes on the one hand, and earnings mobility on the other.

1. Introduction

Recent research on cross-cohort changes in career complexity and stability has shown that, in contrast to popular discourse, there are no signs of drastic destabilisation of employment and careers, (Hollister, 2011; Van Winkle & Fasang, 2017, 2021). However, despite the negative connotation of the term destabilisation, it is unclear whether the absence of career destabilisation is entirely good or bad news. Career stability can be an indication of employment security but also of persistence in labour market segmentation and social stratification, just as career complexity and instability can be an indication of employment insecurity but also of social and economic mobility (Biemann, Fasang, & Grunow, 2011; Riekhoff, Ojala, & Pyöriä, 2021).

In addition, little is known about whether and how the premiums or penalties of career (in)stability change across time and cohorts. Several studies, especially those focusing on the United States (US), have argued that, as a result of profound changes in the economy and labour market in recent decades, the “job for life” with steady earnings growth is disappearing, while changes between employers increasingly become a

precondition for higher earnings (DiPrete, Goux, & Maurin, 2002; Kronberg, 2013; Mouw & Kalleberg, 2010). However, the results in these studies sometimes point in opposite directions, while it is unclear whether their findings can be generalised to other countries.

This article investigates the link between career stability and early-career earnings mobility in Finland. The main research questions are: 1) What are the size and direction of the relations between various indicators of career stability and earnings mobility, and 2) Have these relations changed across cohorts? With the use of unique register data spanning 57 years, it is possible to observe changes in career stability and its associations with earnings mobility in early careers across cohorts born between 1940 and 1980.

The study contributes to the existing research on careers and earnings by bridging two strands of literature. First, it complements the growing literature on changes in life-course complexity by focusing on career stability's different components - continuity of employment, tenure with the same employer and changes in jobs – and their dynamic development across ages. Moreover, it links these components to economic outcomes, separately and in combination. Second, it

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complements studies on the effects of career breaks, tenure and job mobility on earnings by moving the focus away from the outcomes of single events and spells to investigating the cumulative impact of labour market transitions during a phase of the life course where most career instability and earnings mobility usually takes place.

Studying Finland makes an interesting contribution to a literature that mostly concentrates on the US. Finland transformed from a mostly agrarian society in the 1960s to a fully developed Nordic-type welfare state by the 1980s. While in the early 1990s the country was hit by a severe financial and economic crisis, it re-emerged as a dynamic technology-driven economy by the early 2000s. However, by the 2010s, rapid growth came to a halt and the economy suffered from the backlash of the Great Recession. Another interesting aspect of Finnish society is that women's labour market participation has been high since the 1970s, which offers the possibility to compare the careers of both men and women.

2. Theory and literature

Recent studies on career stability have employed composite measures for complexity in one or several phases of the employment life course (Pelletier, Bignami-Van Assche, & Simard-Gendron, 2020; Van Winkle & Fasang, 2021; Riekhoff, Ojala, & Pyöriä, 2021). The more transitions occur and the greater variation there is in the length of spells in specific labour market statuses (and jobs), the more complex or unstable careers can be considered. While most studies find differences in career complexity within societies, e.g. between genders and socioeconomic groups, little change is found across periods and cohorts. Some findings suggest greater destabilisation for women (Struffolino & Raitano, 2020; Widmer & Ritschard, 2009) and for some industries (Biemann et al., 2011; Riekhoff, Ojala, & Pyöriä, 2021; Van Winkle and Fasang (2017, 2021) emphasised that cross-national differences in complexity are greater than cross-cohort differences.

This article moves away from studying career stability as a single composite measure and focuses on three of its separate yet interrelated dimensions. It regards the "optimally" stable career consisting of a single uninterrupted spell of employment with a single employer. Therefore, a career is more stable if 1) employment is not interrupted by spells of non-employment, 2) if employment continues with the same employer for a longer time, and 3) if fewer job changes occur. In contrast, unstable careers are characterised by longer spells of not being employed, shorter tenure and frequent job changes.

In economic terms, a "successful" career is one in which the individual advances and is rewarded financially. Therefore, the level and growth of earnings during one's life course are important indicators of how successful one's career is. Earnings growth is dependent on, besides the general real wage development in the economy, changes in individuals' productivity due to experience, skills and ability (i.e. human capital) as well as their possibilities for mobility in the labour market (Le Grand & Tåhlin, 2002, p. 383). As a result, due to inequalities in (access to) human capital and occupational mobility, relations between career stability and earnings mobility might differ between men and women, as well as between socioeconomic groups.

Furthermore, these relations are not necessarily the same across time and cohorts. The returns to career stability can change incrementally over time, for example due to continuous demographic shifts or structural changes in the economy and labour market (Kronberg, 2013; Leonardi, 2017). Changes in the returns can also be sudden, for example due to an economic shock or a labour market reform (Cappellari & Leonardi, 2016; Hyatt & Spletzer, 2016; Oreopoulos, Von Wachter, & Heisz, 2012). These changes can be temporary or permanent. Whereas this article does not empirically analyse the causes of possible changes in the associations between career stability and earnings mobility in the Finnish case, it does explore the potential mechanisms behind them.

2.1. Career interruptions

Spells of non-employment can be expected to slow down earnings development through at least two mechanisms. Theories of human capital suggest that during periods of not being employed, on-the-job skills and experience do not accumulate or even depreciate (Mincer & Ofek, 1982). Therefore, following a career break, an individual's earnings will be lower and develop at a lower rate compared to those of someone who was continuously employed. The reason for the career break should not make a difference (except perhaps if the career break is due to training or education), only the amount of time spent outside of work counts.

Signalling theories, on the other hand, argue that career breaks signal to employers that a worker is not committed or unproductive. Therefore, the reason for the career interruption matters (Albrecht, Edin, Sundström, & Vroman, 1999). Some types of career breaks impose greater stigma than others. For example, when comparing the consequences of non-employment spells due to care leaves and unemployment of women in Germany, Sweden and the US, Evertsson, Grunow, and Aisenbrey (2016) found that the signalling function of the different types of work interruptions affected occupational mobility.

Compared to men, women especially more often experience lower earnings growth following breaks in employment due to sorting into lower occupational positions and part-time jobs (Aisenbrey, Evertsson, & Grunow, 2009; Mooi-Reci & Ganzeboom, 2015). Mooi-Reci and Ganzeboom (2015) found in the Netherlands that for women the "scarring" effects of unemployment on earnings were relatively short and mainly driven by human capital depreciation, but that among men stigma effects dominated in the longer run. When comparing the effects of parental leaves on both mothers' and fathers' wages in Sweden, Evertsson (2016) showed that already short leaves negatively affected men's wages immediately, while among women wages declined more steadily in relation to the length of the leave. This also suggests that the stigmatizing effects of the career break is stronger among men, while among women the human capital depreciation effect dominates.

In addition, differences in education, skills and earnings potential matter. First, there is a risk of a selection bias, where low-educated workers are simultaneously at greater risk of having lower earnings, as well as having (more) children and becoming unemployed. Moreover, low earnings provide incentives for longer spells away from work, if, for example, unemployment benefits or home-care allowances are relatively generous. Studies found that in particular low-educated women in Finland spend longer time away from work with a home-care allowance (Kuitto, Salonen, & Helmdag, 2019; Österbacka & Räsänen, 2021). At the same time, it is possible that the high-educated workers are more likely to enjoy uninterrupted employment, but *if and when* their careers are interrupted, this has greater consequences for their earnings growth. England, Bearak, Budig, and Hodges (2016) found that the motherhood penalty was relatively greater among high-skilled women. They attribute this to the high returns to human capital in the form of work experience, making small breaks already costly.

Based on theories of generic human capital, one might expect that the relation between career breaks and earnings mobility remains similar across time, as the depreciation rate of human capital remains the same. Based on signalling theory, however, this relation can change over time. As norms about women's employment change, it is possible that their wage penalties due to parental leaves decrease. Recent empirical evidence for changes in motherhood penalties across time shows mixed results (Jee, Misra, & Murray-Close, 2019; Pal & Waldfoegel, 2016). Similarly, in times of economic recession, when unemployment is more common, the stigma of unemployment might be mitigated (Biewen & Steffes, 2010) and impose a smaller penalty on subsequent earnings.

2.2. Tenure

Longer and more frequent career breaks are likely to be related with shorter tenure, i.e. shorter employment spells with a single employer. Whereas employment as such is often linked to the accumulation of generic and transferable human capital, i.e. skills obtained in education and work experience, employment experience with a single employer accumulates specific human capital that is not necessarily transferable (Becker, 2009; Mooi-Reci & Ganzeboom, 2015; Schmelzer, 2012). A longer spell of employment with the same employer results in greater accumulation of firm-specific knowledge and skills, which is rewarded by a wage premium and, therefore, greater earnings growth (Topel, 1991).

