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10

The Recent Rise of Labor Force Participation of Older Workers in Sweden

Lisa Laun and Mårten Palme

10.1 Introduction

Between 1963 and 2000, the labor force participation (LFP) rate among males in the 60–64 age group in Sweden fell from around 85 to 55 percentage points (e.g., Palme and Svensson 1999). However, since then, the LFP has started to rise again and is now above 75 percent in the age group (e.g., Johansson, Laun, and Palme 2015). Although the long-term development for female LFP has been dominated by the great increase in the employment of married women, the recent development shows a similar pattern to that of men.

In this chapter, we analyze the background of the recent increase in the LFP of older workers in Sweden. We first look at how the population has changed with respect to characteristics known to be associated with the probability of being active in the labor market among older people. These characteristics are health, educational attainment, and the work environment, which the worker must meet if he or she decides to work. Finally, considering the pattern of joint retirement decision of couples, we look at the extent to which the increased LFP rate of married women could explain the increased probability of older men deciding to work longer.

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In the second part of the chapter, we study the extent to which the recent institutional changes in the income security system and labor market regulations may have contributed to the development. First, we look briefly at the potential effects of the major reform of the old-age pension system in Sweden that was initiated in 1998. Second, we study the effects of the introduction of age-targeted income tax credits in 2007. Third, we summarize the experiences of the change in the mandatory retirement age in 2001. Finally, we study the potential effects of the more stringent rules for eligibility in Sweden's disability insurance (DI) program that were gradually implemented.

We do not attempt to identify any "causal effects" of any policy intervention. Our analysis is merely descriptive in the sense that we look at the coincidences of trends or long-term changes in society. Throughout, we have chosen to look at men and women separately. The reason for this choice, as will be apparent from our description in section 10.2, is that men and women experienced a very different development in their participation in the labor force in the most recent decades.

10.2 The Development of LFP and Employment of Older Workers in Sweden

Figure 10.1 shows the evolution of the LFP for the 55–59, 60–64, and 65–69 age groups for males and females, respectively. By comparing the graphs for males aged 60–64 with the corresponding one for those aged 55–59, it can be seen that the development follows the same pattern, although the development for the older age group is more dramatic: there is a marked trend toward a decreased LFP until the late 1990s in both age groups and then a reversed trend. In the 60–64 age group, there is a decrease from 85 percent in 1963 to about 57 percent in 2000 and then an increase to around 75 percent by the end of the period. The corresponding change in the 55–59 age group is from almost 95 percent to below 85 percent in 2000 and then a recovery to about 90 percent.

For the oldest age group, those aged 65–69, the graph shows a marked decrease in LFP until the late 1970s. This primarily reflects the gradual change in the mandatory and normal retirement ages from 67 to 65 on the Swedish labor market. The graph also shows a marked increase in LFP by the end of the period under study—from below 20 percent in 2000 to around 26 percent by the end of the period.

As is immediately apparent from the figures, the graphs for female LFP tell a very different story from the male ones. The development for females until the late 1980s is dominated by the trend toward increased LFP. After that, the development of the two gender groups has been remarkably parallel.

This development is highlighted in figure 10.2. In this figure, the graphs for

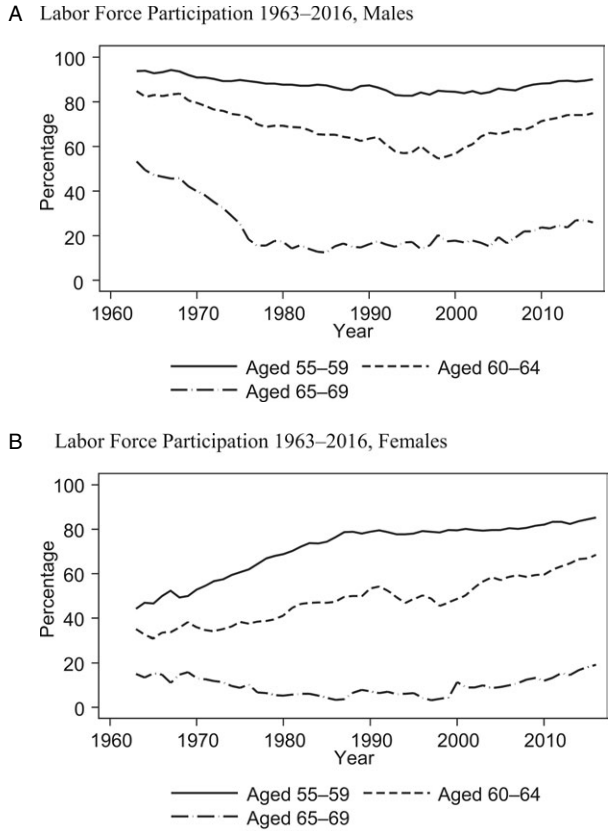


Fig. 10.1 Development of LFP rates in different age groups, males and females, 1963–2016

Source: Swedish LFS.

the two gender groups in the same age group have been placed in the same diagram. It can be seen that the convergence between males and females happened five years later in the 60–64 age group compared to the 55–59 one, which is a pure cohort effect. This means that the increase in female LFP relative to the male LFP stopped around the cohort born in 1935. There is no tendency to further convergence in the LFP for cohorts born later.

Figure 10.3 shows the development of the employment rate for the same age groups as in figure 10.1 over the same period. It can be seen that this development follows a very similar pattern compared to the LFP rates. This means that the unemployment rate is not driving the long-term changes in employment. Figure 10.4 shows the development of unemployment rates separately. It can be seen that this development is closely connected

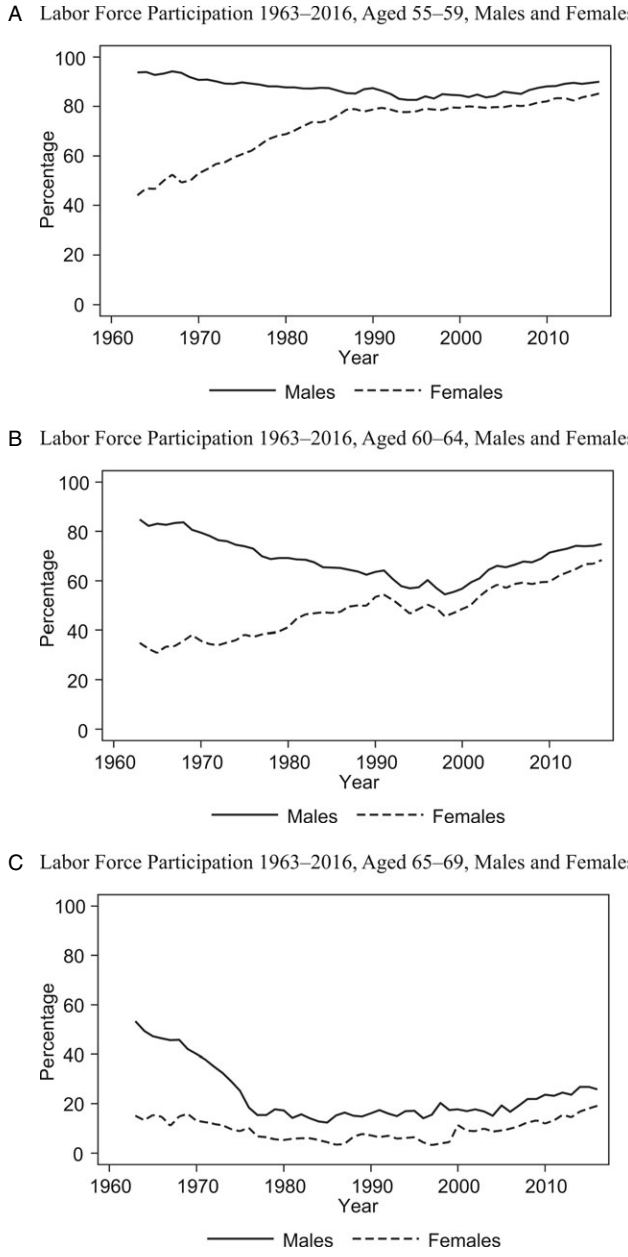


Fig. 10.2 Development of LFP rates for males compared to females in different age groups, 1963–2016

Source: Swedish LFS.

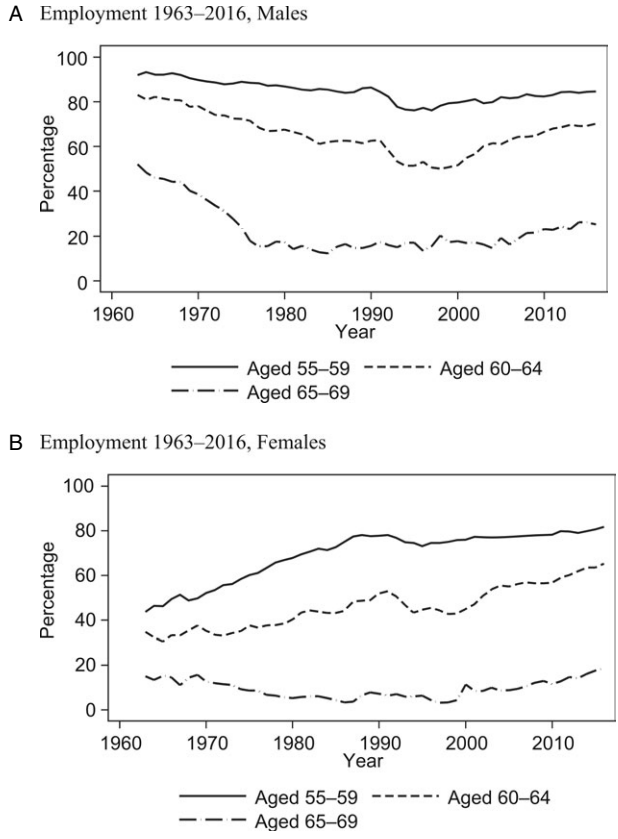


Fig. 10.3 The development of employment by age, males and females, 1963–2016
Source: Swedish LFS.

to the Swedish business cycle, with major recessions in the early 1980 and 1990s.

