

From Early Retirement to Staying in the Job

Trend Reversal in the Danish Labor Market

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3.1 Introduction

Until the 1970s, Denmark was a country with fairly late retirement from the labor force. The normal social security retirement age was 67. The only early retirement possibility was disability insurance, mostly on medical criteria, and some very small social security programs. An early retirement program without any medical criteria, the so-called Post-Employment Wage (PEW) was introduced in 1979 as a reaction to the steep increase in unemployment following the oil crisis. The program became quickly very popular, with the consequence that labor force participation (LFP) went down strongly in the 60–66 age group.

Considering the expected future aging of the population, a controversial point on the agenda in economic policy discussions and analyses later became the question of how to roll this program back and adapt the overall pension system to a demography with an increasing share of the population in the older age groups. In the policy arena, a number of changes and

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reforms were enacted in the years 1999–2012, with most of the reforms to be phased in over a quite long period.

At the same time, a surprising turnaround began in the LFP among older workers, in Denmark as well as in most other Organisation for Economic Co-operation and Development (OECD) countries. In this chapter, we discuss the factors behind this turnaround in Denmark. While policy reforms were introduced at the same time as the turnaround in LFP, they are only part of the explanation of the change. First, as mentioned, the reforms were mostly to be phased in over a long period. Second, a number of other factors with an impact on the LFP among older workers were changing. New cohorts of workers 60 years and older were better educated. By many indicators, they were also in better health. Both factors are assumed to have a positive gradient in LFP. Further, the nature of jobs could be changing, making it more realistic to continue working at higher ages due to a reduction of physically demanding job functions. Finally, sectoral changes in the economy could favor older workers, as could other factors on the demand side.

In section 3.2, we summarize briefly the changes in LFP in Denmark between 1980 and 2014 separately for women and men age 60 and older. At the same time, we look into the impact of the Great Recession, beginning in 2008, on different age groups in the Danish labor market.

Section 3.3 surveys the factors expected to have an impact on LFP among older workers. We include policy changes trying to identify the eventual impact on different cohorts of women and men. Further, we relate LFP in the 60 and older group to the big changes in education and health coinciding with the turnaround. We likewise look at the simultaneous effects from education and—self-assessed—health by regressing LFP on these factors for the 60–69 age group using data from the fifth wave of the Survey of Health, Ageing and Retirement in Europe (SHARE), collected in 2013. Section 3.3 also presents indicators of changes in physically demanding jobs with a potential impact on working at older ages. Finally, this section summarizes indicators for the demand side of relevance for older workers.

In section 3.4, we summarize some conclusions relative to the changes in the Danish labor market since the turn of the century, with special emphasis on the developments among older workers since the onset of the Great Recession. Finally, section 3.4 has a (preliminary) conclusion about the nature of the turnaround—that is, is it a specific occurrence with LFP among older workers quickly stabilizing on a somewhat higher level, or is it a process we can expect will continue as longevity continues to increase?

3.2 Recent Changes in LFP among Older Workers

Annual data for LFP by age are available for the whole population from 1980. Before 1980, census data are available along with labor force and

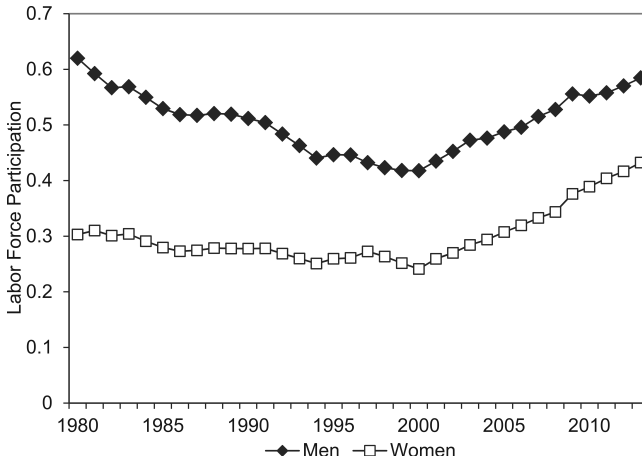


Fig. 3.1 LFP rates for men and women, ages 60–64, 1980–2013

Source: Statistics Denmark.

employment surveys for a number of years in the 1970s. For men aged 60–64, the LFP was nearly 90 percent at the census in 1960. The decade of the 1960s was characterized by comprehensive changes in the Danish economy, with a steep decline in the relative importance of agriculture. These structural changes were accompanied by a decline of some 10 percentage points in LFP to a level of about 80 percent in the 1970s. The introduction in 1979 of the non-health-related early retirement program PEW, mentioned above, was a main factor behind the decline over the next 20 years to a level of 40 percent at the turn of the century. Since then, the turnaround has resulted in an increase to 60 percent LFP among men aged 60–64. The details over time from 1980 are shown in figure 3.1. For women, figure 3.1 shows a turnaround also from around 2000, with an increase of the same 20 percentage points as men. The fairly flat profile of the LFP for women aged 60–64 before 2000 is most probably the net outcome of a cohort effect, tending to increase LFP, and the introduction of PEW, tending to reduce it. However, eligibility for PEW was conditional on a long tenure as a member of an unemployment insurance fund. As the female LFP was less than half the level of men—although increasing strongly in the 1970s—a much lower share of women were able to enter PEW.

