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Working Paper (2009)

How “flexicure” are older Danes?

The development of social inequality in later life since the 1980s

Julia Marold and Mona Larsen

Chair of Sociology I
Otto-Friedrich-University Bamberg
D-96045 Bamberg
Germany

Institute for Sociology
Georg-August-University Göttingen
D-37073 Göttingen
Germany

http://www.flexcareer.de

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INTRODUCTION

For decades, Denmark has been among the Western countries with the highest overall employment rates. This is not only due to the comprehensive labor market integration of women, but also to the relatively high employment rates for older people (particularly those in their late fifties). Like most other OECD countries, Denmark has even raised the proportion of employed older workers since the mid-1990s (OECD Statistics, 2008). Nevertheless, growing international competition and ongoing economic restructuring have increased the pressure on labor markets all over the world, and it is expected that older workers in Denmark are affected by these developments as well.

The flexCAREER project aims to analyze and compare the impact of flexibilization on the late career and, consequently, on social inequality in ten countries (Buchholz et al., 2009). This working paper on the Danish case will describe the country-specific institutional background, give information on the data, and show results for the structure of the late career; i.e. the incidence of unemployment and the chances of re-employment as well as shed light on income mobility in this phase. Further, we analyze the determinants for the timing of retirement and the impact of individual, sectoral and policy-related factors on the development of old age pension levels.

[1] The cross-national cooperation of Julia Marold (Institute for Family Research, University of Bamberg, Germany) and Mona Larsen (SFI, Copenhagen, Denmark) was financially supported by the TransEurope Research Network (www.transeurope-project.org) which is funded by the European Science Foundation (www.esf.org).

INSTITUTIONAL CONTEXT

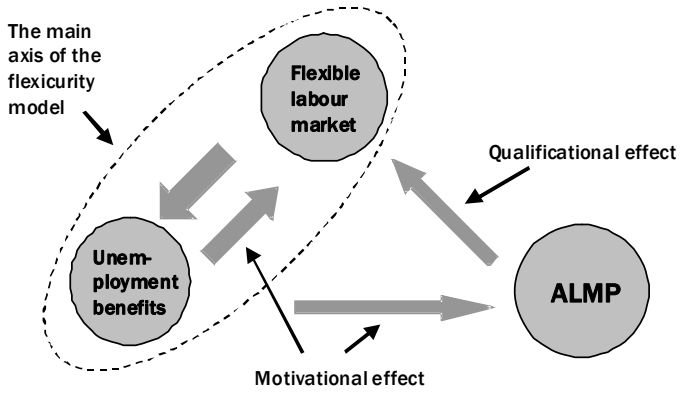
According to Buchholz et al. (2009), the most relevant institutional factors concerning the influence of flexibilization on late careers in a society are labor market characteristics (production regimes and employment protection legislation), educational/occupational systems, and pension-related welfare schemes.

Labor Market Characteristics

Probably the most striking characteristic of the Danish labor market is the unique combination of flexibility and security, often called „the golden triangle of flexicurity“ (see Figure 1). The main axis of the model shows the interplay of low employment protection and a generous social welfare system, supported by elaborated active labor market policy. As a result, companies can adjust comparatively easily to structural changes on global markets and job mobility is high in all age groups. When comparing 16 OECD countries with regard to the average tenure with the same employer in 1992 and 2000, Denmark ranked right behind the United States and the United Kingdom – both well-known for their “hire-and-fire”-labor markets – and its average tenure even decreased between the two observation points (Auer & Cazes, 2003).

If a dismissed worker has difficulties finding new employment, active labor market measures provide assistance with the job search, as well as skill upgrading or retraining programs. Put simply, the emphasis lies on employment security rather than job security in the Danish case.

Figure 1: The Danish flexicurity model



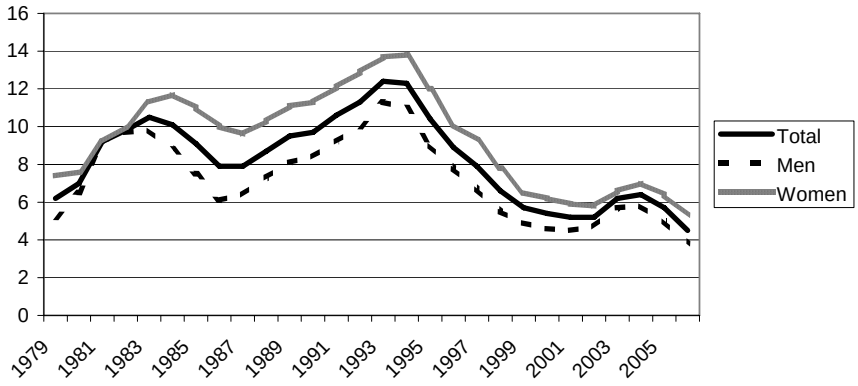
Source: Madsen (2006).

Further peculiarities of the Danish labor market are the high female employment rate and the large public sector. More than a third of all employees work in the public sector, with a strong bias towards women: while only every fifth male Dane is employed in the public sector, this applies to about half of the female Danes. Thanks to the expansion of public employment in recent decades, women's employment rate has risen continuously since the 1960s; and with employment rates of 81 percent (men) and 73 percent (women), Denmark is on top of the European Union member countries (Statistics Denmark, 2008). The strong segregation within the Danish labor market results in a persisting gender wage gap (Deding & Larsen, 2008), but the overall wage dispersion within the workforce is low. Since the early 1980s, there has been a tendency to decentralize wage bargaining and wage setting in the private sector, and since the mid-1990s, an increasing share is even no longer made at the industry or firm level, but at the individual level (Aagaard et al., 2004). The wage setting in the public sector has also been more decentralized since the late nineties when a new wage system was introduced (OECD, 2000). According to the social-democratic welfare state ideology, unions exert major influence on labor conditions and extended benefits, particularly leave schemes or occupational pension funds. The social partners therefore play a particularly decisive role in the Danish case: most of the regulatory issues are settled between trade unions and the employers' federation, while the role of the government is "to pay the bill". The government also takes responsibility for the provision of unemployment benefits and retraining for dismissed workers, which is the core idea of the "Nordic Labor Market Model" also observable in Sweden[2] (Aagard et al. 2004).

Being a small country with few natural resources, Denmark's economy consists mainly of small and medium-sized enterprises, and relies strongly on imports and economic relations with other countries. Since the 1950s, the Danish economy experienced a transition from a mainly agriculture-based economy to a strongly service sector-based society. Simultaneously, the industrial sector showed only moderate growth, but the most remarkable development regarding the employment structure was the massive job creation in the service sector during the 1980s. By the mid-1990s, more than two thirds of all employment was in the service sector, partly due to the considerable expansion of public services such as education, health and child care (Ganßmann & Haas, 2001; Madsen, 1999).

[2] Employment protection legislation is stricter in Sweden though.

Figure 2: Unemployment rates in Denmark, 1979-2006



Source: Statbank Denmark (2008).

When the Danish economy was heavily struck by the oil crises in the 1970s, unemployment rose and reached more than 10 percent in the early 1980s (see Figure 2). After a temporary decline, the rate mounted up again to over 12 percent in the early 1990s. In both of these crises, the Danish government introduced measures to disburden the labor market and offered, among other things, early retirement options for older workers (see section on welfare institutions). However, in the mid-1990s, the Danish strategy changed to a more activating labor market policy and in the following years, the economy has recovered and experienced an "employment miracle". After a small relapse in the first years of the new millennium, general unemployment has fallen further to reach rates equivalent to full employment. It remains a matter of debate if this is due to the enhanced activation measures, their side effect of "hiding" unemployment, or the economic upswing. However, the unemployment rate of people between ages 55 and 59 has been clearly above population average and the gap has decreased only very recently (Statbank Denmark, 2008).

Occupational boundaries and lifelong learning

The Danish education system can be characterized by a high level of state control and a high degree of standardization (Hofäcker & Leth-Sørensen, 2006). Consequently, a person's qualifications are highly transparent through occupational certificates, and education and training are tailored to labor market demands. Similar to Germany, the vocational

training system is organized as a "dual system", combining theoretical training in schools and practical work in firms. Tertiary education shows three levels (short, medium, long) and has become increasingly common in recent decades: currently, more than 50 percent of an age group move on to higher education (CIRIUS, 2006). Among older workers, the share of individuals with higher education is comparatively low, as a large proportion of them have a vocational training certificate as their highest qualification level. A significant proportion, though, possesses only a basic general education, which makes them a less attractive workforce.

