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Sweden – Learning from International
Experience**

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ABSTRACT

Leaving the Labor Market Early in Sweden – Learning from International Experience

It is a challenge for politics that an aging population leads to demands that the retirement age is increasing while not everyone is able to work to such a higher age. Sweden, like other countries, has several options for early exit from the labour market. However, the regulations have become more restrictive in the last decade and early retirement usually leads to a lower pension. In this article, we map options for early retirement in other countries. We have found five main types that all have both advantages and disadvantages. There are also problems with integrating them into the Swedish pension system.

JEL Classification: H55, J11, J14, J21, J26

Keywords: retirement, employment, pensions, early exit

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Sweden has an aging population. This means that the proportion of the population being in the labor force tends to decrease. Several other countries have a population development that means that the proportion of older people will increase even more than in Sweden. The vast majority of countries in Europe have lower fertility than Sweden, and many countries, not least countries in Eastern Europe, have a net emigration of people of active age. Many countries in Europe therefore face even greater challenges than Sweden. Vollset et al (2020) report projections of population development for a large number of countries up to 2100. According to these calculations, Sweden is one of the few countries in Europe that will not have a shrinking population in the coming decades.

The study by Walwei and Deller (2020) is one of many examples of accounts of differences between countries in Europe. Here, countries including Italy, Germany and Sweden, are compared with regard to the age of the populations and employment among older adults. The data refer to 2018. The median age of the population this year was 46.0 years in Germany, 46.3 years in Italy and 40.6 years in Sweden. Sweden thus had a relatively young population. The employment rate among those aged 55–64 was 76.1 per cent for men and 66.9 per cent for women in Germany, 73.7 per cent for men and 61.2 per cent for women in Italy and 80.5 per cent for men and 75.8 percent for women in Sweden. Among those aged 65 and over, the proportion employed was 7.4 per cent in Germany, 4.7 per cent in Italy and 16.9 per cent in Sweden. Hence, Sweden has a rather high old-age employment rate. This is even the case in comparison with the OECD average. In the age group 60–64, 69.5 per cent were employed in Sweden in 2020, compared with 51.0 per cent in the OECD. Only three countries had a higher employment rate than Sweden in this age group this year, namely Iceland (74.7 per cent), New Zealand (71.8 per cent) and Japan (71.0 per cent).¹

In response to the economic challenges posed by an aging population, many countries have implemented changes to their pension systems (FIAP 2021b). The retirement age has been raised in many countries and the incentives to work to a higher age have been strengthened through changes in the pension systems which mean a lower pension at a given contribution level (Börsch-Supan and Courney 2018). The fee rates have also been increased.

Mercer, an international company specializing in pension issues, regularly reviews and compares pension systems in a large number of countries according to a number of different characteristics. A ranking is also made of the various pension systems. In the latest report

¹ The information is from <https://stats.oecd.org> December 29 2021.

(Mercer 2021), Sweden is relatively high but not the highest.² Higher ranked are Iceland, the Netherlands, Denmark, Israel, Australia and Finland (in that order). The critical views expressed about the Swedish pension system are that the increase in the retirement age is slow; that not everyone is covered by occupational pensions and that the pension may be low for one party in the event of divorce.

1. Theoretical framework for analysis of social inequality in the retirement decision

Although the population is getting older and a larger proportion of the working population continues to work longer, there are significant social differences. Previous research shows, among other things, that some occupational groups have a shorter life expectancy (Deeg et al. 2021) and also a lower retirement age than other occupational groups. This may be because they are less able to continue working due to strenuous work tasks, reduced work ability or limited employability because of lower qualifications.

Kadefors (2018) divides older workers and their pension decisions into four categories. These categories take into account the individual's work ability and employability and preferences. There are those who can and want, those who can but do not want, those who cannot but want, and those who cannot and do not want to continue working.

