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Retirement, Pensions and Work in Sweden

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Most countries including Sweden have an ageing population. The costs of the welfare state increase with the old age share, leading to problems for public finances. If the number of hours worked increases, tax revenues increase and less income transfers are paid out. A higher retirement age is one way to increase the numbers of hours worked in the economy. The age when people leave the labour market has already increased in Sweden. The new pensions system is part of the explanation but improved health and changes in the educational level of the cohorts close to retirement are also important. The problem of financing the welfare state is however not solved by that development. We conclude our article by discussing changes in laws and collective agreements which may contribute to further increases in the actual retirement age. We also shortly discuss the implications of the present economic crisis.
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An ageing population

In most economically developed countries the share of the population who is of active age is declining. The share being in active age declines both due to low fertility and due to the fact that people are living longer. A larger part of a cohort reaches 65 years of age than before and those who reach that age have more remaining years of life than earlier cohorts.[1] This development is expected to continue. The fertility rate is stable and the average length of life is expected to rise in Sweden as in other countries. *Statistics Sweden*'s forecast shows that it is likely that the number of people over active age, per person of active age, will increase from *circa* 0.3 in 2004 to more than 0.5 in 2030. The number of young people (below active age) will be unchanged at *circa* 0.5 per person of active age.[2]

An ageing population leads to increased demands for health care, old age care and pensions.[3] The costs of the welfare state increase with the old age share.[4] If increased

[1] The average length of life has been gradually increasing for a long time. First it increased mainly due to a decline in child mortality, later mainly due to a decline in mortality among those of active age and now mainly by the fact that people who reach retirement age have more remaining years of life. See SCB (2008) for a forecast of the future reductions of the mortality rates in Sweden.

[2] See SCB (2006).

[3] For a general economic analysis of the effects of an ageing population, see Disney (1996).

[4] See Disney (2006) for an analysis and discussion of earlier contributions in this field of study.

tax rates and lower standards in the public sector services (health care and old age care but also other parts of the public sector such as education) or lower replacement rates in the income transfer programmes are excluded, the number of hours worked in the economy has to increase. An increased number of hours worked leads to higher taxable incomes and to that more taxes are paid to the public sector.

Several ways for increasing the number of hours worked in the economy have been put forward. The most important ones are: (1) an increase of the number of hours worked for those employed, for example that some who work part-time (mainly women) start to work full-time instead, (2) a more rapid transition from education to the labour market: for many young people it takes several years after completing education before they are fully established in the labour market, (3) an increase in employment among groups with low employment rates such as people with disabilities and refugee immigrants, (4) an increased labour immigration, and (5) a higher (real) retirement age. We will discuss the last option in this article, a higher retirement age. Many now see increased labour force participation among those aged 55–70 years as the main method to solve the problems an ageing population leads to for the welfare state.

One argument put forward for raising the real retirement age is that the number of years with pension increases with the increase of the average remaining lifetime for those reaching a certain retirement age. It is possible to raise the retirement age without reducing the number of years retired with a pension. That the health status of the elderly is also becoming better, more of them have higher education levels and fewer have physically demanding jobs are all factors working for postponed retirement.

One way to illustrate this is to study the expected remaining lifetime for those aged 65 years. Table 1 shows the development to 2007 and predictions for the period to 2020. We start with expected remaining lifetime 1971–1980, the decade when the retirement age was lowered from 67 to 65 in Sweden. We calculate what the pension age should be if the number of years with a pension should be as in the 1970s when the pension age was 65. We have made separate estimations for men and women. The results are more or less the same if we instead assume that the pension age should be same for men and women. The calculations indicate that the pension age should have been increased with 3–4 years up to now and with 1 year more in 2020.

The predictions of expected life length are uncertain. There has been a tendency to underestimate the expected life length. It would in this case mean an even larger increase of the pension age. For a detailed presentation of how the demographic predictions are made, see SCB.[5]

The demographic development leading to a gradually ageing population is, as mentioned, not unique for Sweden but common for all developed countries. Sweden had the oldest population in the world in 1975 measured as the share of the population being 65 years and older but has now lost that position to countries such as Japan and Italy. Table 2 shows examples of population ageing in some countries in different parts of the world. Of special interest is the rapid increase in the share of people of

[5] SCB (2007).

