

This PDF is a selection from a published volume from the National Bureau of Economic Research

Volume Title: Social Security Programs and Retirement around the World: Working Longer

Volume Authors/Editors: Courtney C. Coile, Kevin Milligan, and David A. Wise, editors

Volume Publisher: University of Chicago Press

Volume ISBNs: 978-0-226-61929-3 (cloth); 978-0-226-61932-3 (electronic)

Volume URL:

<https://www.nber.org/books-and-chapters/social-security-programs-and-retirement-around-world-working-longer>

Conference Date:

Publication Date: December 2019

Chapter Title: Why Are People Working Longer in the Netherlands?

Chapter Author(s): Adriaan Kalwij, Arie Kapteyn, Klaas de Vos

Chapter URL:

<https://www.nber.org/books-and-chapters/social-security-programs-and-retirement-around-world-working-longer/why-are-people-working-longer-netherlands>

Chapter pages in book: (p. 179 – 204)

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## Why Are People Working Longer in the Netherlands?

Adriaan Kalwij, Arie Kapteyn, and Klaas de Vos

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### 8.1 Introduction

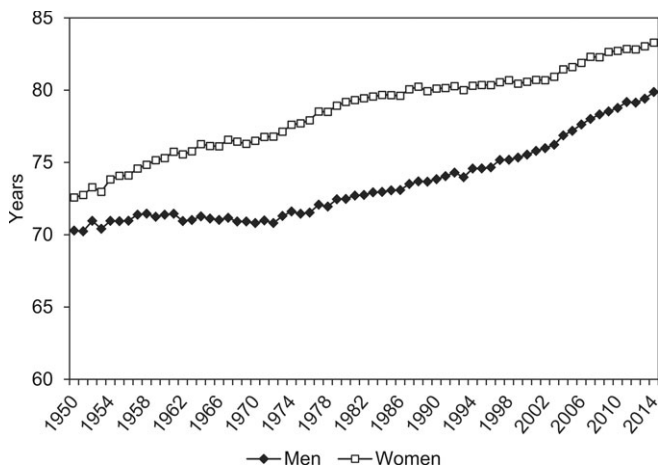
Over the last two decades, social security programs and pension schemes around the world have been redesigned to create stronger incentives for continued work at older ages (Gruber and Wise 2004; Wise 2012, 2016). These reforms have, for a large part, been triggered by the rapidly declining labor force participation (LFP) of men at older ages since the 1970s while life expectancy continued to rise (figures 8.1 and 8.2). For the Netherlands, this increase in life expectancy has been just under two months per year on average since 1950. For women, since the end of the 1970s, LFP has risen at ages 55–59 but has notably dropped at ages 60–64 from over 11 percent in the mid-1970s to around 8 percent in the mid-1990s (figure 8.3). Apart from people living longer, a strong decline in fertility rates has amplified the aging of Dutch society. Completed fertility has dropped during the second half of the 20th century from around three children per woman during the mid-1950s to around 1.7 in 2014 (figure 8.4). Increased life expectancy and decreased fertility have initially caused the total dependency ratio—that is, the number of people younger than 20 and older than 64 as a percentage of the number of people aged 20–64—to decrease from 1971 onward, as there were relatively fewer children. Since the mid-1990s, however, the total dependency ratio has started rising again due to a continuing increase in the

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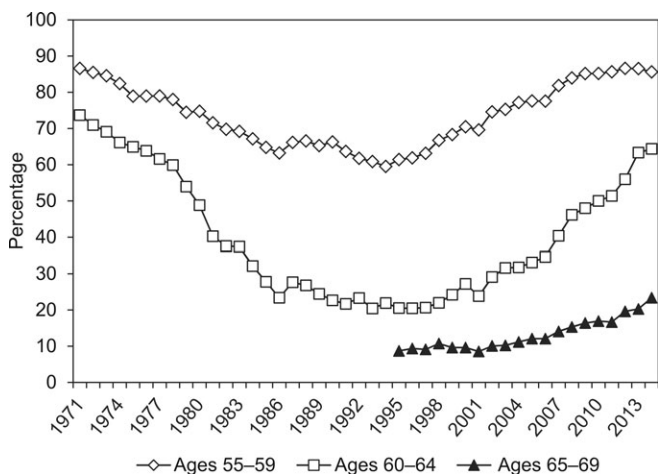
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For acknowledgments, sources of research support, and disclosure of the authors' material financial relationships, if any, please see <https://www.nber.org/chapters/c14048.ack>.



**Fig. 8.1** Life expectancy at birth over the years 1950–2014

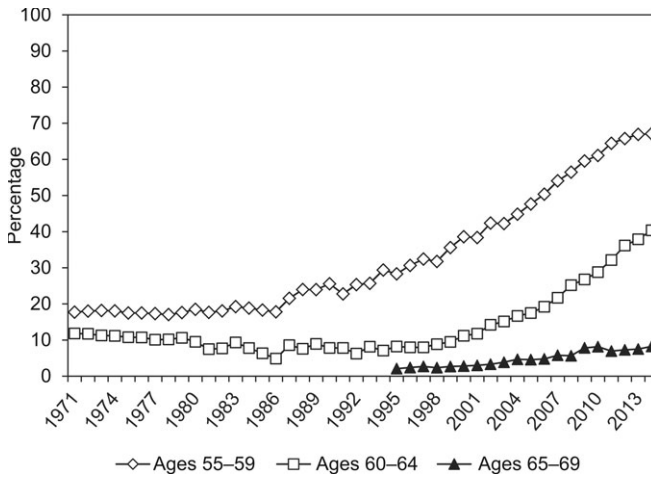
Source: Statistics Netherlands, <http://statline.cbs.nl>.



**Fig. 8.2** Men's LFP by age for the period 1971–2014

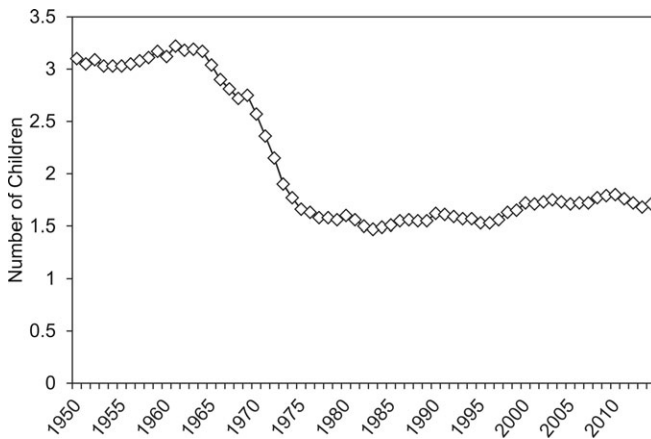
Source: OECD, <http://stats.oecd.org/>.

share of the population aged 65 and over (figure 8.5). The aged dependency ratio—that is, the number of people older than 64 as a percentage of the number of people aged 20–64—has increased from about 19 percent in 1971 to 29 percent in 2014. The aging of Dutch society gained momentum after 2011 when the baby boom generation began to reach the normal retirement age of 65, and the aged dependency ratio is predicted to further increase to about 50 percent in 2050 (Statistics Netherlands 2018). The aging of the Dutch population has raised concerns about the burden on public finances,



**Fig. 8.3 Women's LFP by age for the period 1971–2014**

Source: OECD, <http://stats.oecd.org/>.