However, the concept of continuous, lifetime education has a long tradition in Danish society. The idea of lifelong learning largely originates from Nikolai Grundtvig (1783-1872), one of the most influential Danish humanists of the 19th century. Today, there is a wide range of publicly sponsored (re-)qualification opportunities, targeted at both the unemployed and employed. Although participation rates correlate with previously achieved qualification levels and decrease with age, they still exceed EU averages by far (European Commission, 2003). Through the constant updating of skills, a worker is given the opportunity to overcome the occupational boundaries set by the high importance of certificates on the Danish labor market. In addition, the employability of older workers is improved.

Welfare state arrangements

Denmark is usually assigned to the countries with social-democratic welfare ideology, whose main goals are decommodification (market independence) and a high welfare standard for everyone through full employment (Esping-Andersen, 1990). However, concerning labor market policy, Denmark also shows liberal elements (for example the low level of employment protection legislation). It is therefore often called a 'hybrid' in international comparisons (Bredgaard et al., 2005).

In the context of the labor market situation of older workers, one of the relevant welfare institutions is unemployment insurance (UI), which is a voluntary scheme in Denmark. Still, about 80 percent of Danish workers are members of UI funds, and the replacement ratio for unemployment benefits is, with 90 percent (for low-wage earners), one of the highest in the world (Aagaard et al., 2004). In the last half of the nineties, the maximum benefit period was gradually reduced from seven years to four years, but special rules for older workers continued to exist (OECD, 2005). For the voluntary early retirement program (see below), membership in, and contributions to, an UI fund for at least 25 years within the

last 30 years are currently required, but these requirements have been tightened up several times in the period under study.

Unemployed persons who are not members of UI funds can receive social assistance if they have no other income sources or savings. The same goes for individuals who did not manage to find a new job within four years (or the maximum period for their respective age). In other words, social assistance is means-tested and paid for an unlimited period.

Although the regular retirement age in Denmark was 67 in most of the years under study, there were several pathways to withdraw earlier from the labor market (see e.g. Larsen & Pedersen, 2008). The most common scheme is the voluntary early retirement program called "Efterløn". It was established in 1979 and offers full-time retirement starting at age 60, on condition of a minimum number of years of membership in an UI fund. At the time of its introduction, Efterløn was supposed to disburden the labor market after the oil crises in the 1970s. However, over the years, the program became increasingly popular. Today, the Efterløn program is regarded as a major obstacle to higher economic activity of people in their 60s, but still, abolishment of the scheme has very little political support (OECD, 2005). In 2001, two thirds of persons entering Efterløn had a job before and about 80 percent stated that they opted for early retirement voluntarily and not because of bad health or other pressing reasons (Danish Employers' Confederation, 2003). As a result, the raising of the minimum entry age to 62, effective in 2022, was agreed on in 2006. In order to raise incentives to delay retirement, the government had already launched reforms of the Efterløn scheme in 1992 and 1999. While the success of the first reform was relatively weak (Larsen, 2005), little is known about the effects of the second reform yet. However, similar to the labor market reforms of the mid-1990s, the 1999 reform coincided with the economic upswing. Therefore, an assessment of the specific effect of the new regulations is difficult.

During the recession and rapidly rising unemployment in the early 1990s, the Danish government introduced another program targeted at older workers: the so-called "Overgangsydelse" (transitional benefit program). In case of unemployment in 12 out of 15 months, it was aimed to bridge the time until Efterløn eligibility with 82 percent of unemployment benefit. Starting in 1992 with a minimum age of 55, the entry age was lowered further to 50 in 1994. Since extensive usage put pressure on the state budget and the starting economic boom relieved the labor market soon thereafter, the program was closed to new entrants in 1996.

As in many OECD countries, disability benefits („Førtidspension“) can also be used to exit the labor market (Casey et al., 2003). Before the reform of the Danish system in 2003, this kind of public transfer was a widely used mean of withdrawing from the labor market for Danes of all age groups. However, for people aged 50 and over, disability pension was never a widespread pathway into early retirement.

When Denmark was the second country in the world (after Germany) to introduce an old age security system in 1891, it deliberately chose a tax-financed scheme instead of "Bismarck's" social insurance model (Andersen, 2008). As a result, all persons reaching the legal retirement age and having lived in Denmark for at least 40 years are eligible for the full public old age pension called "Folkepension" (people's pension), irrespective of previous income and employment situation. In 2004, that age was lowered from 67 to 65[3], but a gradual increase to 67 is planned until 2027. The payment consists of a flat-rate basic amount plus an income-tested supplement, and it is indexed annually in line with the overall earnings growth.[4]

In addition to the basic old age pension, the Danish government introduced the Labor Market Supplementary Pension (ATP) as a compulsory scheme in 1964. Although the amount of contributions and benefits depends on the number of weekly working hours before retirement, it is not connected to the previous income level either.

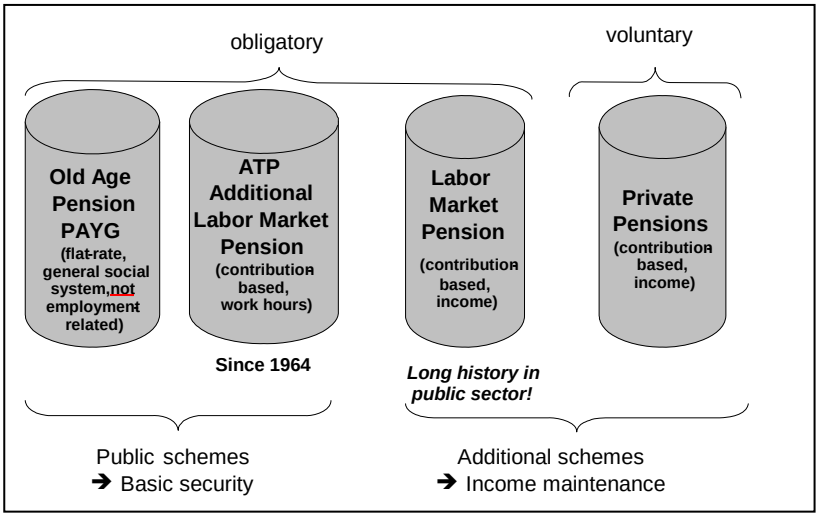
In recent years, Folkepension has developed into a generous minimum protection of pensioners and in that sense it has become more targeted. Since fully funded labor market pensions as well as individual pension savings plans have been added as another layer on top of the state pensions, wealthy pensioners no longer rely on the public pension, but can maintain their living standard during the employment career throughout old age. In other words, occupational pensions that are closely earnings-related are gradually replacing Folkepension as the backbone of the

[3] Since the Efterløn program is more expensive than Folkepension and most of the Danes were retired by age 65 anyway, the government intended to save money by simply transferring those aged 65 and 66 from Efterløn to Folkepension.

[4] Until a reform in 1964, entitlements were means-tested and before 1973, citizenship instead of residence was the eligibility criteria. Currently, the basic amount is approximately € 650 per month, while the supplement was about the same for a single person and about € 310 for retirees with a partner. Both were subject to regular income taxation (Source: www.workindenmark.dk, May 4th, 2009).

system. Important to note, the Danish pension system as a whole currently comes close to the World Bank recommendations without a comprehensive pension reform within the last half century (Andersen, 2008). At the same time, there is a discussion that more reforms of the retirement schemes are needed in order to finance the welfare state and to avoid labor shortage in the future. Figure 3 gives a broad overview of the four pillars of the Danish pension system.

Figure 3: The four pillars of the Danish old age pension system



Source: Hofäcker and Leth-Sørensen (2004).

HYPOTHESES

When hypothesizing about the impact of flexibilization on the late career of Danish workers, one has to keep in mind that the Danish labor market has traditionally been quite flexible. As a result, job mobility has already been high even for persons aged 50 and over. Moreover, unions exert strong influence, and the social partners make agreements on how to apply flexibilization strategies. However, wage setting has been increasingly decentralized in the course of our observation period. There is no specific employment protection for older workers, but re-qualification represents an important means of adapting older workers' qualifications to the changing demands on the labor market. Through comprehensive activation programs, the government makes various efforts to help and motivate all dismissed persons to reintegrate. However, as soon as people

reach age 60, the early exit pathway Efterløn has been widely used since the early 1980s. Public benefits such as unemployment insurance and public old age pension remain generous and secure every Dane's minimum living standard even in periods of non-employment. However, for budget reasons and in order to increase labor supply, there have been several reforms lately to make individuals delay retirement or to shift the responsibility to the individual, i.e. to occupational and private pension plans.