Table 1 Expected remaining life length at age 65 and pension age if the same expected number of years with a pension as in the 1970s when the pension age was 65 years

Year	*Expected remaining life length at age 65*		*Pension age if the expected number of years with a pension as in the 1970s*	
	Men	*Women*	*Men*	*Women*
1971–1980	14.10	17.47	65.00	65.00
1981–1985	14.60	18.39	65.50	65.92
1986–1990	15.09	18.91	65.99	66.44
1991–1995	15.70	19.42	66.60	66.95
1996–2000	16.35	19.93	67.25	67.46
2001–2005	17.11	20.30	68.01	67.83
2006	17.60	20.75	68.50	68.28
2007	17.84	20.67	68.74	68.20
2008	17.78	20.81	68.88	68.34
2009	17.90	20.89	68.80	68.42
2010	18.01	20.97	68.91	68.50
2015	18.58	21.37	69.48	68.90
2020	19.04	21.69	69.94	69.22

Source: SCB, Vital statistics and our own calculations.
Note: The forecast for 2008–2020 was made before the values for 2007 became known. This explains why the (predicted) value for 2008 is lower than the (actual) value for 2007. We have set the pension age in the 1970s to 65 years; the pension age is valid from 1976.

80 years and older. It is in this age group that the costs for health care and old age care are highest. In the future, several countries will have a higher old age share than Sweden. The reason for that is that fertility rates are lower in those countries than in Sweden. A comparison of the development of fertility in a number of European Union countries[6] shows that the Nordic countries, Denmark, Finland and Sweden, have higher fertility rates than most other European Union countries.

Labour force participation among older people

For many years labour force participation and employment declined among older people in Sweden and in other countries. To some extent this could be explained by a decrease in the formal retirement age (the age at which a full pension is granted) and higher pensions, but labour force participation and employment declined also among those in the age group below the formal pension age. The employment decline in this age group (older active age) is to a high extent related to business cycle variations and to possibilities to get an income transfer below the age for an old age pension. More people lost their jobs in downturns of the economy and in many countries special programmes were introduced or existing programmes changed making it easier to get an income transfer. The intention was in many cases to make it easier for young people

[6] See Bovenberg (2008).

Table 2 Share of the population aged 65 years and older and 80 years and older (per cent)

Country	*1975*		*2000*		*2015*		*2030*	
	65+	*80+*	*65+*	*80+*	*65+*	*80+*	*65+*	*80+*
Denmark	13.4	2.4	14.9	4.0	18.9	4.4	23.0	7.1
France	13.5	2.5	16.0	3.7	18.8	5.8	24.0	7.5
Germany	14.8	2.2	16.2	3.5	20.2	5.4	25.8	7.2
Italy	12.0	1.9	18.1	4.0	22.2	6.8	28.1	9.0
Netherlands	10.8	2.0	13.6	3.2	17.4	4.1	23.3	6.2
Sweden	15.1	2.7	17.3	5.0	21.4	5.7	25.1	8.6
Switzerland	12.6	2.1	15.4	4.0	22.0	5.7	29.8	8.8
United Kingdom	14.0	2.4	15.7	4.0	18.4	4.9	23.5	7.0
Australia	8.7	1.5	12.4	3.0	15.8	4.1	21.1	6.0
Japan	7.9	1.1	17.0	3.7	24.9	7.0	28.3	11.1
Taiwan	3.7	0.3	8.7	1.4	11.9	2.8	22.0	4.3
U.S.A.	10.5	2.1	12.6	3.3	14.7	3.8	20.0	5.3

Sources: U.S. Department of Commerce, Economics and Statistics Administration and U.S. Census Bureau, *An Aging World 2001*, Washington, D.C. For the Netherlands and Switzerland, United Nations World Populations Prospects: The 2002 revision. For Taiwan, Council for Economic Planning and Development, Executive Yuan Republic of China, *Population Projection for Taiwan Area, Republic of China*; *Statistical Yearbook of China 2003*.

to establish themselves on the labour market. The policy failed: young people did not get jobs to a higher extent, the older workers did not return to the labour market in the succeeding upswing period and a social norm of early retirement was established.[7] In Sweden, this development towards early retirement did not go as far as in many other countries. Sweden belongs to a group of late exit countries together with Iceland, Japan, Norway, Switzerland and the U.S.