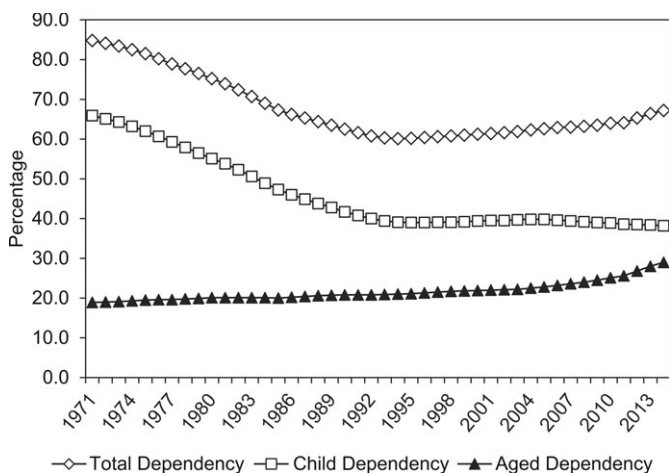
**Fig. 8.4 Completed fertility\***

Source: Statistics Netherlands, <http://statline.cbs.nl>.

\* The predicted number of children for women born in the years 1950–2014, given the age-specific fertility rates in those years.

as it increases public expenditures on, for instance, long-term care and retirement pensions (OECD 2011; Van Ewijk et al. 2006).<sup>1</sup> One way to alleviate this burden is to increase the LFP at older ages, as it will increase tax revenues

1. Reforms aimed at a reduction of public health care expenditures, such as decreased coverage of health care and long-term care insurance, are unlikely to have impacted the LFP, and a discussion of these is beyond the scope of this chapter.



**Fig. 8.5** Dependency ratios for the years 1971–2014\*

Source: Statistics Netherlands (downloaded March 2, 2016; <http://statline.cbs.nl>).

\* The total dependency ratio is defined as the number of people younger than 20 or older than 64 as a percentage of the number of people aged 20–64. The child dependency ratio is defined as the number of people younger than 20 as a percentage of the number of people aged 20–64. The aged dependency ratio is defined as the number of people older than 64 as a percentage of the number of people aged 20–64.

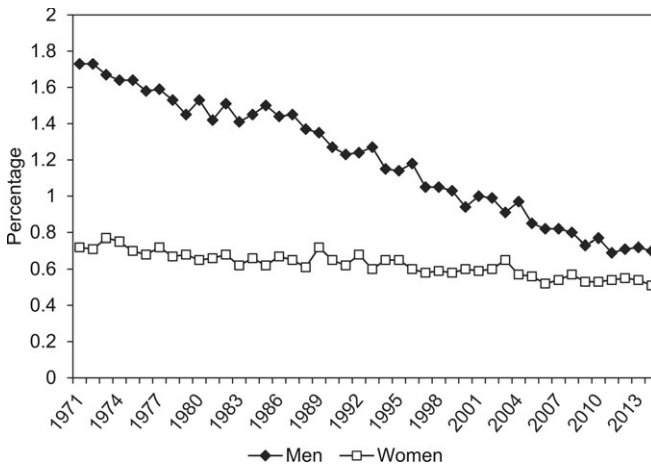
and, when stimulated by an increased normal retirement age, reduce public pension expenditures.

This chapter discusses explanations that have been suggested in the literature for the strong rise in men's LFP since the mid-1990s (figure 8.2). The reason for restricting our discussion to this period is that 1995 (or thereabouts) turns out to be a pivotal year for many countries, including the Netherlands, after which the LFP rates of older workers increased sharply after a long period of decline (see chapter 1).<sup>2</sup> Two important necessary conditions for an individual to keep working at older ages are being in good health and having the skills to remain attractive to employers. These conditions are discussed in sections 8.2 and 8.3, respectively. Next, section 8.4 discusses the role institutions may have played in the rise of the LFP rates of older workers. Section 8.5 discusses the overall findings, the restrictions of the underlying analyses, and implications for future labor market participation of older workers.

## 8.2 Health and LFP

Staying healthy is necessary to keep working at older ages. In this section, we take mortality and healthy life expectancy, as well as the percentage of

2. The roles that early retirement schemes and disability insurance have played in the declining men's LFP during the 1980s are discussed in Kapteyn and de Vos (1999) and Koning and Lindeboom (2015), respectively.



**Fig. 8.6 Mortality rate at age 60 by year and gender**

Source: Statistics Netherlands, <http://statline.cbs.nl>.

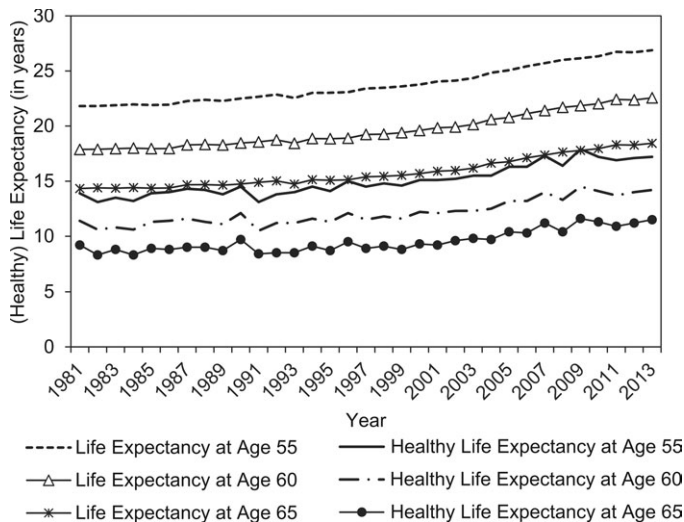
people receiving disability insurance (DI), as measures for the health of older workers.

### 8.2.1 Health and Mortality

When looking at mortality data, one can conclude that health at all ages has improved over long periods of time. Life expectancy at birth in the Netherlands has doubled from around 40 years in 1850 (the earliest records available) to currently around 80 years (Human Mortality Database 2018). Although initially reductions in infant mortality caused this increase, at older ages, health has improved significantly as well. The mortality rate at age 60 (men and women combined), for instance, has declined from around 3 percent in 1850 to 2.5 percent in 1900 and to 1.2 percent in 1950. Currently, it is about 0.6 percent. Figure 8.6 shows a stronger decline in men's than in women's mortality at age 60 in recent decades. These declines in mortality rates are a global phenomenon and can be attributed to (interrelated) factors such as a decline in infectious diseases, medical innovations, improved living standards, better nutrition, and public health and social policies (Cutler, Deaton, and Lleras-Muney 2006).