For the 65–69 age group, LFP since 1980 is shown in figure 3.2. The turnaround for this age group is predictably weaker than for those aged 60–64 and begins about five years later in 2005. Before having annual data available from 1980, the LFP for men aged 65–69 was 60 percent at the census in 1960, declining about 10–15 percentage points until the beginning of the 1970s. For women aged 65–69, the LFP was flat around 10 percent until the increase beginning in 2005.

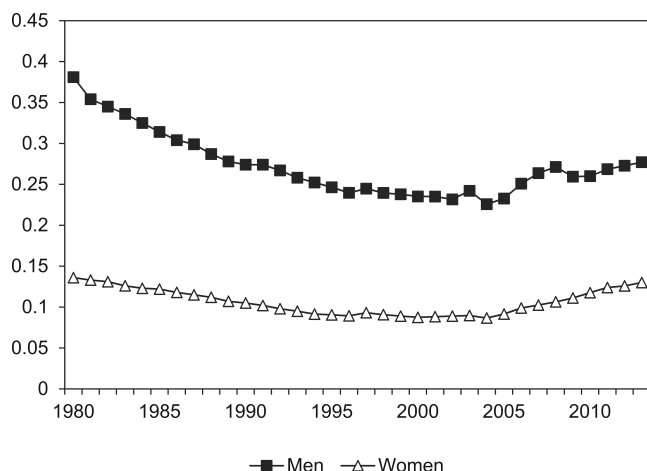


Fig. 3.2 LFP rates for men and women, ages 65–69, 1980–2013

Source: Statistics Denmark.

As mentioned above, the turnaround has occurred in nearly all OECD countries but with great variation. It is interesting that the turnaround has continued in most OECD countries in the years since the onset of the Great Recession. The cross-country variation for men aged 60–64 from 2007 to 2014 lies between an increase of 20 percentage points in the Netherlands and a decline of 13 percentage points in Greece, with increasing LFP in the great majority of countries according to OECD labor force statistics (Larsen and Pedersen 2015, 2016). In an OECD “ranking,” the Danish labor market is in eighth place for both men and women, with increases around 8–9 percentage points.

When we compare the turnaround in LFP among older workers since the beginning of the Great Recession with the situation for other age groups, a quite different picture emerges. In figure 3.3, we show the change in LFP in percentage points by age from 2008 to 2014 using register data covering the whole population. Figure 3.3 shows not only a steep positive gradient in age but also that the 60–64 age group is the only one with increasing LFP during the crisis years, with younger age groups experiencing big declines in LFP. While a part of the decline for the youngest groups is likely replaced with ongoing education, there remains the surprising impact during the years of the Great Recession of the increasing LFP in the 60 and older group and the decline for the core working-age groups.

A number of factors that may contribute to an explanation of the profile in figure 3.3 are discussed in the next section. There is, however, a risk that the increase in LFP for the 60–64 age group reflects higher unemployment more than employment. In figure 3.4, we show—for a slightly longer period,

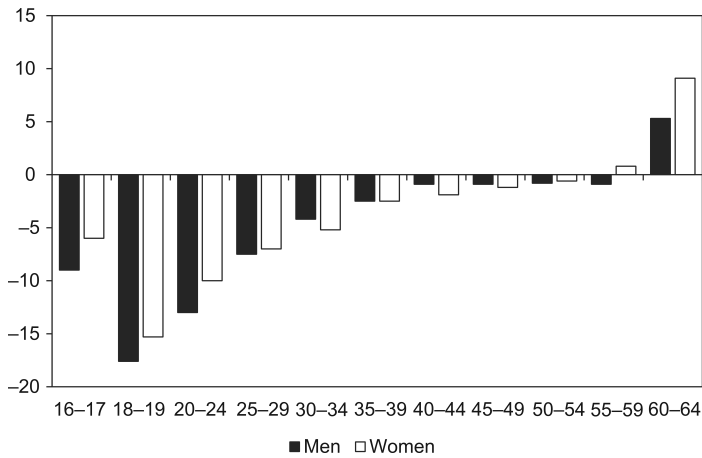


Fig. 3.3 Change in LFP in percentage points by age during the Great Recession, 2008–2014

Source: Authors' calculations on data from Statistics Denmark.

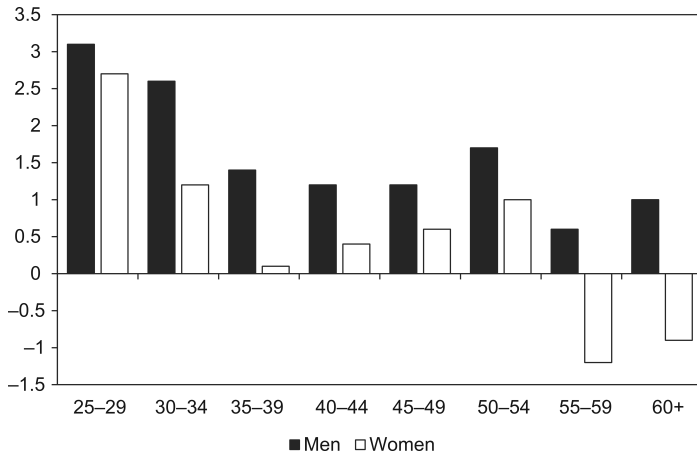


Fig. 3.4 Change in unemployment in percentage points by age and gender, 2008–2014

Source: Authors' calculations on data from Statistics Denmark.