With these structures and developments in mind, we assume the following tendencies over time: Unemployment might increase, especially in times of a tense labor market, while re-employment is likely to depend on the economic cycle as well. However, most re-entries are expected to happen within a short period of time, due to active public support to re-integrate unemployed people into the labor market. The levels of job mobility and wage mobility in the late career should rise – even if only slightly. However, due to the compressed wage structure, extensive re-qualification measures and mostly short unemployment spells, neither a regular job change in the late career nor re-employment after unemployment should systematically be connected to downward income mobility. Recent pension reforms might support older workers' employment and contribute to an eventual increase of retirement ages.

Regarding social inequality, existing patterns are not expected to change significantly. In cross-country comparison, inequality among the Danish population is low. Like in most other countries, people with weak labor market attachment, i.e. persons with no, or low, qualification levels, should be disadvantaged to the highest degree in the course of economic restructuring and further flexibilization. In contrast, workers in the large public sector should be comparatively shielded against economic fluctuations. Therefore, in the specific Danish case, men should suffer more from economic downs, but also benefit more from the economic upswing. The still existing gender wage gap, however, should increasingly translate into gender differences also in pension income when earnings-related parts of the pension system (occupational and private pensions) gain importance. Similarly, longer unemployment spells and low income levels in the late career are assumed to eventually show impact on old age income and might strengthen existing inequality patterns. However, the generous people's pension should prevent old age poverty. As a result, Denmark might be one of the countries in the flexCAREER study whose older workers are least affected by the global trend of labor market flex-

ibilization. Instead, they are expected to enjoy a comparatively beneficial situation in their late career, as well as after the transition to retirement. In the first case, this means employment and income security instead of job security, while in the second case, a decent living standard for most Danes beyond the official retirement age is guaranteed.

DATA AND METHODS

The data used is based on the Integrated Database for Labor Market Research (IDA). It comprises the entire Danish population and provides a wide range of register-based variables. Therefore, this database represents a highly valuable and reliable source for social and economic research. It was established in 1980 and allows for the linkage of individual and company information. In addition, we have access to income information from the Income and Tax Register and to some variables on social transfers from the Social Statistics Database. The observation window for the following analyses is 1980-2006; the samples used originate from a 5 percent sample of the total IDA dataset and contain 850,000 – 910,000 observations of 73,000 – 78,000 individuals.[5]

Individuals enter the dataset in the year that they turn 50, under the condition that they have a job or – depending on the process studied – are in the labor force at that time; they leave the sample when they turn 70, or earlier if they die or leave the country for more than one year. To enable the observation of trends over time, individuals are classified into five cohorts according to the labor market situation of the period in which they turn 50, as well as the occurrence of relevant policy reforms.

For our analyses on the transition to unemployment and re-employment and on income mobility in the late career as well as for the transition to retirement, we employ event history methods using discrete time logistic regression models (Blossfeld & Rohwer, 2002). In the context of income mobility in the late career, we define a 10 percent increase in wages adjusted for inflation (gross yearly income) as upward mobility, and a 10 percent decrease in income as downward mobility. The determinants of

[5] We used a sample of all persons employed at age 50 for the analyses on the late career and another sample of all persons in the labor force at age 50 for the analyses on the transition to retirement and retirement income. This explains the difference of about 5,000 persons who were unemployed, in activation/ requalification or on leave at age 50.

the level of old age pension income are analyzed by conducting OLS regression estimations.[6]

Table 1: Explanatory variables

Core variables	*Measures and categories*
Cohorts	1930-1933, 1934-1937, 1938-1943, 1944-1948, 1949-1956 (based on the year a person turns 50)
Education and training level	5-point scale, self-constructed combining information on general education and occupational training
Gender	Men versus women
Ethnicity	Danish versus non-Danish (comprising immigrants and descendants)
Unemployment experience	Time in unemployment since age 50
Firm size	4 categories based on the number of employees
Sector	7 sectors, self-constructed
Unemployment rate	Yearly average (Source: Statistics Denmark)

Source: own compilation.

In addition to birth cohorts, we account for individual characteristics such as gender, qualification level (education categories), ethnicity, unemployment and self-employment experience in the late career. We also consider the characteristics of the working context, such as industrial sector and firm size. Table 1 gives an overview of the explanatory variables and the measures and categories used.

RESULTS

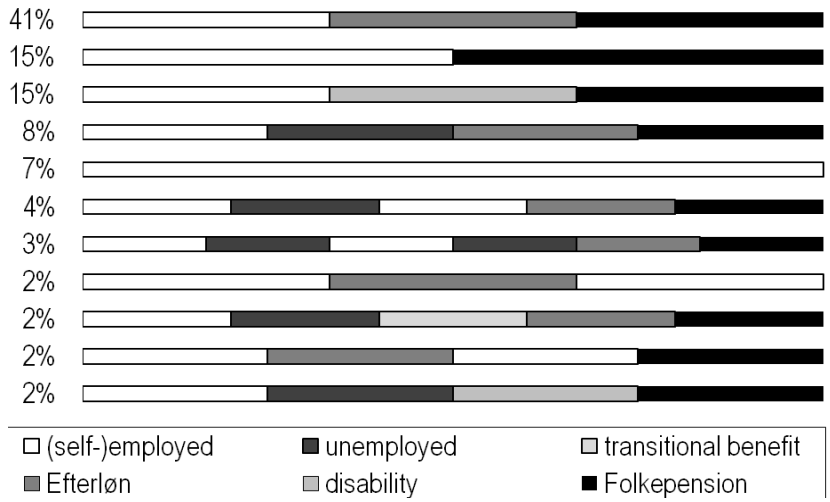
The late career in Denmark – descriptive overview

To get a first overview of the late career and retirement pathways, we show the most frequent sequences of employment states for Danes who were employed at age 50 and reach age 68 at minimum within our observation period. Figure 4 illustrates that the vast majority of those people used the early retirement scheme Efterløn as a bridge between employment and the regular old age pension (the so-called Folkepension). Only

[6] Due to measurement problems, self-employed persons were excluded from all analyses involving income.

15 percent of the Danes in our sample actually worked until the official retirement age and the same proportion was on disability benefit between their last employment and Folkepension receipt. A further relatively small minority of 8 percent entered Efterløn from unemployment and 7 percent had not yet retired.[7] The same proportion (about 7 percent) experienced unemployment after age 50, but managed to re-enter the labor market and then entered Efterløn either directly from their second employment (4 percent) or from another unemployment spell (3 percent). A share of 4 percent in total went back to work from Efterløn, with half of them still working at age 68 or older. An additional 2 percent used the transitional benefit program in the mid-1990s as a bridge from unemployment to Efterløn and the same tiny percentage entered disability benefit from unemployment and from there into old age pension.

Figure 4: Late career pathways for Danes employed at age 50 and reaching age 68 at minimum in 1980-2006



Source: own calculation based on the IDA.
Note: only 11 most frequent sequences, further sequences less than 2%.

In total, 58% of the Danes who could be observed from age 50 to 68 decided to retire early via Efterløn, irrespective of their late career pattern. Therefore, this is the major pathway into retirement among the Danish population, while only small proportions use unemployment benefit

[7] The latter category also includes those people who died or left the country before reaching retirement.

or disability pension (or both) for periods between their last labor market activity and Folkepension.

The risk of unemployment in the late career

The Danish labor market is characterized by high job mobility and short tenures. Descriptive analyses of our data show that job mobility is common also for Danes in the age group 50 and over: almost half of them have at least 2 jobs, and about a quarter have at least 3 jobs between their 50th birthday and the point of retirement.

These job changes are not necessarily connected to (long) unemployment spells in the flexible Danish labor market though. In our data, the share of people experiencing unemployment at least once in their late career varies between 24 and 28 percent for the cohorts reaching their sixties within our observation period (see Table 2).[8]

Table 2: Proportion of persons with at least one transition to unemployment after 50

Cohorts	*Percent*
1930 – 1933	23.6
1934 – 1937	28.3
1938 – 1943	27.1
1944 – 1948	19.5
1949 – 1956	7.5

Source: own calculation based on IDA.

