Elements of Social Security

A comparison covering:

Denmark Sweden Finland Germany Great Britain The Netherlands Canada

Hans Hansen

Elements of Social Security

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PREFACE

Elements of Social Security is a comparative study of important elements of the social security systems in Denmark (DK), Sweden (S), Finland (FIN), Germany (D), Great Britain (GB), the Netherlands (NL) and Canada (CAN). It should be emphasized that Germany is the former West Germany (Alte Länder).

This is the 6th edition of the publication, covering income levels and rules for social security and personal taxation for 1996. Basis for the projections to 1996 income levels is the 1995 data (in some cases 1996 data) for OECD's *The Tax/Benefit Position of Employees* as reported by national experts. Editions 1-4 of *Elements of Social Security* were published as working papers from the Danish Ministry of Economic Affairs, edition 5 as publication no. 97:8 from the Danish National Institute of Social Research.

The calculations have always been based upon projected data, which in case of inaccurate projections may lead to incorrect results. In this edition calculations based upon 'correct' historical data, i.e. the latest edition of *The Tax/Benefit Position of Employees* from OECD supplemented with official estimates, are included for Sweden covering the period 1991-1995. The differences between calculations based upon 'projected' and 'correct' data are relatively small, cf. chapter 3, section 3.1. The series of calculations for Sweden also contain the impact of the considerable changes in the Swedish tax/benefit system in that period, cf. chapter 3, section 3.2. A similar study for Finland is contained in chapter 4.

In the former editions of *Elements* there were some inconsistencies concerning families with children. In some cases child no. 1 was 1 year old in other cases it was 6 years old. This is of importance where age is important for the size of the family allowance. From this edition child no. 1 is 6 years old, child no. 2 is 3 years old and child no. 3 is 1 year old (and born in the 'calculation' year!) in all countries.

A few errors were found in the previous edition, this time for Finland and Great Britain. The Finnish APW wage level was too low in 1994 and 1995. The basic amount in the national pension should have been included in the cases with occupational pension (pensioners with a former working record) and finally the compensation in the case of 1/3 loss of working capability was too low, cf. chapter 4 for corrections. For Britain the benefits for injuries from work were taxed, they should not, resulting in an impact 2.5-3 percentage points too high.

Copenhagen, March 1998 Hans Hansen

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INTRODUCTION

The August 1992 study

The 1st edition of this publication was an English version of a study published in August 1992 from the Danish Ministry of Finance, Indkomstoverførsler i internationalt perspektiv (Income Transfers in an International Perspective).

In the August 1992 study the public social security systems of 6 countries. i.e. Denmark, Sweden, Germany, Great Britain, France and the Netherlands were studied and compared, based upon rules for 1991.

The social security systems in the 6 countries were categorized according to their characteristics with respect to conditions of entitlements, benefit formulas and methods of financing and subsequently compared.

The second part of the study was a comparison of the most important elements of the social security systems across the 6 countries. This comparison was made according to a common set of criteria for each element.

Finally a set of 'standard' income events (caused by e.g. illness or unemployment) were selected, and their effect on disposable income studied. The framework for this part of the study was the 'Average Production Worker' derived from OECD's 'The Tax/Benefit Position of Production Workers'. The APW calculations were performed for only 5 of the countries, Denmark, Sweden, Germany, Great Britain and the Netherlands.

In connection with the study a series of 'rules descriptions' were established, containing a rather comprehensive description of the social security rules for each country in the study.

The 'English version'

As mentioned, the 'English version' (1st edition) was based upon the 'August 1992' study, but the scope was narrower. Only the 5 countries, for which the APW-calculations were performed, were included, and only the social security elements corresponding to the selected 'standard' income events were studied and compared. This was also the case in the 2nd edition of the 'English version', which primarily was an update to 1992 income levels and rules for personal taxation and social security.

In the 3rd edition the number of cases was enhanced, and there was an update to 1993 income levels and rules. In the 4th edition of the study, the number of cases or 'stan-

dard' income events was the same as in the 3rd edition, the income levels and rules were for 1994, and Finland was included among the countries studied. The 5th edition was an update to 1995 income levels and rules. This 6th edition has 1996 income levels and rules, the number of cases is the same as in the 5th edition, and Canada has been included in the study. The income events are:

- ► *Illness* (one week for a single APW)
- ► Unemployment (25 per cent and 100 per cent of the time for an insured and a non-insured single APW. 100 per cent of the time for the insured partner, working part time, in the APW-couple)
- ► Injuries from work (33.3 per cent and 100 per cent loss of working capability for a single APW)
- Retirement (after former working period for a single APW and the APW couple, without former working period for a single APW)
- ► Having children (1, 2 or 3 for the APW-couple)
- Maternity leave (max. period in each country and common period for all countries)

It is evident that these elements are not constituting the complete social security systems, e.g. invalidity, education and social assistance are missing. On the other hand the selected 'standard' events are important components of social security expenditures in the countries studied. It is the plan to include invalidity/disability pensions in the 7th edition.

The APW-calculations are useful but by concept somewhat simplified, therefore the results should be interpreted with care. More comprehensive comments on the APW-calculations will be made as the results are presented in connection with the study of the separate elements of the social security systems in the 7 countries.

Main characteristics of the social security systems of the 7 countries

Three aspects of the institutional framework for the social security systems of the 7 countries are focused upon in this chapter

- 1. The conditions of entitlements
- 2. The benefit formula (is it a flat rate payment or is it related to previous income)
- 3. The methods of financing social security (general taxes, social security contributions or otherwise)

The characterization of the three aspects of the institutional framework will be rather crude, and not without problems. Take e.g. unemployment insurance. This scheme is voluntary in Denmark, Sweden and Finland (the 'earningsrelated' component) but mandatory in the other countries. On the other hand in Denmark, Sweden and Finland self-employed people can join the insurance system, which was not possible (in 1996) in the other countries. This is the reason for 'unemployment insurance' being characterized as 'open with access for all relevant groups' in Denmark, Sweden and Finland, cf. the following.

1.1.

The conditions of entitlements

Table 1.1 shows the general character of conditions of entitlements for social security in the 7 countries.

It is evident from table 1.1 that the German social security system is characterized by schemes for people working with no or only relatively limited general access, while the Danish, Swedish and Finnish systems are characterized as being 'open' and with a relatively high degree of general access for all relevant groups. The British, Dutch, and Canadian systems are 'in between'.

Table 1.1. Entitlement for social security, 1996.

Elements	DK	S	FIN	D	GB	NL	CAN
Illness, benefits, insurance	□ ¹⁾	□ ¹⁾	□¹)	. =	□/ ■		
Unemployment, insurance	□ ¹⁾	□ ¹⁾	□¹ ⁾				
Injured from work, insurance	□/ m		□/■	Í			
Retirement	□/■	□/■	□/■				□/■
Family allowance		0					□ ²⁾
Maternity leave, benefits		. 🛮 .			□/■		

- ☐ The entitlement is in principle for all relevant groups.
- The entitlement is for people working, primarily employees.
- 1) Compensation is also for self-employed, therefore the character □ was used.
- 2) Means test to zero for relatively high income earners.

What is the more specific content of this characterization?

In *Germany* there are, generally speaking, separate systems for different working groups in the population. The main groups in this connection are employees in the private sector, employees in the public sector and self-employed people.

The employees in the private sector have their own schemes for compensation in case of illness, unemployment, maternity leave, injuries from work, invalidity (not dealt with here) and retirement. Within the private sector there are separate systems for groups with particular professions, i.e. within agriculture and mining. The separate systems for the professions mentioned are not considered here.

For employees in the public sector social security is included in the employment conditions. Self-employed people may join social security schemes of their own.

Another reason for the characterization of Germany is the connection between the contributions paid to the specific schemes and the right to receive benefits. Generally speaking, without former contributions there is no right to receive benefits.

In *Denmark* the social security system is characterized as being relatively open with general access for all relevant groups. Membership of the voluntary unemployment insurance scheme is required in order to receive unemployment benefits, but also self-employed people can join the insurance scheme. The basic public pension system is open for all, only requiring a certain age and a certain length of the stay in the country. The additional public pension scheme requires a former working period and contribu-

tions paid to make the person entitled to benefits, it is a defined contribution plan. Only employees can receive benefits from the additional public pension scheme.

The *Swedish* system has the same characteristics as the Danish one. There is, however, a difference of degree, because the Swedish additional public pension scheme, which basically is a defined benefit plan, is much more important from the point of view of the recipient. The Swedish additional pension scheme is also open for self-employed people.

The general characteristics of the *Finnish* system follow the lines of the Danish and Swedish ones, it has the same degree of 'openness' as in the other two Scandinavian countries.

In *Great Britain* there are two separate components of the social security system, one for people with an appropriate contribution record primarily from working, the other non-contributory comprising income related and non-income related benefits, cf. section 1.2.

In *the Netherlands* there is a general social security system for all and, on top of that, a separate one for employees. This construction is connected to the method of financing, cf. section 1.3. There is no specific insurance for being injured from work. People being injured from work are eligible for compensation for illness and, if the loss of working capability is permanent, for invalidity pension according to the public scheme.

The *Canadian* system is similar to the German, it is primarily for people working, but the Canadian pension scheme also contains a basic pension independent of former work history.

Invalidity pension follows, generally speaking, similar principles as old age pensions in most of the countries. This element is therefore partly covered by the characteristics of the old age retirement schemes. A detailed coverage of invalidity pension schemes is planned for the next edition of 'Elements'.

It can be debated whether family allowances belong to social security or not. They basically have the same character in all the countries with respect to the 3 aspects discussed in this chapter.

1.2.

The benefit formula

There are three basic 'benefit formulas' used in the social security systems studied. One formula is the fixed amount, disregarding former income, it is the true 'flat rate' benefit. Another formula for the benefit is a certain percentage of the former income. This

benefit formula usually has a maximum which can be reached at a lower or higher income. If the maximum is reached at a relatively low income the benefit will have a 'flat rate' character for many recipients. Finally the benefit may follow several steps, where the percentage may vary with the level of the former income, typically a decreasing percentage with an increasing income. This 'step formula' may have a maximum, but that is not always the case, e.g. the Finnish system has several examples of benefits following the 'step formula' without a maximum.

A few examples from the unemployment insurance schemes: Both the Danish and Swedish unemployment benefits are a constant share of the gross wage, but the benefit reaches a maximum rather early in the income interval in the Danish case (at approximately 2/3 of the APW income in 1996). In the Swedish case the maximum is reached just below the income level of the APW in 1996, while in 1994 it was just above the APW income level. In Germany, the maximum is reached at a much higher income level (1.7 APW income). Several of the schemes also have minimum benefits, e.g. in Denmark, Sweden and Finland.

The APW income is used as a threshold for the characterization of the 'income related' benefit formula. If the compensation has reached its maximum at the gross wage level of the APW (or just above), it is characterized as 'income related, with a low cap', the cap being the income where the max. benefit is reached. If the cap is above the APW income or if there is no cap (no maximum benefit) the benefit formula is characterized as 'income related'. Based upon this criterion, the compensation for unemployment is classified as 'income related, low cap' in Denmark and as 'income related' in Germany. For Sweden the cap related to unemployment benefits was below the APW income in 1991, 1992 and the first half of 1993. In the second half of 1993 and in 1994 it was above the APW income and in 1995 and 1996 again below. In Finland the benefits from the voluntary unemployment insurance scheme follow the 'step formula' and there is no maximum. The scheme is characterized as 'income related'.