The development towards a lower real (and in some cases also lower formal) retirement age ended in the 1990s. The change was partially a result of policy changes. In several countries the lowest possible age for taking up an old age pension was raised, early exit options were closed or made less attractive. The result has also been clear tendencies of a higher real retirement age in many countries. There have been political complications as changes in the pension schemes are politically sensitive. Proposals and decisions of changes in the pension system have many times been met with demonstrations and other forms of protest in several countries.[8]

Table 3 shows the development of the share in the labour force among those aged 55–64 years in a number of OECD-countries between 1994 and 2007. Included in the table are the Nordic countries and some countries that have often been mentioned in the Swedish political debate. We have chosen one year in the mid-1990s, as the labour force participation was lowest then in most countries.

[7] See Gruber *et al.* (2009) for an introduction to a forthcoming book on this issue. The book will contain a number of studies from different countries using different methods. The main result is that policies that reduce employment among older people also reduce employment (and increase unemployment) among young people. An interesting case study is the development in Italy, see Brugiavini and Peracchi (2008).

[8] See Thompson (2008) for an account of the political protests against pension reforms in France.

Table 3 Labour force participation in 1994 and 2007 among men and women aged 55–64 years

Country	*Men*		*Women*	
	1994	*2007*	*1994*	*2007*
Denmark	63.8	66.9	43.1	55.7
Finland	43.9	59.2	38.9	58.3
Iceland	95.9	90.4	80.5	80.7
Norway	71.5	74.7	55.4	64.6
Sweden	70.5	76.4	62.6	69.6
Austria	41.3	51.3	18.4	28.9
France	42.1	42.6	30.1	38.0
Germany	53.1	66.5	28.3	49.8
Netherlands	41.8	63.3	18.5	41.1
Switzerland	82.9	78.4	47.2	60.3
United Kingdom	64.0	68.9	40.7	50.1
U.S.A.	65.5	69.6	48.9	58.3
Canada	59.5	67.1	36.9	53.3
Japan	85.0	84.9	48.1	52.5

Source: OECD (2008).

If we study labour force participation among women aged 55–64 years, we find that it increased considerably between 1994 and 2007. The increase in labour force participation among women started earlier among young women and they have continued to work as they have become older.

Labour force participation has also increased among men aged 55–64 years in the same period. The exceptions are Iceland, Switzerland and Japan, countries with very high labour force participation among older men already in 1994 and that still have high participation rates compared with other countries even if the labour force participation has declined somewhat in Iceland and Switzerland and remained on the same level in Japan.

We shall turn to the development in Sweden and do so by using the Labour Force Surveys from 1990 to 2008. For men, the decline in labour force participation is very strong between 1990 and 1995 (a period of economic crisis), both for those aged 55–64 years and for those younger than 55 years (see Table 4). From 1995 on, the share of all people of active age being in the labour force is more or less constant. There is however a slight increase among those aged 55–59 years and a large increase among those aged 60–64 years.

The development of labour force participation among women is more or less the same as that for men (see Table 5). The increase in labour force participation between 1995 and 2008 among those aged 60–64 years is about the same for women as for men.

It is also of interest to study labour force participation among those aged 65 years or older. One way to do this is to look at labour force participation in one-year intervals from 60 to 69 years. We have done that for three years: 2006, 2007 and 2008 (see Table 6).

We find that there is a large difference in labour force participation among those aged 64 years and those aged 65 years. It shows the importance of the traditional

Table 4 Labour force participation (per cent) between 1990 and 2008 in Sweden among men aged 55–64 years

Age	*1990*	*1995*	*2000*	*2004*	*2006*	*2007*	*2008*
55–59	87.4	82.2	83.9	83.8	84.9	85.2	86.7
60	74.2	71.6	73.7	76.1	78.9	78.8	77.6
61	70.9	64.9	66.5	72.5	71.6	76.3	73.0
62	65.9	55.9	57.4	66.1	67.1	68.4	71.0
63	58.0	51.3	43.6	58.9	58.0	63.0	62.8
64	48.8	41.9	38.0	48.2	52.1	51.2	53.2
16–64	87.0	80.2	80.2	79.7	81.3	82.9	83.1

Source: Labour force surveys, SCB.