As a complementary explanatory model of the individual's pension decision, Hofäcker and Radl (2016) have another approach that also takes into account employers and the institutional context. In their model, the pension decision is divided into voluntary or involuntary and early or late. An involuntary early retirement decision can be related to the individual's state of health but also to external factors such as the macro-economic situation, i.e. high unemployment. These factors are referred to as push factors. A voluntary early retirement decision can be the result of a good financial offer for early retirement, a so-called pull factor. A voluntary late pension decision can be about the employer enabling and facilitating an extended working life. Such factors are called maintain factors. The last category is the one that has a strong connection with the design of the pension system. These are people who continue to work involuntarily due to financial necessity, so-called need factors.

² The index is calculated in cooperation with Monash university. It is based on three groups of criteria: adequacy (six factors), sustainability (six factors) and integrity (five factors). The three groups stand for 40, 35 and 25 percent of the index. See Mercer (2021) for details.

As early retirement usually leads to a lower pension, this is not an attractive alternative for those who do not have a sufficiently high pension capital. In the debate on the pension system, it is stated that there is a risk for increasing social inequalities in pensions (ISF 2020) and that the need factors have a greater weight today than before the pension reforms aimed at extended working life (Hess et al. 2019). At the same time, as mentioned above, not all occupational groups have the same preconditions to work longer. How can this dilemma be solved in Sweden? What type of solutions enables early exit from the labor market without at the same time affecting the pension level too negatively?

One possible way to find answers to these questions is to examine what solutions are available in other countries. Many countries face even greater challenges with an aging population and have the same basic problem that not everyone can work to a higher retirement age. We have therefore examined the solutions that exist in other countries in Europe and more carefully reported those that exist in ten countries in a report published by the Swedish Social Insurance Agency, see ISF (2021 and 2022). The ten countries are the other four Nordic countries (Denmark, Finland, Iceland and Norway) and six other countries in Europe (Austria, Belgium, France, Greece, Italy and Portugal).

2. Five types of solutions

Our review of solutions for those who leave the labor market early with some form of compensation in European countries indicates five basic types. According to these five types, early retirement is possible:

1. For people with many years of work or who started working life early
2. For persons in certain professions or with certain work tasks
3. Through part-time solutions and partial pension solutions for older adults
4. For the older adults with reduced working capacity through health insurance or early retirement
5. For older unemployed individuals or through extended unemployment benefits for older adults

In some cases, there are combination solutions, meaning, for example, that a person who meets the conditions for two or more of the five types of solutions can receive compensation until retirement. Two examples for these combination solutions are the finish years-or-service

pension and the conditions for pensions for “early workers” in Italy. We will now present the five different types in more detail and discuss their advantages and disadvantages.

Options for early retirement for people with many years of work or who started working life early

In some countries, it is possible for those who have started working at a very young age to retire earlier than others with a pension that to some extent compensates for them leaving early. Such solutions are available in Austria, Belgium and Italy, among others. In Denmark, there is such an option from January 2022 called Arne-pension named after the name of a brewery worker who had worked from the age of 16 and had been exhausted in his work. The case received much attention in the political debate in Denmark. It led to a new option for compensation if early retirement for those with many years in working life.

An advantage of an early retirement after working since adolescence is that with such a solution it is possible to reach those who have many years of work. It therefore does not counteract the general goal of an extended working life to a greater extent. But there are also problems with such a solution. One is the definition of what counts as a working year – for example, should work during summer holidays be counted? Austria counts months in which the person is covered by the pension insurance, and in which the monthly income is not lower than a certain minimum amount. In Denmark, there is a certain level of minimum working hours for a month to be counted as full-time. Time with compensation for unemployment and illness etc. is also credited. See the Ministry of Finance (2020) for details regarding the Danish system.

Another problem is how work in another country should be counted. This applies to migrants who on arrival may have worked as teenagers in the country they come from and the same problem also exists for those who were born in the country but who also worked in another country. In Denmark, work in another country within the EU/EEA is included to be eligible for early retirement (Arne pension).

There will also be differences between men and women in terms of the possibilities of using this path to early retirement. Girls enter the labor market later than boys, as girls are studying to a greater extent during adolescence. Women have also fewer working years than men on average due to a lower attachment to the labor market during child rearing years.

The form of compensation can also lead to differences in the treatment of different types of vocational training during adolescence, where apprenticeships with pay are counted as work, while other vocational training that takes place in upper secondary school without pay is not counted even if it is associated with internships.