The elements of the social security systems are characterized according to this interpretation of the terms 'flat rate' and 'income related' in table 1.2.

Table 1.2. Benefits: 'flat rate' or 'income related', 1996.

Elements	DK	S	FIN	D	GB	NL	CAN
Illness, benefits, insurance	0			72			
Unemployment, insurance	О	0	-			1)	
Injured from work, insurance							
Retirement		□/■	□/■	H			□/ □ ²)
Family allowance		. 🗖					
Maternity leave, benefits	O		.		□/■		

- ☐ The benefit is 'flat rate'.
- ☐ The benefit is 'income related, low cap'.
- The benefit is 'income related'.
- 1) From March 1995 the 'entrance' conditions have been tightened considerably. Many newly unemployed will therefore receive a 'flat rate' benefit.
- The max. pension in the Canadian supplementary pension scheme is reached very close to the APW income level.

For *Denmark* nearly all the elements are characterized as 'income related, low cap' or as 'flat rate'. The additional pension scheme for employees, cf. section 1.1, is dependent on former contributions. These contributions are basically related to the working period (hours per week, and years of occupation) not to income. The only Danish 'income related' element is compensation for injuries from work, which in most of the countries has the same character.

Sweden and Denmark are often believed to have the same welfare state type of social security systems. According to the aspect in focus here, it is evident that the *Swedish* system is considerably more income related than the Danish one. In the Swedish unemployment insurance scheme the position of the cap in relation to APW income has, as already mentioned, changed several times since the early 1990's. This is a result of the changes in the percentage of compensation (from 90 per cent to 80 per cent in mid 1993 and to 75 per cent from 1996) and the max. benefits, which have been on the 1992 level since mid 1993. The Swedish unemployment benefit scheme together with the Canadian supplementary pension scheme are the only ones in this study, where the cap is very close to the APW income level.

In this broad classification the *Finnish* system has almost the same characteristics as the Swedish one, but often uses a 'step formula' without a maximum (e.g. illness, unemployment and maternity leave benefits).

The German system is, except for the family allowance (and social assistance, not covered here), 'related to income'. Even the family allowance is in some cases 'related

to income', because in Germany families with children either receive a tax credit or a tax reduction based upon allowances (one per child) deductible in taxable income, whatever is most advantageous. The deduction in taxable income has the largest value for high income families, because of the progression in the German taxation scheme, so child benefits as allowances deductible in taxable income will typically be for high income families.

The *British* system is primarily 'flat rate' in the true sense of the word, but also has a few 'income related' components.

The *Dutch* system is 'flat rate' for the general part of the system, while it is basically 'income related' for the part concerning employees.

The *Canadians* primarily apply 'income related' schemes where the cap usually is somewhat (approx. 10 per cent) above the APW income level, except in the supplementary pension scheme, where the cap, as mentioned, is very close to the APW income level, and in the 'Workmen's Compensation' (injuries from work) where the cap (in Ontario) is approx. 60 per cent above the APW income level.

One consequence of a 'flat-rate' or an 'income related, low cap' scheme is that the effective compensation percentage will decrease very soon with increasing income, while in an 'income related' scheme it will usually be almost constant over a much wider range of income. The 'step formula' will have a decreasing compensation profile but not as steeply decreasing as the 'flat rate formula'.

1.3.

The methods of financing social security

There is some variation between the countries as far as methods of financing social security are concerned, but all 7 countries are using a mix of social contributions and general taxes.

In Sweden the major part of social security is financed by contributions paid by the employer, but a gradual change is taking place, where contributions from the employees are increased and those paid by employers decreased. In Germany social security is also mainly financed by contributions, equally shared by employers and employees. In the Netherlands the general system is financed by taxes (social contributions are incorporated in the first tax bracket), the separate one for employees by contributions paid by employers and employees. A reform in 1990 in the Netherlands partly shifted the payment of contributions for general social security from the employer to the employees. In Great Britain the component of the system for people working is financed by contributions paid by the employer and the employees, while the component for other groups

in the population is financed by taxes. *Finland* also has a mixed system for financing the social security system. Several of the Finnish schemes, e.g. unemployment insurance and retirement insurance are financed by a mix of social contributions paid by the employer and/or the employee and general taxes. In *Denmark* the general method of financing has mainly been by taxes. From 1994 a social contribution paid by the employees has been introduced as part of a new taxation scheme, in 1996 the contribution was 7 per cent of earned income (not including transfers) and there is no ceiling. The new social contribution is financing unemployment benefits, the early retirement scheme, illness benefits and labour market activities. The Danish change may be more formal than real. In *Canada* 3 of the schemes, illness, unemployment and maternity leave benefits belong to the 'Employment Insurance' scheme, which is financed by contributions just as the supplementary pension scheme. Basic pensions and family allowances are tax financed. Compensation for injuries from work are financed by contributions from employers.

Again, the categorization according to methods of finance is crude.

Table 1.3 shows the variation between the 7 countries.

As can be seen from the table, the characterization is not clear-cut, very often the financing is a mix of general taxes (or budget deficit) and social security contributions. The 'ratio' between the two methods depends on the business cycle. In a recession a larger part is financed by taxes or budget deficits, e.g. the unemployment insurance in Sweden and Germany has been supplemented by 'deficit' financing in recent years.

Table 1.3. Methods of financing social security, 1996.

Elements	DK	S	FIN	D	GB	NL.	CAN
Liomonia					***************************************		
Illness benefits, insurance	-			Į.	. 🚾	2	-
Unemployment, insurance		1)		B			
Injured from work, insurance							8
Retirement						□ ²⁾	□/ ■
Family allowance							
Maternity leave, benefits			. 🗷				

Primarily financed by general taxes.

[■] Primarily financed by contributions from employer and/or employee.

¹⁾ In recent years a substantial part of the expenditures has been financed by loans for the funds in charge of the system.

²⁾ In the Netherlands, itemized parts of the first tax bracket finance the public pension system.

The proportion of social contributions paid by the employer and the employees may change over time. In e.g. Sweden the social security contributions paid by the employer have, as already mentioned, been lowered in recent years, in order to reduce the labour costs. There has been a parallel increase in the employee paid contributions in Sweden since their introduction in 1993, a tendency which is expected to continue during the introduction of the new public pension scheme, cf. chapter 2. Denmark has very small employer paid contributions.

According to economic theory, there is hardly any difference, at least not in the long run, between financing through taxation and contributions, the employees will pay for social security anyhow. Financing by contributions may, however, imply a higher degree of transparency, if the contributions reflect the costs of the scheme.

The schemes characterized by contributions paid by the employers and/or the employees and with benefits related to income, are often regarded as more 'insurance like' than other schemes. However, almost all elements of the public social security systems are 'pay as you go' schemes, and there is no actuarial connection between the contributions paid and the benefits received. The Danish supplementary pension scheme (ATP) is probably closest to being an 'insurance' system. It is a 'defined contribution plan' with an actuarial link between the contributions and the benefits.

In systems based upon contributions, entitlement for benefits is often conditional on having paid contributions, but not always. In *Sweden* e.g. there is a general entitlement for the basic old age pension also for people who have never been employed or self-employed. *Denmark* represents the 'opposite' case. As already mentioned, unemployment insurance is (from January 1994) basically financed by contributions paid by the employee, but in order to be eligible for the benefit the employee also has to be a member of the insurance system (and pay a special fee for the membership).

1.4.

Conclusion

A general conclusion could be that, according to the first two of the three institutional aspects used for the comparison, the *Danish* and the *German* systems are opposites, with the other countries in between. The principles used to finance the schemes are rather similar in the 7 countries, with *Denmark* having the lowest employer paid social contributions. The similarity between the *Danish* and the *Swedish* systems is not so strong as is often anticipated, they are quite different, which will become even clearer after the more detailed comparisons in the next chapter.

Comparison of the separate elements of social security in the 7 countries

This chapter will focus on the characteristics of each of the selected elements of the social security systems in the 7 countries. As already mentioned these elements are:

- ► Illness
- Unemployment
- ► Injuries from work
- Retirement
- Having children
- Maternity leave

As a supplement, a set of calculations of the combined effect of taxation and social security has been performed for each social security element and compared with disposable income when fully employed. As mentioned in the introduction, the framework for these calculations is the 'Average Production Worker' derived from 'The Tax/Benefit Position of Production Workers', an annual publication from the OECD.

The calculations are documented in appendix 1, and the following is a short note on the interpretation of the calculations.

2.1.

Interpretation of the 'APW-calculations'

The calculations have the form of 'gross compensation percentages' (in some cases net, if that is the relevant concept) and 'change in disposable income'. The disposable income concept is somewhat crude, cf. appendix 1, and does not fully reflect the considerable variation in income conditions for production workers in the 7 countries. Day care for children and housing are disregarded and only standard deductions in taxable income, standard social security contributions and public social security benefits are included.

The strength of the 'APW-calculation' of disposable income is that it is consistent across the 7 countries.

The 'APW' is a production worker, i.e. an employee in the private sector. The effect of income events could be different for other groups in the population, e.g. self-employed

people or public sector employees. The results are only valid for employees in the private sector.

The calculations are valid at two points in the income distribution, those of the single APW and the APW couple. These points are not the same in all 7 countries, cf. appendix 1¹. More important is the fact that 'single-point calculations' do not reflect the effects of varying income. This is important, because 'flat rate systems' and 'income related systems' have different characteristics, when the income varies. The problem could be solved by performing calculations at different levels of income, but that often requires further information on taxation, and it would increase the workload considerably. The results are only valid for the 'APW-points' in the income distribution. Based upon supplementary information on the 'benefit formula' ('flat rate', 'income related, low cap' or 'income related') it is, however, possible to make some conclusions about the profile of the net replacement rates (100 plus the percentage change in disposable income), often used in international comparisons.

The 'standard' income events have a defined length of time (one week, 3 months, etc.), other durations of the events could change the results. The 'seriousness' of the event could also influence the results, e.g. loss of working capability in connection with injuries from work. This problem could also be 'solved' by performing more calculations, and this has been done in a few cases. The results are only valid for the specific duration of the events assumed in the calculations.

Some times vacation pay and pay for overtime are not included in the basis for calculation of benefits. In this study all wage income is included in the basis for benefits (where that is relevant) and there are 260 wage days, 312 week days and 364 calendar days in the year. All calculations are based upon current income, another simplification compared to the real world, where benefit calculations to a varying degree are based upon former income.

In several countries, it is possible to receive more than one kind of benefit (e.g. unemployment compensation and social assistance) at the same time. In the APW-calculations only one kind at a time is considered. Furthermore, it is the isolated effect of the event, which is calculated. Many of the 'events' lead to a decrease in disposable income and therefore other means tested benefits, (e.g. relating to day care for children or housing), could 'respond'. This combined effect is not included in the calculations.

The APW-calculations therefore have a very narrow interpretation, but they do provide a framework for illustration of the functioning of the tax/benefit rules and thereby

Cf. also the November 1994 edition of *The Tax/Benefit Position of Production Workers*, p. 259.

hopefully contribute to an insight into the structural differences between the social security (and taxation) systems of the countries included in the study.

2.2.

The social security elements

Illness

The effects on disposable income from short spells of illness vary to some degree among the 7 countries. This is mainly because in some countries the employer has a legal obligation to pay the usual or close to the usual wages during relatively short spells of illness while this is not the case in other countries. The existence of a waiting period in some of the countries is also of importance. Labour market agreements to supplement the public benefits are , however, implemented in most countries with low benefits and/or relatively long waiting periods.