2007–15—the change in unemployment in percentage points by age. For men aged 60–64, unemployment increases, but figure 3.3 shows that this is only a small part of the increase in LFP. For women, employment increases a fortiori, as LFP goes up at the same time that unemployment goes down. To conclude, the next section goes into a number of factors that might explain this change in the situation for older workers.

3.3 Some Factors behind the Turnaround

Important factors behind the turnaround in most OECD countries are summarized and discussed in OECD (2013). As a reflection of many policy changes, the economic incentives to remain longer in the labor force have become stronger. Further, each new cohort of older workers is better educated and seems to be in better health, factors that make longer working lives possible. Another important factor is the changes in many functions at work, where strenuous physical activity has become less important as a consequence of technological change and sectoral shifts in the economy. While those changes have increased the possibility of continuing in a job at older ages, other work-related factors—like the experience of stress and rapid changes in technology with resulting changes in job functions—may work in the opposite direction.

Pension programs have been reformed a number of times. Introduced in 1979, PEW was first available, conditional on eligibility, at age 60, and Old Age Pension (OAP) was first available at age 67, with individuals transferring from PEW to OAP upon turning 67. A reform announced in 1999 and implemented 2004–6 reduced the OAP age of first eligibility to 65, with individuals transferring from PEW to OAP at this younger age. Regarding PEW, there have been a number of smaller changes tightening requirements of unemployment insurance tenure and changing the profile of benefits to create incentives to delay entry to the program. A survey can be found in OECD (2015).

In the OAP program, some minor policy changes have been introduced in recent years with the purpose of increasing the incentive to continue working after the normal retirement age of 65. An option to defer take-up of OAP on actuarial terms between ages 65 and 75 was introduced in 2006, conditional on working at least 1,500 hours per year (then reduced to 1,000 hours per year in 2008 and to 750 hours in 2014). Means testing of a supplementary part of OAP against income from work was reduced in 2008, at the same time as the mandatory retirement at age 70 was abolished for most groups of public-sector employees. For most occupational pensions, first receipt can be delayed until age 75 with actuarial adjustments. Evidence of the so-far minor impact from these changes in the 65 and older group can be found in Amilon and Nielsen (2010), Larsen, Bach, and Ellerbæk (2011), and Larsen and Ellerbæk (2012).

Two major policy reforms announced in 2006 and 2012 will result in future reductions in the maximum number of years in the PEW program along with increases in the age of eligibility to OAP from 65 to 67. Increases in the age of eligibility for PEW began with an increase of 0.5 years in 2014, and eligibility will increase to age 63.5 in 2022. For OAP, the age of eligibility will be raised to age 67, and after 2022, both ages will be indexed to changes in expected longevity.

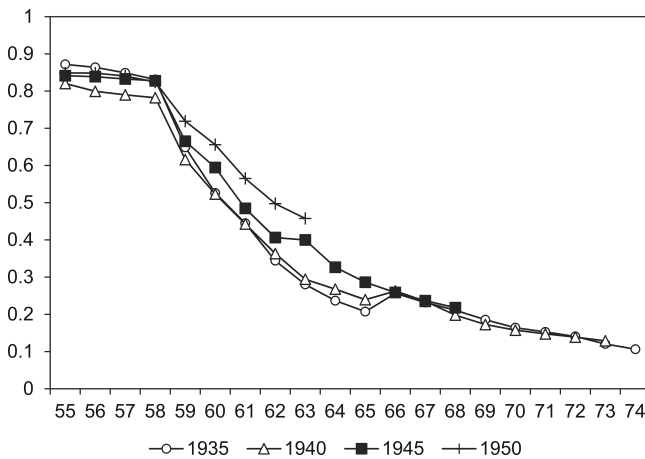


Fig. 3.5 LFP rates, men by cohorts 1935, 1940, 1945, and 1950, at ages 55–74

Source: Authors' calculations on register data.

For the period of turnaround in LFP analyzed here, the minor reforms of the PEW program are relevant in a cohort setting along with changes in education and health. In figure 3.5, we show the LFP rates for four cohorts of men aged 55–74. Only small differences appear between the 1935 and the 1940 cohorts. However, when comparing the 1940 with the 1945 cohort, the impact of the financial incentives to delay entry until age 63 is clearly seen. For the 1950 cohort, the LFP is higher at all ages from 60 until 63.

In figure 3.6, we show in more detail for the annual cohorts 1945–49 that the turnaround is found in all cohorts but most strongly in the earliest cohorts. The kink at age 63 is also still visible for the later cohorts. However, at younger ages, we find a steep increase in LFP—for example, an increase of nearly 10 percentage points at age 62 between cohorts 1945 and 1949.

For women, the profiles for the same cohorts are shown in figures 3.7 and 3.8. In figure 3.7, we find a decline in LFP at nearly all ages above 54 for cohorts between 1935 and 1940. This pattern is followed by a steep increase in LFP from 1940 to 1945 for people in the second half of their 50s. Long-term unemployed workers ages 50–59 were entitled to enter a transitional benefits program open between 1992 and 1996.¹ Those who entered the program left the labor force, and this is presumably part of the explanation of the big gap for cohorts between 1940 and 1945 at ages below 60. In figure 3.7, we find also the 63-year kink for the 1945 cohort and a steep increase