To sum up, there is a U-shaped development of the LFP of older men in Sweden over the observed period. Although there has been a strong trend toward a higher LFP in recent years, it should be noted that the average rates are still much lower than the ones observed in the early 1960s in all age groups under study. The diagrams where we placed the graphs for the development of male and female LFP in the same age groups together suggest that there is no increase in the relative female LFP after the cohort born in 1935. These graphs also suggest that the recent trend toward increased male LFP is driven by changes across birth cohorts rather than by period effects. This interpretation is further supported by the fact that business-cycle changes and fluctuations in the unemployment rate seem to have very limited effects on the LFP rates.

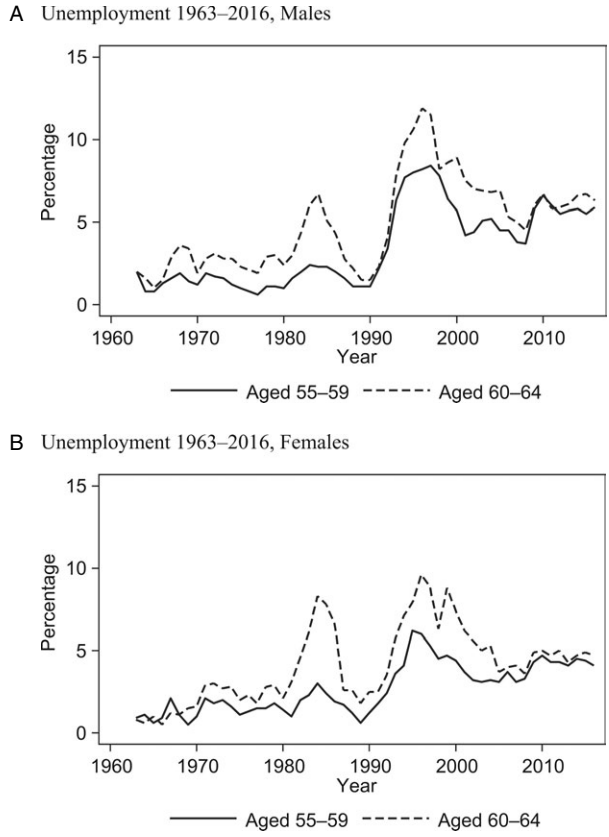


Fig. 10.4 The development of unemployment by age, males and females, 1963–2016
Source: Swedish LFS.

10.3 Changes in Characteristics of the Population Aged 55–59 and 60–64

10.3.1 Improved Health

A possible background to the higher LFP rates is that the population simply improved its health status, allowing people to work at older ages. A first problem when assessing the empirical relevance of the hypothesis is how to measure changes in population health. One way is to look at changes in mortality. Figure 10.5 shows the development of mortality rates between 1960 and 2015 in the 55–59 and 60–64 age groups and for males and females, respectively.

Figure 10.5 shows several interesting patterns in the development of mortality. While there is a steady improvement in survival for women in both age groups, the development shows little change for men between 1960 and

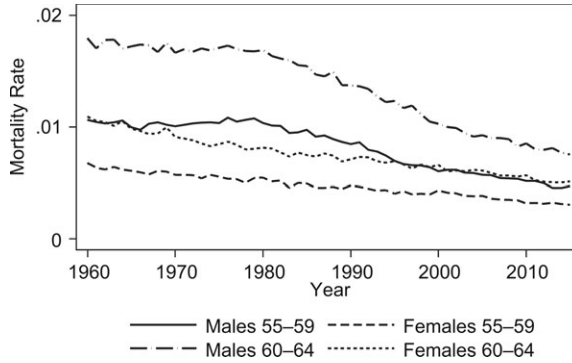


Fig. 10.5 Development of mortality rates, age groups 55–59 and 60–64, males and females, 1960–2015

Source: Swedish Cause of Death Register.

the mid-1980s. However, since then, there is a larger decrease in mortality for men than for women. The gender gap in mortality in the older age group has shrunk markedly in recent years. In the 35-year period since 1980, the mortality rate among men aged 60–64 has more than halved from about 1.7 percent to below 0.8 percent.

A limitation of using mortality to analyze the background to changes in LFP is its low validity: the marginal worker is probably different from the marginal survivor in the ages under study. It is conceivable that much of the improvement in survival rates in recent years is located in groups of people that are far from entering the labor force.

A complement to the mortality rates is to look at the development of self-assessed health measures. We use data on self-assessed health obtained from the six different waves of the Swedish Level of Living Survey (LNU). The LNU is a panel survey administrated by the Institute for Social Research at Stockholm University, where about 6,000 individuals aged 16–74 are interviewed about their health, work, social contacts, and economic conditions, as well as their participation in the society.[1]

Figure 10.6 shows the development of three different health indicators obtained from survey questions. The first one asks about the ability to walk up stairs, the second one about the ability to walk 100 meters, and finally, the third one about the ability to run 100 meters. Again, we look at the 55–59 and 60–64 age groups.

It is apparent from the upper panel of figure 10.6, showing the development for males and females together, that there is a steady improvement in

1. The sample size of 6,000 individuals implies that there are on average about 100 observations in each birth cohort. Since we split the sample by gender and use five-year age intervals, we get a sample size of around 250 observations in each cell we report.

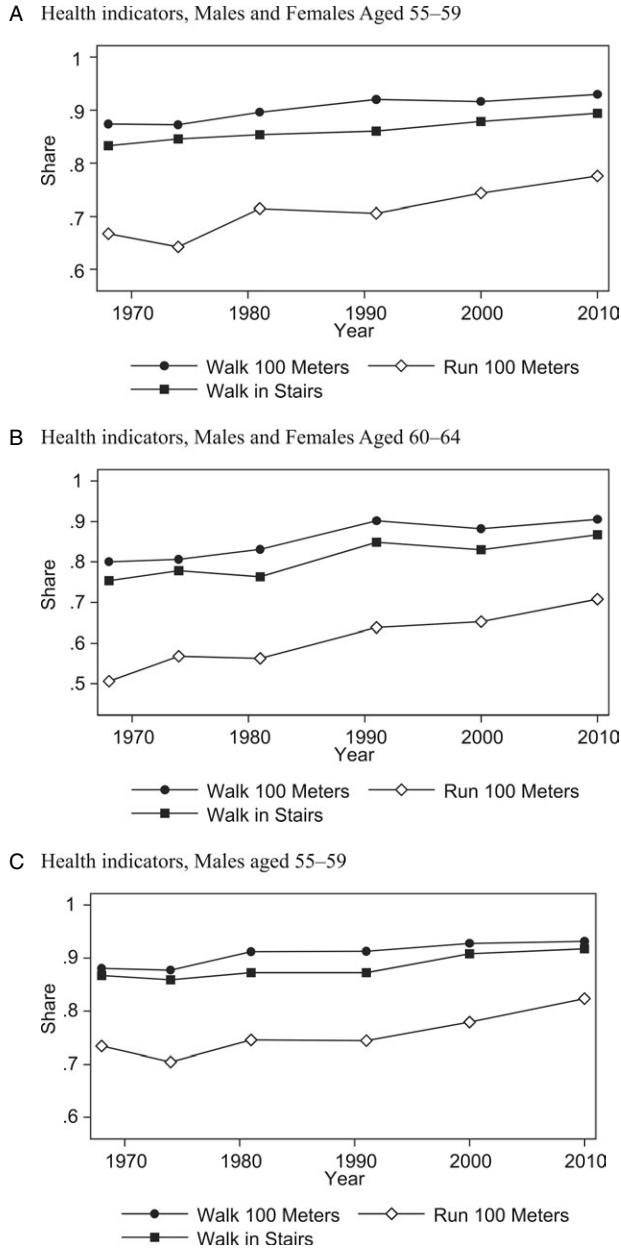
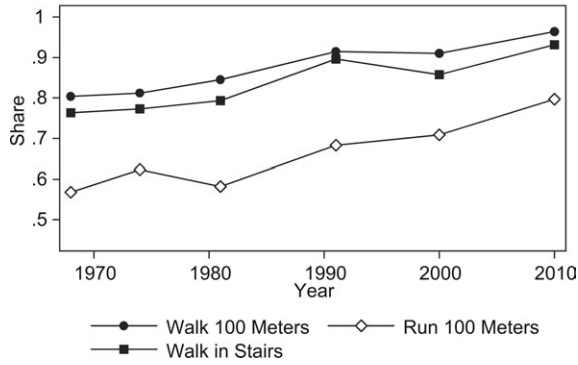


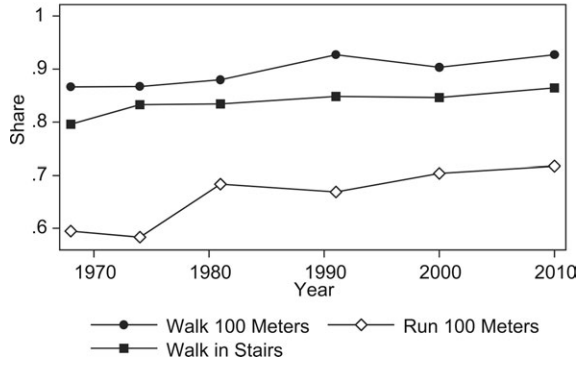
Fig. 10.6 Share that is "able to walk 100 meters," "able to run 100 meters," and "able to walk up stairs," age groups 55–59 and 60–64, males and females

Source: Authors' calculations from the 1968, 1974, 1981, 1991, 2000, and 2010 waves of the Swedish Level of Living Survey.