Multivariate analyses of the factors influencing the risk of unemployment reveal that, first of all, people born between 1934 and 1943 have the highest risk of becoming unemployed (see Table 3 in appendix). These people are in their late career between the mid-1980s and the mid-1990s, a period with increasing and/or high unemployment (see Figure 2); further, the cohort 1938-1943 is the target group of the transitional benefit program that was launched in the early 1990s to let unemployed older persons leave the labor market as early as age 50 onwards. As a result, employers might have been inclined to dismiss workers of this age group rather than younger ones because they knew they could bridge the re-

[8] The numbers of events are lower for persons born after 1944 because they have mostly not completed their labor market career and can therefore still have an event.

maining time until Efterløn eligibility. Younger cohorts then show a lower risk of unemployment, most likely because of the economic boom since the mid-1990s and – related to that – the closure of the transitional benefit program. The cohort effects also remain significant when accounting for the different composition regarding qualification levels.

As soon as Danes pass age 60, their risk of unemployment decreases, most likely because those persons rather opt for Efterløn if they are eligible for unemployment benefits. It could be expected that people in their late fifties have a higher tendency to become unemployed than those in their early fifties because they are more likely to have longer UI receipt periods. This is not confirmed by our results, though; only in model 8, when the national unemployment rate is introduced instead of cohorts, this age group shows a positive and significant coefficient.

Throughout the different models, women experience unemployment in the late career more often than men, with the gender difference actually increasing when accounting for sector, perhaps because of a strong occupational segregation not only between but also within the public and the private sector.

Compared to people with vocational training (who represent the largest share in our sample), individuals with no or only basic education are exposed to late career unemployment to the highest degree, people with only secondary general education (very small group because unusual) have about the same risk and people with short or long academic degrees seem to be best protected. When controlling for sectors or industries, effects for short and long academic degrees decrease, probably because the distribution of highly qualified people is uneven within the labor market.

Regarding the size of a firm, workers in large firms have a lower risk of unemployment in the late career than workers of small firms that are not able to shift redundant workers within their internal labor markets. The decreasing effect when controlling for industries might relate to different firm structures as well as varying extent of exposure to market volatility across industries. There is also a significant difference in late career unemployment risk regarding public sector workers and private sector workers (model 4). Again, this might be at least partly due to the higher involvement of the private sector in economic ups and downs.[9]

[9] While in model 4, we only distinguish between public and private sector in general, the private sector is further divided into different industries in models 5 to 8. In model 5 and 7, the public sector is the reference category, but in models

Belonging to an ethnic minority also seems to be a drawback in this context. In contrast, self-employed workers show a lower risk of unemployment compared to the ones dependent employed.

Finally, the macro-economic situation was introduced in the form of the national unemployment rate and as expected, the higher the unemployment in general, the higher the individual unemployment risk, though with only a small effect size.

Chances of re-employment

Half (53 percent) of those persons who become unemployed after age 50 re-enter the labor market, mostly (86 percent) within two years. For the multivariate analysis on the chances of re-employment from the first unemployment spell in the late career, we can use about 13,700 spells with approximately 7,300 events. Compared to the full sample of everyone employed at age 50, this sample is characterized by a shift of education levels to the bottom categories, i.e. almost half of the people "at risk" of re-employment have no or only basic education (first category).

In the preceding section we learned that individuals born between 1934 and 1943 have the highest risk of unemployment. Table 4 shows that they also have the lowest chance of re-employment. Again, this is probably due to the poor labor market situation when these people were in the late career. The cohort born after, in contrast, benefits from the economic upswing and increasing commitment to active labor market policy (see Figure 1).

In general, we can say that the older people are, the lower their chances of re-employment; especially after age 60, re-employment is quite rare since people might rather opt for Efterløn instead of a return to the labor market in case of unemployment. Nevertheless, there is already a significant lower re-employment probability for people in their late fifties compared to people in their early fifties. These findings suggest that Efterløn has a negative effect on re-employment probabilities for workers in their late fifties. Thus, the existence of this scheme might imply less search effort among older workers that plan to retire early, as well as less demand for these workers because employers expect that they retire at age 60. However, the findings could also be evidence for a lack of adequate positions due to economic changes or age discrimination in general. A comparison of unemployment and re-employment probabilities suggests

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6 and 8, it is the extractive industry. This will be adjusted for the final version of this article.

that the comparable high unemployment rate among older workers in their late fifties is rather due to a lower re-employment probability than a result of a higher unemployment risk.

Women have a significantly lower probability of re-employment than males. So overall, there is an imbalance in Danish late careers: they are more likely to become unemployed and less likely to re-enter in case of unemployment after age 50. However, the gender difference could also be due to more "voluntary" unemployment among older women than older men.

Compared to people with vocational training, only people with short academic degrees enjoy a better chance of re-employment, and this effect is only small and on medium significance level at best; interestingly, there is no difference to people with no qualification and even very high qualification (their proportion in the sample is very small with about 2 percent though). Seemingly, qualification does not play a major role in determining a person's chance of re-entry into the labor market after being unemployed in the late career. One explanation could be that these people are already a selective group with specific characteristics, and among those, factors other than highest qualification level matter more for the opportunities to regain employment.

While Danes with a high number of co-workers had the lowest risk of becoming unemployed in their late career, those workers of large firms who actually lose their job have the worst chances of finding new employment compared to previous workers of small firms. This could indicate that older workers who are laid off by large firms after all have some particular feature that makes them less attractive on the labor market.

While the distinction between public/private sector alone does not reveal mentionable results, the more detailed view on private industry effects only shows a significant positive effect for former construction workers – an occupation in which frequent job changes are common. Moreover, native Danes have better re-employment chances than immigrants and their descendants, while a high national unemployment rate decreases the chances of re-employment as expected.

In model 8, we account for the period in which one became unemployed and with the early 1990s as reference (the years with the highest unemployment rates), we can clearly see that re-employment chances were better in all other periods, especially afterwards. Again, we observe a strong dependence of older Danes' employment situation from the economic cycle.

Late career income mobility

In the following, we focus on how the financial situation of older people has developed in the late career. Therefore, we present the results of transition rate models on income downward mobility (see Table 5) and upward mobility (see Table 6). In this context, an upward or downward move is defined as a 10 percent increase or decrease respectively compared to the previous year. Our income information is based on yearly gross work income obtained from the Danish Income and Tax Register. Therefore we cannot use information derived from the employment status that is measured once a year in a week by the end of November (such as employment characteristics). As a result, the covariates in our analysis on income mobility are confined to cohort, age group, gender, qualification, ethnicity, the number of job changes so far, the incidence of job change or the situation that someone was unemployed for most of the year (i.e. more than 6 months) in the year before the move. In the second case, the income of the last year in which a person was fully employed is used as the reference year.

For upward as well as downward mobility in Danish late careers, we cannot detect any development over cohorts for persons born before 1948. Only the youngest age group has a significantly lower chance of experiencing a 10 percent wage increase or decrease from one year to another. This could indicate that wage mobility in general has recently decreased, i.e. in the course of the economic recovery; still we have to keep in mind that the youngest cohort cannot be observed over their full late career since those people reach age 57 at best in our observation window.

However, age does show a significant effect for upward as well as downward mobility: Danes in their late fifties have a lower risk to experience any income change compared to Danes a few years younger, while the tendency decreases further for Danes beyond 60 (in case they are still employed).

While there is no gender difference for upward mobility, women have a significantly lower risk of downward mobility in the late career than men. This could, among other reasons, relate to their large proportion being employed in the public sector, which is less impacted by economic fluctuations and traditionally strongly regulated by collective agreements on wages.

Compared to people with vocational training, lower qualification groups as well as the highest one are more likely to make any income move, while people with a short or medium degree have a slightly lower

chance. This anomaly might be explained by a specific tendency of people with those qualification levels to be employed in fields with low wage mobility, for example in the public sector, and is worth a particular consideration in further research.

Interestingly, persons with an immigration background have a better chance to move upward and downward regarding income, suggesting that income mobility in both directions is higher among workers of ethnic minorities than among the ethnic Danish population.

Persons who have had several different jobs after their 50th birthday, or who have just changed their workplace, also show a higher tendency to experience an upward or downward move regarding their yearly work income than people who have been stayed in the job. As a consequence, people with instable late career employment also seem to have an instable course of earnings.

If Danes have been unemployed for more than half a year, they have a higher probability of experiencing a remarkable income change compared to persons being continuously employed. However, for these re-entrants, it is far more likely that their new employment means an income loss rather than an income gain compared to their previous wage. Obviously, unemployment in the late career – even if short and financially secured by generous benefits – has a negative impact on the further income development.