1. This program was taken up by significantly more women than men.

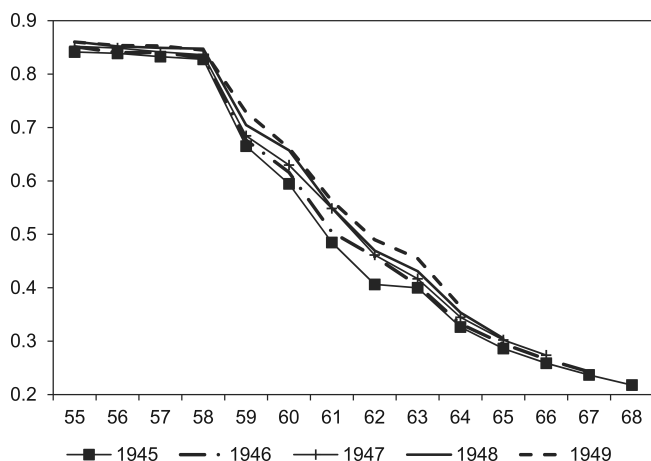


Fig. 3.6 LFP rates, men by cohorts 1945–1949, at ages 55–74

Source: Authors' calculations on register data.

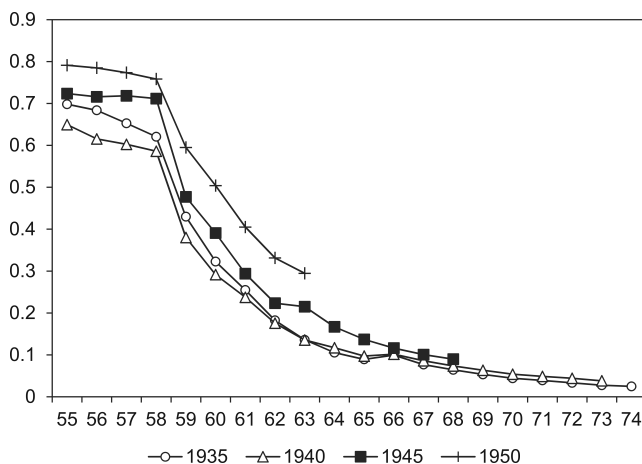


Fig. 3.7 LFP rates, women by cohorts 1935, 1940, 1945, and 1950, at ages 55–74

Source: Authors' calculations on register data.

in LFP until cohort 1950, which we can follow until age 63. In figure 3.8, we show in more detail the changes in LFP between 1945 and 1949 cohorts. As for men, in figure 3.6, we find an increase in LFP around 10 percentage points at age 62 between 1945 and 1949.

While some of the minor policy changes implemented so far clearly play a role in the turnaround, other factors are also expected to be important. Next, we look into changes in education for the cohorts reaching age 60

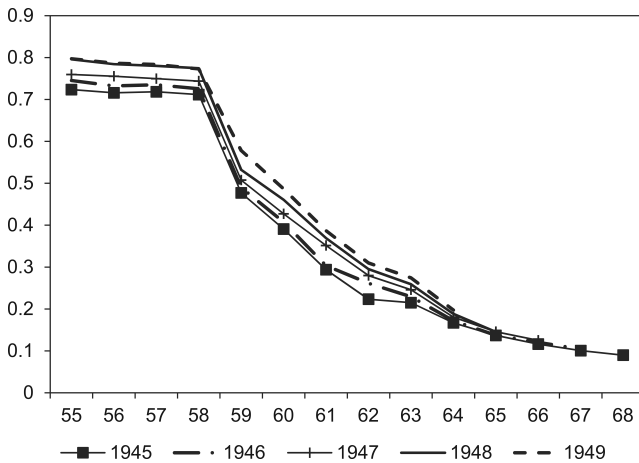


Fig. 3.8 LFP rates, women by cohorts 1945–1949, at ages 55–74

Source: Authors' calculations on register data.

around the turn of the century. In relative terms, the strongest increase is found regarding the share completing a medium-duration or long theoretical education. According to the Ministry of Education (1998), the enrollment to universities increased dramatically between 1936 and 1946—that is, when the 1936 and 1946 cohorts were, respectively, 20 years old. People in these two cohorts—and the cohorts in between—entered the first half of their 60s precisely at the time of the turnaround. For later cohorts, the increase in university enrollment continues but is much slower in relative terms.

Overall, completing a medium-duration or long theoretical education was still of minor relative importance at the time of the turnaround for people around age 60. In quantitative terms, the biggest change is the decline in the share of people without any postcompulsory schooling, roughly corresponding to the group of blue-collar workers. For men as well as women, this group was more than half the individuals in the age interval of 55–64 back in 1980. By 2013, this was down to 25 percent among men and 30 percent among women. The changes in composition by education are shown in figures 3.9 and 3.10 for men and women, respectively.

It is well established that LFP has a positive gradient in education. Relative to the turnaround, however, figures 3.9 and 3.10 do not obviously identify any dramatic shift in education for the relevant age group at the same time as the turnaround in LFP. If education was the only “driver” for LFP, we would expect to observe a smooth increase over the whole period from 1980, not a steep decline until the increase in the late 1990s.