There are also potential signalling effects of tenure. Because signals can be unclear or misleading and employers cannot always know the quality of their employees at the time of hiring, employers may offer tenure-based upward-sloping earnings as a way of “screening” (Salop & Salop, 1976) and discourage the more productive workers from searching another job. According to the “agency hypothesis”, companies where employees’ performance is difficult to monitor use tenure-based earnings to prevent shirking (Lazear, 1979). In this model, younger workers are paid less at the start of the contract, but the promise of higher wages in the future should incentivise workers to put in high effort and stay within the firm.

Despite the strong theoretical arguments, empirical evidence for a causal relation between tenure and earnings is mixed.¹ Isolating the causal effects of tenure on earnings in empirical analysis is complicated by the possibility of longer tenure not only leading to higher earnings but higher earnings also providing incentives to stay with that particular employer (Sloane & Theodossiou, 1993). In addition, studies have pointed out the difficulties in separating the returns from overall work experience from those of firm-specific tenure (Manning, 1998).

Analysing these relations by gender with British data, Sloane and Theodossiou (1993) found no effect of tenure on the earnings of men, but a strong positive effect for women. The authors attributed this finding to the constrained employment possibilities of women, especially of those who were married. There are also likely to be differences in the returns to tenure by level of education and skills. Low-skilled workers might rely more on accumulating firm-specific skills than high-skilled workers. Oreopoulos et al. (2012) suggested that too long tenure resulting in too much firm-specificity in skills becomes an obstacle for job mobility and effectively puts a break on low-skilled workers’ earnings growth.

There are indications that, at least in the US, the role of firm-specific skills and internal labour markets in the possibilities for career progress and earnings mobility has diminished since the late 1970s, especially among high-skilled workers (Kronberg, 2013; Mouw & Kalleberg, 2010). This has resulted in decreasing returns to tenure (DiPrete et al., 2002). Hyatt and Spletzer (2016) found that average tenure increased in the US in the 2000s but that real earnings declined compared to what could be expected based on tenure length. Their findings suggested that longer average tenure was not due to better employer-employee matches, but mainly to lower hiring rates following the recessions in 2001 and 2007–2009.

¹ There might also be non-causal mechanisms behind the positive relations between tenure and earnings. The mover-stayer model predicts that workers who are more productive in the first place are more likely to be retained by employers, while low-productivity workers are more likely to leave or are let go (Blumen, Kogan, & McCarthy, 1955). This implies that in the longer run, workers with the longest tenure are also the most productive ones, while their higher productivity translates into higher earnings. In addition, in the processes of job creation and destruction, the more productive jobs survive while the less productive jobs disappear (Topel, 1991). This should lead to longer tenure in more productive and higher-paid jobs.

2.3. Job changes

Although changing jobs implies shorter tenure, studies have pointed out that the earnings impact of job transitions is not the same as the reverse earnings impact of tenure (Le Grand & Tåhlin, 2002; Topel, 1991). Job search models (Jovanovic, 1979) suggest that workers continuously evaluate their current position to alternatives on the job market and will decide to change jobs if they are able to find a better match with higher wages, despite possible search costs and the loss of specific human capital and seniority-related wage premiums (Fuller, 2008; Pavlopoulos, Fouarge, Muffels, & Vermunt, 2014). With a better match between employer and employee, the employee’s productivity and earnings should be higher in the longer run.

Not all job changes, however, are necessarily beneficial for earnings growth. Job changes are more likely to result in higher earnings if they occur voluntarily (Fuller, 2008; Pavlopoulos et al., 2014; Schmelzer, 2012). If job changes are involuntary, e.g. due to layoff, dismissal or the ending of a temporary contract, they are more likely associated to lower wage growth or even wage losses. This might be the result of signalling: the job change suggests to the employer that there is something wrong with the worker’s motivation or productivity. It is also possible that due to the lack of options, workers lower their reservation wages and accept jobs with lower earnings.

Job changes can be “direct”, i.e. from one job straight to another, or “indirect”, i.e. from non-employment to a job. As an indirect job change is accompanied by a career interruption, it might lead to depreciation of human capital and provide a negative signal to employers. Furthermore, those who search jobs from an employed position are likely to have a higher reservation wage than those who are not employed and are therefore likely to accept only jobs that promise higher earnings (Kahn & Low, 1982).

In addition, the timing and the frequency of job changes matter. Studies have indicated that job changes in the early career are more beneficial than in the later career (Keith & McWilliams, 1995; Schmelzer, 2012; Sloane & Theodossiou, 1993). In the early career, job changes are often perceived as a normal process of finding the right match in the labour market and can provide a positive signal to employers (Oreopoulos et al., 2012; Topel & Ward, 1992). Moreover, in the earlier career, firm- or occupation-specific human capital has accumulated to a lesser extent and might play a smaller role in employers’ selection decisions. Too frequent job transitions, however, could signal to employers that the person is not able to hold a job or is likely to leave and therefore might have a negative impact on earnings mobility (Fuller, 2008; Schmelzer, 2012).

Studies have suggested that women tend to benefit less from job mobility. This could be due to women being more likely to experience indirect job mobility, due to career breaks related to care (Fuller, 2008). Among women, job changes can be perceived by employers as a signal of weak labour market attachment, whereas among men job changes are often seen as an active pursuit of economic advancement (Keith & McWilliams, 1995). Moreover, Keith and McWilliams (1999) found that men more actively search jobs while employed, which contributes to a higher pay-off for switching jobs.

There might also be socioeconomic differences in the relation between job changes and earnings mobility. Pavlopoulos et al. (2014) found that job changes resulted in relative wage gains among low-paid workers, but not among medium- and high-paid workers. At the same time, it is possible that high-educated and high-skilled workers actively job-shop and more strategically choose jobs and career paths, while low-skilled and low-educated workers are “trapped” in careers with temporary and low-paid jobs (Fauser, 2020; Oreopoulos et al., 2012).

In line with studies on the declining returns to tenure, there are findings that suggest that changing employers more and more becomes a precondition for earnings growth (DiPrete et al., 2002). It is also possible that the shares of voluntary and involuntary job mobility change, thereby altering the overall returns of job mobility (Kronberg, 2013).

Oreopoulos et al. (2012) found that entering the labour market at the time of recession increased the rewards of job mobility. Because during a recession it becomes more likely that a graduate enters the labour market in a poor-quality job, being able to change to a better job becomes a precondition for earnings growth.

3. Data and methods

3.1. Data

This study uses longitudinal register data from the Finnish Centre for Pensions. Starting collection in 1964, the earnings development (in Finnish: *ansiokehitys* – AK) data was intended to follow developments in wages and pensions using random samples of consecutive cohorts of Finnish salaried employees in the private sector (Salonen, 2009). The data spans from 1963–2019 and includes detailed information on earnings and employment contracts for which pensions were accrued. This makes the data representative, because in Finland pensions are accrued for almost any earnings and any employment contract. Samples in the data cover every fifth birth year, with the oldest cohort born in 1905 and the youngest in 1980. As data are more incomplete for the oldest cohorts, this study focuses only on those who were born in 1940 or later.

The data includes information on annual earnings and number of days worked, specified by sector of employment. In Finland during this observation period, different pension schemes existed in the private sector (including different schemes for short-term and long-term contracts), in the public sector (for both municipal and state authorities), for self-employed, and for farmers. A separate and combinable datafile includes all employment contracts for which pensions were accrued, including start and end dates of the contracts.

The data have several strengths and advantages. They allow following individuals across a substantial and relevant part of their employment life courses, as well as comparing birth cohorts of which the oldest and youngest were born 40 years apart. Moreover, data are based on administrative registers that have been recorded systematically and in a relatively uniform way across time. Using register data reduces some of the risks usually associated with survey data, such as memory bias or under-sampling of certain groups.

The AK data collection focuses on private sector employees. The data also include information on public sector employment if the individual changed between the sectors. However, data on earnings in the public sector before 1980 is often incomplete and therefore more observations are reported as missing (Salonen, 2009). As a result, individuals in the older cohorts who worked in the public sector for parts of their early career may have fewer observations. The methods section outlines how missing data are dealt with in the analysis.

