NATIONAL SOCIAL INSURANCE BOARD

Social Insurance in Sweden 2001

Welfare for the Elderly

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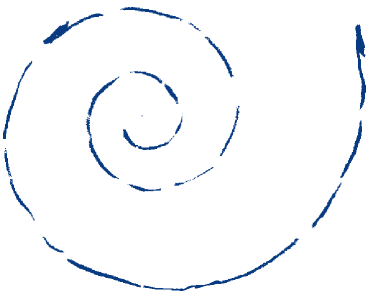

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Riksförsäkringsverket
103 51 Stockholm
Sweden
Tel: +46 8 786 90 00
e-mail: rfv.stockholm@rfv.sfa.se
For further information about social insurance, please see RFV's homepage at www.rfv.se

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The Social Insurance Book 2001 is the latest in the series of periodic publications from the National Social Insurance Board aimed at providing an overall review and discussion of important and topical issues relating to social insurance.

The theme of this third volume is *Welfare for the Elderly*.

Now that the pension issue has been resolved, eldercare is the area of public spending where demographic trends are most likely to cause serious financing difficulties some twenty years from now. Saving in one or more "eldercare fund" might be a way of spreading the burden of costs between different generations of the working population, thus reducing the risk of having to introduce heavy tax increases as a last resort to maintain eldercare at a respectable level. It might also be hoped that a positive yield on fund investment would lead to lower taxation and keep proposed insurance charges down to a minimum.

A special savings scheme to finance future eldercare would inevitably cost money. One or two per cent of GDP might suffice to achieve an effective spreading of costs, though with wide variations for different assumptions of growth in expenditure and yield from funds. It is scarcely likely that an equivalent amount could be raised using a voluntary eldercare insurance scheme. A compulsory social insurance scheme also offers other important advantages.

However, if a fund for demographic equalization is to be linked to the issue of eldercare, we have to act quickly. Today, the generation of the forties is still at work, but the time for their retirement is approaching. For a further 10–20 years, the ratio of very old people to the rest of the population will be significantly lower than later on. It is thus now that the conditions exist for consciously planning a fairer distribution of costs between the generations.

To "lock away" money today for tomorrow's eldercare may seem to be an unnecessary infringement of the free – and at any given moment of time, wise – right of disposal of resources. However, it is not certain that such savings in public finances will be available at all unless a broad consensus can be reached on a good cause to save for. If people can be convinced of the wisdom of creating a buffer today for the old of tomorrow, we will have achieved two aims. The public finances savings goal becomes both more realistic and easier to understand. People will have greater trust in society's ability to provide many more old people in the future with the care necessary to ensure a dignified old age.

Many members of staff at the National Social Insurance Board have contributed to the Social Insurance Book.

Britt-Marie Anderson acted as editor. Each section has its own main author. Hans Olsson and Birgitta Jonasson were responsible for *Welfare for the Elderly* and Lena Ericson was responsible for *Social Insurance in Figures*.

Among all those who provided valuable comments on the original draft, I would especially like to mention Agneta Kruse, Inger Marklund, Edward Palmer and Ole Settergren. Special thanks are also due to Kristina Malm who was responsible for the top copy and diagrams.

Stockholm, November 2001
Anna Hedborg
Director-general

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Eldercare insurance?
– some conclusions

Like many other countries, Sweden is facing a national economic supply problem due to demographic developments. In less than ten years from now, the large generation of those born in the 1940s will begin their transition from gainful employment to retirement. As they continue to grow older, these people will become consumers of care services on an ever greater scale. It is a well-known fact that the final year of life, regardless of the age at which it occurs, can be extremely care-intensive. Moreover, many forms of care themselves promote longevity, while others are by their nature preventive, postponing until later the need for further care. A lively debate has lately arisen concerning our ability to finance the future cost of eldercare. Here we discuss the possibility of saving today so as to spread the costs of eldercare more fairly among different generations. We also discuss whether the present system, which puts the responsibility for financing eldercare on the municipalities, is the best way to ensure a fair deal for those requiring care in old age. An eldercare insurance scheme might also prove to be a solution for the municipalities. When the national supplementary pension scheme (ATP) was first introduced, contributions were collected earlier than was actually justified by expenditure on pensions at the time. This resulted in the National Pension Fund (AP), which now acts as a buffer between the generations that will enable us to cope with the demographic pressure on pensions. Should we take a similar approach to the cost of eldercare? In other words, should society put aside funds now in order to help finance the expected rise in eldercare costs after 2020?

There is very little we can do to influence demographic trends in Sweden during the next few decades. Those entering the workforce after 2015 will be the small birth cohorts of the 1990s and onwards. The number of persons of working age is beginning to decline. Meanwhile, people are expected to live longer by several years on average, leading to a successive aging of the population in Sweden. Today, there are just over 8 persons older than 80 for every 100 persons aged 20–64.

In 2030, the equivalent ratio will be almost 15 to 100, according to the main alternative in the most recent population forecast from the National Statistics Office of Sweden (SCB) – almost twice the proportion. During the early 2010s, on the other hand, it is possible that the population aged over 80 will decline, both in relation to the size of the working population and in absolute numbers. There is thus still time to prepare the national economy for the strain that eldercare expenditure will eventually exert on it. Knowing from experience how long it takes for any new system to gain political and juridical acceptance, it is high time we gave the matter serious thought.

In the Swedish model, both pensions and nursing-and-care services are organized primarily as redistribution ("pay-as-you-go") systems, that is to say, payments by the working population in the form of taxes and contributions are not invested in funds but are used to finance current pensions for retired people, health and medical care for all citizens and public welfare programmes. Society's commitment to care of the elderly is important for the welfare of the individuals themselves and of their relatives. As the ratio of old people to the working population increases, the society's commitments become considerable. It is also important that individuals in their fifties as well as their relatives are informed today of the extent to which society will provide for these needs in ten or twenty years' time. This can have a decisive effect on how such individuals view the need to save personally for their own future eldercare. Up to now, the Swedish model has guaranteed a relatively high minimum standard of living for old people. If this is to continue, perhaps it is important for people to start saving together towards a collective "insurance" to help finance tomorrow's eldercare. Unless we act now, an intolerably heavy burden is likely to fall on the younger members of the working population who will ultimately have to foot the bill for both pensions and care.

For more than 10 years now, the form and financing of the national pension scheme has been the subject of heated debate and extensive reform. Now that the new pension scheme is in place, there is a certain time logic in putting eldercare next in line for discussion. The Social Insurance Book 2001 is devoted to this theme. The following section deals with aging from a medical perspective. Medical experts warn us

that the population will continue to age and life expectancy will continue to grow. This may also spell increased costs for eldercare. However, extrapolating the future cost of eldercare for different age groups solely on the basis of present-day trends is likely to result in an overestimation, since we should also take into account the likelihood of our becoming healthier. In the next section but one, we discuss the cost of eldercare in the future.

For the remainder of this section, we discuss whether an eldercare insurance scheme might provide a possible answer to the growing burden of support and how such a scheme might be organized.

One option when designing an insurance scheme is to invest in a fund, in which case we must also decide the extent. In a distribution system, the future scope of any scheme is "insured" or "guaranteed" by future production, that is, economic growth (and, of course, by future political commitment and the importance accorded to the distribution factor). In a fund-based system, this is governed by the capital market and potential return on investment. In a later section, we present a historical review of the yield from the capital market and discuss some of the problems associated with expected return on investment.

An eldercare insurance scheme – what form should it take?

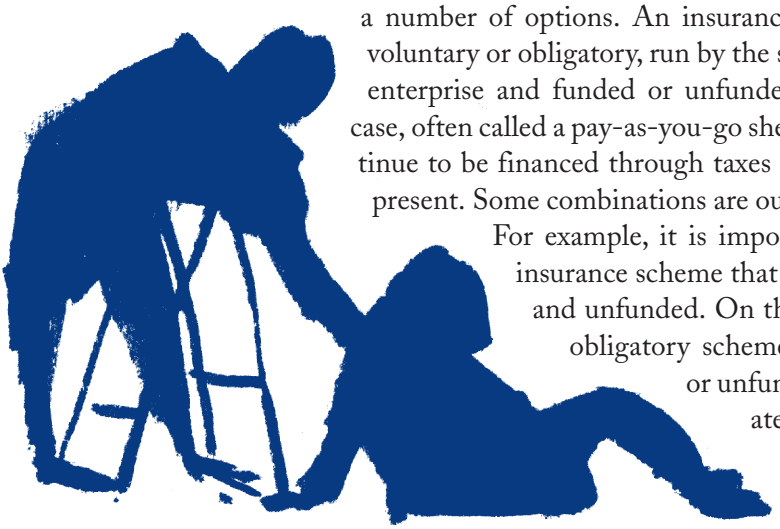
At present, municipalities are responsible for providing eldercare within the framework of public obligations. In practice, the municipal contribution functions as a complement to that of relatives, but with a "high cost ceiling" above which the municipality assumes main responsibility for the cost of more intensive care. The question for the future is thus: will relatives be forced to contribute more as public resources dwindle – or will society be able to maintain its present level of support to individuals?

Municipal services are financed largely through local taxation. To supplement revenue-based financing, old people pay charges for nursing care, though these cover less than 10 per cent of total costs (estimates vary). Considerable variations exist between municipalities and between recipients with different financial backgrounds.

The thought behind eldercare insurance is that it should take over the financing responsibility of the municipalities. Collecting insurance contributions partially in advance might ease the pressure on the future support system – coming generations smaller than that of the 1940s need to be relieved of some of the burden if equality is to be achieved between generations. Today's eldercare has also been criticized for being under-dimensioned and below standard. Furthermore, there are fears that "the helping hand" may not be found when the large cohorts need

it. An insurance scheme promises to increase available resources for nursing and care of the elderly, while at the same time providing an element of individual choice.

When designing an eldercare insurance scheme, we are faced with a number of options. An insurance scheme can be voluntary or obligatory, run by the state or by private enterprise and funded or unfunded – in the latter case, often called a pay-as-you-go sheme it would continue to be financed through taxes and charges as at present. Some combinations are out of the question. For example, it is impossible to have an insurance scheme that is both voluntary and unfunded. On the other hand, an obligatory scheme may be funded or unfunded and be operated by the state or by private enterprise.



Pay-as-you-go system or fund-based system

There are a number of fundamental differences between a pay-as-you-go system and a fund-based system. One is that a fund-based system consists of fund capital, the interest on which can produce a market yield. A pay-as-you-go system is financed by taxes and/or charges, which increase with economic growth. However, as far as financial flows are concerned, a fully fund-based system works like a pay-as-you-go system with a demographic buffer fund (such as the national pension scheme with its AP fund). The net flow of money from the fund is governed by the demographic surplus or deficit of the insured community.

Pay-as-you-go and fund-based systems differ in another respect. In pay-as-you-go systems, there is an implicit social contract between the generations, while in purely fund-based systems the contract is explicit. Regardless of the nature of the contract, however, it is a matter of mortgaging future production results, a mortgage which can vary in size depending on difference in yield from the two forms. If both systems achieve exactly the same yield, the country will have mortgaged the same future share of production potential, irrespective of whether the system is fully fund-based or a pay-as-you-go system with a demographic buffer fund. Something in between a pay-as-you-go system and a fund-based system, with a buffer fund linked to a pay-as-you-go system to balance excessive demographic pressures, would seem to be the most suitable solution for Sweden.

If an "eldercare fund" was able to provide a higher yield than the rate of growth in gross national product (GDP) and revenue basis at unchanged tax rates in per cent, this fund might also ease the general sacrifice necessary to achieve a given level of service in eldercare for some decades to come. The question of the size of the yield is thus of great significance, and is discussed in a later section.

Private or social

Sweden has a long tradition of providing public (and obligatory) state-run social insurance schemes, though with extensive contractual supplements in certain systems. Old age pension, sickness benefit and disability pension are examples of major social insurance schemes.

Eldercare is not in itself a form of insurance. Rather, in its present form, it consists of a guaranteed minimum level of service from the public sector. As with health and medical care, the provision of eldercare is governed by individuals needs, but also by the ability of people to express these needs and request the services of society. Furthermore, the municipalities and county councils alone control the output of nursing and care services and thus influence what is in fact available.

In none of these areas does the difference between private and social insurance constitute a clear dividing line, and many combinations of financing, production and consumption are possible. Admittedly, there are other differences. Private financing almost always means that insurance is differentiated according to risk. The spreading of risks between groups that can be achieved by public insurance is not an option. Even when private insurance is regulated so as to outlaw risk differentiation, there are always ways of discouraging the bad risks and "taking the cream of the crop". Still, the most important dividing line runs not between social and private, but between voluntary and obligatory.

Voluntary or obligatory

Voluntary insurance has the advantage of providing the individual with a choice. However, it gives rise to the kinds of problem that usually justify going for a social insurance scheme instead. Some people choose to "get a free ride", cynically calculating that society will be there to help them even if they do not take out a policy. What usually distinguishes a private insurance policy is that the contribution is differentiated according to risk – those constituting the best risks from the viewpoint of the insurance company pay less, or they might even be the sole category covered. In areas where distribution aspects may be considered to have high priority, Sweden has normally chosen collective obligatory insurance rather than voluntary insurance.

If Sweden decides to introduce an eldercare insurance scheme, it ought to be obligatory. However, this does not preclude the use of insurance products offered on the private market for needs beyond those covered by the public sector. It is, nevertheless, important for individuals to know the full extent of coverage by social insurance schemes so that they may take out private insurance policies on top of these, should they so wish and be able to.

A issue of great interest

In the past two or three years alone, several surveys and proposals have been presented. S. Fölster (Ds 1998:15) and SNS (the Economists' Expert Group of the Industrial Council for Social and Economic Studies) (U. Jakobsson, ed. [1999]) advocate a voluntary eldercare insurance scheme designed to protect insured persons against the accumulation of separate health care charges. However, the majority of those taking part in the debate – if they advocate insurance at all – have tended to favour the obligatory model. This is true of G. Grip and C. Örtendahl (2000), SNS (L. Söderström, et al. [1999]) and P. G. Edebalk and M. Svensson (2000). Fölster (Ds 1998:15) also discusses the possibility of coping with the expected increase in expenditure by means of a special tax that could be invested in funds.

There has been no shortage of sceptics and critics, even regarding eldercare insurance with obligatory participation – which is viewed as an "earmarked tax", e.g. G. Wetterberg (2000) and B. Westerberg (2000). Also Edebalk and Svensson (2000) list some of the many problems and difficult choices associated with the concept of insurance.

What have other countries done?

In the majority of non-Scandinavian countries, eldercare and its financing are organized differently than in Sweden, so the preconditions for eldercare insurance are likewise different.

Voluntary eldercare insurance is primarily known from the USA, where there are in reality two publicly financed systems, the Medicaid and Medicare programmes. Medicare, which is financed by obligatory premiums from gainfully employed persons, pays the cost of hospital and nursing-home care, but only for a relatively short period of time. Otherwise, the Medicaid programme applies. This does not compensate all the types of costs that are associated with nursing and care in Sweden,

and compensation is means-tested. To ensure that people are able to access health care without risking financial ruin, voluntary eldercare insurance schemes have grown up on the American insurance market. Eldercare insurance, however, has not been a great success in the USA. It has been particularly difficult to persuade young people to take out an insurance policy. The reason may be that they see themselves, rightly or wrongly, as belonging to low-risk groups – and they find it difficult to imagine themselves being in need of care in the future.

In Sweden, criticism of voluntary insurance has partly been grounded in the fear that it might encourage municipalities to charge high fees. Experience from the USA also highlights other problems. If the premium is calculated on a strict insurance basis, it becomes more costly for people in high-risk groups, leading in practice to their exclusion. On the other hand, the difficulty insurance companies face when calculating a reasonable premium level can result in insufficient differentiation. This in itself may reduce the likelihood of excluding high-risk groups, but instead it makes it hard for companies to attract the more profitable low-risk groups, since these find the premium too high.

Eldercare insurance schemes account for a negligible part of eldercare financing in the USA, and the proportion of old people with such insurance is equally small. A British proposal for voluntary eldercare insurance was rejected partly on the grounds that not enough people would be willing to pay the required premium. In Germany, a voluntary insurance scheme was discussed but later rejected for similar reasons in favour of an obligatory scheme. As mentioned earlier, the majority of Swedish proposals have deemed an obligatory insurance scheme to be superior, for much the same reasons as those given above.

Germany and Japan are the only two countries so far to have introduced public eldercare insurance schemes. Both schemes are obligatory but differ as regards financing, methods of needs assessment and choice of care providers to exploit the insurance (see Edebalk and Svensson, 2000). In Germany, both the working population and pensioners are charged for the insurance. It is administered by special insurance offices whose own medical advisors assess the level of infirmity and need of care. The insurance covers medical care and personal nursing both at home and in special accommodation. However, it does not cover the kind of services provided, for example, by our own home-help. The insurance does not provide total coverage of costs, but consists of certain fixed amounts determined by the level of infirmity. The remainder is paid by the recipients themselves, by relatives or by social-security payments. In Germany, care of the elderly was earlier based to a much larger extent than in Sweden on support from relatives. Social-security

allowances were granted if there were no children or marriage partners to provide financial help. The insurance scheme has been introduced to curb the growth of social security allowances in the future, when the increased number of old people renders support from relatives inadequate. In the case of Germany, the insurance scheme has thus led to an enhancement of the social rights of old people, while in Sweden most people already view such rights as normal and take them for granted.

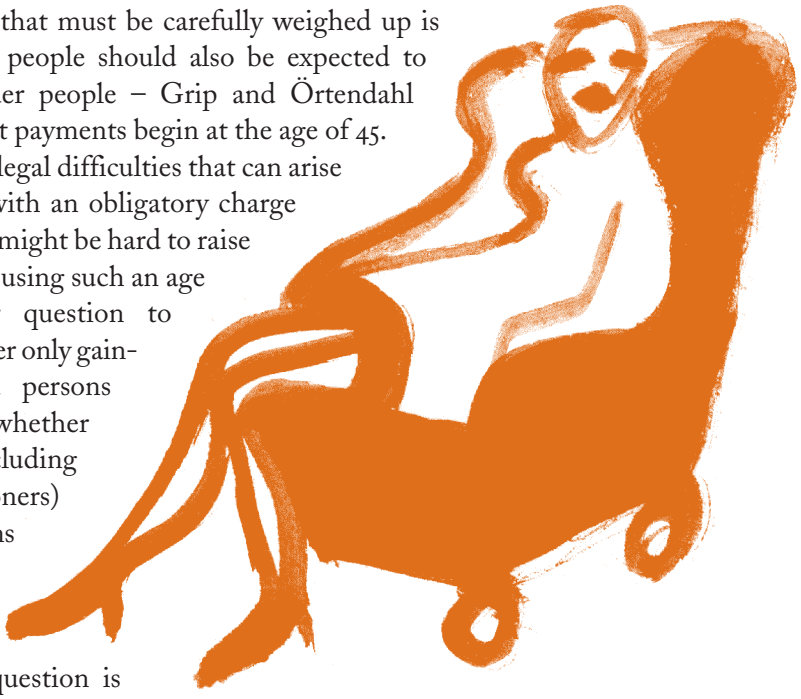
Payments from the German insurance scheme may be made both to compensate relatives for their support and to finance professional nursing and care (at home or in special accommodation). The former of these two forms of compensation has dominated, at least up to a few years ago.

In Japan, too, care of the elderly has traditionally been characterized by sizeable contributions from relatives. In the recently introduced Japanese eldercare insurance scheme, the municipalities are the insurers. Premiums are paid by all people over 40, including pensioners. It is the task of the municipalities to set up a team for conducting individualized needs assessment. The compensation which is then paid out, unlike that in Germany, is related to the actual cost of the care up to a certain maximum limit. Recipients themselves decide the type of care and who is to provide it. However, once again unlike Germany, no compensation is paid to the recipients' relatives.

The debate in Sweden

Swedish proposals for voluntary eldercare insurance so far put forward have roughly the same aim as the American model, that is to say, to provide some kind of cost ceiling. In Sweden, too, the amount individuals have to pay for care is means-tested. Individuals are only entitled to a certain reserved amount once fees have been paid. This has naturally led to frustration for many people. For example, it creates financial difficulties for a spouse wishing to continue living in the joint home after the other partner has been obliged to move to an old people's home. The aim is thus to protect the income and assets of the person requiring care. The proposals have been criticized for giving municipalities an incentive to charge high fees. It requires legislation or other rules to prevent municipalities from including insurance payments as income when charges to individuals are calculated.

With obligatory participation, we no longer have the problem of high-risk groups being excluded or of low-risk groups not joining. It also solves the so-called 'free ride' problem – that is, people not taking out insurance because they are convinced society will help them out anyway when it comes to the crunch.



A question that must be carefully weighed up is whether young people should also be expected to pay or just older people – Grip and Örtendahl recommend that payments begin at the age of 45. Apart from the legal difficulties that can arise in connection with an obligatory charge based on age, it might be hard to raise sufficient funds using such an age limit. Another question to resolve is whether only gainfully employed persons should pay or whether pensioners (including disability pensioners) and other persons with incomes should also be included.

A further question is whether the premium should be the same for everyone or, for instance, comprise a certain percentage of a person's income. In pension schemes, it is usual for contributions to be income-related, at least if pension payments are (the "direct pipeline" principle). Eldercare in Sweden has also traditionally been paid for as a percentage of income (municipal tax). It has thus been part of an equalization policy aimed not only at achieving equality between care recipients and non-recipients but also between low and high earners. A fixed premium must also be relatively low – if everyone is to pay – in which case, once again, it could prove difficult to bring in sufficient amounts.

As regards benefits, the same applies as for voluntary insurance schemes – it is essential to specify the nature of the service, nursing and care that is to be insured. A wide range of solutions have been discussed, from schemes providing increased daily service and care to those covering only more cost-intensive operations – the latter being actually closest to the classic concept of insurance. The scheme could naturally cover both kinds. Grip and Örtendahl (2000) themselves offer three alternatives in this connection. The insurance might also be used to enhance quality of life, provide "that little extra" over and above revenue-financed basic needs. As with voluntary insurance schemes, the difficulty lies in knowing in advance what will be considered to be a desirable level of care in the distant future.

Other questions to resolve are who should decide whether the need of care exists or not, who should be the insurer – private enterprise, the state or possibly the municipalities themselves – and so on. In this connection, the risk of costs spiralling due to being passed on must be calculated and counteracted. Private insurers are scarcely an option if income-related charges are adopted. The idea of eldercare services being dependent on past income and paid-up contributions is foreign to the Swedish way of thinking.

The proposal from the SNS Welfare Policy Board (Söderström et al., [1999]) advocates an obligatory public social insurance scheme. The reasons given are that the municipality is too small an insuring unit to be able to spread the risks of an unfavourable demographic structure and that the municipal equalization system does little to compensate this. Therefore, financing ought to be organized at state level. The production of eldercare may to advantage be decentralized and farmed out to both private and municipal care providers. Assessment of needs is a task for the authorities and should continue under their supervision.

The introduction of an obligatory insurance charge, or "earmarked" tax, could be interpreted as an attempt to exempt one area from the need to save during an economic downturn. But as Westerberg (2000) points out, no form of eldercare insurance will ever be able to guarantee eldercare in every conceivable economic scenario. This circumstance has been formally taken into account in the "autonomous" reformed pension scheme through the so-called self-correcting mechanism decided on in 2001. In a period of strong economic growth, on the other hand, an insurance scheme might paradoxically have the effect of inhibiting the development of eldercare (Wetterberg [2000]). A discussion of priorities in the normal budget process might lead to a more favourable result than if the resources for eldercare were limited to the money brought in by the insurance scheme. As pointed out below in the section on the cost of eldercare, it is natural enough to allow the standard of nursing and care to rise in keeping with rises in GDP per citizen and the general standard of consumption.

Proposal for an "eldercare fund"

If we regard the pension problem as having been solved, eldercare is the area of public spending where demographic trends are most likely to cause serious financing difficulties some twenty years from now. This

is naturally worrying to people who belong to the generations that can be adversely affected. An insurance scheme would, in this case, serve to dampen such anxiety. In several of the analyses referred to above, it has been observed that an obligatory eldercare insurance may be combined with saving and fund investment. Saving in one or more "eldercare fund" would even out the cost burden between different generations of gainfully employed and reduce the risk of heavy tax increases being introduced as a last resort to maintain eldercare at a respectable level. It might also be hoped that a positive yield on fund investment would lead to lower taxation and keep the proposed insurance charge down to a minimum. Admittedly, yield from funds is in the nature of a gamble, as emphasized in one of the following sections. The years leading up to 2025 or thereabouts represent too small a time-span to guarantee that actual yield will equal, or exceed by a given margin, real economic growth.

A special savings scheme to finance future eldercare would inevitably cost money. One or two per cent of GDP might suffice to achieve an effective spreading of costs, though with wide variations for different assumptions of growth in expenditure and yield from funds. It is scarcely likely that a similar amount could be raised using a voluntary eldercare insurance scheme, not to mention other questionable aspects of such a form of insurance.

An obligatory eldercare insurance scheme could prove an effective solution to the problem of achieving equal rights for all citizens. It might also solve the financing difficulties of the municipalities and the problem of sharing costs between them. As has been pointed out in the current debate (Edebalk and Svensson), the present system means that those municipalities offering the best eldercare run a financial risk by attracting older people. Financing through a social insurance scheme would ensure that resources went to the people with the greatest need. Thus, money would be available in those municipalities where nursing and care were provided.

However, before an obligatory eldercare insurance scheme can be introduced, there remain many problems to solve and choices to make. It will be some time before an obligatory insurance scheme can be decided on with a reasonable degree of political support, even though eldercare issues are currently being examined in many quarters, including several authorities and organizations, and several reports are expected during the coming year. It will take even longer for such an insurance scheme to be implemented.

However, if a fund for demographic equalization is to be linked to the issue of eldercare, we have to act quickly. Today, the generation of

the forties is still at work, but the time for their retirement is approaching. For another 10–20 years, the ratio of the very old to the rest of the population will be much more favourable than later on. Thus, it is now that the conditions exist for consciously planning a even distribution of costs between the generations.

An obligatory insurance fee is viewed by many as a form of taxation. An obligatory eldercare insurance scheme involving saving would thus require an additional transfer of public funds to the eldercare sector. However, increasing the overall burden of taxation by the necessary amount over the next few years would almost certainly meet with fierce political resistance. Perhaps this might not be necessary. One possibility would be to start out from the current public finances savings target of 2 per cent of GDP. If the target remains unchanged, it should result in public net assets being built up over the next few years. See, for example, the latest Long-Term Planning Commission report (SOU 2000:7, appendix 1), H. Olsson and C. J. Nordén (2000). However, under pressure from those wishing to use any surplus for new expenditure and those who would prefer to lower taxation, it is no easy task to maintain a general surplus target. Perhaps it would be easier to achieve a political consensus for retaining the savings target if the surplus were to be used for financing future eldercare. If so, a first step would have been taken, creating a breathing space for the more detailed work of designing a feasible eldercare insurance scheme. There is a clear parallel here with the launching of the premium reserve scheme in the reformed pension system. Appropriations began long before the design of the system was finalized, the funds being temporarily administered by the National Swedish Debt Office. The parallel with the supplementary pension (AP) funds is also highly relevant.

The AP funds were created at a time when the pressure from pension payments was still moderate. Money from the funds was used to invest in the future, mainly in housing, thus relieving future generations of the need to invest a similar amount in housing construction. Scope was created for future expenditure on pensions.

At the same time, the AP funds will serve as a source of financing when people born in the 1940s retire. But for this, spending on pensions would have had to increase considerably, which will not now be necessary. The pension scheme will survive the demographic trauma created by the generation of the 1940s. Financing has been shared out between earlier generations and the generation that will be working when the large number of retirements with pension occurs.

To "lock away" money now for tomorrow's eldercare may seem to be an unnecessary infringement of the free – and at any given moment

of time, wise – right of disposal of resources. However, it is not certain that such savings in public finances will be available at all unless a broad consensus can be reached on a good cause to save for. If people can be convinced of the wisdom of creating a buffer today for the old people of tomorrow, we will have achieved two aims. The actual savings goal becomes more realistic and easier to understand, while people may be reassured of society's ability to provide many more old people with the care necessary for a dignified old age in the future.

Healthier aging
– possible scenarios

The theme of last year's edition of the Social Insurance Book was "After 55 – Welfare, work and leisure". A leading thesis of the book was that there ought not to be so many old-age and disability pensioners as are assumed by current forecasts. Instead, we should continue working longer on average. The public system stipulates no upper age limit for claiming a pension. Nevertheless, most people are influenced by some such upper limit deriving from contractual agreements. Often people have been obliged to retire at 65. With the passage of time, such contracts have created a norm for what is expected. Most people today take it for granted that they will retire from working life at the age of 65 or, preferably, perhaps at 60. But does the exit from working life have to be so abrupt? Should not health, work capacity and what the individual wants be the deciding factors in the decision to retire, rather than a certain age level?

Statistics reveal that *life expectancy is still increasing and that people retain their health up to ever higher age levels.* On the basis of such statistics, is it not reasonable to assume that we will be able to continue working much longer in future, if we want to and are healthy?

In this section, these questions will be discussed in the light of current medical research into human aging. During the past few decades, the science of aging has made great advances. This may be due to more and more people reaching a ripe old age in the western world, thus providing an economic basis for pharmaceutical and medical technology aimed at the elderly.

To give some idea of where science stands today and how contemporary scientists view the question of aging, we take up only the results of research from more recent years. The data used in our review is drawn partly from scientific publications of the past ten years, and partly from interviews with a number of Swedish experts in different medical specialties.

Life expectancy

People all over the world are reaching ever higher ages. This demographic breakthrough occurred in the twentieth century, when life expectancy in many western countries virtually doubled. (Life expectancy is the number of years that an age cohort in any given year may be expected to have left to live. Often it is given for newly-born cohorts). The immense increase has largely come as a surprise, most forecasts of life expectancy having missed the mark. In most cases, increases have been underestimated.

The reason for this aging of the population is a change in balance between nativity and mortality. We now have a pattern consisting of low nativity and low mortality. This results in a growing number of old people and a diminishing number of young people. The decrease in mortality among old people has been dramatic in European countries over the past half-century. The older the age group, the greater the decrease, as illustrated in the following table.

Age	1980	2000	Difference in per cent
65–69	2.0	1.4	0.6
70–74	3.3	2.3	1.0
75–79	5.7	4.0	1.7
80–84	9.8	7.2	2.6
85–89	16.5	13.3	3.2
90–94	27.3	23.3	4.0
95–	44.6	41.0	3.6

SOURCE: SCB

Mortality in per cent for different age groups. Mortality has decreased during the past 20 years in all age groups over 65.

Developments in Sweden match those of the rest of Europe. In 1968, there were approximately 365,000 persons aged 75 or over. Thirty years later, the number of old people had almost doubled. According to the National Statistics Office (SCB), there will be roughly one million people in these age groups by 2020. As shown in the following table, life expectancy is expected to increase by approximately 5 years during the period 2000–2050 (5.5 years for men and 4.4 years for women).

Year	At birth		At 65	
	Women	Men	Women	Men
2000	82.1	77.1	20.1	16.5
2030	85.2	81.0	22.5	19.1
2050	86.5	82.6	23.5	20.3

SOURCE: SCB'S DEMOGRAPHIC REPORTS 2000:1

Remaining life expectancy. Life expectancy at 65 is expected to increase by approximately 3.5 years for both women and men during the next 50 years.

The population is expected to increase from approximately 8.9 million in 2000 to approximately 9.5 million in 2050. In 1950, the population was approximately 7 million. In the following table, we see that the number of persons over 80 will virtually double within the next 50 years. This confirms observations indicating that this is the fastest growing group in the western world.

Year	Over 65	Over 80
1950	10.2	1.5
2000	17.3	4.9
2050	24.4	9.3

SOURCE: SCB'S DEMOGRAPHIC REPORTS 2000:1

Proportion of the population. The proportion of persons over 80 will have doubled by 2050.

Centenarians

Reaching the age of one hundred is no longer the rare event it used to be. The number of centenarians in Europe has been doubling every ten years for the past half-century. The increase in countries with high mortality rates has been just as great as in those with low mortality rates. One sees the same trend in the USA. In 1950, there were approximately 3,000 centenarians in the USA. Today, this figure stands at 65,000, and it is forecast that there will be approximately 900,000 centenarians by 2050. Of the 65,000 centenarians now living, only 5,000 are men, a gender difference which we cannot fully account for at present. Throughout the world, however, women live six years longer than men on average. In Sweden, the number of centenarians is estimated to have been approximately 1,000 in the year 2000, and according to forecasts from the National Statistics Office (SCB), this number will have reached approximately 6,800 by the year 2050. The proportion of centenarians in relation to the population is thus twice as large in the USA as it is in Sweden.

Slower rate of increase

Although life expectancy is constantly increasing, the actual rate of increase has slowed down over the past few decades. In the USA, for example, life expectancy increased by 27 years from 1900 to 1997. The greatest increase – 21 years – occurred during the first 70-year period, while the increase over the past 30 years has been considerably less (6 years from 1970 to 1997). A similar development can be seen in Sweden, where life expectancy for men and women was just under 60 years at the start of the twentieth century. In 1970, life expectancy for men was 71.7 years and for women 76.1 years. Since then, it has increased by 5.4 years for men and 5.8 years for women.

The slowing rate of increase is mainly due to the dramatic reduction in the incidence of diseases, which took a heavy toll of young persons and especially children at the beginning of the century. Certain diseases,

such as tuberculosis, have been virtually eradicated. Today's increase is due primarily to reduced mortality among old people.

Will the rate of increase continue to fall, as the SCB forecasts assume (approximately 5 years during the next half-century)? Or will advances in medical science lead to further dramatic increases in life expectancy?

Life expectancy in the future

When considering various future scenarios, a distinction is made between life expectancy and the maximum number of years a human being can live. The maximum human "life-span" has remained constant at approximately 125 years over the past 100,000 years. What has changed is the length of life a person may be expected to have from the time of birth onwards, i.e. life expectancy

Different conclusions have been drawn regarding the possibility of people growing significantly older than today. Some researchers claim that life expectancy will never exceed a ceiling of somewhere around 85 years. By contrast, others maintain it is quite possible that life expectancy will reach approximately 100–120 years in the not too distant future. In the publications this chapter is based on, the dominant tendency is to anticipate a somewhat more modest increase. Nor did the Swedish researchers interviewed envisage any dramatic increase. An exception was the medical geneticist who guessed that the means to halt aging would be available within the next half-century.

Life expectancy and the eradication of disease

To justify the belief that no dramatic increase is to be expected, estimates were quoted showing that a total eradication of the most common causes

of death before the age of 80 would not increase life expectancy by more than ten years at most (Lithell, Rosén, Saldeen, Strandberg). In Sweden, the greatest effect would be gained if heart and vascular diseases were to be totally eradicated. This would increase life expectancy by 4–5 years. Eradicating all cancer tumours would add approximately three years of life. Eradicating every other disease would give one or two months of increased life expectancy per disease. If an illness such as Alzheimer's disease were to be entirely eliminated, life expectancy would only increase by about 19 days.

A complete eradication of our national diseases is to be regarded as a utopian dream. Moreover, most researchers believe that a reduction or elimination of one disease would pave the way for other diseases. A person who has been helped to survive a heart attack runs the risk of contracting, for example, cancer (Nyberg, Saldeen, Jonsson). Nor can one ignore the risk of hitherto unknown infectious diseases, such as AIDS and the Ebola virus, ravaging both developing countries and the western world (Pettersson). There seems little probability, therefore, that life expectancy will show any dramatic increase as a result of curing or eliminating diseases. Any significant increase requires, in addition to the elimination of diseases, a slowing down of the "normal" process of aging. If a brake is to be put on aging, we must first discover what it is that controls a person's life-span and why we grow older.

What controls aging?

Most researchers agree that individual life-span is controlled by both internal and external factors. However, they do not always agree about the relative importance of these factors. Some experts maintain that almost 100 per cent of a human being's individual life-span is determined by genes, while others believe that at most 25 per cent can be explained by genes.