Increases in life expectancy are not always accompanied by an equal rise in the expected healthy life years. For this reason, Statistics Netherlands has computed healthy life expectancy—an adjustment of life expectancy for the actual health status of individuals.<sup>3</sup> A visual inspection of the trends

3. See [statline.cbs.nl](http://statline.cbs.nl). Healthy life expectancy is defined as the number of years an individual of a particular age can expect to live in good health, assuming the current risks of death and bad health apply. Taken into account is if a person perceives him or herself to be in good health (self-assessed health), if he or she is without physical limitations (no long-term limitations in mobility, sight, and hearing) and without chronic diseases (heart condition and/or myocardial



**Fig. 8.7 Men's (healthy) life expectancy by year and age**

Source: Statistics Netherlands, <http://statline.cbs.nl>.

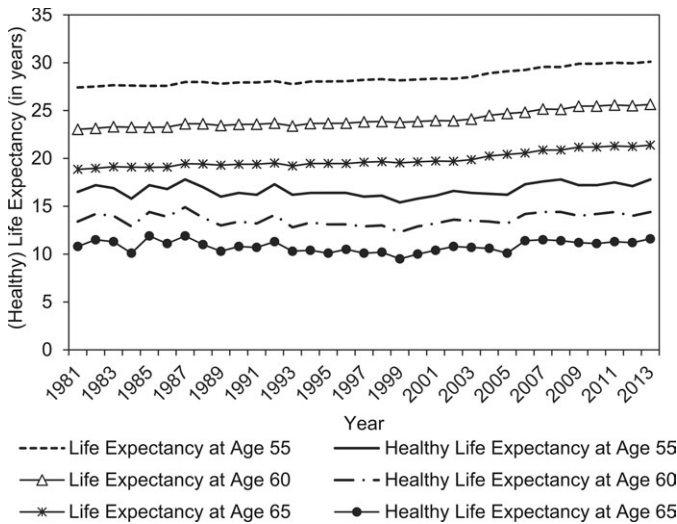
in figures 8.7 and 8.8 of men's and women's life expectancy and healthy life expectancy at different ages suggests that life expectancy and healthy life expectancy are closely related. Using the numbers on which these figures are based, we find that, on average over the past 25 years, healthy life expectancy as a share of total life expectancy is about 0.60–0.63 for men and 0.55–0.59 for women. These shares reveal that while women live longer, they spend relatively more years in bad health than men. It is noteworthy that—for instance, at age 65—healthy life expectancies for men and women have converged. The difference was about two years in the early 1980s and is nowadays close to zero. Almost all the additional years of life expectancy that women aged 65 have gained since the early 1980s are spent in bad health, and as a result, the remaining healthy life expectancies at age 65 of men and women are nowadays about equal. This suggests a stronger improvement in men's health than in women's health at age 65.

### 8.2.2 Health and DI

The DI scheme in the Netherlands mandates social insurance for all workers against earnings loss due to adverse health events. In principle, therefore,

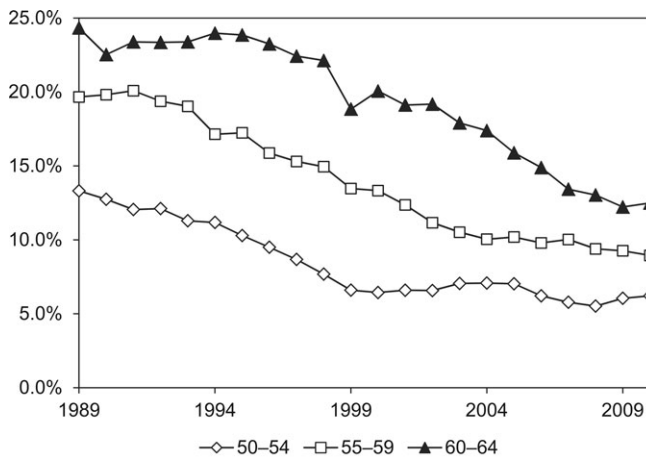
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infarction, asthma, chronic bronchitis, pulmonary emphysema, or chronic nonspecific pulmonary disease, cancer, stroke, diabetes, serious or chronic gastrointestinal disorders, chronic arthritis [Bechterew's disease, chronic rheumatism, rheumatoid arthritis], serious or chronic backache [including slipped disk], degenerative arthritis in hips or knees, hypertension [high blood pressure], migraine or recurring serious fits of headache), and if the person is in good mental health (based on the Mental Health Inventory [MHI-5], determined by the balance of positive and negative feelings).



**Fig. 8.8 Women’s (healthy) life expectancy by year and age**

Source: Statistics Netherlands, <http://statline.cbs.nl>.

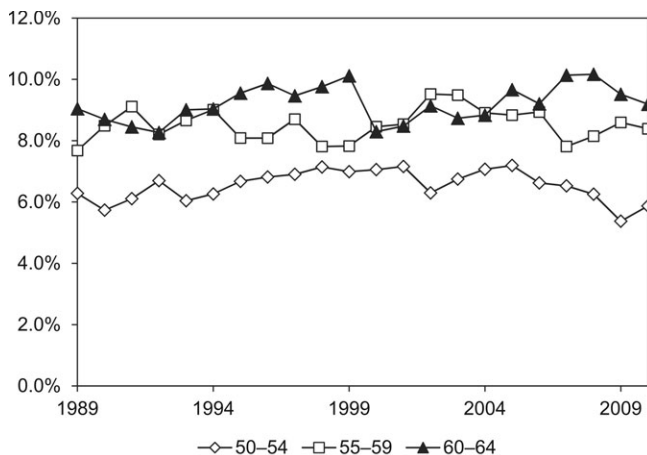


**Fig. 8.9 Men’s disability insurance rate by year and age**

Source: Statistics Netherlands, Income Panel Study (IPO). DI rates are the percentage of people receiving DI.

the percentage of people receiving DI measures the health of older workers. Koning and Lindeboom (2015) show that there is a decline in DI recipients from about 1992 onward for the entire Dutch working population. Figure 8.9 shows that for older men, the percentages of people receiving DI have been steadily declining since 1989. Over the years 1989–93, this decline is most pronounced for men aged 50–54. A similar decline is observed for





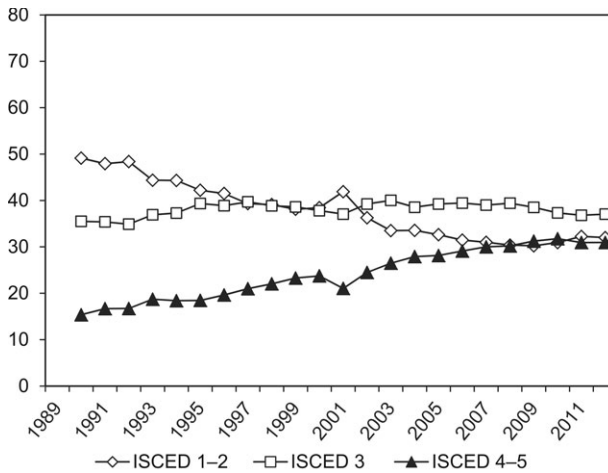
**Fig. 8.10 Women's disability insurance rate by year and age**