D Health indicators, Males aged 60–64



E Health indicators, Females aged 55–59



F Health indicators, Females aged 60–64

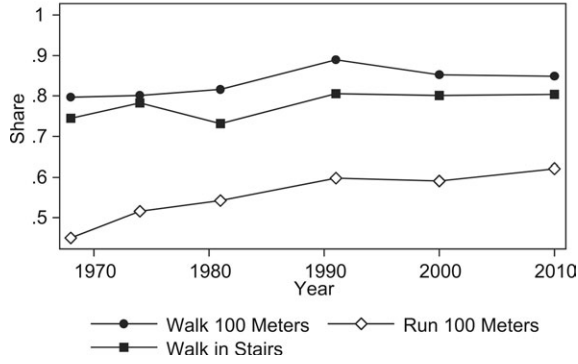


Fig. 10.6 (cont.)

all three measures and in both age groups over the observed period. The largest improvement is in the 60–64 age group. In this group, the share of individuals that claim they are able to run 100 meters has increased from 50 percent in 1968 to 70 percent in 2010.

In the lower two panels of figure 10.6, we show the development in the two age groups for males and females, separately. This division reveals that the development can, to a larger extent, be attributed to men. It can be seen that almost 80 percent of the men aged 60–64 claim that they are able to run 100 meters in 2010 compared to 62 percent for females. This gender gap was much smaller in 1968.

In the 1991, 2000, and 2010 waves of the LNU, there is a summary measure of the individuals' health status from the answer to the question on whether the respondent is in "good," "fair" or "poor" health. Figure 10.7 shows the development of the share reporting fair or poor health over the three surveys. In the upper panel, the development is shown for males and females together, divided in the 55–59 and 60–64 age groups, respectively. The lower panels show the development for males and females separately.

Figure 10.7 reveals that there is a substantial improvement in the health status measure over the almost 20-year period covered by the surveys. In the older age group, the share reporting fair or poor health decreases from almost 42 to about 32 percent. The lower panel shows that the improvement again primarily can be attributed to men. The largest change is in the older age group. Between 2000 and 2010, the share of those claiming to be in fair or poor health decreased from about 43 to less than 25 percent—a decrease of about 40 percent.

To sum up, we look at the development of three different types of measures for population health: mortality, self-assessed measures of physical ability, and self-assessed summary health measures. Interestingly, all these measures give a similar picture of the development: there is a continuous improvement in health, and it seems that there has been a somewhat accelerated improvement for older men in recent years. Improved health thus seems to be a prominent factor in explaining the rise in the LFP among the elderly. In fact, in a previous study (Johansson, Laun, and Palme 2015), we find that the recent increase in the LFP is smaller than the health improvement for older workers if we assume that workers with a particular health status could work as much as workers with the same health status worked in the past.

10.3.2 Changes in Educational Attainment

It is well known from previous studies that more-educated individuals retire later (e.g., Venti and Wise 2015). Our Swedish data shows that the difference in the employment rate between low-educated (compulsory schooling or vocational training as the highest level) and high-educated (secondary schooling or higher) workers is 11.8 percentage points in the 55–59 age group

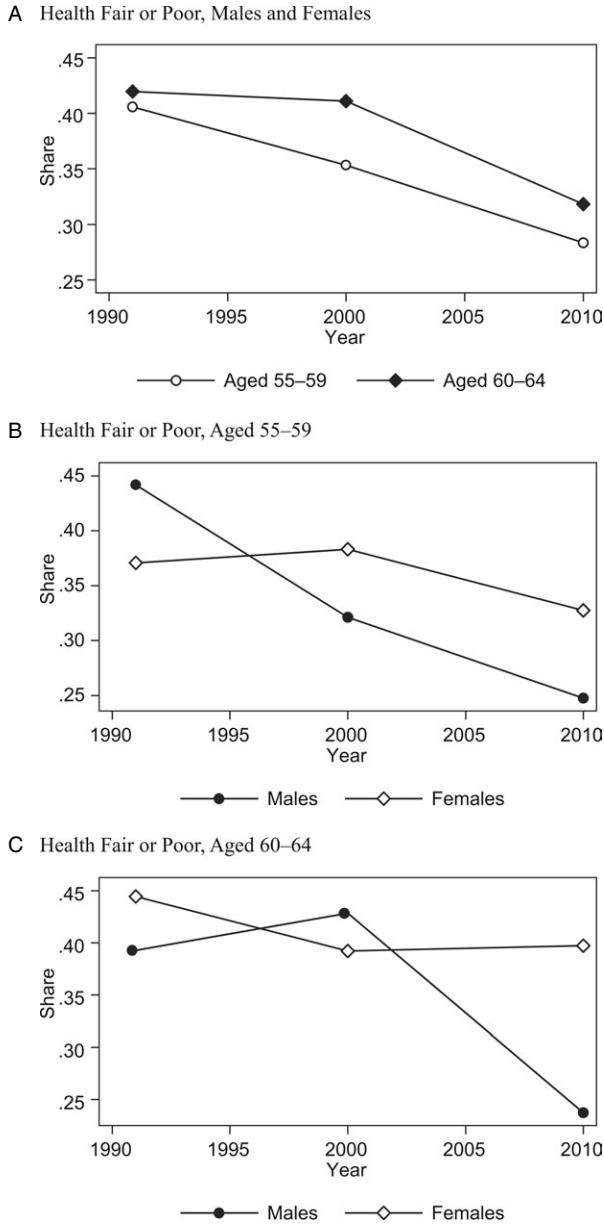


Fig. 10.7 Development of the share claiming they are in fair or poor health, age groups 55–59 and 60–64, males and females

Source: Authors' calculations from the 1991, 2000, and 2010 waves of the Swedish Level of Living Survey.

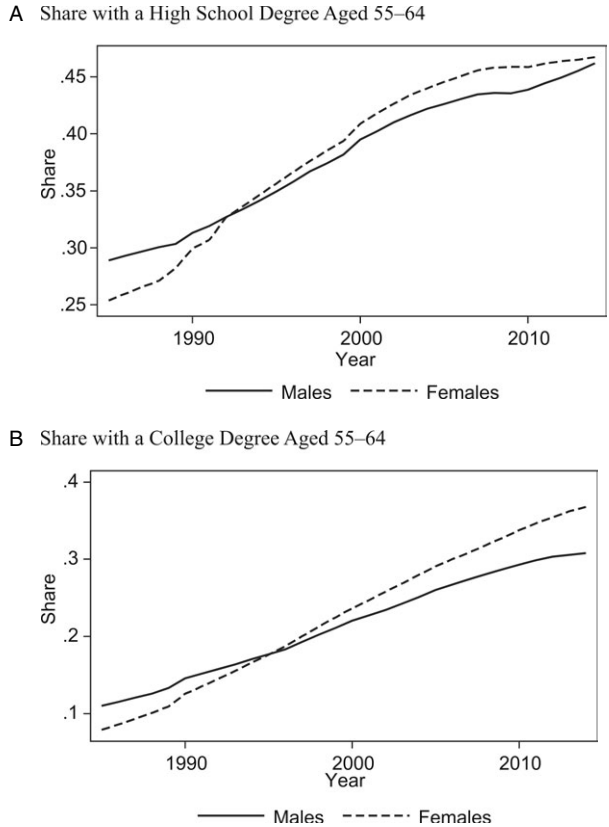


Fig. 10.8 Share of high school graduates in the 55–64 age group between 1985 and 2014, males and females; share of graduates from university/college in the 55–64 age group between 1985 and 2014, males and females

Source: Swedish Education Register.

(72.3 vs. 84.1 percent). The corresponding difference among 60–64-year-olds is even larger: 14.3 percentage points (56.3 vs. 70.6 percent).

A possible background to the increase in the LFP of older workers could therefore simply be that the cohort reaching older ages in recent years are more educated than previous ones and therefore retire later. Figure 10.8 shows the change in educational attainment for the 55–64 age group between 1985 and 2014. The left panel shows the share that has graduated from high school and the right panel shows the corresponding share of college graduates.

Figure 10.8 shows a great change in the educational attainment of the age group. The largest change is for women. During the period covered by figure 10.8, the educational qualifications of women surpassed those of males mea-

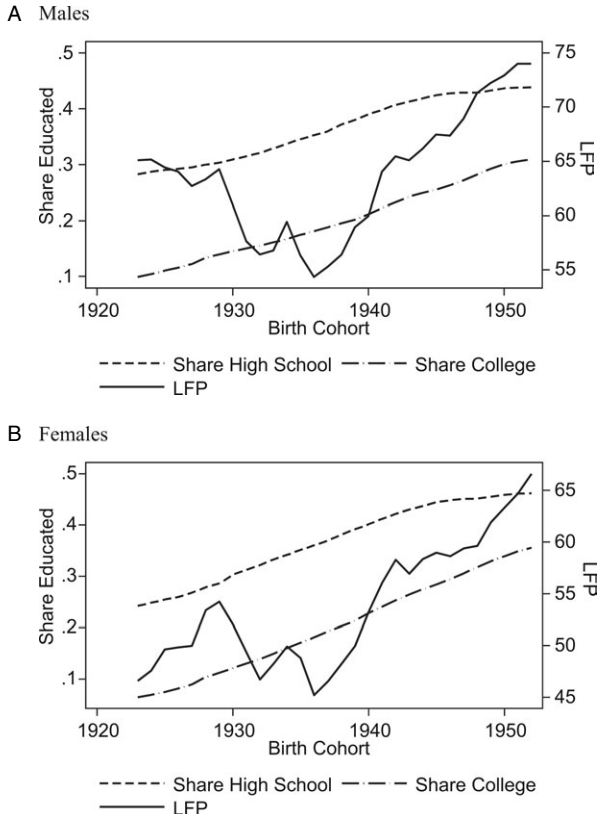


Fig. 10.9 Development of LFP by cohort of birth and share graduating from high school and college/university, respectively, in the 60–64 age group
Source: Swedish LFS and Swedish Education Register.

sured as the share graduating from both high school and college. Between 1990 and 2005, the share of women aged 55–64 with a high school degree increased from less than 30 percent to about 45 percent, and the share graduating from college increased from around 10 percent to about 30 percent.