Based on what we know today, it is hardly probable that a single gene has any influence on population levels, even though some genes would seem to have greater influence on the length of life than others. For example, carriers of a gene variant designated APOE e4 have a higher mortality rate than the rest of the population and studies have revealed that centenarians have lower levels of this gene variant. Other research has shown that there seems to be a strong family component in people who live long lives. It has been assumed that this component is genetic and that it may consist of one or more genes. Perhaps we will learn how to influence these genes in the future.

The aging process

The risk of a person dying is least around the age of 12–13, after which it increases with age. Aging can thus be seen as a life-long process and not something that suddenly starts at the age of 65. Many researchers emphasize the importance of distinguishing between changes due to aging and changes due to illness. We must ask ourselves "What would people die of, if all the illnesses listed in the cause-of-death certificate were to be eradicated?". For they are bound to die anyway, but in that case perhaps as a result of the processes which really constitute aging. What, then, distinguishes changes due to aging from changes resulting from illness? One distinguishing feature is that, unlike illness, they happen to every individual who reaches a certain age. Furthermore, they occur in virtually all species and never start prior to sexual maturity in any member of the species. Even animals, which have had no experience of aging during thousands or even millions of years, exhibit similar changes once removed from their wild condition.

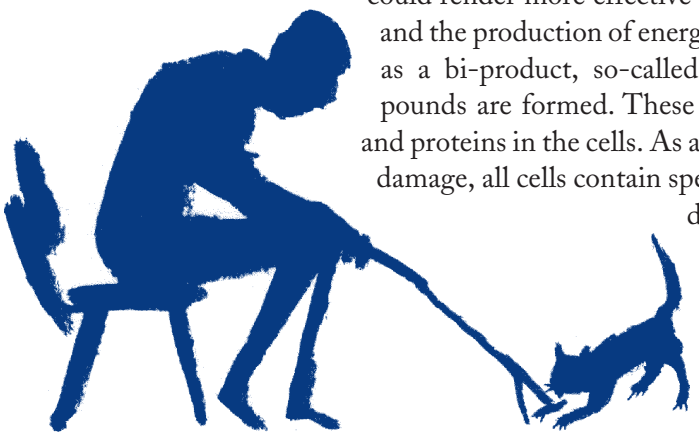
The point is that one cannot understand aging by studying the illnesses of old people. The study of illness tells us nothing about normalcy! One researcher believes that instead of asking "Why do we age?", we ought rather to ask "Why do we live so long?". He justifies this by pointing out that we were never intended, teleologically speaking, to know anything about the aging process. For 99.9 per cent of the human race's time on earth, life expectancy has been about 30 years, with a maximum life-span of about 50 years. Human beings, and those animals we have chosen to protect, are the only creatures on earth that in large numbers get to experience aging.

That humans (and animals in captivity) reach an age well beyond their active reproductive stage may accordingly be regarded as an artefact in nature. This may explain why the actual aging process, as opposed to the life-span of the individual, seems not to be controlled by genes. Genes control biological development up to sexual maturity, but seem to carry no instructions for actual aging. Age-specific mortality is nevertheless strikingly constant over time, between people and at various levels of the total death rate. This has given rise to the supposition that there is some kind of underlying biological pattern related to aging.

If there is no genetic code for the actual aging process, how can one explain aging in biological terms? Studies of the structure and function of the cell have suggested some possible explanations. These discoveries may lead to the development of the means to slow down aging in the future. The most important findings relate partly to *the effect of oxygen on the cell*, partly to the *length of the* so-called *telomeres*.

Oxidative stress in the cell

Cells have a certain vulnerability in connection with oxygen. Aging may be related to this vulnerability. During the early stages of the development of life on earth, oxygen was in fact a poison, which organisms only gradually learned to handle. Using oxygen, the organism could render more effective the combustion of food and the production of energy in the body. However, as a bi-product, so-called reactive oxygen compounds are formed. These damage the genes, fats and proteins in the cells. As a protection against such damage, all cells contain special molecules, antioxidants, whose task is to neutralize the reactive oxygen compounds. The body itself can produce antioxidants, but these can also enter the body as food in the form of vitamins. The balance between the reactive oxygen compounds and the antioxidants seems to have an effect on the life-span of the species. Humans, for example, have a far greater number of antioxidants in their cells than mice, which live far shorter lives than we do.



Experiments on animals have shown that is possible to create an increased life-span by manipulating the gene pool. The genes involved have been shown in many instances to affect the breaking down of the reactive oxygen compounds. An equivalent of these genes is also found in the DNA of humans, so it is theoretically possible to perform similar surgery on humans. One has also succeeded in producing a chemical that speeds up the degradation of the reactive oxygen compounds. If the chemical is fed to roundworms, their average life-span is prolonged by just over 40 per cent. According to researchers in the field, it is reasonable to assume that within a time-frame of some 20–30 years clinical tests will have been carried out with similar substances (Pettersson).

The role of telomeres in the aging process

What are telomeres? The ends of normal chromosomes are sealed with a specific DNA, which prevents them from fusing with each other or with other chromosomes. These ends, called telomeres, consist of a repeated number of identical short DNA sequences. In the chromosome duplication process preceding every cell-division, the telomeres are not copied in their entirety but are slightly truncated. There seems to be a critical

point in this shortening, beyond which the cell is no longer able to divide. There has been shown to exist a close connection between the length of the telomere in a cell and the number of divisions the cell can undergo. The shorter the length of the telomere, the smaller the number of divisions. It has also been demonstrated that the length of telomeres decreases with advancing age in humans. There is, however, one exception. For example, the length of telomeres in donated sperm was not affected by the donor's age. This could indicate that the reproductive cells include a mechanism for maintaining the length of telomeres.

In the mid-1980s, an enzyme was discovered which was given the name telomeras. It was found that telomeras extended the telomeres. Telomeras is found in large quantities in cancer cells, which do not die – as opposed to normal cells, that have a limited life-span. In approximately 90 per cent of all human cancer tumours, telomeras is found in abundance. In recent years, however, telomeras has also been found in normal cells, such as foetal tissue, bone-marrow cells and testicles. The amount of telomeras in these normal cells is, however, considerably less than in cancer cells.

The discovery of the function of telomeras may stimulate research into ways of introducing telomeras into normal cells, with the aim of slowing down aging. It will naturally be essential to carefully adjust amounts to avoid the risk of normal cells developing into cancer cells. On the other hand, research may also focus on finding inhibitors of telomeras production in order to modify the characteristics of cancer cells and build a limited life-span into these too.

Having found plausible explanations of aging at the cell level, it is merely a matter of time before this knowledge will also be applied to humans. One can be fairly sure that if it proves to be within human ingenuity to genetically slow down aging, it will happen sooner or later. However, it still seems to be a giant step from roundworms to human beings!

So is there any way of slowing down aging today? Some people say there is, and activities aimed at postponing the advent of old age are becoming more and more common. Health food stores are flooded with products claiming to have rejuvenating powers. Every now and again, one can read in the evening tabloids or health brochures about some new miracle pill which will help us retain our youth. Among these offerings, is there any treatment that delivers what it promises, that is, eternal youth? In the USA, there are medical clinics, run by doctors specialized in treating healthy persons with medical preparations, devoted to combating changes due to aging. Their activities go under the name of "anti-aging medicine".

”Anti-aging medicine”

”Anti-aging medicine” is not a new concept in history. Because people have always striven to live as long as possible – without at the same time growing old – the search for the fount of eternal youth has always been going on. At the beginning of the twentieth century, it was discovered that the production of sex and growth hormones decreases as we grow older. Ever since this discovery, people have reasoned that an extra supplement of these hormones ought to counteract aging. In modern times, therefore, ”anti-aging medicine” has primarily been associated with hormone treatment. The goal of anti-aging treatment is to restore the hormone system responsible for the preservation and repair of cells. To achieve this goal, one has sought to restore the hormone system to the level found at the age of 25–30.

Oestrogen, progesterone and testosterone control our reproductive functions. Treating women with oestrogen is the field in which we have the longest experience. Replenishing the supply of oestrogen counteracts menopausal problems, such as sweating, hot flushes and fragile mucous membranes. Post-menopausal treatment with oestrogen has been shown to counteract brittleness of the bones. Although oestrogen treatment has a long history, we still do not fully understand what side-effects it may have in the long term. What we do know, however, is that although oestrogen certainly improves health and enhances the quality of life while we are living, there is no evidence that it increases life-span.

We have far less experience of testosterone than of oestrogen. When testosterone was synthesized in the nineteen-thirties, hopes were high that the fount of eternal youth had been discovered. This proved not to be the case and we still know very little about the possible effects of increasing the levels of testosterone. A case in point is impotence. Studies have shown that testosterone deficiency accounts for only a small percentage of cases, and even here testosterone is not always a suitable treatment.

Growth hormone is known for its effect on the skeleton and soft tissues, as well as on metabolism. In Sweden, this is only prescribed for persons unable to produce the

hormone naturally themselves, i.e. on purely medical grounds. A combination of therapy plus growth hormone for persons with inadequate growth hormone production has been shown to improve memory and other cognitive functions. It also influences a person's moods, sense of well-being and level of activity. An additional supply of growth hormone may also produce purely cosmetic improvements. Pot-bellies in men and women are reduced and women's bodies retain their subcutaneous fat so that wrinkles disappear. Constant replenishment is required, however, for lasting results. If treatment is discontinued, the previous condition returns (Nyberg). In the USA, it is also possible to treat healthy persons with growth hormone. Treatment consists of daily injections where the doses are lower than those given on medical grounds.

Research into the protective role of antioxidants is also beginning to have an impact on anti-aging clinics. Extra vitamins are prescribed in the hope of shoring up the antioxidant system. However, research has shown that it is doubtful whether extra intake, over and above what is received in the form of food, has any noticeable effect. On the contrary, it seems that if we add fresh amounts of antioxidants to the body, natural gene-controlled production is inhibited.

No dramatic increase

To sum up, there is unlikely to be any dramatic increase in life expectancy even if the illnesses we suffer from are reduced or eliminated. The eradication of all illnesses up to the age of 80, in itself a utopia, would at best extend life expectancy by only ten years. Furthermore, it is impossible to protect ourselves against new viruses as yet unknown which could start widespread infectious epidemics.

Nor will the anti-aging medicines of today have any effect on life expectancy. It has been shown that the physical and psychological effects of aging, such as wrinkled skin, dry mucous membranes, pot-bellies, failing memory and deteriorating cognitive functions, can be temporarily counteracted by administering growth hormone, but the effect evaporates as soon as treatment is discontinued. Extra doses of hormone thus appear powerless to influence the aging and death of cells.

On the other hand, we may not ignore the possibility of slowing down the aging process at some future date by modifying genetic make-up. This might lead to an upward shift in the maximum life-span, with more and more people reaching an advanced age. Even though the majority of scientists today express themselves with caution on the subject of future life expectancy, it cannot be ruled out that SCB's forecast of only five years' increase over the next fifty years may take its place alongside earlier underestimates.

If the appropriate technology arrives on the scene much earlier than expected, it will spawn a fierce ethical and sociopolitical debate. As yet, we can scarcely imagine what questions will be raised by such technology. Among biogerontology researchers, the debate is already under way. Some scientists, while by no means excluding the possibility of influencing aging in the future, see no existential justification for it. They do not consider the task of the biogerontolists to be the prolongation of the human life-span, but rather to increase people's ability to live long active lives, free of illness and functional dependency. It is a matter of "adding life to years, not just years to life!", according to Winston Churchill, who, as we know, lived to a respectable old age.

This brings us to the second of the premises underlying the basic thesis of the Social Insurance Book 2000, namely, that elderly people, whether or not life expectancy increases a lot or a little, retain their health at ever more advanced ages.

The health of the elderly

The fact that people live longer today may be due to improved health or to people being kept alive longer during periods of illness. Many different scenarios are conceivable. One is that health remains unchanged, that is, people continue to exhibit the same level of illness as formerly at the same age. In this case, a longer life will mean a longer period of illness. Another scenario is where the period of illness is postponed but is of the same length. A third alternative is that we reach a higher old age and that the period of illness is shortened, due to an increasing number of diseases becoming curable or susceptible to treatment. Questions concerning the length of the period of illness and the time of its onset are important to answer. The implications for society will vary according to the answers we receive, as the discussion in the following section illustrates.

What, then, is the state of health of the older population? How will it develop over the next half-century? In this section, we do not set out to detail the various illnesses that afflict old people. Instead, we discuss in more general terms the state of health of the elderly. In addition, we take up some specific problem areas pertaining to care of the elderly.

The state of health of old people

WHO warns us that we are facing a great challenge. It is essential to ensure that the extra years of life expectancy do not spell additional

suffering for those who grow older. The issue of life expectancy must be supplemented by the equally important issue of health expectancy. Regular surveys of living conditions in Sweden (ULF) are already carried out in order to measure the standard of public health. These are conducted annually by the National Statistics Office of Sweden (SCB) on behalf of the Swedish Riksdag. Using approximately 700 welfare indicators, the aim is to form an impression of how people live and feel in Sweden today. The surveys have been conducted since 1975 and so far approximately 150,000 persons have been interviewed. However, the respondent population is limited to persons aged 16–84, so that information about "the very old" (over 85) is not available.

ULF reveals that the longer people live, the greater the chance of suffering from chronic illness (see the table below). Diseases of the circulatory system, that is, heart and arteries, are by far the most common among the elderly. Nearly half the number of people over 75 report such problems, as against just over a third of those aged 65–74. Of the circulatory diseases, heart disease is three to five times more common after the age of retirement than in the adult population as a whole (ages 16–84).

Illnesses	**Age**		
	65–74	**75–84**	**16–84**
Long-term illness (unspecified)	72	82	46
Disease of circulatory system	39	49	13
Heart disease	17	24	5
High blood pressure	21	24	8
Disease of motor organs	26	34	18
Impaired locomotion	35	66	15
Disease of endocrine system	15	15	5
Diabetes	8	9	3
Disease of respiratory organs	8	9	7

SOURCE: SURVEY OF THE LIVING CONDITIONS OF THE POPULATION (ULF)

The illnesses most frequently reported by old people themselves. In per cent. Diseases of the circulatory system are the most common and of these heart disease is the most frequently reported.

Other illnesses afflicting old people in particular are osteoporosis (brittleness of the bones), dementia – for example, in the form of Alzheimer's disease – psychological problems in the form of depression and anxiety as well as, according to geriatric expertise, malnutrition (Akner). Often, an elderly person has several illnesses simultaneously. A Swedish study has shown that roughly 80 per cent of all people over 75 suffer from two or more chronic illnesses as reported by themselves. ULF also shows that the older people become, the more frequently they visit the doctor. In

answer to the question as to whether they had visited a doctor during the preceding three months, 41 per cent of the entire group (aged 16–84) answered yes, while the corresponding figure for the age group 75–84 was 65 per cent. Are there grounds for believing that the state of health of older people is destined to improve significantly?

Changes over the past twenty years in Sweden

In comparing the state of health today with that of twenty years ago, statistics from the Survey of the Living Conditions of the Population (ULF) reveal both improvement and deterioration. In the following example, data from 1980 is compared with that from 1996. Health as reported by respondents has definitely improved since 1980. At that time, 12.5 per cent of all people aged 65–84 judged their health to be bad or very bad. In 1996, the corresponding figure was roughly 8 per cent. Similarly, 10 per cent fewer reported reduced work capacity (25% in 1996 as against 28% in 1980). The proportion of men who smoked declined noticeably, from 28.4 per cent in 1980 to 15.8 per cent in 1996. By contrast, the proportion of women smokers increased from 8.7 to 12.8 per cent.

Chronic illnesses were reported to the same extent as earlier while more people had visited a doctor (see the table below). Diseases of the motor organs increased for the entire group of elderly people (aged 65–84) by 40 per cent (up from 21.5% to 30%). Despite this, the proportion reporting impaired motor functions and motor disorders declined, while backache problems increased (table on page 37).

	Chronic illnesses		Visits to doctor	
Age	1980	1996	1980	1996
65–69	69.2	68.7	43.2	50.4
70–74	73.0	74.7	48.3	55.2
75–79	79.5	79.6	52.4	63.3
80–84	85.3	83.9	58.9	67.5

SOURCE: SURVEY OF THE LIVING CONDITIONS OF THE POPULATION (ULF)

The proportion of people with chronic illnesses and the proportion of those visiting a doctor over a three-month period. The same number of people reported having a chronic illness, but the number visiting a doctor increased.

Age	Reduced locomotion		Disability		Backache	
	1980	1996	1980	1996	1980	1996
65–69	41.3	32,0	14.6	12.4	8.9	11.5
70–74	46.4	38.1	24.9	15.4	5.9	8.3
75–79	65.7	56,0	42.4	28.1	7.8	12.5
80–84	82.1	75.1	53.5	43.0	7.6	8.8

SOURCE: SURVEY OF THE LIVING CONDITIONS OF THE POPULATION (ULF)

The proportion of people with reduced locomotion, disability and backache. Fewer people reported reduced locomotion and disability, while backache problems increased.

It seems there has been an overall improvement in the health of elderly people and that the increased frequency of certain illnesses is attributable to increased age. The increase in chronic illnesses – such as motor organ problems – is a natural concomitant of living longer. Since heart disease is one of the most common ailments of old people, it may be of particular interest to illustrate any changes using this as our example.

Age	Women		Men	
	1980	1996	1980	1996
65–69	9.4	12.5	10.8	16.0
70–74	16.7	14.9	18.4	19.2
75–79	24.2	16.6	22.2	29.2
80–84	27.7	25.0	23.6	26.1

SOURCE: SURVEY OF THE LIVING CONDITIONS OF THE POPULATION (ULF)

The proportion of people reporting heart diseases. There has been a reduction among women, but heart diseases have increased among men.

While the proportion of women reporting heart diseases decreased, except for the age group 65–69, the proportion of men increased in all groups. One explanation of the increased incidence among men may be lower mortality rates. As more men survive severe heart attacks, there are as a consequence more men living with heart ailments, which are controlled by the use of medicine or other technology. Moreover, this means that more men are likely to suffer additional heart complications later on. How, then, has the mortality rate changed during this same period?

The table below indicates that mortality from heart attacks decreased significantly during these years. The death rate dropped for both sexes. For women, deaths were halved in virtually all age groups, while for men the reduction was greatest in the age groups 65–69, where deaths were more than halved (54%). In the remaining age groups, there was a reduction of 37–45 per cent.

It is interesting to note that not only did the death rate drop but it also shifted upwards to the higher age brackets. The frequency that applied in 1980 to the age groups 65–69 applied in 1996 to the age groups 70–74, the frequency for 70- to 74-year-olds now applied to 75- to 79-year-olds, and so on. This trend is typical for all age groups and applies equally to women and men.

	Women		Men	
Age	1980	1996	1980	1996
65–69	0.4	0.2	1.3	0.6
70–74	0.8	0.4	2.0	1.1
75–79	1.6	0.8	3.1	1.7
80–84	3.2	1.6	4.9	3.0
85–89	5.7	3.0	7.8	4.9
90–	10.0	5.4	13.1	7.7

SOURCE: SURVEY OF THE LIVING CONDITIONS OF THE POPULATION (ULF)

The proportion of those over 65 who died of heart attacks. The death rate dropped for both sexes and also shifted upwards among age groups.

An important factor in the reduced death rate is smoking, which has declined significantly. In 1980, 29 per cent of women were smokers compared to 22 per cent in 1998. The corresponding figures for men were 36 and 17 per cent respectively. The diagnosis and treatment of high blood pressure has also contributed to reducing the death rate, as well as changes in people's lifestyles. There is a greater awareness today than formerly of the importance of keeping fat intake down, drinking alcohol in moderation and getting physical exercise.

Medical technology, with rapid advances both in the field of transplantation and medical genetics, promises improved methods of treatment. Medicines are already available which provide effective help to those who have developed some form of heart problem. Researchers in this field all agree that a continued decrease in mortality and contraction of the disease is to be expected, provided preventive measures increase (Saldeen, Rosén, Strandberg).

We encounter a similar optimism concerning the future state of health of the elderly among researchers within other medical specialties. Research in the field of diabetes and Alzheimer's disease, for example, is constantly making new discoveries which will facilitate the treatment and prevention of these illnesses (Lithell, Jonsson). Similar developments are expected for most of the diseases familiar to us today. Great hopes are pinned on medical genetics regarding both treatment and diagnosis. (Pettersson, Strandberg).

Health-weighted years of life

What is the relationship of "health expectancy" to "life expectancy" when we compare the health of elderly people today with twenty years ago? In the Social Insurance Book 2000, we used statistics from the Survey of the Living Conditions of the Population (ULF) to calculate precisely the "expected years of health". We used the measure "health-weighted years of life", which is a combination of mortality and degree of ill health. This involves "weighting" various levels of ill health. If a person enjoys full health in every respect, the expected years of life are given the "weight" of 1. In the case of slight ill health, the weight drops to 0.9. In the case of severely impaired health, the expected years of life "weigh" only 0.5. Put another way, we might state that for someone with severely impaired health, one year of survival corresponds "quality-of-life-wise" to only half a year lived in full health (Living Conditions – Report no. 93).

The analysis revealed that the expected number of health-weighted years of life had increased somewhat for women and men since the beginning of the 1980s. For women in the age group 65–74, average life expectancy was 8.4 years at the beginning of the 1980s, while at the end of the 1990s it had increased to 8.6 years. The corresponding health-weighted years of life were 6.9 and 7.2 respectively. For men in the same age group, the number of health-weighted years of life increased from 5.9 to 6.6 during the same period. Thus, this age group enjoys good health for approximately 85 per cent of the expected years of life.

A follow-up to the analysis in the Social Insurance Book 2000 indicates that women in the age group 75–84 enjoy good health for approximately 75 per cent of the expected years of life while the corresponding figure for men is a little over 80 per cent. Also in this age group, the number of health-weighted years of life increased from the beginning of the 1980s to the end of the 1990s (for women, from 2.25 to 2.55, and for men, from 1.55 to 2).

Under-diagnosis among the elderly

The findings reported in ULF, revealing that the health of elderly people had in their own estimation improved while simultaneously a greater number of chronic illnesses were reported, appear to be self-contra-

dictory. An explanation of this paradox may perhaps be found in the improved medical treatment of elderly people's illnesses. As mentioned earlier, we have traditionally divided changes relating to old age into those due to "illness" and those due to the "normal aging process". In all likelihood, this led in the past to an under-diagnosis of illness among the elderly. The increased risk of illness was simply viewed as a natural phenomenon. Today, geriatric researchers agree that many changes earlier classified as "normal aging" are in reality pathological (Akner). This means that there is often a good prospect of a cure. As one doctor expressed it: "If we know enough about our patients' physiology, actual age will cease to be a determining factor in the prognosis for success of the treatment".

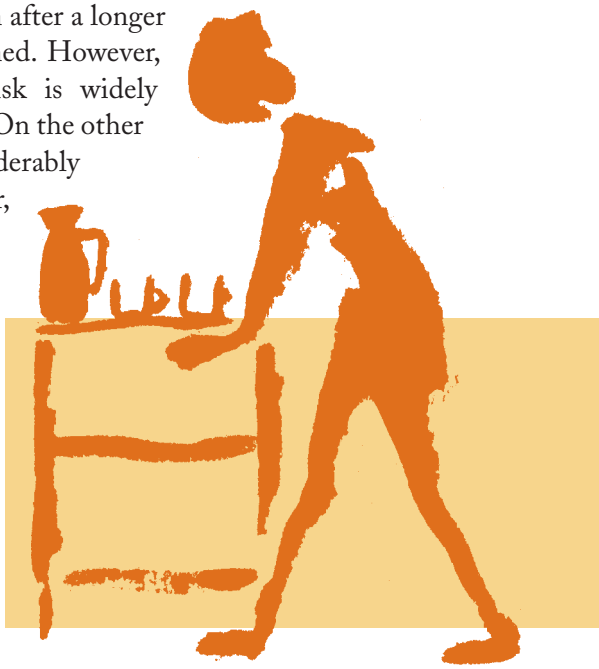
Formerly, many clinics also shared the belief that older people lacked the ability to adapt to changes of lifestyle. In accordance with the motto "you can't teach an old dog new tricks", it was believed that old people were unable to change their lifestyle. However, studies have shown that elderly people respond well to preventive measures. One simple example worth mentioning is the 75-year-old man with severe bronchitis who had been a smoker since the age of 14. He received an anti-smoking cure as a Christmas present from his children and succeeded in giving up smoking. The bronchitis disappeared almost immediately and a few weeks later he was climbing the four flights of stairs to the doctor's surgery with ease. Since this man was one of his first patients, the successful outcome created a firm belief in the mind of the young clinician that people were able to change, age notwithstanding!

Threats to health among the elderly

A common complaint among gerontologists and geriatric researchers from various countries is that geriatric and gerontological research still lacks adequate funding. They also feel that geriatrics is not regarded as an important medical discipline. They believe this is the reason why our understanding of old people's illnesses is still relatively limited and why the treatment of old people is still below standard (Akner, Lithell). According to these researchers, greater knowledge of old people's illnesses will further improve the health of the elderly. However, major problems remain to be solved, such as institutionalization, malnutrition, multi-medication, passivization and incorrect lifestyle, before the health of elderly people can be optimal.

Institutionalization

One of the major problems to solve within geriatrics is the risk of institutionalization. Institutionalization may be described as a more or less temporary impairment of a set of skills, both physical and psychological, as a result of admission to hospital. This phenomenon does not only affect old people, but old people are particularly vulnerable, due to the naturally lowered state of some of their central functions. A few days in hospital for an uncomplicated infection may severely reduce an 85-year-old woman's ability to make her own way to the toilet. So the degree of institutionalization after a longer period of treatment may easily be imagined. However, doctors in the field claim that this risk is widely recognized within Swedish geriatric care. On the other hand, awareness of the risk may be considerably less within other medical areas (Akner, Lithell). Consequently, there is considerable justification for the fear expressed by old people's of ending up in hospital. They are afraid of losing the functions they still have intact – a fear based, no doubt, on the experience of what happened to relatives or friends after they had been admitted to hospital.



Malnutrition

A sound nutritional balance is a prerequisite for avoiding illness and regaining health. It has been shown that undernourishment is common within Swedish health and medical care. The average incidence of malnutrition is approximately 30 per cent, but it is significantly higher among old people who are chronically ill. Studies have revealed that something like 70 per cent of residents in nursing homes suffer from malnutrition while the remaining 30 per cent lie in the immediate risk zone. We may compare this with 3–6 per cent of people living at home who suffer from malnutrition. However, 40–60 per cent of these also fall within the risk zone. Malnutrition is defined as a condition of imbalance between the intake and conversion of energy and nutritious substances resulting in an increased risk of poor health. The most common form of malnutrition within Swedish medical care is caused by a combination of energy and protein deficiency (the National Board of Health and Welfare report 2000:11). One of the geriatricians interviewed felt that the level of knowledge concerning

nutrition and the treatment of malnutrition within municipal geriatric care still left a lot to be desired. In order to prevent ill health and guarantee quality of life for the elderly, it is thus necessary to attempt to restore a normal nutritional balance in older people (Akner).

Multi-medication and medicinal side effects

Another major problem is multi-medication (Akner, Jonsson, Strandberg). In Swedish nursing homes, an average of 9 medicines per resident is used and a single elderly patient may be prescribed 10–15 different medicines. It has been shown that nearly 20 per cent of residents in nursing homes have serious medication problems. It may be a question of unsuitable combinations of pharmaceutical preparations, duplicate prescriptions or medicines which are clearly inappropriate for older people.

Apart from the risk of medicines neutralizing each other, many of them have undesirable side effects. According to the Book of Medicine, these constitute a major health and medical care problem, since they are a frequent cause of adult patients being admitted to hospital. 2–12 per cent of patients admitted to medical, geriatric and isolation clinics in Sweden have medicinal side effects as the main or contributory reason for admittance. If a patient takes several medicines at the same time, it clearly becomes very difficult to determine which of the patient's symptoms are actually caused by illness and which are unintended interactions between drugs or side effects of medicines.

One side effect is the so-called rebound effect. This is when a medicine causes the very problem it was originally intended to combat. Certain pain-killers, such as those taken for migraine, can after long use actually give rise to pain, just as sleeping pills can produce insomnia and ataractic drugs can cause anxiety. When this happens, it is easy to believe that the dosage needs to be increased. One can end up in a vicious circle, which may lead to addiction if the drug is a narcotic. The

majority of soporific, sedative, ataractic and analgesic drugs are addictive. To complicate matters even further, these preparations, unless phased out very carefully, can give rise to abstinence symptoms very similar to those the medicine was originally taken to alleviate.

Swedish pharmaceutical statistics reveal that prescriptions to the elderly of both soporific and sedative drugs are very common. Apart from the risk of addiction, long-term use of these drugs probably leads to passivization, with impaired functions as a result. The table below shows that purchases of both soporific and sedative drugs containing benzodiazepines and analgesic drugs containing dextropropoxyphene (DXP) increase significantly with increasing age.

Age	DXP DDD/t.i.d[1]	Benzodiazepines DDD/t.i.d[1]
20–29	2.0	4.1
40–49	9.2	30.8
70–79	41.7	97.0

[1] Defined daily dose/1000 inhabitants and day.

SOURCE: JONASSON, 2000

Sales of analgesic drugs with DXP and soporific and sedative drugs with benzodiazepines in 1996 in Central Sweden. Purchases increase significantly with increasing age.

One of the researchers interviewed considered it an organizational blunder to allow a series of different doctors to treat the same patient (Akner). In his opinion, this was the main cause of multi-medication of the elderly and its unfortunate consequences. To rectify this situation, he suggested that a single doctor be given primary responsibility for a geriatric patient's medication. "The doctor must once again be given main responsibility for the patient, and not as now, function merely as a consultant in the eldercare system".

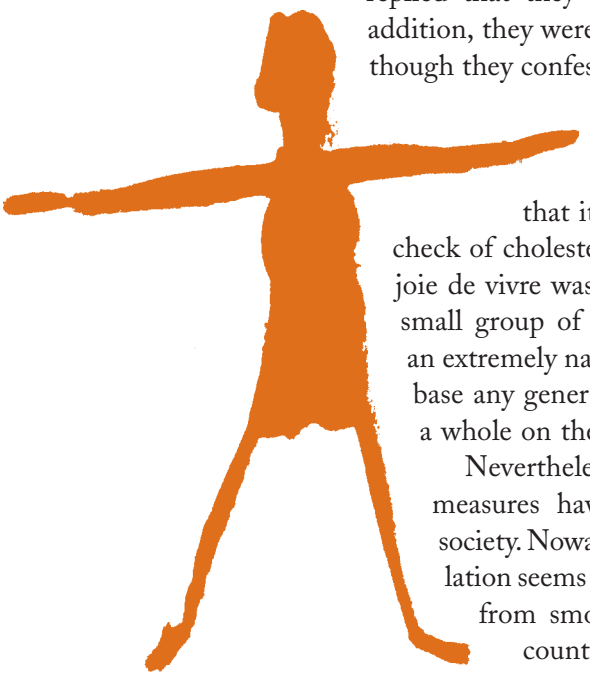
One way of avoiding multi-medication is to create a patient case-book database allowing doctors to check which drugs have already been prescribed to patients. This is also one of the action points proposed by the National Board of Health and Welfare to the government with the aim of improving medical and financial follow-up of the prescription and use of medicines. The Board argues that if patients are to gain the maximum benefit, it is essential for them to get the "right" treatment. This in turn presupposes that the doctor making out the prescription is aware of any other treatment the patient may be receiving in order to take into account interactions, etc, that can neutralize the effect of the current medicinal treatment.

"Use it or lose it"

In order to postpone the period of illness, it is essential to keep both physical and psychological functions in trim. The expression "Use it or lose it" is highly relevant to our basic functions. It has been demonstrated that if strong young men are confined to bed for a couple of weeks, their muscles regress to such an extent that it takes considerable time to rebuild lost muscular strength afterwards. It is thus easy to understand that the risk of regression of vital powers in an elderly person is even greater. As one expert put it: "The bed's a dangerous place to be" (Jonsson). In Sweden, this knowledge has, for example, been put to use in special stroke wards. In these, the aim is to prevent people who have suffered a stroke from losing more of their powers than necessary. The patient is literally forced up straight from the ambulance stretcher and activated. This has been shown to have a beneficial effect on survival rates. It is the same story with the rehabilitation of patients suffering from back and neck injuries.

Risk-enhancing lifestyles

Even if it is never too late to change lifestyles and by so doing make considerable gains in health, health is something that should be built up in one's earlier years. Researchers and clinics universally agree on this. When the experts being interviewed were asked what they themselves did to ensure the longest and healthiest life possible, all of them replied that they had always liked to exercise. In addition, they were careful about what they ate, even though they confessed to liking good food and wine. None of them smoked and none seemed to suffer from overweight problems. One of them thought that it was important to make a regular check of cholesterol levels, etc. Quality of life and joie de vivre was emphasized by all of them. This small group of male experts naturally represents an extremely narrow selection and thus we cannot base any generalizations about the population as a whole on their healthy lifestyle.



Nevertheless, it seems that certain preventive measures have really taken root in Swedish society. Nowadays, for example, the whole population seems to be conscious of the risk to health from smoking. Sweden is one of the few countries to have fulfilled the WHO goal

of a population where at least 80 per cent are non-smokers. It is disquieting, however, that many young women are starting to smoke these days, and that this is still a question of "inequality", that is to say, most smokers are recruited from groups living in the poorest socio-economic conditions.

More and more people have also come to accept the need to reduce fat intake, and this is reflected in the decreasing number of cardiac and vascular disorders. It is nevertheless important to get plenty of exercise in early years to balance the fat level in one's diet. However, the increasingly sedentary lifestyle of the younger generation would appear to pose a serious threat to national health. Gymnastics, which is of vital importance in this connection, has declined in the schools, as have many natural opportunities for exercise, such as climbing stairs, walking or cycling to school, etc. This lack of exercise may eventually swell the numbers of those suffering from overweight.

Many researchers and clinics consider the problem of overweight to be a serious threat to national health in the future. They speak about it in such strong terms as "the fat epidemic" and "the ticking fat bomb" (Akner, Jonsson, Nyberg, Rosén). Obesity has now been recognized as a health problem in a number of countries, for example, Australia, England, France, Canada and the USA, as well as in Sweden. In Sweden today, there are approximately 2.5 million overweight people, half a million of whom suffer from genuine obesity. Overweight and obesity are defined by BMI, which stands for Body Mass Index. BMI = weight in kilograms/(height in meters)^2. A BMI higher than 25 is considered as overweight and higher than 30 is regarded as obesity. Over the past twenty years, the number of overweight people has increased by approximately 45 per cent. The increase has mainly taken place in the age groups 16–44, primarily among young adults (18–25 years old). There is no sign of our having reached the upper limit of this growing problem.

By far the most important cause of obesity is an imbalance between the intake and conversion of energy over an extended period of time. A serious risk with obesity is that it easily becomes permanent, since it is extremely difficult to treat. There are few treatment programmes today leading to a lasting reduction in weight. Moreover, obesity in itself may lead to several other types of illnesses, in particular diabetes, increased blood pressure, cardiac and vascular disorders as well as premature death. Other consequences are excessive load on joints, increased susceptibility

to certain forms of cancer, breathing problems during sleep, infertility and psycho-social problems. In countries where this problem has been studied over a longer period of time, it is estimated that treatment of obesity and obesity-related conditions accounts for approximately 5 per cent of total health and medical costs. Translated to Swedish terms, this would amount to approximately 5–7 billion kronor. (Jonsson).

Furthermore, public health researchers warn us that the national diseases of the future will consist of so-called combined illnesses – including, among others, psychosomatic problems, stress, depression, anxiety, phobias and addiction (Rosén). What characterizes these illnesses is the fact that they often exhibit a diffuse pattern of symptoms and that new diagnoses replace old ones. Thus, for example, "psychic insufficiency" has been replaced by the more up-to-date "burnout". Diffuse pains in joints and muscles can now be diagnosed instead as fibromyalgia. We already know that these conditions are difficult to treat and that rehabilitation will therefore be time-consuming. What effect these illnesses will have on the health of elderly people in the future is at present beyond our knowledge.