Table 5 Labour force participation (per cent) between 1990 and 2008 in Sweden among women aged 55–64 years

Age	*1990*	*1995*	*2000*	*2004*	*2006*	*2007*	*2008*
55–59	78.8	77.3	79.1	79.4	79.9	80.2	80.6
60	69.0	65.7	67.1	69.9	70.2	72.2	72.1
61	62.2	59.5	58.7	67.0	65.8	65.2	66.4
62	54.5	48.6	52.1	58.0	59.7	59.1	60.2
63	46.7	37.7	35.1	49.3	51.1	52.5	50.0
64	37.3	31.2	25.2	40.7	40.7	46.0	44.4
16–64	82.6	76.1	75.5	75.7	76.1	78.2	78.2

Source: Labour force surveys, SCB.

Table 6 Labour force participation (per cent) in Sweden between 2006 and 2008 among those aged 60–70 years

Age	*Men*			*Women*		
	2006	*2007*	*2008*	*2006*	*2007*	*2008*
60	78.9	78.8	77.6	70.2	72.2	72.1
61	71.6	76.3	73.0	65.8	65.2	66.4
62	67.1	68.4	71.0	59.7	59.1	60.2
63	58.0	63.0	62.8	51.1	52.5	50.0
64	52.1	51.2	53.2	40.7	46.0	44.4
65	22.5	28.9	29.1	18.6	17.3	19.1
66	17.2	21.0	29.0	11.9	13.9	14.5
67	16.1	15.5	19.1	10.3	10.1	11.3
68	18.6	15.7	18.7	5.5	7.4	10.9
69	8.0	15.6	12.5	4.6	6.7	6.4

Source: Labour force surveys, SCB.

pension age of 65 years. It is hardly possible to explain the drop in participation by, for example, a sudden deterioration in health status when turning 65. In spite of the fact that the pension age is flexible in the income pension system (61 years is the minimum pension age) and that people from 2003 on are covered by the law on job security until they reach the age of 67 years, many still see 65 years as the age of retirement. However, labour force participation has increased among those aged

Table 7 The number of newly granted old age pensions for men and women employed in the state sector in 2002, 2005 and 2007

Sex and age	*2002*	*2005*	*2007*
Men			
55–59 years	438	146	26
60–64 years	536	534	703
65 years (taking up pension the month when turning 65)	667	637	845
Older than 65 years	153	497	675
All	1,794	1,814	2,249
Women			
55–59 years	1	4	4
60–64 years	208	438	992
65 years (taking up pension the month when turning 65)	589	676	862
Older than 65 years	61	384	575
All	859	1,502	2,433

Source: SPV (2008).

65 and 66 years, especially among men. The development from a retirement age of 65 years to a retirement age of 67 years is especially strong in the state sector (see Table 7).

Table 7 shows that the number who take up a pension later than 65 years has increased much since mandatory retirement was forbidden from 2003 for those below 67 years of age. The large increase in the number of women being granted an old age pension aged 60–64 years is explained by the fact that the Social security administration became a part of the state sector in 2005. Most of those working in that administration are women and they had an agreement of a right to early old age pension.

Recent reforms of the pension system

The Parliament decided in June 1994 on the principles of a new pension system. The new pension scheme was gradually introduced from 1999 on. All parts applied from January 2003. The new pension system consists of three parts: income pension, premium pension and guarantee pension. Income and premium pensions are based on the income of a whole lifetime. Every year, an amount corresponding to 18.5 per cent of the insured person's pensionable income is assigned to an individual pension entitlement. The insured pays 7 per cent of the earnings through a national pension contribution of up to 8.07 income base amounts (the income base amount is SEK 50,900 in 2009). Employers pay 10.21 per cent of the wage to the pension system regardless of the wage level. The 17.21 per cent $(7.00 + 10.21)$ corresponds to 18.5 per cent of the pension basis. The explanation for this discrepancy is that the national pension contribution of 7 per cent is deducted from income when the pension basis is calculated (0.93×8.07 income base amounts $=7.5$ income base amounts). From the contributions, 16 percentage points go to the income pension and 2.5 percentage points to the premium pension.