*Source:* Statistics Netherlands, IPO. DI rates are the percentage of people receiving DI.

these cohorts 5 years later over the years 1994–98 (at ages 55–59) and 10 years later over the years 1999–2003 (at ages 60–64). If the percentage of people receiving DI were to measure the health of older workers, it would suggest (in line with the observations based on mortality rates in section 8.2.1) that the younger cohorts are relatively healthier than the older cohorts (for a given age). Figure 8.10 shows that for women, the DI rates are relatively stable despite the strong increase in women's employment rates (figure 8.3), which may also suggest an improvement in the health of older female workers. DI rates are a function of not just health but also institutions governing flows into and out of the DI system. At least part of the observed changes is also affected by institutional changes, as will be argued below.

### 8.3 Skills

Part of the explanation for the rapidly declining LFP of older workers since the mid-1970s may be skill-biased technological change (SBTC; Autor and Katz 1999). SBTC has increased the demand for higher-educated workers at the expense of lower-educated workers. Many of the skills of lower-educated older workers have become obsolete and are no longer in demand. The occupations that demanded these skills often included manual and physically demanding tasks that have been replaced by capital intensive equipment such as machines. In addition, and especially since the 1990s, automation—that is, a shift to capital intensive equipment that makes use of computers—has taken over routine-based tasks that happen to be relatively more often performed by (older) workers with median levels of education



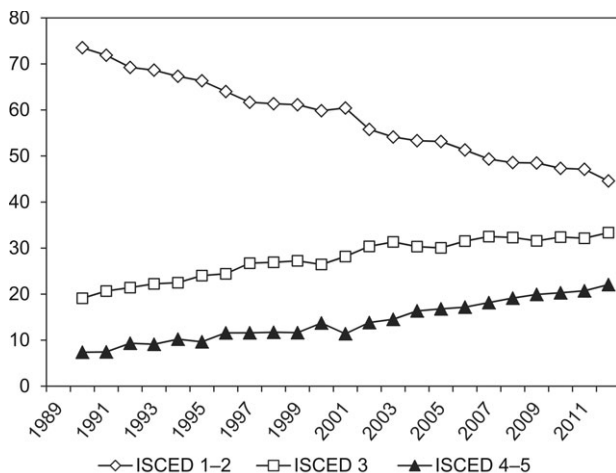
**Fig. 8.11 Levels of education of men aged 55–65 by year**

Source: Statistics Netherlands, LFS (Enquete Beroepsbevolking; EBB). ISCED: 1997 International Standard Classification of Education (ISCED).

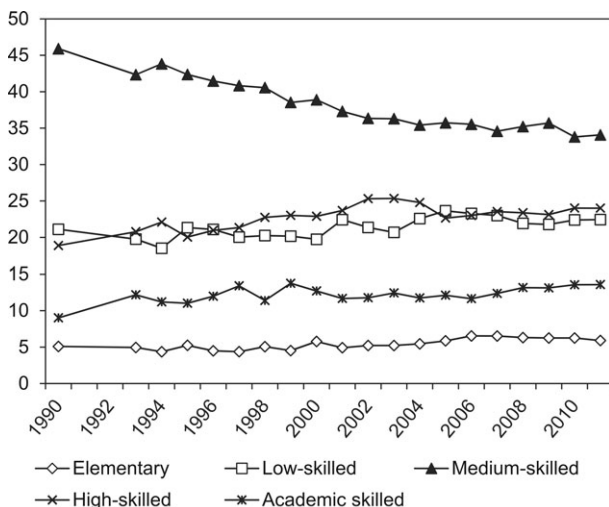
(Autor and Dorn 2009; Goos, Manning, and Salomons 2014).<sup>4</sup> One of the explanations for the rapid rise in LFP from the mid-1990s may, therefore, be related to shifts in the composition of employers’ demand toward non-routine occupations and high-skill workers. To investigate the plausibility of that explanation, we consider the change in the educational and occupational distributions among older workers.

Levels of education are defined according to the 1997 International Standard Classification of Education (ISCED; UNESCO 1997). ISCED 1–2 will be referred to as a low level of education, ISCED 3 as a medium level of education, and ISCED 4–5 as a high level of education. Figure 8.11 shows that the percentage of higher-educated men aged 55–64 has doubled over the 1989–2012 period. Over the same period, the percentage of lower-educated men aged 55–64 has decreased by almost 20 percentage points. These trends have resulted in a continuous increase in the level of education of older workers. Figure 8.12 shows similar trends for women in this age range, with even stronger increases in the percentage of higher- and median-educated women and a stronger decrease in the percentage of lower-educated women. While the levels of education for men are higher than for women, the figures show convergence, as women in the younger cohorts are closing this gap. In addition, Kalwij, Kapteyn, and de Vos (2016) find that the level of education is one of the important determinants of employment at older ages and that the exit rates from employment are largest for the lower educated. Taking these findings together suggests that the increased LFP rates of older work-

4. This is often referred to as routine-biased technological change (RBTC).



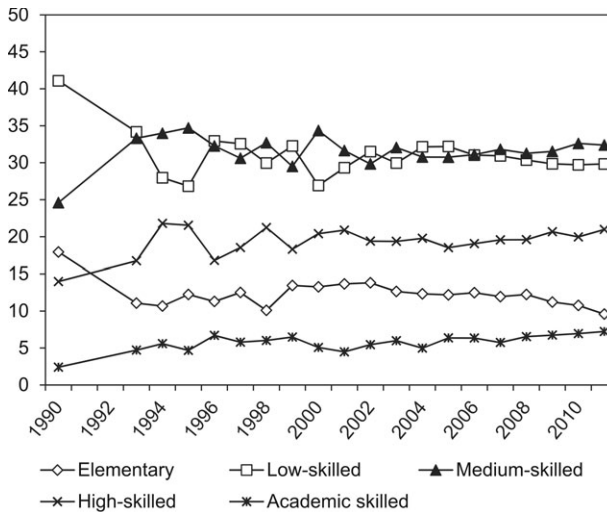
**Fig. 8.12 Levels of education of women aged 55–65 by year**  
 Source: Statistics Netherlands, LFS (Enquete Beroepsbevolking; EBB). ISCED: 1997 ISCED



**Fig. 8.13 Types of jobs (skill levels) by year for men aged 55–64**  
 Source: Statistics Netherlands, LFS (Enquete Beroepsbevolking; EBB). Skills levels are defined based on the SBC 1992 classification (<http://www.cbs.nl/nl-NL/menu/methoden/classificaties/overzicht/sbc/1992/default.htm>).

ers can at least partly be explained by the increased levels of education of older workers, which made them more attractive to employers.