Healthier old-timers

To sum up, the evidence suggests that our traditional picture of the frail and helpless old person is already out-of-date. Today, many old people are physically active, mobile, independent and healthy. This is partly due to improved medical treatment, partly to a more active and health-promoting lifestyle among older people. Although future scenarios appear bleak in the light of the threats to health described above (especially obesity and physical passivity), most researchers are of the opinion that the conditions exist for continued progress towards even better health.

Our knowledge of the illnesses of older people has increased, and we are still learning. This means that more and more people will be offered treatment for the chronic diseases that afflict them as a result of living longer.

This future scenario will naturally be influenced by how old one is today. It is a reasonable assumption that the older one is today, the less "benefit" one will derive from current developments in medicine. Nevertheless, many clinics and researchers believe that even those who have already reached a high old age today may gain increased quality of life as a result of the discoveries of medical science. Increasing numbers of old people are being treated for a wide variety of diseases. This enables

them to live at home longer instead of requiring long-term nursing care.

As for those who are middle-aged today, it is reasonable to assume, on the basis of the optimism expressed by many researchers, that they may look forward to a healthy old age. More and more of those destined to pass the 65-year-old mark in twenty years' time, will live to a ripe old age with enhanced health. Many scientists are even more optimistic about the very young. Some go as far as prophesying that most of the common diseases threatening us today will have been eradicated within 50 years, that is, by the time today's 15-year-olds reach the age of 65.

However, from the point of view of the medical and health care services, there is a reverse side to the coin. The fact that ever more diseases are susceptible to treatment leads inevitably to the demand that public health care should offer the methods of treatment that exist, even if they are expensive. As more kinds of treatment become possible, doctors and patients will face more choices and alternatives. They will expect the public health care system to provide a greater range of treatment for individual patients. It will not be cheap for clinics to apply the dazzling advances of medicine science! Another problem is that the cure of one disease may lead to others gaining a foothold. A person who has been helped through a stroke or a heart attack may later go on to be struck down by cancer. This in turn will lead to additional costs for medical services.

In the long run, therefore, the cost of health care will not drop as a result of people becoming healthier for longer periods. However, referring back to the main thesis of the Social Insurance Book 2000, older people will probably be able to go on working longer in the future. They will thus be able to contribute to the national economy for a longer period. If healthy old-timers can stay on at work for a few extra years, this means that more people will share the cost of mounting health care expenditure in general and of care of the swelling numbers of really old people in particular.

Finally, since the older population is certain to continue increasing, research into aging and its pathology may not be neglected. No society can afford to ignore this group. As someone put it: "A society's survival will hinge on how intelligently it handles the age bomb". With all due respect to medical technology, the last word lies with the politicians to decide whether our nation is to succeed in "aging" gracefully or not.

The future cost of eldercare

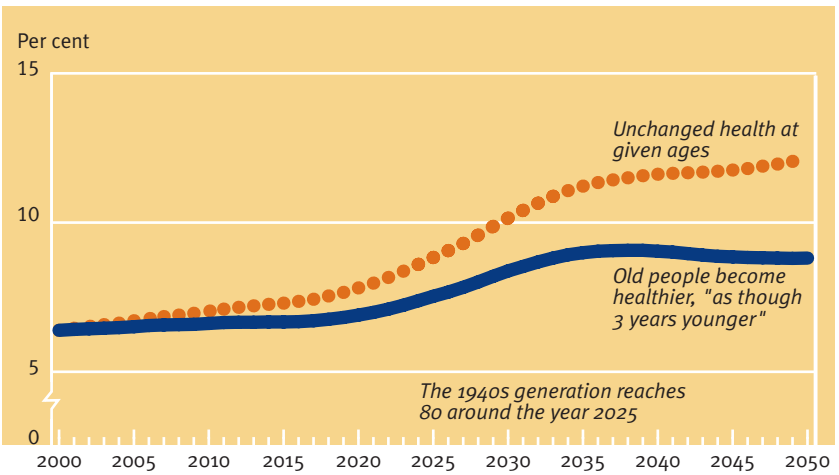
Total public expenditure for care of the elderly in 2000 amounted to more than SEK 60 billion. This figure includes municipal costs for nursing and care of people aged 65 and older, irrespective of whether they live at home or in so-called 'special accommodation'. Also included are estimated expenses for transportation services of approximately SEK 2 billion. After deducting the charges paid by old people themselves, net public expenditure is somewhat less than SEK 60 billion. It must be emphasized that the accounting system for municipal operations does not provide a detailed picture of aspects such as the distribution between younger and older disabled people, and that different estimations lead to differences in net expenditure of up to approximately SEK 1–2 billion. Estimates in this section tally with estimates of costs for care of various age groups in 2000 used by the Ministry of Health and Social Affairs and the Ministry of Finance in reporting to Eurostat, the statistics office of the EU.

It should also be especially noted that the general concept of eldercare includes the medical care taken over by the municipalities as a result of the so-called Ädel Reform in 1992. The figure given for expenditure corresponds to approximately 6.5 per cent of the total wage amount for the country. Eldercare thus accounts for over a quarter of combined public spending on old age pensions and eldercare. Thirty years from now, the ratio of eldercare expenditure to the wage amount will in all probability be much higher. How much higher depends on a number of factors – some of which will be discussed in this section – but a major cause is the increasing proportion of old people in the population.

In a few years, the working population will stagnate, after which it will decline in absolute numbers – a consequence of the low birthrate registered during the 1990s, which is expected to recover only slowly. The number of old people, on the other hand, is about to

increase explosively. This is partly due to increasing life expectancy. The latter is estimated to show a further increase of approximately 3.5 years up to 2030, according to the main alternative in SCB's most recent population forecast, after which it will continue to show some increase up to 2050. At present, there are 29 persons aged 65 and older for every 100 persons aged 20–64. In 2030, this figure will be 44. However, the burden of providing support for the elderly is destined to become heavier even without the continued increase in life expectancy. This is because the earlier generations (especially the generation of the 1940s) are so very much larger than the later ones, reflecting the historical development of the birthrate. Even without any increase in life expectancy, there would still be 39 old people for every 100 persons aged 20–64 in 2030.

The main estimate in the diagram below is based on the assumption that the need of nursing and care shifts upwards in age at roughly the same rate as life expectancy calculated from the age of 65 shifts upwards. It is thus not assumed that increased life expectancy for the average individual means more years of ill health towards the end of life. The reason for this has been discussed in the preceding section "Healthier aging", and the question is briefly touched on below. If the assumption that older people will be healthier at given ages – a view held by most experts – were to prove false, costs would increase far more dramatically. This would mean that the volume of eldercare consumed per person remained constant for each age group and for each sex. The national economic background required by the estimate is given in the following fact box.



Expenditure on eldercare as a percentage of the wage amount.

Prerequisites for the calculation

The growth of the wage amount is determined by changes in the number of hours worked and changes in the real hourly rate of pay. The number of hours worked is in turn determined by the number of persons employed and their average working hours. The number of employed persons has been calculated on the assumption that the proportion of the working population of both sexes and in each age group remains constant, and – as a first step – that the average working hours of employed persons in these groups remain constant. Changes in the size of the gainfully employed population and age distribution contribute to a long-term decline in the number of hours worked of 0.1 per cent per annum on average during the period 2000–2050, with the greatest reductions, 0.3 per cent per annum, in the 2020s. Here we have assumed a general reduction of annual working hours of 0.4 per cent per annum for all persons. In terms of reduced weekly working hours, this represents approximately 1.5 hours a week per ten-year period. In total, the number of hours worked decreases by 0.5 per cent on average during the period 2000–2050.

The real hourly rate of pay is assumed to rise by 2 per cent per annum. This is significantly more than the average for 1975–2000, when the increase was limited to some few tenths of a per cent per annum, but significantly less than for 1950–1975, when the increase was approximately 4 per cent per annum. The growth of the wage amount in fixed prices is thus 1.5 per cent per annum.

There is a successive increase in the price of care production relative to business sector production. This is due to the fact that productivity growth in the care sector is assumed to be small or non-existent. Growth in the real hourly rate of pay by 2 per cent per annum is assumed to be equivalent to growth in industrial productivity (production per hour worked). A nominal rate of wage increase of e.g. 4 per cent per annum is thus consistent with a rate of inflation of 2 per cent per annum with unchanged profit margins in industry. A prerequisite is that the real rate of wage increase in the care sector is as high as in industry. In the event of zero productivity growth in the care sector, this would lead to a relative price increase in care consumption of 2 per cent per annum. However, a part of care consumption, approximately 25 per cent, consists of goods and services bought in or procured from the business sector and thus can be assumed to have productivity growth. The relative price increase would then be 1.5 per cent per annum, which is what has been calculated for the curve in the diagram.

Old people are becoming healthier

The continuing increase in life expectancy that may be observed over a long historical period has not led to any corresponding increase in the number of years of cost-intensive ill health. The extra years of life have

not consisted solely of years of ill health. As older people become healthier, their need of nursing and care (at any given age) naturally grows less.

It is not in itself an easy task to measure developments in the state of health. In the surveys conducted by the National Statistics Office of Sweden (SCB) of the living conditions of the population (ULF), respondents are asked to give their own estimation of their current state of health. The results would seem to indicate that the health of older people has improved over the years. The proportion experiencing full health or slightly poor health has increased since the beginning of the 1980s both among "younger old people" and "older old people". The increase is somewhat greater for men than for women. It is conceivable that such subjective findings underestimate more objective improvements in health if it is true that norms for good health have risen in the population.

In Appendix 8 of the Long-Term Planning Commission report, LU 2000, I. Batljan and M. Lagergren, Ministry of Health and Social Affairs (2000), there is a theoretical and empirical analysis of different hypotheses concerning developments in the state of health of old people. The authors conclude that the hypothesis with the greatest empirical support is the one which views state of health as being determined more by the number of years a person has left to live than by the number of years already lived. Health deteriorates the nearer a person comes to death, regardless of the age at which death occurs. An increase in life expectancy would thus seem to mean that ill health, too, is postponed until a higher age. The number of years of ill health in old age remains constant, despite increasing life expectancy.

A more radical hypothesis is that ill health is shifting upwards in age even faster than the occurrence of death. It would accordingly be easier to improve health at advanced ages than to postpone actual death. The period of ill health preceding death would thus become ever shorter.

Postponed illness leads to a reduction in illness within given age groups. If the reduction in illness is accompanied by a proportionate reduction in eldercare costs, costs for eldercare will decrease by the amount illustrated in the table below. Here it is assumed that that consumption of eldercare shifts progressively

upwards in age by 5 or 3 years during the period up to 2050. For example, it is assumed that an 85-year-old in 2050 will require the same amount of care that an 80-year-old (or 82-year-old) requires today, and so on. A similar standard technique is used by C.J. Nordén and H. Olsson (2000).

	If old people become as though . . .	
	5 years younger	3 years younger
2000	0	0
2010	10	6
2020	19	12
2030	29	17
2040	37	22
2050	46	28

Reduced need of eldercare due to improved health of older people. Comparison in per cent with a situation where health in given groups remains unchanged.

If old people in terms of health become progressively "as though 5 years younger" up to the year 2050, the need for eldercare will drop dramatically. For example, by 2030 it will have fallen by approximately 29 per cent. Batljan and Lagergren arrive at similar results based on projected trends in health development described in the above-mentioned ULF surveys.

However, to assume that old people will become "as though 5 years younger" in respect of health is a lot to expect. Remaining life expectancy from the age of 65 is assumed by the main alternative in SCB's latest population forecast to increase by approximately 3.5 years up to the year 2050. Possibly, therefore, the alternative that old people become "as though 3 years younger" is more consistent with the hypothesis of a more or less unchanged period of illness towards the end of life.

Causes of increased life expectancy and improved health

It has been argued above that steadily improving health among different age groups will lead to a fall in age-specific consumption of eldercare. But we could perhaps turn the argument around: do we not owe increased life expectancy and improved health primarily to an increase in the consumption of eldercare?

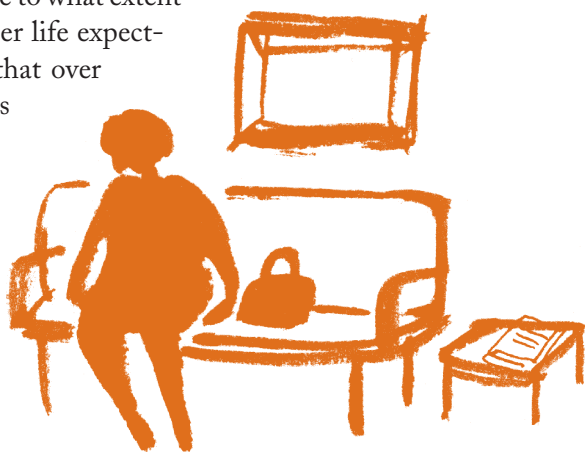
The National Statistics Office (SCB) bases its assumption of increasing life expectancy on a number of factors: progress in medical science and medical care, better living conditions, healthier lifestyles, etc. Improved health and increased life expectancy in nearly all the nations of the world is related to economic progress in its widest sense. Genetic changes surely play a negligible role – there are scarcely any biological advantages to living to twice the normal reproductive age as people do today in the West. Consequently, this development is not on the whole "for free". On the other hand, there is no general scientific consensus as to which factors are decisive.

One cause of longer life and better health, especially in the early stages of a country's economic development, is improvement in the standard of private consumption: more and better food, housing, hygiene, and so forth. Public expenditure has, in this context, normally played a minor – though perhaps not non-existent – role. Another cause is healthier lifestyles: less tobacco and alcohol addiction, more exercise and less overweight, etc. Such improvements do not cost much in themselves, but naturally stem in part from scientific research and public information campaigns. A third factor is progress in the field of medicine and health care, which in Sweden, of course, has been closely linked to public sector activities. It is partly a matter of an overall rise in the standard of living of people of all ages – which may be termed "primary preventive medical care" – and partly of specific measures aimed at postponing death, eradicating disease and relieving pathological symptoms. As regards the latter, increased consumption of eldercare has played a special role.

That life expectancy and health vary between different socio-economic groups within one and the same country has been proved to be the case in both the USA and Sweden. As regards Sweden, this has been established by, for example, M. Thorslund and O. Lundberg (1994). The problem is, of course, that elderly people in different socio-economic groups enjoy – and have enjoyed throughout the whole of their lives – different standards of private consumption and lifestyle and probably also of health care resources. The importance of individual factors is thus difficult to quantify.

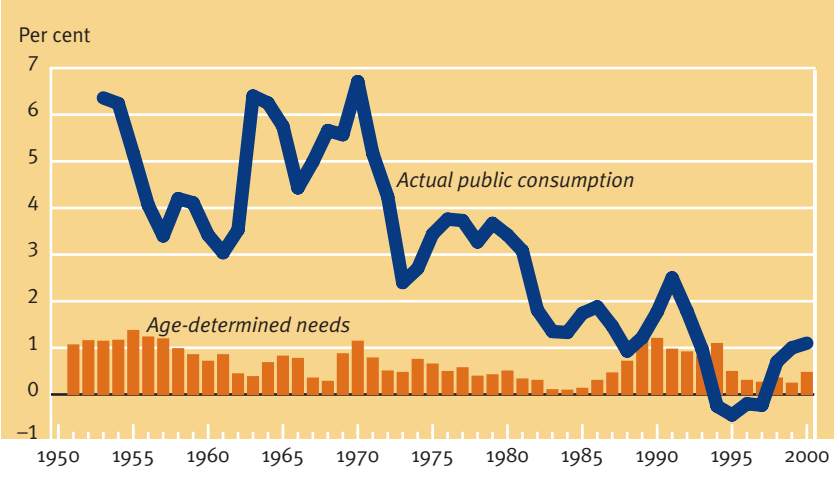
We might also mention the so-called iatrogenic need of care, which is taken up by Baltjan and Lagergren. Care itself may create a need for further care, sometimes as a result of erroneous treatment, sometimes as a result of excessive treatment (institutionalization).

Thus, even though we cannot be sure to what extent increased eldercare contributes to higher life expectancy and improved health, it is clear that over time the volume of care in Sweden has risen considerably more than can be explained by changes in the age structure of the population. This does not apply, however, to the 1990s, when the trend was reversed. If the volume of medical care continues to decrease from now on, this may have a negative effect on life expectancy and health.



Growth in the standards of eldercare

The long-term increase in the consumption of eldercare beyond what can be explained by changes in the age structure of the population (and despite reduced illness within every age group!) is not a trend unique to Sweden. In many different countries, we find a strong link between medical care consumption per citizen and the general standard of living, measured, for example, as GDP per capita. Nor is the trend restricted to eldercare, but has affected most kinds of public consumption – child care, schools and medical services in general. The diagram below illustrates how the volume of individually consumed but publicly financed consumption would have developed from 1950 onwards if the consumption of each service had remained constant per person and age group – that is, assuming no improvement in the health of old people – projected backwards in time instead of forwards. The curve bulges up and down, mainly reflecting changes in the number of children and old people. However, actual public consumption (which here, admittedly, includes collective consumption such as defence, the judicial system, etc.) has shown a far greater increase. Only from the end of the 1980s onwards has there been a slower increase during some years, mainly the years of severe cutbacks occasioned by the depression of the 1990s. In essence, this last period reflects falling standards, while in the long-term historical perspective we have thus witnessed a dramatic increase in standards.



Note. Age-specific needs calculated on the assumption that the volume of medical care, nursing, etc, has remained constant per person and age group from year to year during the whole period. Three years moving average for actual public consumption.

SOURCE: SCB'S NATIONAL ACCOUNTS AND POPULATION STATISTICS AS WELL AS C.J. NORDÉN AND H. OLSSON (2000).

Growth in volume of public consumption since 1950. Percentage of preceding year.

Increasing life expectancy and improved health may be due, at least in part, to improved standards within eldercare itself, as a result of scientific advances and of a general approach promoting the will to live. Such a rise in standards costs money. Moreover, given improved standards in other sectors of society, it is hardly surprising if standards also rise in this consumer sector, regardless of developments in people's state of health. A better standard of eldercare is no less reasonable a demand than a better standard of food and drink, clothes, travel, etc, and thus may have little to do with health improvement. For example, one might anticipate a future increase in the volume of eldercare consumption – per eldercare consumer – that was proportional to the growth of GDP per capita.

The estimate in the diagram on page 49 is based on an assumed growth rate in business sector productivity of 2 per cent per annum and a standard rate of zero for productivity growth within wage-intensive public production. Combining this with current forecasts for developments in total population and volume of work, we arrive at the following per capita growth in GDP in per cent per annum:

2000–2010	0.9
2010–2020	0.8
2020–2030	0.8
2030–2040	1.3
2040–2050	1.0

With an equivalent growth in the standard of eldercare, expenditure would increase considerably more than under the conditions stated earlier. This is illustrated in the diagram at the end of this section. From a historical point of view, however, a growth in standards matching GDP per capita is not particularly high. It may be noted that total public consumption during the period 1960–2000 rose by approximately 2.7 per cent per annum, which, spread over consumers in relevant age groups, represents a growth in standard of 2.2 per cent per annum. (This is essentially the average difference between the curve and the columns in the diagram on page 54). GDP per capita likewise rose during the same period by just over 2 per cent per annum.

The question naturally arises whether it makes sense to fund such continued growth in standards in the traditional way. One could imagine a system where "basic needs" were financed through taxation and higher standards were something that could be purchased by those with the desire and the means. But how are we to define basic needs? Do we mean approximately the standard we enjoy today, or somewhat lower or higher?

Higher growth in industrial productivity

It might be objected that the rate of growth in business sector productivity assumed here, 2 per cent per annum, is too low an estimate. On the assumption that profit shares remain constant (see the preceding fact box), faster growth in business sector productivity would mean corresponding increases in real wages and thus provide a stronger base for taxation and fees. However, this does not mean it would be significantly easier to finance health care consumption. For we may reasonably assume that employees in the care sector would demand the same increase in real wages as industrial workers, even if there was no equivalent increase in productivity in their own sector. This would lead to a corresponding increase in the cost of health care consumption. In relation to the wage amount, the cost of eldercare would remain more or less the same. On the other hand, it is naturally possible that higher charges for care would be less of a burden for people whose incomes were proportionately higher. Even a future increase in real hourly wages of 2 per cent per annum would be quite large compared to what has been achieved on average over the past 25 years. By 2030, this would mean an hourly wage that was 80 per cent higher than that of today.

Increased supply of labour

The outcome would be quite different if faster economic growth was based on a greater amount of work being performed in the economy. In the estimates presented earlier, the number of hours worked was assumed to decrease by 0.5 per cent per annum up to the year 2050. See the fact box on page 50. An especially large decrease in the supply of labour, 0.7 per cent per annum, is forecast for the 2020s. If the decrease in the number of hours worked could be avoided, the income base for financing eldercare would grow while the cost of wages per hour would remain unaffected. As an example, we could mention that up to the year 2030, this would be equivalent to a development where future costs for eldercare were approximately 15 per cent lower than in the main estimate presented.

A reduction in the number of hours worked could be counteracted by an increase in the proportion of people working in the population.

In the basic estimate, the proportion of people working in each age group is assumed to be constant, including the older generations of gainfully employed. In the Social Insurance Book 2000 published by the National Social Insurance Board of Sweden (2000), it was asked whether it might be possible to stem the downward trend in the participation of older people in the workforce. The conclusion was that the prerequisites existed but that the stumbling block was the traditional conviction – firmly rooted among both employee and employer and among their organizations – that it was best for employees to retire from working life well before the age of 65.

Furthermore, the basic estimate assumed a decrease in the average working year per person of 0.4 per cent per annum (which in terms of weekly working hours would mean 1.5 hours per ten-year period). Such a decline may be described as fairly small in relation to long-term European trends. See, for example, the regular publication of statistics in OECD's Employment Outlook. Over the past 20 years – though not earlier – Sweden has proved to be an exception to the rule, with slowly increasing average working hours. This is probably to be explained by the virtually non-existent growth in real wages up to a few years ago. Longer working hours have been a way for employees to achieve at least a minimal real increase in annual income. There exists, both over time and between countries, a clear inverse ratio of growth in real hourly wages to annual working hours. See, for example, H. Olsson, the National Institute of Economic Research (1996). With such a positive long-term prospect of growth in real wages per hour as 2 per cent per annum, as has been assumed here, it is probable that part of the potential for increased income will be taken out in the form increased leisure.

Labour and wages in the care sector

The supply of labour in Sweden is thus likely to diminish in absolute numbers from the end of the present decade. However, given the developments in eldercare consumption outlined above, the number of people employed in eldercare will need to increase by a few per cent per annum during the period 2010–2030. (This assumes that older people will become "as though 3 years younger" while standards of medical care per consumer remain constant.) Bearing in mind that the care sector today also has a more problematical age structure than the economy as a whole, with many people scheduled to

retire in the next few years, recruitment problems may arise. As shown in the diagram below, nearly half of those employed in the municipal sector are now over 45, compared with only a third of those employed in private industry. Moreover, there is a large overrepresentation of women. In 2000, 38 per cent of municipal employees were women over 45.

	Women	Men	Both sexes
State	21.0	29.1	50.1
Municipalities and county councils	38.1	10.5	48.6
Private employers	12.4	22.0	34.4
Self-employed persons	14.0	41.9	55.9
Total	19.9	21.3	41.2

SOURCE: SCB'S LABOUR FORCE SURVEYS.

The proportion of persons aged 45 or older in employment in 2000.

There are already signs of an imminent shortage of, among others, nursing staff and teachers. Even so, a few years remain before the large generation of the 1940s reaches the age when, following historical precedent, they begin to leave the workforce en masse. The next table shows the result of an estimate based on the assumption that the proportion of employed people in the population in various age groups remains unchanged relative to the year 2000 and that there is no transfer between sectors of people who have established themselves in given sectors from the age of 25–30.

Sector	Number of persons	Change in %
State	–20,000	–9.1
Municipalities and county councils	–105,000	–9.5
Private employers and self-employed	+119,000	+4.2
Total	–6,000	–0.2

Note. Estimates of total employment assume an unchanged proportion of employed persons in the population in respect of age and sex from 2000. Development per sector has been estimated assuming that the various sectors up to 2010 maintain their share of employment of the different age groups made up of cohorts who are today 25 or older. For younger cohorts, it is assumed that employment in 2010 will be distributed according to the pattern that applied to the same age groups in 2000.

SOURCE: SCB'S LABOUR SURVEYS AND POPULATION FORECASTS; ANALYSES OF THE NATIONAL SOCIAL INSURANCE BOARD.

Hypothetical changes in employment 2000–2010 if no transfer of labour occurs between sectors.

In these circumstances, municipalities and county councils will suffer a net loss of over 100,000 persons in the space of 10 years. One way of preventing this from happening would be a successful recruitment campaign among young people entering the labour market for the first time. Of those employed today aged 20–30, approximately 20 per cent work in the municipal sector. This figure needs to increase to well over 30 per cent in the next 10 years. To a certain extent, it may also be possible to attract labour from the private sector. In both cases, however, a major effort will be required. Changing the structure of operations by increased privatization and conversion to independent companies is naturally not a universal cure: the mere fact of people switching institutional sectors does not change the market situation in any essential way. Of course, recruitment might become easier, if it is true that private employers are seen as being more attractive than public ones. The fact that municipal employers are not particularly popular among employees (including municipal employees themselves and privately employed persons) has been shown, for example, in a survey presented by the Association of Local Authorities. See the Association of Local Authorities (2001).

It might well prove necessary in the long run to raise relative wage levels in the care sector, which would inevitably involve increased costs. As an arithmetical example, let us assume that a rise in pay of 0.75 percentage units per annum over and above the average for the rest of the labour market is required up to the year 2020. This will eventually result in approximately 16 per cent higher costs for nursing and care if the volume of consumption remains the same. This increase in expenditure would thus approximate to the savings up to the year 2030 deriving from the feeling among old people that they are "as though 3 years younger", as calculated in the estimate above. Baltjan and Lagergren (2000) present an estimate with a similar outcome, where, however, the relative wage level is adjusted by 0.5 percentage units per annum extended to the year 2030.

Reduced expenditure on child-care and schools

The decrease in the number of children threatens to create a national economic supply problem in the long term but from the point of view of public finances it will naturally be a relief when the baby-boom children born around 1990 reach school-leaving age a few years from now. The ratio of expenditure on child welfare, schools and paediatric care to the wage amount is about to diminish if we merely look to population trends and assume the same standards and scope of activities as today. In the 2010s, the need for expenditure on children and young

people will drop dramatically due to demographic developments. If we assume that the number of children born will eventually increase – reaching a level of 1.8 children per woman after 2010 compared with just over 1.5 today – this financial "savings potential" relative to today will nevertheless be exhausted by the end of the 2020s.

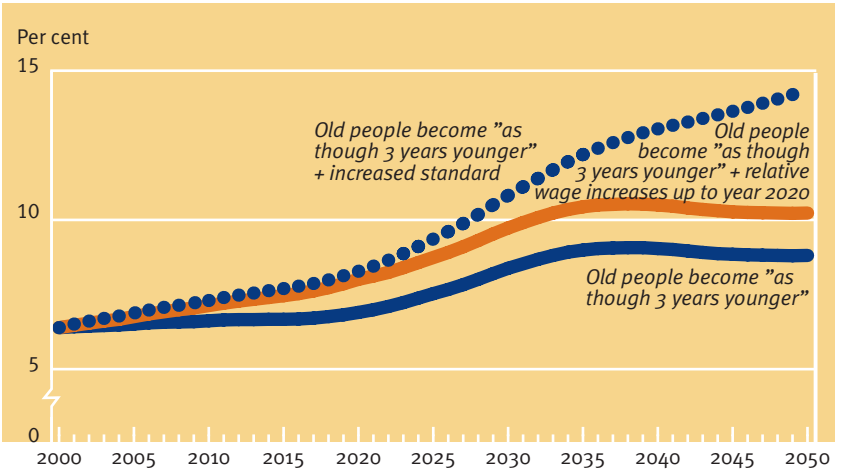
It is thus not true that increasing expenditure on eldercare can be compensated by reduced expenditure on children due to falling birthrate, other than in the short term. If there is no recovery in the birthrate, the potential will of course be greater, but in that case the problem of maintaining our national economy will be gravely aggravated in the long-term perspective beyond 2030.

Uncertain cost trends

A more or less significant increase in the future cost of eldercare appears to be inevitable. The rate of increase will accelerate in the 2020s, when the 1940s generation starts to be increasingly in need of care. The exact course of this development is naturally difficult to forecast in any detail. It will depend, among other things, on developments in health, but the future level of ambition regarding standards of care will be an important factor. Developments in life expectancy will also certainly exert an influence. Here we have used the main alternative in the latest population forecast from SCB, which states that the expected remaining average length of life at the age of 65 will increase by approximately 3.5 years up to the year 2050. This forecast is predicated on continued advances in medical science, but it is impossible to prophesy future developments in detail or what the costs of these will be. At one extreme, we can imagine that it will be relatively cheap to "buy" both longer life and better health. In that case, the increase in costs for eldercare will not be so onerous. At the other extreme, the discoveries of medical science will be very expensive to apply. In this case, a long life and constantly improving health will not be something available to everyone, but rather a luxury commodity, purchasable by those who desire it and can afford it.

During the past 10–15 years, there has been a trend towards increased private production both in nursing and care and other traditional areas of public consumption. The aim of privatization has generally been to render production more effective through increased competition – also in those cases where production is still collectively financed by taxation. Within certain areas of care, the use of new technology can certainly contribute to improving efficiency and keeping costs down. However, a high staff ratio constitutes in many respects a quality dimension in its own right, making it difficult to reduce costs without reducing standards.

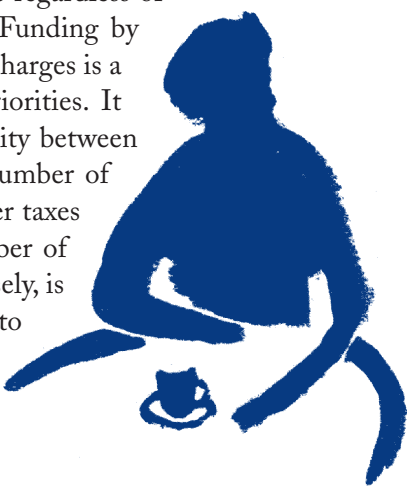
Regardless of whether the element of private enterprise grows or diminishes in the coming decades, the need for extra staff is likely to increase.



Note. Increased standard refers to increased volume per patient proportionate to growth of GDP per capita. Relative wage increase means 0.75 percentage units per annum in higher costs within the care sector up to the year 2020.

Expenditure on eldercare as a percentage of the wage amount.

There is also a private component in the area of financing – individual charges for treatment. An ever larger part of consumption could be paid by consumers themselves by means of such charges. In terms of national accounting, this means that public consumption becomes private consumption, even though production continues to be publicly owned. In formal terms, this provides a means of keeping taxation down, but a given volume of nursing and care costs the same regardless of whether it is paid for privately or collectively. Funding by taxation versus funding by individual treatment charges is a political choice determined by redistribution priorities. It can also be seen as a question of ensuring equality between different generations. Is it fair that the small number of people born in the 1990s should pay much higher taxes in the 2020s in order to provide the large number of people born in the 1940s with eldercare? Conversely, is it fair that those born in the 1940s should have to pay expensive private charges for medical care simply because their children did not provide them with enough grandchildren to support them?



Saving and getting a return

Sweden is currently in a rather favourable demographic situation. For some years to come, there will be only a slight increase in the number of people so old as to make major demands on eldercare. It is even possible that in the early 2010s the number of people over 80 will decrease in absolute numbers. The reason for this is that the generation born in the 1930s is small. When the large number of people born in the 1940s cross the 80-years-old threshold in the 2020s, costs will soar, even if health improves dramatically and illness is progressively postponed until nearer the end of life. This has been discussed in earlier sections. If we wish to do something about smoothing out the financially embarrassing bulge in costs that is destined to appear then, now is the time to start.

Several public opinion polls have revealed that people are concerned that they might not receive adequate care in old age. For example, in a survey which TCO (The Swedish Confederation of professional Employees) presented in May 2001, 40 per cent of respondents stated that they would have to take out some form of insurance in order to feel more secure.

Insurance and saving

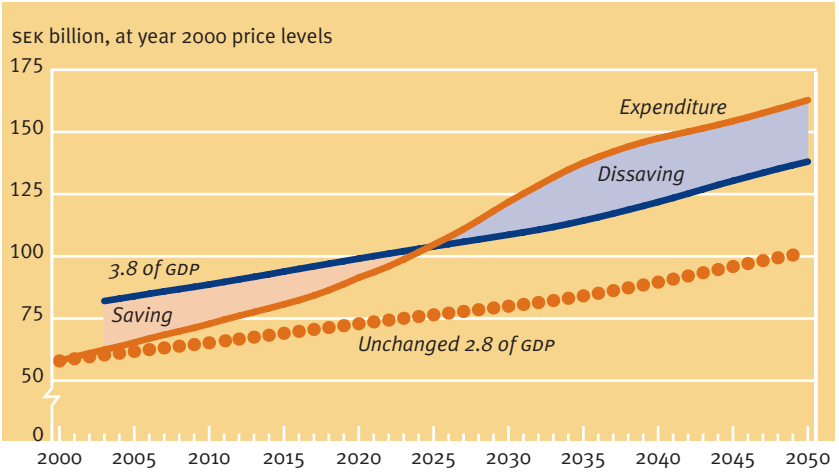
It is possible, however, that eldercare insurance schemes from private insurance companies have only a limited prospect of reaching the market. This has been discussed in the section "Eldercare insurance? – some conclusions". There are many indications that this type of insurance scheme, in order to be profitable, requires such a high premium that it would be difficult to market successfully.

A major reason for this is that eldercare is something most people need during a few years towards the end of their lives. Insurance in its classic form means that an insured person receives compensation for an *unusual* event involving great expense *if* it happens. Risks are thus spread among the insured community. A typical example is fire insurance. In an eldercare insurance scheme, where the majority of the insured would claim compensation, risk-spreading would be less. The premium must therefore be set high – the insurance policy in reality taking on the character of a savings account.

In a similar way, a pension insurance scheme may largely be regarded as a form of savings, since there is high probability of receiving an insurance payment. Logically enough, one speaks of "saving in a pension insurance scheme" (but never of "saving in a fire insurance scheme"). The difference between an eldercare insurance scheme and a pension insurance scheme is nevertheless considerable. Certainly, many people are interested in saving up for their old age, for example, in pension insurance schemes. But they do not wish to withdraw their savings capital in the form of a certain specified "emolument paid in kind" (in this case, eldercare) that they possibly feel they have no use for. It cannot be converted to anything else or be passed on to heirs. The individual's savings goal is ready cash, which can be used for any purpose the day the capital is withdrawn. Another reason for being reluctant to take out an expensive eldercare insurance is presumably the conviction that eldercare is something one has a right to in any case, because of the tax one has already paid throughout one's working life.

If we wish to spread costs fairly over time – that is, not charge old people high fees for individual treatment nor impose excessively high taxes on the young – it will presumably be necessary for the state to take responsibility for, or stimulate, some form of "buffering". This problem and its possible extent is illustrated in the diagram below. Eldercare at present costs just under 3 per cent of GDP, that is, the amount of revenue from taxation that goes to financing eldercare. Very soon, however, an amount of 3 per cent of GDP will not be enough to cover expenditure. Just how inadequate will in itself depend on which assumptions we base our estimate on. See the preceding section for more details. Here we have chosen the cost alternative based on the assumption that older people will get progressively healthier ("as though 3 years younger" in 2050) and that there will be no increase in standard for those receiving care, but that there will be a relative wage increase for employees in the care sector, giving a relative average wage just over 15 per cent higher in 2020 than it is today. In the diagram, it is assumed that from 2003 onwards a supplementary amount equivalent to 1 per

cent of GDP is put aside for eldercare. Eldercare is thus allowed to "cost" 3.8 per cent of GDP as of 2003 – the current level of 2.8 plus the supplementary amount of 1 per cent of GDP. In this way, financial savings arise that initially amount to 1 per cent of GDP but later progressively decrease. From approximately 2025 onwards, 3.8 per cent of GDP (in the illustration below) will no longer be sufficient to cover expenditure, but now the accumulated savings can be used. This is where "dissaving" starts. These savings may be sufficient to finance eldercare up to the year 2050 in combination with a continued supply of "fresh" money equivalent to the current level of 2.8 per cent of GDP. Whether this turns out to be the case or not will depend on the yield from the savings. The higher the yield, the lower the savings need to be to meet the requirements of the dissaving phase. This is a question we will return to later.