The contributions paid provide pension entitlement. In addition to wage from employment and income from self-employment, benefit from sickness, disability and unemployment insurance is counted as income. Studies (with study assistance), national service (conscription) and years with children up to 4 years of age also confer pension entitlement. The pension basis has a ceiling of 7.5 income base amounts before tax per year.

The pension entitlements that a person can obtain through paid contributions are calculated every year in three steps. An upward adjustment is made through distribution of inheritance gains (pension rights for those who have died during the year), the pension balance is decreased by the costs of administering the pension being distributed among the insured and the pension balance calculated in this way is adjusted by the general development of income with the aid of an income index. The income index is based on the average income for all who have had income during a year. To smooth out the effect of business cycles, the index is then calculated as the average income change during the last 3 years (where income from earlier years is adjusted by the consumer price index in June every year). Finally, the income index is adjusted by the consumer price index for the latest June-to-June period.

When the pension starts to be paid, it is calculated taking into consideration the predicted growth in the economy and the calculated life expectancy for the cohort to which the person belongs. The pension balance is divided by a denominator determined by these two factors. If life expectancy gradually increases, later cohorts will receive a lower income pension than earlier cohorts at a given income. Higher growth in the economy provides higher pensions through indexation.

The income pension is adjusted from the year it is drawn with the aid of the general income development with a deduction for the rate of growth predicted when calculating the denominator (this growth norm is 1.6 per cent).

To ensure that the pension system is financially stable, that is that the pension liability does not exceed the assets in the system, each year the Government determines a balance ratio. The balance ratio shows the balance between assets and liabilities in the pension system. If the balance ratio exceeds one, there is a surplus in the system. If the balance ratio is below one, there is a deficit – the pension debt exceeds the assets. If the balance ratio is less than one, the income index will be multiplied by the balance ratio when pensions are calculated, in order to restore the balance between assets and liabilities.

The pension can be drawn at the earliest from the age of 61. A preliminary denominator is used to calculate the pension for those drawing a pension before the age of 65 years. This pension is adjusted when the person reaches the age of 65 years. There is no upper limit for when the pension must start to be drawn. In the previous system, the pension did not become higher if it started to be drawn after the age of 70 than if it was first drawn at the age of 70. The later the pension starts to be drawn, the greater it becomes. See Table 8 for the development of the age distribution for those who start to take up a pension.

The part of the pension basis set aside for the premium pension is invested according to the choice of the individual in at most five funds out of *circa* 800 registered by the premium pension authority (PPM). The amount of the premium pension is thereby affected by the change in value of the funds the individual has chosen to invest his or

Table 8 Age distribution of men and women who were granted a new old age pension in 2003 and 2007

Age (years)	*2003*		*2007*	
	Women	*Men*	*Women*	*Men*
61–64	9	17	20	25
65[a]	86	78	68	59
Older than 65	5	5	12	16

[a]In this group is included also those who take out a pension the month after they turn 65.
Source: Försäkringskassan, "Ålderspension. In- och utflöden i pensionssystemet", Statistik 2007:3.

her money in. The amount of the premium pension is affected, like the income pension, by when the pension is drawn (at the earliest at the age of 61 years) and the cohort's estimated remaining lifetime.

Payments for the premium pension can be shared between spouses or registered partners. Only pension entitlement earned in marriage or partnership can be transferred and this is currently done from year to year. However, in the event of a transfer, the amount transferred is reduced by 8 per cent (changed from 14 per cent from 1 December 2008). The reason for this reduction is that the transfer is mainly expected to take place from men to women since men have higher incomes than women, and since women live longer than men, the transfers would lead to a deficit for the PPM system if the reduction was not made.