Even in countries where the employer has an obligation to pay wages during short spells of illness (partly or in full), there will be groups who are not eligible for this, and for those the social security benefits for illness are relevant. The APW-calculations therefore cover two situations, one where the ill person is eligible only for public social security, and the other where the ill person receives the usual wage or an usual supplement to the public social security benefits.

The social security system is important for almost all groups when longer spells of illness are considered².

In 5 of the countries (Finland and Canada are the exceptions) it is the employer, who administers the public insurance scheme, at least for shorter spells of illness. The compensation for illness schemes are characterized on basis of these criteria:

- ▶ Is it usual for the employer to pay wages (partly or in full) for a period?
- ▶ Is there a waiting period?
- ► For how long can the ill person receive the compensation?
- ► Is the system for all population groups?
- ▶ Is the benefit 'flat rate' or is it 'income related'?

The result is contained in table 2.1.

In the Netherlands the compensation scheme was privatized in 1996, cf. the section "Announced Changes 1996/97".

Table 2.1. Characteristics of compensation for illness in 7 countries, 1996.

	· · · · · · · · · · · · · · · · · · ·	- , · · · · · · · · · · · · · · · · · · 					
	DK	S	FIN	D	GB	NL	CAN
Is it usual for the employer to supplement the public benefit?	Yes ⁵⁾	Yes ¹⁾	Yes²)	No ³⁾	Yes	Yes ⁴⁾	No ⁶⁾
Waiting period	No	Yes ¹⁾ 1 day	Yes 9 week- days	No	Yes 3 days	Yes ⁴⁾ 2 days	Yes 2 weeks
Maximum benefit period	52 weeks	No limit	300 week- days	78 weeks	28 weeks	52 weeks	15 weeks
Eligible, groups	Employees Self- employed	Employees Self- employed	Employees Self- employed	Employees	Employees Self- employed	Employees	Employees
Benefit formula	Income related, low cap	Income- related	Income- related	Income- related	Flat rate	Income- related	Income- related
Special rules	White collar workers receive wages			High income earners may leave the system			

- 1) From 1992 the employers are obliged to pay benefits (75 per cent of wages in 1996) for 2 weeks, and they can supplement the benefits from the insurance from day 15 to day 90, cf. the comments on the table. From April 1993 there is a waiting period of 1 day.
- There are labour market agreements in the private sector covering the income lost during short spells of illness, cf. also the documentation.
- 3) In Germany, the employer has a legal obligation to pay full wages the first 6 weeks (1996).
- 4) According to collective labour agreements in the Netherlands, most employees receive full wages when they are ill, also in the waiting period.
- 5) From 1994 almost all blue collar workers receive full wages in the first 2 weeks.
- 6) There are supplementary benefits from some large corporations.

Comments on table 2.1

The employer's obligation to pay wages during the specified period in Germany depends on how long the employee has worked for the employer. There will be employees who for this reason are not eligible for wages during illness. In Germany this is of no consequence for the APW, because the public benefit gives full compensation.

In Great Britain, payment of illness compensation is dependent on the employee having worked for the employer for a minimum length of time. If that condition is not met, the payment is made according to a lower rate. Many British workers receive supplementa-

ry benefits from the OSP (Occupational Sick Pay) scheme when they are ill. OSP is a labour market agreement.

In Canada a work requirement (700 hours in the last 52 weeks) has to be met before benefits can be received. There are supplementary benefits during illness for employees in some large corporations.

Sweden has changed its legislation concerning compensation for illness several times in recent years³. In 1993 a waiting period of 1 day was introduced. Sweden, Finland, Great Britain, the Netherlands and Canada all have a waiting period, shortest in Sweden (1 day), longest in Canada (2 weeks).

The maximum duration of the compensation in Denmark is 52 weeks within 1 1/2 years while it is 78 weeks in Germany within 3 years. Including these conditions makes the Danish system more favourable than the German one, where duration is concerned. There are no such conditions in the other countries.

In Germany there is a maximum level of income to which the contribution percentage is applied. Employees with income above that level may leave the system for public insurance against illness. In Sweden there is also an upper limit on income from which the contribution is paid by the employee, but not for the contribution paid by the employer. (The employee contribution was introduced in 1993).

Before March 1st, 1991, the compensation from the insurance was 90 per cent, and it was usual for the employer to pay 10 per cent of the former wage, the total compensation then usually being 100 per cent (up to an upper limit of 7.5 times 'basbeloppet', the 'basic rate' in Swedish Social Security System). From March 1st, 1991, the benefit from the insurance was changed to 65 per cent of the wage for the first 3 days of illness and 80 per cent for the remaining days in the first two-week period. Again it was usual that the employer paid 10 per cent of the wage. The total compensation was then 75 per cent (first 3 days) and 90 per cent (for the remaining days of the first two-week period). From the third week the total compensation was 90 per cent (80 per cent from the insurance and 10 per cent from the employer to day 90, thereafter 90 per cent from the insurance). From the beginning of 1992 the employer is obliged to pay 75 per cent of the wages for the first 3 days and 90 per cent for the remaining days in the first two-week period. The insurance takes over from the third week, and the compensation is 90 per cent, and there is no supplement from the employer. The increased burden for the employer was compensated by a decrease of the social security contribution paid by the Swedish employers. In 1993 the system was changed again. This time a waiting period was introduced (1 day) and the compensation lowered for longer spells of illness. This again opens for supplements from the employer. In 1994 these were, however, restricted to the period from the start of the 3rd week to the 90th day of illness. From 1996 the gross compensation percentage was lowered to 75 per cent in the entire scheme. This may be supplemented with 10 per cent from day 15 to day 90.

The criterion for characterizing the benefit as 'flat rate', 'income related, low cap' or 'income related' is the same as was used in chapter I. Finland has a 'step formula' without maximum, characterized as 'income related'.

The level of compensation

The effect on disposable income of the 'standard' event 'being ill for one week' is illustrated by APW-calculations, in this case for the single APW.

For all countries, two calculations have been made, one covering the social security system alone, the other covering the 'usual' situation where the employer may pay wages (partly or in full) or may supplement the benefit from the social security system. The percentage change in disposable income is based upon the change in the *annual* disposable income of the APW caused by being ill for one week.

Table 2.2. Effects on disposable income of being ill for 1 week in 7 countries, 1996.

		T	T	T	·	γ	·
	DK	S	FIN	D	GB	NL	CAN
		Soci	ial security a	alone			
Compensation percentage	56	60	0	100 ¹⁾	7	42	0
Change in disposable income, per cent	- 0.7	-0.7	-1.5	0	-1.6	-0.8	-1.5
•	'Usua	l' situation (d	combined w	ith social se	curity)		
Compensation percentage	100	60	100	100	80 ^{1,3)}	100 ²⁾	0
Change in disposable income, per cent	0	-0.7	0	. 0 .	-0.4	0	-1.5

- 1) The compensation percentage is after taxation, (net income).
- 2) In the usual situation the waiting period of 2 days is also compensated.
- 3) The range of variation is considerable for this compensation percentage.

The best coverage is received in Germany for both shorter and longer spells of illness. In Sweden there will always be a reduction. The effect of the waiting day introduced in 1993 is significant, especially for short spells of illness. The changes in 1993 in Sweden also lowered the compensation for longer spells of illness. The relatively substantial reductions in disposable income for Finland, Great Britain, Canada and the Netherlands are primarily due to the waiting period. In the 'usual' situation these countries, except Canada, have a high degree of coverage, especially Finland and the Netherlands.

For longer spells of illness the 'social security system' plays the dominant role for most groups. Waiting periods (S, FIN, GB, NL and CAN) will be of less importance than for shorter spells. This will 'improve' the position of Sweden, Finland, Great Britain, the Netherlands and Canada compared to Denmark and Germany. After Germany, Sweden and Finland have the highest coverage in the 'social security alone' case for longer spells of illness in 1996.

Unemployment

Where unemployment insurance is concerned, the variation in the effect on disposable income is considerable among the 7 countries studied. This variation depends on both the principles of unemployment insurance and the level of the benefits.

The criteria, according to which this important element of the social security system is characterized, are:

- ► Is insurance mandatory or voluntary?
- ▶ Is there a waiting period?
- ► Is the period during which benefits can be received dependent on the duration of former occupation?
- ▶ Is there a mechanism by which to renew the right to benefits?
- ▶ Is the benefit 'flat rate' or 'income related'?
- ▶ For how long can the unemployed receive the benefit?
- ► Is there an 'additional' system?

The characterization of the unemployment benefit (U.B.) schemes is contained in table 2.3.

Table 2.3. Characteristics of unemployment insurance in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
			Bas	ic System		1	
Type of insurance	Voluntary	Voluntary ¹⁾	Voluntary	Mandatory	Mandatory	Mandatory	Mandatory
Eligible groups	Employees Self- employed	Employees Self- employed	Employees Self- employed	Employees	Employees	Employees	Employees
Waiting period	No ²⁾	Yes ³⁾ 5 days	Yes 5 days	No	Yes 3 days	No	Yes 2 weeks
Duration of former period of work required	26 weeks of work within 3 years	5 months of work within 1 year	26 weeks of work within 2 years	Minimum 12 months of work within 3 years	In 2 years at least 25 min. contr. paid and 100 credited ⁴⁾	26 weeks of work within 39 weeks and work in 4 out of 5 years	10-20 weeks in preceding year
Renewal of rights	26 weeks of work within 3 years	As above Job-offer	As above	As above	13 weeks of work in the last 26 weeks	As above	20 weeks in preceding year
Benefit formula	Income related, low cap	Income related, low cap	Income related	Income related	Flat rate	Income related	Income related
Maximum benefit period	5 years, longer if person is 50-60 years, shorter if over 60	14-21 months dependent on age renewal: repeated, based on joboffer ⁵⁾	100 weeks within 4 consecutive years. Longer when 55 years	½ to 2 2/3 years dependent on age and former work history	½ year	Step 1: ½ year	Up to 45 weeks de- pendent on work record and regional unemploy- ment
			Additio	nal System			
Existence	None	None	Yes	Yes	None	Yes	None
Eligible groups			'New- comers' and out- insured	Unemployed not eligible for insurance		Unemploy- ed not eli- gible for insurance from step 1	
Maximum benefit period			No limit	No limit ⁶⁾		Step 2: ⁷⁾ ½ to 4½ years Step 3: 2 years	
Benefit formula			Flat rate, means-test	Income related		Income related ⁷⁾	

¹⁾ The Swedish system changed from voluntary to mandatory on July 1st 1994, and back again to voluntary from January 1995.

(to be continued ...)

- 2) In Denmark, the employer pays compensation for the first 2 days.
- 3) From July 1993 Sweden has 5 waiting days.
- 4) There are two initial qualifying conditions:
 - a. During one of the two complete tax years prior to the calendar year in which the claim for unemployment benefits is made, earningsrelated contributions must have been made for earnings equal to at least twenty five times the lower earnings limit (measured in GBP/week).
 - b. In each of the complete tax years prior to the calendar year in which the claim is made, the claimant must have paid or been credited with contributions which total to those from income equal to at least fifty times the lower earnings limit. Concerning renewal, the claimant must have worked for at least 16 hours in each of at least 13 weeks in the 26 weeks before the benefit is reclaimed.
- 5) From July 1994 the rules were changed in order to stop the repeated renewals without time limitations. From 1995 the renewal mechanism was basically as before July 1994, i.e. without time limitation through job-offers, limitations are being considered by the Swedish government.
- 6) From January 1994 the max. benefit period has been limited to one year for people who have not worked long enough to claim insurance benefits from the basic system.
- 7) The working condition for step 2 is 4 years out of 5. In step 3 of the system the benefit is 'flat rate'.