For the years 1995–2012, figure 3.11 shows the results from a shift-share analysis of the change in LFP among men and women aged 60–64, the

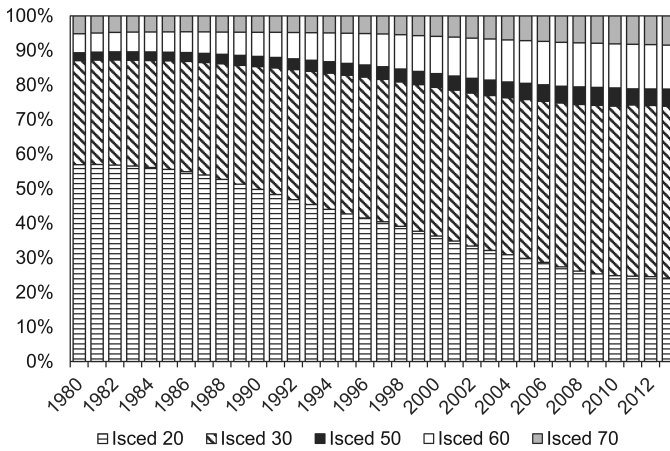


Fig. 3.9 Men aged 55–64 by educational level, 1980–2013

Source: Authors' calculations on register data.

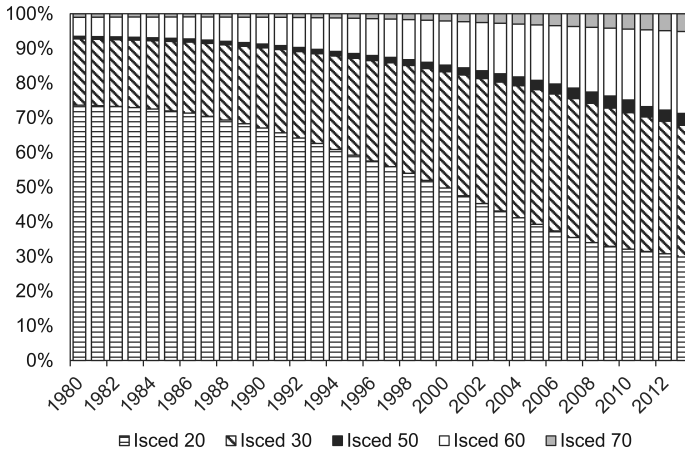


Fig. 3.10 Women aged 55–64 by educational level, 1980–2013

Source: Authors' calculations on register data.

actual level and the level assuming changes in composition of educational groups are the only factor. It is obvious that LFP also increases for most education groups.

As shown in table 3.1, there are quite big differences by gender and educational level in how much the LFP has been increasing between 1995 and 2012. For men, the highest increase is found among individuals with vocational or short further education. The increase is small for those with a long theoretical education where the initial level was fairly high. For women, the

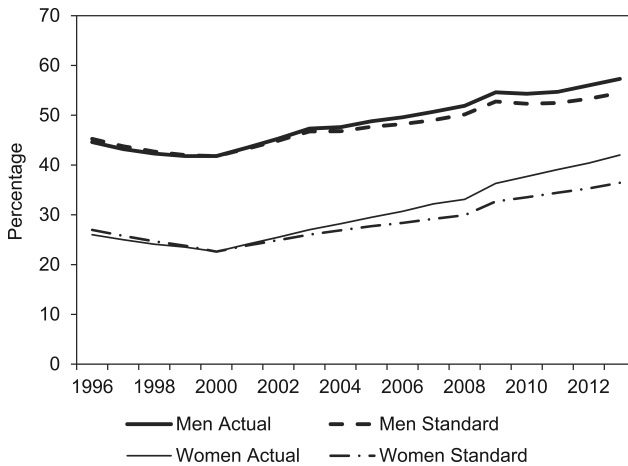


Fig. 3.11 LFP rates for men and women aged 60–64: Actual level and standardized for changes in education, 1995–2012 (1999 = 100)

Source: Authors' calculations on data from Statistics Denmark.

Table 3.1 Change in LFP rates, percentage points, by educational groups in Denmark, 1995–2012

	Men	Women
No postcompulsory education	6.9	7.7
Vocational + short further education	13.6	11.6
Medium-duration further education	3.4	13.4
Long theoretical education	2.9	5.9

Source: Authors' calculations on data from Statistics Denmark.

increase—as expected—is higher or nearly the same as men, with the highest increase found for women with a medium-duration further education.

Health problems are a common reason for early retirement. Here we focus on indicators for health among older individuals before and during the turnaround. While a multitude of register-based data are available on diagnoses, treatments, and prescription medicine on an individual basis, unfortunately, a long-run consistent general health indicator is not available. Instead, we rely on mortality as a crude indicator along with more incomplete evidence on self-assessed health. In figure 3.12, we show mortality at age 60 for men and women from 1980 to 2014. With a focus on the turnaround in LFP, the profile in male mortality shows a slightly steeper decline from the beginning of the 1990s that seems—so far—to end at the same time as the onset of the Great Recession. It is evident that the gap in mortality between men and women becomes smaller during the period. In

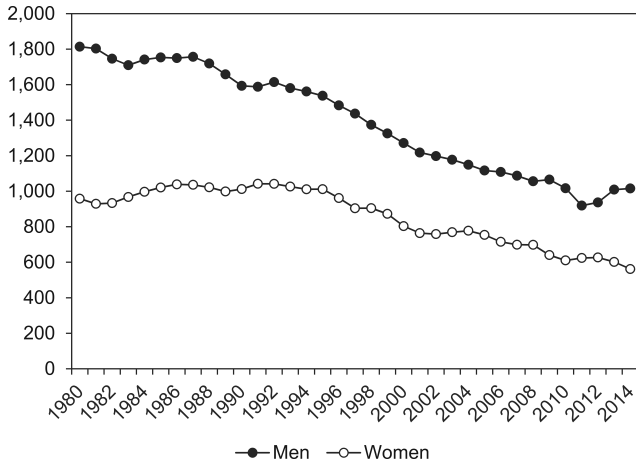


Fig. 3.12 Mortality at age 60, men and women, 1980–2014

Source: Authors' calculations on data from Statistics Denmark.