If the income pension is low or non-existent, a guarantee pension supplements the pension. The maximum guarantee pension in 2009 is SEK 7,597 per month for an unmarried pensioner and SEK 6,777 for a married pensioner. To receive a full guarantee pension, a person must have lived in Sweden or in another EU/EES country for 40 years. Guarantee pension can be received at the earliest from the age of 65 years. Guarantee pension can only be paid to persons who live in Sweden or in EU/EEA countries or in other countries with which Sweden has an agreement. Guarantee pension is not tested in relation to wage, agreement-based pensions or private pensions but only in relation to income pension and premium pension (calculated as if they had been paid from the age of 65 years). The amount of the guarantee pension is not affected by any transferred premium pension rights.

Occupational pensions complement the pensions from the social insurance system for most people in Sweden. More than 90 per cent of employees are covered by occupational pensions decided on by collective agreements. There are four major systems for supplementary pensions: one for those employed in the state sector, one for those employed by municipalities and county councils, one for white-collar workers in the private sector and one for blue-collar workers in the private sector. All four systems have changed radically in the last 15 years. They have changed from being Defined Benefit (DB) plans to mainly or entirely being Defined Contribution (DC) plans. The pension plans in the private sector are entirely DC plans, but most white-collar workers in the private sector currently employed will get a pension according to an earlier DB plan (the transition period is very long). The pension plans for public sector employees are DC plans up to the income ceiling in the social insurance old age pension system, and over that ceiling a combination of DB and DC plans.

Table 9 Share of pension income according to forms of pension for those aged 65–69 years

Year	*The national pension system*		*Occupational pensions*		*Private pensions*	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*
1996	74.4	80.6	20.3	15.6	5.3	3.8
2002	67.9	76.2	24.2	16.4	8.0	7.4
2006	64.0	72.1	27.7	19.0	8.1	8.9
2007	62.2	70.3	29.4	20.3	8.4	9.4

Source: Calculations based on statistics (the HEK data base) from *Statistics Sweden*.

All supplementary pension schemes have a flexible pension age. The supplementary pension for state employees has 61 years as the lowest age for take up and the other three, 55 years. The lower the age when the pension is received, the lower it is. Only the earlier system for white-collar workers in the private sector has an upper limit for which the pension must be taken out (70 years). In all pension plans, except that for the state sector, a take-up of the pension before reaching the age of 65 is only allowed if the person intends to stop working.

Supplementary pensions give especially high compensation to people with incomes higher than the ceiling in the social security old age pension system. The supplementary pension systems more or less eliminate the ceiling. In 2007, 36 per cent of all employees had income parts over the ceiling. Table 9 shows that the supplementary pensions' part of all pension incomes for men aged 65–69 years increased from 20.3 per cent in 1996 to 27.7 per cent in 2007 and from 15.6 to 19.0 per cent for women aged 65–69 years. The occupational pensions are becoming more and more important (see Table 9).

Sweden has had and still has different forms of part-time pensions. Part-time options exist in the old age pension and the disability pension schemes, but there has also been a special social insurance part-time pension system and there are now occupational pension schemes for those working in the public sector. A part-time pension system[9] may have different effects on labour supply. A part-time pension may lead to some people continuing to work, who otherwise would have left the labour market. Others who would have continued to work full-time if the system had not existed reduce their working hours. The combined effect could be either an increase or a reduction of labour supply.

There was a special social insurance part-time pension system between 1976 and 2000. Those who were 60–65 years and who reduced their working hours by at least 5 hours a week and continued to work at least 17 hours per week could get a replacement of 65 per cent of the income lost due to the reduced number of working hours.[10] As a part of the agreement on the new pension scheme in 1994 it was decided to abolish the special part-time pension system. The last part-time pensions were

[9] For a recent survey of part-time pension systems in a number of countries, see Kantarci and van Soest (2008).

[10] See Wadensjö and Sjögren (2000) and Wadensjö (2003) for the development of the rules over time.

granted in 2000. Lachowska *et al.*[11] studied if the part-time pension system leads to an increase or a decrease of the labour supply. They found that the labour supply increased somewhat, especially among women.

From 2003 there is an agreement on a special part-time pension for those employed in the state sector and since 2007 there is also an agreement for those employed by the local government (municipalities and counties). In the state sector those aged between 61 and 65 years may get a part-time pension if the employer agrees. The working hours may be reduced by at most 20 hours a week. The part-time pension replaces 60 per cent of the income lost due to the reduction of working hours. If the wage increases, the part-time pension increases with the same percentage. When the part-time pensioner turns 65, the part-time pension is discontinued and the person has to take a full pension, a part-time old age pension or go back to full-time work.