This type of solution for early pensions for people with many years in the labour market is present in two different designs, depending on the country and the time period. Either, total years at work are counted, or there is a kind of bonus for people who started working during their teenage years. Austria for example allowed early pensions without reductions for individuals with 45 contribution years. However, since January 2022, the reductions were reintroduced and instead, a pension bonus for people who had worked between the age of 15 and 20 was introduced. Both designs have advantages and disadvantages.

Options for early retirement for people in certain professions or with certain tasks

There are professions in all countries that give the right to a pension at a younger age. The motives vary. These can be occupations where people in older ages cannot perform as well as the young, occupations that are more strenuous than others, occupations where continued work can lead to health risks and occupations where work can lead to risks for others (e.g. pilots). The lower retirement age and compensation can often be in the form of contractual solutions, but in some cases the compensation is based on the national system. For an overview of the design of such systems in different countries in Europe, see Natali et al. (2016).

An advantage of the solution of lower retirement age in certain occupations is that people with strenuous work are reached without being required that their ability to work should already be reduced. It therefore reduces the risk of deteriorating health with continued strenuous work and can be considered a preventive measure. Previous research indicates that certain occupational groups have a lower life expectancy (Deeg et al. 2021). Allowing early retirement for these groups could equalize the time as a pensioner compared to the rest of the population.

Although all countries, including Sweden, have a lower retirement age for those working in certain occupations, the use of these exceptions differs between countries. Sweden now has such a lower retirement age for only a few occupations, mainly for pilots and air traffic controllers. France, on the other hand, has special rules for many professions, probably most

among the countries we have examined. In Norway, as many as 100 occupations have a lower retirement age (the vast majority in the public sector). In Greece, 30% of those working in the private sector are assumed to have strenuous occupations. There are usually provisions that in order to be entitled to a lower retirement age in a profession, you must have worked a certain number of years in the profession – the number of years required varies between countries and professions.

A difficulty with these types of profession-based solutions is that they often do not take into account that professions change over time and that they can become more or less demanding and risky. It can be difficult to make a decision that a profession should no longer be included among the professions that have a lower retirement age. This is problematic if some have chosen a profession, partly because they have a lower retirement age than the general retirement age.

Another problem is that special solutions can lead to lock-in – those who are close to retirement age in the profession they work in do not like to leave for a job in another profession with a higher retirement age, even if it would be good for their health and working environment. Iceland is a good example of the opposite; where there are few options for early retirement, and where there is an option, it is rarely used. There is a very high mobility in the labor market for older adults and a large income gap between work and retirement (ESPN 2016).

Another related form of early retirement does not refer to special occupations but to individuals (regardless of occupation) with strenuous work tasks. Such solutions are available in different designs in Finland and Austria. Measuring how demanding a job is can either be designed so that the employer reports that certain requirements are met during the course of working life (as in Austria) or that the employee does so when applying for a pension (as in Finland). In Austria, the assessment is often based on an occupational medicine database consisting of 170 international studies on work energy (Spitzer et al. 1982). The requirement is that the daily workload is at least 8,374 kilojoules for men and 5,862 kilojoules for women. Here, too, there are problems as these rules do not always reflect current working conditions. In Finland's recently introduced years-of-service pension, the individual has to report work demands when applying for a pension. More individualized work demands are thus taken into account, but so far, few are applying for such a pension. Both systems involve complicated administration.

Options for early retirement or downsizing through part-time solutions and partial pension solutions for older adults

Many who grow older want to continue working until retirement age, but find it difficult to do so if they have to work full time. In several countries, therefore, there are part-time solutions designed in a way that the pension when the person later completely stops working at the general retirement age will not be significantly lower than it has been with continued full-time work. This is usually subsidized part-time work close to retirement age. Sweden previously had such a system in social insurance, but it was phased out in connection with the introduction of the new defined-contribution pension system. There are still contractual solutions in Sweden called “partial pension” and “flex pension”. It is also possible to take out part of the old-age pension and at the same time continue to work part-time, but this leads to a significantly lower pension compared with continued full-time work. For older adults with disabilities, there is the possibility of part-time sickness compensation, something that relatively many older people have and often combine with working part-time. Here, it may be of interest to compare with the Danish flex job policy, which covers many older people. This measure means that the employer pays for the hours (usually few) that the person works and that support is paid directly from the public sector to those with flex jobs for the remaining hours up to full time. See Bredgaard et al (2020) for an in-depth presentation.