Note. Expenditure calculated according to the alternative where older people become healthier "as though 3 years younger", described in the section "The future cost of eldercare", and on the assumption that those employed in eldercare receive a relative wage increase of 0.75 per cent per annum up to the year 2020.

Illustration of buffering of eldercare costs.

Forms of state influence

The state has always attempted to influence savings in society in one form or another and to a greater or lesser degree, largely via the insurance business and the credit market. Some measures have been temporary, primarily of a politico-economic nature, while others have been institutional and more long-term.

Until the late 1980s, the market for long-term credit was regulated, with tight controls of credit volumes, interest rates and other credit conditions. The overriding aim was to secure the credit requirements of the state and of housing production, but also – especially during the 1970s – to control the aim and direction of industrial investment. When the major part of the regulatory framework was dismantled some 15 years ago, this was partly due to a renaissance of liberal thinking on market economy, and partly to the fact that increasingly effective international capital markets – despite currency controls – rendered domestic regulatory systems ever more ineffectual.

In the field of pensions, state influence still makes itself felt. The National Pension Fund (AP) was created at a time when regulatory thinking still held sway. It was set up to compensate the fall in people's individual savings that was anticipated – quite correctly as it turned out – after the introduction of the national supplementary pension scheme (ATP). The fund was built up using a higher pension contribution than was necessary to finance the initially modest ATP pension payments. A large amount of fund capital was used, with the support of a regulated credit market, to finance the extensive house-building program of the 1960s and 1970s.

The recently introduced premium reserves in the general pension system are distinguished, like the AP Fund in its initial stages, by the fact that contributions paid in initially exceed pensions paid out. The difference is that the state now exerts only minimal influence on how the capital is invested, contenting itself with deciding the size of contributions. One of the original aims of setting up the premium reserves was, according to the directive given to the Pensions Work Group established at the beginning of the 1990s, to increase savings in society. During the boom years of the late 1980s, household savings were distinctly negative.

Both the AP Fund and the Premium Reserve Scheme were thus established with the aim of exerting a positive influence on total savings in society. Historically, it has been a somewhat different story with regard to the subsidy given to private pension insurance schemes in the form of tax-deductible premium payments. Admittedly, income from the insurance must eventually be declared as taxable income, but the tax credit thus extended has meant in practice that the yield is tax-free. More recently, these favourable terms have been limited by a special tax on yield. The origin of the subsidy, which has a long history, is to be traced to a desire to give self-employed persons the same pension conditions as employed persons with contractual pensions. For the latter group, the employer pays premiums or contributions, which are not taxed as income for the employees. Although the deduction was thus not specifically aimed at increasing pension savings, it has nevertheless been an important contributory factor in the strong growth of individual savings. Subsidized savings programmes with the express purpose of stimulating savings have also been set up at intervals, for example, the so-called National Savings Scheme that was set up in 1978.

There are thus many ways in which the state may exert an influence – granting savings subsidies, prescribing compulsory savings as in the Premium Reserve Scheme or managing its own investments as in the AP Fund.

Finally, the state can also set up a savings target for its own budget. A surplus in state finances allows amortization of the national debt and by extension the creation of net state capital. This provides greater scope for running up a deficit to cope with critical periods in the future. Currently, there is a parliamentary resolution stipulating that the public sector in its entirety should have a financial surplus equivalent to 2 per cent of GDP over a trade cycle. This savings target originates from the so-called convergence programme that was set up to prepare Sweden for participation in the European Monetary Union.

Future 'dissaving' in pension funds

When the large 1940s generation starts to retire towards the end of the present decade, the size of pension incomes will increase in relation to salary incomes. This will be made possible by running down the pension funds. The long process of reforming the National Pension Scheme is finally over. One aim has been to plan for the expected strong increase

in the number of old people relative to the working population. The extra strain will be felt in the pension system before it starts to affect eldercare, since pensions are normally claimed well before the age at which the need for eldercare becomes acute. The primary goal has been to finance pensions in such a way that contributions and taxes paid by the gainfully employed to the pension scheme need not be raised in relation to their income. The solution has two main features. One is that the size of payments will be related to the incomes earned by the gainfully employed at the time, to continuing developments in life expectancy and to the yield from both premium reserves and the AP fund. In the worst case, a so-called automatic balancing mechanism will be activated, ensuring that the commitments of the scheme are trimmed to match current economic and demographic developments. The second feature involves exploiting the capital that has accumulated in the AP funds over the past four decades. According to most reasonable scenarios of demographic and economic developments, the AP funds will be drastically run down during the period 2010–2040, that is, during the years of retirement of the 1940s generation. See O. Settergren, et al., the National Social Insurance Board (2000). According to the chosen model, only by using the AP fund and its yield may a successive reduction in future pension levels be avoided, given the forecast increase in the number of old people per gainfully employed.

Considerable 'dissaving' will also occur in contractual labour market pension schemes and private pension schemes from around 2010 onwards. It is extremely difficult to calculate how large the total dissavings from the pension funds will be. However, a rough estimate is that it will be in the range of SEK 50 to 100 billion a year during 2010–2040 (at year 2000 price levels), or 2 to 3 per cent of GDP, depending on which assumptions are used in the forecast, and with significant variations over time. This money naturally constitutes income for pensioners, but to a certain extent it also generates revenue for the public sector (since it is classed as taxable income). Fund investment for pensions also means fund investment for tax revenue.

The ability to exploit "fund-invested tax revenue" (not deriving from taxation of current GDP) has a certain effect on the illustration given in the diagram above of

how a distribution of eldercare costs over time may be effected. Assuming that the extra tax revenue is shared proportionately among various public undertakings, the illustrated level of 3.8 per cent of GDP in the diagram would fall by something like one or two tenths of a per cent.

What is saving?

From the point of view of the national economy, neither an eldercare insurance scheme nor an eldercare savings scheme differs in principle from similar arrangements for cash pensions. It is a question of saving (in centralized or individual forms) during the years that remain before the heavy increases in expenditure occur, and from that point on 'dissaving', that is, disposing of the accumulated capital.

Saving means refraining from using the entire amount of one's income for consumption. In an economy sealed off from the rest of the world (or in the world as a whole), it is only possible to save by investing in real resources, fixed capital, that can be used as the means of production at some future date. This may consist of houses, industrial or office real estate, machines, transport or communication facilities, and other forms of so-called infrastructure, but also of so-called intangible assets like education and scientific resources. In order to constitute saving in a proper sense, a net saving, investments must be greater than the ongoing erosion of capital due to wear and tear or to other causes of its becoming less usable. Only investments in excess of this (net investments) increase future production and income potential.

For an individual country, there is the additional possibility of foreign investment – to acquire foreign capital or lend money to other countries. This type of saving gives rise to future income in the form of dividends, interest, etc. From a national perspective, saving abroad requires that the country exports more than it imports, that is, it consumes fewer goods and services than it produces.

Increased saving ex ante (planned in advance), which is not matched by real investments or export surplus, leads ex post (as actual outcome) not to increased saving but to reduced income. The attempt at saving leads to reduced production since consumption falls while investments and exports remain constant. The reduced production leads to incomes in society in the form of wages and profits decreasing proportionately.

Elementary national accounting:

GDP = production = income
GDP = consumption + domestic investment + export surplus
Saving = income – consumption
Saving = domestic investment + export surplus

Individuals in a given country can save by purchasing securities from (that is, lending to) other individuals in the country. However, from the national standpoint, such individual saving does not constitute saving unless it is later invested by the borrower. Otherwise, it is merely a matter of securities changing hands within the country.

The distinction between what constitutes saving and what does not, is important if one is to introduce a nation-wide system of saving for, let us say, future eldercare. There is no guarantee that saving in the country as a whole will be greater as the result of such a system, even if contributions are compulsory. A major deciding factor is what those paying the contribution do next. If they react positively, convinced that the insurance really means guaranteed care in old age, they may decrease their saving in other ways and thus maintain the same volume of consumption as before. In that case, there will be no additional resources available to the gainfully employed of the future, who in the end will have to foot the bill for eldercare costs. One has merely created a mechanism, an alternative to the taxation system, for extracting money.

If increased saving results, the question remains: to which investments do the savings correspond? In a country without access to the international capital markets, the result would be that the price of shares and bonds rose and that yields fell. Real industrial investment would be stimulated due to lower costs for capital, but it is not certain that demand for capital would match the initial increase in supply. Reduced consumption might have a negative effect on industry's belief in the future and dampen investment. Lower growth and recession would be the result. This is an analysis in the spirit of the famous economist, J.M. Keynes, by now more or less upstaged by more modern theories and by changed institutional conditions, but still of some interest for large countries with economic problems like Japan and the USA.

Illustration of successful and less successful buffering

The economy is assumed to be stationary with three generations: the old (no earned income), the middle-aged and the young (earned income of 1000 each). The old live by selling securities 200 (dissaving) which they bought when they were middle-aged in the preceding period. Any yield is ignored. The middle-aged buy securities 200 (saving) from the old to live off when they become old in the following period. The young neither buy nor sell securities, but are assumed to pay for society's real investments 200. In this stationary economy, the investments consist only of replacement of worn-out real capital. The economic structure is stable for each period:

Period 1

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
1			200		200
2	1000	200			800
3	1000			200	800
Total	2000	200	200	200	1800

Period 2

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
2			200		200
3	1000	200			800
4	1000			200	800
Total	2000	200	200	200	1800

Now, suppose that in period 1, the middle-aged generation 2 decide to increase their consumption in period 2 when they become old by 100 to 300; they do this by saving 100 more and consuming 100 less. The old in period 1, however, only have 200 securities to sell. The young generation 3 then borrow 100 from the middle-aged, i.e. they sell securities 100 to the middle-aged, who can now purchase their desired 300.

For everything to work, the young must invest the 100 they borrowed, i.e. totally 300. They can invest in domestic long-life real capital or in foreign countries by exporting. The investment corresponds in real value to the consumption 100 that the middle-aged have abstained from. In period 2, the old generation 2 sell their securities 300; 200 to the now middle-aged generation 3 (who resume the earlier saving pattern of the middle-aged) and 100 to the young generation 4, who only need to invest 100, providing the extra investment of 100 that was made in period 1 is usable. Generation 2 achieve their desired consumption 300, and the two other generations receive the traditional consumption amount 800:

Period 1

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
1			200		200
2	1000	300			700
3	1000		100	300	800
Total	2000	300	300	300	1700

Period 2

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
2			300		300
3	1000	200			800
4	1000	100		100	800
Total	2000	300	300	100	1900

Let us assume that the young in generation 3 instead consume the 100 they borrowed from generation 2. They only invest 200 (as young people usually do in the stationary economy) and inherit the potential for consumption left by the middle-aged; they consume 900 instead of 800. Now a number of things may happen in period 2. One possibility is that the young generation 4 who take over actually buy securities 100 from the old, as was intended. However, they need to invest an additional 200 (not as above 100) to keep the country's

real capital intact (alternatively, the country must borrow from abroad). They can also lower their consumption to make room for investment, which was naturally not the idea from the beginning. A third possibility is to resist buying the old people's securities and focus on investing what is necessary 200 and consume their 800. The old would thus be unable to consume 300 as they had planned. In this situation, they presumably lower the price of their securities and in so doing possibly persuade both earning generations to buy 25 each. The result in that case is:

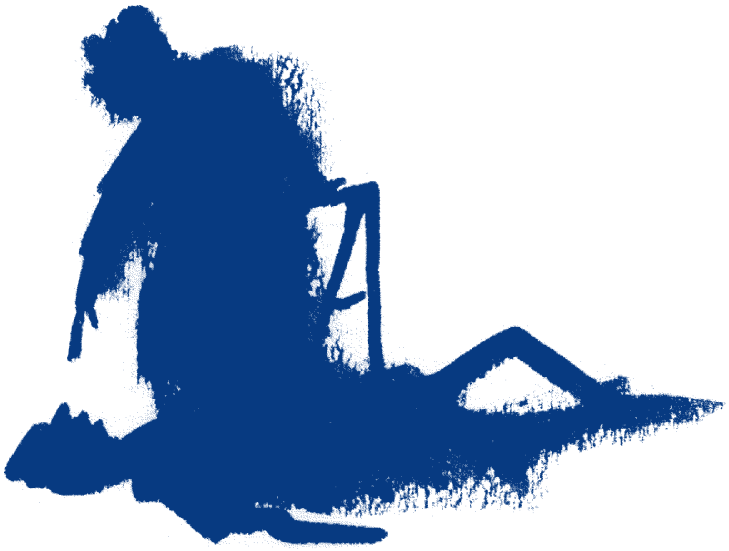
Period 1

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
1			200		200
2	1000	300			700
3	1000		100	200	900
Total	2000	300	300	200	1800

Period 2

Generation	Income (GDP)	Securities Buy	Securities Sell	Investment	Consumption
2			250		250
3	1000	225			775
4	1000	25		200	775
Total	2000	250	250	200	1800

All generations have in period 2 had a smaller consumption than was planned. It is, however, important to note that total GDP and total consumption over both periods has not been affected. In the example, generation 3 turn out to be the winners, while both the others are losers. The example shows that opportunities for consumption are governed by production capacity and that the creation of a buffer must be matched by real investments within or outside the country if the desired result is to be achieved.



In a small country like Sweden, which now enjoys free access to the large international capital markets, and where industry consists for the main part of powerful multinational companies, it is unlikely that increased domestic savings have any significant effect on domestic capital formation. Return on interest and other yield from capital is largely determined by international factors. Nevertheless, it is naturally possible for governments to guide a number of public investment projects in a direction which supports the goal of a demographically-determined capital growth in coming years. Increased savings will otherwise in all likelihood be mainly seen in foreign trade surplus, in the balance of payments. In recent years, a great deal of Swedish savings have been invested abroad. See the table.

	Per cent of GDP						SEK billion Per annum
	1950–1959	1960–1969	1970–1979	1980–1989	1990–1994	1995–1999	1995–1999
Gross investments	22,0	25,3	21,7	17,9	17,2	16,4	301
./. Capital erosion	9,6	10,0	10,5	11,9	14,1	13,7	252
= Saving in Sweden (net investment)	12,4	15,3	11,2	6,0	3,1	2,7	49
+ Saving abroad (balance of trade)	0,2	–0,3	–0,7	–1,4	–1,7	3,4	62
= Total saving	12,6	15,0	10,5	4,6	1,4	6,1	111

SOURCE: ADAPTATIONS OF SCB'S NATIONAL ACCOUNTS.

Swedish saving 1950–1999. Average for 10- and 5-year periods.

The long-term problem

The heavy running costs of eldercare a couple of decades hence must, like pensions, be paid by those gainfully employed at the time. One aim in establishing a savings scheme today should be to compensate for this by reducing other expenditure during the years when eldercare costs soar. As mentioned earlier, this can be accomplished by investing in domestic real capital during the coming years to such an extent that the need for future investment is reduced. Another way is to create a reserve of capital abroad by means of a trade surplus that can later be 'dissaved', thus reducing the need to produce exports to finance imports in the future. An export surplus today may balance an import surplus tomorrow.

As far as domestic investments are concerned, there are limits to how far it is possible or meaningful to increase these. The likeliest candidates are various infrastructure projects. To produce machines, etc, and then mothball them for 20–30 years is naturally not well-advised. They will be obsolete long before it is time to use them. In any case, this will not happen so long as investment decisions are made on market economy terms.

The alternative of buffering based on balance of payments raises special problems. This strategy assumes that the future working population of other countries will through an export surplus supply part of Sweden's need of goods and services. Many of the leading economies in the world, including several EU countries, are facing the same demographic problem that confronts Sweden and may be tempted to adopt an identical strategy. In that case, there will be competition in achieving an export surplus in the coming years, followed by competition in achieving an import surplus. Especially if we look beyond Europe, it can be difficult to decide which countries to invest our export surplus in at reasonable risk. Poorer countries' export potential and capacity to pay in 20–30 years' time is uncertain. Moreover, the fact that international trade and capital exchange function more or less smoothly today is no guarantee that this will be the case several decades from now.

An eldercare fund can no more than a pension fund, barring exceptional circumstances, directly finance large infrastructure projects. This would amount to taking an almost maximal risk of not being able to sell the assets of the fund when the money was needed. Solely to invest the capital abroad is likewise one-sided and full of risks. Large infrastructure projects and the management of total national assets relative to foreign countries are properly the domain of the government budget and national economic policy. One way of tackling the eldercare problem might therefore be to take the coming increase in eldercare costs into account when deciding the surplus target of the national budget. Eldercare fund investment would thus become an integral part of long-term national debt policy. One disadvantage of this approach is that the buffering would be hidden from sight and not easily understandable by the general public. The claims of eldercare would be weakened in competition with other areas of public expenditure.

Eldercare fund investment outside the national budget could either be regulated in roughly the same way as the AP funds, or be based on obligatory premium contributions invested according to the wishes of individuals, much like the premium reserve funds in the general pension system. The latter alternative would, however, if it functioned as

intended, lead to people receiving different standards of care depending on which funds they happened to invest in. Such redistributionistic consequences have been deemed acceptable in the general pension system but are likely to be less palatable in a public eldercare system. That individual saving for eldercare would occur to any great extent solely through the operation of market forces must be considered, as mentioned earlier, rather unlikely.

Regardless of the exact form that eldercare fund investment assumes, an important consideration affecting its dimensioning is the yield that may be expected from fund capital. Referring back to the diagram on page 64 at the beginning of this section: the higher the yield, the smaller the amount that needs to be apportioned during the saving phase of the coming years in order to achieve a given level of financing support during the difficult period beginning in the 2020s.

Yield from financial markets

The yield from a financial investment (in shares, bonds, etc.) is the annual profit as a percentage of the invested capital. The profit consists of two parts: the profit that has been realized during the year in the form of dividend, interest, etc. (sometimes called direct yield) and the profit (or loss) which has arisen as a result of changes in the market value of the shares. If we deduct the percentage of inflation from this nominal yield percentage, we get what is usually called the real yield. In certain theoretical circumstances, expected future inflation is used instead, but we ignore this complication here.

Up to the beginning of the 1990s, it was a generally accepted convention when making long-term estimates – for example, of the development of the AP funds – to assume that real yield was equal to assumed economic growth (the growth of GDP in per cent). The reason for this was partly theoretical, partly empirical. Under certain restricted conditions, we can theoretically demonstrate that the real yield on capital over a very long term is equal to economic growth. During the 60-year period up to the end of the 1970s, it was possible to claim that this "golden rule" worked very well. See the table below. The average real yield on shares and government bonds was less than economic growth by a few tenths of a percentage unit per annum. Share yield was a few tenths of a percentage unit higher and yield from bonds just over one percentage unit lower. The past 20 years, up to the recent dramatic fall on the stock exchange, present a completely different picture, not least

in regard to shares, whose real yield was never less than 16 per cent per annum. During the 80-year period up to the end of the 1990s, the average real yield from shares was thus 7 per cent per annum, while during the 60-year period up to the end of the 1970s it was just over 4 per cent per annum.

The difference between yield from shares and interest on government bonds is an expression of the *risk premium* that investors demand in order to buy shares in preference to less risky government bonds. Most people are assumed to prefer a guaranteed return to a return which is equally large but runs the risk of variations upwards or downwards. This is called risk aversion. The difference in yield must, however, also cover the difference in administration charges, monitoring charges, brokers' charges and other so-called transaction costs. A share portfolio generally entails higher costs of this kind than a bond portfolio. The risk premium ought really to be calculated net, after such costs. During the 80-year period 1918–1998, the gross risk premium was 3.7 per cent (the difference between 7.0 and 3.3) but during the period 1918–1978, it was only 2.0 per cent.

	1918–1978	1978–1998	1918–1998
Real yield, shares	4.2	15.7	7.0
Real yield, government bonds	2.2	7.2	3.3
Real yield, average	3.2	11.5	5.2
Real growth of GDP	3.6	1.7	3.1

SOURCE: SETTERGREN, ET AL., NATIONAL SOCIAL INSURANCE BOARD (2000) AND SCB'S NATIONAL ACCOUNTS.

Real yield from capital and real growth of GDP. Per cent per annum.

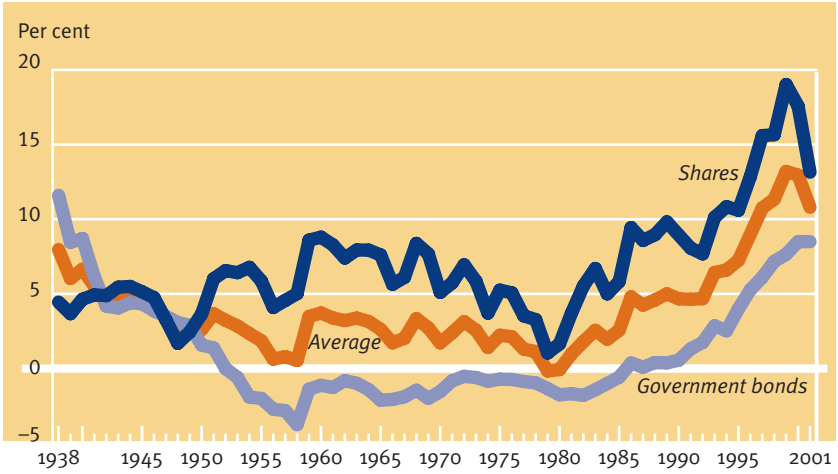
It is primarily thanks to rising market values that yield from shares has been high over the past few years, and viewed in a longer perspective it has only marginally been affected by the stock exchange decline since the spring of 2000. Direct yield, the dividend, is on the other hand a very stable component, which has seldom deviated very much from 3–4 per cent in real value.

It is important to point out, as has often been done in the debate following in the wake of the latest fall on the stock exchange, that investment in shares and funds have to be evaluated over a longer period. Market values have fluctuated dramatically from year to year, not least over the past 20 years. This also applies to highly diversified portfolios with extensive risk-spreading. There is an extremely wide range of annual variations in real value on the stock exchange. During the course of 1999, the rise in the Business World general index for quoted shares,

after deductions for inflation, was over 60 per cent and rises of 40–50 per cent have been noted during several of the past 20 years. However, there have also been examples of severe annual declines in real share price during the same period.

In order to ensure, with any degree of certainty, a positive real yield of a few per cent, share investments must therefore be very long-term. An investment period of 20 years is short in this context, even if investment is made in the broadest possible portfolio with extensive risk-spreading. The diagram below shows that yield during different 20-year periods has fluctuated greatly. For example, an investment on the stock exchange made in 1960 gave hardly any real yield at all up to 1980. A record yield of over 17 per cent per annum could on the other hand be obtained during the 20-year period from 1980 to 2000 (but some percentage units per annum lower if the investment was retained for just three months into 2001).

Investment in long-term bonds, that is, promissory notes made out by the borrower, has a lower risk than investment in shares, particularly if they are kept for the full duration of the period. In the latter case, the capital is refunded together with the agreed nominal interest. There is always a risk that the lender might become insolvent and be unable to pay, that is, the risk of bankruptcy. As far as Swedish government bonds are concerned, this risk may be considered to be non-existent. If one combines a stock exchange share portfolio with an equal amount of government bonds, the variations in long-term yield will therefore be lower (again, see the diagram). Meanwhile, the yield has nearly always been lower, whichever 20-year period is studied, than that of a stock exchange share portfolio – reflecting the above-mentioned risk premium.



SOURCE: FRENNBERG AND HANSSON (1992), WITH ADAPTATIONS AND SUPPLEMENTARY MATERIAL FROM THE NATIONAL SOCIAL INSURANCE BOARD.

Real yield on Swedish shares and government bonds, including direct yield. Per cent per annum for investments made 20 years ago.

A major risk factor in bond investment is, however, uncertainty concerning future inflation. The main reason that a 20-year bond investment made in 1980 yielded more than 5 per cent in real value was that inflation during the 1990s turned out to be much lower than anticipated at the time of the emission. Partly for the same reason, a bond investment made in 1920 gave a 5-per-cent real yield per annum up to 1940. Between these years, the general price level fell by approximately 25 per cent as a result of the economic crises of the 1920s and 1930s.

Anyone looking back year by year at 20-year-old bond investments from the mid-1950s to the end of the 1980s would have noticed that they had produced a negative real yield. This was partly due to strong waves of inflation but also to the fact that the financing of state expenditure and house-building during this period was facilitated by government control of loan volumes and interest rates.

The uncertainty associated with share investment is mainly in the nature of a business risk – uncertainty as to the prospects of the real economic activities one invests in. Investment in bonds, at least as far as government bonds are concerned, is more typically characterized by the risk of inflation. In addition, there is always the risk that one might be forced to realize one's holdings before the date of maturity. If so, the issuer has no redemption obligation but instead the realizable outcome is decided by the market in much the same way as for shares.

Yield on capital and "the golden rule"

The same method of calculating long-term yield on capital that is used in the diagram on page 77 and the preceding table is in all essential respects employed throughout the world. For Sweden, the result gives a yield on capital in real value over the past 80 years of approximately 5 per cent per annum, and approximately 7 per cent per annum if one only considers stock exchange share capital. Such figures have been frequently quoted and are sometimes used to indicate what may be expected in the long term as regards growth of assets in, for example, fund-based pension systems.

Estimates of capital yield include the appreciation in value of securities as well as dividends and interest (direct yield). This applies in principle to both shares and bonds but the situation is more complicated when it comes to share capital. Most listed companies are noted for not normally sharing out the whole of the profit that is formally available for distribution. Often, a sizable portion is retained by the company to be used in its continuing operations. The size of the dividend varies between companies and over time. Policy on dividends influences stock exchange prices: if only a minor part of the profit is paid out as dividend, the share price rises and vice versa. To be able to compare the profits of different companies, this interaction between dividend policy and share prices must in some way be taken into account.

If a large part of the profit is retained by the company, this is equivalent to shareholders *reinvesting* dividends that they would otherwise have received if the company had had a policy of paying out a greater share. The current method for calculating yield on capital involves the *assumption* that all dividends are reinvested in the same securities. Then the *assumption* is made that these assumed reinvestments give the same yield as the existing shares. The estimate will thus show what a shareholder, who had reinvested his dividend in the hypothetical manner described, would have received as yield and increased assets with "interest on interest".

In real life, all dividends are not reinvested in this manner. The estimate merely shows what yield an individual shareholder, who is too small to be able to influence the stock exchange price of the share capital, might be able to accumulate. A larger investor can only reinvest the dividend at an unchanged share price if there are shares for sale on the market at the same price.

The following is an extremely simplified example of one possible scenario: Investor A owns shares worth SEK 100 in a company. The company regularly pays out 2 per cent per annum as dividend. We assume that the share price remains unchanged. After one year's dividend, A, if he reinvests it, has SEK 102; after one more year SEK 104.04 (through "interest on interest"), etc. Investor A's annual growth in assets is 2 per cent per annum, equal to what the current method for calculating yield on capital gives. Assume now that investor B is the only remaining shareholder, originally also owning shares worth SEK 100. The company's total share capital is thus SEK 200. Unless the company issues new shares, A can only reinvest his dividend by buying shares from B: in the first year SEK 2, the next year SEK 2.04, etc. Possibly B is prepared to sell at the current price, and if he also refrains from reinvesting his dividend he has after the first year shares worth SEK 98, after the second year SEK 95.96, etc. B's assets are in fact decreasing. The value of A's and B's combined holdings after one year is still SEK 200, after one more year still SEK 200, etc. The common growth in assets is thus 0 per cent per annum, equal to growth in the company's total share capital, also 0 per cent per annum. (It has been assumed that no changes occur in share prices and that no new issues take place.) The current method for estimating yield on capital naturally still gives 2 per cent per annum. This is what investor A, who is the one who behaves according to the assumptions of the method of calculation, also gets in the form of growth in assets. It is however impossible for both A and B to do so.

The paradox implicit in this simple example is resolved if the company, by means of new share issues, augments its capital by 2 per cent per annum, thus SEK 4 the first year, etc. Now there is nothing to prevent both investor A and B from reinvesting their dividend and by so doing achieving a growth in assets equivalent to the estimated yield on capital of 2 per cent per annum. If the company is to be motivated to increase its capital, however, assuming the need of capital is constant relative to production, the latter must also grow by 2 per cent per annum. This means that the yield on capital is equal to the growth in production – in national economic terms, growth in GDP. This is the so-called golden rule.

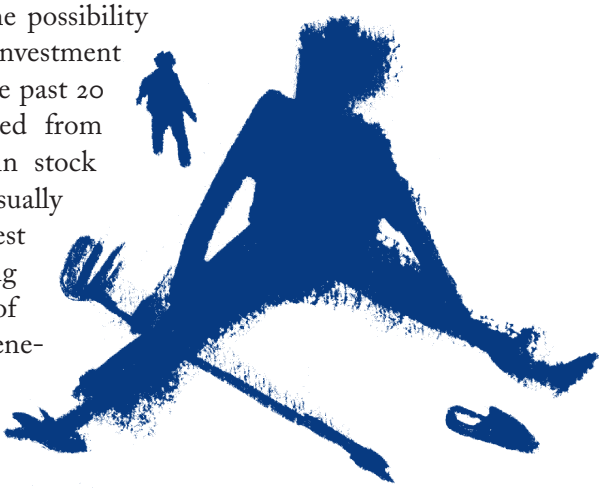
"The golden rule"
If the need of capital in relation to production in the economy is constant over time, a yield on capital of a certain per cent per annum is consistent with a growth in assets of the same size for all capital owners in the economy, providing that production also grows by this percentage. Everyone then has the opportunity to add the yield to the capital and receive interest on interest.

With some imagination, this can perhaps be seen as a parallel in the financial world to the real golden rule: Therefore, whatever you want men to do to you, do also do them, for this is the Law and the Prophets. (Mathew 7:12)

The comparison between yield on capital and growth in GDP needs to be modified for various reasons. One is that, as far as assets in the form of listed shares issued by the corporate sector are concerned, this sector may have a different growth in production in per cent than growth in GDP. Another is that capital intensity, that is to say, the amount of capital required in relation to production, may vary. A third reason is that the country's capital owners have investments in other countries where economic conditions are different, and that foreigners have investments in Swedish stocks.

In the extremely simplified example given above, investor A's strong desire to reinvest would lead to a rise in share price if B was more reluctant to sell. There would be "capital inflation". The rise in share price does not affect (in fixed prices) the company's capital requirements and production under the otherwise obtaining conditions, and an overvaluation of the share capital arises. This overvaluation drops again if A (who may be taken to represent a pension fund in its early stages) becomes less inclined to reinvest, or if B should once again become extremely reluctant to sell.

We cannot exclude the possibility that the high return on investment in shares achieved over the past 20 years (admittedly modified from time to time by a fall in stock prices) is rooted in an unusually strong tendency to reinvest dividends, not least among the increasing number of people from the 1940s generation who invest in funds. New issues of share capital have been limited in rela-



tion to the need for reinvestment, and share prices have been forced up. This building-up phase will ebb out once the 1940s-generation begin to claim their pensions, and when payments from the general premium reserve system eventually get under way on a large scale. As indicated in the above table, "the golden rule" worked reasonably well on average during the 60-year period 1918–1978. The fact that the yield during the following 20 years was significantly higher might turn out to have been a more ephemeral phenomenon.

Yield on capital in the real national accounts

We can approach the question of yield on capital in the economy from a completely different angle to that of the financial markets: the national accounts produced by the national Statistics Office of Sweden (SCB).

It is impossible to equate the yield on capital that individual players in the economic system may achieve for limited periods of time with the realized and consumable income from capital that a nation has at its disposal. A country's real disposable income is limited by GDP, supplemented by the yield on capital that can be gained from net financial investments accumulated abroad. Beyond this, the country can from time to time expand the scope for consumption by running a deficit in the balance of payments. In the latter case, the country takes foreign loans, or reclaims capital lent out previously. If any group in society wishes to achieve a growth in consumption beyond these limitations, it can only do so at the expense of other groups who thus suffer an equivalent reduction in theirs.

GDP is the value of all goods and services produced in a country over a certain period of time, usually one year. GDP and its various elements are calculated each year in the national accounts. However, only goods and services received against payment are included. Payments are made via selling in markets or via national budgets. Work in the home, non-profit activities, etc, are thus not included. GDP is the equivalent of the incomes of those who produce the goods and provide the services. Incomes are of two types: wages and profits. No incomes beyond those included in GDP are generated in the country. Such incomes cannot exist, since there would be nothing to buy for them. A number of people admittedly live off social insurance benefits, etc, (for example, pensioners), but these incomes are transfer payments (transferences) from incomes that are included in GDP.

In the strictest sense, not even GDP consists solely of incomes. A part of production must namely be used for replacing worn-out parts of the capital stock (machines, buildings, plant, etc) used in production. If we were also to consume this part, we would be consuming a part of

capital, not just income. Income is not considered to have been created until measures have been taken to maintain capital intact. The part of production used to replace worn-out capital is referred to in the national accounts as capital erosion. In company accounting, etc, the same "Hicksonian" principle (named after the economist Hicks) is employed, but in this case the term "writing off" is used to describe what more or less amounts to the same thing. The part of GDP remaining after deductions for capital erosion is the net domestic product, where income is divided up into wages and (net) profits. The latter component of income is usually referred to in national accounting terminology as operating surplus (net, after deductions for capital erosion).

The annual variations in the operating surplus of Swedish companies have been considerable. A distinct peak in the share of operating surplus in value of production was reached towards the end of the depression of the 1990s, that is, around 1995. During the last years of the 1990s, this share once again fell, reflecting the increasing growth in real wages that took place at that time.

Operating surplus and yield on capital

Operating surplus is produced in two sectors of the economy, the corporate sector and the household sector. The operating surplus of households is partly made up of the incomes of self-employed persons (for example, many farmers). In addition, an important item in the national accounts is the exploitation value of private houses and summer cottages. Households are perceived as paying rent to themselves. This "imputed" operating surplus is necessary in order to equate people living in their own homes with people living in rented accommodation and may be viewed as yield on the capital invested in the property. The share of households in the total operating surplus is large, around 50 per cent during recent years. In a long-term historical perspective, the share of households has nevertheless fallen, despite the increase in home-owners. This is mainly due to the relative decline in agriculture.

When discussing yield on capital, it is normally the yield in the corporate sector that is referred to. (Income from dividend, etc, that households receive from their share holdings belong to the corporate sector, the deciding factor being which sector the surplus is produced in.) The corporate sector comprises not only companies listed on the stock exchange but also unlisted companies, large and small. State-run enterprises and public utilities are included. Gross production (production before deductions for capital consumption) has risen since 1950 by 2.8 per cent per annum in fixed prices, somewhat more than total growth of GDP. As with GDP, growth in the corporate sector was considerably lower during the later years of the half-

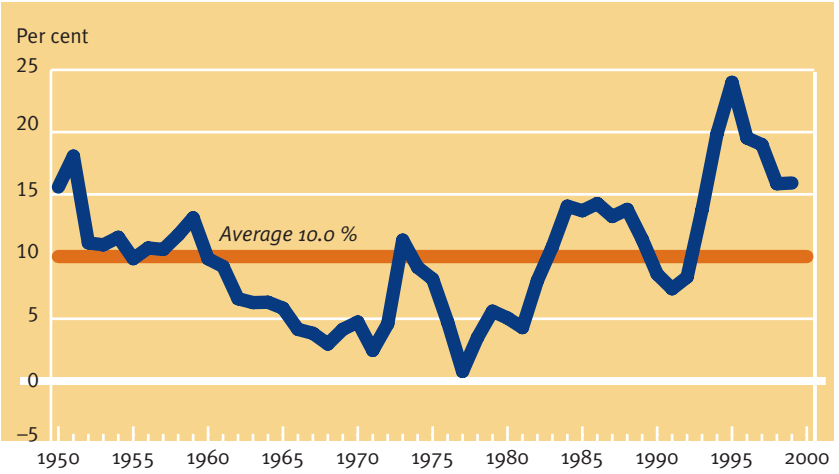
century. Net production (after deductions for capital consumption) has increased at the same pace as gross production. Looking at the whole period since 1950, operating surplus in the corporate sector is seen to have grown as much as production. There is, however, a considerable difference between the half-century's both halves. During the period 1950–1975, the share of operating surplus in production fell dramatically, despite a significant revival during the boom of 1972–1974. Since the late 1970s, the share has increased equally dramatically.