Figure 8.13 shows that in particular, median-skilled jobs have been disappearing for men, an 11 percentage point drop over the 1990–2011 period, while the high- and academic-skilled jobs have increased (together about a



**Fig. 8.14 Types of jobs (skill levels) by year for women aged 55–64**

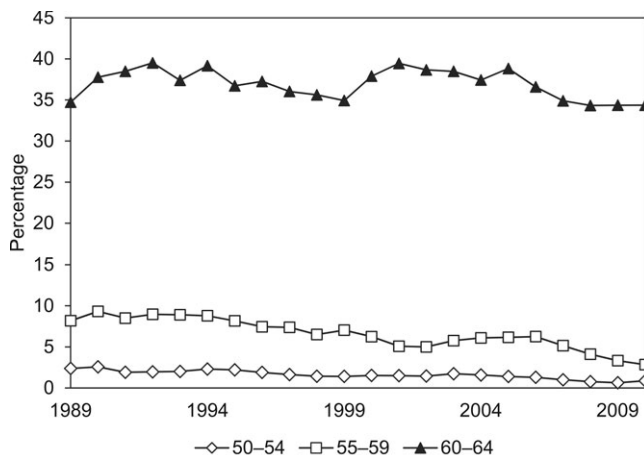
*Source:* Statistics Netherlands, LFS (Enquete Beroepsbevolking; EBB). Skills levels are defined based on the SBC 1992 classification (<http://www.cbs.nl/nl-NL/menu/methoden/classificaties/overzicht/sbc/1992/default.htm>).

10 percentage point increase). The percentages of low-skilled and elementary jobs remain relatively constant between 1990 and 2011. For women, figure 8.14 shows a slightly different picture. Although (relative) job growth for women has also been mainly in high- and academic-skilled jobs (together about a 12 percentage point increase), the percentage of median-skilled jobs has also increased by about 8 percentage points. At the same time, there have been very large drops in low-skilled jobs (11 percentage points) and elementary jobs (8 percentage points). The Dutch situation of a relative rise in medium-skilled jobs for women, as opposed to the relative drop for men, appears to be in contrast to the empirical evidence provided for the US that computerization of tasks reduces employment in routine task-intensive occupations for male and female workers (Autor, Dorn, and Hanson 2015).

To sum up, the shifts in the level of education and skill composition of older male workers (figures 8.11 and 8.13) are likely to have contributed to the rise of LFP rates among older men from the mid-1990s onward, as the entering cohorts more often had the skills demanded than the retiring cohorts.

#### 8.4 Institutions and LFP

From the end of the 1970s onward, generous early retirement (ER) schemes were introduced. Early on, these were often called young-for-old programs. As this name suggests, the main idea was that if older workers left the workforce, younger people would take their places. The introduction of



**Fig. 8.15 Early retirement (ER) rates for men aged 50–64**

*Source:* Statistics Netherlands, IPO. ER rates are the percentage of people receiving ER pensions.

these ER schemes was a policy reaction to very high youth unemployment and relatively unhealthy older male workers (section 8.2) who often had jobs that were becoming obsolete (section 8.3). This, together with the fact that the benefits were quite generous, made these schemes very attractive for both employees and employers. Net replacement rates were high, and the programs were mainly financed by the current workforce. As shown in figure 8.15, the ER option has been taken by over one-third of the people aged 60–64. ER rates have rapidly declined since the mid-1990s among people younger than 60, but ER rates among 60–64-year-old people remained high for many more years and started to decline after about 2006. As it turns out, empirical evidence suggests that the ER schemes did not create additional employment for the young (Kapteyn et al. 2010). One explanation for this is that, as mentioned earlier, many jobs that were left behind by early retirees involved obsolete tasks. Support for this explanation is given by Kalwij, Kapteyn, and de Vos (2010), who find that employment of the young and old are not substitutes and may even be complements. As described in the introduction, the popularity of the ER schemes has led to rapidly declining labor market participation rates of older workers from the late 1970s onward, reaching a historical low in the early 1990s (Kapteyn and de Vos 1999).

At the end of 1980s, Dutch policymakers' reactions to the historically low labor market participation rates of older workers, in combination with the aging of the Dutch population, involved a series of reforms implemented from the early 1990s onward, such as making ER benefits less generous and imposing stricter eligibility rules for DI and unemployment insurance (UI; see appendix). The necessity of the reforms has been amplified by a series

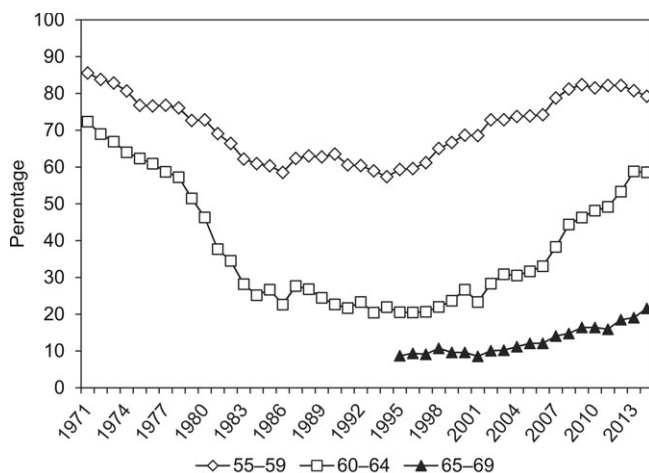
of crises such as the dotcom crash in 2000–2001, the 2007–8 financial crisis, and housing market and euro crises in its aftermath, which have shown the financial vulnerability of the Dutch social security and pension system (e.g., Kalwij et al. 2015). The latter sequence of events created the momentum for increasing the normal retirement age in the Netherlands. The normal retirement age is the age at which people start receiving a public old-age pension. Up until 2012, the normal retirement age was 65. It will increase gradually to 66 in 2018 and 67 in 2021. After that, it will be further raised in line with increases in population life expectancy, up to age 70 and three months.

The LFP rates shown in figures 8.2 and 8.3 suggest that the reforms of the past two decades may have been successful, as these rates have strongly risen from the onset of the reforms in the mid-1990s. Men's LFP at ages 60–64 has tripled over this period from 20 percent in 1995 to over 60 percent in 2014. For men aged 55–59, the LFP has substantially increased from 61 percent in 1995 to 86 percent in 2014 (figure 8.2). Figure 8.3 shows, from the mid-1990s onward, similar trends for women as for men but at lower levels. Previous empirical studies of the impact of less-generous ER schemes also suggest that these reforms have contributed to the increase in the LFP of the 55–64 population from less than 30 percent in the mid-1990s to 45 percent in 2007 (Euwals, de Mooij, and van Vuuren 2009; Kapteyn and de Vos 1999; Van Oorschot 2007).