A problem with partial pension solutions is that they can counteract the desire for more people to work until old age. Some who could work longer may choose to take a partial pension if it is financially advantageous. One possible solution is to introduce a minimum age for part-time work being the same as the minimum age for the right to take out a pension in the national system.

Previous research suggests that part-time work can prolong working life for people with poor health (Elsayed et al. 2018). One possible solution could be to combine the possibility of part-time work with other criteria such as health status or work demands. Enabling part-time work only for certain groups could be a method of avoiding too negative effects on labor supply. In practice, however, there may be problems in reaching people with strenuous work. A report from Eurofound (2007) shows that certain industries such as construction and manufacturing often lack part-time opportunities. On the other hand, according to the report,

there are usually good opportunities for part-time work in health and care as well as education.

To sum up, part-time solutions for early exits can be beneficial for the individual if a part of the income loss is compensated for. But this type of solution often puts demands and costs on employers. State subsidized part-time options can help to make this solution more attractive and less costly for employers. However, these subsidized options had been criticized for being too expensive and had been phased out in several countries. Making subsidized part-time conditional on certain factors such as many years of contribution (an option that is available in Austria) or on health status or work tasks could help to reduce this cost by limiting the number of people eligible for this option. Adjusting the time period where this option is available is another possibility to lower costs and to reduce the potential negative consequences on labour supply.

Options for early retirement for older adults with reduced working ability through health insurance or early retirement

In all countries that we have studied, there are social insurance benefits that in many respects work as a form of early retirement. Some countries have some form targeted at a large part of the population. Others have some form of benefit that is targeted more specifically at those who are close to the regular pension age. It is difficult to describe the rules as there are big differences in what benefits are available and big differences in the conditions regarding eligibility. A condition common to all countries studied is that access to a disability pension is only granted following individual testing. There is an important difference that exists between disability pensions and early retirement based on professional affiliation in which everyone who has worked in a certain profession may retire early without testing of the ability to carry out work.

There are both differences and similarities demonstrated with regard to what is tested, i.e. the conditions that are required to be met in order to be eligible to receive a disability pension. The inability to work may be due to illness, injury or disability. Nevertheless, there are additional conditions that differ by country. Some examples are conditions of the following kind: That the future loss of income must be a certain amount for example, a disability pension will not be granted if the individual is not assessed as losing a certain percentage of future income due to inability to work. Another condition might be that the number of years

remaining until the regular pension age must not exceed a certain number for example, a disability pension can be granted no earlier than five years before the regular pension age. Another condition might be that all rehabilitation options must be exhausted or that the individual must actively participate in rehabilitation measures.

There are also differences in requirements between the countries with regard to the length of time that the reduced work ability must be in order to give the entitlement to a disability pension. There may also be differing requirements relating to duration within a single country, as some countries have different options for early retirement depending on whether the reduction in the ability to work is temporary or permanent. In many countries the right to an allowance is retested when the reduction is not permanent while it is not necessarily retested in the benefits in which the reduction is assessed as permanent. There may be variation in the level of the allowance. An allowance can initially be paid in full or in part, depending on the extent of the reduction in work ability. Given a certain level of reduction, it will be that a disability pension is paid at a standard amount, that the pension will vary with the amount of previous income or that it will vary with the reduction in the ability to carry out a job that generates an income.

In cases in which disability pensions vary on the basis of previous income, there are countries that count a limited number of years of previous income while other countries count income for a whole life. One final question is against which jobs or occupations the ability to work is assessed. In some countries the ability to work is assessed against the ability to carry out a job at all, in other countries it is evaluated against the ability to carry out a particular job, for example the work carried out by the individual before the reduction in the ability to work. There may even be differences within a country with regard to how this assessment is done, for example depending on the age of the individual or the sector.