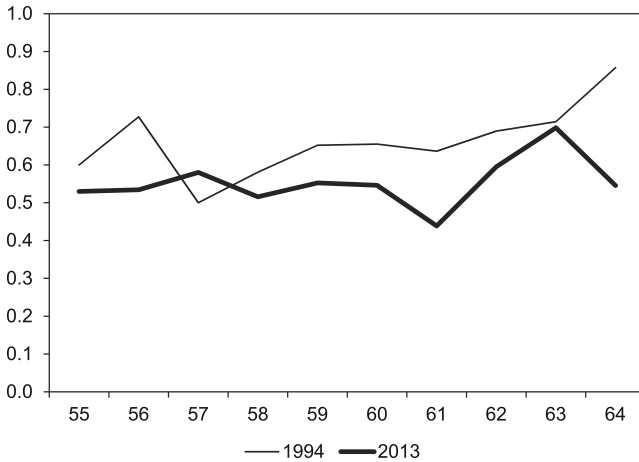


Fig. 3.13 Share of respondents with self-assessed health of fair–poor. National Institute of Public Health surveys, 1994 and 2013

relation to the turnaround in LFP, female mortality at 60 is stationary until the mid-1990s. After that, a steep decline occurs along with a steep increase in female LFP.

The National Institute of Public Health has conducted surveys for the years 1994 and 2013 with a question about self-assessed health with the same response categories as in the US Health and Retirement Study and in SHARE. In figure 3.13, we show the share of male respondents aged 55–64 in the two years who report their health to be in the category of fair to poor. With one

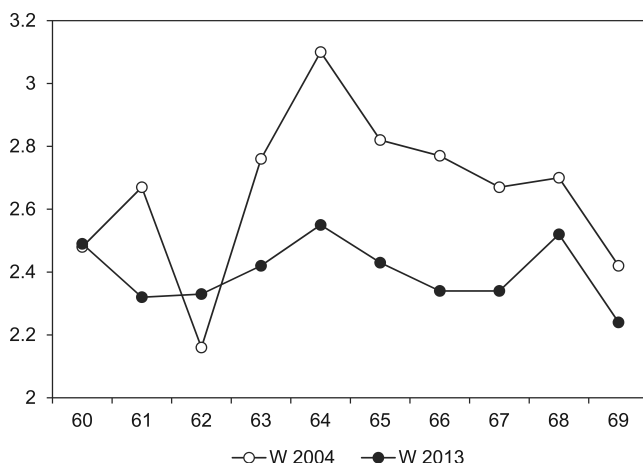


Fig. 3.14 Mean self-assessed health, women aged 60–69, share wave 1 (2004) and share wave 5 (2013)

Source: Authors' calculations.

exception, we find health on average to be reported as better in 2013 than in 1994—that is, we see a self-reported improvement occurring over the same interval of time as the increase in LFP for the age group 55–64.

A final indicator is found using data in SHARE from wave 1 (2004) and wave 5 (2013), exactly spanning the years of increase in LFP. We have calculated the mean value of the variable measuring self-assessed health, for men and women at every age between 60 and 69 in the two waves. The variable is defined as in the US Health and Retirement Study, with the outcome “excellent” set at one and “poor” set at five. For men, we find no difference in self-assessed health between 2004 and 2013. For women, on the other hand, we find, as shown in figure 3.14, a clear improvement between 2004 and 2013 corresponding with the steep increase in LFP.

The combined impact from education and self-assessed health is estimated in cross-section setting in table 3.2 using data from SHARE wave 5 collected in 2013. The upper panel presents the marginal effects in a probit estimation of LFP separately for men and women aged 60–64 and 65–69, respectively. In the upper panel of table 3.2, age and education are entered as continuous variables in years, assuming implicitly the same impact from one more year. Age, as expected, is found significantly negative in all cases, more so for individuals 60–64 years old than in the older group where everybody is above the age of eligibility for OAP. Years of education is found significant for men aged 60–64 and women aged 65–69. Finally, as expected, self-assessed health is found significant in all cases, most particularly for those 60–64 years old.

The lower panel in table 3.2 presents results from entering age as dummy variables, excluding ages 64 and 69. Education is in the same way changed to

Table 3.2 Marginal effects in probit estimations of LFP, men and women, 60–64 and 65–69 years old (share W5, 2013)

	60–64 years old		65–69 years old	
	Men	Women	Men	Women
Age	–0.086*** (–12.46)	–0.102*** (–15.16)	–0.044*** (–6.52)	–0.029*** (–6.09)
Yedu	0.010*** (4.41)	0.002 (0.69)	0.003 (1.44)	0.004*** (2.87)
Self-assessed health	–0.104*** (–10.61)	–0.122*** (–14.18)	–0.039*** (–4.40)	–0.031*** (–4.91)
Pseudo R ²	0.1172	0.1374	0.034	0.0761
Age dummies:				
60	0.333*** (10.62)	0.377*** (11.97)	–	–
61	0.363*** (11.42)	0.238*** (7.46)	–	–
62	0.246*** (6.60)	0.294*** (8.90)	–	–
63	0.176*** (5.49)	0.013 (0.39)	–	–
64	–	–	–	–
65	–	–	0.194*** (6.49)	0.123*** (5.41)
66	–	–	0.067*** (2.03)	0.063*** (2.71)
67	–	–	0.060*** (1.94)	0.033 (1.33)
68	–	–	0.038 (1.10)	0.047** (1.96)
Low education	–0.055*** (–2.04)	–0.002 (–0.07)	–0.003 (–0.12)	0.037*** (2.45)
High education	0.064*** (2.34)	0.067*** (2.63)	0.044*** (1.89)	0.093*** (5.96)
Self-assessed health	–0.101*** (–10.36)	–0.120*** (–13.93)	–0.037*** (–4.14)	–0.031*** (–5.01)
Pseudo R ²	0.1259	0.1544	0.040	0.103
Number of observations	1,570	1,786	1,765	1,816