In figure 10.9, we display the graphs showing the change in educational attainment along with those showing the evolution of the LFP in the 60–64 age group. Note that we have changed the age group for the education measures to the age group where most of the increased LFP took place. We have also changed the label of the x-axis to the year of birth of the midpoint of the age group under study—that is, age 62. The left panel shows the results for males and the right one for females.

The message in the graphs is somewhat mixed. On the one hand, one could argue that the educational attainment also increased across the birth

Fig. 10.10 Number of deaths in work accidents between 1970 and 2014, males and females

Source: Swedish Work Environment Authority.

cohorts born in the 1930s, when the LFP in the age group actually decreased, and that the LFP continued to increase for the cohorts born in the 1950s, although the increase in educational attainment markedly slowed down. On the other hand, the graphs show that when the educational attainment grew the most—in particular for higher education—for the cohorts born in the 1940s, the LFP started to increase.

10.3.3 Less-Demanding Jobs

It is well known that the jobs in postindustrial societies have become less physically demanding. This change could, of course, have contributed to the higher LFP rates in recent years. Let us therefore look into how the changes in the work environment match the changes in the LFP rates.

As for the measure of population health, there are different ways of measuring changes in the work environment. Figure 10.10 shows the number of deaths in work accidents between 1970 and 2014. The advantage of this measure is its high reliability, since all work accidents in Sweden have to be reported to the Swedish Work Environment Authority (Arbetsmiljöverket).[2] The validity of the measure could, on the other hand, be questioned, since fatal work accidents are quite rare events and only reflect a very limited aspect of the work environment.

Figure 10.10 reveals a very steady trend toward fewer deaths for males in work accidents between 1970 and 2000. After that, the annual number of deaths in work accidents seems to have stabilized on a level of about 50 deaths. For females, the number of deaths in work accidents has been very

2. Before 2001, this was called the National Board of Work Security (Arbetarskyddsstyrelsen).

low throughout the entire period, except for the spike in 1994 that can be attributed to the MS *Estonia* ship disaster.[3]

Comparing the changes in the number of deaths in work accidents with the trends in LFP rates in figure 10.1, it can be seen that the developments do not support the idea that changes in the work environment are a driving force behind the increase in employment among the elderly. During the major decrease in LFP among older men between 1970 and 2000, there was a large decrease in deaths in work accidents, and when there was no change in the number of deaths in work accidents after 2000, there was a marked increase in the LFP rates.

Figure 10.11 shows the evolution of three different measures of how the physical demands at workplaces have changed for the 55–59 and 60–64 age groups, respectively. The data source is the six different waves—obtained in 1968, 1974, 1981, 1991, 2000, and 2010—of the LNU. The three measures are self-reported assessments of the extent to which the work includes heavy lifting, if the respondent considers his or her work to be physically demanding, and if the job requires "daily sweating" to be performed. The left panels show the results for the 55–59 age group and the right ones the results for the 60–64 age group. The upper panels show the results for both genders and the two bottom ones for the males and females, respectively.

The results show that there is a substantial reduction in the physical demands of the jobs for both age groups during the period covered by the surveys if we use the measures "heavy lifting" and "daily sweating." Looking at the graphs with the two gender groups combined, it can be seen that both these measures decreased from around 40 percent in both age groups in 1968 to slightly above 10 percent in 2010. The graphs for the separate gender groups reveal that this development is primarily driven by the men. The third measure, the extent to which the respondent considers his or her job to be physically demanding, changes very modestly over the period.

The results shown in figure 10.11 do not support the hypothesis that lessened physical demands in the labor market are the driving force behind the increase in the LFP among the elderly. The results show that the largest decrease in the physical demands happened between 1968 and 1991 and can be attributed to the male workers. As we showed in figure 10.1, the LFP rates decreased radically during these years. When the LFP for men increased between 2000 and 2010, there appears to be little change in the physical requirements at the workplaces.

In addition to physical demands from work tasks, the psychological or

3. The MS *Estonia* was a cruise ferry that sank in the Baltic Sea in September 1994 and was one of the worst maritime disasters of the 20th century, with 852 lives lost. Among them was a large group of Swedish municipality employees. Since the trip was work related, the casualties were classified as work accidents.

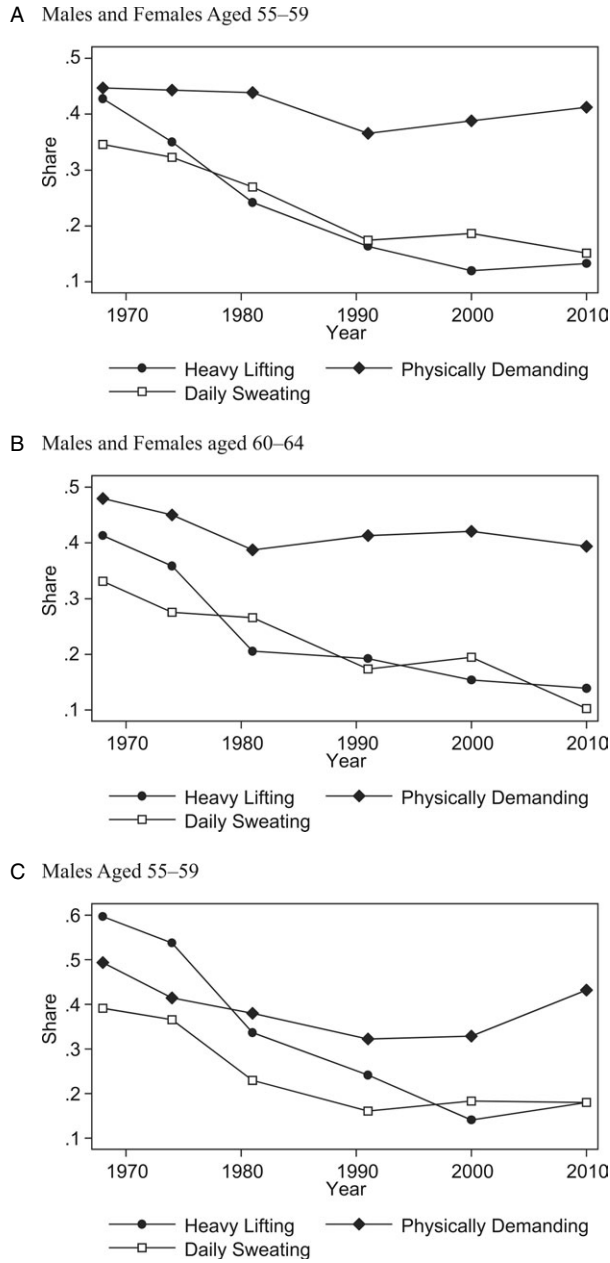
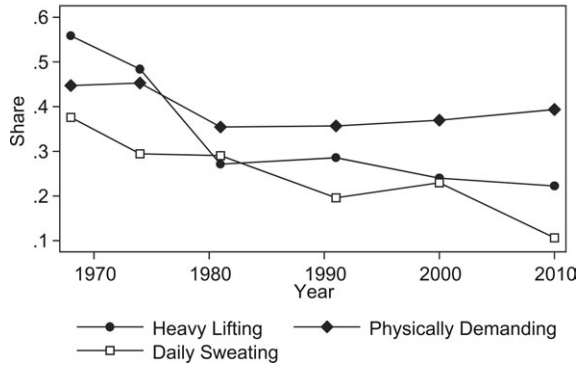


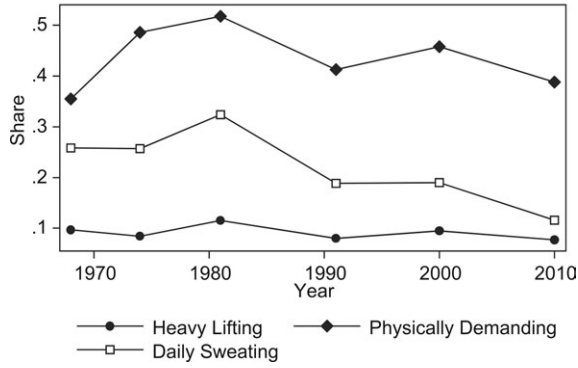
Fig. 10.11 Development of three self-assessed measures of the physical work environment in the 55–59 and 60–64 age groups: "Work includes heavy lifting," "work is considered to be physically demanding," "work requires daily sweating," males and females

Source: Authors' calculations from the 1968, 1974, 1981, 1991, 2000, and 2010 waves of the Swedish Level of Living Survey.