Options of early retirement for older unemployed individuals or extended unemployment benefits for older adults

For those who become unemployed, there is compensation from the unemployment insurance and measures to help the unemployed get a job. Older people become unemployed less often than younger people, but when older people become unemployed, they tend to become unemployed for a longer period of time. There are measures in many countries to help this group of older long-term unemployed. Older unemployed people may be entitled to

unemployment benefits for a longer period than younger unemployed people (e.g. in Austria and Finland), and they may also be entitled to early retirement (e.g. in Italy and Portugal). In Sweden, there was such a right to early retirement for older unemployed individuals during the 1970s and 1980s.

In Sweden, and also in other countries, a balance is being struck between active and passive measures for the group of older unemployed. Active measures can be education (retraining), relocation support and subsidized work, while passive measures can be various forms of financial support such as extended benefit periods in unemployment insurance and the right to early retirement.

Measures related to unemployment are always linked to special requirements. The most common are age requirements, requirements for a certain number of social insurance-based years and that unemployment is involuntary. Early retirement due to unemployment leads to lower pensions in several countries, at least for the period before the ordinary retirement age.

The financing takes place mainly through the pension system, unemployment insurance or other public solutions. But there are other solutions, for example that the employer pays the benefit (Italy) or that the employee pays for insurance that can be used for early retirement in the event of unemployment (early retirement pay in Denmark).

The possibility of early exit from the labor market through unemployment benefits or early retirement due to unemployment has several effects. In several countries, where there is no right to longer periods of unemployment benefits for older people or the possibility of early retirement in the event of unemployment, more people need to take out the general pension early. They then receive a significantly lower pension than others. Early exit from the labor market through extended unemployment benefits would protect older adults from having to withdraw their pension early and therefore lead to a higher pension, especially if the unemployment benefit is included in the calculation of the pension.

There are also disadvantages with options for early retirement linked to unemployment. Many studies of such systems in different countries have found that they lead to older people leaving the labor market to a greater extent (Kyyrä and Ollikainen 2008) and that unemployment increases among older people (van Ours and Tuit 2010; Remillon and Baguelin 2014; Winter-Ebmer 2003).

The reason why older people leave the labor market to a greater extent and that unemployment increases among older people when there are options for early retirement

linked to unemployment may be because it is easier to dismiss older people who are entitled to longer periods of unemployment benefits, as there is less risk that they oppose dismissal (van Ours and Tuit 2010), and that it is easier for the employer to maintain a good reputation among employees if those who leave do so on good terms (Remillon and Baguelin 2014).

3. Applicability in Sweden?

Many of the forms of compensation for early retirement from working life that exist in other countries and that we examined have recently been introduced in the countries in question and it is therefore not possible to obtain evaluations. The Danish Arne pension, which was introduced on 1 January 2022, has of course not yet been evaluated - we do not know how many and who will apply for it and how they will be affected by the opportunity. The same restrictions apply to other recently introduced reforms in other countries, such as the years-of-service pension in Finland. What we can usually see is how the implementation has been carried out and how many have received compensation from various schemes. We can learn from their experiences already now and even more by following the continued development. We point here to some solutions found in the countries we have examined and to possibilities to apply them in Sweden. It may be of interest to look especially at Iceland, which has the highest old-age employment rate of all OECD countries and which is judged to have the best pension system according to Mercer (2021).

How can low pensions be avoided in the event of early retirement for certain groups?

When we examine the options for early retirement that exist in other countries, we must also see them in the context of the pension system that Sweden has, namely a defined-contribution pension system. A defined-contribution system means that the pension from the national system in the event of early retirement will be lower for two reasons: 1) the pension is expected to be paid for more years and 2) payments have been made to the pension system for fewer years. The latter sometimes does not apply to the systems that are the most common in other countries – the defined-benefit systems (such as the former Swedish ATP system). In such systems, it is sometimes sufficient to have a certain number of years with paid contributions (in the ATP system 30 years with an income above a certain annual amount to receive a full pension). In most defined-benefit pension schemes, there is the possibility of early retirement with a certain percentage of reduced pension income. In these systems, there

may be exceptions for certain groups who can retire without receiving this reduction and thus a low pension. This may, for example, apply to people who meet certain requirements, such as a long working life or having worked in strenuous occupations. France, Spain and Germany, among others, have this opportunity for people with a long working life.