Comments on table 2.3

Unemployment insurance is voluntary in Denmark, Sweden and Finland (the earnings based part), while it is mandatory in the other countries. In Sweden the scheme was voluntary until July 1994, when it became mandatory, a decision taken by the liberal government. From January 1995, however, it became voluntary again, a change of government caused the short life of the mandatory scheme. In both Denmark, Sweden and Finland there is a minimum length of membership required (for employees it is 1 year in DK and S, ½ year in FIN in 1996) before the employee or self-employed person is eligible for the insurance benefit.

Four countries (GB, S, FIN and CAN) have a waiting period varying in length from ½ week in GB, 1 week in S and FIN to 2 weeks in CAN. In Canada it is possible to receive social assistance in the waiting period, but it will be reclaimed when U.B. starts to be received.

There is a working condition which has to be met in all of the countries before the unemployed can receive benefits from the insurance schemes. The Netherlands has a double condition relating both to the short term (26 weeks of work within 39 weeks before unemployment) and the long term (work but not all the time for 4 years out of the 5 preceding calendar years) for entitlement to income related benefits. If only the first condition is met, the benefit will be flat rate in the basic system (70 per cent of the minimum wage). In three of the countries (S, GB⁴ and CAN), the requirement to former work must have been met within 1 year before the unemployment. In Finland it

For GB it is a little more complicated, cf. table 2.3.

is within 2 years and in Germany and Denmark it is within 3 years, with Denmark⁵ having the shortest required period of work of the two.

In Sweden⁶ the right to receive insurance benefits can be renewed (when the initial period has expired) by a 'job-offer' (which can be claimed by the unemployed). This has also been the case in Denmark, but from January 1994 the benefit period was changed to 7 years (9 years if paid leave was included), from 1996 it was reduced to 5 years, including periods with education and/or jobtraining. Renewal of the benefit period in Denmark now requires a new working period as it does in the other countries. It is only in Sweden that repeated 'job-offers' can continue to renew the benefit period, which in practice is without time limitations. Some kind of limitation is, however, under consideration. Repeated use of U.B. in Canada (e.g. by seasonal work) results in a decreasing compensation percentage down to a floor.

According to the definitions used here, cf. chapter 1, section 1.2, the benefit formula is 'flat rate' in GB, 'income related, low cap' in DK and S and 'income related' in FIN, D, NL⁷ and CAN. In Sweden the cap has, as earlier mentioned, changed position in relation to the APW income several times. In 1996 it was below the APW income, but only by approx. 2 per cent.

In the 'flat rate' and 'income related, low cap' countries there is a decreasing compensation percentage (here assumed to be after tax, but that is not important) for income higher than that of the APW (and an increasing compensation percentage for lower income down to the cap). This is also the case in the Finnish 'income related' scheme using a 'step formula' (no cap), but the decrease is more gradual than for the 'flat rate' and 'income related, low cap' schemes. In Sweden the compensation percentage is decreasing for income above the APW level, and after an initial increase down to the cap close to being constant for income below that level. The Danish profile is similar to the Swedish, but with a lower cap. The constant compensation percentage is reached at approx. 67 per cent of the APW income, where it is reached at 98 per cent of the APW income in Sweden (moving from higher to lower income). The compensation percentage is almost constant in Germany and the Netherlands, at least to an upper income limit, which for Germany is approx. 1.7 APW level, for the Netherlands approx. 1.5 APW level. The maximum insurable income in Canada is approx. 1.1 APW level. Above these limits, the compensation percentage will also decrease in these three countries. Graph 2.1 contains profiles for six of the countries covered by the study.

⁵ Changes were implemented in Denmark from 1997, cf. the section *Announced Changes* 1996/97.

The rights for renewal were changed in Sweden from July 1994. From January 1995 the rules were changed back again, but new changes are under consideration.

On the assumption that the 'double' working condition is met.

The 'income related' schemes usually also have a minimum, which, however, is reached at low income levels. Denmark probably has the most narrow gap between the max. benefit reached at approx. 0.67 APW income level and the min. benefit reached at approx. 0.55 APW income level. This implies that the income range with a constant compensation percentage is quite small in Denmark.

Only one country, that is Canada, has a 'claw-back' clause, i.e. the benefits are claimed back (partly or entirely) if the earned income, when employment is obtained again, is above a certain, relatively high, threshold.

There is substantial variation among the countries, with regard to the maximum period for which the benefit can be received. In Germany the length of the benefit period varies from ½ year to 2 3/3 years dependent on work history and age. The maximum length requires an age of over 54 years and a little more than 5 years of work within the last 7 years. For the minimum period the requirement is, cf. table 2.3, one year of work within the last three years. If step 1 (basic system) and step 2 (additional system) in the Dutch system are taken together the max. length of the benefit period is 5 years with income related benefits. The max. length again requires a relatively high age and a long working history. In Sweden the formal benefit period is 11/6 years, longer when the unemployed is over 54 year, in fact there are no time limitations. Finland has a benefit period of 100 weeks, longer when the unemployed reaches the age of 55. Denmark and Great Britain have 'uniform' benefit periods, longest in DK (5 years), shortest in GB (1/2 year from Oct. 1996), also with a prolonged period for elderly in the age group 50-60 years in Denmark (but shorter for unemployed between 60 and 67 years). The length of the benefit period in Canada depends on the former working record (preceding year) and the unemployment rate in the province (high rate implies longer benefit period).

For two of the countries with relatively short periods in the basic system (Germany and the Netherlands) there is an 'additional system' primarily for unemployed whose rights in the basic system have expired. The 'split' between the basic system and step 2 of the additional system in the Netherlands, cf. table 2.3, is rather formal, these two parts constitute the earnings related scheme and are quite coherent. In Great Britain the unemployment benefit scheme is 'replaced' with Income Support after ½ year (from October 1996), often with little economic consequences for the recipient. In Sweden there also is a scheme alongside the insurance system, but that is an alternative system for people who are not insured. That scheme became a part of the mandatory insurance system from July 1994. From January 1995 the alternative system regained its orginal role as a short term scheme (short benefit period) which may be supplemented and finally 'replaced' by social assistance. Finland has both an additional and an alternative scheme. The alternative scheme in Finland is primarily for people not in the insurance scheme (not insured), while the additional scheme is a parallel scheme to social assistance.

tance. It is primarily for unemployed who are 'new comers' or 'outinsured' from the insurance scheme or the alternative scheme, which has the same duration and work conditions as the insurance scheme.

The additional schemes in Finland, Germany and the Netherlands are quite different. In Finland it is a parallel scheme to social assistance with no time limitations. In Germany it is primarily a continuation of the insurance scheme but with a lower benefit level, it is means tested and with no time limitations (it has some of the characteristics of the social assistance scheme). In the Netherlands it is a time limited continuation of the insurance scheme with the same benefit level (except in the last step where the benefit is 'flat rate' and usually lower). Except for the last step it has none of the characteristics of the social assistance scheme.

The level of compensation

In this case the 'standard' events are unemployment for 3 months and for the whole year. The calculations have been made for two situations, one where the unemployed single APW is eligible for insurance benefits and one where he or she is not. The results of the calculations for the two situations are summarized in table 2.4 and 2.5 respectively. The effect on disposable income is calculated in relation to the *annual* disposable income of the APW. Only CAN has a max. benefit period shorter than a year in 1996. Social assistance benefits have been applied for the rest of the year in this case.

Table 2.4. Effects on disposable income of being unemployed for 3 months and the whole year in 7 countries, 1996.

	DK	s	FIN	D	GB	NL	CAN					
Eligible for insurance, 3 months' unemployment												
Compensation percentage	56	68	48	60 ¹⁾	15	70	46.5					
Change in disposable income, per cent	- 8.7	- 7.5	- 9.3	- 6.8	- 18.9	- 6.1	- 9.5					
Eligib	ole for insu	rance, 12	months' u	nemploym	ent							
Compensation percentage	56	72	51	60 ¹⁾	16	70	48					
Change in disposable income, per cent	- 35.0	- 26.2	- 37.9	- 41.6	- 79.0	- 27.1	- 43.7					

The compensation percent is after tax.

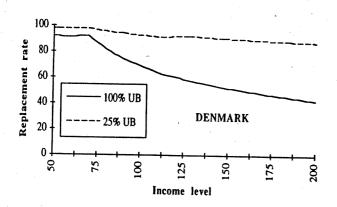
The decrease in disposable income is smallest in the Netherlands followed by Germany and Sweden, when the APW is unemployed for 3 months and eligible for insurance

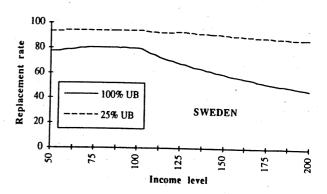
benefits. The decrease is larger in Denmark, Finland and Canada, smallest in DK, largest in CAN. Great Britain has the largest decrease of all. The picture is somewhat different for the APW who is unemployed for the whole year, and the 'ranking' of the countries has changed. The German change is now larger than the Swedish, Danish and the Finnish, but still smaller than the Canadian, and the Dutch is slightly larger than the Swedish. It is especially the variation in the progression of the tax schemes which causes the changed picture from 25 per cent to full unemployment. The Swedish APW is experiencing the smallest decrease in disposable income when unemployed for the whole year of 1996. In Great Britain it is possible to supplement the insurance benefit with other benefits, especially for housing⁸, an aspect not included in the calculation.

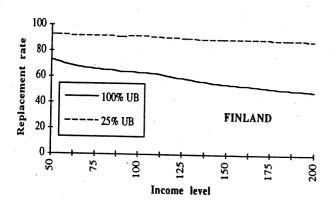
The results in table 2.4 refer to the income level of the APW. In the section 'Comments on table 2.3' it was, however, mentioned that the profiles for the schemes would differ considerably with varying income. Graph 2.1 illustrates the net replacement rate profiles for U.B. schemes in six of the countries studied (net replacement rate: 100 + 'change in disposable income, per cent' from table 2.4).

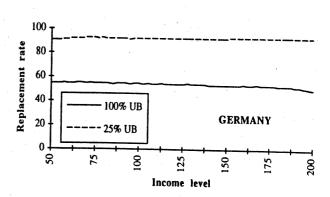
Housing benefits are also available in most of the other countries, but not to the same extent as in GB.

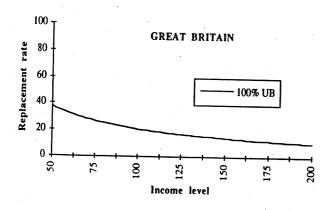
Graph 2.1 Net replacement rates 1994. Single worker unemployed for 25 per cent and 100 per cent of the year. Income varies from ½ to 2 APW.

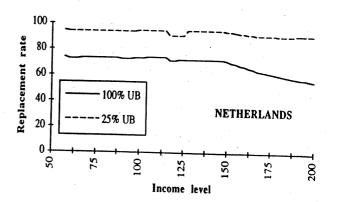












The calculations in the case where the unemployed person is *not eligible* for insurance benefits are more difficult to interpret. In general the calculations in table 2.5 show rather large decreases in disposable income. This is partly because housing costs and allowances are not taken into consideration in the calculations.

Housing allowances are separate components of the social assistance schemes in several countries and often more generous than ordinary housing benefit schemes (Denmark, Sweden, Finland and Germany but not in Great Britain and the Netherlands). Canada only has housing allowances in relation to social assistance. For those receiving social assistance there is therefore in the first mentioned countries and in Canada a tendency to overestimate the negative impact of this 'income event', compared to receiving unemployment insurance benefits, when housing benefits and allowances are not taken into consideration.