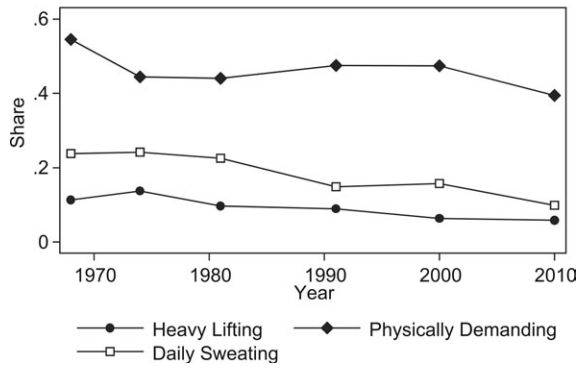
D Males Aged 60–64



E Females Aged 55–59



F Females Aged 60–64



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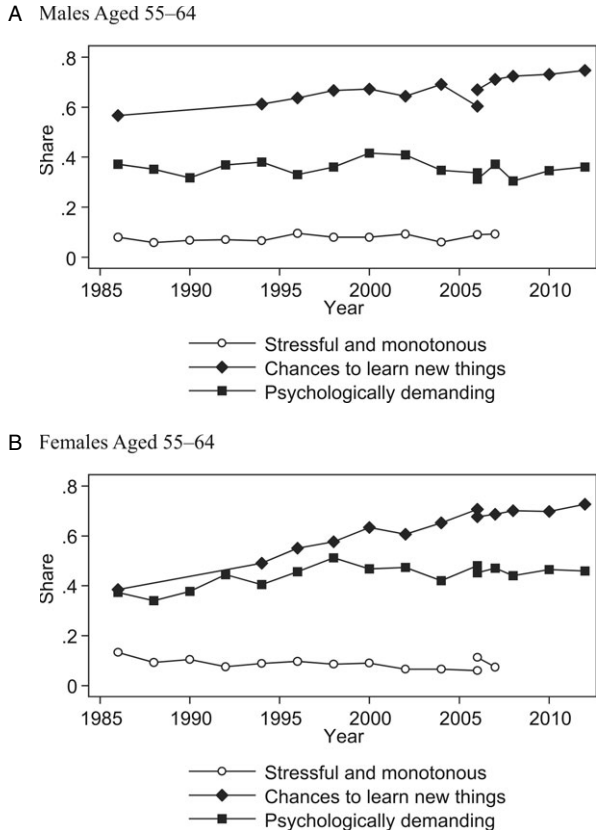

Fig. 10.12 The development of psychological and social work environmental indicators, males and females, 1986–2012
Source: Statistic Sweden ULF surveys 1986–2012.

social factors in the work environment may be important determinants for how long a person decides to stay in the labor force. Figure 10.12 shows the development of six different indicators for the psychosocial work environment of Swedish workplaces between 1986 and 2012 in the 55–64 age group. The left panels show the development for men and the right ones the corresponding developments for women. The upper panels show the share of workers who find their jobs "stressful and monotonous," who have chances "to learn new things" at work, and who find their jobs "psychologically demanding."

The lower panels show three different aspects of the extent to which the workers feel that they are in command of their own work situation—first, whether they can "plan their own work"; second, if they can "decide their work pace"; and third, if they can "influence their work schedule."

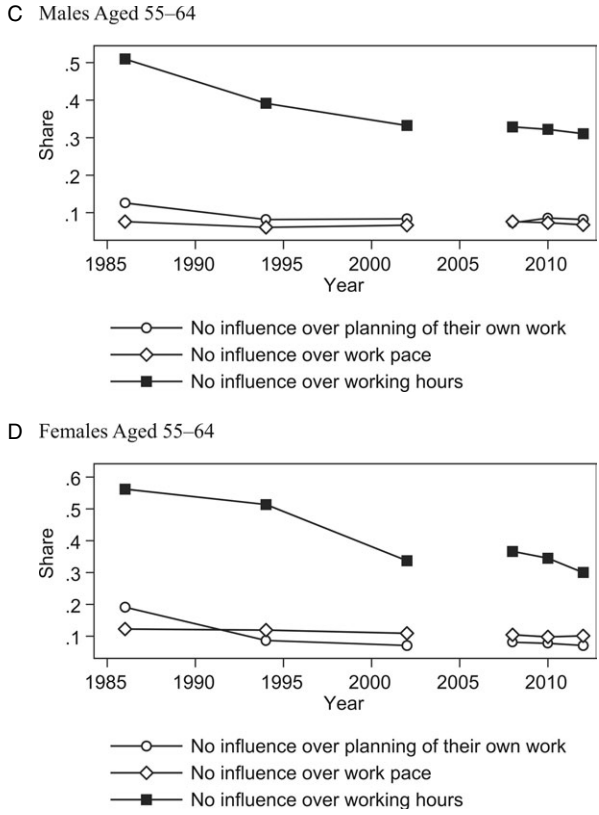

Fig. 10.12 (cont.)

Taken together, the graphs show very little change in any indicators except two. A larger share of the workers feel that they are able to learn new things at their workplace, and a lower share feels that they have no influence over their work schedule. The change of the first indicator is much larger for females—from 40 percent in 1986 to almost 75 percent in 2012. The corresponding change for males is from 60 to 75 percent. The change in work schedule flexibility is also larger for females, although the difference is much smaller.

10.3.4 Joint Decision-Making

As we documented in section 10.2, an important change in the composition of the Swedish labor market since the 1960s is the feminization of the labor force. This change has implied a major shift in the finances and labor supply incentives of most Swedish families, including the incentives to exit from the labor force. The wives' participation decision may have two counteracting effects on the husbands' decision to remain working. First,

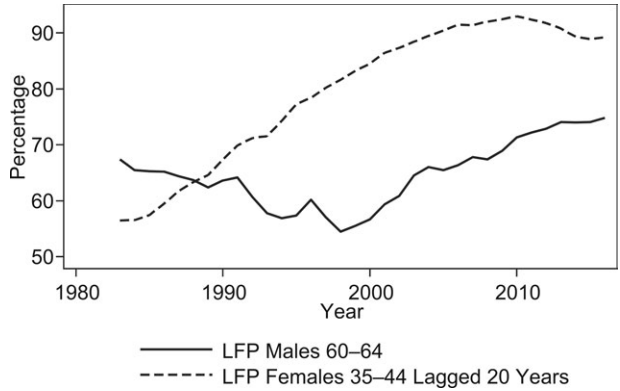

Fig. 10.13 LFP rates of Swedish men aged 60–64 along with LFP rates of females ages 35–44, lagged by 20 years between 1980 and 2016
Source: Swedish LFS.

since the household's disposable income will increase as a result of the wife's income, it will create an income effect toward exiting the labor force for the husband. Second, since leisure time after retirement may be enjoyed to a greater extent if the husband can spend the time with his wife, the wife's participation may decrease the husband's propensity to retire.

Several empirical studies have found evidence that the wife's retirement status significantly affects the husband's decision to leave the labor force (e.g., Gustman and Steinmeier 2000). Schirle (2008) finds that the increase in the male LFP rates since the mid-1990s in the United States, Canada, and the United Kingdom can be attributed to increased female participation in the workforce to a substantial degree. To investigate the extent to which this could also be the case in Sweden, we plot the LFP rates for females aged 35–44, lagged 20 years back in time along with the LFP rates for males in the 60–64 age group. The reason for using lagged LFP rates for the cohort of women married to the men under study rather than the current rates is to avoid the obvious endogeneity problem when correlating the series.

The result of this exercise is shown in figure 10.13. The figure shows that there is a joint positive trend in both series after the LFP rates among 60–64-year-old men started to increase in 2000. However, it also shows that there is an even stronger increase in female LFP corresponding to the long downturn in participation of older men between 1980 and 2000. We thus have to conclude that husbands' responses to increased female LFP do not seem to be a dominating factor behind the recent increase in the LFP of older men.

There are at least two possible explanations for why the increasing trend in female LFP did not seem to explain the delayed retirement of men in Sweden

even though, according to the result obtained in Schirle (2008), this is the case in the United States, Canada, and the United Kingdom. First, the major expansion of female LFP happened more than a decade earlier in Sweden than in the countries included in Schirle's study. We are thus comparing different periods. Second, there may be differences in preferences in Swedish households compared to the countries studied by Schirle.

Two empirical studies on Swedish data support the second explanation. Selin (2017) investigates the husband's retirement responses to a change in the wife's retirement incentives and finds no significant effects despite strong direct effects on the wife's LFP. Laun (2017) too finds no significant retirement responses to spouses' prolonged work lives following the introduction of age-targeted tax credits in Sweden.

10.4 Recent Institutional Changes Affecting LFP of Older Workers

10.4.1 Swedish Pension Reform

A major pension reform was decided in the Swedish parliament in 1998. The primary aim of the reform was to make the pension system financially robust. Projections showed that the prereform defined benefit (DB) system required increased payroll taxes to be financially viable in an environment of an aging population. An additional aim was to strengthen the relationship between the contribution made to the system and the benefits received—that is, the actuarial fairness of the system—which affects the economic incentives for labor supply.

There were the three main elements of the reform:

1. As opposed to the old supplementary, income-related DB national pension plan (ATP), the new pension scheme is a so-called notional defined contribution (NDC) plan. The payroll tax devoted to the public old-age pension system is fixed to 18.5 percent of the individuals' annual wage sum in the new system.[4] Of these, 16 percent is devoted to a pay-as-you-go system based on so-called notional accounts and the rest—that is, 2.5 percent—is devoted to a fully funded scheme.
2. The sizes of the individual benefits from the new pay-as-you-go scheme are proportional to the contributions made throughout the insured individual's life cycle. In the prereform scheme, they are proportional to the earnings received during the individual's best 15 years in the labor market and with reductions if he or she contributed fewer than 30 years to the scheme. There was also an actuarial reduction of 0.5 percent for each month the pension

4. Due to a 7 percent tax deduction, the effective rate is actually $18.5 \times (1 - 0.07) = 17.21$ percent.

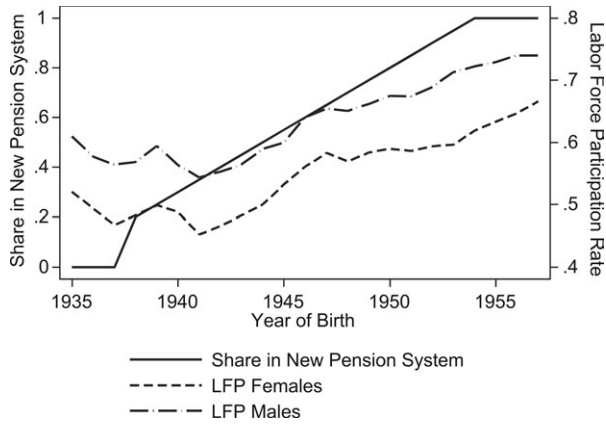

Fig. 10.14 Implementation of the new Swedish old-age pension scheme and LFP rates in the 60–64 age group by cohort of birth, males and females
Source: Swedish LFS.

was claimed before the 65th birthday and a 0.7 percent increase for each month the pension was delayed after that age. There is no earnings test in any of the two pension systems.