Such exceptions do not exist in Sweden. This means that additional support may be needed to avoid that early retirement from working life leads to too low pensions. We will mention below some examples of solutions that we have found in other countries, solutions that do not lead to strongly reduced compensation levels for those affected. However, these solutions would need to be adapted to be compatible with the Swedish pension system.

Italy's defined-contribution pension scheme is designed so that the incomes during adolescence are re-calculated with a certain factor leading to higher pensions. In Portugal, there is a solution where the annuity divisor is not used for people with a long working life or in the event of involuntary unemployment.

Some countries have options for early retirement that require a high pension capital. This option is thus not available for low-paid workers, but it can offer an additional option for early retirement for some without the future pension level being too low. In Italy, younger cohorts can retire earlier already after twenty pensionable years if their future pension level exceeds 2.8 times the age-related social security contribution. There is also a similar opportunity in Iceland for people with high pension capital.

4. Measures to counteract the need for early withdrawal

The main purpose of our study has been to examine how some countries in Europe have solved the question of how to provide support to people who, for various reasons, need to leave the labor market earlier than at an ever-increasing general retirement age. But there are also forms of action that can instead help people work to a higher age; those previously described as so-called maintain factors (Hofäcker and Radl 2016). We shall mention here some such measures.

Firstly, measures that improve people's health can have an impact on whether they will be able to work for more years. This applies to various types of preventive measures but also healthcare and rehabilitation. Research in this area indicates that early intervention is very important. See Fagerlind Ståhl (2021) for a research overview.

Secondly, measures that improve the working environment can lead to more people being able to work at an older age. Occupational injuries and occupational diseases can become less frequent through active work environment work. Here, the Swedish Work Environment Authority, the legislation in the area, employers and their organizations as well as trade unions all have important role.

Third, active labor market policies can be important. This applies to education that leads to older people who are in physically or mentally demanding professions being able to move on. It can also be a help for older unemployed individuals to remain in working life if support is given to moving to places where jobs are available or a localization policy that makes workplaces move to places where there are many who are out of work - an active regional policy.

Fourth, anti-discrimination measures could help older workers. Older adults are less often unemployed, but when they become unemployed, they often have long periods of unemployment. One explanation is that older people who are looking for work are not called for job interviews when others are looking for the same job, see for example Carlsson and Eriksson (2019). Information to employers and active support from the employment service could counteract such discrimination.

These four groups of measures could contribute to a reduced need for early retirement, but they are unlikely to eliminate the need. The active measures thus need to be supplemented with opportunities for those who need to leave working life early without having to live on a very low financial level until retirement and without receiving a very low old-age pension.

5. Concluding discussion

When discussing ways of early retirement from working life, opportunities to counteract the need for early retirement from working life should also be considered. Increasing the proportion who want and can work longer is important. In the article, we have pointed out some such measures. Although they can reduce the need for early exit routes, they cannot be expected to eliminate this need. Measures for an extended working life should be seen as complementary to options for early retirement. Different types of benefits are needed for those who are unable to work until an ever-increasing retirement age. This is especially true for those with physically demanding jobs, those with health problems that reduce their ability to work and those who can work but are unable to do so full time. Such measures reduce the

so-called need factors (Hofäcker and Radl 2016) and thus the number who feel compelled to continue working for financial reasons without having good preconditions to do so. In this article, we have presented and discussed solutions that are used in other countries which, however, may need to be adapted to the Swedish defined-contribution pension system.

References

Bredgaard, T, F Amby, H Holt and F Thuesen (2020), *Handicap og Beskaeftigelse. Fra barrierer til broer*, Djöf Forlag, Copenhagen.

Börsch-Supan, A H and C Courney (2018), “Social security programs and retirement around the world: reforms and retirement incentives – introduction and summary”. NBER working papers 25280.

Carlsson, M and S Eriksson (2019), ”Age discrimination in hiring decisions: Evidence from a field experiment in the labor market”, *Labour Economics*, Vol 59 (August), pp. 173–183.