Information for income from self-employment or farming is available only after 2005. Furthermore, data for income from self-employment is based on self-declared income and often underreported. However, in order not to exclude everyone who performed some work as self-employed, only individuals who spent more than 20 percent of their active working life (in terms days worked) in self-employment (including farming) are excluded from the study. This group includes slightly less than 15 percent of the individuals in the data. Models (not reported) with alternative thresholds ranging from a maximum of 40 percent of working days in self-employment to excluding all self-employment showed only minor changes in the sizes of the coefficients but no differences in their signs or levels of significance. In addition, years where income from self-employment or farming exceeded 20 percent of the total annual income were marked as missing. Individuals who have only one year of observed earnings were excluded from the analysis, as this study aims at observing trends in earnings across ages. This leaves 5396 individuals and 72,578 observations.

Individuals are followed from the ages 23–39. Until 2005, pension accrual on earnings in Finland began at age 23 and among the older

cohorts, information on earnings and employment before this age is incomplete. Nevertheless, age 23 is a relevant starting point of the observation period, as many have finished their education by this time and have entered the labour market. One limitation of the data is that it is not possible to define a clear point of entry to the labour market. Even when still in education, individuals might work and earn at the same time. In addition, after entering full-time work, it is possible that people return to education and temporarily disappear from the labour market. As a result, earnings might be absent or exceptionally low (because of having only seasonal or part-time jobs) among a group that is still in education.

As data are available until 2019, it is possible to observe the youngest cohort born in 1980 only until age 39. However, by the age of 40 career growth tends to stabilise, as most mobility in earnings tends to take place during the first decade since labour market entry (Keith & McWilliams, 1995). Studies from various countries found that the correlation between current and lifetime income tends to increase until the ages of 35–40 and stabilise subsequently (Böhlmark & Lindquist, 2006; Brenner, 2010). Moreover, most career breaks due to having children occur before that age. Therefore, the ages 23–39 can be considered a dynamic and pacesetting phase of careers that is most relevant for the purpose of this study.

3.2. Dependent variable

The dependent variable of this study is an individual's average monthly earnings in each year. Values for these are obtained by adding all earnings from salaried employment for that year, dividing that sum by the number of days employed and multiplying it by 30. Unfortunately, information on working hours is not available, so it is not possible to differentiate wages by hours worked. Average monthly earnings are top-coded at 10,000 EUR to deal with outliers and indexed at 2019 price levels. For years in which earnings are zero, the observation is marked as missing. In the regression models earnings are entered as log-transformed, which minimises the effect of remaining outliers and allows easy translation of the model coefficients into the impact of a one-unit change in the explanatory variable on the change in earnings as a percentage (where the % change in earnings = $100 \times (e^b - 1)$).

3.3. Independent variables

The first main independent variable is a cumulative indicator for the amount of time not spent in salaried employment. This career-breaks variable is obtained by calculating at each age how many years individuals have not worked since the age of 23, using the information on the number of days for which pensions were accrued during each year. At age 23 this value is zero for all and it increases the more time is spent in non-employment. Although the interest goes out to the impact of career breaks on earnings mobility as such, one limitation is that the data do not contain information for the reasons of the career breaks. Non-employment can be due to homecare, unemployment, education, or other reasons. Especially when career breaks are due to later graduation, this might bias the results for those with higher education and during times of unemployment when students tend to postpone entry to the labour market.

For the construction of the second and third main independent variables - tenure and cumulative job changes - the data on employment contracts were used. Tenure is a measure for the time (in years) spent with the current employer at the end of the year at each age. As the starting dates are known for all contracts, an employment spell with the current employer can start before the age of 23. The cumulative job-changes variable is a measure for the number of contracts held until the beginning of the year minus one, starting from zero at age 23.

One challenge of the employment spells data is that there are cases

with many contracts that have particularly short spells. Moreover, work with the same employer is sometimes recorded in a larger number of employment contracts of shorter duration. This way of registering employment has been applied especially in the public sector, but also in the private sector, e.g. for work in construction. As the interest of this study is tenure as a measure of continuity and job changes in terms of changes of employer, some restrictions were applied. For most of the contracts, an employer identifier is available. This was used to combine spells with the same employer if there was not more than 62 days between the end of the previous contract and the beginning of the next. These two months were taken as a buffer, because of the possibility for holidays or time-outs between two contracts. With more than a two months break, a new contract with the same employer is regarded as re-employment, i.e. a change in jobs. After combining the shorter spells where applicable, all remaining spells lasting less than 28 days were removed to reduce noise in the data, arguing that contracts that lasted less than a month are too short to contribute to the development of one's career in terms of accumulation of human capital or earnings.

Analysis is split by gender, as it is expected that career stability and earnings mobility develop and are associated in different ways for men and women. Age is entered in the regression models in standardised form, i.e. ranging from 0 to 16. Nine consecutive cohorts born between 1940 and 1980 are observed. Because the sample sizes for the six oldest cohorts are relatively small, they were regrouped into three cohort categories: those born in the 1940s (1940–1945), in the 1950s (1950–1955) and in the 1960s (1960–1965). Together with separate categories for those born in 1970, 1975 and 1980, this leaves six birth-year categories in total. Descriptive statistics by cohort and gender can be found in [Table 1](#).

The dataset was combined with data from Statistics Finland on the highest levels of education attainment. Education levels were regrouped into three categories: low (primary and lower-secondary), intermediate (upper-secondary and lower-tertiary) and high (upper-tertiary). Finally, controls are included for being employed in the public sector. As people can switch between sectors, the distinction between private and public sector is made based on being employed in either of these during more than 50 percent of one's observed working life.

3.4. Methods

Following descriptive analysis of trends in earnings mobility and career stability, the study applies a series of multilevel regression models for continuous change where repeated observations at level one are nested within individuals at level two ([Singer & Willett, 2003](#)). Random intercepts are included, as people enter the observation period from different positions and with different earnings. Random slopes are included for the career stability indicators and age because they change within individuals. The covariance matrix is set to unstructured, which allows the random slopes and intercepts to be correlated. The effects of

cohort, education and sector are fixed in all the models.

The applied method, also known as growth curve analysis, is particularly suitable for this study and these data. It allows simultaneously measuring individuals' changes across time as well as differences between individuals, while controlling for unobserved heterogeneity between individuals. While many studies operationalise career stability as a variable that measures the complexity for a defined age span, this method allows a more flexible and dynamic approach as it accounts for changes in career stability and earnings at each age. Moreover, it moves beyond the fixed-effect approaches that are usually applied in studies on the earnings outcomes of labour market transitions and suits the study of cumulative events and continuous changes.

In addition, the method is particularly adequate for dealing with missing data and reduces the risk of under-sampling ([Fuller, 2008](#)). This is because growth curve models allow pooling as many observation years as possible for each individual and can estimate growth curves also in the case of unequal spacing of the observations ([Kronberg, 2013](#), p. 1127). This way, it reduces the risk of biased estimations compared to, for example, only estimating changes in earnings between two set time points only. It also reduces the need for imputing missing data, which increases the risk of over- or underestimation.

The main source of missing observations in this study is the dependent variable: someone does not have earnings in a particular year or the value for earnings is not reliable and therefore marked as missing. However, upon (re-)entry to employment and receiving earnings, they are (again) observed while non-employment and job changes have continued to accumulate in the meantime and the counter for tenure is reset. Missing observations are more frequent among the older cohorts and among women, who are more likely to experience career breaks and work in the public sector (where earnings data are more incomplete). Nevertheless, the average number of observations per individual is relatively high and suggests that reliable estimations of the earnings-trajectory slopes are possible. Out of the maximum of 17 observation years per individual, men have on average 13.8 valid observations and women 13.1.

The first set of models analyses the relation between career stability and earnings growth for all cohorts. First, only age, cohort, education and sector are included to estimate the average increase in earnings at each age. Next, the career stability indicators are entered one by one and then simultaneously. To account for differences between careers with direct versus indirect job changes, the career-breaks and job-changes variables are interacted in the next model. The last three models in this part interact the education variable with each of the career stability indicators to explore the possibility that the relations between career stability and earnings vary by education or are explained by differences in levels of education between individuals. With the help of these models, it should also be possible to observe whether earnings trajectories of high-educated workers differ due to later labour market entry. In the second set of models, interaction terms between the cohort

Table 1
Descriptive statistics.

	Birth year	N	Low education (%)	Intermediate education (%)	High education (%)	Public sector (%)
Men	1940–45	341	52.2	35.5	12.3	23.5
	1950–55	377	32.9	53.9	13.3	18.6
	1960–65	587	20.8	62.7	16.5	16.5
	1970	453	21.9	55.9	22.3	14.1
	1975	426	17.6	50.5	31.9	15.0
	1980	430	13.7	47.7	38.6	13.0
	Total	2614	25.1	52.2	22.7	16.5
Women	1940–45	290	54.5	34.5	11.0	36.2
	1950–55	443	28.4	58.0	13.5	48.8
	1960–65	691	13.8	68.6	17.7	43.9
	1970	448	15.6	61.6	22.8	41.3
	1975	449	9.4	47.2	43.4	39.0
	1980	461	8.2	37.5	54.2	31.9
	Total	2782	19.0	53.6	27.4	40.7

dummies and the career stability indicators are analysed to observe whether the relations between career stability and earnings mobility were different across cohorts.