3. A fully funded pension program was introduced. For this part, the insured individual is able to choose between a large number of private fund managers or remain in the default fund, managed by the public authorities.

The new pension system was implemented gradually by year of birth. The first cohort to be covered by the postreform system consisted of those born in 1938. They are covered by 20 percent in the postreform system and by 80 percent in the prereform one. For every subsequent birth cohort, the share of coverage from the new system is increased by 5 percent until those born in 1954, who are covered to 100 percent by the postreform system.

Figure 10.14 shows the share to which each birth cohort is assigned in the new pension system along with graphs for the LFP rates in the 60–64 age group. The birth cohort corresponding to a particular year of the LFP is calculated at the midpoint of the age group at age 62. It can be seen that there indeed is a striking resemblance between the implementation of the new public pension system across cohorts and the LFP rate in the age group under study. The increase in the LFP starts with the cohorts born in the early 1940s and continues until those born in the mid-1950s. This applies to both men and women.

Our next step in investigating the credibility of the hypothesis that the pension reform contributed to the pattern of delayed retirement is to take a closer look at how incentives to remain in the labor force changed as a result of the reform and how that may have affected the retirement behavior for the period. Laun and Wallenius (2015) posed a related research question. They

use a dynamic programming model calibrated on aggregate data for retirement behavior in the Swedish labor market and predict how the postreform pension system would change retirement behavior when fully implemented. Their results suggest that the pension reform would have a very strong effect on retirement behavior: retirement is predicted to be delayed by 2.5 years on average in the workforce.

The retirement age, when the worker exits the labor market, does not need to be the same as the age when he or she starts to claim pension benefits. A fundamental difference between the new and the old pension system is that pension wealth in the new system is linked to when the worker stops paying contributions to the system. In the old system, the actuarial adjustment is linked to when the person starts to claim benefits. This means that there will be no actuarial adjustments if a worker retires at age 62 but starts to collect his or her pension benefits at age 65.[5]

This means that there are different economic incentives for the timing of a labor market exit and for the timing to start to claim benefits. Laun and Wallenius (2015) look at the decision to exit the labor market and stop contributing to the pension scheme, conditional on the date when the worker starts to claim benefits. This procedure assumes that the workers are not credit constrained in their retirement decision, in the sense that they have to start to claim benefits at the same time as they retire. Under this assumption, the pension reform has a strong effect on the incentives to stay in the labor force.

To compare the economic incentives to stay at the labor market in the pre- and postreform pension systems, we first confine ourselves to the timing of claiming benefits. Figure 10.15 shows the results from a calculation of two incentive measures for a median income earner in the cohort born 1930. The first one, shown in the left panel, is the replacement level, calculated as the share of the pension income of median earnings the year before retirement. The second one, shown in the right panel, is the benefit accrual rate, calculated as the change in the social security wealth from delaying retirement one year. The dark lines with circles show the outcomes for the prereform system, and the lighter lines with squares show the ones for the postreform pension scheme.

The results show that the replacement level is somewhat lower in the new system. As a result of the different indexing in the two systems, this difference is to some extent dependent on the assumption about growth and inflation rates made in the simulations. We have assumed a growth rate of 1.6 percent and use real measures for the calculations. The results for the accrual rates show no great differences between the two systems. This confirms the conclusions of Palme and Svensson (1999) that the prereform system was not far from actuarially fair.

5. The actuarial adjustment in the new system is determined by an annuity divisor, which is a function of life expectancy at the date when the person starts to claim benefits.

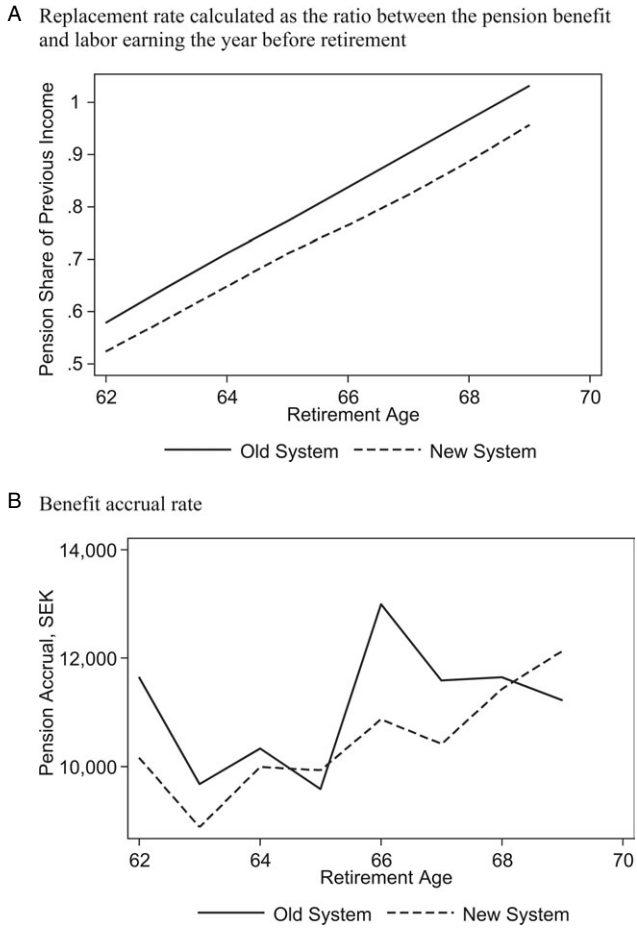

Fig. 10.15 Two incentive measures for a median income earner born in 1930 by retirement age for pre- and postreform old-age pension system, respectively
Source: Authors' calculations for a median income earner born in 1930.

Figure 10.16 shows the average age of pension withdrawal across the birth cohorts born between 1935 and 1944 for males and females, respectively. Three graphs are displayed in each panel: One corresponds to those who finance their exit from the labor market with income security programs other than old-age pensions—namely, through DI, unemployment insurance (UI), or sick pay insurance programs. One corresponds to those who receive an old-age payment from a public, occupational, or private pension after they leave the labor force. The third includes the whole population—that is, the two groups combined.

Figure 10.16 shows that very little has happened across the included

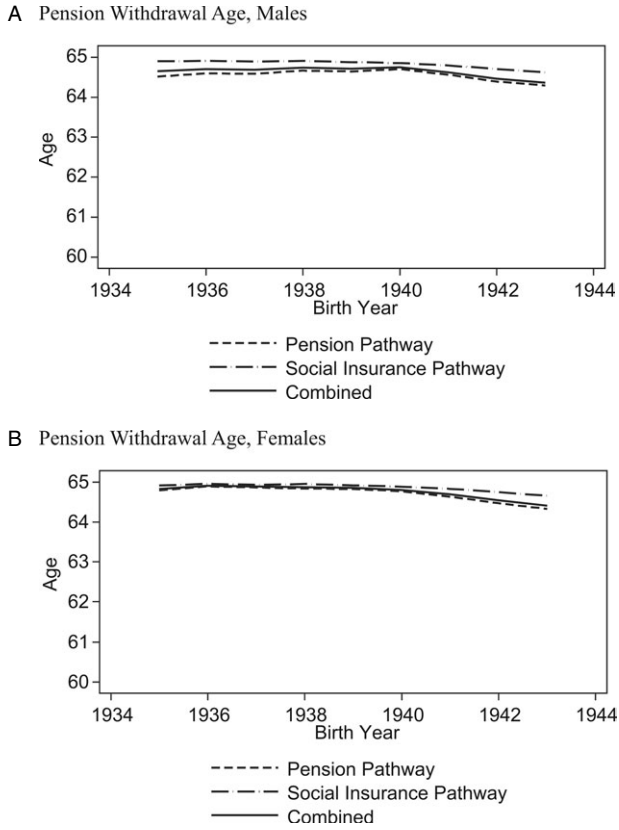

Fig. 10.16 Average age of old-age pension withdrawal by pathway of exit from the labor market, cohorts born 1935–1944, males and females, respectively
Source: Authors' calculations from the LOUISE database.

cohorts, among both males and females. There is almost no change between the 1935 birth cohort and the one born in 1940. There is, however, a slight decrease of about 0.2 years in the average claiming age between those born in 1940 and those born in 1944 in all groups and for both males and females. These small changes in claiming behavior are consistent with the small changes in incentives to delay claiming that we documented in figure 10.15.

We proceed by studying how retirement behavior has changed. The upper panel of figure 10.17 shows how the average retirement age has changed across cohorts for males and females separately. The retirement age is defined as the age during the last observed year with earnings above one price base amount, followed by at least two years with earnings below one price base amount. There are three graphs in each panel: one showing the retirement age for the entire population and two for the old-age and social insurance pathways separately.