Transition to Retirement

For the transition to retirement, we use a slightly different sample than for the analyses so far: now we not only include persons who were employed at age 50, but also those who were unemployed, on activation, on leave or on rehabilitation at that age. In short, we observe everybody in the labor force at age 50 until he or she enters any state of retirement, i.e. disability pension, transitional benefit, Efterløn or Folkepension. Figure 4 already showed that the most common way of retirement in Denmark is from employment into Efterløn and then into Folkepension.[10] As a consequence, the labor force participation of the elderly Danish population drops dramatically after age 60. However, there are variations in retirement behavior over time and between different social groups.

Previous analyses revealed that Danes born between 1934 and 1943 had the worst employment situation in their late career (see Tables 3 and

[10]Re-entering employment from Efterløn or disability pension is possible, but quite unusual.

4) and Table 7 shows that these people also retired earlier than persons born before or afterwards. In particular the two youngest cohorts show a clear development towards delayed retirement compared to the older cohorts. Again, this can be traced back to the interplay of positive economic development starting in the mid-1990s on the one hand, and political reforms strengthening (re-)activation and (re-)integration of groups with weak labor market attachment on the other hand, as well as incentives to delay entry into Efterløn in the same period.

Naturally, the tendency to retire increases with age, but while workers in their late fifties only have a slightly higher "risk", coefficients dramatically increase after the critical point of 60. That means that persons older than 60 have a tremendously higher risk of withdrawing from the labor market than workers between 50 and 60 years of age. The age categories must be read as follows: persons who are retired for the first time in the year they turn 60 or 61 appear in the age group "59-60" because the event is defined as "retirement upcoming". Although not everybody entered Efterløn as soon as he or she turned 60, survivor curves for the transition to retirement make clear that at 62, half of the Danes in our sample have retired (without illustration).

However, there is a clear gender gap regarding the timing of retirement, with women withdrawing earlier from the labor market than men. Also, the highest qualification level of a person seems to matter: people with only compulsory education and without vocational qualification are the first to withdraw from employment, while those with upper secondary education or even academic degrees work longest.

The tendency to retire also increases with the number of co-workers, i.e. employees of large firms retire significantly earlier than employees of small firms. While there is no difference between public sector and private sector workers in general, some industry branches in the private sector show a significantly negative effect compared to public sector workers, i.e. public employees tend to enter retirement earlier than most private industry workers.

Persons who immigrated to Denmark or their descendants retire earlier than ethnic Danes, but the effect disappears when accounting for unemployment in the late career or directly before retirement. This is perhaps because migrants have instable late careers and enter retirement from unemployment to a higher extent than ethnic Danes. Especially the latter circumstance, i.e. unemployment in the late career, increases the tendency to retire by far and for everyone, while self-employed persons usually work longer than dependent employees.

Finally, we examined the influence of partner's age on the timing of retirement and found a trend of "coupled retirement": with singles as reference category, there is no effect for partners of the same age, but persons with a younger partner ("older" in Table 7) delay retirement, whereas persons with older partners tend to retire significantly earlier than singles.

Pension income

The final question in our study is what determines the level of pension income. For this analysis, we selected everyone who entered Folkepension within our observation window and looked at the total yearly income of the first year when the person was fully retired.[11] Our dependent variable is logarithmized, adjusted for inflation, and includes total gross yearly income including not only the public transfers of Folkepension, but also occupational and private pensions as well as potential work income.[12]

First of all, we found that women always have significantly lower pension income than men (see Table 8). This can probably be traced back to the still prevalent gender wage gap which does not translate into the level of Folkepension, but of occupational and private pensions.

In addition, people born later have higher pension income than older cohorts. This might not only be due to higher qualification levels (which have a stable positive effect on their own), but also to the growing coverage of occupational pensions and increasing popularity of private pension plans. Interestingly, the age at which one retired (i.e. entered any state of retirement mentioned above) has only a very small, but positive and highly significant effect on the pension income in the first year of Folkepension.

Compared to private sector workers, public sector employees tend to have a higher pension level, but the difference is quite small. Similarly, Danes with last jobs in large firms enjoy a higher pension level than former workers of small firms, perhaps because large firms can offer more generous occupational pension plans.

Persons with unemployment experience after age 50 tend to have a lower pension income than people who had stable late careers; however, the effect is very small, probably due to the fact that only a part of the

[11] For most of the persons in our sample, this was the year in which one turns 68, with the exception of people working longer or retiring after 2004 when the legal retirement age was lowered to 65.

[12] In the rare case when persons were not eligible for Folkepension, the respective form of social minimum support is included as well.

pension income is employment-related (see also Table 9). More impact can be detected if a person entered the respective retirement state from unemployment. This circumstance might indicate a low labor market attachment in general, and therefore additional pension income from occupational or private pension might be low, if existing at all. The effects of some years of self-employment in the late career (but not directly before retirement) and the total number of job changes are significant, but of negligible size.

Finally, we also calculated some models with country-specific covariates. First, we looked at the impact of the method of retirement and found that persons whose first state of retirement was disability pension have lower income than persons who retired through Efterløn, while people entering Folkepension directly have the highest pension level. Second, we accounted for the year in which one retired, with the result that the later people retired (in any form), the higher their income was. Similar effects occurred for the entry into Folkepension.

The last results confirm the trend found earlier that the Danish retirees' pension income has grown over time, no matter how the historical development is measured. This finding is probably due to the successive spread in occupational and private pension plans in the period under study. The Social Statistics Database contains detailed data about the yearly amount of Folkepension, and so the share of the public pension among the total pension income can be determined. Table 9 shows how much of the individual pension income was represented by Folkepension payments.

Overall, the average share of Folkepension payments has decreased from about three quarters for persons born in the early 1930s, to less than one half for people born in the late 1930s and early 1940s, with pronounced gender differences and remarkable variation: while the median share of public pension transfers was more than 80 percent for retired women in the oldest cohort, it is only little more than a third for men in the youngest cohort. As a consequence, women rely on the public pension to a higher extent than men. However, notably, these results indicate that current retirees – and particularly the men among them – get already more than half of their pension income from sources other than the basic public scheme. These findings are in line with the successive development towards Folkepension as a targeted and basic old age security scheme for people with low labor market attachment on the one hand, and towards the strengthening of occupational pensions as new backbone of the Danish pension system, supported by growing popularity of private pension plans, on the other hand.

Table 9: Median proportion of Folkepension payments among the total pension income, by sex and cohorts, in percent[13]

Cohort	*All*	*Men*	*Women*	*Observations*
1930 – 1933	73.7	65.4	81.2	4804
1934 – 1937	61.4	52.1	71.3	5030
1938 – 1943	45.4	36.8	52.9	6036
Total	58.3	48.8	66.7	16,670

Source: own calculation based on IDA.

CONCLUSIONS

The aim of this paper was to understand how the increasing need for employment flexibility on globalized markets impacted the late career and the economic situation of older people in Denmark. Within the highly flexible labor market, unemployment for workers older than 50 is not an exception. Within the population observed in our study, particularly persons born between the mid-1930s and the early 1940s were at risk to lose their job in the late career. At the time when these people were in their fifties, the Danish labor market was tense and overall unemployment rates high. This recession probably contributes to a relatively low retirement age for this cohort, which was made easier by the transitional benefit program launched in the early 1990s. However, this cohort did not have a higher risk of income loss compared to people born some years earlier or later, and they even had a higher overall pension income than the precedent cohort.

While the cohorts born in the mid-1940s were lucky to enjoy an improved employment situation in their late career – meaning less risk of unemployment and relatively good chances of re-employment –, they also worked longer and even had a higher pension income.[14] In addition, wage mobility in both directions decreased for them compared to the older cohorts.

Overall, the differences between the cohorts strongly reflect the development of the business cycle in Denmark since the early 1980s, supported by some policy changes since the mid-1990s aiming at increased labor force participation of persons in their fifties, and especially in their sixties. However, the pension income of older Danes has grown steadily

[13] Base population: everyone entering Folkepension between 1980 and 2006 excluding those with self-employment experience after age 50.
[14] These results are only based on those retiring before 2006.

over time, most likely due to the spread of occupational pensions and private pension plans in the last decades.