	Growth, % per annum		
	1950–1975	1975–1999	1950–1999
Gross national product (GDP)	3.7	1.7	2.7
Corporate gross production	3.9	1.6	2.8
Corporate net production	3.9	1.6	2.8
Corporate operating surplus	1.2	4.4	2.8

SOURCE: ANALYSES OF SCB'S NATIONAL ACCOUNTS.

Yield on capital in the corporate sector may be calculated by studying the ratio of operating surplus to the value of capital stock. Operating surplus in the national accounts equates to the concept of operating income after capital depreciation in company accounts. However, in making the calculation, resource consumption is valued at what it would cost to replace the resources consumed (in company accounts, the historical value at the time of acquisition is often used). This partly means that a deduction is made for the erosive effect of inflation on capital when the deduction for capital erosion is made (calculated at the price of replacement). The calculation thus results directly in a real measurement of yield.

However, if the rise in price of fixed capital (buildings, machines, etc) should be greater than the rise in consumer prices, the purchasing power of the yield will be underestimated. In calculating real yield in the corporate sector, as shown in the diagram below, allowances have therefore been made for inflation, so that profits from appreciation of fixed capital have been added to the operating surplus, after which losses due to inflation, calculated using the consumer price index, have been deducted. This method of so-called inflation-adjusted profitability assessment is described in detail in the Long-Term Planning Commission's report from 1984, appendix 3.

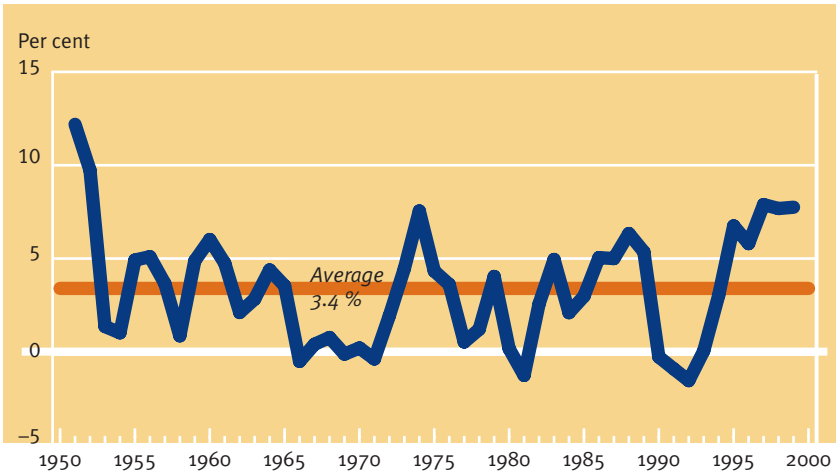


SOURCE: ANALYSES FROM SCB'S NATIONAL ACCOUNTS.

The operating surplus of the corporate sector (net) as a percentage of net production value.

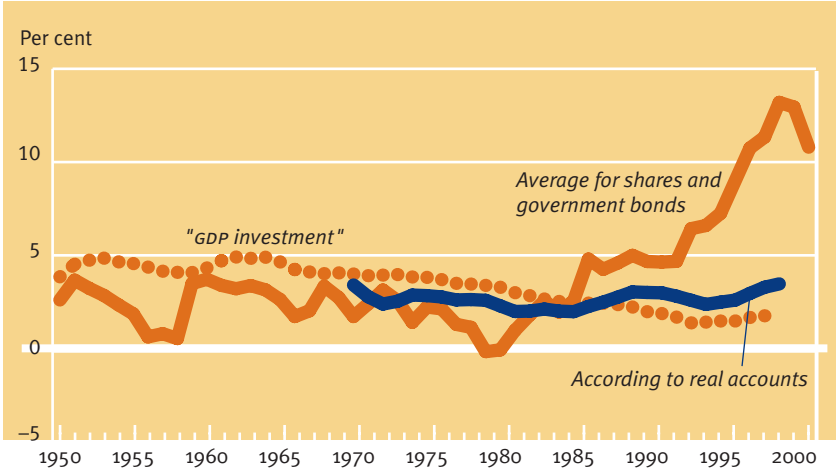
It is also possible to calculate real capital yield in companies by studying the ratio of operating surplus (net) to the volume of fixed capital stock in the companies (see the fact box above and the reference given there). The yield calculated in this way has, since 1950, been 3.4 per cent on average, with considerable variations from year to year. During the second half of the 1990s, it was significantly higher, 7–8 per cent. The yield refers to the total amount of capital invested in companies, and thus includes both borrowed capital and owner capital. During the past 20 years, this yield has been far below the (realized and unrealized) yield reported on the securities market, as indicated in the diagram on page 77. Since 1986, the average yield on a 20-year-old combined share and bond portfolio has been higher than the yield in the corporate sector, as has been shown by the real national accounts. See the diagram on page 85. From 1970 to 1986, however, the opposite was true.

"The golden rule" has been mentioned earlier. This states that under certain conditions real yield in the economy over the long term is theoretically equal to growth in GDP. In recent years, this assumption has been challenged on both theoretical and empirical grounds. The diagram on page 85 also shows the yield on a 20-year investment in a hypothetical security that gives the same real yield as growth in GDP. That this holding from the middle of the 1980s has been inferior to the real yield on capital – also calculated according to the national accounts – is shown clearly. Before that date, however, the situation was reversed. Over a long period, the real yield from "GDP investments" exceeded both the other yield estimates.



SOURCE: ANALYSES FROM SCB'S NATIONAL ACCOUNTS.

Real yield in the corporate sector calculated according to real national accounts.



SOURCE: ANALYSES BY SCB'S NATIONAL ACCOUNTS AND THE DIAGRAM ON PAGE 77. NOTE. "GDP INVESTMENT" IS THE YIELD ON A HYPOTHETICAL INVESTMENT THAT GIVES THE SAME YIELD AS GROWTH IN GDP.

Real yield in a 20-year perspective. Percentage per annum for investments made 20 years earlier.

In a still longer perspective, consisting of the half-century since 1950, the differences are less pronounced:

Growth in GDP	2.7 per cent
Real yield according to the national accounts	3.4 per cent
Real yield on shares and bonds on average	4.4 per cent

Several reservations must be made concerning the above comparison. In the first place, there is a high level of general uncertainty regarding the statistical data and methods of calculation. Then there are a number of specific reservations. The national accounts cover the whole of the corporate sector, including unlisted companies, etc. Yield in the latter may have been different from that in listed companies. Furthermore, foreign subsidiaries of Swedish companies are not included in the national accounts, although these may have a significant influence on the parent companies listed on the Swedish stock exchange. Finally, it should be emphasized that interest rates for the borrowed capital of companies is not the same as for government bonds. They are often higher, but may also be lower, for example, for certain forms of commercial credit.

The general impression is, however, that differences follow expected lines and are not particularly pronounced. That the average yield on shares and bonds has been one per cent per annum higher than the yield calculated according to the national accounts may be due to the fact that the strong upswing on the stock exchange over the past 10–20 years has driven up share prices beyond the long-term reasonable break-even level – a so-called speculation bubble has been created. The calculated risk premium of quoted shares relative to government bonds, as shown in the table on page 75, was as much as 8.5 per cent per annum for the period 1978–1998. That the yield calculated according to the national accounts has in turn exceeded growth in GDP by 0.7 per cent per annum over the past 50 years may be taken as evidence that "the golden rule" does not hit the mark exactly – but that it is not far out.

Future yield on capital

The relatively long period of high real yield on capital that now lies behind us – mainly the result of rising share prices – induced many market commentators and financial analysts to spread the gospel of continued high yields in the future. High capital yield was one of the many ingredients in descriptions of "the new economy" circulating towards the end of the 1990s. Those who continued to assert the validity of "the golden rule" found it difficult to make their voice heard at the time.

The National Social Insurance Board and other authorities have abandoned the earlier practice of solely reckoning with a future capital yield equal to assumed growth in GDP. In the Board's estimates of developments in the AP fund, various alternatives are used which exceed estimated real growth by up to approximately 3 per cent per annum. However, a further reason for this changed approach is the fact that the AP fund now increasingly invests in shares. In its information to insured citizens in 2001, the premium pension authority used yields that were 3.5 and 4 percentage units higher than the real growth of 0 and 2 per cent per annum respectively. This was done because premium pension capital mainly consists of shares. Some people advocate that an even higher yield ought to be assumed.

The decline in share prices 2000–2001 has cast new light on the question of future capital yield and has intensified the debate. In the USA, the issue was debated long before the latest economic downturn began to make itself felt towards the end of the year 2000. In the mid-1990s, The social insurance administration in the USA began to use a 7 per cent yield as the standard assumption for share investment, more than 5 percentage units higher than assumed economic growth. The forward projection of the assumption was no less than 75 years.

The assumption of such large discrepancies between return on share capital and economic growth has been criticized because it leads to unreasonably large increases in the ratio of market value to GDP, in the case of the USA by, among others, D. Baker (1998). At the end of the 1990s, the ratio of market value to GDP in the USA had risen to approximately 2, that is, market value was twice as high as GDP. At the beginning of the 1990s, the ratio was 0.7, having exceeded 1.0 on only few occasions in the post-war years (this happened during the late 1960s). As demonstrated by P. Diamond (2000), a 7 per cent yield, given the rather conservative assumptions concerning growth, would mean that the ratio of market value to GDP had increased twenty-fold over a period of 75 years. It would thus rise to approximately 40. Against the background of related developments over the past 50 years, this would indeed be most remarkable.

In Sweden, the corresponding ratio between market value and GDP at the end of the 1990s reached an even higher value than in the USA, approximately 2.5. The increase during the 1990s had also been significantly greater. The American criticism ought therefore to be equally applicable to Swedish conditions.

The recent stock market decline, which first hit Sweden in the late winter of 2000, has so far (the time of writing is mid-October 2001) almost halved average share prices since their earlier peak. If, for example,

we spread the decline in share prices over 20 years, this represents a reduction in annual yield roughly in excess of 2 percentage units. At a rough estimate, we could conclude that if yield from now on were to be 6 per cent per annum, annual yield on a 20-year investment made in mid-2000 would be 4 per cent per annum. One possible standpoint is therefore that the reasonability of assuming a high yield on shares (from now on) has increased.

However, the drop in share prices might be a confirmation of the view held by others, namely, that the earlier boom was a development out of balance, and that a speculation bubble had been created at the end of the 1990s. The ratio of the Swedish market value to GDP can now be estimated at from 1.3 to 1.4. It thus represents a considerable drop from approximately 2.5 at its peak, though it is still a much higher ratio than the average ratio prior to the 1990s. One possible interpretation would therefore be that the ratio still has considerable way to fall before it reaches a level of equilibrium, and that share prices for some years to come are likely to continue falling.

It is therefore reasonable to ask how such a drastic upswing, filled with so much air, could earlier have happened. One explanation might be people's rapidly growing interest in shares due to rising income levels, and that the large 1940s generation has begun seriously to invest in pensions. This has been analysed by P. Diamond (2000), using the concept "required risk premium" and "realized risk premium". With increased public interest in owning shares (at given prices and prospects), the required risk premium falls. As a result, the price of all share stock rises, leading to an increase in the realized risk premium over a transitional period. In such a transitional phase, it would be a mistake to base future expectations on what might prove to be a temporarily enhanced yield.

It is also conceivable that a part of the share-buying public, due to ignorance or lack of experience, base their expectations on the price trends they have observed during an all too brief historical period. Evidence of such "extrapolative" expectation errors has been found by K.E Case and R.J Shiller (1988).

Finally, it should be emphasized that both the soaring share price of the 1990s and the following slump were largely due to developments within IT companies. This is particularly true of

Sweden. Stock exchange trends in more traditional business areas and companies has been far less dramatic.

To make a more reliable forecast of the real yield on capital is not possible. Many unknown factors are at work and it has proved difficult even to explain what has happened in a well-known historical context. The best we can hope to achieve is to pinpoint probable developments based on a few alternative assumptions.

Based on the conditions of labour supply and productivity described in the preceding section, GDP is estimated to be 1.2 per cent per annum on average during the next half-century. This in itself is obviously a highly hypothetical assumption. The historical statistics presented above seem on the whole to suggest that yield on capital (the sum of share capital and borrowed capital) has over the very long term been somewhat higher than growth in GDP. As a main or intermediate alternative for the next 50 years, we might use 2.5 per cent real yield per annum, that is, 1.3 per cent higher than growth in GDP. If international markets continue to be unregulated in the future, this might justify Sweden setting yield somewhat higher than growth in GDP, since yield on capital is internationally determined. In common with many other European countries and the USA, Sweden is destined to be overtaken in terms of growth by the economies of other countries of the world. A higher yield on capital in those economies may have an influence on the yield that can be achieved here.

A feasible lower alternative is provided by the "golden rule", that is, 1.2 per cent per annum. As a logical upper alternative, we may then assume a yield of 3.8 per cent, an alternative that deviates upwards from the medial alternative as much as the lower alternative deviates downwards.

Alternative	Growth in GDP	Yield on capital	Difference
Low	1.2	1.2	0.0
Medium	1.2	2.5	1.3
High	1.2	3.8	2.6

The yield value is assumed to apply from 2002 onwards, that is, after the fall in share prices continuing up to the end of the year 2001.

If we assume that the risk premium for share capital is likely to be 2 to 5 percentage units higher than the interest on government bonds, the yield on quoted shares should exceed the given values by 1 to 2.5 percentage units. Yield on shares might thus range from just over 2 to just over 6 per cent per annum.

Assuming that a fund for equalizing eldercare costs gave a yield equivalent to the national average (that is, holdings would consist of

both shares and bonds), an estimate of required fund investment can be made. We start out by building up fund capital during the coming relatively unproblematical years with the limited ambition of covering costs up to 2050 in conjunction with tax revenue corresponding to current expenditure in per cent of GDP. Future developments in expenditure are assumed to be those that arise if old people become progressively healthier ("as though 3 years younger") while employees in the care sector receive a raise in their relative salaries. See the preceding section on eldercare costs for details. Working backwards, we can now calculate the amount, let us call it the eldercare contribution, that must be paid into the fund annually. The results, for the three alternative yields presented above, are summarized in the table below. The lower alternative, with a yield 2.6 percentage units lower than that of the upper alternative, requires a contribution that is 25 per cent greater. If the fund capital can be invested so as to produce a high yield, at home or abroad, the cost burden for the working population will diminish accordingly.

The eldercare fund would, when it reached its maximum size in the period 2025–2030, be roughly half as large as the current AP fund. Savings in the eldercare fund would thus partially compensate the reduction in national savings due to the future running down of the AP fund – much as the AP fund in its time compensated the decline in household savings resulting from the introduction of the ATP system.

	Yield		
	1.2	**2.5**	**3.8**
Eldercare contribution, % of GDP	1.09	0.98	0.87
Fund capital, SEK billion, year 2000 prices			
2010	165	151	136
2020	337	325	306
2030	373	377	370
2040	211	224	224
2050	0	0	0

An eldercare fund.

Social insurance in figures

Social insurance in figures

Social insurance in figures

Social insurance in figures

Social insurance in figures

Social insurance in figures

Social insurance in figures

Social insurance in figures

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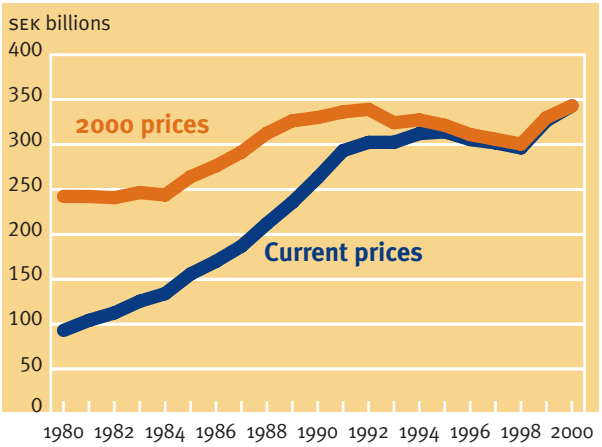
Social insurance in figures

The financial scope of the social insurance system

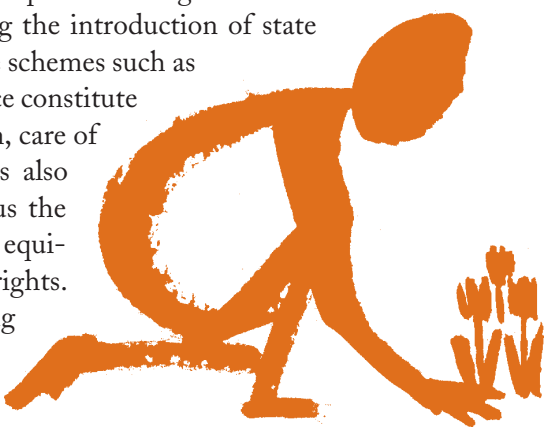
In 2000, social insurance costs totalled SEK 343.1 billion. In terms of year 2000 prices, these costs have risen by 42 per cent since 1980.



Social insurance costs. From 1980 to 2000, old-age pensions accounted for the largest increase in expenditure. Support to families with children also showed an overall increase during this period, despite a fall in expenditure

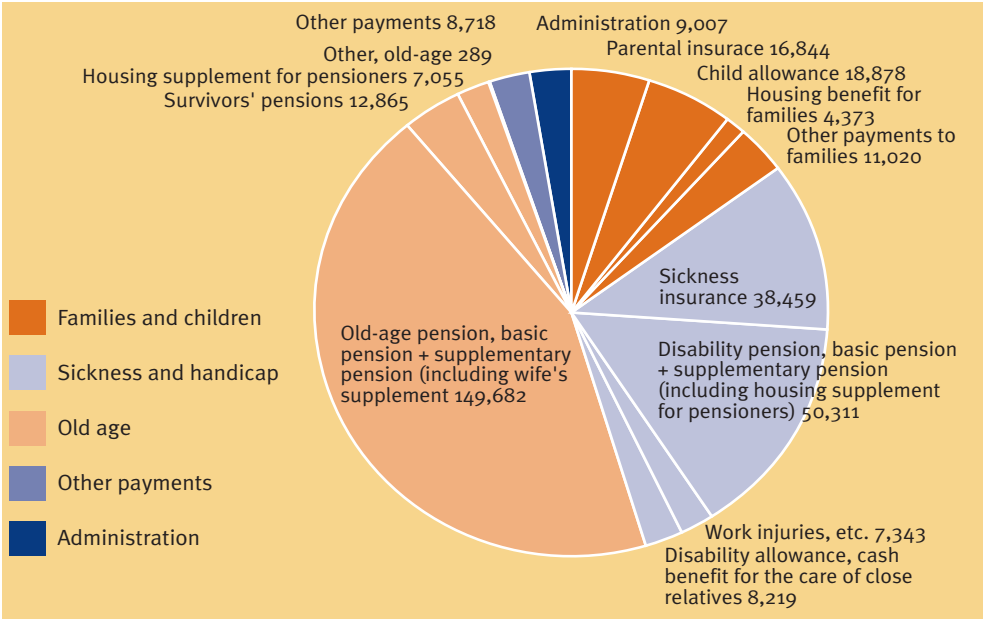
The increase was particularly pronounced during the second half of the 1980s. Total costs expressed in terms of fixed prices continued to rise steadily up to 1992, after which they declined annually until 1999, when they again rose sharply.

This rise in expenditure was due partly to rapidly mounting costs for health insurance and an increase in supplementary pension (ATP) payments. During 1999, a number of important changes were made to the social insurance system, including the introduction of state old-age pension fees. Many insurance schemes such as sickness benefit and parental allowance constitute pension-entitling income. In addition, care of children, military service and studies also qualify for the right to pension. Thus the state contributes old-age pension fees equivalent in principle to these pension rights. Expenditure continued to rise during 2000 as a result of increased costs within these three areas.

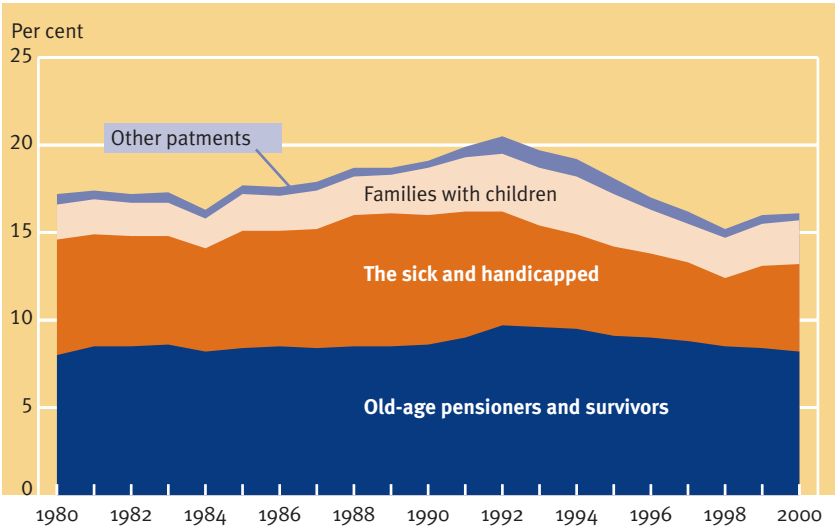


Type of insurance/benefit	1998	1999	2000
Financial security for families and children			
Parental insurance	14,129	15,595	16,844
Child allowance	16,830	16,766	18,878
Housing allowance for families with children and for young people	5,749	5,067	4,373
Care allowance for disabled children	1,656	1,851	1,986
Maintenance support	4,584	4,591	4,831
Child pension			
Basic pension (Fp)	286	289	288
Supplementary pension (ATP)	634	649	653
Pension right for child-care years	.	3,108	3,240
Adoption allowance	20	22	22
Total	**43,888**	**47,938**	**51,115**
Financial security in case of sickness and handicap			
Sickness insurance			
Sickness benefit and rehab. allowance	20,761	27,855	36,458
Medical benefits, etc	1,880	1,899	2,001
Disability/ temporary disability pension, etc.			
Basic pension (Fp)	13,554	13,869	14,236
Supplementary pension (ATP)	23,610	24,037	24,770
National old-age pension fees	.	8,865	8,739
Occupational guarantee for disability pensioners	.	0	2
Housing supplement for disability pensioners	2,346	2,498	2,564
Handicap allowance	996	1,012	1,036
Work injury benefit	6,010	7,236	7,343
Car allowance	212	201	209
Assistance allowance	5,192	6,039	6,960
Other benefits	134	11	14
Total	**74,695**	**93,522**	**104,332**
Financial security in old age, etc			
Old-age pension			
Basic pension (Fp)	52,674	53,279	53,201
Supplementary pension (ATP)	88,900	93,234	96,481
Survivor's pension			
Basic pension (Fp)	476	465	432
Supplementary pension (ATP)	11,718	12,194	12,433
Housing allowance for pensioners	7,245	7,437	7,055
Partial pension	585	300	211
Other pensions	98	87	78
Total	**161,696**	**166,996**	**169,891**
Other payments			
Training allowance	8,737	10,192	8,511
Daily allowance for conscripts, etc	10	16	12
Family allowance for conscripts	260	103	87
Other	469	420	108
Total	**9,476**	**10,731**	**8,718**
Administration	**6,519**	**7,417**	**9,007**
Total	**296,274**	**326,604**	**343,063**

Social insurance expenditure from 1998 to 2000 in SEK million. As of 1999, national old-age pension fees are included, totalling SEK 15,546 million in 1999 and SEK 18,046 million in 2000.



Distribution of expenditure in 2000. Almost half of social insurance spending (49 per cent or SEK 169.9 billion) went to old-age pensioners and survivors. Three-tenths (SEK 104.3 billion) went to the sick and functionally disabled. Support for families with children made up approximately one seventh (15 per cent or SEK 51.1 billion) of the total. Apart from these, there are a number of other forms of compensation (3 per cent or SEK 8.7 billion in 2000). The administration of the national insurance offices and the Swedish National Social Insurance Board accounted for the remaining part of the costs (3 per cent or SEK 9.0 billion).



Social insurance payments as a share of GNP. As of 1999, national old-age pension fees are included, raising the share of social insurance in GNP by just less than one percentage unit.

Social insurance payments constitute a significant part of the national economy. In 2000, they amounted to 16 per cent of the gross national product (GNP). After rising in a virtually unbroken curve, total payments from social insurance peaked at 21 per cent of GNP in 1992. A number of cost-cutting regulatory measures have subsequently brought about a reduction in the share of social insurance in an expanding GNP. These changes include reduced compensation levels, sick pay periods, and qualifying days for sickness insurance. In 2000, the share of GNP deriving from social insurance was down to the same level as at the end of the 1970s.

Type of insurance	Income, SEK million				Expenditure, SEK million			Surplus[1]
	Charges	Statutory govt. funding	Other[2]	Total	Payments	Administration	Total	
Sickness insurance	74,574	12,574	–	87,148	84,559[3]	2,589	87,148	0
Medical benefits	–	2,117	–	2,117	2,001	116	2,117	–
Handicap allowance	–	1,116	–	1,116	1,036	80	1,116	–
Work injury	12,290	190	–	12,480	7,343	312	7,655	4,825
Car allowance	–	241	–	241	209	32	241	–
Assistance allowance	–	5,392	1,654	7,046	6,960	86	7,046	–
Old-age pension								
via National Pension Fund (AP fund)	144,274[4]		28,704	172,978	138,840	1,655	140,495	32,483
via national budget	7,745[5]	3,297[6]	–	11,042	10,842	200	11,042	0
Premium pension scheme	21,556[4]	–	–	21,556	0	635	635	..
Survivor's pensions	14,790	0	–	14,790	13,806	49	13,855	935
Housing supplement (BTP)	–	9,844	21	9,865	9,641	224	9,865	–
Partial pension	41	188	–	229	211	18	229	0
Parental insurance	19,141	0	–	19,141	16,488	603	17,091	2,050
Child allowance	–	18,957	–	18,957	18,878	79	18,957	–
Housing allowance for families with children, etc	–	4,764	–	4,764	4,373	391	4,764	–
Care allowance for disabled children	–	2,114	–	2,114	1,986	128	2,114	–
Maintenance support	–	3,343	1,850	5,193	4,831	362	5,193	–
Pension right for child-care years	–	3,240	–	3,240	3,240	..	3,240	–
Other benefits[7]	30	81	122	233	222	11	233	0
Miscellaneous administration[8]	–	1,148	–	1,148	–	1,148	1,148	–
Total	**294,441**	**68,606**	**32,351**	**395,398**	**325,466**	**8,718**	**334,184**[4]	**..**

[1] Total not given since income from the premium pension scheme consists of reserve funds.
[2] Those liable to pay maintenance, municipalities, interest, etc.
[3] Including disability pension, pregnancy allowance, closely related person's allowance and national old-age pension fees.
[4] Including national old-age pension fees.
[5] Old-age pension fees above the "ceiling" of 8.07 of the base amount may be considered to have partially financed national basic pensions in 2000.
[6] In 2000, SEK 1,403 million was received in national basic pension fees for 1998. These fees can also be seen as partially financing national basic pensions paid out during 2000.
[7] Excluding payments in the labour market area and conscript allowances.
[8] Mainly the national insurance offices' costs for changing the pension debt and some administrative costs for the National Social Insurance Board.

Social insurance income and expenditure in 2000. Social insurance is primarily financed through social security charges, general pension contributions, national old-age pension fees, tax revenue and interest earned on funds.

According to the statutory financing regulations, costs should in part be covered by social security charges and general pension contributions. The actual proportion for any one year is, however, only approximate, since the law does not specify for every insurance the degree to which it is to be financed by fees.

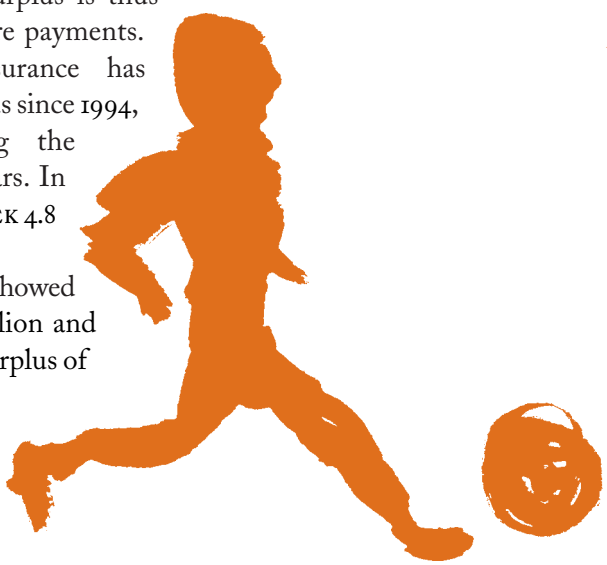
Due to the fact that income in the premium pension scheme (SEK 21.6 billion) is made up of reserve funds, it is impossible to state exactly how large a share of total expenditure was covered by income from contributions in 2000 (if we exclude the premium pension scheme, it amounted to roughly five sixths). The share of expenditure financed by other means can, however, be given. Interest from the National Swedish Pension Fund (the AP fund) covered almost 9 per cent of total social insurance expenditure. The part which according to the statutory regulations should be financed by taxes amounted to just over one fifth of total expenditure. Payments from the municipalities, parents liable to pay maintenance, and some others, covered just over one percent of total expenditure.

Income from social security charges, general pension contributions, and interest, etc, amounted to SEK 326.8 billion. The contribution from state funding totalled SEK 68.6 billion. Excluding payments in the labour market area, total expenditure was SEK 334,2 billion.

As shown in the above table, the portion of old-age pensions financed by the Swedish National Pension Fund (the AP fund) showed a large surplus (SEK 32.5 billion), largely due to the fact that SEK 28.7 billion in interest, etc, was added to the fund capital. It should be noted, however, that costs increase relatively sharply each year. This is due to the increasing number of old-age pensioners and to the average increase in the size of pensions. A certain surplus is thus required to cover future payments.

Work injury insurance has shown an annual surplus since 1994, successively balancing the deficits of previous years. In 2000, the surplus was SEK 4.8 billion.

Parental insurance showed a surplus of SEK 2.1 billion and survivors' pensions a surplus of SEK 0.9 billion.



Year	Social security Fees paid	General insured persons' contributions	Fees paid as a proportion of total social insurance expenditure, in per cent [1]
1985	103,936		67
1990	193,512		75
1991	204,455		71
1992	191,360		67
1993	175,185	6,244	63
1994	182,881	6,705	64
1995	166,672	28,385	65
1996	168,883	37,959	71
1997	165,956	47,261	74
1998	154,996	52,025	72
1999	152,564[2]	59,610	67 [2]
2000	209,151[2]	63,734	82 [2]

[1] Excluding labour market payments and payments to conscripts.
[2] Excluding the premium pension scheme, including national old-age pension contributions.

Fees received 1985 and 1990–2000 in SEK million. Note that the figures are not comparable over time. This is due to the many regulatory changes made primarily at the end of the nineties, as well as to the fact that the periodization of fees was implemented differently from year to year.

Type of insurance	1990	1996	1997	1998	1999	2000
Social security fees [1]						
Sickness insurance	10.10	5.28	4.04	7.90	7.50	8.50
Work injury insurance	0.90	1.38	1.38	1.38	1.38	1.38
Basic pension	7.45	5.86	5.86	6.83	–	–
Supplementary pension (ATP)	13.00	13.0	13.00	6.40	6.40	10.21
Survivor's pension	–	–	–	–	1.70	1.70
Partial pension	0.50	0.20	0.20	0.20	–	–
Parental insurance	–	–	–	–	2.20	2.20
Total	**31.95**	**25.72**	**24.48**	**22.71**	**19.18**	**23.99**
General insured persons' contributions						
Sickness insurance	.	3.95	4.95	.	.	.
Pension	.	1.00	1.00	6.95	6.95	7.00
Total	**.**	**4.95**	**5.95**	**6.95**	**6.95**	**7.00**

[1] Other percentage rates often apply to self-employed persons since 1993.

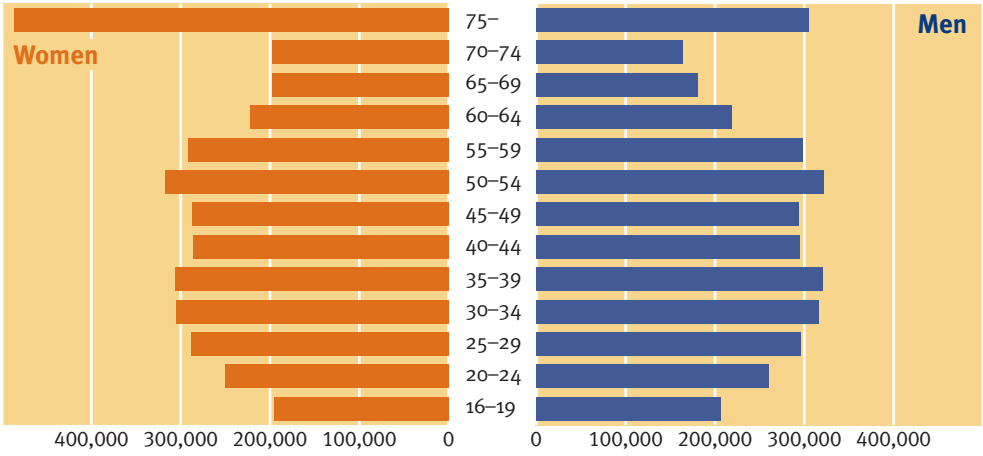
Statutory contributions to social insurance in 1990 and 1996–2000 as a percentage of chargeable income. Social security charges are based on the salaries of employees and self-employed persons and are paid by the employer and the self-employed respectively.

A general pension contribution is paid by those gainfully employed. It is based on earned income as well as on other income such as sickness benefit, unemployment insurance and other compensation for loss of income up to a total of 8.07 times the raised price base amount for one year. During the period 1993–1997, there was also a general sickness insurance charge. In 1998, the general sickness insurance charge was replaced by a corresponding increase in the general pension charge.

In 1999, several changes were made, partly to ensure that charges more nearly corresponded to expenditure in each area. Charges for basic and partial pension were abolished. Charges for survivor's pension and parental insurance were introduced. In addition, sickness insurance contributions were lowered by 0.4 percentage units. Overall, the result was a dramatic reduction (by 3.53 percentage units) in total direct charges for social security. This was compensated, however, by an increase of 3.56 percentage units in the general salary contribution.

In 2000, the sickness insurance fee was raised by 1.00 percentage units and the old-age pension fee by 3.81 percentage units. However, this was compensated by a reduction in the general salary contribution of 4.95 percentage units.

Registered insured persons



Registered insured persons in 2000.

Regulations

Swedish citizens and foreign nationals resident in Sweden are insured under the National Insurance Act (AFL).

All insured persons aged 16 and over and resident in Sweden are registered at the social insurance office. Persons leaving Sweden are considered as domiciled here provided their stay abroad does not exceed one year.

Age	Women	Men	Women and men
16–19	194,988	206,347	401,335
20–29	537,948	556,824	1,094,772
30–39	611,790	637,075	1,248,865
40–49	573,113	588,573	1,161,686
50–59	608,647	620,518	1,229,165
60–69	420,142	399,357	819,499
70–	683,365	469,125	1,152,490
Total	**3,629,993**	**3,477,819**	**7,107,812**

Registered insured persons in 2000.