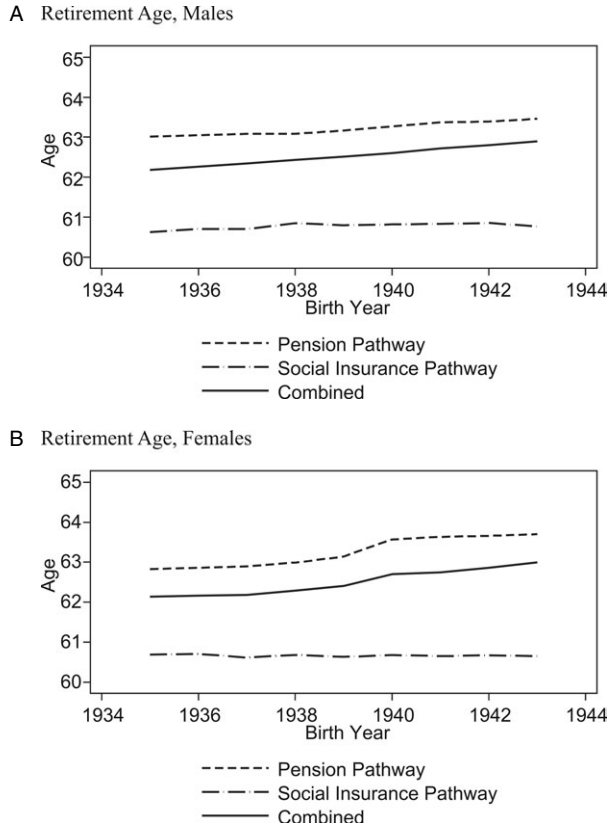

Fig. 10.17 Upper panels: Average retirement age by year of birth. Lower panels: Share exiting the labor force by the pathway of retirement and year of birth, males and females

Source: Authors' calculations from the LOUISE database.

The figure reveals an interesting pattern. First, for both men and women, the average retirement age has increased by almost a year from the first to the last cohort. For the social insurance path, there has been no change. For the group using the old-age pension pathway, it is indeed a change toward delayed retirement, but the change is smaller than for the overall population. For men, the change in this group is about half of the change in the entire population.

This result suggests that there has been a compositional change to a smaller share using the social insurance pathway. This change is documented in the lower panel of figure 10.17. As expected, the change is largest for the male subgroup, where there is a 15 percentage point decrease in the share leaving the labor force through the social insurance pathway—from 35 percent in the 1935 cohort to about 20 percent in the 1943 cohort.

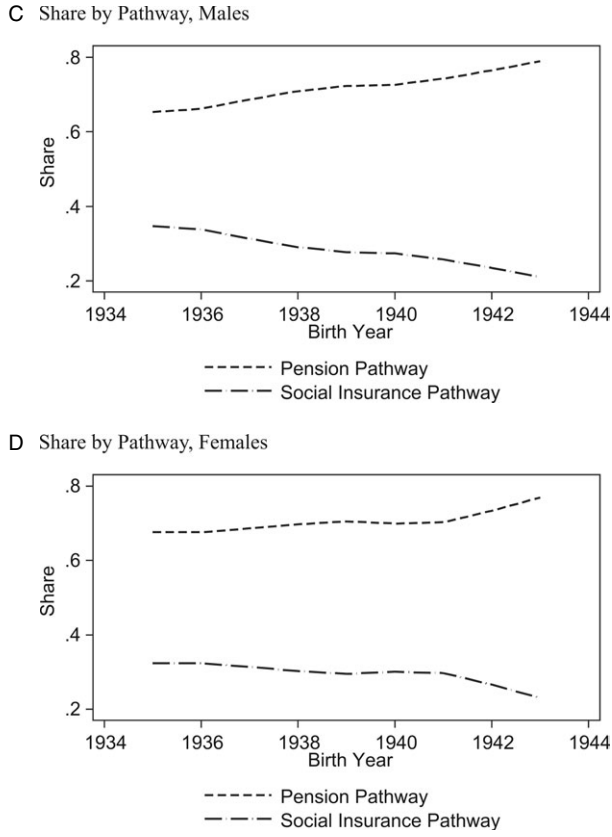

Fig. 10.17 (cont.)

One way to assess the extent to which the overall delayed retirement can be attributed to either a larger share using the old-age pension pathway out of the labor force or the delayed retirement of those using this pathway is to calculate the average retirement age by using the probabilities of the two pathways for the 1935 birth cohort and the average retirement ages for the 1943 cohort. This exercise tells us that about 55 percent of the overall change in the average retirement age for males over the period can be attributed to the change in the relative importance of the two pathways. The corresponding number for the female population is 33 percent—that is, about one-third.

The delayed retirement across cohorts for those who use the old-age pension pathway to leave the labor force is consistent with the idea that the stronger incentives to stay in the labor force in the new pension scheme actually affected behavior. However, it is important to stress that there is also a compositional change across cohorts toward a larger share of individuals in the pension pathway with inferior health, who would have been eligible for

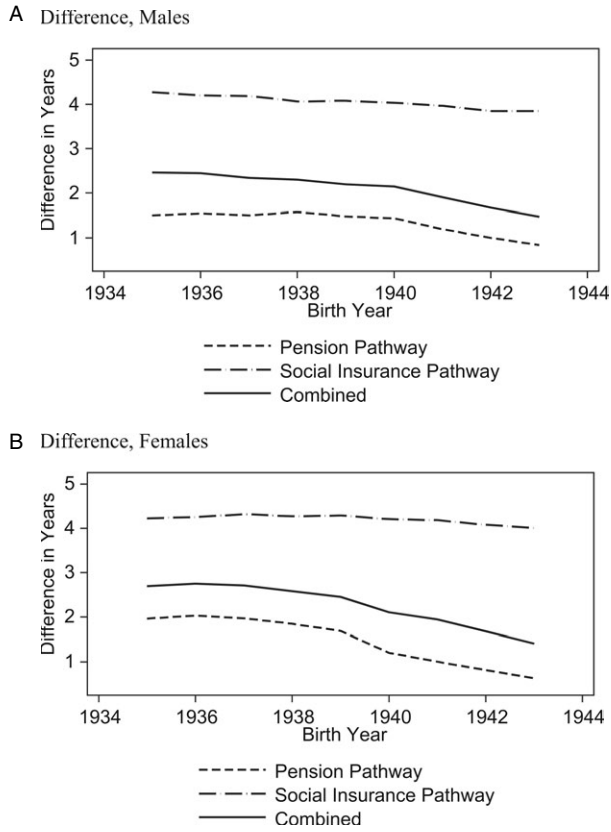

Fig. 10.18 Difference between average age of exit from the labor market and average age of claiming of old-age pension benefits, cohorts born 1935–1943, males and females

Source: Authors' calculations from the LOUISE database.

DI with the more lenient screening of the older cohorts. This compositional change is counteracted by a general improvement in population health.

A necessary condition for the postreform system to generate very different incentives for retirement is that the workers have access to a nonactuarially fair program to cover the time gap between when he or she retires and when the person starts to claim benefits. Johansson, Laun, and Palme (2017) suggest that this was actually the case for some groups in the labor market—in particular, white-collar workers in the private sector. In addition to that, there could also be individual agreements between the employer and the worker on severance payments, which also affect the incentives to retire.

A requirement for this to be empirically relevant is a larger discrepancy on average between the date the individuals start to claim their pension benefit and when they actually retire in the older cohorts, with a stronger attachment to the prereform public pension system. Figure 10.18 examines

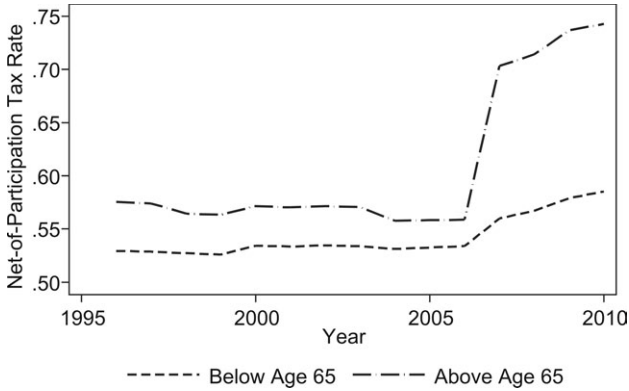

Fig. 10.19 Changes in the net of the participation tax rate for a median income earner below and above age 65, 1996–2010
Source: Authors' calculations from the LOUISE database.

if this is the case. The graphs show this gap for the three groups considered in figures 10.16 and 10.17. The results show that the difference has indeed decreased for the group that exits through the old-age pension pathway. The change is largest for females, which concurs with the result that the largest change in retirement behavior was among females.

10.4.2 Tax Reform in 2007

An earned income tax credit reform was introduced in Sweden in 2007 by the newly elected center-right government. The purpose was to encourage an increased labor supply, in particular among low-income earners. Unlike in most other countries, the Swedish earned income tax credit was not phased out at higher earnings. Importantly, the size of the tax credit was larger for workers who were older than age 65 at the beginning of the tax year. The earned income tax credit applies to earnings but not to income from public pension or public transfers. The tax credit is a function of earned income, the basic deduction, and the municipality income tax rate. An additional element of the 2007 reform was that the payroll tax rate was reduced from 26.37 percent to 10.21 percent for workers older than age 65 at the beginning of the tax year. The purpose was to stimulate the demand for older workers.

Figure 10.19 shows how the net of the participation tax rate for workers younger and older than age 65 has changed during 1996–2010 for a median-income earner. The figure takes the municipal and state income tax, the basic deduction, the earned income tax credit, and the payroll tax rate into account. The net of the participation tax rate shows the net earnings as a fraction of the total wage cost to the employer. The reforms in 2007 substantially increased the net of the participation tax rate of workers older than age 65. The introduction of the earned income tax credit also slightly increased

the net gain from working for workers younger than age 65, although not to the same extent.

Laun (2017) analyzes the combined effects of the earned income tax credit and the payroll tax reduction for workers older than age 65 and finds that the tax credits increased employment at the extensive margin among workers just above age 65. The participation elasticity was estimated to be 0.22, amounting to an increase in the LFP of about 5 percent. Even if the effect of the age-targeted tax credits is significant, it is relatively small. However, the tax credits have probably contributed to ease up the strong norms about retiring on the 65th birthday.