In the calculations for Denmark, the unemployed receives social assistance (without allowances for housing). In Sweden (except for the period July 1st to December 31st 1994 when the system was integrated in the mandatory insurance scheme) a special labour market compensation is received, but this may be supplemented by social assistance and housing allowances (not included in the calculations). In Denmark and Sweden (except in the 'mandatory' period), these elements of social security are alternatives to unemployment insurance benefits. The Danish social assistance system was changed fundamentally from 1994. The benefit became related to the max. benefit for unemployment and it became taxable. The system, as mentioned, also includes allowances for housing costs (this allowance is non-taxable), in some cases much more favourable than the ordinary housing benefit scheme. The minimum U.B. (the rate in the alternative scheme) has been used in the case for Finland, when the unemployed is not eligible for earningsrelated U.B. This is also equivalent with the benefit for the outinsured.

Table 2.5. Effects on disposable income of being unemployed for 3 months and the whole year in 7 countries, 1996.

				~~~~	T	<del> </del>					
	DK	S	FIN	D	GB	NL	CAN				
Not eligible for insurance, 3 months' unemployment											
Compensation percentage	33	28	21	53 ¹⁾	15	31	7				
Change in disposable income, per cent	- 13.7	- 16.9	- 14.9	- 8.3	- 18.9	- 9.7	- 18.6				
Not eligible for i	insurance,	12 mont	hs' unem	ploymen	t						
Compensation percentage	33	29	22	53 ¹⁾	16	31	7				
Change in disposable income, per cent	- 56.6	- 69.3	- 71.0	- 48.4	- 79.2	- 52.6	- 90.7				

¹⁾ The compensation percent is after tax.

In Germany, the additional scheme is primarily for people whose rights to receive insurance benefits have expired, but only if the person needs the compensation. In Great Britain it is also possible to supplement the compensation (Income Support) shown in table 2.5 with e.g. compensation for housing expenditures just as in the case with unemployment benefits. In the Netherlands, the unemployment insurance system consists of 3 steps, the first is the basic system, where the duration of the benefit period is ½ year, in step 2 the length of the benefit period (dependent on former work) varies from ¼ year to 4½ years. Step 3 has a benefit period of 2 years and thereafter the unemployed will receive social assistance (older unemployed workers can stay longer in step 3). Step 2 and 3 are categorized as the additional system in table 2.3. The outinsured Dutch unemployed APW in table 2.5 receives social assistance, which on a net base is equivalent to the flat rate benefit in step 3 of the U.B. scheme.

The outinsured Canadian unemployed receives social assistance, the rate of Ontario has been applied. Housing allowances are available in Canada in these cases, but have, as already mentioned, not been considered in the calculations in table 2.5.

In order to see the impact of unemployment on the disposable income of a married couple, the case where an insured part time working partner becomes unemployed was studied (unemployed for the whole year). The results are contained in table 2.6.

Table 2.6. Effects on the couple's disposable income from unemployment during the whole year for the part time working partner in the APW-couple in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
Compensation percentage	74	73	65	60 ¹⁾	31	70	41
Change in disposable income, per cent	- 5.6	- 9.5	- 10.6	- 12.4	- 21.9	- 9.9	- 17.5

¹⁾ The compensation percent is after tax.

It is evident that the relative loss of income in the Danish case is modest, some would say very modest. This could imply small economic incentives for the part time working partner in a couple to seek for a job in case of unemployment, if the joint income is basis for such decisions.

### Injuries from work

In the Netherlands, there is no separate compensation scheme covering the 'event' of being injured from work. The injured person receives compensation for illness and, if the loss of working capability becomes permanent, public invalidity pension. In the 6 other countries there are specific schemes for industrial injuries, although the level of compensation varies a great deal. The gross compensation percentages are high in 2 of

the countries (DK and S), relatively high in Finland and Germany, while they are low in Great Britain. Canada has a high compensation (90 per cent) of lost net income. The minimum loss of working capability, making the injured person eligible for permanent compensation, varies from 6.7 per cent in Sweden, 10 per cent in Finland, 14 per cent in Great Britain, 15 per cent in Denmark to 20 per cent in Germany. In the Netherlands (where the injured person receives invalidity pension according to the public scheme) the threshold is 15 per cent loss of working capability. There is no stated minimum in Canada.

The compensation from the insurance can be supplemented by, or co-ordinated with, the public invalidity pension scheme. In Denmark the two systems are combined in a rather complicated way, in Sweden and Germany a co-ordination takes place.

The scheme is financed by the employer in 5 of the countries while it is financed by taxes in Great Britain.

### The level of compensation

Two sets of calculations have been performed, one where the working capability is completely lost, and one where ½ of the working capability of the single APW is lost. In the latter case it is assumed that the injured person still receives ¾ of his or her former working income. Only current benefits are considered. Supplementary benefits for immobility or special care are not included.

The results of the calculations are shown in table 2.7. The impact on disposable income is again measured in relation to the *annual* disposable income of the APW.

Table 2.7 Effects on disposable income from being injured from work in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
	Complete	loss of w	orking cap	ability			
Compensation percentage	110	100	85	67	32	70	90 ¹⁾
Change in disposable income, per cent	+ 25.6	0.0	- 7.6	+ 14.6	- 56.5	- 27.1	- 10.0
	Loss ò	f⅓ of wor	king capab	oility			
Compensation percentage	74	100	85	67	29	63	90 ¹⁾
Change in disposable income, per cent	- 5.2	0.0	- 2.3	+ 11.6	- 16.6	- 10.3	+ 1.1

¹⁾ The compensation per cent is after tax.

Sweden has the most transparent system, the compensation percentage is 100 and there is no change in disposable income. The compensation is in relation to the loss of income, not the degree of disability. In the Danish case there is a considerable increase in disposable income (in the case of complete loss of working capability) for the injured person. This is because the compensation for injuries from work is combined with the public invalidity pension scheme. In the case of  $\frac{1}{2}$  loss of working capability, the Danish APW is not eligible for invalidity pension and there is a modest drop in disposable income. The separate compensation for injuries from work is related to income and proportional to the degree of disability.

In *Germany*, the compensation is calculated on the basis of gross income and is proportional to the degree of disability. The compensation is not taxed, and there is no 'Progressionsvorbehalt', cf. appendix 1 (Germany, Unemployment). These conditions lead to increases in disposable income in both cases, most when the working capability is completely lost.

The *Finnish* scheme leads to relatively modest declines in disposable income in both cases. The compensation is related to income and proportional to the degree of disability.

The *Canadian* scheme compensates a high proportion of lost net income and is proportional to the degree of disability. The negative effect in case of full disability is relatively modest, in case of 1/3 loss of working capability there is a small positive effect due to the progression in the tax scheme.

In Denmark, Sweden, Finland, Germany and Canada the compensation is 'income related', the cap is at a high income level, while the *British* system is 'flat rate' and graduated after the degree of disability. It is characterized by significant drops in disposable income at the APW level of income. For the *Netherlands* it is, as already mentioned, the impact of the public invalidity pension scheme which is presented in table 2.7. The scheme is 'income related' and the compensation is related to the degree of disability.

### Retirement

Pension schemes are very important where public expenditures and the distribution of income between the generations are considered, especially because an ageing of the population will take place in many countries (including the 6 European countries and Canada in this study) in the coming decades.

This study only deals with public pension schemes, implying that the comparisons between the countries can be only partial. Private pensions and/or company based

pensions are important in many countries, especially in those countries where the public pension schemes are not so generous. Company pension schemes are important in the Netherlands, Great Britain and Canada, and labour market pension schemes are under gradual implementation in Denmark. Negotiated pensions (avtalspension) are usual in Sweden, they are not included here.

For this element of social security too, there is a substantial variation among the 7 countries studied. Important criteria for characterization include:

- ▶ What is the formal age of retirement?
- ▶ Does the pension scheme allow flexible retirement?
- ► Are all citizens eligible for pensions from the scheme or the basic part of it?
- ► Is the pension dependent on former work and income or is it a 'flat rate'?
- ► Is the level of the pension dependent on being married or single?
- ► Is the pension means tested?
- ► Is there an 'additional' public pension scheme?

The categorization according to these criteria of the public pension schemes in the 7 countries is shown in table 2.8.

Table 2.8 Characteristics of public pension schemes in 7 countries, 1996.

	DK	s	FIN	D	GB	NL	CAN
Basic public pension scheme							
Formal pension age	67	65	65	65	60/65 ¹⁾	65	65
Flexible retirement	No	Yes	Yes	Yes	Only post- ponement	No	No
Eligible groups	All	All	All	Employees some self- employed	All ²⁾	All	All
Pension dependent on work history and income	No	No	No	Yes	No/ Level: Yes	No	No
Pension dependent on marital status	Yes	Yes	Yes	No	Yes³)	Yes	Yes
Means testing	Partly	Partly	Partly	No	No	No	Partly
Additional public pension scheme							
Existence	Yes	Yes ⁴⁾	Yes	None	Yes	None	Yes ⁵⁾
Eligible groups	Employees	Employees +self-empl.	Employees +self-empl.	`	Employees		Employees + self-empl.
Pension dependent on work history and income	Only on work history	Yes	Yes		Yes		Yes

- 1) The age 60 is for women, 65 is for men. It will be increased to 65 for women over 10 years starting in 2010.
- 2) In Great Britain the basic system for people who have been working is different from that covering people who have not previously been working.
- 3) Only the 'non-contributory' rates (for people who have not previously been working) are dependent on marital status.
- 4) The Swedish government has decided on a new pension system to replace the existing one. A gradual implementation will take place from 2001.
- 5) The Canadian Additional pension Scheme CPP allows flexible retirement between 60 and 70 years of age.

#### Comments on table 2.8

The formal retirement age is not a good indicator for when retirement actually takes place, but it is an important signal. Great Britain has decided to increase the retirement age for women from 60 to 65 years over 10 years starting in 2010. The German reforms, cf. the following, will result in a higher *actual* retirement age. That is also the aim of the recent Swedish pension reform, which will start in 2001, and of the reduced options for retiring before the formal 'pension age' in the Netherlands and Denmark.

Some of the countries have flexible public old age pension schemes which can also be used for early or postponed retirement. This is the case in Sweden, Finland, Germany and Canada. In Sweden and Finland a pension can be obtained from the age of 60 years at the cost of an actuarial reduction in the pension for the rest of the life. This is also the case in Canada, but only from the additional pension scheme. In Germany some early retirement schemes are being replaced by a flexible pension following the same principles as the Swedish and Finnish system. This flexible German scheme will be implemented gradually from year 2001 to 2012 and will contain a higher minimum age for receiving pension than in the replaced early retirement schemes. In the four mentioned countries it is also possible to postpone retirement to after the formal retirement age and then obtain an actuarial increase in the pension. In Great Britain and the Netherlands it is not possible to receive a public pension (related to age) before the formal retirement age, but in Great Britain it is possible to postpone the retirement and then receive a bonus. Denmark does not have a flexible old age pension system, but other schemes, e.g. the 'post work salary' scheme, established according to labour market agreements, are dedicated for early retirement and quite popular. Great Britain and the Netherlands have private pension schemes which can also accomodate early retirement. Besides the flexible old age pension scheme Finland also has an 'unemployment pension' scheme for early retirement from unemployment. Some of the countries, e.g. Denmark, Sweden and Finland also have special part time pension schemes with access before the formal retirement age and where the requirements include reductions of the number of hours worked.