4. Findings

4.1. Descriptive trends in earnings and career stability

Fig. 1 shows the main trends in earnings and career stability between the ages 23 and 39 for the six consecutive cohorts. Fig. 1a shows that earnings steadily increased with age and by cohort. Among the youngest cohort born in 1980, earnings growth stalled somewhat after the age of 30 and dropped below the levels of the 1975 and 1970 cohorts but seemed to recover by the end of the observation period. This temporary drop might have been due to the economic recession of the early 2010s. Earnings were consistently higher for men than for women and Fig. 1a shows that earnings mobility among men has been greater than for women.

There were substantial gender differences in the number of years of cumulative non-employment (Fig. 1b). There were also differences between cohorts, but no straightforward trend can be detected. Those born in 1970 stand out, especially among men. This is likely due to this cohort entering the labour market during the worst of the Finnish economic crisis in the early 1990s. Unemployment rates were high, but young people also postponed entry to the labour market. Men tended to have somewhat longer tenure than women (Fig. 1c). Mean tenure declined across cohorts, but this trend might have come to a halt in recent cohorts. Moreover, there was trend a towards more frequent job changes (Fig. 1d). This trend is visible especially among women, where recent cohorts surpassed men. While women born in 1940–45 had only changed jobs around three times by the age of 39, women born in 1980 had changed jobs seven times.

4.2. Growth curve models

Tables 2 (for men) and 3 (for women) show the results of the first set of multilevel models. Baseline Model 1 shows that earnings increased with age by around four percent per year for men and three percent for women. This coefficient remains relatively stable in the other models, although it is higher in Models 2 where the career-breaks variable is included. Earnings increase with level of education, but the effect of education decreases somewhat when entering the career stability indicators. Earnings of men in the public sector were substantially lower than in the private sector. Among women the difference was smaller or even non-significant. This reflects the greater employment of women in the public sector, but also in parts of the private sector where wages are lower. The cohort dummies in these models confirm that there have been statistically significant increases in earnings since the oldest cohort, but inspection of confidence intervals (not reported) show that on average earnings did not significantly increase since the 1960–65 cohort.

Models 2–4 show that career breaks decreased men's earnings with around three percent for each year not in employment and for women with 2.5 percent. Tenure had a positive impact on earnings of around 1.2–1.5 percent for men and 0.8–1.0 percent for women for each year that was spent with a single employer. A change in jobs is associated with a one-percent increase in earnings among men and a two-percent increase among women in Model 4. When all career stability indicators are entered simultaneously in Models 5, these job-change effects for men and women increase to 3.4 and 3.0 percent respectively.

This greater impact of job changes in Models 5 seems to be due to the simultaneous impact of career breaks: job changes tend to coincide with career breaks, but when controlling for these, the net positive impact of changing jobs is greater. This is also visible in Models 6, where the career-breaks and job-changes variables are interacted. The negative

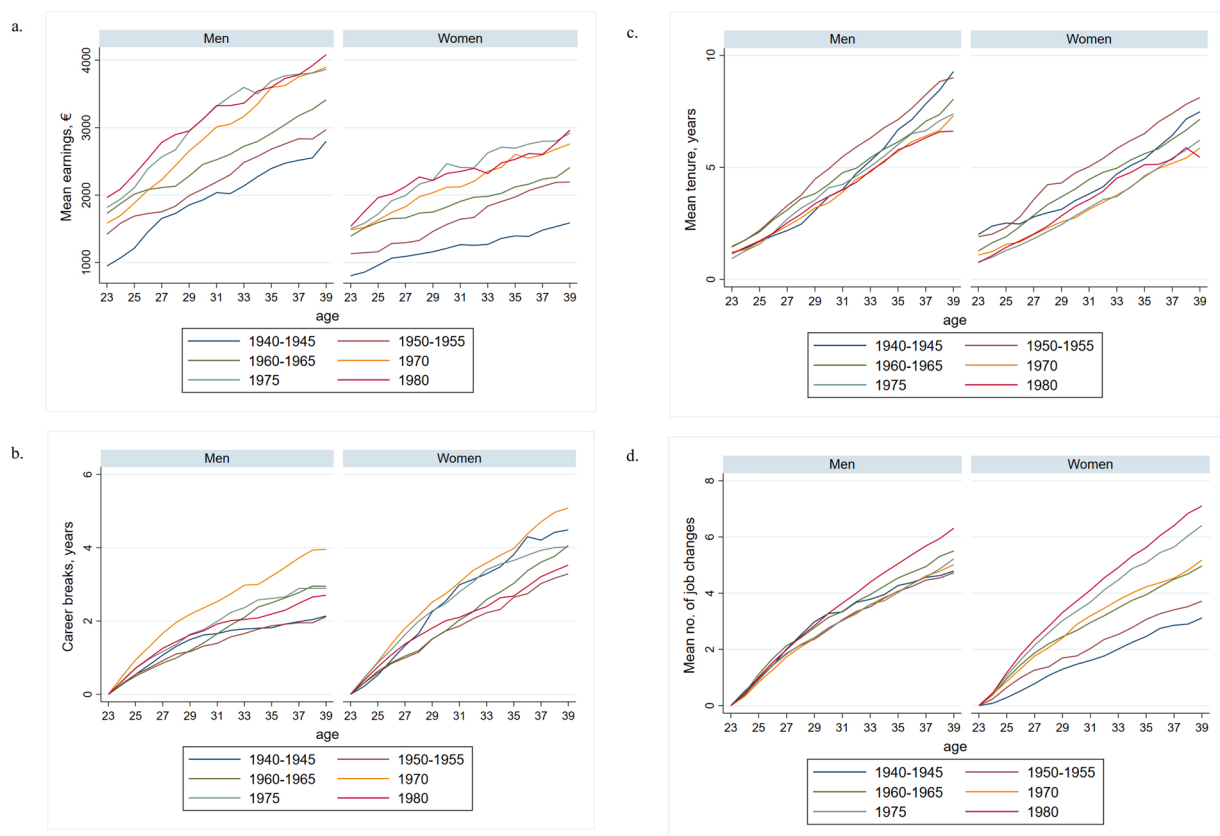


Fig. 1. Trends in earnings and career stability by age, cohort and gender: a. Mean monthly earnings (euros, 2019 price levels), b. Mean cumulative career breaks (years not in paid employment), c. Mean tenure (years with the same employer), d. Mean cumulative jobs changes.

Table 2
Multilevel regression of men's log monthly earnings.