For workers younger than age 65, there is no evidence that the smaller change in the tax burden due to the introduction of the EITC in 2007 has impacted the retirement decision of these ages. For these age groups, the increase in the LFP began long before the age-targeted tax credits came into place. The tax credits can probably primarily explain the increased LFP for individuals older than age 65.

10.4.3 Changes in Mandatory Retirement Ages

Almost all the labor market in Sweden is covered by central agreements between trade unions and employers' confederations. In most cases, these agreements include retirement ages for the workers. Before 2001, most agreements had a stipulated retirement at the 65th birthday. This was also supported in the labor market legislation. Workers older than age 65 were not covered by employment security legislation and were exempted from seniority rules. They were not covered by UI, DI, or the compulsory sick pay insurance. Central and local government employees automatically lost their jobs at age 65. Exceptions from this rule were permitted for one year.

In September 2001, the government started to implement legislation that enabled all employees to remain until age 67. This means that they were now covered by the employment security legislation. The rule that all central and local government employees automatically lost their jobs at age 65 was now postponed to age 67. However, the rules for the income security programs remained at age 65 after the reform. Depending on ongoing collective agreements in some sectors of the labor market, the reform was not fully implemented until 2003.

The reform seems to have had very small effects on the LFP rates of those older than age 65. Going back to figures 10.1 and 10.3, there are no visible changes in the LFP rates or employment in the years following the reform. This reform could, however, have affected the long-term trend toward the increased LFP of 65–69-year-olds.

10.4.4 Stricter Rules for DI Eligibility

The DI program has undergone several changes in recent decades. Before 2003, it was a part of the old-age pension system. It consisted of a basic pen-

sion and a supplementary pension. The benefits were related to the insured worker's income from labor and were determined using the same algorithm used for the old-age pension benefits. Since 2003, as a part of the reform of the Swedish pension system, DI is independent of the old-age pension program and is now a part of the social insurance system. The benefits are calculated as 64 percent of the "assumed income" below the social security ceiling. The "assumed income" is the average of the five to eight best years of annual income from labor before the worker became eligible to DI.

In the early 1970s, the eligibility rules for DI were changed from eligibility only due to health problems to include eligibility due to labor market reasons—first in combination with health problems and subsequently for pure labor market reasons for workers older than age 60 who have been unemployed long term. In 1991, the eligibility for DI based on pure labor market reasons was abolished, and in 1997, it was abolished for labor market reasons combined with health deficiencies.

The reform in 2003 also included changes in eligibility rules for DI. The most important change was that the DI benefit was no longer permanent; eligibility would be reconsidered every fifth year. In 2008, the government implemented a new reform of the DI system. The most important element of the new eligibility rules was that the person applying for DI had to show that his or her ability to work was permanently lost. This change was considered to be a very large increase in the stringency of the eligibility rules.

Figure 10.20 shows the development of DI participation between 1962 and 2016 and the development of DI entry between 1971 and 2016 for males and females, respectively. The most striking result in figure 10.20 is the sharp drop in DI entry from the late 1980s to today. The analysis in Jönsson, Palme, and Svensson (2012) indicates that changed eligibility criteria during the 1980s and 1990s clearly affected program caseloads and may also have had an impact on LFP. However, for our purposes, the most interesting change is the decline in DI entry since 2005. It is apparent that the background to the decline is the more stringent eligibility rules following the reforms of the DI system in 2003 and 2008 and the changed implementation of the rules at the Swedish Social Insurance Agency during this period.

10.5 Conclusions

In this chapter, we have investigated the background of the increase in male LFP rates since the mid-1990s. In the first part, we looked at changes in the composition of the population related to the likelihood of being employed. In the second part, we investigated the extent to which institutional changes may have had an effect on the delayed exit from the labor force.

In the first part, we looked specifically at four changes in the Swedish population: (1) the improvement of the population health, (2) the increase in the educational attainment of the labor force, (3) the improved physical

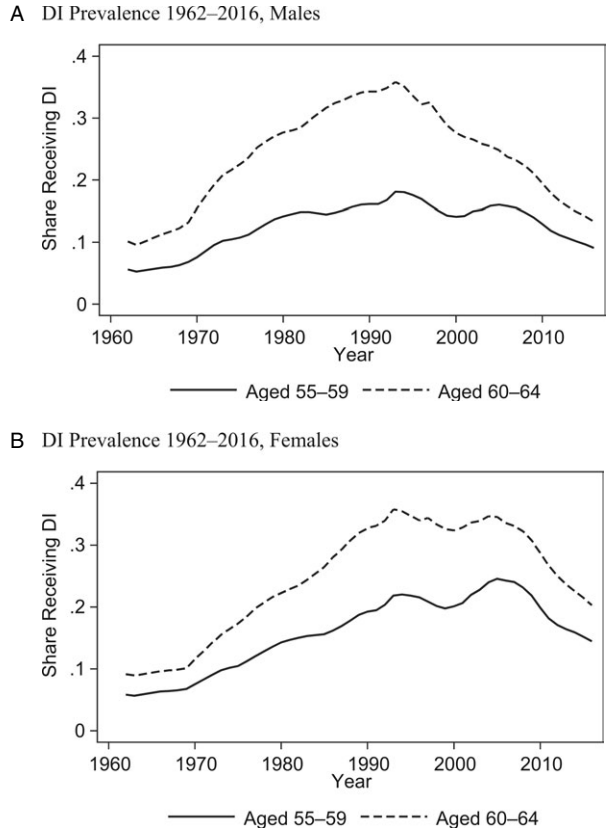

Fig. 10.20 Share of the population receiving DI in different age groups, 1962–2016; and share of DI entry in different age groups, 1971–2016, males and females
Source: Swedish Social Insurance Agency.

work environment, (4) and the increase in female LFP rates. For the first two changes, we found that it is likely that they have contributed to the increase in the LFP of older men. Although there has been a continuous change in mortality rates for men in the 55–59 and 60–64 age groups, it seems like the changes have been stronger in recent years. This picture is confirmed also by the self-assessed measure that we reported. Also, the changes in educational attainment seem to have contributed. Again, there is a trend toward more education across the birth cohorts, but the increase seems to have been stronger—in particular, for higher education—in the cohorts born in the early 1940s, who were in their early 60s at the beginning of the 2000s.

For the second two changes, we found no support that they would have been important for the increased employment rates of older men. The largest improvement in work environment seems to have happened earlier, in the

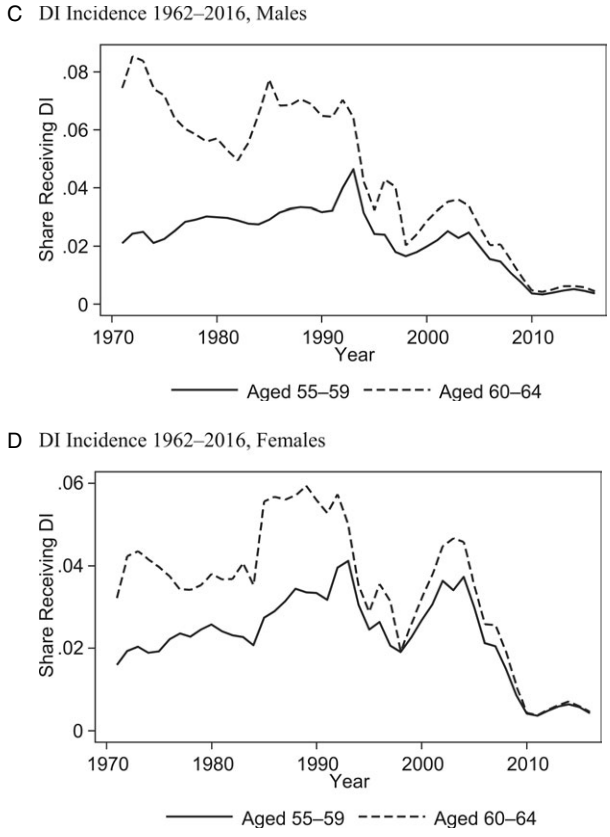

Fig. 10.20 (cont.)

1980s, when the LFP rates of men were still decreasing. The same seems to be true for the increased female LFP rates and the joint-retirement-decisions hypothesis: the major increase in the relative LFP rates happened across the cohorts born in the 1930s, for whom the LFP rates in the older age groups were decreasing.

In the second part of the chapter, we studied the effects of four institutional changes that may have led to a delayed exit from the labor market. The stricter rules for DI eligibility and the implementation of these rules at the Social Insurance Agency appear to have had a very strong impact on LFP. Also, the income tax reductions due to the earned income tax credit and payroll tax reduction for older workers seem to have delayed labor force exits, while the 2001 reform of the mandatory retirement age seems to have had a surprisingly small immediate effect on the LFP in the 65–69 age group.

For the most important policy change during the era under study, the major reform of Sweden's public old-age pension system, there are a num-

ber of pieces of circumstantial evidence that suggest it actually did affect retirement behavior through changes in the labor supply incentives. First, the staggered implementation of the reform across cohorts coincides with increased LFP rates. Second, a large share—about 45 percent for men and around 67 percent for women—of the delayed exit from the labor market that we observe for the cohorts born between 1935 and 1943 can be attributed to the group that retired through the old-age pension pathway. Third, we observe a smaller average gap between when the workers retire and when they start to claim their benefits from the public old-age pension program, which is consistent with the presumption that the pension reform actually caused changes in labor supply incentives of the elderly.

The research methodology used in this study does not, however, allow us to identify the magnitude of the effects that worked through changes in the labor supply incentives separately from the changes in health status and educational attainment that we also document. This important issue is left for further research.

We have limited this overview to only looking at the supply side of the background of the changes in the LFP of older workers. The demand side—involving the effects of technical change, employers' perception of worker productivity, and age discrimination in work groups—is potentially as important but has also, for now, been left for further research.

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