To some extent, we also observe clear variations in risk exposure between certain population groups. Women might participate in the Danish labor market to an extraordinarily high degree, but at least the older ones are disadvantaged in several ways: they have a higher risk of unemployment, and a lower chance of re-employment compared to men (although the latter might be voluntary to some extent). Further, their pension income is lower and they are more reliant on the public pension transfer (Folkepension) than men. They only benefit from a lower risk of downward income mobility.

With the exception of the chances of re-employment after unemployment in the late career, persons with a low qualification level are disadvantaged as well. They are more likely to lose their job and to retire earlier (again, the latter might, however, be voluntary), and also to experience a downward move in income during their last years in the labor market.

Similarly, ethnic minorities have difficulties in their late career and experience unemployment more often than ethnic Danes, while the latter group has higher re-employment probabilities. In addition, ethnic minorities are more struck by income mobility, with the overall effect of more instable late careers.

Regarding employment characteristics, workers of the few large firms in the Danish economy and of the public sector seem to have a quite secure labor market position as well, likely to due internal labor markets in both respects; certainly, they retire earlier than the rest of the workforce but, at the same time, they enjoy slightly more pension income.

In summary, some inequalities between social groups seem to persist in Denmark. Further analyses separated by cohorts should reveal in more detail how they have developed over time. However, despite the persistent generous safety net for Danes of all age groups, recommodification might increasingly show impact in the Danish case as well. Moreover, the economic recession in the late 1980s and early 1990s that was so clearly visible in the employment situation of the workers who were in their fifties during that period might be related to developments in international markets. In that sense, economic globalization did in fact impact the economic situation of older workers in Denmark, but recently also in a positive way.

Bibliography

Aagaard, A., Eriksson, T., & Westergaard-Nielsen, N. (2004). Wage and labor mobility in Denmark, 1980-2000 (Paper prepared for the NBER Empirical Personnel Economics Workshop in Cambridge, August 5-6, 2004). Aarhus: Department of Economics and Center for Corporate Performance, Aarhus School of Business.

Andersen, J. G. (2008). From people's pension to an equality-oriented multipillar system. The silent revolution of the Danish pension system (Paper presented at the conference "Pension Systems for the Future". Conference Organized by the Social Research Centre of the University of Iceland and the Nordic Center of Excellence in Welfare Research, May 7, 2008.). Aalborg: CCWS -Centre for Comparative Welfare Studies, Aalborg University.

Auer, P., & Cazes, S. (Eds.). (2003). Employment stability in an age of flexibility: Evidence from the industrialized countries. Geneva: International Labor Office (ILO).

Blossfeld, H.-P., & Rohwer, G. (2002). Techniques of event history modeling (2 ed.). Hillsdale/ Hove/ London: Lawrence Erlbaum Associates.

Bredgaard, T., Larsen, F., & Madsen, P. K. (2005). The flexible Danish labour market - a review (CARMA Research papers 2005:01 No. 1). Aalborg: Centre for Labour Market Research (CARMA).

Buchholz, S., Jabsen, A., Kurz, K., Marold, J., Schmelzer, P., & Blossfeld, H.-P. (2009). Globalization, economic restructuring and increasing uncertainty in old age - a theoretical framework (flexCAREER Working Paper). Bamberg.

Casey, B., Oxley, H., Whitehouse, E., Antolin, P., Duval, R., & Leibfritz, W. (2003). Policies for an ageing society: Recent measures and areas for further reform (OECD Economics Department Working Papers No. 369). Paris: Organisation for Economic Co-Operation and Development (OECD).

CIRIUS. (2006). The Danish education system. Copenhagen: Danish Ministry of Science, Technology and Innovation.

Danish Employers' Confederation. (2003). Seniors and the labor market. Copenhagen: Danish Employers' Confederation.

Deding, M., & Larsen, M. (2008). Lønforskelle mellem mænd og kvinder 1997-2006 (No. 08:28). Copenhagen: The Danish National Centre for Social Research (SFI).

Esping-Andersen, G. (1990). The three worlds of welfare capitalism. Princeton, NJ: Princeton University Press.

European Commission. (2003). The social situation in the European Union 2003 (Report). Luxembourg: Office for Official publications of the European Communities.

Ganßmann, H., & Haas, M. (2001). Arbeitsmärkte im Vergleich. Bd. 2, Flexibilität und Rigidität der Arbeitsmärkte in den Niederlanden, Dänemark und Schweden (Vol. 2). Marburg: Schüren Verlag.

Hofäcker, D., & Leth-Sørensen, S. (2006). Late careers and career exits of older Danish workers. In H.-P. Blossfeld, S. Buchholz & D. Hofäcker (Eds.), Globalization, uncertainty and late careers in society (pp. 255-278). London/ New York: Routledge.

Larsen, M. (2005). The effect of the '92-reform of the voluntary early retirement pension program on retirement age - a natural experiment. Nationaløkonomisk Tidsskrift, 143(2), 168-188.

Larsen, M., & Pedersen, P. J. (2008). Pathways to early retirement in Denmark, 1984-2000. International Journal of Manpower, 29(5).

Madsen, P. K. (1999). Denmark: Flexibility, security and labour market success (Employment and Training Papers No. 53). Geneva: International Labour Office.

OECD. (2000). OECD economic surveys: Denmark 2000. Paris: Organisation for Economic Co-operation and Development (OECD).

OECD. (2005). Ageing and employment policies: Denmark. Paris: Organisation for Economic Co-operation and Development (OECD).

Statbank Denmark. (2008). Unemployed persons in percent of the labor force by age and year, 4th quarter: Statbank Denmark.

Statistics Denmark. (2008). Statistical yearbook 2008. Copenhagen: Statistics Denmark.

APPENDIX

Table 3: Transition to first unemployment after 50 (logistic regression model)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
Cohort								
1930-1933	-0.17 ***	-0.25 ***	-0.23 ***	-0.17 ***	-0.21 ***	-0.15 ***	-0.20 ***	
1934-1937	0.04	-0.01	-0.00	0.05	0.01	0.06	0.02	
1938-1943	ref.	ref.	ref.	ref.	ref.	ref.	ref.	
1944-1948	-0.35 ***	-0.29 ***	-0.30 ***	-0.30 ***	-0.31 ***	-0.30 ***	-0.30 ***	
1949-1956	-0.60 ***	-0.50 ***	-0.51 ***	-0.54 ***	-0.51 ***	-0.54 ***	-0.53 ***	
Age								
50-53	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
54-58	0.00	0.03	0.03	0.02	0.04 *	0.02	0.03	0.12 ***
59-60	-0.64 ***	-0.59 ***	-0.59 ***	-0.60 ***	-0.58 ***	-0.60 ***	-0.59 ***	-0.43 ***
61-62	-1.11 ***	-1.03 ***	-1.05 ***	-1.09 ***	-1.03 ***	-1.09 ***	-1.04 ***	-0.86 ***
63-65	-1.39 ***	-1.28 ***	-1.31 ***	-1.40 ***	-1.28 ***	-1.40 ***	-1.29 ***	-1.11 ***
Gender (women=1)	0.26 ***	0.25 ***	0.25 ***	0.36 ***	0.43 ***	0.38 ***	0.23 ***	0.38 ***
Qualification								
compulsory education or unknown, no vocational training		0.17 ***	0.18 ***	0.21 ***	0.18 ***	0.22 ***	0.18 ***	0.22 ***
general upper secondary education, no vocational training		-0.03	-0.02	0.07	0.08	0.07	-0.04	0.07
compulsory general education and vocational training		ref.	ref.	ref.	ref.	ref.	ref.	ref.
short or medium academic degree		-0.72 ***	-0.69 ***	-0.52 ***	-0.51 ***	-0.53 ***	-0.71 ***	-0.53 ***
long academic degree or Ph.D.		-1.07 ***	-1.01 ***	-0.75 ***	-0.80 ***	-0.75 ***	-1.04 ***	-0.75 ***
Firm size								
1-10 employees			ref.	ref.	ref.	ref.	ref.	ref.
11-50 employees			-0.23 ***	-0.17 ***	-0.21 ***	-0.20 ***	-0.23 ***	-0.20 ***
51-500 employees			-0.46 ***	-0.33 ***	-0.39 ***	-0.39 ***	-0.46 ***	-0.39 ***
501< employees			-0.64 ***	-0.49 ***	-0.54 ***	-0.54 ***	-0.64 ***	-0.54 ***
Sector/industry								
public sector				-0.65 ***	ref.	-0.36 ***		-0.35 ***
private sector (all)				ref.	-	-		-
extractive industry					0.35 ***	ref.		ref.
productive industry					0.84 ***	0.46 ***		0.46 ***
construction					0.85 ***	0.48 ***		0.49 ***
retail					0.61 ***	0.25 ***		0.25 ***