All countries except Germany have a basic public pension available for all citizens. In Germany, the public pension system is basically for employees in the private sector and specific groups of self-employed. This is very different from the other countries. Furthermore, the level of pension according to the German basic public scheme is dependent on work history and income. There is a maximum level for that pension because both the number of years in work (50 years is, in practice, the most) and the income factor applied in the formula for the actual calculation of pensions have limits. The basic pension in the other countries is 'flat rate'. In Great Britain there is one level for people with a former contribution record and a lower one for people without.

The basic gross pension received depends on marital status in Denmark, Sweden, Finland, the Netherlands and Canada, but not in Germany. Taxation may, however, also have an impact. A married couple of two pensioners receive less than twice the net amount of a single person in the five first mentioned countries, but the ratio of disposable income for a couple to that of a single pensioner varies a great deal. In Great Britain only the pensions for people without a former contribution record are dependent on marital status (the married woman receives a lower pension).

Means testing of pensions is a Scandinavian and Canadian phenomenon. In Sweden and Finland the basic pension (part of it in Sweden, all of it in Finland) is means tested only in relation to income from the additional pension scheme. The means testing is due to the 'integration' of the two parts of the public pension scheme. In Denmark, several income sources can result in means testing of public basic pensions. In Canada one component of the basic pension, that is the guaranteed income supplement, is means tested against other income including pensions from the additional scheme, CPP.

Additional pension schemes are available in Denmark, Sweden, Finland, Great Britain and Canada. The most important of these are, from the point of view of the recipient, the Swedish and Finnish schemes. The average pension from the Swedish additional pension scheme is now substantially larger than pensions from the basic scheme. Part of the basic Swedish pension is means tested against income from the additional pension scheme in such a way that the combined marginal percentage is 100, a consequence of the 'integration'. The taxation of income from the additional pension scheme in excess of the means tested part of the basic pension is rather severe. The contribution to disposable income from additional pensions is therefore considerably smaller than the gross level might suggest. The Finnish additional pension system has similar characteristics, the combined marginal percentage from means testing is, however, lower i.e. 50 per cent. From 1996 it is the whole basic pension which is exposed to means testing in Finland. Also the Canadian CPP scheme is an important component and it is integrated with the basic scheme using a taper of 50 per cent, but only the guaranteed income supplement is means-tested. The British and especially the Danish additional schemes consist of more modest supplements to the basic pension systems.

### The level of public pensions

Two sets of calculations have been performed. One concerns persons with former work and income, the other concerns people with no former working income. For those with former work, it is assumed that the former APW (and the former part time working partner in the APW-couple) receives the maximum possible pension in 1996. In some additional schemes, e.g. the Danish and the British ones, it is not possible to obtain full pension rights in 1996. In these cases it is assumed, that the APW (and the part time working partner in the APW-couple) has been a member for as long time as possible. In Sweden and Finland it is possible to obtain full pension rights from the additional

pension scheme in 1996. For Germany it is assumed that pension rights have been obtained for 45 years (including education).

It is important to emphasize that it is the maximum pension, and not the average pension, which has been calculated.

For people without former working income the situation is also extreme, they have obtained no pension rights (basic or additional) at all.

On these assumptions, the APW-calculations show the pensions received at the formal age of retirement in the 7 countries in 1996.

Table 2.9 Net replacement rates at retirement in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
		With former	work, single	APW.			
Net replacement rate	56	66	67	75	53	47	55
		With former	work, APW-	couple.			
Net replacement rate	56	67	71	70	57	43	58
	И	Vithout forme	r work, sing	le APW.	-		
'Net replacement rate'	49.5	40.5	34	0	16	47	41.5

Note: For persons without former occupation the net replacement rate is strictly speaking meaningless. The interpretation is: 'Replacement' relative to the annual disposable income of the APW.

In the case with former work, the net replacement rate for the single APW is relatively high in Germany followed by Finland and Sweden, and relatively low in the Netherlands, with Denmark, Canada and Great Britain in between. In 1993 the pensions in Sweden were lowered by approximately 2 per cent, compared to what they would have been in 1993 without reductions. This 'mechanism' has been continued since. Furthermore, in 1996 pensions in Sweden were only increased by 60 per cent of the price development.

In the case of the 'APW-couple' formerly with 1½ income, the net replacement rate is the same as for the single pensioner in Denmark, while it is a little higher for the couple in Sweden and substantially higher in Finland (where the former part time working spouse also receives some of the basic pension). In Great Britain the flat rate benefit results in a relatively high replacement rate for the person formerly with ½ income implying a higher net replacement rate for the couple. This is also the case in Canada. In Germany the splitting taxation system for couples implies a high disposable working income resulting in a lower replacement rate than for singles (pensions are not

taxable in the cases presented here, cf. appendix 1 on Germany). In the Netherlands, the replacement rate is also lower for the couple, here it is because of the rate structure for couples, cf. appendix 1.

In the case without former work, the pensions in Denmark and the Netherlands are relatively high and somewhat lower in Canada, Sweden and Finland. In Great Britain they are low and can be supplemented with 'Income Support'. In Germany the 0 represents an extreme situation, where no pension rights have been earned. In Germany and Great Britain the public pensions are very much dependent on former participation in the working life, while that is not so much the case in Finland, Sweden, Canada and Denmark, and not at all the case in the Netherlands.

### Having children

Only 'ordinary' family allowances, i.e. allowances for couples with children, are considered here. In addition all countries also have special or additional allowances for single parents.

Six of the countries have cash benefits and one, that is Germany, has (from 1996) refundable tax credits or, if that is advantageously for the families, allowances which are deductible in taxable income. Superficially most of the family allowance schemes look alike, but there are, however, some significant differences in the criteria applied.

The family allowance schemes were categorized according to these criteria:

- ► Is the family allowance a cash transfer or a tax credit/deductible tax allowance?
- ► Is the allowance for all families (couples) with children?
- ► Is there a graduation of the allowance according to the number and/or age of the children?
- ▶ Is the allowance means tested?
- ► For how long can it be received?

The result of the categorization is contained in table 2.10.

Table 2.10 Characteristics of ordinary family allowance schemes in 7 countries, 1996.

						,	
	DK	S	FIN	D	GB	NL	CAN
Type of scheme	Cash benefit	Cash benefit	Cash benefit ¹⁾	Tax credit/ allowance	Cash benefit	Cash benefit	Cash benefit
Eligible groups	All families with children	All families with children	All families with children	All families with children	All families with children	All families with children	All fami- lies with children
Graduation according to number and age	Flat rate per child. Highest for infants (0-2 years)	Flat rate per child. Same rate for all	Flat rate per child. Increasing from 2nd child	Flat rate per child ²⁾ Increasing from 3rd child	Flat rate per child. Highest for first child	Flat rate per child. Increasing with age	Flat rate per child highest from 3rd child, highest for 0-7 years
Means-test-	No	No	No	No	No	No	Yes
Max. dura- tion (age of child)	Until: 18	Until: 16/end of school	Until: 17	Until: 16/27	Until: 16/19	Until: 16/18 ³⁾	Until: 18

- 1) Up until 1994 there were tax deductions in the Finnish scheme.
- 2) The deductible tax allowance has the same nominal value for all children.
- 3) In some special cases up to 25 years.

#### Comments on table 2.10

The German tax credit scheme works very much like a cash scheme, the tax is reduced every pay day or, if there is no tax, the tax credit is paid in cash to the recipient (it is a refundable tax credit). Most families in Germany will receive tax credits, only relatively few with high incomes will have the deductible tax allowance (in these cases the tax credits will be reclaimed).

There is some variation where graduation according to number and age of the children is concerned. In Denmark, the cash benefit is highest when the child is an infant (0-2 years), a little lower from 3-6 years and lowest from 7-17 years. In the Netherlands the allowance is highest when the child is in the upper age bracket. In Finland, Germany (tax credit) and Great Britain there is graduation according to the number of children. In Finland and Germany it is the 'youngest' children who receive the highest allowance, in Great Britain it is the first, the oldest child. Sweden had a scheme similar to the Finnish, but from 1996 new entrants stopped, implying that in the longer run there will be no graduation according to the number of children if the rule is maintained. In the Netherlands the allowance for all children increased with the number of children, but this 'bonus' was stopped for new entrants from 1995. In Canada there is graduation according to both the number of children and their age.

It is only in Canada the family allowance is means-tested, and the means testing may result in zero family allowances. Prior to 1996 family allowances where also means-tested in Germany but only for the second and subsequent children and only down to a minimum.

The maximum age of children is not a good indicator for when the allowance stops. In some countries it can be extended when the children are participating in education (marked as the age behind the / in table 2.10, max. duration), in other countries special allowances for education replace the family allowance. Ideally, the family allowance and allowances for education should be considered together, this has not been done here.

It should be mentioned that Canada also has a refundable tax credit scheme for families with children (couples and single parents) and low earned income. There is a phase-in, a maximum and a phase-out profile, according to earned income, in this scheme. It is an earned income supplement for low income families with children. The British 'Family Credit' scheme has the same purpose, but is implemented outside the tax scheme. None of these schemes are family allowance schemes, but they include having children among the eligibility criteria.

## The level of the family allowance

The APW-couple has 1.5 times the income of the single APW. The effect on disposable income of having children (receiving family allowance) is calculated relatively to the disposable income of the couple without any children. The children are assumed to be in the age bracket 1-6 years. Child no. 1 is assumed to be 6 years old, child no. 2 is 3 years old and child no. 3 is 1 year old (and, even if that is not quite possible, born in 1996 at least in the case of Sweden). In the Canadian case, the means-testing has an effect on the allowance for all 3 family types in table 2.11.

The most generous scheme is the Finnish, even when the allowance was nominally lowered from 1995 to 1996. Germany follows closely after Finland. The new German scheme based upon tax credits is substantially more generous than the old one. Denmark is third followed by Sweden, where the allowance was nominally lowered from 1995 to 1996, and graduation according to the number of children was closed for new entrants (this is included in the calculation for Sweden). In the 1995 calculations Sweden was 'ranked' as no. 2 after Finland, now it is no. 4. The relative impact of family allowances in the Netherlands and Great Britain are approximately ½ of what they are in Finland and Germany. Last is Canada, where the means testing has a substantial impact, especially for the families with 1 and 2 children.

Table 2.11 Effects on disposable income of receiving family allowance in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
	-	Percenta	age change in d	disposable inco	me with:		
1 child (no. 1)	+ 4.3	+ 3.8	+ 4.7	+ 4.7	+ 3.0	+ 2.6	+ 1.5
2 children (no. 1+2)	+ 8.6	+ 7.6	+ 10.5	+ 9.5	+ 5.5	+ 5.6	+ 2.9
3 children (no. 1+2+3)	+ 13.4	+ 11.4	+ 17.4	+ 16.6	+ 7.9	+ 8.0	+ 6.3

Note: Child no. 1 is 6 years old, no. 2 is 3 years old and no. 3 is 1 year old.

The results depend on the selected ages at least for Denmark, the Netherlands and Canada.

### Maternity leave

In all 7 countries maternity leave and the associated compensation for loss of income is an important element of the social security system. Compensation in connection with maternity leave is often a separate part of the system for compensation in connection with illness.

Relevant criteria for characterization of maternity leave benefits are:

- ► For how long can the benefit be received?
- ► Has the father a legal right to a share of the maternity leave and the benefits?
- ► Is the benefit a 'flat rate' or is it 'income related'?