Note: Unemployment insurance is not possible at ages older than 64. For the 65–69 age group, the estimations are relevant for employment, not the broader concept of LFP.

a categorical variable, low education indicating up to 9 years of education, high education indicating more than 14 years, and the excluded category of “intermediate” education covering 10–14 years of schooling. Age has a clearly nonlinear effect. For both age groups, the youngest have higher LFP probabilities than those with the reference age. Regarding the categorical variables for education, having a high education implies a significantly

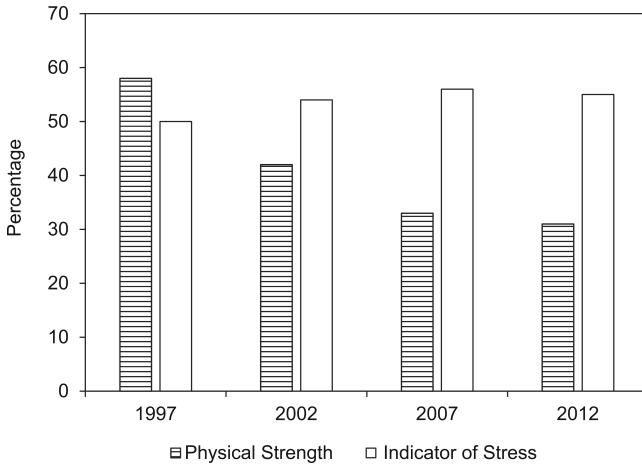


Fig. 3.15 Share of 57-year-old respondents who report that their job demands physical strength and share reporting stress and pressure on the job

Source: Authors' calculations from the Danish longitudinal survey of aging.

higher probability in all cases. For men aged 60–64, having a low education implies a significantly lower probability of LFP than in the excluded intermediate group. For women aged 65–69, we find the opposite pattern—that is, a higher probability of working for both those with low education and those with high education.

OECD (2013) points to another factor—changes in the nature of jobs—that might have made it more possible to continue working at higher ages. A challenge in this area is the lack of a long consistent series with indications primarily of whether jobs are demanding regarding physical strength. In the Danish longitudinal survey of aging, 57-year-old respondents still working were asked every 5 years from 1997 to 2012 whether their job demanded physical strength. As shown in figure 3.15, the share reporting this fell to nearly half the initial level over 15 years. At the same time, however, a nearly constant share of about half the respondents finds that their job is stressful, as characterized by “high demand for speed in performing work functions and tight schedules.”

In a number of surveys, the National Research Center for the Working Environment has investigated different aspects of the physical demands in jobs. The question “How physically demanding do you usually find your current job?” is included in a survey for 2010 and 2012. The response categories are 0–10, with 10 as the most demanding. For those two years, the surveys find the results shown in table 3.3, organized by age and gender.

In spite of the difference in time between surveys being only two years, jobs are considered less physically demanding in all age groups. Earlier studies from the National Research Center for the Working Environment do

Table 3.3 Self-assessed physically demanding character of jobs

Age	Men		Women	
	2012	2014	2012	2014
18–24	5.30	5.09	4.80	4.40
25–34	3.77	3.45	3.41	3.29
35–44	3.57	3.15	3.14	2.88
45–54	3.79	3.33	3.28	2.90
55–64	3.45	3.18	3.31	2.98
Total	3.81	3.44	3.41	3.11

Source: National Research Center for the Working Environment, <http://www.arbejdsmiljofoforskning.dk/da/arbejdsmiljoedata/arbejdsmiljoe-og-helbred-20>.

not contain one specific question like the 2010 and 2012 surveys but instead a range of different questions about the nature of physical challenges or problems in the current job. Between surveys in 2000 and 2005, there is a significant reduction of the physical demands in two out of five indicators, with insignificant change in the remaining three indicators. Between the surveys in 2005 and 2010, seven indicators became significantly lower while two increased. Overall, the results from the National Research Center for the Working Environment confirm, with a broader survey base than the one used in figure 3.15, that the physical demands in jobs have changed in a way that facilitates continued work at higher ages.

Figures 3.3 and 3.4 document that the increasing LFP among 60–64-year-olds represents an increase in employment and not unemployment. As a consequence, the demand side has accommodated the increasing employment of older workers at the same time that employment has gone down for younger age groups since 2008. It is not easy, however, to find any explicit indicator for the demand side. We summarize here one indicator capturing sectoral changes over recent years and two other imperfect proxies for the mean annual hours and the overall hourly wage by both age groups and gender.

First, figure 3.16 shows the big changes occurring in total employment and in the public-sector employment share over the last 20 years. Very dramatic changes are seen both in the years up to and in those following the onset of the Great Recession.