Table 3: Transition to first unemployment after 50 (logistic regression model) (continued)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
private services					0.57 ***	0.23 ***		0.23 ***
transport					0.30 ***	-0.09		-0.09
missing					0.64	0.27		0.33
Ethnic minority						0.55 ***	0.58 ***	0.55 ***
Self-employed							-0.55 ***	
Unemployment rate								0.10 ***
constant	-3.53 ***	-3.49 ***	-3.15 ***	-3.10 ***	-3.75 ***	-3.40 ***	-3.15 ***	-4.41 ***
No. of events	13617	13617	13617	13617	13617	13617	13617	13617
No. of observations	575893	575893	575893	466969	575893	466969	575893	466969

*Significance levels: * 0.05 ** 0.01 *** 0.001*

Table 4: Transition to re-employment from first unemployment after 50 (logistic regression model)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
Cohort								
1930-1933	0.32 ***	0.33 ***	0.34 ***	0.36 ***	0.33 ***	0.33 ***		
1934-1937	0.06	0.07	0.07	0.04	0.07	0.07		
1938-1943	ref.	ref.	ref.	ref.	ref.	ref.		
1944-1948	0.32 ***	0.32 ***	0.31 ***	0.35 ***	0.30 ***	0.30 ***		
1949-1956	0.24 ***	0.23 ***	0.22 ***	0.24 ***	0.22 ***	0.23 ***		
Age								
50-53	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
54-58	-0.53 ***	-0.53 ***	-0.53 ***	-0.58 ***	-0.52 ***	-0.53 ***	-0.56 ***	-0.54 ***
59-60	-1.93 ***	-1.93 ***	-1.93 ***	-2.00 ***	-1.92 ***	-1.93 ***	-1.96 ***	-1.94 ***
61-62	-1.78 ***	-1.79 ***	-1.80 ***	-1.90 ***	-1.78 ***	-1.80 ***	-1.81 ***	-1.77 ***
63-65	-1.72 ***	-1.73 ***	-1.76 ***	-2.01 ***	-1.75 ***	-1.76 ***	-1.76 ***	-1.68 ***
Gender (women=1)	-0.33 ***	-0.32 ***	-0.32 ***	-0.38 ***	-0.27 ***	-0.28 ***	-0.27 ***	-0.28 ***
Qualification								
compulsory education or unknown, no vocational training		-0.01	-0.01	0.02	-0.01	-0.00	-0.02	-0.00
general upper secondary education, no vocational training		-0.02	-0.01	0.00	0.02	0.05	0.06	0.04
compulsory general education and vocational training		ref.	ref.	ref.	ref.	ref.	ref.	ref.
short or medium academic degree		0.10 *	0.11 *	0.10	0.12 *	0.13 **	0.12 *	0.10
long academic degree or Ph.D.		0.03	0.03	0.08	0.06	0.10	0.14	0.11

Table 4: Transition to re-employment from first unemployment after 50 (logistic regression model) (continued)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*
Firm size								
1-10 employees			ref.	ref.	ref.	ref.	ref.	ref.
11-50 employees			-0.11 **	-0.19 ***	-0.12 **	-0.13 ***	-0.13 ***	-0.13 ***
51-500 employees			-0.14 ***	-0.22 ***	-0.15 ***	-0.15 ***	-0.16 ***	-0.16 ***
501< employees			-0.38 ***	-0.47 ***	-0.38 ***	-0.37 ***	-0.36 ***	-0.33 ***
Sector/industry								
public sector				0.05	ref.	ref.	ref.	ref.
private sector (all)				ref.	-	-		-
extractive industry					-0.19 *	-0.20 *	-0.14	-0.12
construction					0.50 ***	0.49 ***	0.63 ***	0.62 ***
retail					-0.04	-0.04	-0.04	-0.02
private services					-0.01	-0.01	-0.09	-0.13 *
transport					-0.01	-0.01	0.04	0.02
missing					0.19	0.18	0.38	0.42
Ethnic minority						-0.36 ***	-0.34 ***	-0.34 ***
Unemployment rate							-0.05 ***	
Period of becoming unemployed								
before 1990								0.12 **
1990-1994								ref.
1995-1999								0.30 ***
2000-2006								0.52 ***
constant	-0.46 ***	-0.46 ***	-0.36 ***	-0.25 ***	-0.40 ***	-0.38 ***	0.08	-0.62 ***
No. of events	7271	7271	7271	7271	7271	7271	7271	7271
No. of observations	28122	28122	28122	23219	28122	28122	28122	28122

*Significance levels: * 0.05 ** 0.01 *** 0.001*

Table 5: Transition to an upward income move after 50 (logistic regression model)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Cohort						
1930-1933	-0.01	-0.02	-0.01	-0.03	-0.02	-0.01
1934-1937	-0.00	-0.01	-0.01	-0.03	-0.02	-0.01
1938-1943	ref.	ref.	ref.	ref.	ref.	ref.
1944-1948	-0.03 *	-0.02	-0.02	-0.02	-0.03 *	-0.02
1949-1956	-0.20 ***	-0.19***	-0.20 ***	-0.19***	-0.19 ***	-0.19***
Age						
50-53	ref.	ref.	ref.	ref.	ref.	ref.
54-58	-0.30***	-0.30***	-0.30***	-0.42 ***	-0.28***	-0.30***
59-60	-0.71***	-0.71***	-0.71***	-0.93 ***	-0.65***	-0.71***
61-62	-0.78***	-0.77***	-0.77***	-1.04 ***	-0.71***	-0.77***
63-65	-0.75***	-0.74***	-0.74***	-1.06 ***	-0.68***	-0.74***
Gender (women=1)	-0.01	-0.00	-0.00	0.01		0.01
Qualification						
compulsory education or unknown, no vocational training		0.09 ***	0.09 ***	0.09 ***	0.09 ***	0.09***
general upper secondary education, no vocational training		0.22 ***	0.20 ***	0.20 ***	0.20 ***	0.20***
compulsory general education and vocational training		ref.	ref.	ref.	ref.	ref.
short or medium academic degree		-0.09 ***	-0.09 ***	-0.09 ***	-0.08 ***	-0.09***
long academic degree or Ph.D.		0.13 ***	0.12 ***	0.12 ***	0.13 ***	0.12***
Ethnic minority			0.24 ***	0.22 ***	0.22 ***	0.23***
Number of job changes so far				0.22 ***		
Job change					0.81 ***	
Unemployed for most of the year (6-12 months)						0.05**
constant	-1.87 ***	-1.91 ***	-1.91 ***	-1.97 ***	-2.05 ***	-1.92***
No. of observations	532170	532170	532170	532170	532170	532170

*Significance levels: * 0.05 ** 0.01 *** 0.001*

Table 6: Transition to an downward income move after 50 (logistic regression model)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Cohort						
1930-1933	0.04 *	0.02	0.02	0.01	0.02	0.03
1934-1937	-0.02	-0.03 *	-0.03	-0.05 **	-0.04 *	-0.05 **
1938-1943	ref.	ref.	ref.	ref.	ref.	ref.
1944-1948	-0.02	-0.01	-0.01	-0.01	-0.01	0.02
1949-1956	-0.23 ***	-0.22 ***	-0.22 ***	-0.21 ***	-0.21 ***	-0.19 ***
Age						
50-53	ref.	ref.	ref.	ref.	ref.	ref.
54-58	-0.19 ***	-0.19 ***	-0.19 ***	-0.30 ***	-0.16 ***	-0.23 ***
59-60	-0.45 ***	-0.45 ***	-0.45 ***	-0.64 ***	-0.37 ***	-0.54 ***
61-62	-0.46 ***	-0.45 ***	-0.45 ***	-0.69 ***	-0.36 ***	-0.49 ***
63-65	-0.24 ***	-0.23 ***	-0.23 ***	-0.52 ***	-0.14 ***	-0.24 ***
Gender (women=1)	-0.16 ***	-0.17 ***	-0.17 ***	-0.15 ***	-0.15 ***	-0.19 ***
Qualification						
compulsory education or unknown, no vocational training		0.15 ***	0.14 ***	0.14 ***	0.14 ***	0.13 ***
general upper secondary education, no vocational training		0.22 ***	0.21 ***	0.20 ***	0.20 ***	0.21 ***
compulsory general education and vocational training		ref.	ref.	ref.	ref.	ref.
short or medium academic degree		-0.08 ***	-0.09 ***	-0.08 ***	-0.08 ***	-0.04 **
long academic degree or Ph.D.		0.14 ***	0.13 ***	0.13 ***	0.13 ***	0.17 ***
Ethnic minority			0.29 ***	0.27 ***	0.27 ***	0.23 ***
Number of job changes so far				0.20 ***		
Job change					1.05 ***	
Unemployed for most of the year (6-12 months)						1.04 ***
constant	-1.97 ***	-2.02 ***	-2.03 ***	-2.08 ***	-2.22 ***	-2.08 ***
No. of observations	532170	532170	532170	532170	532170	532170