Regulations

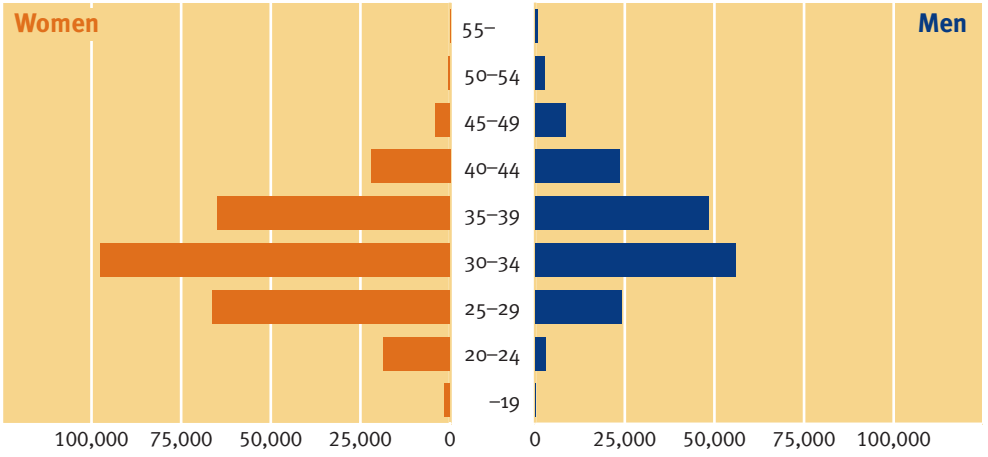
Sickness benefit insurance is held by all registered insured persons whose annual earned income is estimated to be a minimum of 24 per cent of the base amount. In 2000, this was the equivalent of SEK 8,800. For 1997 and earlier, the figure was SEK 6,000 per annum. The income entitling earners to sickness benefit may be no higher than 7.5 times the base amount per annum (SEK 274,500 for 2000).

Since 1992, people are no longer obliged to report new or changed income to the social insurance office in advance. Today, any change in income level may be reported at the time of claiming a benefit from the social insurance office. This means that details are no longer available as to how many insured persons there are at each income level.

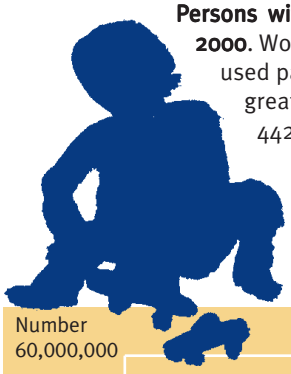
Financial security for families and children

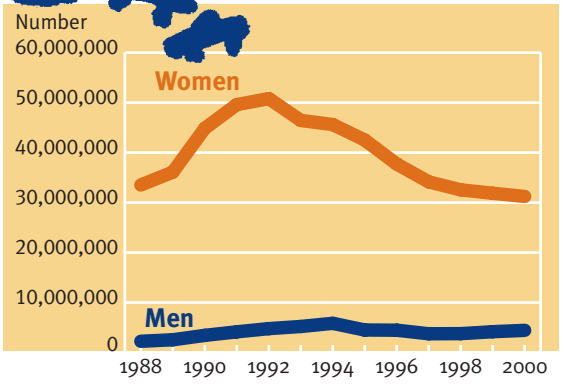
Parental allowance for the birth of a child

Parental insurance is designed to help both parents combine parenthood and working life.



Persons with parental allowance in 2000. Women have consistently used parental insurance to a greater extent than men. 442,000 persons received parental allowance in 2000. Women made up 62 per cent, and men 38 per cent. Roughly one third of the women and half the men were above the age of 35. Only in the very highest age groups did more men than women receive parental allowance, due to the fact that older men can have children with younger women.





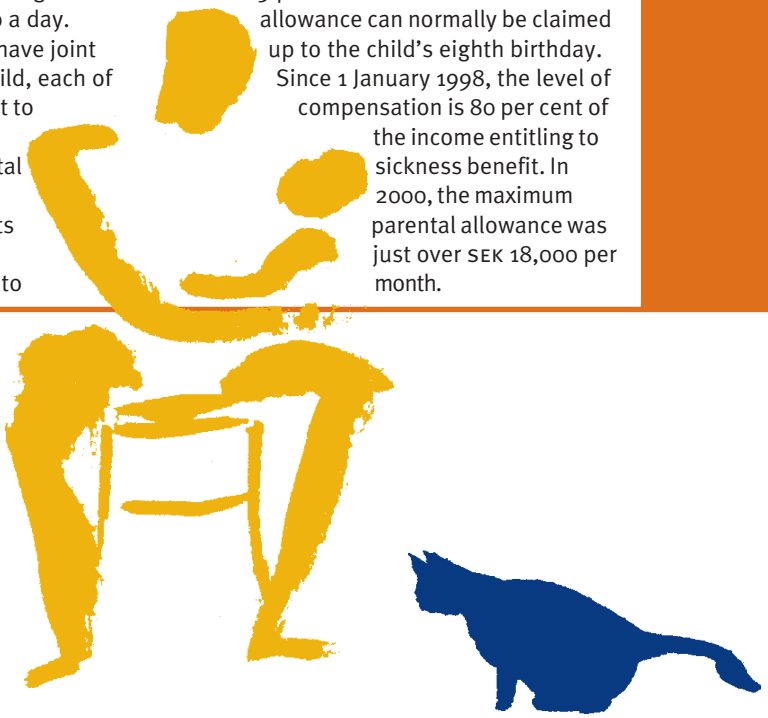
Number of days with parental allowance. On average, men claim far fewer days than women. Of the total days with parental allowance claimed in 2000, women accounted for 88 per cent. The figure clearly shows the impact of the large number of children born in the years around 1990. The number of days with parental allowance claimed since then has decreased progressively year by year in conjunction with the falling birth rate. The number of days with parental allowance was highest in 1992. Since then, the number of days has steadily decreased. For men, however, the numbers peaked in 1994, and a slight rise was noticeable in 1999 and 2000.

Regulations

Parental allowance for the birth or adoption of a child is available for a total of 450 days per child. For the first 360 days, the benefit is related to the parents' loss of income, though the minimum amount is SEK 60 per day. For the remaining 90 days, everyone receives a guaranteed amount of SEK 60 a day.

If the parents have joint custody of the child, each of them has the right to half the total number of parental allowance days. One of the parents may, however, transfer the right to parental allowance to the other parent, with the exception of the 30 days known as the "father's/mother's month".

The benefit is payable for different portions of a day – at 100 per cent, 75 per cent, 50 per cent or 25 per cent of the full rate. Parental allowance can normally be claimed up to the child's eighth birthday. Since 1 January 1998, the level of compensation is 80 per cent of the income entitling to sickness benefit. In 2000, the maximum parental allowance was just over SEK 18,000 per month.

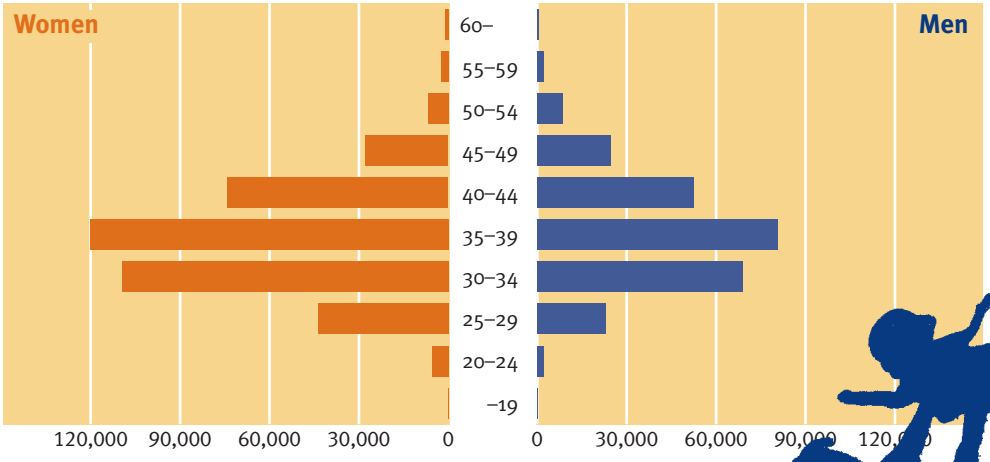


Age	Number of recipients		Average number of days		Average amount over the year, SEK	
	Women	Men	Women	Men	Women	Men
–19	1,579	44	174	62	12,383	7,646
20–24	18,603	2,864	162	34	33,745	12,363
25–29	66,334	24,010	136	28	42,722	11,369
30–34	97,404	56,042	114	27	39,649	11,262
35–39	64,801	48,326	94	26	32,552	11,130
40–44	22,046	23,509	70	26	22,611	10,647
45–49	4,094	8,455	44	25	13,152	10,179
50–54	345	2,593	44	28	12,106	11,037
55–	8	818	53	77	23,155	26,956
Total	**275,214**	**166,661**	**113**	**27**	**36,369**	**11,127**

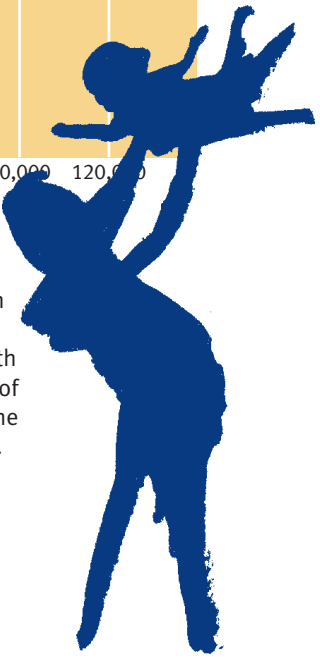
Parental allowance for the birth of a child in 2000. Out of a total of SEK 11,9 billion paid in parental allowance for the birth of a child in 2000, 84 per cent went to women and 16 per cent to men.

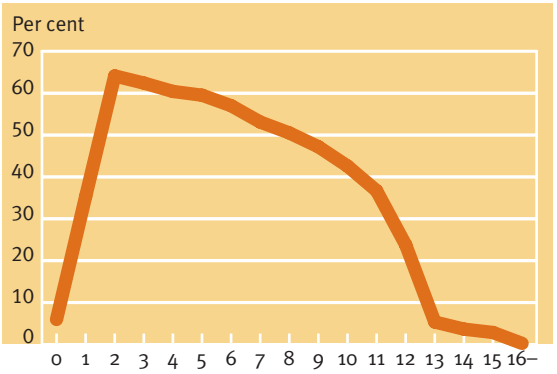
Temporary parental allowance

Temporary parental allowance enables parents to stay at home from work when their child is sick.



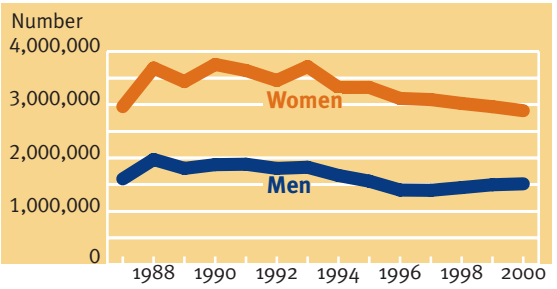
Persons with temporary parental allowance for the care of a child in 2000. Just over 655,000 persons used temporary parental allowance in 2000. Most of these were women, accounting for 60 per cent. Men made up 40 per cent, which is somewhat higher than the number of men who received parental allowance for the birth of a child, which was 38 per cent. Distribution according to age and sex for both types of benefit is strikingly similar, with a higher proportion of men found only in the higher age brackets.





Children cared for with temporary parental allowance in 2000. Temporary parental allowance was taken out for more than half of the children aged between two and eight. Over 60 per cent of two and three-year-olds were at one time or another during 2000 cared for by a parent or other person receiving temporary parental allowance.

Days with temporary parental allowance for the care of a child. Despite an increase in the number of children during the 1990s, the number of days for which payment was made for the care of sick children decreased for the major part of this period. This may have been due to two decreases in the compensation level in combination with widespread unemployment. A contributory factor was the decrease in the number of younger children, who are most often in need of care. The level of compensation was raised in 1998.



Regulations

A parent needing to stay home from work to care for a sick child is entitled to temporary parental allowance. This applies to children under 12 (in certain cases under 16). Normally, compensation is paid for 60 days per child and year. The right to temporary parental allowance may in certain circumstances be transferred to another person who stays at home from work instead of the parent to care for the child.

Parents of children covered by the Swedish Act on Support and Service for certain functionally disabled persons (LSS) may receive compensation for the care of a sick child aged between 16 and 21 (sometimes older).

In addition, the parent of a child who is 15 or younger and who is covered by LSS is also entitled to ten so-called contact days per child and year. These days may be used for parental training courses, helping the child get used to new surroundings, or visits to pre-school or school-childcare activities that the child participates in.

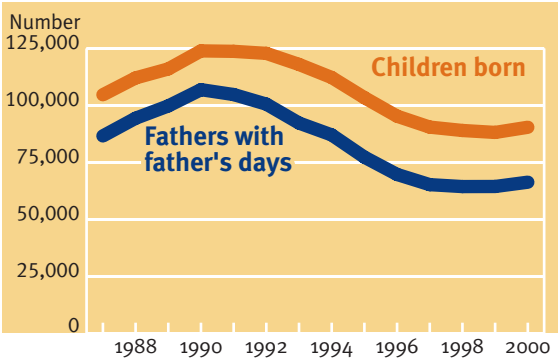
The allowance is payable on a whole-day, three-quarter day, half-day or quarter-day basis. In 1997, the level of compensation was 75 per cent. Since 1 January 1998, it is 80 per cent of the income entitling to sickness benefit. In 2000, the maximum parental allowance was just over SEK 18,000 per month.

Age	Number of recipients		Average number of days		Average amount over the year, SEK	
	Women	Men	Women	Men	Women	Men
–19	43	19	10	10	3,098	5,259
20–24	5,520	2,168	9	7	4,257	4,160
25–29	43,668	22,920	9	7	4,476	4,559
30–34	109,605	69,000	8	6	4,598	4,345
35–39	120,147	80,793	7	6	4,258	4,059
40–44	74,107	52,466	6	5	3,711	3,680
45–49	27,816	24,494	6	5	3,341	3,418
50–54	6,926	8,657	5	5	2,811	3,356
55–59	2,399	2,275	3	5	1,898	3,190
60–	1,023	509	3	4	1,514	2,694
Total	**391,254**	**263,301**	**7**	**6**	**4,162**	**4,010**

Temporary parental allowance for care of children 2000. Out of a total of around SEK 3.1 billion paid in 2000 in temporary parental allowance for the care of a child, 61 per cent went to women and 39 per cent to men.

Paternity leave

Paternity leave enables the father to be present at the birth of his child, manage the home and take care of children when a child is born.



Paternity leave. The number of children born and the number of fathers taking paternity leave reached a peak in 1990, when approximately 86 per cent of fathers took paternity leave. During the greater part of the 1990s, the number of days of paternity leave progressively diminished, due to a decrease in the number of children born and in the number of new fathers taking advantage of their 10 allowed days. In 2000, only 73 per cent of fathers took paternity leave.

Regulations

In connection with the birth or adoption of a child, the father is entitled to temporary parental allowance for a maximum of 10 days per child. These must be taken out within sixty days after the homecoming of the child or after the adoptive parent has assumed custody of the child.

Since 1 January 1998, the compensation level is 80 per cent of the income entitling to sickness benefit. In 2000, the maximum compensation was just over SEK 18,000 per month.

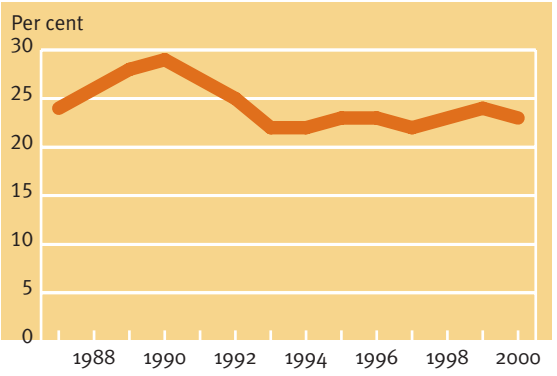
Age	Number of recipients	Average number of days	Average amount over the year, SEK
–19	36	9.2	4,717
20–24	2,628	9.4	5,742
25–29	15,288	9.5	6,502
30–34	25,034	9.5	6,857
35–39	15,520	9.5	6,912
40–44	5,498	9.5	6,781
45–49	1,740	9.6	6,703
50–54	483	9.5	6,847
55–59	106	9.6	6,629
60–	18	10.0	6,517
Total	**66,351**	**9.5**	**6,732**

Paternity leave in 2000. In 2000, SEK 447 million was paid out in paternity leave.

Pregnancy allowance

The pregnancy allowance enables pregnant women who are unable to continue working to take time off to rest.

Number of women with pregnancy allowance. During the later stages of pregnancy, most women receive social insurance compensation in the form of pregnancy allowance, sickness benefit or parental allowance. The proportion of women receiving pregnancy allowance increased in general throughout the 1980s, reaching a peak of just under 30 per cent in 1990. After a marked drop in the early 1990s, a slight increase is once again noticeable.



Regulations

The social insurance office only pays pregnancy allowance if the woman's employer cannot offer her alternative employment. The woman may receive pregnancy allowance for a maximum of 50 days during the last two months of her pregnancy.

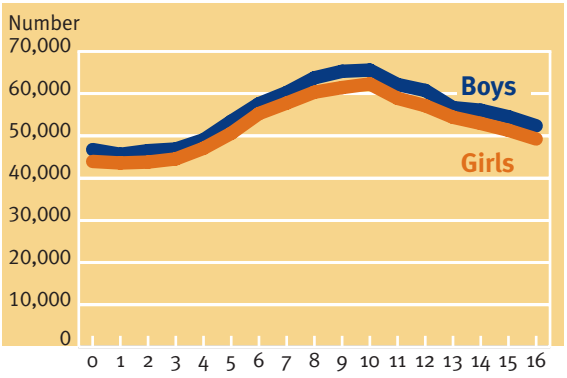
Since 1 January 1998, the compensation level is 80 per cent of the income entitling to sickness benefit. In 2000, the maximum pregnancy allowance was just over SEK 18,000 per month.

Age	Number of recipients	Average number of days	Average amount over the year, SEK
–19	36	40	12,137
20–24	2,569	39	13,845
25–29	8,313	38	15,153
30–34	6,843	38	15,900
35–39	2,853	38	15,601
40–44	494	38	16,045
45–49	20	43	17,744
Total	**21,128**	**38**	**15,315**

Pregnancy allowance in 2000. In 2000, SEK 323 million in pregnancy allowance was paid to just over 21,000 women.

Child allowance

Child allowance is designed to even out financial inequalities between families with and without children as well as over a lifetime.



Source: Statistics Sweden (SCB)

Number of children in 2000. At the end of 2000, there were 895,000 girls and 944,000 boys aged between 0 and 16. The figure clearly illustrates the effect of the so-called baby boom. The very large groups of children born around 1990 have reached the age of nine or ten by 2000. Since the peak year of 1990, the number of children born has fallen gradually. The number of children born in 2000 (zero years old in the figure) was just under 30 per cent lower than the number born in 1990.

Regulations

Child allowance includes basic child allowance, extended child allowance and additional child allowance.

All parents are entitled to basic child allowance for children domiciled in Sweden, up to the quarter when the child turns 16. After this, the parent may receive so-called extended child allowance for as long as the child attends compulsory school or the equivalent.

A parent receiving basic child allowance, extended child allowance or study grants for three or more children also receives additional child allowance. During 1996 and 1997, the regulations were changed so that no new additional child allowances were granted but since 1 January 1998, they are once again being granted. Child allowance is exempt from tax.

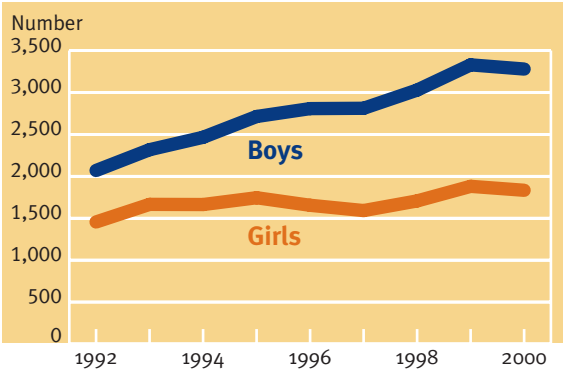
On 1 January 2000, child allowance was raised to SEK 850 per child and month. Additional child allowance was SEK 227 per month for the third child, SEK 680 for the fourth child and SEK 850 for the fifth child and for every additional child thereafter.

	Monthly sum, SEK			Yearly sum, SEK
	Child allowance	Additional child allowance	Total	
1 child	850	–	850	10,200
2 children	1,700	–	1,700	20,400
3 children	2,550	227	2,777	33,324
4 children	3,400	907	4,307	51,684
5 children	4,250	1,757	6,007	72,084
For each additional child:	850	850	1,700	20,400

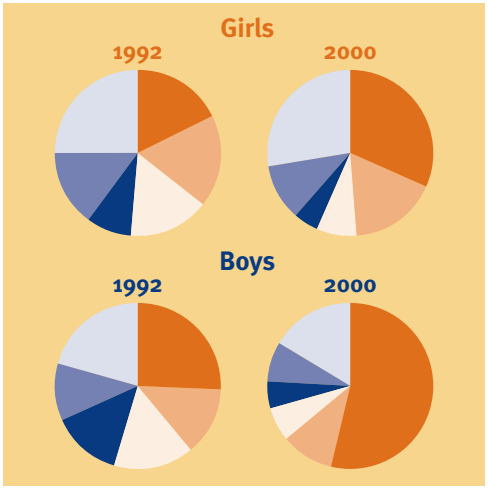
Sums payable for child allowance in 2000. In 2000, approximately SEK 18.9 billion was paid in child allowance.

Care allowance

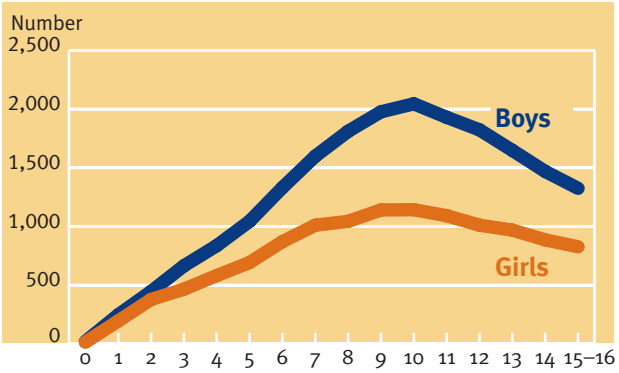
Care allowance helps parents to provide a sick or functionally disabled child with care and attention, and the support necessary for the child to develop in the best possible way.



Children with new care allowances. The number of new care allowances granted increased during the nineties. During this period, two new levels of compensation were introduced, 25 per cent and 75 per cent. The introduction of the lowest level allowed a larger number than before to receive care allowance. Since 1994, this level is the most frequently granted. At the same time, a shift has taken place from younger to older children. In 1992, children aged 0 to 4 made up approximately half the total, but in 2000, this group comprised just over a quarter.



Children with new care allowances. It is primarily the psychological diagnoses that account for the changed picture in 2000 compared with 1992. Behavioural disorders such as DAMP and ADHD are diagnosed ever more frequently. The number of cases diagnosed among boys has more than trebled, while among girls it has roughly doubled.



Children with care allowances in December 2000. Among children receiving care allowance in December 2000, approximately 38 per cent were girls and 62 per cent were boys. Boys dominated in all age groups. The proportion of girls was highest in the lower age groups, being 40–45 per cent up to the age of five.

Regulations

A parent may receive care allowance for his/her child if the child is younger than 16 and is in special need of care and attention for at least six months due to sickness, mental retardation or some other form of functional disability. The parent may also receive care allowance if the child's sickness or functional disability gives rise to increased expenses (additional costs).

If the parent takes care of several sick or functionally disabled children in the specified age group, the right to care allowance is based on their total need of attention and care, as well as the extent of the increased expenses.

Care allowance is payable at 100 per cent, 75 per cent, 50 per cent or 25 per cent of the full benefit rate. Full care allowance is 2.5 times the basic amount per annum, which in 2000 amounted to SEK 7,625 per month. Care allowance is taxable and qualifies for pension. However, care allowance for increased expenses is exempt from tax.

Under certain circumstances, compensation for additional costs can be paid on top of the normal amount for full benefit. Since 1 January 1998, a parent may be granted care allowance even if there is only a need of compensation for additional expenses. In such cases, care allowance is 36 or 62.5 per cent of the basic amount per year, depending on the size of the additional expenses.

Age	All children		Children in families with care allowance for one child	
	Girls	Boys	Girls	Boys
0–2	587	713	499	577
3–5	1,741	2,547	1,330	1,971
6–8	2,926	4,741	2,158	3,644
9–11	3,376	5,952	2,557	4,671
12–14	2,866	4,940	2,330	4,049
15–	827	1,325	678	1,102
Total	**12,323**	**20,218**	**9,552**	**16,014**

Children with care allowance in December 2000. Just over one fifth of children were in families receiving care allowance for more than one child.

Age	Number of recipients (parents)		Average amount per month, SEK	
	Women	Men	Women	Men
–24	180	7	4,682	3,676
25–29	1,748	70	4,615	4,225
30–34	5,863	397	4,524	3,946
35–39	8,480	817	4,542	3,855
40–44	6,377	786	4,508	3,963
45–49	3,090	560	4,613	3,884
50–54	957	241	4,674	4,199
55–	159	129	4,840	3,835
Total	**26,854**	**3,007**	**4,550**	**3,935**

Care allowance in December 2000. A total of just over SEK 1.8 billion in care allowance was paid in 2000, of which 91 per cent went to women and 9 per cent to men.

Child pension

A child is entitled to a child pension if one or both of its parents are deceased.

Regulations

The child may receive the pension up to and including the age of 17. A child who is studying may in certain cases continue to receive the pension up to the end of June in the year the child turns 20.

The child pension from the basic pension scheme is at least 25 per cent of the basic amount for each deceased parent, corresponding to SEK 763 per month in 2000.

From the supplementary pension scheme, the child receives 30 per cent of each deceased parent's supplementary pension (ATP). If the child has siblings, a further 20 per cent of the ATP sum is added for each sibling. The total sum is shared equally between the children.

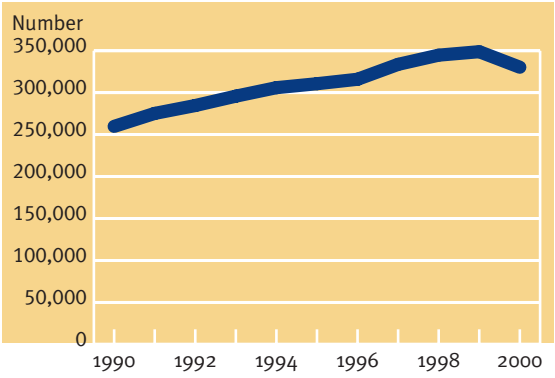
The total child pension (basic pension and supplementary pension) for one child should always be at least 40 per cent of the basic amount per annum for each deceased parent, which was equivalent to just over SEK 1,200 per month in 2000.

Age	Number of recipients	
	Girls	Boys
0–4	434	464
5–9	2,225	2,319
10–14	5,066	5,426
15–19	6,587	7,049
Total	**14,312**	**15,258**
Average amount per month, SEK	**2,552**	**2,547**

Child pensions in December 2000. Out of a total of around SEK 940 million paid in child pensions in 2000, roughly 48 per cent went to girls and 52 per cent to boys.

Maintenance support

Maintenance support is designed to ensure that parents take financial responsibility for the children they do not live with, while society guarantees these children a reasonable economic standard.



Children with maintenance support. In December 2000, maintenance support was paid for around 330,000 children aged between 0 and 20. This represents 16 per cent of all children in that age group. The increase in the number of children receiving maintenance support during the 1990s was due both to an increase in the total number of children and to an increase in the proportion of children receiving the benefit. In 1997, moreover, extended maintenance support was introduced.

Regulations

On 1 February 1997, a new support system was introduced, aimed at parents who have separated. Maintenance support replaced the previous system of maintenance advances and special allowances for certain adopted children.

The idea behind this is that parents have a maintenance obligation towards their children. A parent who does not live together with his/her child is legally obliged to fulfil his/her maintenance obligation by paying maintenance to the parent with whom the child lives.

The parent with whom the child lives can receive maintenance support from the social insurance office if

- the parent obliged to pay maintenance does not do so
- the maintenance agreed is lower than SEK 1,173 per month, in which case maintenance support is paid in the form of a supplementary allowance
- paternity has not been established
- one parent is deceased and the child does not receive a child pension
- the child has been adopted by only one parent.

Maximum maintenance support is SEK 1,173 per month and child. Extended maintenance support can be paid for a child pursuing studies which qualify for extended child allowance or a study grant, but no longer than June in the year the child turns 20.

In principle, the parent liable to pay maintenance must repay, either in full or in part, the costs borne by society for the maintenance support paid to the other parent. The repayment liability is set at a percentage of the income he/she had in his/her latest tax return. The percentage is also based on the number of children he/she has.

If the parent liable to pay maintenance has financial problems, he/she may be temporarily or permanently relieved of the obligation to pay. In the case of a temporary interruption of payments, a debt arises which must subsequently be repaid to the social insurance office. A debt may also arise if the parent liable to pay maintenance refuses to pay.

Age	Girls	Boys	Proportion of each age group, per cent Girls	Boys
0–2	7,071	7,605	5.4	5.5
3–5	15,275	16,135	10.7	10.8
6–8	26,364	27,615	15.2	15.2
9–11	35,508	36,961	19.4	19.1
12–14	35,168	36,428	21.4	21.0
15–17	31,726	33,896	21.3	21.4
18–20	9,621	11,078	6.4	7.1
Total	**160,733**	**169,718**	**14.7**	**14.7**

Children with maintenance support in December 2000.

Age	Number of recipients Women	Men	Average amount in December, SEK Women	Men
–24 *	15,205	10,389	1,197	1,121
25–29	18,075	954	1,574	1,364
30–34	36,715	3,399	1,822	1,533
35–39	48,354	7,051	1,908	1,596
40–44	36,656	7,692	1,758	1,563
45–49	19,700	5,165	1,538	1,475
50–54	7,748	2,425	1,364	1,429
55–59	1,607	849	1,234	1,413
60–	151	363	1,274	1,351
Total	**184,211**	**38,287**	**1,700**	**1,416**

* Including recipients of extended maintenance support.

Maintenance support in December 2000. In 2000, SEK 4.5 billion was paid in maintenance support, of which 85 per cent went to women and 15 per cent to men.

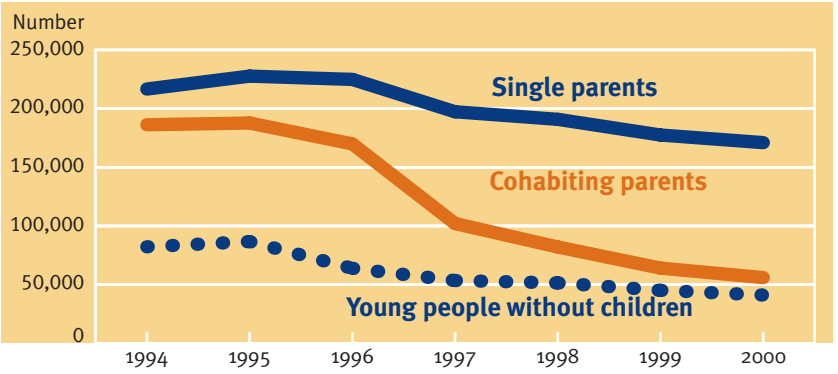
Age	Number liable to pay Women	Men	Number with debts Women	Men	Average debt* in December, SEK Women	Men
–24	386	3,024	36	469	5,415	7,471
25–29	2,194	10,767	732	4,744	9,173	14,912
30–34	5,780	26,474	2,236	13,254	12,197	22,831
35–39	9,647	42,424	3,951	21,704	13,388	27,219
40–44	8,854	43,435	4,078	23,116	14,171	28,354
45–49	4,676	34,692	2,443	19,819	13,531	26,252
50–54	1,715	20,815	998	12,407	13,258	23,960
55–59	372	8,961	244	5,389	13,732	22,340
60–	29	3,973	16	2,313	10,640	20,240
Total	**33,653**	**194,565**	**14,734**	**103,215**	**13,213**	**25,266**

* The average debt is calculated on the basis of the parents with maintenance debts.

Parents liable to pay maintenance in December 2000. Out of the total of 228,000, 15 per cent were women and 85 per cent men. 44 per cent of the women had a debt to the social insurance office as opposed to 53 per cent of the men. Out of the total debt of around SEK 2.8 billion at the end of 2000, women owed just over 7 per cent, whereas men owed 93 per cent.

Housing allowance

The housing allowance is designed to enable financially weak households to live in adequate and sufficiently spacious accommodation.



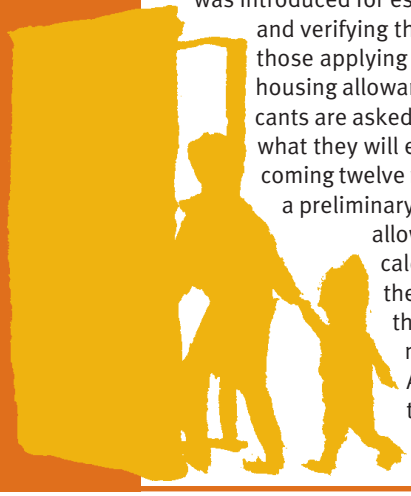
Households with housing allowances. The number of households with a housing allowance has decreased over the past few years. This is due to changes in the regulations. The decrease is most noticeable among households consisting of two parents and children.

Regulations

Families with children and young households without children (28 and younger) may receive a housing allowance.

The amount of allowance is determined by the size of household, accommodation costs and income.

On 1 January 1997, a new system was introduced for estimating and verifying the income of those applying for a housing allowance. Applicants are asked to estimate what they will earn over the coming twelve months, and a preliminary housing allowance is calculated on the basis of this information. Afterwards, the income estimate is checked against actual taxed income and a final housing allowance is calculated. The balancing of benefits for 2000 will be carried out in January 2002. Households that have received too large a preliminary benefit are obliged to pay back the difference plus an extra charge. If on the other hand a household has received too little preliminary benefit, the difference is made up with interest.

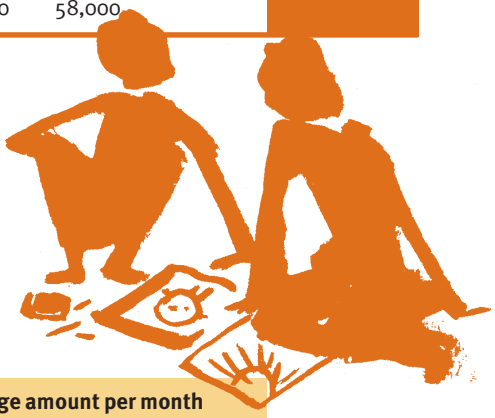


For married or cohabiting couples with children, the housing allowance is means-tested on an individual basis. The benefit is reduced if the annual income of either partner exceeds SEK 58,500, corresponding to a monthly income of just under SEK 5,000.

For a single parent, the housing allowance is reduced if annual income exceeds SEK 117,000, corresponding to a monthly income of just under SEK 10,000.

Regulations

	Max. housing allowance per month, SEK	Max. living area, sq metres	Income limit above which housing allowance is reduced, SEK per year	
			Single persons	Married/ cohabiting couples
Families with children				
Number of children				
1	2,500	80	117,000	58,500/applicant
2	3,175	100	117,000	58,500/applicant
3	3,900	120	117,000	58,500/applicant
4	3,900	140	117,000	58,500/applicant
5 or more	3,900	160	117,000	58,500/applicant
Households without children				
18–28 years	1,100	60	41,000	58,000



	Number of households by type			Average amount per month and household, SEK		
	Single persons		Cohabitees	Single persons		Cohabitees
Age	Women	Men		Women	Men	
–24	19,874	11,950	6,556	937	608	1,279
25–29	18,680	5,819	8,728	1,577	779	1,573
30–34	25,954	3,562	10,694	1,851	1,110	1,701
35–39	33,537	5,861	10,875	1,834	1,134	1,739
40–44	28,560	6,133	7,365	1,664	1,153	1,772
45–49	16,978	4,580	3,730	1,476	1,160	1,719
50–54	7,184	2,637	1,488	1,406	1,148	1,658
55–59	1,900	1,173	467	1,400	1,173	1,586
60–	310	676	113	1,657	1,188	1,750
Total	**152,977**	**42,391**	**50,016**	**1,592**	**943**	**1,641**

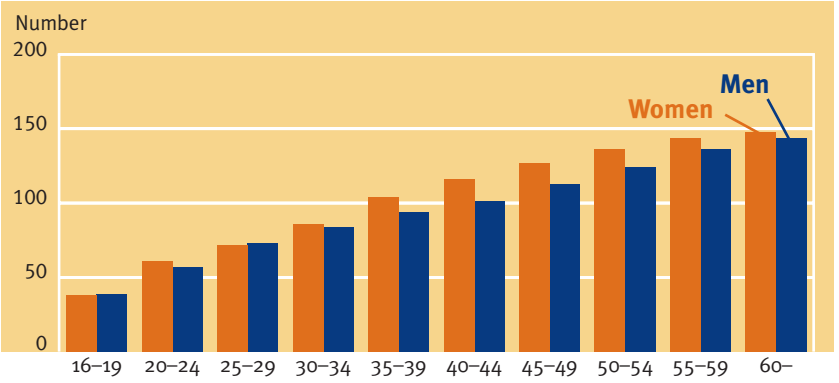
Housing allowances in December 2000. Housing allowances are mainly paid to single parents, generally women. In December 2000, a total of around 245,000 households received a preliminary housing allowance.