Even if there is a close connection to the system for illness related insurance in several countries (income concepts, administration etc.) there are also significant differences. There is no waiting period in any of the 6 European countries when compensation in connection with maternity leave is considered. There is a waiting period in Canada, where this scheme together with that for sickness benefits is part of the 'Employment Insurance' scheme. Neither is there a special low compensation percentage for the first period of the maternity leave (that was the case in the Swedish sickness benefit scheme for several years until 1996), but there may be for the last part.

Table 2.12 shows the compensation in connection with maternity leave categorized according to the criteria listed.

Table 2.12	Characteristics of compensation in connection with maternity leave in 7 countries, 1996.	
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	DK	S	FIN	D	GB	NL	CAN
Max. benefit period	28 + 2 weeks ¹⁾	64 weeks ²⁾	281 days ⁴⁾ (approx. 47 weeks)	14 weeks ³⁾	18 weeks	16 weeks	27 weeks ⁵⁾
Participation of the father	Minimum 2 weeks	Minimum 30 days	Minimum 18 days ⁴⁾	None	None	None	Yes, share of 10 weeks
Benefit formula	income related, low cap	Income related ²⁾	Income related	Income related	Mixed	Income related	Income related

- 1) The new scheme (implemented from the start of 1994) for 'leave of absence for parents' may be used to prolong the maternity leave substantially (by up to 1 year). The new scheme is intented to increase 'rotation' on the labour market.
- 2) From July 1st 1994 a special benefit for care of small children (1-2 years) was introduced. That replaced the last 12 weeks of maternity leave. The new scheme was abolished from January 1995 and the old reimplemented. In the 'old' scheme 52 weeks of the leave has a benefit which is income related, the benefit in the remaining 12 weeks is flat rate.
- 3) Germany has a supplementary system where the mother or the father can receive 600 DM/month in up to 24 months for children born in 1996. After 6 months this benefit is means-tested, for high income families (140,00 DEM and above) immediately.
- 4) Week days. Finland also has a special benefit if one of the parents stay at home to care for the child.
- 5) 2 of the 27 weeks will be waiting period. If the father participates, there will also be a 2 weeks waiting period for him.

#### Comments on table 2.12

It is obvious from the table, that the variation in the maximum benefit period is very considerable with Sweden having 4.5 times as long a period as Germany. The three Scandinavian countries have the longest benefit periods and they are letting the father participate in the maternity leave. This is also the case in Canada. The Swedish system is very flexible both with regard to the mother's and the father's rights (most of the maternity leave can be divided between them in varying proportions) and with regard to splitting the period. The period can be split into minor periods until the child is 8 years old. It is also possible to work part time and be on leave the rest of the time. In Finland there is also considerable flexibility in dividing the maternity leave between the mother and the father. There are 10 weeks to share between the parents in Denmark and Canada. In Denmark there are also 2 weeks separately for the father.

Germany, Great Britain and the Netherlands have schemes characterized by relatively short benefit periods and with rights for the mother only. The compensation is basically equal to the lost income in Germany and the Netherlands. In Sweden (1996), it is 85 per cent of the lost income (up to an upper limit) for the first 8 weeks (4 weeks for each of the parents), 75 per cent for the following 44 weeks and then a low flat rate compensation for the remaining 12 weeks. In Denmark the compensation is 'income

related with a low cap' (the maximum will be reached at approx. 60 per cent of the APW income, for income below that level, the compensation equals the lost income). In Great Britain, the benefit is 'income related' for the first part of the period (the first 6 weeks) and 'flat rate' for the last part. Finland uses a 'stepwise' benefit formula, which is income related with a decreasing compensation rate for increasing income. The Canadian benefits are income related, 55 per cent of the lost income, up to a ceiling, 39,000 CAD being the maximum insurable amount.

### The level of compensation

With considerable variation in the schemes for maternity leave between the countries, two calculations have been made. The first shows the effect on disposable income of utilizing the maximum possible duration (one year being the limit as the calculation concerns the change in *annual* disposable income) of the maternity leave in each country, the second shows the effect of a 'common period'; that of Germany which is 14 weeks. Table 2.13 contains the results.

Table 2.13 Effects on disposable income from maternity leave benefits in 7 countries, 1996.

	DK	S	FIN	D	GB	NL	CAN
Maxin	num durati	on of ma	ternity lea	ve			
Compensation percentage	56	77	69.5	100 ¹⁾	54	100	53
Change in disposable income, per cent	- 6.3	- 8.0	- 7.4	0	- 4.2	0	- 6.6
Comi	non durati	on of ma	ternity lea	ive			
Compensation percentage	56	78	69.5	1001)	59	100	50
Change in disposable income, per cent	- 2.7	- 2.0	- 1.9	0	- 2.8	0	- 3.7

¹⁾ The compensation per cent is after taxation.

The change in disposable income is measured in proportion to an APW-couple with two children. The interpretation is then that the family gets its second child in the start of the year. Concerning the 'timing problems' here, cf. appendix 1 (Denmark, The couple gets the second child and then has 2 children). In the three Scandinavian countries it has been assumed that the father uses his minimum rights, in the case of maximum duration. The Canadian father does not participate in the maternity leave in the calculation presented here.

Two of the countries with short maximum benefit periods, Germany and the Netherlands, have full compensation for the lost income, this is not the case for the third, Great Britain, where the decrease, however, is modest. In the three Scandinavian coun-

tries the APW-couple experiences relatively modest decreases in disposable income, both in the maximum duration and in the common duration case. The Swedish system has the longest income related benefit period of the 7 countries. In the maximum duration case, the maternity leave (12 months) has been divided with 11 months for the wife and 1 month for the husband. The loss of income during maternity leave is also relatively modest in Canada.

#### 2.3

# Summary tables of APW-calculations for 1996.

The results reported in section 2.2 are summarized in tables 2.14 and 2.15.

#### 2.4

### **Developments**

### Introduction

A series of changes in the social security and taxation schemes will be mentioned country by country in the following section, 'Announced changes 1996/97'. Then follows short comments on the 'APW-calculations' for 1996 compared to those for 1995, including an attempt to explain at least the major changes.

# Announced changes 1996/97

### **DENMARK**

### **Taxation**

The gradual implementation of the tax reform from 1994 continued. The marginal tax rates are lowered and the general social contribution is increased, it was 7 per cent of wage income (employees and self-employed) in 1996, increasing to 8 per cent in 1997. The reform will be fully implemented in 1998.

# Unemployment benefits

There were a few changes to the basic reform from 1994. The duration of the benefit period was shortened from 7 to 5 years in 1996, a change which will be gradually implemented until 1998. Active labour market measures will no longer prolong the benefit period.

Substantial changes were implemented in 1996 for young persons under 25 years of age. Unemployed young persons with no or only little formal education will be offered education after 6 months of unemployment unless they have a solid work record, in this case they will be offered jobtraining. The benefits for those participating in education are 50 per cent of max. U.B., those in jobtraining will receive max. U.B.

Table 2.14. Summary, 'standard' income events for APW-families without children, 1996

MATERIAL STATE OF THE STATE OF	MINER	DENIMARON	CVA/E	CIVIEDEN		CINA	YOUG	NAMA NA	TABGO	SPEAT PRITAIN
		ארע	JAAC	רו	ואוו	בול	מבום ב		מחבא	אווערועם
	Compensa- tion %	Change disp. inc. %	Compen- sation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %	Compensation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %
III 1 week, single APW	56', 100'	-0.7, 0.0	601	-0.7	0¹, 100¹	-1.5, 0.0	100², 100¹	0.0, 0.0	7¹, 80²	-1.6, -0.4
25% unemployment, eligible for compensation, single APW	561	-8.7	681	-7.5	48¹	-9.3	· 209	-6.8	15¹	-18.9
100% unemployment, eligible for compensation, single APW	561	-35.0	72¹	-26.2	511	-37.9	602	-41.6	16¹	-79.0
25% unemployment, not eligible for compensation, single APW	331	-13.7	281	-16.9	211	-14.9	53²	-8.3	151	-18.9
100% unemployment, not eligible for compensation, single APW	331	-56.6	291	-69.3	221	-71.0	53²	-48.4	161	-79.2
Female 100% unemployment, eligible for compensation, APW-couple	741	-5.6	731	-9.5	651	-10.6	60²	-12.4	31¹	-21.9

The compensation percentage is before taxation. For illness there are two compensation percentages and changes for all the countries, except Sweden and Canada. The first refers to insurance alone, the second includes usual compensation from the employer. For Sweden the two coincide from 1993.

2) The compensation percentage is after taxation.

Table 2.14. Summary, 'standard' income events for APW-families without children, 1996

					·	<b></b>	
CANADA	Change disp. inc. %	-1.5	-9.5	-43.7	-18.6	-90.7	-17.5
CAN	Compen- sation %	0,	46.51	481	71	1,2	411
ERLANDS	Change disp. inc. %	-0.8, 0.0	-6.1	-27.1	-9.7	-52.6	-9.9
THE NETHERLANDS	Compensation %	42¹, 100¹	701	701	311	311	,0Z
Table 2.14 Continued		III 1 week, single APW	25% unemployment, eligible for compensation, single APW	100% unemployment, eligible for compensation, single APW	25% unemployment, not eligible for compensation, single APW	100% unemployment, not eligible for compensation, single APW	Female 100% unemployment, eligible for compensation, APW-couple

The compensation percentage is before taxation. For illness there are two compensation percentages and changes for all the countries, except Sweden and Canada. The first refers to insurance alone, the second includes usual compensation from the employer. For Sweden the two coincide from 1993.

²⁾ The compensation percentage is after taxation.

Table 2.14. Summary, 'standard' income events for APW-families without children, 1996

Table 2.14 Continued	DEN	DENMARK	SWE	SWEDEN	IN I	FINLAND	GERI	GERMANY	GREAT	GREAT BRITAIN
	Compensation %	Change disp. inc.	Compensation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %
Injured, total loss of working capability, single APW	110	+25.6	1001	0	851	9.7-	129	+14.6	321	-56.5
Injured, 1/3 loss of working capability, single APW	741	-5.2	1001	0	851	-2.3	129	+11.6	291	-16.6
Pensioner ² , max. working period, single APW	26	-44	99	-34	29	-33	75	-25	23	-47
Pensioner ^{2,3} , no working period, single APW	49.5	-50.5	40.5	-59.5	34	99-	0	-100	91	-84
Pensioner ² , max. working period, APW-couple	26	-44	29	-33	71	-29	70	-30	57	-43
The state of the s										

The compensation percentage is before taxation. 3 2 3

The compensation percentage is after taxation.

Strictly speaking "nonsense". The concepts are relative to the APW.

Table 2.14. Summary, 'standard' income events for APW-families without children, 1996

	· ·	· · · · · · · · · · · · · · · · · · ·			<b>y</b>	
CANADA	Change disp. inc. %	-10.0	1.	-45	-58.5	-42
CAN	Compen- sation %	90 ₂₎	90 ₅₎	55	41.5	58
THE NETHERLANDS	Change disp. inc. %	-27.1	-10.3	-53	-53	-57
THE NETH	Compen- sation %	107	631	47	47	43
Table 2.14 Continued		Injured, total loss of working capability, single APW	Injured, 1/3 loss of working capability, single APW	Pensioner ² , max. working period, single APW	Pensioner ^{2,3} , no working period, single APW	Pensioner², max. working period, APW-couple

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The compensation percentage is before taxation.

The compensation percentage is after taxation.

Strictly speaking "nonsense". The concepts are *relative* to the APW.