*Significance levels: * 0.05 ** 0.01 *** 0.001*

Table 7: Transition into retirement (logistic regression models)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*	*Model 9*
Cohort									
1930-1933	-0.12 ***	-0.18 ***	-0.15 ***	-0.08 ***	-0.16 ***	-0.15 ***	-0.20 ***	-0.18 ***	-0.19 ***
1934-1937	0.01	-0.03	0.00	0.04 *	0.00	0.00	-0.04 **	-0.06 ***	-0.06 ***
1938-1943	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref. ***	ref.
1944-1948	-0.66 ***	-0.62 ***	-0.66 ***	-0.66 ***	-0.66 ***	-0.66 ***	-0.65 ***	-0.67 ***	-0.68 ***
1949-1956	-1.03 ***	-0.96 ***	-1.01 ***	-1.02 ***	-1.01 ***	-1.01 ***	-0.98 ***	-0.99 ***	-0.99 ***
Age									
50-53	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
54-58	0.36 ***	0.36 ***	0.55 ***	0.59 ***	0.55 ***	0.55 ***	0.40 ***	0.38 ***	0.39 ***
59-60	2.97 ***	3.00 ***	3.22 ***	3.35 ***	3.22 ***	3.22 ***	3.07 ***	3.11 ***	3.12 ***
61-62	2.75 ***	2.81 ***	3.05 ***	3.23 ***	3.05 ***	3.05 ***	2.95 ***	3.04 ***	3.06 ***
63-65	2.48 ***	2.56 ***	2.81 ***	3.05 ***	2.82 ***	2.82 ***	2.73 ***	2.85 ***	2.87 ***
66-70	2.87 ***	2.96 ***	3.26 ***	3.67 ***	3.27 ***	3.28 ***	3.25 ***	3.46 ***	3.49 ***
Gender (women=1)	0.51 ***	0.48 ***	0.47 ***	0.38 ***	0.42 ***	0.42 ***	0.41 ***	0.39 ***	0.30 ***
Qualification									
compulsory education or unknown, no vocational training		0.18 ***	0.18 ***	0.26 ***	0.19 ***	0.19 ***	0.18 ***	0.20 ***	0.20 ***
general upper secondary education, no vocational training		-0.57 ***	-0.60 ***	-0.63 ***	-0.62 ***	-0.62 ***	-0.67 ***	-0.62 ***	-0.62 ***
compulsory general education and vocational training		ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
short or medium academic degree		-0.36 ***	-0.39 ***	-0.39 ***	-0.42 ***	-0.42 ***	-0.34 ***	-0.29 ***	-0.29 ***
long academic degree or Ph.D.		-0.98 ***	-1.02 ***	-1.09 ***	-1.05 ***	-1.06 ***	-0.97 ***	-0.91 ***	-0.91 ***

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*	*Model 9*
Firm size									
1-10 employees			ref.	ref.	ref.	ref.	ref.	ref.	ref.
11-50 employees			0.25 ***	0.12 ***	0.08 ***	0.08 ***	0.12 ***	-0.00	-0.00
51-500 employees			0.33 ***	0.20 ***	0.14 ***	0.14 ***	0.21 ***	0.11 ***	0.11 ***
501< employees			0.34 ***	0.21 ***	0.15 ***	0.15 ***	0.24 ***	0.12 ***	0.12 ***
Sector/industry									
public sector				0.02	ref.	ref.	ref.		
private sector (all)				ref.	-	-	-		
extractive					-0.15 ***	-0.14 ***	-0.10 *		
productive					-0.23 ***	-0.23 ***	-0.11 ***		
construction					-0.06	-0.06	-0.07 *		
retail					-0.15 ***	-0.15 ***	-0.10 ***		
private service					-0.25 ***	-0.25 ***	-0.20 ***		
transportation					-0.10 ***	-0.10 ***	-0.03		
Ethnic minority						0.17 ***	0.03	0.02	0.03
Unemployment experience since 50							0.29 ***		
Self-employment								-0.71 ***	-0.72 ***
Unemployed or on activation								1.53 ***	1.53 ***
Age difference to partner									
single									ref.
same age (± 2 years)									0.01
older (> 3 years)									-0.13 ***
younger (> 3 years)									0.14 ***
constant	-4.32 ***	-4.29 ***	-4.72 ***	-4.74 ***	-4.43 ***	-4.43 ***	-4.56 ***	-4.59 ***	-4.54 ***
No. of observations	679832	679832	668001	539497	668001	668001	668001	668001	668001

Table 8: Regression on pension income (OLS regression)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*	*Model 9*	*Model 10*	*Model 11*	*Model 12*	*Model 13*
Gender (women=1)	-0.22***	-0.22***	-0.20***	-0.17***	-0.19***	-0.19***	-0.19***	-0.18***	-0.18***	-0.19***	-0.15***	-0.15***	-0.17***
Cohort													
1930-1933		ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.			
1934-1937		0.16***	0.18***	0.16***	0.17***	0.17***	0.17***	0.17***	0.17***	0.17***			
1938-1943		0.23***	0.26***	0.23***	0.25***	0.25***	0.25***	0.25***	0.24***	0.25***			
retirement age			0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***			
Qualification													
compulsory education or unknown, no vocational training				-0.12***	-0.12***	-0.12***	-0.12***	-0.12***	-0.12***	-0.12***	-0.11***	-0.10***	-0.12***
general upper secondary education, no vocational training				0.26***	0.28***	0.27***	0.27***	0.28***	0.28***	0.27***	0.25***	0.28***	0.30***
compulsory general education and vocational training				ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
short or medium academic degree				0.38***	0.37***	0.37***	0.37***	0.35***	0.35***	0.37***	0.33***	0.34***	0.37***
long academic degree or Ph.D.				0.76***	0.76***	0.75***	0.75***	0.74***	0.74***	0.75***	0.70***	0.73***	0.79***
Sector													
private sector					ref.	ref.	ref.	ref.	ref.	ref.			
public sector					0.06***	0.04***	0.04***	0.05***	0.05***	0.04***			
Firm size													
1-10 employees						ref.	ref.	ref.	ref.	ref.			
11-50 employees						0.04***	0.04***	0.03***	0.03**	0.04***			
51-500 employees						0.10***	0.10***	0.08***	0.07***	0.09***			
501< employees						0.14***	0.14***	0.12***	0.12***	0.13***			
Unemployed or on activation							-0.21***			-0.21***			
Unemployment experience								-0.03***	-0.03***		-0.03***	-0.03***	-0.04***
Self-employment experience after age 50									-0.01***	-0.01**	-0.01***	-0.01***	-0.01***
Total no of job changes of a person										-0.01***	-0.01***	-0.01***	0.01**

Table 8: Regression on pension income (OLS regression) (continued)

	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8*	*Model 9*	*Model 10*	*Model 11*	*Model 12*	*Model 13*
Way of retirement													
retired through disability benefit											-0.08***		
retired through transitional benefit											-0.01		
retiring through efterlon											ref.		
retired directly into folkepension											0.23***		
Period of retirement													
retiring before 1990												-0.09***	
retiring 1990-1994												ref.	
retiring 1995-1999												0.15***	
retiring 2000-2006												0.30***	
Period of entering folkepension													
entering folkepension 1997-1999													-0.12***
entering folkepension 2000-2003													ref.
entering folkepension 2004-2006													0.11***
constant	11.95***	11.81***	11.75***	11.74***	11.73***	11.66***	11.66***	11.71***	11.71***	11.69***	11.93***	11.82***	11.94***
No. of observations	19738	19738	19738	19738	16237	16237	16237	16237	16237	16237	19738	19738	19738