		1	2	3	4	5	6	7	8	9
Age		0.044*** (0.001)	0.053*** (0.001)	0.040*** (0.001)	0.041*** (0.001)	0.038*** (0.002)	0.038*** (0.002)	0.039*** (0.002)	0.038*** (0.002)	0.039*** (0.001)
Career breaks			-0.032*** (0.004)			-0.029*** (0.005)	-0.020*** (0.006)	-0.048*** (0.009)	-0.028*** (0.005)	-0.030*** (0.005)
Tenure				0.015*** (0.001)		0.012*** (0.001)	0.012*** (0.001)	0.011*** (0.001)	0.012*** (0.002)	0.011*** (0.001)
Job changes					0.012*** (0.003)	0.034*** (0.004)	0.040*** (0.004)	0.032*** (0.004)	0.034*** (0.004)	0.003 (0.006)
Career br * job ch							-0.003*** (0.001)			
Education (ref. Low)	Middle	0.149*** (0.020)	0.113*** (0.019)	0.127*** (0.019)	0.154*** (0.021)	0.114*** (0.021)	0.115*** (0.021)	0.125*** (0.023)	0.134*** (0.023)	0.103*** (0.023)
	High	0.304*** (0.024)	0.307*** (0.023)	0.322*** (0.023)	0.262*** (0.025)	0.234*** (0.025)	0.238*** (0.025)	0.073* (0.029)	0.196*** (0.027)	0.044 (0.029)
Mid edu * career br								-0.017 (0.010)		
High edu * career br								0.118*** (0.012)		
Mid edu * tenure									-0.004 (0.002)	
High edu * tenure									0.010*** (0.003)	
Mid edu * job ch										0.009 (0.007)
High edu * job ch										0.099*** (0.008)
Sector (ref. Priv.)	Public	-0.105*** (0.022)	-0.099*** (0.020)	-0.112*** (0.020)	-0.114*** (0.022)	-0.114*** (0.022)	-0.115*** (0.022)	-0.120*** (0.022)	-0.113*** (0.022)	-0.115*** (0.022)
	1950–55	0.217*** (0.031)	0.236*** (0.029)	0.203*** (0.028)	0.231*** (0.032)	0.262*** (0.031)	0.260*** (0.031)	0.267*** (0.030)	0.264*** (0.031)	0.256*** (0.031)
Cohort (ref. 1940–1945)	1960–65	0.357*** (0.029)	0.393*** (0.027)	0.353*** (0.027)	0.369*** (0.030)	0.417*** (0.028)	0.417*** (0.028)	0.428*** (0.028)	0.416*** (0.029)	0.415*** (0.028)
	1970	0.399*** (0.030)	0.460*** (0.029)	0.405*** (0.028)	0.394*** (0.031)	0.457*** (0.031)	0.456*** (0.031)	0.473*** (0.030)	0.456*** (0.031)	0.454*** (0.031)
	1975	0.465*** (0.031)	0.526*** (0.029)	0.464*** (0.028)	0.472*** (0.032)	0.522*** (0.031)	0.520*** (0.031)	0.543*** (0.031)	0.521*** (0.031)	0.521*** (0.031)
	1980	0.484*** (0.031)	0.529*** (0.029)	0.471*** (0.029)	0.499*** (0.032)	0.535*** (0.031)	0.532*** (0.031)	0.557*** (0.031)	0.534*** (0.031)	0.533*** (0.031)
Constant		6.852*** (0.025)	6.832*** (0.024)	6.849*** (0.023)	6.834*** (0.026)	6.812*** (0.026)	6.802*** (0.026)	6.826*** (0.026)	6.812*** (0.026)	6.864*** (0.027)
N		36,159	36,159	36,159	36,159	36,159	36,159	36,159	36,159	36,159
N groups		2614	2614	2614	2614	2614	2614	2614	2614	2614
ICC		0.632	0.657	0.632	0.659	0.676	0.661	0.669	0.662	0.679
AIC		38,922.9	37,660.5	38,330.0	38,008.8	36,352.4	36,332.3	36,192.9	36,317.5	36,160.2
BIC		39,041.8	37,813.4	38,482.9	38,161.7	36,598.8	36,587.1	36,456.3	36,580.8	36,423.5

Notes: SE in brackets, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

effect of career breaks is smaller, and the positive effect of job changes larger, but their interaction displays a negative coefficient. This suggests that especially direct job changes had a positive impact on earnings, while frequent indirect job changes had a strong negative association with earnings growth.

Models 7–9 include interactions between the education variable and the career-stability variables. Career breaks have the largest negative impact on the earnings of those with lower and intermediate levels of education (Models 7). Interestingly, the association of career breaks with earnings turns positive for the high-educated, especially among men, although the coefficient for the high-education dummy diminishes. This seems to confirm that career breaks among high-educated workers were often due to spending longer time in education, which resulted in faster earnings growth once entering the labour market.

Model 8 in Table 2 shows that among men, there is little difference between education levels in the association between tenure and earnings, although high-educated men seemed to benefit somewhat more from spending more years with the same employer. Especially low-educated women benefited from longer tenure (Model 8, Table 3), while high-educated women barely benefited at all. In contrast, high-educated workers almost exclusively seemed to benefit from job changes (Models 9). The association between job changes and earnings is insignificant for low- and middle-educated men but the model shows

an increase in earnings of around ten percent among high-educated men for each job change. However, the coefficient for the high-education dummy is small and not significant in Model 9 (Table 2), suggesting that high-educated men had higher earnings than low-educated men because they changed jobs more often. Among women there is a similar pattern, yet somewhat less pronounced.

4.3. Differences in associations across cohorts

Figs. 2–4 show the average marginal effects of the interactions between the cohort dummies and the career stability indicators (while controlling for all the same variables as in Models 5 in Tables 2 and 3). The full models can be found in Table S1 in the online supplement.

Fig. 2 shows the results for the relation between career breaks and earnings across the six cohorts. Among women the relation was negative and statistically significant for all cohorts, while there is no evidence for differences between cohorts. For men, the relation is negative for four cohorts and positive, although not statistically significant for the 1940–45 and 1970 birth years. For these two cohorts of men, it did not seem to matter for their earnings development whether they spent more time in non-employment.

There were almost no changes in the relation between tenure and earnings among men (Fig. 3). There appears to be a slight downward

Table 3
Multilevel regression of women’s log monthly earnings.

		1	2	3	4	5	6	7	8	9
Age		0.033*** (0.001)	0.040*** (0.001)	0.030*** (0.001)	0.026*** (0.001)	0.027*** (0.002)	0.026*** (0.002)	0.028*** (0.002)	0.027*** (0.002)	0.028*** (0.002)
Career breaks			-0.025***			-0.026*** (0.003)	-0.017*** (0.004)	-0.032*** (0.006)	-0.026*** (0.003)	-0.025*** (0.003)
Tenure				0.010*** (0.007)		0.008*** (0.002)	0.009*** (0.002)	0.008*** (0.002)	0.021*** (0.004)	0.007*** (0.002)
Job changes					0.020*** (0.003)	0.030*** (0.003)	0.038*** (0.004)	0.027*** (0.003)	0.030*** (0.003)	0.019** (0.007)
Career br * job ch							-0.002*** (0.001)			
Education (ref. Low)	Middle	0.096*** (0.022)	0.076*** (0.021)	0.091*** (0.022)	0.087*** (0.022)	0.059** (0.022)	0.059** (0.022)	0.068** (0.026)	0.089*** (0.024)	0.079** (0.025)
	High	0.271*** (0.025)	0.264*** (0.025)	0.278*** (0.025)	0.238*** (0.026)	0.212*** (0.025)	0.211*** (0.025)	0.118*** (0.030)	0.258*** (0.027)	0.124*** (0.029)
Mid edu * career br								-0.006 (0.006)		
High edu * career br								0.042*** (0.007)		
Mid edu * tenure									-0.012** (0.004)	
High edu * tenure									-0.020*** (0.005)	
Mid edu * job ch										-0.006 (0.007)
High edu * job ch										0.033*** (0.007)
Sector (ref. Priv.)	Public	-0.037* (0.015)	-0.030* (0.015)	-0.038* (0.015)	-0.036* (0.016)	-0.025 (0.015)	-0.024 (0.015)	-0.027 (0.015)	-0.024 (0.015)	-0.027 (0.015)
	1950–55	0.256*** (0.031)	0.243*** (0.031)	0.249*** (0.031)	0.247*** (0.033)	0.224*** (0.032)	0.226*** (0.032)	0.226*** (0.032)	0.225*** (0.032)	0.226*** (0.032)
Cohort (ref. 1940–1945)	1960–65	0.447*** (0.029)	0.440*** (0.029)	0.466*** (0.029)	0.446*** (0.031)	0.440*** (0.030)	0.442*** (0.030)	0.443*** (0.030)	0.443*** (0.030)	0.443*** (0.030)
	1970	0.522*** (0.031)	0.539*** (0.031)	0.553*** (0.031)	0.524*** (0.033)	0.545*** (0.032)	0.546*** (0.032)	0.549*** (0.032)	0.548*** (0.032)	0.549*** (0.032)
	1975	0.557*** (0.032)	0.550*** (0.031)	0.582*** (0.032)	0.547*** (0.033)	0.547*** (0.032)	0.547*** (0.032)	0.555*** (0.032)	0.551*** (0.032)	0.551*** (0.032)
	1980	0.513*** (0.032)	0.501*** (0.031)	0.530*** (0.032)	0.513*** (0.033)	0.500*** (0.032)	0.500*** (0.032)	0.514*** (0.032)	0.504*** (0.032)	0.503*** (0.032)
Constant		6.580*** (0.027)	6.607*** (0.027)	6.554*** (0.027)	6.589*** (0.028)	6.617*** (0.028)	6.601*** (0.028)	6.631*** (0.030)	6.582*** (0.029)	6.628*** (0.029)
N		36,419	36,419	36,419	36,419	36,419	36,419	36,419	36,419	36,419
N groups		2782	2782	2782	2782	2782	2782	2782	2782	2782
ICC		0.412	0.406	0.418	0.418	0.418	0.412	0.419	0.413	0.421
AIC		61,961.4	61,688.5	61,489.1	61,669.8	60,892.7	60,878.4	60,831.4	60,877.2	60,820.6
BIC		62,080.4	61,841.5	61,642.1	61,822.8	61,139.3	61,133.5	61,095.0	61,140.8	61,084.2