In 2000, a total of SEK 4.4 billion in housing allowances was paid to roughly 350,000 households. Around SEK 3 billion went to the approximately 60 per cent of households where a woman was the sole breadwinner. Households where a man was the sole breadwinner made up approximately 20 per cent and received just over SEK 0.5 billion.

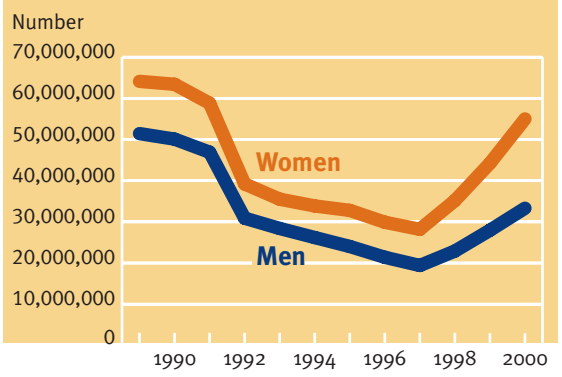
Financial security in case of sickness and handicap

Sickness benefit

Sickness benefit provides financial security during periods of reduced working capacity due to sickness.



Sickness benefit days per recipient in 2000. The number of sickness benefit days increases with advancing age for both women and men. This might be interpreted to mean that medical risks increase with age. It may also mean that the pressures of working life are increasing, or that persons who have been professionally active for a long period have also been subjected to greater overall strain.



Paid sickness benefit days. At the beginning of the nineties, the number of sick days paid by social insurance declined sharply. This decline was primarily the result of changes in the regulations. One example is the sick pay period introduced in 1992, another is the qualifying day introduced in 1993. A further reason for the decline could be greater restrictiveness in applying the sickness insurance regulations, in conjunction with increased unemployment. Over the past few years, paid sickness benefit days have again increased sharply, especially for women. It is mainly long-term sickness which has increased.

Investigations reveal that stress-related illnesses occur increasingly frequently. Absence due to sickness is strikingly high in county councils and municipalities, where 80 per cent of employees are women. Particularly high sickness figures are reported in municipal areas of employment such as nursing, education and health care.

Regulations

A person may receive 100 per cent, 75 per cent, 50 per cent or 25 per cent of the sickness benefit when income is lost for medical reasons. The deciding factor is the extent to which a person's working capacity is reduced by the sickness.

It is also possible to receive sickness benefit for medical treatment or medical rehabilitation aimed at preventing sickness or reducing the sickness period.

During the first days of a sickness period, an employee receives sick pay from the employer. From 1992 to 1996, the sick pay period was 14 days. From January 1997 to March 1998, it was 28 days, and since April 1998, it is once again 14 days. If reduced working capacity due to sickness persists after the end of the sick pay period, an employee may receive sickness benefit from the social insurance office. Self-employed persons may have a qualifying period of 3 or 30 days.

There is no official limit to how long a person may receive sickness benefit, but if the social insurance office judges that the situation is likely to last for at least a year, the person is considered for a temporary or permanent disability pension instead.

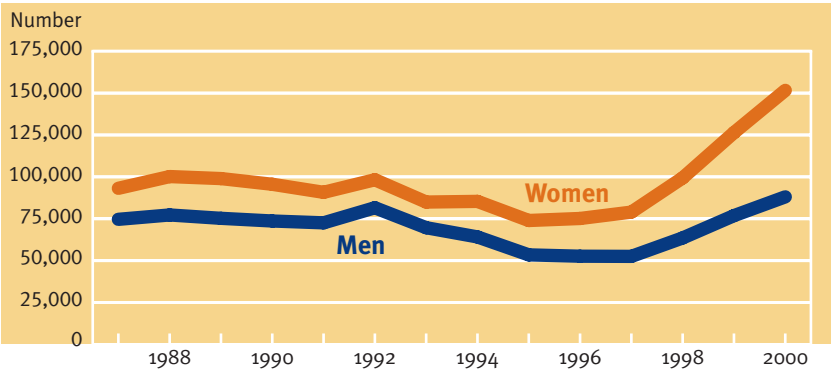
Since 1 January 1998, compensation for full sickness benefit is 80 per cent of the income entitling to sickness benefit for all days in the sickness period except the qualifying day. The maximum sickness benefit for one day was SEK 602 in 2000.

Age	Number of recipients		Average number of days		Average amount over the year, SEK	
	Women	Men	Women	Men	Women	Men
16–19	901	834	38	39	9,334	11,793
20–24	17,622	11,881	61	57	18,767	20,971
25–29	41,712	19,892	72	73	23,745	29,072
30–34	58,675	28,553	86	84	29,232	33,643
35–39	60,318	35,635	104	94	34,311	37,430
40–44	55,950	36,052	116	101	37,513	39,848
45–49	58,940	38,310	127	113	40,540	44,094
50–54	70,581	46,332	136	124	43,052	48,492
55–59	68,885	49,105	144	136	45,301	54,014
60–	42,189	35,361	148	144	44,831	55,576
Total	**475,773**	**301,955**	**116**	**111**	**37,104**	**43,457**

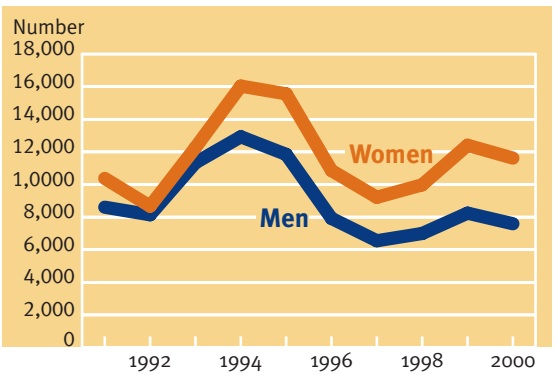
Sickness benefit in 2000. Out of a total of around SEK 30.8 billion in sickness benefit in 2000, 57 per cent went to women and 43 per cent to men.

Occupational rehabilitation

A variety of rehabilitation programmes help the long-term sick to return to work.



Long-term sickness. Long-term sickness refers here to cases of sickness lasting at least 30 days. The number of persons on long-term sick leave decreased substantially at the beginning of the 1990s, but then rose again sharply. At the end of the 1980s, there were around 170,000 persons on long-term sick leave (for at least 30 days), but the number then sank to less then 90,000. It is the very long-term cases lasting over a year which account for the dramatic rise and fall in numbers since the end of the 1980s. The main reason for the decline during the nineties was that many long-term sick were granted permanent or temporary disability pensions in 1992 and 1993. A similar reaction with an increasing number of grants of permanent disability pensions was already noticeable during 1999, but became even more pronounced in 2000. Around 20 per cent of the cases of long-term sickness have received active rehabilitation.



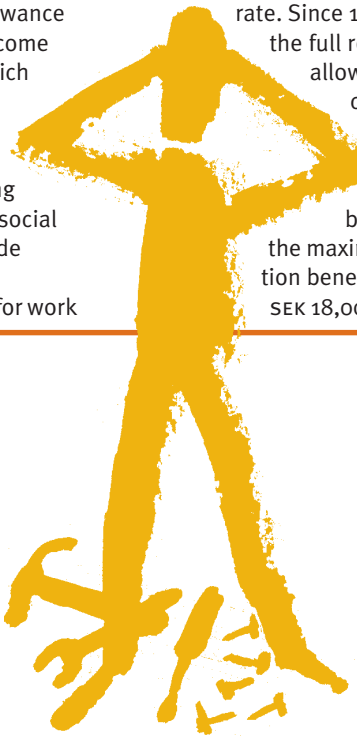
Purchase of rehabilitation services. In 1994, the number of purchases of rehabilitation services reached a peak. The number of purchases for women has lain consistently at a significantly higher level, which is explained by the fact that the majority of cases of long-term sickness are found among women.

Regulations

Work testing, work training, assessments by the Labour Market Institute (AMI) and training courses are examples of some of the programmes offered by occupational rehabilitation.

When participating in occupational rehabilitation, an individual may receive a rehabilitation allowance as compensation for lost income and a special allowance which covers certain so-called additional costs arising in connection with the rehabilitation (e.g. travelling expenses). In addition, the social insurance office may provide occupational rehabilitation services, grant allowances for work aids, pay special compensation for rehabilitation and treatment, and compensate travel to and from work, in place of sickness benefit.

The rehabilitation allowance is payable at 100 per cent, 75 per cent, 50 per cent or 25 per cent of the full rate. Since 1 January 1998, the full rehabilitation allowance is 80 per cent of the income entitling to sickness benefit. In 2000, the maximum rehabilitation benefit was just over SEK 18,000 per month.

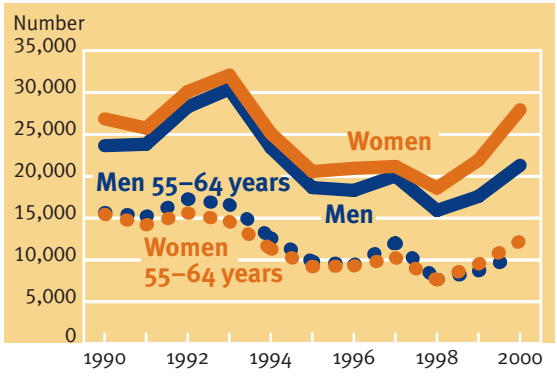


Age	Number of recipients		Average number of days		Average amount over the year, SEK	
	Women	Men	Women	Men	Women	Men
16–19	5	5	67	52	23,263	12,151
20–24	531	433	87	91	29,551	35,047
25–29	1,734	1,216	89	98	31,460	41,502
30–34	3,406	2,025	89	96	32,865	40,876
35–39	4,545	2,524	89	94	32,079	41,075
40–44	4,745	2,452	83	92	30,169	39,763
45–49	4,983	2,562	80	88	29,287	38,186
50–54	5,052	2,627	74	80	27,610	35,646
55–59	3,791	2,009	67	71	24,939	31,697
60–	1,044	537	57	57	20,648	25,328
Total	**29,836**	**16,390**	**80**	**87**	**29,252**	**37,731**

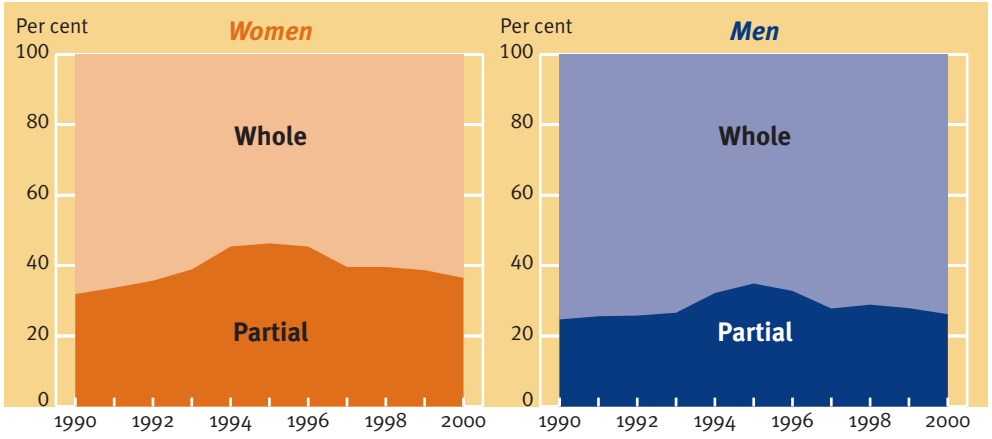
Rehabilitation allowance in 2000. Out of a total of SEK 1.5 billion for rehabilitation allowances in 2000, 59 per cent went to women and 41 per cent to men.

Permanent and temporary disability pension

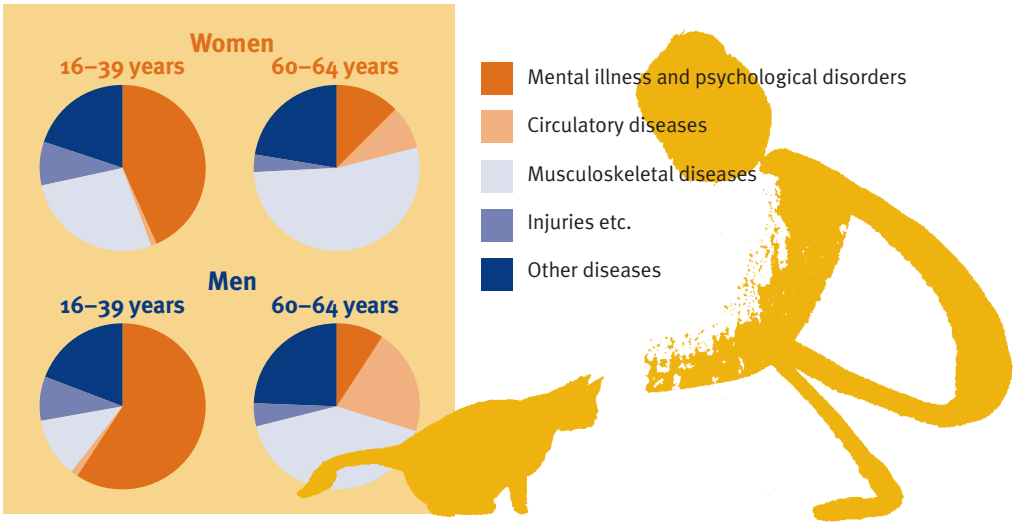
Permanent or temporary disability pensions provide financial security for persons suffering from a long-term reduction in their capacity to work.



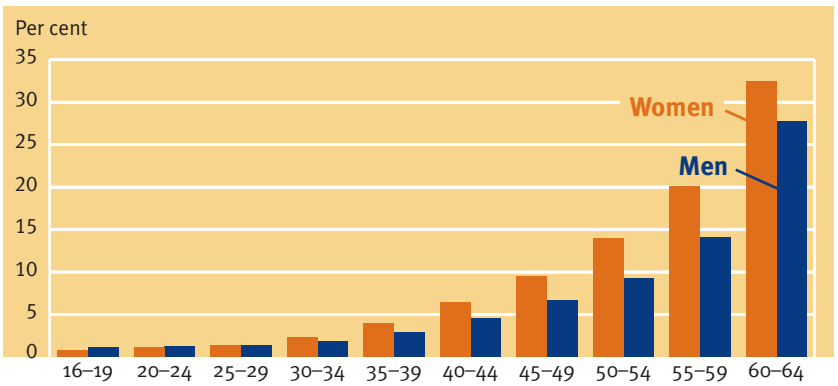
Newly-granted permanent and temporary disability pensions. Early in the 1990s, the granting of new disability pensions rose to record heights. The main reason was the greatly increased involvement of the social insurance offices in the field of rehabilitation. A large number of persons on long-term sick leave were granted permanent disability pensions because they were deemed unable to return to work even after rehabilitation. After reaching a peak in 1993, the granting of new disability pensions decreased, and in 1998 sank to the lowest level since the beginning of the 1970s. The decline was due to fewer cases of long-term sick leave in combination with tightened regulations and their more restrictive application. In recent years, absence due to sickness has increased dramatically, bringing the number of newly-granted disability pensions once again up to the level found during a large part of the 1980s and 1990s. However, the age distribution has changed, with a strong shift from older to younger people.



Distribution of newly-granted permanent and temporary disability pensions. Partial pensions are more common among women than men. The number of partial disability pensions rose progressively during the second half of the 1980s and the first part of the 1990s. In 1995, it reached a peak, with 46 per cent of women and 35 per cent of men being granted partial pensions. Subsequently, full pensions have increased in numbers.



Newly-granted permanent and temporary disability pensions in 2000. There are sex-related variations in the pattern of sickness among those granted disability pension. However, the most common complaint of both men and women is disease of the musculoskeletal organs, except in the case of younger people, among whom psychological disorders dominate. Cardiovascular diseases are common among men but are rarer among women.



Proportion of the population with permanent or temporary disability pensions in 2000. In December 2000, there were almost 438,000 persons with permanent or temporary disability pensions, comprising just over 248,000 women and 190,000 men. This means that 7–8 per cent of the population of working age have for health reasons wholly or partially left working life with a disability pension, and this proportion increases with advancing age. In all age groups over 25, more women than men have permanent disability pensions. In the age groups 60–64, the proportion with permanent disability pensions is as high as 30 per cent.

Regulations

Permanent or temporary disability pensions may be granted to persons aged between 16 and 64 whose working capacity is reduced for medical reasons, either permanently or for a long period, by at least one quarter.

Compensation is paid in the form of a basic pension and a supplementary pension (ATP). Compensation is payable at 100 per cent, 75 per cent, 50 per cent or 25 per cent of the full rate.

Full or temporary disability pensions in the form of the basic pension correspond to 90 per cent of the basic amount for unmarried and 72.5 per cent for married pensioners.

In 2000, the maximum basic pension and supplementary pension (ATP) was just over SEK 14,600 per month for an unmarried person with a permanent disability pension.

Persons with a low supplementary pension (ATP) or none may receive a pension supplement and a housing supplement. Persons with no ATP receive a full pension supplement. For others, the pension supplement is reduced according to the amount of ATP. In 2000, full pension supplement to permanent disability pensioners was 112.9 per cent of the base amount, i.e. SEK 3,443 per month.

The vast majority of all permanent disability pensions go to people who have been forced to leave the labour market for reasons of ill health after a long working life. This group receives a supplementary pension (ATP) proportional to earlier earned income.

The average compensation level for younger people with permanent disability pensions is lower than for middle-aged or older people. The majority of those who receive pensions when very young have severe congenital functional disabilities, or functional disabilities dating from an early age. The majority of such people have not had the opportunity to build up their insurance protection via the ATP system through gainful employment and therefore receive compensation at the basic insurance level.

	Number of recipients		Average amount[1] per month, SEK		Proportion of the population, per cent	
Age	Women	Men	Women	Men	Women	Men
16–19	1,607	2,303	6,133	6,139	0,8	1,1
20–24	2,699	3,213	5,976	6,083	1,1	1,2
25–29	4,130	3,882	5,744	6,120	1,4	1,3
30–34	7,149	5,837	5,881	6,533	2,3	1,8
35–39	12,121	9,356	6,010	6,869	4,0	2,9
40–44	18,227	13,201	6,164	7,148	6,4	4,5
45–49	27,426	19,280	6,328	7,491	9,5	6,6
50–54	44,072	29,844	6,600	7,947	13,9	9,3
55–59	58,575	42,195	6,847	8,582	20,1	14,1
60–65	72,210	60,616	7,000	9,154	32,4	27,7
Total	**248,216**	**189,727**	**6,639**	**8,184**	**9,0**	**6,7**

[1] The average amount includes basic pension, pension supplement and individual ATP.

Permanent or temporary disability pensions in December 2000. Out of a total of around SEK 42 billion, 52 per cent went to women and 48 per cent to men.

SEK 24.8 billion was paid out in the form of supplementary pension (ATP). Women made up 57 per cent of ATP pensioners and received just under half of the amount paid, while men made up 43 per cent of ATP pensioners and received just over half.

Pension supplement and housing supplement for persons with permanent or temporary disability pensions in December 2000. Out of the total amount paid for permanent disability pensions, pension supplements made up just under SEK 2.9 billion, of which 56 per cent went to women and 44 per cent to men.

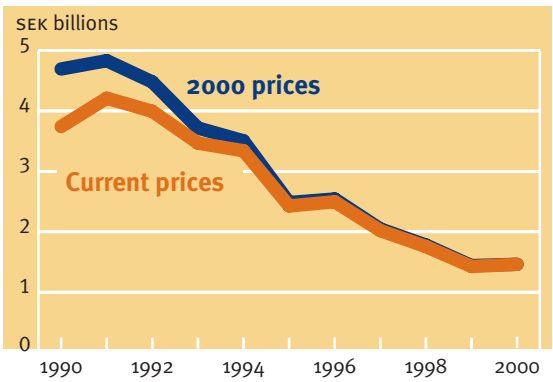
The housing supplement was around SEK 2.5 billion. 56 per cent of this was paid to women and 44 per cent to men.

	Pension supplement Number of recipients		Housing supplement Number of recipients	
Age	Women	Men	Women	Men
16–19	1,594	2,286	507	655
20–24	2,671	3,182	1,589	1,927
25–29	3,275	3,258	2,521	2,643
30–34	3,298	3,292	3,431	3,489
35–39	3,970	3,909	4,752	4,791
40–44	4,916	4,382	6,142	5,826
45–49	6,773	5,286	7,950	7,102
50–54	9,964	6,023	10,476	7,989
55–59	12,541	6,051	11,853	7,885
60–64	16,997	6,773	12,906	7,700
Total	**65,999**	**44,442**	**62,127**	**50,007**

Dental care

Dental care insurance is designed to promote a high level of dental health regardless of individual incomes.

Amount paid for dental care. The total costs of the dental care insurance scheme have decreased since 1992. Compensation regulations have been progressively changed, so that patients have had to pay an ever larger share.



Regulations

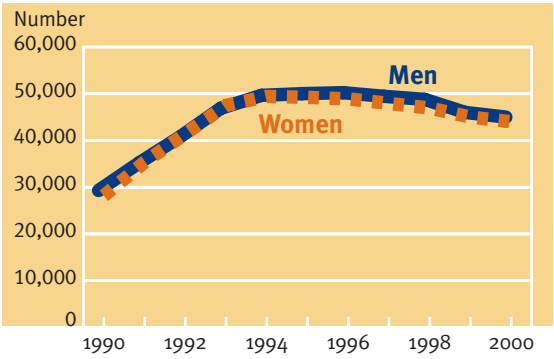
On 1 January 1999, the dental insurance scheme was given a new orientation. It was divided up into basic dental care and additional dental care. As before, dental care for children under 20 is free of charge.

All adults receive financial support for everyday health-promoting dental care, that is, basic dental care. This includes preventive measures, fillings, root treatment and suchlike. A fixed price is paid for basic dental care for a period of two years, regardless of the number of treatments.

For additional dental care, there are special compensation regulations. For crowns, braces, and suchlike, as well as for orthodontic treatment, there is high-cost protection for patients with high treatment costs.

Work injury benefit

Work injury benefit provides financial security when a person's working capacity is reduced due to a work injury.



Number of individual life annuities according to the occupational injuries insurance in December. At the end of the 1980s and beginning of the 1990s, the number of work injury claims assessed by the social insurance offices increased dramatically. At the same time, the number of cases where actual work injury was established also increased. The decline after 1993 was due to the introduction of much stricter criteria for judging work injury claims.

Regulations

All persons engaged in gainful employment in Sweden are insured against work injuries. The term work injury refers to accidents or illnesses resulting from harmful influences at work. Compensation is normally only payable if an approved work injury has led to a lasting reduction in a person's earning ability. Until the immediate effects of the injury have passed, the employee receives regular sick pay or sickness benefit.

If a person's earning capacity is still reduced at the end of the sick leave period, he or she has the right to a so-called work injury annuity. The annuity is designed to compensate the recipient for all lasting loss of income. When calculating the size of the annuity, the income that the person is assumed to have earned if the accident had not occurred is compared with the income the person is estimated to receive after the accident. The annuity provides compensation for the entire difference, but may not exceed 7.5 times the price base amount per year, which was equivalent to roughly SEK 23,000 per month in 2000.

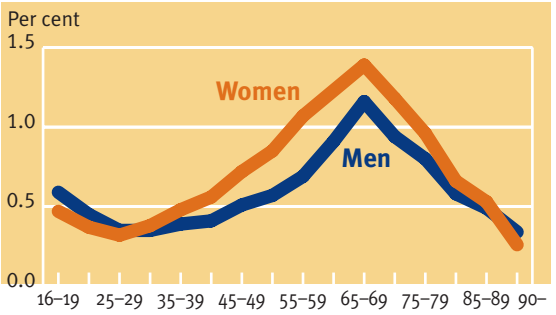
Work injury annuities in December 1998. Out of a total of SEK 4.7 billion in work injury annuities in 1998, women received just over 40 per cent and men 60 per cent. In 2000, SEK 4.6 billion was paid out.

	Number of recipients		Average amount, Per month, SEK	
Age	**Women**	**Men**	**Women**	**Men**
20–24	8	32	7,102	9,518
25–29	125	285	4,206	5,849
30–34	610	1,253	3,725	4,709
35–39	1,044	2,050	3,371	4,638
40–44	2,073	3,029	3,240	4,429
45–49	3,874	4,579	3,289	4,490
50–54	7,085	7,191	3,283	4,566
55–59	9,667	9,220	3,389	4,673
60–64	12,835	13,228	3,781	4,929
65–	9,607	7,937	1,001	950
Total	**46,928**	**48,804**	**2,983**	**4,098**

Handicap allowance

The handicap allowance provides financial security for people with functional handicaps who need the assistance of another person and/or have additional costs due to their handicap.

Proportion of persons in the population with handicap allowances in 2000. Generally speaking, handicap allowances are more common among women than men. The main group of recipients comprises those aged between 60 and 69.



Regulations

Persons who have become functionally disabled between the ages of 16 and 65 may receive a handicap allowance as a supplement to the basic pension or as a separate benefit. In order to qualify for this benefit, these persons must, due to their disability, need time-consuming help from another person in order to cope with life at home or at work. It is also possible for them to receive a handicap allowance if they have significant additional costs as a result of their functional disability.

There are three compensation levels: 36 per cent, 53 per cent and 69 per cent of the base amount per year, depending on the assistance required and the size of the additional costs. In 1999, these three levels corresponded to around SEK 1,100, SEK 1,600 and SEK 2,100 per month. The blind and the deaf always receive allowances if their disability arose before the age of 65.

Age	Number of recipients W	Men	Average amount per month, SEK W	Men
16–19	917	1,231	1,462	1,463
20–29	1,857	2,255	1,434	1,465
30–39	2,655	2,401	1,468	1,497
40–49	3,663	2,730	1,462	1,484
50–59	5,831	3,907	1,445	1,465
60–69	5,482	4,095	1,385	1,413
70–79	4,172	2,706	1,346	1,345
80–89	1,484	789	1,255	1,232
90–	148	63	1,184	1,195
Total	**26,209**	**20,177**	**1,409**	**1,435**

Handicap allowance as a supplementary benefit in December 2000.

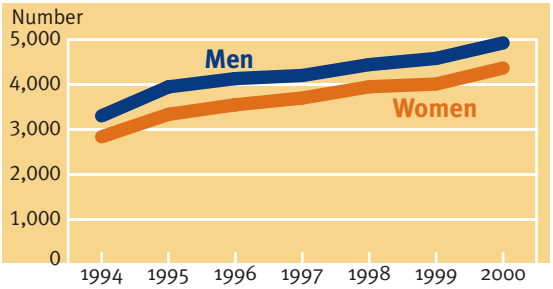
Age	Number of recipients W	Men	Average amount per month, SEK W	Men
16–19	205	300	1,457	1,405
20–29	881	947	1,370	1,403
30–39	1,454	1,773	1,356	1,422
40–49	1,277	1,580	1,389	1,498
50–59	1,160	1,624	1,401	1,506
60–	347	434	1,394	1,485
Total	**5,324**	**6,658**	**1,383**	**1,461**

Handicap allowance as a separate benefit in December 2000.

Out of a total of SEK 1 billion in handicap allowance in 2000, 53 per cent went to women and 47 per cent to men.

Assistance allowance

By being able to employ personal assistants, functionally disabled people are given the opportunity to live normal lives.



Persons with assistance allowance. Assistance allowance was introduced in 1994, which meant that not many people received it that year. Since then, the numbers of recipients have steadily increased. There have always been more men recipients than women.

Regulations

Assistance allowance is available to persons younger than 65 who suffer from autism, mental handicaps, significant functional disabilities after brain damage or other major and lasting functional disabilities not due to normal ageing. However, persons living in sheltered group accommodation are not entitled to assistance allowance. If there are reasonable grounds, the allowance can be paid for a short time while the person is in hospital.

The allowance from the social insurance office to the functionally disabled is designed to be used for the employment of personal assistants who can help them in their daily lives. The functionally disabled person may employ one or several assistants themselves, or use those available from the municipality or other organizations.

Assistance allowance is paid at a standard amount per hour. It was SEK 178 in 2000.

Age	Number of recipients Women	Men	Average hours per month Women	Men
0–14	568	722	306	302
15–19	272	388	323	349
20–24	338	441	421	422
25–29	323	404	420	440
30–34	299	397	414	429
35–39	303	375	412	425
40–44	298	340	385	424
45–49	388	393	407	426
50–54	465	491	372	379
55–59	605	508	365	372
60–64	510	469	343	332
Total	**4,369**	**4,928**	**373**	**384**

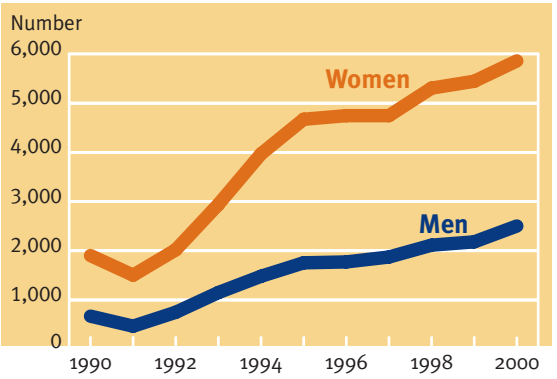
The figures refer to December 2000 but were compiled in May 2001, and may diverge from other statistics.

Assistance allowance in December 2000. Out of a total of SEK 7 billion in assistance allowance in 2000, around 46 per cent went to women and 54 per cent to men. The municipalities provided SEK 1.7 billion.

Allowance for care of close relatives

The allowance for care of close relatives enables a person to stay home from work to look after a seriously ill relative.

Persons with allowance for care of close relatives. The allowance for care of close relatives was introduced at the beginning of the second half of 1989. In 1991, the level of compensation was lowered, which may explain the decrease in the number of people receiving the allowance that year. The following year, the rules were changed so that even a person looking after a seriously ill relative in hospital or other institution (i.e. not only in the home) was entitled to receive the allowance. The steady increase since 1991 can be attributed partly to the general public becoming more aware of the possibility of receiving allowance for care of close relatives. Women look after relatives to a far greater extent than men. Among those receiving this care, however, the sexes are more evenly represented.



Regulations

Persons staying home from work to look after a seriously ill person in the home or in a care institution are entitled to receive allowance for care of close relatives. In general, the allowance is payable for a maximum of 60 days for each of the persons cared for.

The allowance is payable at 100 per cent, 50 per cent or 25 per cent of the full rate. In 1997, the compensation level was 75 per cent of the income entitling to sickness benefit. Since 1 January 1998, the compensation level is 80 per cent. In 2000, the maximum allowance for care of close relatives was just over SEK 18,000 per month.

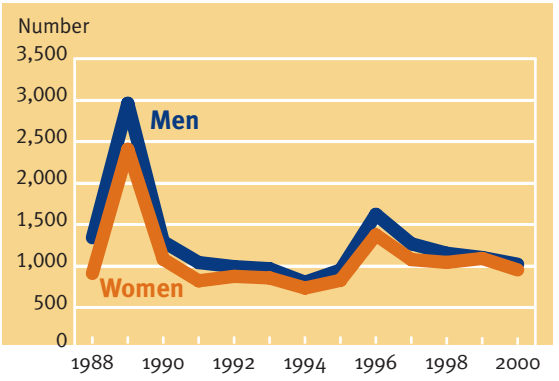
	Number of recipients		Average number of days		Average amount over the year, SEK	
Age	Women	Men	Women	Men	Women	Men
–24	77	50	10	8	4,708	4,114
25–29	252	99	10	9	5,401	5,423
30–34	460	260	11	8	5,544	5,323
35–39	665	358	10	8	5,440	5,041
40–44	904	373	10	10	5,117	6,150
45–49	1,038	452	10	10	5,531	6,503
50–54	1,148	422	10	11	5,863	7,142
55–59	931	352	13	15	7,070	9,004
60–	383	137	18	20	8,744	11,521
Total	**5,858**	**2,503**	**11**	**11**	**5,961**	**6,762**

Allowance for care of close relatives in 2000. Out of a total of around SEK 52 million in allowances for care of close relatives in 2000, 67 per cent went to women and 33 per cent to men.

Car allowance

The car allowance is provided to help people with permanent functional disabilities who find it difficult to get around without the aid of a motor vehicle of their own.

Granted car allowances Car allowances were introduced in October 1988, and the majority were granted when the benefit was new. Since it is possible to get a new car allowance every seventh year, there was a new peak in 1996. Somewhat fewer women than men have received this benefit. Means-tested allowance for the purchase of a car have mainly gone to women. On the other hand, costs for adapting cars have been higher for men.

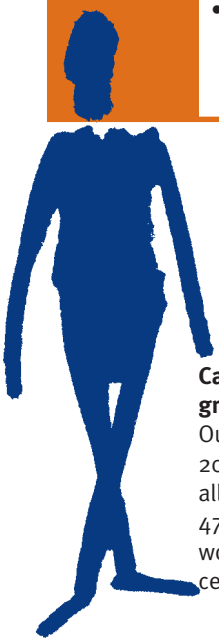


Regulations

Car allowances may be granted every seventh year for purchasing or adapting a car, motorcycle or moped. Five groups are entitled to car allowances:

- Handicapped people under 65 who are reliant on a motor vehicle for work purposes or for occupational rehabilitation /training.
- Handicapped people under 65 who have been granted car allowances according to the above regulations, but who have later received a permanent or temporary disability pension.
- Other handicapped people between the ages of 18 and 49 who can drive the vehicle themselves.
- Handicapped parents with children under 18.
- Parents with handicapped children.

Since 1 July 1995, functionally disabled people who have been granted car allowances may, under certain circumstances, be granted an allowance for driving lessons.

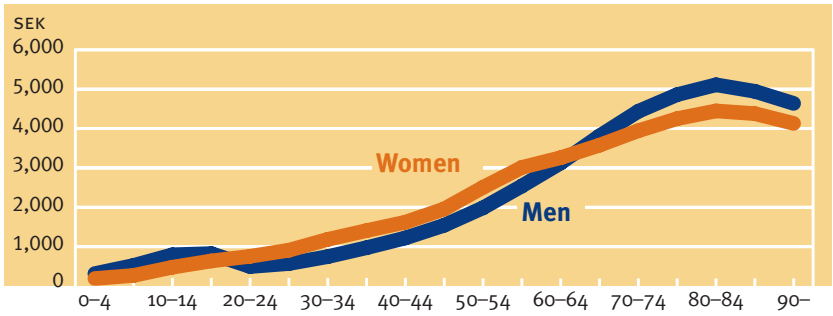


Car allowances granted in 2000. Out of a total of SEK 209 million in car allowances in 2000, 47 per cent went to women and 53 per cent to men.