As shown by Burkhauser and Daly (2011), the number of DI beneficiaries per worker in the Netherlands, which for a long time was among the highest in the developing world, decreased below the comparable figure for the US, which suggests that DI reforms may also have had considerable impact. The findings of de Jong, Lindeboom, and van der Klaauw (2011) suggest that stricter screening of DI applications has reduced long-term sickness absenteeism and DI applications. In line with these latter results, Kalwij, de Vos, and Kapteyn (2016) show that the reduction over the last decades in the percentage of older workers who have exited the labor market through DI has mainly been achieved by restricting access to the DI scheme and is not due to a reduction in the generosity of disability benefits.

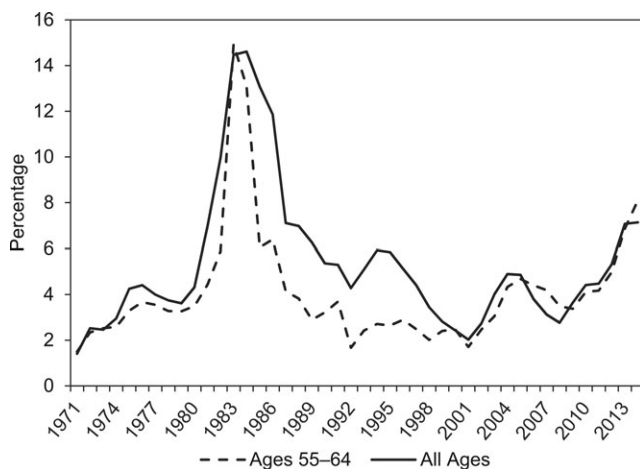
#### 8.4.1 Pathways

One way in which adverse labor market effects of the DI and ER reforms could manifest themselves is that older workers who lose their jobs end up unemployed if stricter criteria make them no longer eligible for ER or DI. Figure 8.16, however, shows that men's employment rates have followed similar trends as the participation rates of figure 8.2, and unemployment rates had in fact decreased substantially to about 2 percent just before the dot-com crisis of 2001 (figure 8.17). Since then, unemployment rates have been rising, following the business cycle, among older workers to around 7 to 8 percent. Similar patterns are observed for women's employment and unemployment rates (figures 8.18 and 8.19).



**Fig. 8.16** Men's employment rate by year and age

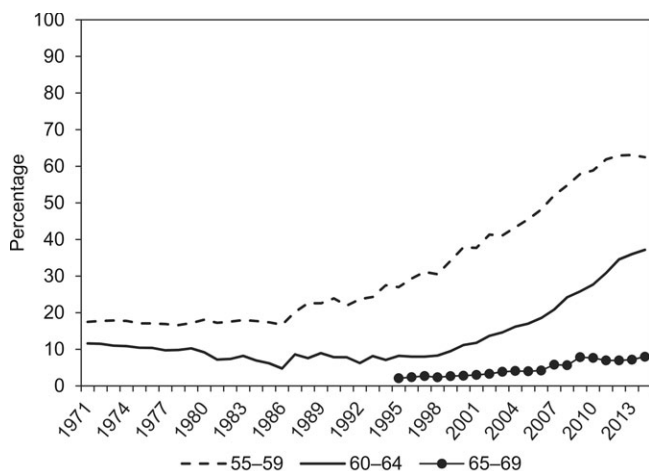
Source: OECD, <http://stats.oecd.org/>.



**Fig. 8.17** Men's unemployment rate by year and age

Source: OECD, <http://stats.oecd.org/>.

Older workers are more likely to have job protection than young workers (as it is based on tenure) and to be relatively expensive and may have obsolete skills (section 8.3). These features, together with the fact that employers and employees bear little of the costs, made DI and ER schemes attractive pathways to retirement during the 1980s and 1990s. Koning and Lindeboom (2015) make a convincing case that the DI system provided incentives to use DI as an alternative for UI or ER. Figures 8.17 and 8.19 show that during



**Fig. 8.18 Women's employment rate by year and age**

Source: OECD, <http://stats.oecd.org/>.

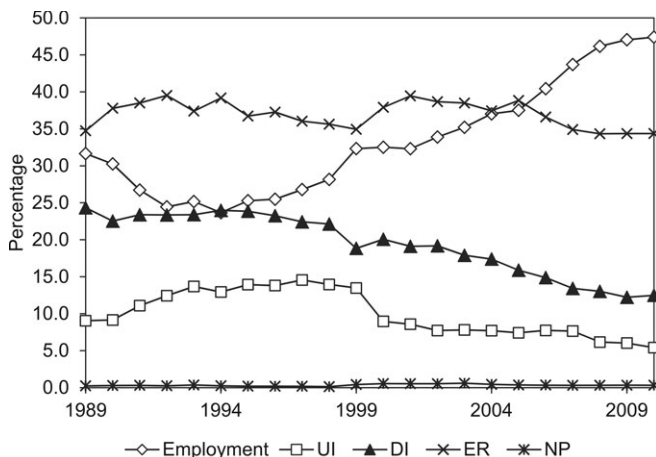


**Fig. 8.19 Women's unemployment rate by year and age**

Source: OECD, <http://stats.oecd.org/>.

the 1980s and 1990s, the unemployment rates for older workers were relatively low compared to those for all workers, and this relative difference has gradually diminished since the mid-1990s, when stricter eligibility rules for ER and DI benefits were introduced. These observations suggest that as long as the eligibility criteria were lenient, ER and DI schemes were used to lay off redundant workers. Nevertheless, it appears that restricting the ER and DI pathways has not resulted in a substantially increased use of the UI





**Fig. 8.20** Employment, UI, DI, ER, and nonparticipation rates of men aged 60–64 by year and age

*Source:* Statistics Netherlands, IPO. All rates are a percentage of people aged 60–64.

pathway. As discussed in the appendix, the various institutional reforms have affected a wide range of social security programs, including ER, DI, and UI. On balance this has limited the possibilities for substitution.

## 8.5 Discussion

The economic literature and some of the findings above suggest that the introduction of ER schemes at the end of the 1970s, together with lenient eligibility rules for DI and UI, resulted in a strong reduction in LFP among the older population in the two decades thereafter. Likewise, reforms of social security programs and pension schemes since the mid-1990s with the purpose of creating stronger incentives for continued work at older ages, such as stricter eligibility rules for ER, UI, and DI, have been quite effective in the Netherlands. Figure 8.20 shows that most of the increase in employment among men aged 60–64 has been accompanied by a decrease in UI and DI recipients, while ER rates remained high until recently. These policies have largely been designed in response to changes in economic circumstances, some of which we have highlighted in this chapter in sections 8.2 and 8.3.