Notes: SE in brackets, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

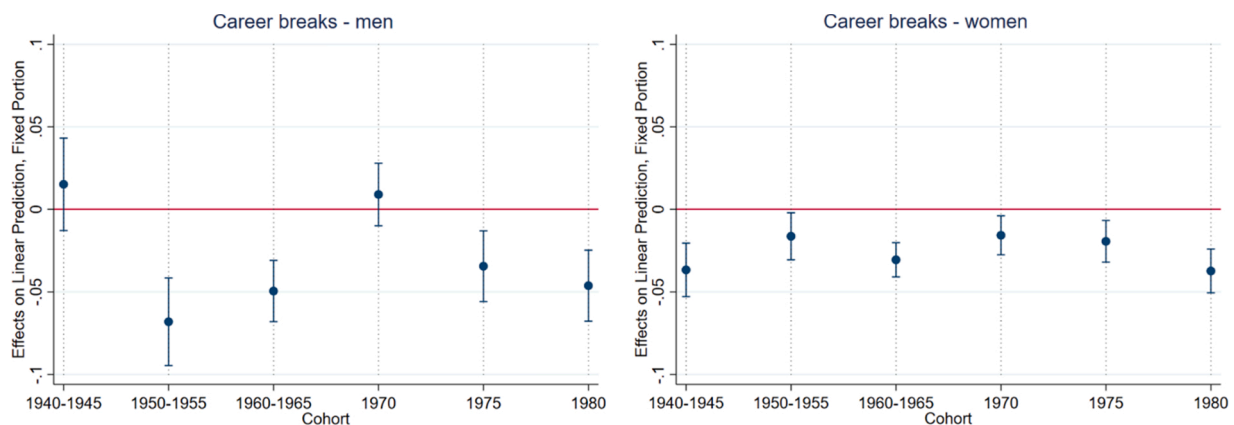


Fig. 2. Average marginal effects (with 95 % confidence intervals) of career breaks on earnings by cohort.

trend, while for the 1980 cohort the relation was no longer statistically significant. Among women, we can observe a more pronounced downward trend, with a positive statistically significant association among the three oldest cohorts, no statistically significant relation among the

1970 and 1975 cohorts, and a statistically significant negative coefficient for the 1980 cohort. These results suggest that among the youngest cohort of women, it was harmful to one’s earnings mobility to stay with the same employer too long.

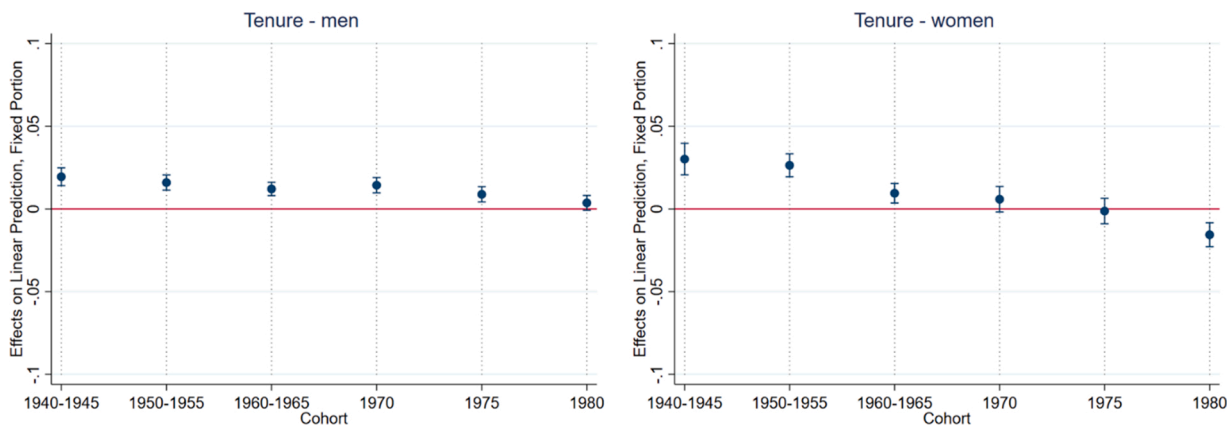


Fig. 3. Average marginal effects (with 95 % confidence intervals) of tenure on earnings by cohort.

Finally, Fig. 4 shows that for women the association between job changes and earnings was positive and statistically significant for all cohorts, while there is no evidence for changes in the size of this effect. For men, the association was also positive throughout, but not statistically significant for the 1950–55 and 1960–65 cohorts. Moreover, the impact of job changes on earnings was somewhat higher among those born in 1970.

5. Discussion

This study investigated the relations between career stability and earnings mobility in Finland, a Nordic welfare state with an open economy and high levels of female labour market participation, across a turbulent period of more than half a century. The aim was to analyse whether career stability benefits or harms workers’ earnings growth and whether its impact has changed across cohorts. It used longitudinal register-based data and assessed the relation of changes in earnings with three indicators of career stability: cumulative years in non-employment, years of tenure with the same employer and cumulative number of job changes.

Previous studies using composite measures for life-course complexity found little or no signs of growing employment complexity or career instability across cohorts in Finland (Riekhoff, Ojala, & Pyöriä, 2021) or in international comparisons (Van Winkle & Fasang, 2021). With the use of separate measures for career breaks, tenure, and job changes in the current study, it was possible to observe that whereas some dimensions of career stability did not substantially change across cohorts, others did. Change did not always follow a linear trend but followed the economic cycle, as in the case of career breaks and to some extent tenure. The 1970 cohort, with most years of non-employment and shortest average tenure

between the ages 23 and 39, stood out in particular. This finding can be explained by this cohort entering the labour market in times of high unemployment in the early 1990s. Only in the case of job changes, a cross-cohort trend towards substantially more transitions was observable, especially among women. These findings show that analysing multiple and disaggregated indicators can detect changes in particular qualities of career stability that some composite indicators cannot (Pelletier et al., 2020).

Each of the career stability indicators were found to be related to earnings mobility, but in different ways. In line with previous literature on “motherhood penalties” and “unemployment scars”, career breaks contributed to lower earnings (Budig, Misra, & Boeckmann, 2012; Gangl & Ziefle, 2009; Gangl, 2006; Mooi-Reci & Ganzeboom, 2015). While among women in this age group career breaks are common and often related to maternity, among men they are more likely caused by unemployment. As the effect size of cumulative non-employment did not strongly differentiate between men and women, this suggests that the reason for the career break did not exercise a particular signal, but that the break itself was the signal or was accompanied by human capital depreciation.

While other studies have also found that the effect of career breaks of women are especially large among those with lower education due to having children (Kuitto et al., 2019; Österbacka & Räsänen, 2021), the current study found that the negative effect of career breaks also predominated among lower-educated men. These findings differed from those of England et al. (2016), who found the greatest loss of earnings due to motherhood among high-educated women. This difference, however, might be explained by the fact that career breaks of higher-educated men and women in this study can also be due to longer time spent in education. In those cases, the earnings lost due to

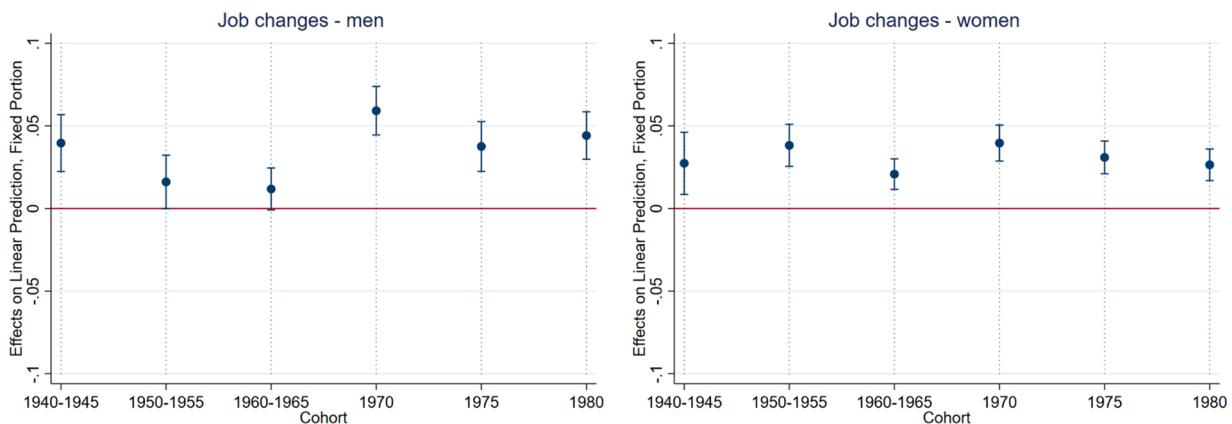


Fig. 4. Average marginal effects (with 95 % confidence intervals) of job changes on earnings by cohort.

non-employment in the earliest career are quickly made up due to the investments in human capital.