Deeg, D, W De Tavenier and S de Breij (2021), “Occupation-Based Life Expectancy: Actuarial Fairness in Determining Statutory Retirement Age”, *Frontiers of Sociology*, 6:675618.

Elsayed, A, A De Grip, D Fourge and R Montizan (2018), “Gradual retirement, financial incentives, and labour supply of older workers: Evidence from a stated preference analysis”, *Journal of Economic Behavior & Organization*, Vol 150 C, pp. 277–294.

Eurofound (2007), “Early and phased retirement in European companies”, Eurofound report.

Fagerlind Ståhl, A-C (2021), *Arbete och psykisk hälsa. Viktigt vetande och vanliga myter*, Studentlitteratur, Lund.

ESPN (2016), “Retirement regimes for workers in arduous or hazardous jobs in Europe – Iceland”

FIAP (2021a), “The Notional Defined Contribution System: Analysis and International Experience”, Newsletter March 2021, No 122.

FIAP (2021b), “Parametric Reforms in the Public PAYGO Pension Programs 1995 – June 2021”.

Finansministeriet (2020), ”Aftale om ret til tidlig pension”, 11/10 2020, Köpenhamn.

Hofäcker, D and J Radl (2016), “Retirement transitions in times of institutional change: theoretical concept”, i D Hofäcker, M Hess and S König (Eds.) *Delaying retirement. Progress and challenges of active ageing in Europe, the United States and Japan*. Palgrave Macmillan.

ISF (2014), *Striktare sjukförsäkring och tidig ålderspensionering*, Rapport 2014:7, Inspektionen för socialförsäkringen, Stockholm.

ISF (2021), *Möjligheter till tidig pensionering. En analys av internationella erfarenheter*, Rapport 2021:7 från Inspektionen för socialförsäkringen, Gothenburg.

ISF (2022), *Options for Early Retirement An Analysis of International Experience*, A Swedish Social Insurance Inspectorate Report (ISF), Gothenburg.

Kadefors, R (2018), *Att vilja och kunna arbeta längre*, Delegationen för senior arbetskraft, Rapport 9, S 2018:10.

Kyyrä, T and V Ollikainen (2008), “To search or not to search? The effects of UI benefit extension for the older unemployed”, *Journal of Public Economics*, Vol 92(10), pp. 2048–2070.

Kyyrä, T and R A Wilke (2007), “Reduction in the Long-Term Unemployment of the Elderly: A Success Story from Finland”, *Journal of the European Economic Association*, Vol 5(1), pp. 54–182.

Mercer (2021), “Mercer CFA Institute Global Pension Index 2021. Pension reform in challenging times”.

Natali, D, S Spasova and B Vanhercke (2016), “Retirement regimes for workers in arduous or hazardous jobs in Europe. A study of national policies 2016”, European Commission, Brussels.

Remillon, D and O Baguelin (2014), “Unemployment insurance and management of the older workforce in a dual labor market: Evidence from France”, *Labour Economics*, Vol 30 (C), pp. 245–264.

Riekhoff, A-J, K Kvitto and L-M Palomäki (2020), “Substitution and spill-overs between early exit pathways in times of extending working lives in Europe”, *International Social Security Review*, Vol 73(2), pp. 27–50.

van Ours, J C and S Tuit (2010), “How changes in unemployment benefit duration affect the inflow into unemployment”, CentEr Discussion Paper, Microeconomics 2010-07.

Spitzer, S, Th Hettinger and G Kaminsky (1982), *Tafeln für den Energieumsatz bei körperlicher Arbeit*. Beuth Verlag, Berlin.

Vollset, S E et al. (24 authors) (2020), “Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: a forecasting analysis for the Global Burden of Disease Study”. *Lancet*, Vol 396 (10258) pp. 1285–1306.

Winter-Ebmer, R (2003), “Benefit duration and unemployment entry: A quasi-experiment in Austria”, *European Economic Review*, Vol 47(2), pp. 259–273.

Walwei, U and J Deller (2021), ”Labor Market Participation of Older Workers in International Comparison”, IAB-Discussion Paper 16/2021.

Wuebbeke, C (2011), “The limitations of activation policies: unemployment at the end of working life”, *Ageing and Society*, Vol 31(6), pp. 977–1002.