Figures 8.2 and 8.3 suggest, however, that probably not all the LFP and employment changes are due to institutional changes. These figures show that participation rates above the normal retirement age of 65 have, from the mid-1990s onward, increased by 15 percentage points for men (almost tripling) and 6 percentage points for women (almost quadrupling) despite the fact that these groups have been less affected by the reforms of social

security programs and pension schemes since the mid-1990s since they were mainly targeted at people younger than 65.

This may suggest that factors other than institutions, such as the health and skills of older workers (sections 8.2 and 8.3), may have played an important role in people working longer and the strong increases in LFP at all ages since the mid-1990s. Or, at a minimum, these other factors provided the necessary conditions for DI and ER reforms to achieve their goals. For instance, the improved health of older people may have facilitated the reforms over the last two decades, as it ensured the necessary extra work capacity (Kalwij, de Vos, and Kapteyn, 2016).<sup>5</sup> In this interpretation, the reforms provided people the incentives to keep on working, and their improved health and better skills made it possible for them to do so.

A final factor that has gained recent attention in the literature is the impact of the strong rise in women's employment at older ages, as shown in figure 8.18, on men's employment behavior. Men and women make joint retirement decisions, and an individual is more likely to continue working if his or her spouse works longer (Schirle 2008; Bloemen, Hochguertel, and Zweerink 2015). Hence more men are likely to continue working if their wives are working; the strong rise in women's LFP is likely to have had its own positive impact on men's LFP.

Looking toward the future, less generous pensions and a continuing increase in the normal retirement age are likely to contribute to further increases in LFP. Two concerns are often raised in the policy debate. First, keeping older people working longer may adversely affect the employment of the young. Especially in times of high youth unemployment, this argument is put forward. As we discussed above, however, the empirical evidence of Kalwij, Kapteyn, and de Vos (2010) and of references therein suggests this is not a reasonable concern. Empirical findings of previous studies do not support the hypothesis that the employment of the young and old are substitutes. In other words, encouraging later retirement is unlikely to have adverse effects on youth employment. A second concern is that there may be adverse effects of working longer on health. For instance, the relatively smaller decline in women's than men's mortality at age 60 (figure 8.6) is often attributed to the rise in smoking among women (Pampel 2002) and—possibly related to this in part—the increased LFP of women and corresponding work-related stress, which, in turn, has been shown to increase

5. Based on a combination of population mortality and survey data, additional work capacity in 2013 is estimated to be about 31 percentage points at ages 60–64, to increase to 53 percentage points at ages 65–69, and to reduce to about 44 percentage points at ages 70–74. At ages 55–59, additional work capacity is close to zero. These findings suggest that at ages 55–59, participation rates nowadays are as high as one can expect based on the health of this population, but health per se is not a restrictive factor for higher participation rates at older ages (Kalwij, Kapteyn, et al. 2016).

the risk of cardiovascular disease (Kivimäki et al. 2002; Kouvonen et al. 2005). Overall, the empirical evidence for the causal impact of work on health at older ages is mixed. Kalwij et al. (2013) and Neuman (2008) find that retirement has no adverse health effects; Charles (2004), Hemingway et al. (2003), and Coe and Zamarro (2011) find a positive effect on health; and Kuhn, Wuellrich, and Zweimueller (2010), Behncke (2012), and Dave, Rashad, and Spasojevic (2008) conclude that retirement may have a negative impact on health.

## **Appendix**

### ***Social Security System Reforms, 1995–2016***

In table 8.A.1, we provide a comparison of the benefits for older workers and retirees available in 1995 and 2016. In table 8.A.2, we provide a timeline of the most important reforms to the system between both years. In the remainder of this appendix, we will discuss the main characteristics of the benefit system and the implemented reforms. A large part of this discussion is based on De Vos, Kapteyn, and Kalwij (2012).

#### **State Pension**

The Dutch benefit system is characterized by a clear distinction between benefits for persons younger than the state pension (SP) age and benefits for older persons. The latter receive the flat-rate SP. Until 2013, the SP age was 65, but in the aftermath of the credit crisis, the government used the opportunity to introduce a gradual increase of the SP age in order to ensure the future sustainability of the pay-as-you-go SP. The SP age will reach 66 in 2018 and 67 in 2021 and is to be linked to life expectancy thereafter. The flat-rate SP is supplemented when the spouse is younger than the SP age and has a low income. This supplement will be gradually abolished, starting in 2015.

#### **Occupational Pensions**

In many cases, the SP is supplemented by a (fully funded) occupational pension (OP), which ideally supplements the SP to 70 percent of previous earnings. Until the early 2000s, most OP rights were calculated on the basis of final earnings, but currently most pension rights are calculated on the basis of the average earnings during employment. Furthermore, until recently, most OPs were indexed on the basis of the wage index. However, following the credit crisis and the dramatic reduction of the market interest rates, most pension funds have had to suspend indexation or indeed lower the pensions in order to meet the legal solvability criteria (cf. Kalwij et al. 2015).

**Table 8.A.1** A comparison of state pension (SP), occupational pensions (PP), early retirement (ER), unemployment insurance (UI), and disability insurance (DI) between 1995 and 2016

	1995	2016
SP	At age 65, a person receives flat-rate pension with a supplement for a younger spouse with low earnings.	At age 65.5 (to be increased to 67 in 2021 and follow life expectancy thereafter), a person receives a flat-rate pension; the supplement for younger spouse is being abolished.
PP	From the SP age, this usually supplements SP to at most 70 percent of final earnings, indexed with the wage index.	From the SP age, this usually supplements SP to at most 70 percent of average earnings; indexation suspended.
ER	From about 60 to SP age, a person receives up to 80 percent of final earnings with no actuarial adjustment.	Earlier retirement is still possible but has an actuarially adjusted pension.
UI	In case of job loss, a person receives 70 percent of final earnings (with cap) for at most 4.5 years, followed by 70 percent of minimum wage for at most 3.5 years up to SP age. No job search is required when he or she is older than 57.5 years.	In case of job loss, a person receives 70 percent of final earnings (with cap) for at most 38 months up to SP age. An active job search is required.
DI	In the first year, a person receives a sickness benefit of at least 70 percent of the last wage. Next, he or she receives a DI of at most 70 percent of last wage, the percentage depending on the loss of earnings capacity. Duration depends on age but lasts from age 59 until the SP age. Next, a lower benefit (often supplemented by private insurance) is received until SP age. There is relatively easy access to DI, but retesting has started.	The benefit is available up to the SP age. A person receives at least 70 percent of the last wage from the employer (up to a cap) for the first two years; reintegration programs during this time encourage the return to work. When the loss of earnings capacity is more than 80 percent and the probability of ever being able to work again is low, the benefit is 75 percent (up to a cap) until the SP age. In other cases (35–80 percent loss of earnings capacity), the benefit level falls after a period depending on age and/or length of previous employment. There is strict screening of reintegration attempts, disability, and loss of earnings capacity.