In general, stable and continuous employment with a single employer was associated with higher earnings and is in line with most common theories about the returns to tenure (Becker, 2009; Lazear, 1979; Salop & Salop, 1976). However, dissecting the results by gender and education showed that among men the higher educated benefited most from longer tenure, whereas among women those with lower education benefited almost exclusively. One reason behind this gender difference could be the gendered occupational segregation of the Finnish labour market, with (lower-educated) women more often working in occupations with flat wage curves and (higher-educated) men working in occupations with upward-sloping wage curves. Among lower-educated women, shorter tenure due to maternity leaves and temporary jobs are more common, while within this group enjoying continuous employment with the same employer could indicate a secure and relatively well-paid job (Riekhoff, Ojala, & Pyörä, 2021; Sloane & Theodossiou, 1993).

Career instability through more frequent job changes can contribute to earnings mobility. It is likely that in the early career phase, men and women change jobs several times to find their best match and look for higher earnings (Fuller, 2008; Le Grand & Tählin, 2002; Pavlopoulos et al., 2014). Moreover, the results suggest that this effect is strongest when job-to-job changes were “direct”, i.e. they did not coincide with spells of non-employment (Schmelzer, 2012; Schmelzer & Ramos, 2015). In contrast to previous studies, we did not find clear gender differences in the earnings outcomes of job changes (Fuller, 2008; Keith & McWilliams, 1995, 1999). When interacting the job-changes and education variables, the results indicated that those with higher education almost exclusively benefitted from job mobility, especially among men. Moreover, the higher earnings of the high-educated men are strongly connected to their greater job mobility. The findings are in line with previous research that suggested that job-shopping for higher wages during this early phase of the career is especially a driver of earnings growth among high-skilled men (Oreopoulos et al., 2012; Sloane & Theodossiou, 1993; Topel & Ward, 1992).

The associations between career stability and earnings growth were relatively stable across the six observed cohorts, albeit with some exceptions. First, the 1970 cohort was somewhat of an outlier and perhaps found itself at a turning-point. Especially men appear to have been affected in the returns to career stability by the Finnish economic crisis of the early 1990s. For this cohort of men, career breaks were not associated with lower earnings mobility. It is possible that negative signal associated with non-employment diminished, as unemployment was widespread at that time (Biewen & Steffes, 2010). It is also possible that longer career breaks were due to longer spells of education and delayed entry to the labour market, which did not lead to lower earnings growth afterwards. Furthermore, there were increased returns to frequent job changes among the men born in 1970. This could be explained by increased premiums for those who managed to switch to better jobs in times when labour market entry into “bad jobs” was more common (Oreopoulos et al., 2012).

Second, the premiums of longer tenure reduced across cohorts and even turned into a penalty for women in the youngest cohort. This could be due to the “externalization of job mobility”: job ladders within firms have become less common and changes between employers are needed for career growth (Kronberg, 2013). At the same time, it is possible that there has been a shift of increasingly high-educated women from working in occupations that require firm- or occupation-specific skills (especially in the public sector), to working in occupations that require more general skills. Particularly in those professions that require high but general skills, staying too long with the same employer might act as a brake on one’s earnings.

There are several limitations to this study. Although using register-based data has advantages in terms of reliability, representativeness and accuracy, there are also certain risks. The analysis only included

those who had earnings in at least two years of the follow-up period, while excluding those with no earnings at all and those who were self-employed most of the time. Therefore, this should be seen primarily as a study of employees with a certain minimum of labour market attachment. Moreover, register data can be rather “messy” compared to survey data, requiring the researcher to make adequate and relevant selections. Finally, register data often miss details that can be asked in surveys. In the case of this study, it would have been useful to know about the reasons behind career breaks and job changes. In addition, with these data it was not possible to investigate hourly wages due to lack of information on working hours.

The aim was to investigate whether and how career stability is related to earnings mobility, not to establish causality. Therefore, this study does not conclude that career (in)stability causes earnings growth. As brought forward in the theory section and interpretation of the results, it is possible that there are relations between unobserved individual heterogeneity, career stability and earnings (Fuller, 2008, p. 167). More research is also needed on the relations between the various career stability dimensions. Tenure and turnover both are positively related to earnings, suggesting that throughout the career there are trade-offs between the time to stay with the same employer and changing jobs (Le Grand & Tählin, 2002; Topel, 1991).

Finally, while changes in the relation between career stability and earnings trajectories were observed, this study did not investigate the factors in the economy, labour market and institutions that contributed to these changes. More cross-national comparative research would be instructive in this regard. For example, previous studies have found that the impact on earnings of certain career breaks (Budig et al., 2012; Evertsson et al., 2016; Gangl, 2006; Gangl & Ziefle, 2009), tenure (Hashimoto & Raisian, 1985), and job changes (Pavlopoulos et al., 2014; Schmelzer & Ramos, 2015) vary across institutional and cultural contexts.

This study showed that choices people make in their careers, but also possible opportunities and restrictions they face in the labour market, matter for their economic mobility in the early life course. Earnings mobility in the early career can have a long-reaching impact on earnings throughout the rest of one’s career and even, through pension accrual, on economic well-being in older age. Therefore, there is an important role for labour-market and family policies to support careers to be either stable or dynamic at the right moment and for those who need it most.

Data availability

Access to the data can be applied for through special request.

Declaration of Competing Interest

There are no conflicts of interest or competing interests concerning this study.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.rssm.2022.100674>.

References

- Aisenbrey, S., Evertsson, M., & Grunow, D. (2009). Is there a career penalty for mothers’ time out? A comparison of Germany, Sweden and the United States. *Social Forces*, 88 (2), 573–605. <https://doi.org/10.1353/sof.0.0252>
- Albrecht, J. W., Edin, P.-A., Sundström, M., & Vroman, S. B. (1999). Career interruptions and subsequent earnings: A reexamination using Swedish data. *The Journal of Human Resources*, 34(2), 294–311. <https://doi.org/10.2307/146347>
- Becker, G. S. (2009). *Human capital: A theoretical and empirical analysis, with special reference to education*. Chicago: University of Chicago Press.
- Biemann, T., Fasang, A., & Grunow, D. (2011). Do economic globalization and industry growth destabilize careers? An analysis of career complexity and career patterns