	Number of recipients		Average amount, SEK	
Age	Women	Men	Women	Men
0–15	199	245	59,880	61,258
16–19	35	47	81,256	86,590
20–24	27	44	128,790	131,184
25–29	46	57	153,548	150,280
30–34	73	85	105,711	114,310
35–39	98	94	116,119	132,743
40–44	117	105	111,094	104,405
45–49	134	125	115,431	99,482
50–54	133	115	92,371	108,880
55–59	113	84	112,540	103,202
60–	58	74	111,317	92,051
Total	**1033**	**1075**	**93,223**	**99,544**

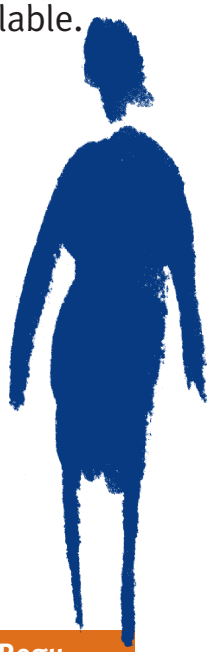
Medicine

Subsidizing the cost of medicine for all patients helps promote a high standard of public health regardless of individual incomes and guarantees that medicine is readily available.



Source: Apoteket AB, Swedish Pharmaceutical Statistics 2000

Sales of prescription drugs – value per inhabitant in 2000. Women have higher medicinal costs than men during their working lives, while men have higher medicinal costs than women after retirement. This may partly be due to the fact that costlier medicines are more frequently prescribed to men than women especially in higher age groups.



Regulations

The high-cost protection system for the purchase of drugs stipulates an upper limit of SEK 1,800 for a twelve-month period. Up to this limit, the patient pays.

- the entire cost of the drugs up to SEK 900
- 50 per cent of the cost between SEK 900 and SEK 1,700
- 25 per cent of the cost between SEK 1,700 and 3,300
- 10 per cent of the cost between SEK 3,300 and 4,300.

No drugs are completely free of charge.

Age	Number of prescription drugs sold, thousands		Average amount per inhabitant, SEK	
	Women	Men	Women	Men
0–10	880	1 057	235	431
11–19	1 062	746	374	659
20–29	2 195	953	552	808
30–39	3 061	1 760	697	659
40–49	3 947	2 497	838	536
50–59	6 570	4 173	1051	662
60–69	5 928	4 513	1 296	861
70–79	8 877	6 101	1511	1092
80–89	11 139	5 054	1791	1 382
90–	3 882	1 067	2 246	1776
Total	**47 541**	**27 921**	**1 935**	**1679**

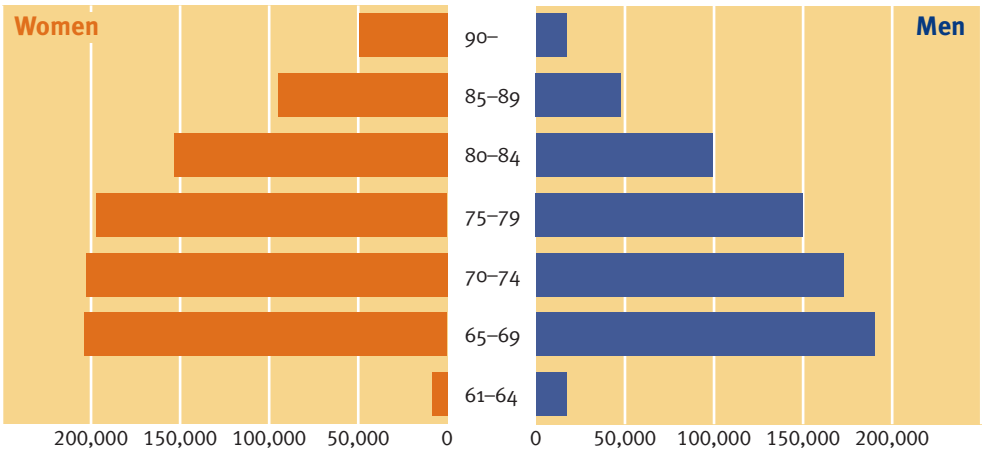
Source: Apoteket AB, Swedish Pharmaceutical Statistics 2000

Sales of prescription drugs in 2000. In 2000, the insurance scheme's expenditure for drugs was SEK 15.6 billion, of which 54 per cent was for drugs prescribed to women and 46 per cent was for drugs prescribed to men.

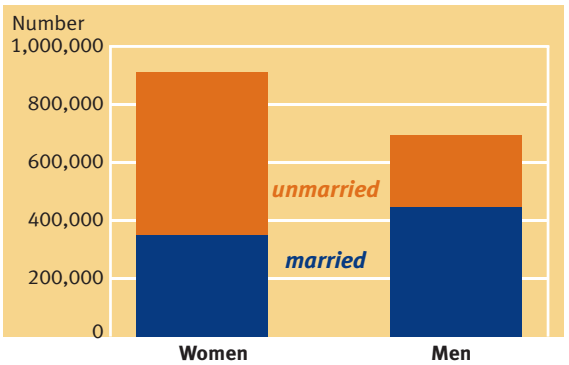
Financial security in old age

Old-age pension

The aim of the old-age pension reform is to create a system linked to national economic and demographic developments. This will transform the earlier old-age pension scheme. The first payments under the new scheme were made during 2001.

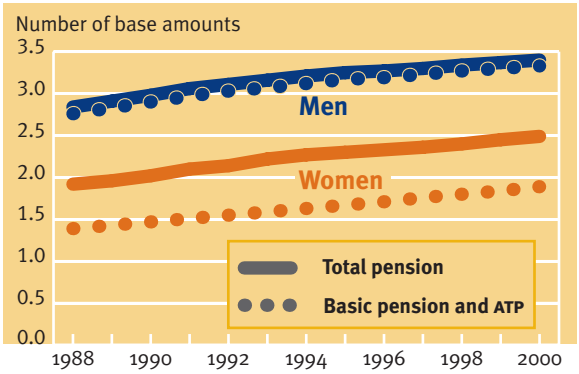


Old-age pensioners in 2000. There are far more women among old-age pensioners than men. The fact that women as a group live longer than men is clearly illustrated in the diagram. Only among those pensioners who have retired early are there more men than women, that is, in the age group 61–64. Persons who are married or are permanently cohabiting, or who have/ have had children together, are reported as married. Others are reported as unmarried.



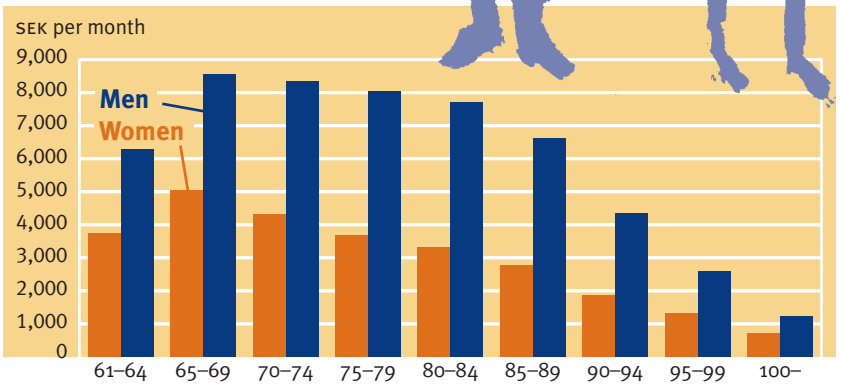
Persons who are married or are permanently cohabiting, or who have/ have had children together, are reported as married. Others are reported as unmarried.

Old-age pensioners in 2000. Many older women live alone. The main reason for this is that women on average live roughly five years longer than men, as well as the fact that today's generation of women pensioners tend to have married men a few years older than themselves. Taken together, these factors mean that a wife generally outlives her husband.



Full pension includes, besides basic pension and supplementary pension (ATP), pension supplement, handicap allowance, housing supplement and survivor's pension.

Average old-age pension in December. Among old-age pensioners, the pension entitlements (basic pension and ATP) of men are on average almost double those of women. More men receive ATP and men's ATP is on average higher, reflecting among other things the difference between the sexes in earlier working life patterns. The generally lower ATP of women is partly compensated by the fact that they more often receive a share of the collective basic level, mainly pension supplements and housing supplements.



Average ATP amount per old-age pensioner with ATP in 2000. Many of the older women among old-age pensioners have never been professionally active but have done unpaid work in the home instead. Among women who have recently retired, however, a greater number have their own ATP pensions, but they have generally had shorter working careers and lower incomes than their male counterparts in the corresponding age group.

Regulations

Old-age pension is normally paid as of the month in which the person turns 65. It is however possible to opt for early retirement from the age of 61 at the earliest, or to postpone retirement up to the age of 70 at the latest.

Old-age pension is payable at 100 per cent, 75 per cent, 50 per cent or 25 per cent of the full rate. Basic pension is paid to all pensioners, regardless of earlier working income. Full old-age pension from the basic pension scheme is 96 per cent of the price base amount per annum for single persons and 78.5 per cent for married persons. In 2000, this amounted to SEK 2,952 per month for single pensioners and SEK 2,414 for married pensioners per person and month.

The size of the pension from the ATP scheme is based on previous working income (earned ATP points) and the number of years worked. The higher the income and the greater the number of working years, the higher the pension. ATP is calculated as 60 per cent of an average of the 15 best annual incomes. To receive full pension, it is necessary to have worked at least 30 years. For persons who have worked fewer years, ATP is reduced by a thirtieth for each missing year.

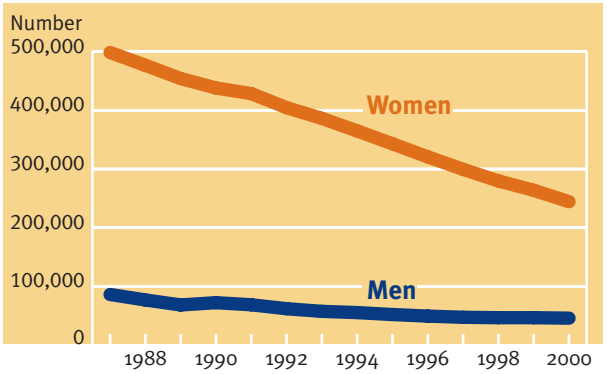
For persons receiving a low ATP or none at all, there are pension supplements and housing supplements. Full pension supplement to old-age pensioners comprises 56.9 per cent of the basic amount, amounting to SEK 1,735 per month in 2000.

	Number of recipients		Average amount[1] per month, SEK		Average amount ATP[2] per month, SEK	
Age	Women	Men	Women	Men	Women	Men
61–64	8,747	17,019	5,533	8,424	3,730	6,272
65–69	203,611	190,228	7,279	10,696	5,055	8,560
70–74	202,694	172,574	6,561	10,559	4,317	8,336
75–79	196,882	149,956	5,880	10,336	3,667	8,025
80–	298,301	164,232	5,036	9,436	2,965	7,025
Total	**910,235**	**694,009**	**6,085**	**10,532**	**4,012**	**7,971**

[1] The average amount includes basic pension, pension supplement and personal ATP.
[2] Per ATP-pensioner.

Old-age pension in December in 2000. Approximately SEK 150 billion was paid to old-age pensioners in 2000, around 46 per cent to women and 54 per cent to men.

SEK 96 billion of the total amount consisted of atp. Women comprised 51 per cent of ATP pensioners with old-age pensions, but only 35 per cent of the amount was paid to women. Men comprised 49 per cent of the pensioners and received 65 per cent of the amount.



Old-age pensioners with pension supplement. It is becoming more common for women pensioners to have earned their own ATP pension. Consequently, the number requiring pension supplements is decreasing. However, many more women than men still have low ATP or none at all, and therefore receive pension supplements.

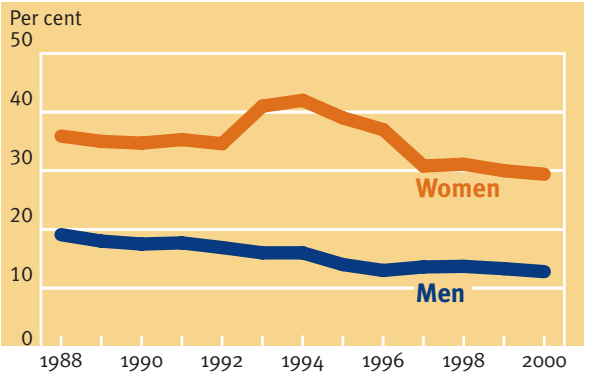
Age	Pension supplement Number of recipients Women	Men	Housing supplement Number of recipients Women	Men
60–64	1,580	1,079	.	.
65–69	34,054	12,116	27,721	10,724
70–74	44,875	10,513	39,333	11,573
75–79	51,865	8,765	57,253	13,091
80–	112,002	13,457	155,939	27,759
Total	**244,376**	**45,930**	**280,250**	**63,148**

Pension and housing supplements for old-age pensioners in December 2000. Pension supplements amounted to approximately SEK 3.9 billion in 2000, of which 87 per cent went to women and 13 per cent went to men.

Approximately SEK 7 billion in housing supplements was paid to old-age pensioners, of which 86 per cent went to women and 14 per cent to men.

Housing supplement for pensioners

The housing supplement ensures that pensioners with a low ATP or none at all can live in good-quality accommodation without sacrificing their standard of living in other ways.



Proportion of pensioners with housing supplement. Women have lower pensions than men on average, and generally have lower financial means. The proportion of women with housing supplements is double that of men.

Regulations

The housing supplement consists of
- the housing supplement for pensioners (BTP)
- the special housing supplement for pensioners (SBTP)
- the municipal additional amount (KKB).

BTP may be granted to persons with old-age pensions, permanent or temporary disability pensions, adjustment pensions, extended adjustment pensions, special survivor's pensions, widows' pensions, wives' supplements or EU pensions. BTP is not granted for old age pension before the age of 65 (early withdrawal).

The size of the housing supplement depends on the cost of the accommodation and the income and assets of the individual. In 2000, the maximum BTP was 90 per cent of accommodation costs in the range of SEK 100–4,000 per month, giving a maximum of SEK 3,600. BTP is a tax-free form of support which the individual must apply for.

Special housing supplement for pensioners (SBTP) is a form of support designed to guarantee individual pensioners a reasonable standard of living, corresponding in principle to a standard minimum economic level and the cost of adequate accommodation. To qualify for SBTP, a person must already have been granted BTP. Moreover, the person's income after deductions for reasonable housing costs must fall below a certain fixed minimum level. The supplement is paid in the form of a supplementary amount bringing the income level up to the minimum income level.

The municipalities are empowered, for a limited period of years, to grant a **municipal additional amount** (KKB) to supplement BTP.

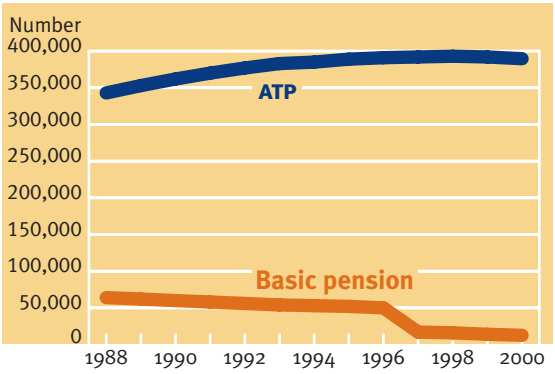
Age	Number of recipients		Average amount[1] per month, SEK	
	Women	Men	Women	Men
16–19	507	655	1,570	1,525
20–24	1,600	1,927	2,204	2,112
25–29	2,535	2,644	2,313	2,298
30–34	3,469	3,495	2,129	2,183
35–39	4,837	4,801	1,976	2,094
40–44	6,281	5,841	1,859	1,972
45–49	8,136	7,114	1,871	1,906
50–54	10,769	8,009	1,889	1,814
55–59	12,473	7,901	1,856	1,721
60–64	14,018	7,719	1,764	1,620
65–69	27,733	10,738	1,503	1,416
70–74	39,354	11,582	1,510	1,226
75–79	57,300	13,102	1,580	1,116
80–84	64,082	10,877	1,705	1,098
85–89	56,249	9,479	1,900	1,166
90–	35,686	7,423	2,089	1,477
Total	**345,029**	**113,307**	**1,752**	**1,523**

[1] The average amount includes BTP, SBTP and KKB.

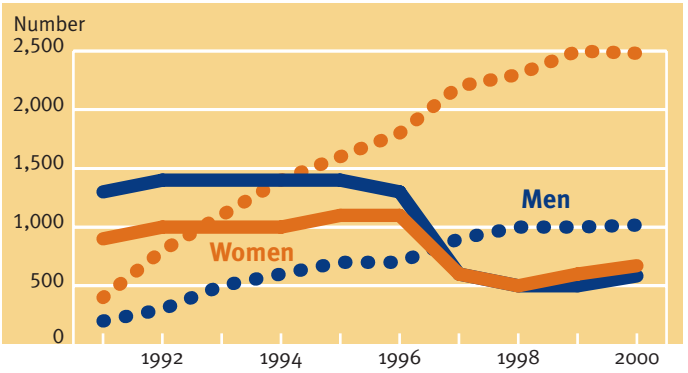
Housing supplements in December 2000. In 2000, SEK 9.6 billion in housing supplement was paid to pensioners. Approximately 75 per cent of this was paid to women and 25 per cent to men.

Survivor's pension for adults

The survivor's pension provides financial security for persons whose closest relatives have died.



Women with widows' pensions. The widows' pension was abolished in 1990 but the transitional regulations have meant that the number of women receiving widows' pensions from the ATP scheme has nevertheless increased. On the other hand, those with basic pensions are decreasing. This is because the basic pension component of the widows' pension is lost when the widow herself becomes a pensioner and because the right to widows' pension in the form of basic pension has been means-tested since 1 April 1997.



Adjustment pensions and extended adjustment pensions. The period for which an adjustment pension can be received was reduced from one year to six months in 1997, which led to the number of persons receiving the benefit at any one time being halved. At the same time, there was an increase in the number of persons receiving extended adjustment pensions. More than twice as many women as men receive extended adjustment pensions.

Regulations

The survivor's pension for adults includes
– adjustment pension
– extended adjustment pension
– special survivor's pension
– widows' pension

The surviving spouse (or equivalent) may receive an **adjustment pension** if he/she is younger than 65 and
– was at the time of the death permanently cohabiting with children under 12, or
– had cohabited continuously with the deceased for a period of at least five years prior to the time of the death.

The adjustment pension is payable for six months and its size is based on the deceased person's right to basic and supplementary pension. The adjustment pension can be received concurrently with a person's own pension.

If the survivor has custody of children under twelve, he/she receives an **extended adjustment pension** until the child turns twelve. The right to extended adjustment pension ceases to apply if the survivor remarries.

If the survivor has a reduced capacity to earn a living, he/she may receive a **special survivor's pension**. Special survivor's pensions are coordinated with several other benefits.

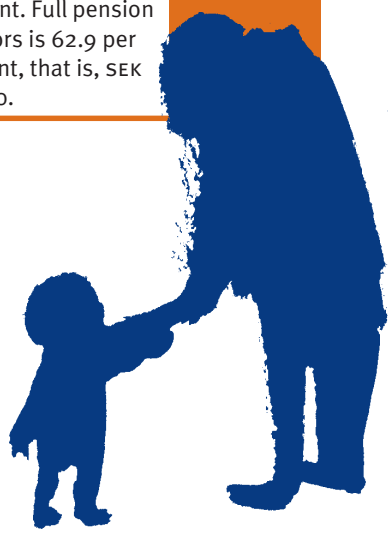
Women whose husbands died before 1990 receive a **widows' pension** instead of an adjustment pension. The right to a widows' pension ceases if the woman remarries. Widows of men who died in 1990 or later may receive a widows' pension in accordance with the transitional regulations.

A widow may receive a widows' pension after the death of her husband in the form of a basic pension and/or ATP. The widows' pension from ATP is normally 40 per cent of what the deceased husband would have received in the form of old-age pension from ATP if he had been alive.

For those with a low ATP or none at all, there is a pension supplement and housing supplement. Full pension supplement for survivors is 62.9 per cent of the basic amount, that is, SEK 1,918 per month in 2000.

Age	Number of recipients Women	Average amount[1] per per month, SEK Women
–39	399	1,968
40–49	4,755	2,221
50–59	22,986	3,348
60–64	22,339	3,679
65–69	32,645	2,836
70–74	55,120	3,123
75–79	79,891	2,965
80–89	143,576	2,365
90–	30,093	1,339
Total	**391,804**	**2,685**

[1] The average amount includes basic pension, ATP and pension supplement.



Widows' pensions in December 2000. The majority of women receiving widows' pensions are themselves old-age pensioners, but roughly 13 per cent are still of active working age. In 2000, roughly four out of ten old-age women pensioners also received widows' pension.

Out of a total of SEK 12,6 billion in widows' pensions in 2000, around 84 per cent went to widows who were 65 or older.

Age	Number of recipients Women	Men	Average amount[1] per month, SEK Women	Men
20–34	43	12	4,739	4,900
35–39	50	14	4,846	4,683
40–44	72	36	4,864	4,624
45–49	122	59	5,389	4,816
50–54	235	96	5,982	5,135
55–59	119	170	5,854	5,271
60–64	30	197	4,775	5,274
Total	**671**	**584**	**5,513**	**5,142**

[1] The average amount includes basic pension, ATP and pension supplement.

Adjustment pensions in December 2000. Out of a total of SEK 98 million in adjustment pensions in 2000, around 56 per cent went to women and 44 per cent to men.

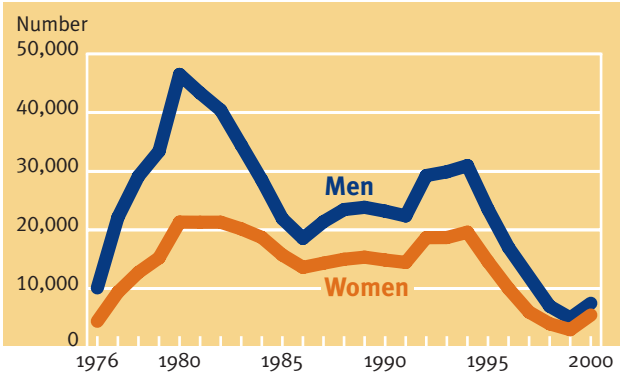
Age	Number of recipients Women	Men	Average amount[1] per month, SEK Women	Men
–29	129	16	4,388	4,663
30–34	382	103	4,508	4,475
35–39	663	227	4,589	4,540
40–44	706	253	4,481	4,469
45–49	461	227	4,494	4,580
50–54	136	127	4,519	4,524
55–59	4	53	3,465	4,497
60–64		11		3,723
Total	**2,481**	**1,017**	**4,512**	**4,514**

[1] The average amount includes basic pension, ATP and pension supplement.

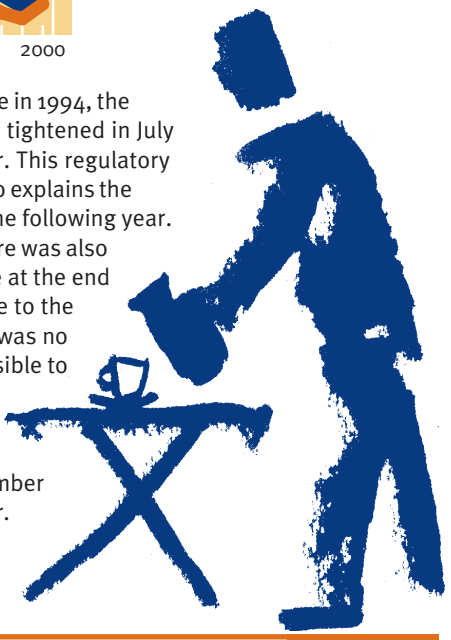
Extended adjustment pensions in December 2000. Out of a total of SEK 188 million in extended adjustment pensions in 2000, 73 per cent went to women and 27 per cent to men. In December 2000, special survivor's pensions were paid to 73 women and 16 men.

Partial pension

Gainfully employed persons wishing to reduce their working hours a few years before retirement could claim partial pension up to the year 2000.



The development of the partial pension. At most a total of between 60,000 and 70,000 persons have chosen to take out partial pensions, that is, roughly a quarter of those qualifying. At the beginning and end of the period, the proportion has been significantly below ten per cent. Women have always been in a minority. The increase in 1992 can be explained by the fact that many people applied for partial pensions on the eve of an imminent tightening of the rules (which, however, was never implemented). The same explanation applies to the increase in 1994, the rules being tightened in July of that year. This regulatory change also explains the decrease the following year. Finally, there was also an increase at the end of 2000 due to the fact that it was no longer possible to apply for this form of pension after December of that year.



After 2000 it is no longer possible to apply for a partial pension. The partial pension will thus have been discontinued by 2005.

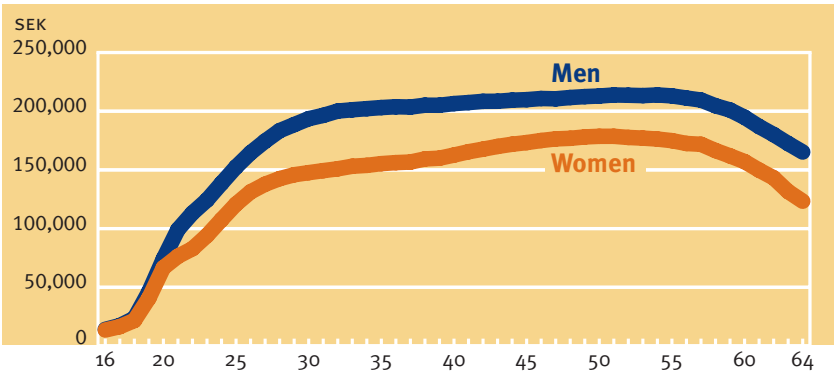
Gainfully employed in the age group 61–64 who wished to reduce their working hours could receive partial pensions. The partial pension is 55 per cent of the difference between before and after the reduction in working hours. After reducing their working hours, persons with partial pensions are obliged to work between 17 and 35 hours a week on average. It is possible to receive compensation for a reduction in working hours of up to maximum 10 hours per week.

Regulations

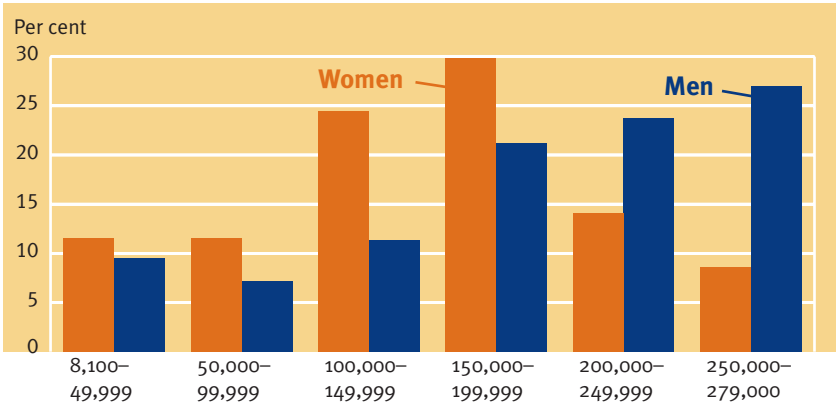
Out of a total of around SEK 200 million in partial pensions in 2000, around one third went to women and two thirds to men.

Earned pensionable income

The pensionable income according to the reformed pension scheme is given here for people aged 16–64. It consists of employees' and disability pensioners' income and social insurance payments, self-employed persons' salaried income and social insurance payments to self-employed persons.



Average pensionable income in 1999. For both women and men, average earned pensionable income (PGI) increases with age, reaching a peak in the age group 45–54. Among the higher age groups, average PGI falls since many people for a number of reasons then begin to cut down on the number of working hours. Likewise, salary levels often stagnate as retirement approaches. Long-term sick leave, partial disability retirement and retirement with partial pension are other reasons for average income levels dropping at more advanced ages. At all ages, women's incomes are lower than those of men. The main reasons for this are that women earn less than men in most occupations, that women-dominated professions often have lower salary levels and women more often work part-time. Gender-based differences in earning power are most pronounced during the child-bearing and care-intensive years between the ages of 25 and 39.

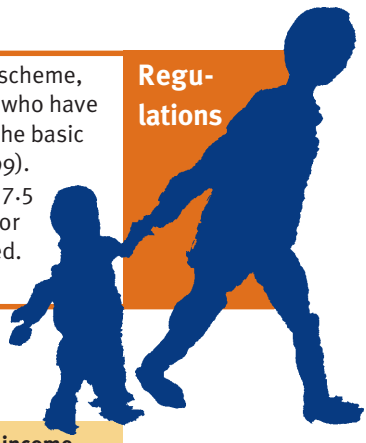


Persons according to earned pensionable income in 1999. This chart clearly reflects the income differences between the sexes. The proportion of women with an earned PGI below SEK 200,000 is 77 per cent while the equivalent proportion for men is approximately 49 per cent.

Regulations

As of 1999, persons born between 1938 and 1954 are allocated both pension points (qualifying for ATP) and pension rights in the reformed pension scheme. Persons born later than 1954 are only allocated pension rights and persons born before 1938 only receive pension points.

In the reformed pension scheme, PGI only applies to persons who have incomes of at least 0.24 of the basic amount or SEK 8,700 (in 1999). Parts of incomes exceeding 7.5 of the raised basic amount or SEK 279,000 are not included.

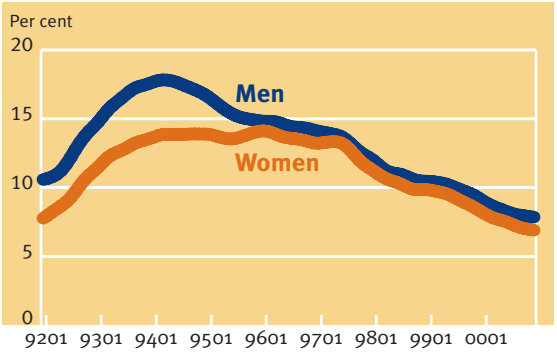


Age	Number with PGI		Proportion of total, per cent		Average income, SEK	
	Women	Men	Women	Men	Women	Men
16–19	81,758	83,744	41.3	40.3	28,994	31,287
20–24	215,540	222,269	83.0	82.7	86,469	111,670
25–29	267,902	279,479	89.8	90.6	135,864	172,980
30–34	292,081	308,663	91.8	92.1	151,085	198,885
35–39	277,689	291,754	91.7	91.5	157,414	204,077
40–44	266,521	277,355	91.7	91.5	167,542	208,022
45–49	266,525	275,881	91.2	91.3	175,956	211,072
50–54	291,934	304,313	89.6	91.1	177,642	213,505
55–59	234,365	250,130	85.0	88.0	170,176	208,522
60–64	142,142	151,182	65.9	72.5	143,518	182,004
Total	**2,336,457**	**2,444,770**	**84.1**	**85.2**	**149,346**	**187,047**

Earned pensionable income in 1999. The proportion of the population with pensionable income in 1999 was 84 per cent for women and 85 per cent for men.

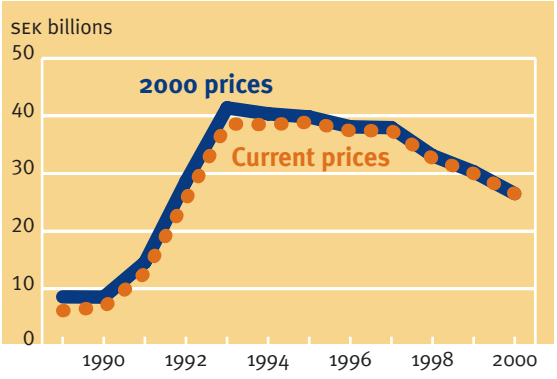
Unemployment insurance

Unemployment insurance is an active and integrated part of labour market policy, in which the employment strategy is the main alternative and cash allowances are a last-resort measure for people between jobs.



Source: AMS (The Swedish National Labour Market Board), SCB (Statistics Sweden)

Proportion of officially unemployed persons and participants in labour market programs. The labour market continued to show strong growth during 2000. Employment figures increased by 91,000, meaning that the total increase for 1999 and 2000 is the highest for over 25 years. There was a marked fall in unemployment, which was down to 4 per cent in October 2000. The driving force behind employment was the private service sector. IT, media, advertising and parts of the adventure industry increased most. The first two were largely concentrated to big-city areas in general and to Stockholm in particular. Therefore, the number of job opportunities grew in the cities while sparsely-populated areas received only a small share of the new jobs. Many new jobs were also created in the public service sector, primarily within education and eldercare, as a result of bigger municipal budgets. The building boom increased in strength while both the export industry and those industries focused on the domestic market flourished. During the autumn of 2000, there were increasing signs of a slackening of pace in industrial growth due to a downturn in the global economy. Subsequently, dampened activity has hit service sectors dependent on industry and begun to exercise a negative effect on household consumption. However, domestic demand is still strong, though growing unemployment is expected in the second half of 2001.



Source: AMS (The Swedish National Labour Market Board)

Unemployment benefit payments from the unemployment benefit fund (A-kassa) and cash unemployment allowance (KAS). Unemployment benefit payments rose sharply at the beginning of the 1990s in step with rising unemployment, and peaked in 1993 at around SEK 40 billion.

The regulations for unemployment benefit and cash unemployment allowance have changed over time.

Regulations

The unemployment insurance scheme provides partial compensation for the loss of income caused by unemployment. As of 1 January 1998, unemployment insurance consists of two parts, basic insurance and voluntary income-related insurance.

Basic insurance replaces the earlier cash unemployment allowance (KAS), which was discontinued after 1997. The basic payment is SEK 240 per day for those who have had full-time employment. The basic payment is made to those fulfilling the work condition or the study condition (one year's completed studies) and who are not members of an unemployment benefit fund, or if they are, have not been members for a sufficient length of time.

Compensation from the voluntary income-related insurance may be paid to persons who are members of an unemployment benefit fund and who are able to meet the work condition. The size of the daily cash allowance depends on the income the person had before becoming unemployed. The daily cash allowance is 80 per cent of the previous income up to a maximum of SEK 580 per day.

Age	Number of recipients		Average number of days		Average amount, SEK	
	Women	Men	Women	Men	Women	Men
–19	77	126	46	52	19,352	23,395
20–24	37,104	33,988	50	56	18,487	22,451
25–29	67,633	46,065	59	70	27,439	34,491
30–34	63,859	41,842	67	78	33,502	40,993
35–39	54,612	39,111	69	83	34,670	43,873
40–44	39,435	31,353	71	86	35,246	45,439
45–49	32,071	27,396	74	90	36,712	47,834
50–54	30,384	27,206	79	95	39,269	50,973
55–59	26,890	25,144	95	111	47,435	60,526
60–64	21,314	23,386	135	149	59,497	81,311
Total	**373,379**	**295,617**	**72**	**87**	**34,496**	**45,096**

Source: AMS (The Swedish National Labour Market Board)

Compensation from the unemployment insurance scheme in 2000.
Out of a total of SEK 26.5 billion in unemployment benefits in 2000, SEK 13 billion (49 per cent) went to women and SEK 13.5 (51 per cent) to men.

More statistics

Additional statistical details are available on the Swedish National Social Insurance Board's home page (address: www.rfv.se/statistik) and in the publication Social Insurance, witch is part of the series known as Sweden's Official Statistics.

You may also address questions about statistics directly to the Swedish National Social Insurance Board by contacting the following people:

The scope of the social insurance schemes:
Christer Carmegren, tel: +46 8 786 95 48, e-mail: christer.carmegren@rfv.sfa.se

Financial security for families and children:
Britt-Marie Winnberg, tel: +46 8 786 95 46, e-mail: britt-marie.winnberg@rfv.sfa.se

Financial security in case of sickness and handicap:
Ola Rylander, tel: +46 8 786 95 37, e-mail: ola.rylander@rfv.sfa.se
Lena Ericson, tel: +46 8 786 95 62, e-mail: lena.ericson@rfv.sfa.se

Financial security in old age:
Lars Oderbeck, tel: +46 8 786 95 84, e-mail: lars.oderbeck@rfv.sfa.se
Marianne Karlsson, tel: +46 8 786 95 64, e-mail: marianne.karlsson@rfv.sfa.se

Social Insurance in Sweden **2001**

The Swedish social insurance administration is a natural part of virtually every citizen's life. It is of considerable importance, not only in terms of people's security and welfare, but also in terms of the national economy, with a current total expenditure per annum of approximately SEK 360 billion.

The National Social Insurance Board continues with this book the recurring publication Social Insurance in Sweden, designed both to discuss and to provide an overall account of important and topical issues relating to social insurance in Sweden.

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