In relation to the turnaround, the composition of sectors by age and gender differs quite a lot, which might have consequences in this respect, especially among women aged 60–64. This is illustrated further in table 3.4.

It appears in table 3.4 that the sectoral shifts—at least for the period considered—contribute in explaining the turnaround, especially the increase in LFP among women aged 60–64. It reinforces an initial state where public-sector employees are older on average and the share of women is higher than in the private sector.



Fig. 3.16 Total employment and public-sector employment share, 1995–2015

Source: Authors' calculations on data from Statistics Denmark.

Table 3.4 Change in employment in percentage points, 2008–2014, by sector, age, and gender

	Public sector	Private sector
All wage and salary earners	–2.0	–5.4
All, 60–64 years old	+16.6	–4.6
Women, 60–64 years old	+23.5	–1.9

Source: Authors' calculations on data from Statistics Denmark.

Finally, two short and somewhat incomplete series based on microdata seem to support that the demand side has been important in accommodating the turnaround. First, figure 3.17 shows the mean actual number of hours worked for men and women in the labor market “core” 40–49 and 60–64 age groups. It seems evident that the turnaround is not in any significant way related to an adaptation to fewer hours worked by older workers.

Next, figure 3.18 shows overall mean hourly earnings for the same four groups as in figure 3.17. Here too the tentative conclusion is that the turnaround is not explained in any significant way by a wage adaptation by older workers.

3.4 Concluding Remarks

Since the beginning of the Great Recession in 2008, there has been only a little growth in production in Denmark. On this background, it is even more interesting that the employment rate has been growing among people

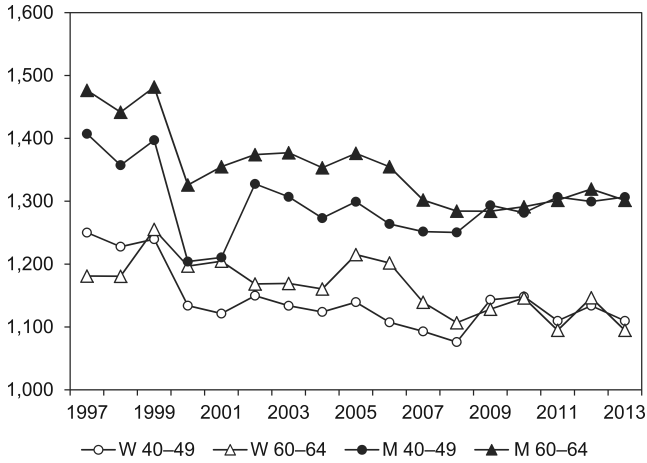


Fig. 3.17 Actual hours worked, 1997–2013, by age and gender

Source: Authors' calculations on register data.

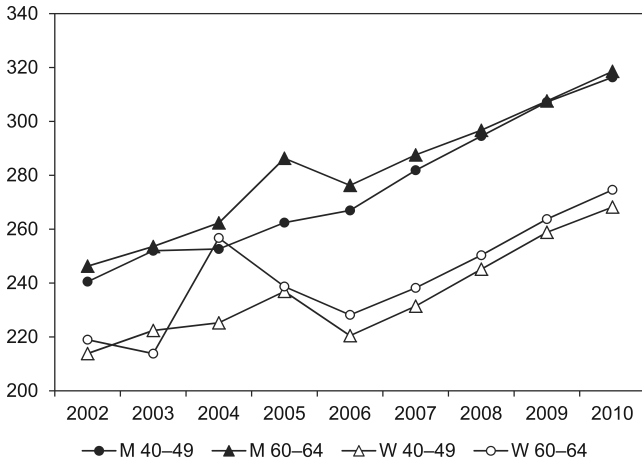


Fig. 3.18 Mean annual hourly earnings (DKK), 2002–2010, by age and gender

Source: Authors' calculations on register data.

60 and older and, in accordance with the macroeconomic profile, decreasing in younger age groups.

Actually, this turnaround in LFP in older age groups began already at the turn of the century, after decades with falling LFP for men and a stationary level for women in the 60 and older group. A number of factors have been discussed above as possible explanations for this remarkable trend reversal. First, policy reforms have been enacted in the years 1999–2012, both in relation to

early retirement benefits and to old-age social security pension. Reforms in this area are, however, phased in over a long period of time. Only the first of the policy changes seems to show up when looking at cohort profiles in LFP.

Next, education is expected to explain part of the development along with improved health, for which a number of indicators were present, all pointing to improvement. While both factors, also in a cross-section estimation of microdata, correlate with increasing LFP, they both have fairly smooth profiles over time without any break around the time of the turnaround. However, a shift-share analysis shows that LFP increases at the time of the turnaround in each educational group. For education and health indicators, we find bigger improvements for women than men corresponding with the steeper relative increase in LFP among women.

The specific nature of jobs is another factor that has been changing over time. A number of indicators point to an average reduction in the prevalence of physically demanding jobs, facilitating continued work at older ages. Finally, sectoral shifts may have had an impact at least in the most recent years. The Great Recession shifted employment somewhat toward the public sector, where average age and the share of female employees are higher than in the private sector.

A final question is whether the increase in LFP at higher ages can be expected to continue. A number of explanatory factors are expected to develop in a way that would further facilitate continued work. At the same time, globalization and rapid structural changes in many areas might be factors that would go against the effect from the reduced physical demands of jobs. A final factor is the demand side, which, so far, has accommodated the increase in labor supply in the 60 and older group.

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