- over time. *Organization Studies*, 32(12), 1639–1663. <https://doi.org/10.1177/0170840611421246>
- Biewen, M., & Steffes, S. (2010). Unemployment persistence: Is there evidence for stigma effects? *Economics Letters*, 106(3), 188–190. <https://doi.org/10.1016/j.econlet.2009.11.016>
- Blumen, L., Kogan, M., & McCarthy, P. J. (1955). *The industrial mobility of labor as a probability process*. Ithaca, New York: Cornell University Press.
- Böhlmark, A., & Lindquist, M. J. (2006). Life-cycle variations in the association between current and lifetime income: Replication and extension for Sweden. *Journal of Labor Economics*, 24(4), 879–896. <https://doi.org/10.1086/506489>
- Brenner, J. (2010). Life-cycle variations in the association between current and lifetime earnings: Evidence for German natives and guest workers. *Labour Economics*, 17(2), 392–406. <https://doi.org/10.1016/j.labeco.2009.03.006>
- Budig, M. J., Misra, J., & Boeckmann, I. (2012). The motherhood penalty in cross-national perspective: The importance of work–family policies and cultural attitudes. *Social Politics*, 19(2), 163–193. <https://doi.org/10.1093/sp/jxs006>
- Cappellari, L., & Leonardi, M. (2016). Earnings instability and tenure. *The Scandinavian Journal of Economics*, 118(2), 202–234. <https://doi.org/10.1111/sjoe.12142>
- DiPrete, T. A., Goux, D., & Maurin, E. (2002). Internal labor markets and earnings trajectories in the post-Fordist economy: An analysis of recent trends. *Social Science Research*, 31(2), 175–196. <https://doi.org/10.1006/ssre.2001.0721>
- England, P., Bearak, J., Budig, M. J., & Hodges, M. J. (2016). Do highly paid, highly skilled women experience the largest motherhood penalty? *American Sociological Review*, 81(6), 1161–1189. <https://doi.org/10.1177/0003122416673598>
- Evertsson, M. (2016). Parental leave and careers: Women's and men's wages after parental leave in Sweden. *Advances in Life Course Research*, 29, 26–40. <https://doi.org/10.1016/j.alcr.2016.02.002>
- Evertsson, M., Grunow, D., & Aisenbrey, S. (2016). Work interruptions and young women's career prospects in Germany, Sweden and the US. *Work Employment & Society*, 30(2), 291–308. <https://doi.org/10.1177/0950017015598283>
- Fausser, S. (2020). Career trajectories and cumulative wages: The case of temporary employment. *Research in Social Stratification and Mobility*, 69, Article 100529. <https://doi.org/10.1016/j.rssm.2020.100529>
- Fuller, S. (2008). Job mobility and wage trajectories for men and women in the United States. *American Sociological Review*, 73(1), 158–183. <https://doi.org/10.1177/000312240807300108>
- Gangl, M. (2006). Scar effects of unemployment: An assessment of institutional complementarities. *American Sociological Review*, 71(6), 986–1013. <https://doi.org/10.1177/000312240607100606>
- Gangl, M., & Ziefle, A. (2009). Motherhood, labor force behavior, and women's careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography*, 46(2), 341–369. <https://doi.org/10.1353/dem.0.0056>
- Hashimoto, M., & Raisian, J. (1985). Employment tenure and earnings profiles in Japan and the United States. *The American Economic Review*, 75(4), 721–735. <https://www.jstor.org/stable/1821350>
- Hollister, M. (2011). Employment stability in the U.S. Labor market: Rhetoric versus reality. *Annual Review of Sociology*, 37(1), 305–324. <https://doi.org/10.1146/annurev-soc-081309-150042>
- Hyatt, H. R., & Spletzer, J. R. (2016). The shifting job tenure distribution. *Labour Economics*, 41, 363–377. <https://doi.org/10.1016/j.labeco.2016.05.008>
- Jee, E., Misra, J., & Murray-Close, M. (2019). Motherhood penalties in the US, 1986–2014. *Journal of Marriage and the Family*, 81(2), 434–449. <https://doi.org/10.1111/jomf.12543>
- Jovanovic, B. (1979). Job matching and the theory of turnover. *The Journal of Political Economy*, 87(5), 972–990. <https://doi.org/10.1086/260808>
- Kahn, L. M., & Low, S. A. (1982). The relative effects of employed and unemployed job search. *The Review of Economics and Statistics*, 64(2), 234–241. <https://doi.org/10.2307/1924302>
- Keith, K., & McWilliams, A. (1995). The wage effects of cumulative job mobility. *ILR Review*, 49(1), 121–137. <https://doi.org/10.1177/001979399504900108>
- Keith, K., & McWilliams, A. (1999). The returns to mobility and job search by gender. *ILR Review*, 52(3), 460–477. <https://doi.org/10.1177/001979399905200306>
- Kronberg, A. K. (2013). Stay or leave? Externalization of job mobility and the effect on the US gender earnings gap, 1979–2009. *Social Forces*, 91(4), 1117–1146. <https://doi.org/10.1093/sf/sot041>
- Kuitto, K., Salonen, J., & Helmdag, J. (2019). Gender inequalities in early career trajectories and parental leaves: Evidence from a Nordic welfare state. *Social Sciences*, 8(9), 253. <https://doi.org/10.3390/socsci8090253>
- Lazear, E. P. (1979). Why is there mandatory retirement? *The Journal of Political Economy*, 87(6), 1261–1284. <https://doi.org/10.1086/260835>
- Le Grand, C., & Tåhlin, M. (2002). Job mobility and earnings growth. *European Sociological Review*, 18(4), 381–400. <https://doi.org/10.1093/esr/18.4.381>
- Leonardi, M. (2017). Job mobility and earnings instability. *Economic Inquiry*, 55(1), 260–280. <https://doi.org/10.1111/eicn.12351>
- Manning, A. (1998). Mighty good thing: The returns to tenure. *Centre for economic performance discussion paper*, No. 383. London School of Economics and Political Science. <http://eprints.lse.ac.uk/20291/>.
- Mincer, J., & Ofek, H. (1982). Interrupted work careers: Depreciation and restoration of human capital. *The Journal of Human Resources*, 17(19), 3–24. <https://doi.org/10.2307/145520>
- Mooi-Reci, I., & Ganzeboom, H. B. (2015). Unemployment scarring by gender: Human capital depreciation or stigmatization? Longitudinal evidence from the Netherlands, 1980–2000. *Social Science Research*, 52, 642–658. <https://doi.org/10.1016/j.ssresearch.2014.10.005>
- Mouw, T., & Kalleberg, A. L. (2010). Do changes in job mobility explain the growth of wage inequality among men in the United States, 1977–2005? *Social Forces*, 88(5), 2053–2077. <https://doi.org/10.1353/sof.2010.0035>
- Oreopoulos, P., Von Wachter, T., & Heisz, A. (2012). The short-and long-term career effects of graduating in a recession. *American Economic Journal Applied Economics*, 4(1), 1–29. <https://doi.org/10.1257/app.4.1.1>
- Österbacka, E., & Räsänen, T. (2021). Back to work or stay at home? Family policies and maternal employment in Finland. *Journal of Population Economics*. <https://doi.org/10.1007/s00148-021-00843-4>. ahead of print online publication.
- Pal, I., & Waldfogel, J. (2016). The family gap in pay: New evidence for 1967 to 2013. *The Russell Sage Foundation Journal of the Social Sciences : RSF*, 2(4), 104–127. <https://doi.org/10.7758/RSF.2016.2.4.04>
- Pavlopoulos, D., Fouarge, D., Muffels, R., & Vermunt, J. K. (2014). Who benefits from a job change: The dwarfs or the giants? *European Societies*, 16(2), 299–319. <https://doi.org/10.1080/14616696.2013.798019>
- Pelletier, D., Bignami-Van Assche, S., & Simard-Gendron, A. (2020). Measuring life course complexity with dynamic sequence analysis. *Social Indicators Research*, 152(3), 1127–1151. <https://doi.org/10.1007/s11205-020-02464-y>
- Riekhoff, A.-J., Ojala, S., & Pyöriä, P. (2021). Career stability in turbulent times: A cross-cohort study of mid-careers in Finland. *Acta Sociologica*, 64(4), 437–458. <https://doi.org/10.1177/0001699320983422>
- Salonen, J. (2009). Palkansaajien ansiot ja eläkkeet: Yksityisen ja julkisen sektorin palkansaajan ansiokehitys 1964–2004. *Eläketurvakeskuksen Keskusteluaioloitteita*, 2009, 3.
- Salop, J., & Salop, S. (1976). Self-selection and turnover in the labor market. *The Quarterly Journal of Economics*, 90(4), 619–627. <https://doi.org/10.2307/1885325>
- Schmelzer, P. (2012). The consequences of job mobility for future earnings in early working life in Germany—Placing indirect and direct job mobility into institutional context. *European Sociological Review*, 28(1), 82–95. <https://doi.org/10.1093/esr/jcq049>
- Schmelzer, P., & Ramos, A. V. (2015). Varieties of wage mobility in early career in Europe. *European Sociological Review*, 32(2), 175–188. <https://doi.org/10.1093/esr/jcv079>
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford: Oxford University Press.
- Sloane, P. J., & Theodossiou, I. (1993). Gender and job tenure effects on earnings. *Oxford Bulletin of Economics and Statistics*, 55(4), 421–437. <https://doi.org/10.1111/j.1468-0084.1993.mp55004004.x>
- Struffolino, E., & Raitano, M. (2020). Early-career complexity before and after labour-market deregulation in Italy: Heterogeneity by gender and socio-economic status across cohorts. *Social Indicators Research*, 151, 231–257. <https://doi.org/10.1007/s11205-020-02373-0>
- Topel, R. (1991). Specific capital, mobility, and wages: Wages rise with job seniority. *The Journal of Political Economy*, 99(1), 145–176. <https://doi.org/10.1086/261744>
- Topel, R. H., & Ward, M. P. (1992). Job mobility and the careers of young men. *The Quarterly Journal of Economics*, 107(2), 439–479. <https://doi.org/10.2307/2118478>
- Van Winkle, Z., & Fasang, A. (2017). Complexity in employment life courses in Europe in the twentieth century – Large cross-national differences but little change across birth cohorts. *Social Forces*, 96(1), 1–30. <https://doi.org/10.1093/sf/sox032>
- Van Winkle, Z., & Fasang, A. (2021). The complexity of employment and family life courses across 20th century Europe: More evidence for larger cross-national differences but little change across 1916–1966 birth cohorts. *Demographic Research*, 44, 775–810. <https://www.jstor.org/stable/27032934>
- Widmer, E. D., & Ritschard, G. (2009). The de-standardization of the life course: Are men and women equal? *Advances in Life Course Research*, 14(1-2), 28–39. <https://doi.org/10.1016/j.alcr.2009.04.001>