The agreement for those employed by the municipalities and counties implies that the conditions for those getting a part-time pension should be settled by further agreements on the local level. The central agreement for those employed by the municipalities and the counties declares that it is possible to have a part-time pension until 67 years of age and not as in the state sector, only until reaching 65 years of age.

How increased employment among older workers may be a part of the solution to the problems of the public finances

In this article we discuss labour force participation among older workers. An increase in participation may lead to that more is paid in taxes and less is paid out in income transfers and may in that way contribute to the solution of the public finance problem. But will the contribution be small or large? It is difficult to say how great the effect will be. We will try to answer the question by an example. Let us assume that labour force participation increases by 10 percentage units for those aged 60–64 years, by 25 percentage units for those aged 65–66 years (to be not much lower than for those aged 64 years) and by 10 percentage units for those aged 67–69 years. These changes are not unrealistic taking into account the earlier development of labour force participation in Sweden. These changes would lead to an increase in labour supply of *circa* 140,000 persons (given the population in 2008). This means an increase of the labour force by *circa* 3–4 per cent.

Further needed reforms

Based on our analysis we list some policy changes below, which may lead to higher labour force participation among older workers in Sweden. Most of them are options for the political authorities; others are options for the social partners.

- Increase the minimum age for mandatory retirement from 67 to 70 years as in, for example, Iceland and France (from 1 January 2009) or forbid mandatory retirement as in the U.S. and Canada.

[11] Lachowska *et al.* (2008).

- Make 67 years and not 65 years the normal retirement age in the different income transfer systems. The present design of the sickness and unemployment benefit systems forces those aged between 65 and 67 years who become unemployed or long-term sick to leave the labour market and take up an old age pension.
- Increase the lowest age for taking an old age pension from 61 to 62 years (as in, e.g. the U.S.).
- In economic crises such as the present one, avoid introducing special programmes for early exit with an income transfer.
- Many studies show that self-employed people work to a higher age than employees. Support to self-employed and especially older self-employed may contribute to higher employment among older people.
- Diminish incentives to leave early in the various income transfer systems.
- Increase the ceiling in the old age pension system. This will eliminate a part of the effects of the DB part in the supplementary pension schemes. An alternative is to change the supplementary pension schemes to DC plans and shorten the transition period from DB to DC.
- When restructuring the public sector, avoid offering pensions up to retirement for older employees.
- Abolish the rules existing in some supplementary pension schemes, which forbid those who have received a pension to take a new job.
- Abolish the rule in the part-time pension system for state employees that makes it impossible to continue to have a part-time pension between 65 and 67 years. This rule, in practice, means that those who take a part-time pension take a full-time old age pension at 65 years. This change could be financed for example by raising the minimum pension age in the part-time pension system from 61 to 62 years.

The financial crisis and the situation of older workers

There are some issues of concern regarding the pension system in the present crisis.

1. The PPM pension is decided by the value of the funds the individual has selected. If a person has selected funds consisting mainly of shares and if the share prices are low (as at present), a person may get a much lower pension than expected.
2. The balancing mechanism in the income pension system leads to that the pensions and the growth of the pensions become lower than expected in periods of crisis.
3. The funds of occupational pensions are to a high extent placed in shares, as are much of the funds for private pensions. This also leads to the fact that these pensions are sensitive to the variations in the development of the stock market.

The present crisis has led to a large decline in the value of pension funds, both those of the social security system (the AP and the PPM funds) and those of the occupational insurance schemes and of the personal pension insurance. If no changes were made, the income pension would decline by *circa* 4 per cent in nominal terms in 2010. A special pension group consisting of members from the five political parties, who supported the pension reform and who continually follow the development of the pension system has asked the Social Insurance Board to develop a study of possibilities to avoid predicted reductions of the pensions in 2010. The Social Insurance Board presented their report in the spring of 2009, which included some different alternative solutions. The special pension group has declared that it prefers a solution with gradual changes in the balancing of the system (three year average change). The Government will probably put forward a proposal to the Parliament later in 2009.

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