**ER**

For persons younger than the SP age, until recently, various pathways to retirement were available. ER was introduced in most sectors during the 1970s, mainly in reaction to rising unemployment (cf. Kapteyn et al. 2010), and at least until the end of the 1990s, in most cases it consisted of an offer too good to refuse, usually allowing retirement at age 60 or thereabouts. In particular, workers retiring later than the earliest possible ER date were not compensated by higher benefits or lower taxes, so they faced an implicit tax rate of more than 100 percent (cf. Kapteyn and de Vos 1999). Notably, ER was not the result of government policy but the outcome of negotiations

**Table 8.A.2** Timeline reforms to state pension (SP), early retirement (ER), occupational pension (PP), unemployment insurance (UI), and disability insurance (DI)

	SP	ER/PP	UI	DI / (long-term) sickness insurance
1995			Eligibility revised, short-term benefit introduced	1994–1996: Retesting of younger DI recipients (<45) using stricter criteria
1996				Sickness benefit privatized; employer pays 70 percent of earnings (1 year)
1998				(i) Introduction of (limited) experience rating DI contributions employer. (ii) Public employees included in DI
2000–2005		Trend toward actuarially fairer flexible ER/PP age		
2001			Public employees included	
2002				Strict reintegration in case of sickness
2003			Abolition of continuation benefit	Experience rating for small employers abolished

2004	Trend toward PP based on average earnings rather than final earnings	(i) Sickness benefit period: two years (ii) Strict reevaluation DI recipients younger than 50
2006	ER: Fiscal friendly treatment of ER contributions repealed	Introduction of new DI: strict distinction between partially and fully, permanently disabled
2008		Experience rating DI abolished
2008–	PP: indexation often limited, trend toward DC benefits	
2013–	Gradual increase of the SP age from 65 to 66 in 2018 and to 67 in 2021, to be linked to life expectancy thereafter	
2015–	Supplement for a younger spouse abolished	
2016–		Further shortening benefit period

*Main sources:* SP: <http://www.svb.nl>; DI, UI: Kromiek van de sociale verzekeringen, 2008, <http://www.uwv.nl>.

between trade unions and employers. However, the government facilitated ER by making ER contributions tax deductible.

The prospect of exploding costs once the large baby boom cohorts started to reach the ER age turned out to be sufficiently threatening for effective reforms to be put in place by the end of the 1990s. In most cases, a cost reduction as a result of reducing the effective ER entitlement was combined with the introduction of a more-or-less actuarially fair system. As a result, an employee could still opt for retiring early but with a reduced pension, or he or she could retire later with a higher pension. By 2006, the government dealt a final blow to the old ER systems by effectively terminating the tax exemption for ER contributions that would enable a retirement age lower than 65. Only systems offering a replacement rate of at most 70 percent at the pension age of 65 and actuarially fair reductions when an earlier pension age is chosen can still collect tax-exempt contributions.

## UI

For workers approaching 60 who were not entitled to ER—for example, because of an insufficiently long employment history or because they worked at a firm that did not offer ER—and who could not plausibly be retired via DI, UI offered a third pathway to retirement before the SP age of 65. In most cases, it offered a replacement rate of 70 percent, and furthermore, until recently, it required no obligation to search for employment after the age of 57.5.

As of 2004, persons aged 57.5 or older receiving UI are no longer exempt from the requirement to seek work. In other words, they are no longer “automatically” receiving UI until age 65 but have to try to find work and, in theory, accept a job offer. Moreover, as of October 1, 2006, the maximum duration of UI is 38 months. After that period, all that is left is a means-tested entitlement to social assistance with a benefit equal to the net minimum wage. Starting in 2016, the maximum duration of UI will be further reduced. It will be limited to 24 months in 2019.

## DI

Introduced in 1967, the Dutch DI (WAO, *Wet op de Arbeidsongeschiktheidsverzekering*) aimed to insure employees against loss of earnings as a result of a long-term inability to work due to illness or incapacity. If, after having been ill for a period of one year, the employee could not resume work, he or she would be entitled to an earnings-related DI benefit, which could last until the employee reached the statutory retirement age of 65.

Starting in the 1970s, the numbers of individuals on DI in the Netherlands showed a continuous increase until the 1990s. These numbers were much higher than expected when the new DI legislation was introduced and much higher than might be expected given the average health status of the popula-

tion. In fact, in the mid-1970s when unemployment was rising dramatically, the route to DI was generally used by employers as a path of least resistance to shed superfluous employees. For the employee, DI was both more acceptable socially and more attractive than UI, in particular because the benefit could be received until age 65, when the old-age pension would kick in.

With the increase in the number of benefit recipients, expenditures on DI started to rise dramatically, and since the start of the 1980s, government policy has sought to reverse the trend of the ever-increasing DI expenditures by various reforms to limit access to DI, increase the number of persons exiting DI, and lower the average DI benefit.

When actions like lowering the replacement rate of DI from 80 to 70 percent and limiting access to the full DI to partially disabled and unemployed new entrants did not result in reversing the trend of ever-increasing numbers of DI recipients, the government introduced a series of measures in the early 1990s: the duration of the full DI benefit was limited for new entrants younger than 50, stricter disability criteria were introduced for entry into DI, and younger DI recipients were to be retested. Mainly because most employees took out private insurance to compensate for the shorter duration of the full DI benefit for younger persons, DI remained an attractive option. Aside from limiting the access and the generosity of the benefit, policies were also introduced to shift the costs to firms with high numbers of employees exiting to DI. First, the costs of sickness benefits were charged directly to the employer for two to six weeks (1994) and later on for a full year preceding the exit to DI. Second, in 1998, experience rating was introduced: for large firms in particular, the DI contributions were partly based on the DI record of the firm in question. A high exit rate into DI resulted in higher contributions.

All these reforms still did not succeed in substantially reducing the numbers of DI recipients, and by 2002, the feeling was that enough was enough and the time had come for a more radical approach. From 2002 on, during the year of sickness preceding exit to DI, the employer and employee became jointly responsible for taking sufficient action for reintegration into the workforce. Moreover, this sickness period could be extended if insufficient reintegration measures had been taken. Beginning in 2004, the exit to DI would only happen after two years of sickness, during which time the employer would pay the sickness benefits. In 2006, the new DI law (WIA, *Wet werk en inkomen naar arbeidsvermogen*) made a strict distinction between full and permanent disability and partial or temporary disability. Those falling within the former category received a generous 75 percent of their previous earnings until age 65 (IVA, *Inkomensvoorziening Volledig Arbeidsongeschikten*). The latter would receive a less generous benefit (WGA, *regeling Werkhervatting Gedeeltelijk Arbeidsongeschikten*) depending on the previous earnings, the number of weeks worked before, the current earnings (if any), and the percentage of previous earnings that the employee was deemed



to be capable of earning. Furthermore, once again, a retest operation was set up for existing DI beneficiaries younger than 50 (whose DI remained unchanged).

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