Table 2.15. Summary, benefits for APW-families concerning children, 1996

	DENN	DENMARK	SWE	SWEDEN	FINL	FINLAND	GER	GERMANY	GREAT	GREAT BRITAIN
	Compensa- tion	Change disp. inc. %	Compensa- tion %	Change disp. inc. %	Compensa- tion %	Change disp. inc. %	Compensa- tion %	Change disp. inc. %	Compensa- tion %	Change disp. inc. %
1 child (6 years old)		+4.3		+3.8	1	+4.7	1	+4.7	į.	+3.0
2 children (6 and 3 years old)	1	9.8+		+7.6	1	+10.5	•	+9.5		+5.5
3 children (6, 3 and 1 year old)	8	+13.4	1	+11.4	. 1	+17.4		+16.6	1 consequences	+7.9
Birth of child no. 2, benefits, max. duration	561	-6.3	1,27	-8.0	69.51	-7.4	100²	0	541	-4.2
Birth of child no. 2, benefits, standard duration	561	-2.7	781	-2.0	69.5	-1.9	100²	0	591	-2.8

The compensation percentage is before taxation. The first case with benefits in connection with birth reflects the effect of the maximum duration of the benefit. The second case reflects the effect of a common duration.

The compensation percentage is after taxation.

Table 2.15. Summary, benefits for APW-families concerning children, 1996

Table 2.15. Continued	THE NETH	THE NETHERLANDS	CAN	CANADA
	Compen- sation %	Change disp. inc. %	Compen- sation %	Change disp. inc. %
1 child (6 years old)	•	+2.6		+1.5
2 children (6 and 3 years old)	-	+5.6	_	+2.9
3 children (6, 3 and 1 year old)	1	0.8+	*	+6.3
Birth of child no. 2, benefits, max. duration	1001	0	531	-6.6
Birth of child no. 2, benefits, standard duration	1001	0	501	-3.7

The compensation percentage is before taxation. The first case with benefits in connection with birth reflects the effect of the maximum duration of the benefit. The second case reflects the effect of a common duration.

2) The compensation percentage is after taxation.

In 1996 a minimum benefit was introduced for those who have been full time insured and in full time employment for the last three years. The minimum benefit is 82 per cent of the max. benefit. The implication is that the Danish U.B. scheme for most unemployed is income related only for a relatively narrow range of income.

From 1997 the working condition was 52 weeks within the last 3 years, up from 26 weeks, before benefits could be received (requirement for full time insured).

Two rules for elderly unemployed should be mentioned, even if they are from the start of the reform. One is that unemployed who are over 50 years when their U.B. rights expire can continue receiving benefits until the age of 60 years if they by continued membership of the U.B. scheme at that time will qualify for the early retirement scheme ('efterløn'). For unemployed over 60 years the duration of the benefit period is only  $2\frac{1}{2}$  years as a maximum, and there are no active labour market measures for this age group.

### Early retirement

The temporary schemes for early retirement from the labour market (considering unemployed people in the age bracket 50 to 60 years) were closed for new entrants from February 1996. Those reaching the age of 50 years during the whole of 1996 could join the scheme if they fulfilled the requirements and applied during January 1996. Many, especially women, used this opportunity for 'very' early retirement.

### **SWEDEN**

#### **Taxation**

There were no major changes in personal taxation in Sweden in 1996 and 1997. The basic allowance was lowered from 25 per cent to 24 per cent of the ordinary 'basbeloppet' in 1996, unchanged in 1997. The employee paid social contribution for illness was increased from 2.95 per cent of the wage in 1995 (up to the usual ceiling, 7.5 times the full 'basbeloppet') to 3.95 per cent in 1996 and further to 4.95 per cent in 1997. The contribution to pensions was 1 per cent in both years. The minimum state tax was increased from 100 SEK to 200 SEK in 1997. The minimum state tax is paid by all who also pay local income tax.

### Unemployment benefits

The gross compensation rate was lowered from 80 per cent of the lost income to 75 per cent in 1996. The max. benefit, 564 SEK/day, was unchanged, and has now been at the 1992 level since the second half of 1993. The max. benefit is also 564 SEK/day in 1997. The minimum benefit was lowered from 245 SEK/day to 230 SEK/day in 1996. It stayed constant in 1997.

Shortening of the benefit period, which in practice is without time limitation, is under consideration.

#### Illness

The gross compensation rate was changed (lowered) to a uniform 75 per cent of former income in all segments of the scheme in 1996. The employer paid period of illness was extented to 4 weeks (from 2) in 1997. The waiting period is unchanged 1 day.

### Maternity leave benefits

The gross compensation rate was lowered from 90 per cent of the former income for 2 months (one for each of the parents) to 85 per cent in 1996. The gross compensation rate for the remaining 10 months of the income related benefits were reduced from 80 to 75 per cent in 1996.

### Family allowances

The basic child allowance was nominally unchanged from 1991 to 1995, i.e. 9,000 SEK/year/child. In 1996 the basic allowance was reduced to 7,680 SEK/year/child. The supplements for more children were reduced in 1994 and in 1995. The supplements were unchanged in 1996, but the 'access' to new supplements was closed in 1996. If maintained, the implication of this will be, that there will be no supplements in the longer run.

#### Pensions

There were no major changes in 1996 and 1997. The 60 per cent price regulation of 'basbeloppet' continued, and the basis for payment of pensions was 98 per cent of 'basbeloppet' just as in the preceding years.

### Social assistance

A new norm for recommendation was constructed in 1996 based upon a basic set of commodities and services. The new norm will typically imply somewhat lower benefits, especially for families with many children, than the old one.

### **FINLAND**

#### **Taxation**

There were no major changes in the Finnish scheme for personal taxation in 1996 and 1997, although the tax rates were lower (1 percentage point) in 1997 and the thresholds higher than in 1996. The social contributions based upon taxable income for local taxation were lowered (illness) and that for national pension was abolished. That implied a reduction from 4.35 per cent (for taxable income above 80,000 FIM) to 3.35 per cent in 1996. In 1997 there was a further reduction to 2.95 per cent. The most significant change was in the 'low income allowance' (for local taxation and the just men-

tioned social contribution for illness). The maximum for this allowance was increased from 2,000 FIM to 5,500 FIM in 1997 and the 'build-up' as well as the 'taper-off' profile was changed significantly.

### Unemployment benefits

The reductions of the wage base by 4.5 per cent for calculation of earnings related benefits was unchanged in 1996 and 1997 from 1995. There was, however, a tightening of the 'access' conditions to the schemes (both the mandatory 'flat rate' and the voluntary 'earnings related'). The minimum length of membership of the voluntary scheme was increased from 6 to 10 months before eligibility for benefits is obtained. The working condition (same for both schemes) became 43 weeks of work within the last 2 years in 1997, up from 26 weeks. The waiting period was extended from 5 to 7 days in 1997 and the age limit for prolonged (more than 500 days) benefits was increased from 55 years to 57 years in 1997.

#### Illness

The minimum pay, 60 FIM/day, was abolished in 1996. The change in 1996 in the 'step wise' benefit formula implied a minor decrease in the benefits. The same benefit formula is used for maternity leave benefits.

### Maternity leave benefits

As already mentioned, cf. illness, the benefit formula was changed in 1996, implying somewhat lower benefits in relation to earned income.

#### Family allowances

The family allowances were nominally reduced from 1995 to 1996 and they stayed nominally unchanged from 1996 to 1997. The reduction was from 570 FIM/month to 535 FIM/month for the first child, from 720 FIM/month to 657 FIM/month for the second child and from 910 FIM/month to 779 FIM/month for the third child.

#### Pensions

A major change took place concerning the 'integration' of the basic national pension and the public occupational pension scheme. From 1996 the basic amount of the national pension scheme was also included in the 'integration', i.e. it could be means-tested all the way down to zero. That was only possible for the supplement prior to 1996.

# **GERMANY**

#### **Taxation**

The German personal taxation scheme was changed considerably in 1996 following the rulings of the Constitutional Court. The non-taxable income was increased to 12,095 DEM, up from 5,616 DEM. The tax schedule was changed for taxable income up to

55,727 DEM in such a way that average taxation was lowered (result of the increased non-taxable income) and marginal taxation increased. From taxable income of 57,727 DEM and up, the new scheme is identical to the old.

The *social contributions* also increased in 1996, where they in average were 20.2 per cent of the wage (the employee paid contributions), up from 19.6 in 1995. A tax reform was much debated in 1996 and 1997, but will probably have to wait to after the general election in September 1998.

#### Illness

The obligation (the legal foundation) for employers to pay full wages for the first 6 weeks of illness was changed to payment of 80 per cent of the former wage in the fall 1996. The obligation is, however, also implemented in the labour market agreements so it is up to the negotiators to change the current agreements partly or completely. It will take some time before there is a significant impact from the change.

The gross compensation percentage was lowered from 80 per cent to 70 per cent of the former wage, still with the ceiling that the compensation cannot be larger than the lost income after tax.

### Family allowances

The German family allowances were changed fundamentally, also following the rulings of the Constitutional Court. There is now (from 1996) a refundable tax credit per child for families with children. The tax credits are 2,400 DEM/year/child for child no. 1 and 2, 3,600 DEM/year/child for child no. 3, and 4,200 DEM/year/child for child no. 4 and more. This scheme is quite similar to a cash benefit, the tax credit is implemented each pay day, and if there is no taxation, the tax credit is paid out in cash.

Alternatively there is an allowance of 6,264 DEM/year/child in taxable income. The family will have the allowance, if that is advantageous compared with the tax credit. That will only be the case for families with relatively high incomes, where the deductible allowance will have its highest value due to the progression in the German personal taxation scheme. It should be mentioned that the deductible allowance is used for all families with children, when the solidarity and church tax is calculated (church tax is not included in the tax calculations in 'Elements').

### **GREAT BRITAIN**

#### **Taxation**

Personal taxation was decreased in Great Britain in 1996. The personal allowance increased significantly and the income range where the lowest tax percentage is applied was widened considerably. The tax rate in the second bracket was lowered from 25 to 24 per cent. Britain is the 'low tax' country in Europe, a position which was further strengthened in 1996. The reductions in personal taxation continued in 1997.

### Unemployment benefits

The unemployment benefit scheme was replaced by the Jobseeker's Allowance (JSA) from October 1996. The new scheme combines U.B. and I.S. paid to unemployed people in one scheme. If the contribution conditions are met the unemployed will receive JSA (C), where C indicates that it is contribution based, for six months in the same way as in the old U.B. scheme. If the person is still unemployed after six months he or she will receive JSA (IB), where IB indicates that it is income based. This part of the scheme is means-tested. There are no time limitations attached to JSA (IB).

If the contribution conditions are not met, the unemployed starts immediatedly receiving JSA (IB). It is possible to receive JSA with work for up to 16 hours (if it is JSA (IB) there will be means-testing) and as a participant in government training courses. The rates are differentiated according to age, lowest for the 16 to 17 years old, higher for 18 - 24 years old and highest for unemployed over 25 years of age. In some cases there will be a 'Top-Up' from JSA (IB) to recipients of JSA (C).

### Family allowances

Late in 1997 the family allowances for lone parents were lowered to the same level as for couples with children. The reduction was approximately 6 GBP/week for the eldest child.

### Family credit

Family Credit is for families with children and low working income. In 1996 the scheme was extented to families without children on a pilot project basis. This part of the scheme is called 'Earnings Top-Up'. The aim is to encourage to seek (or keep) work, even if the wage is low, instead of staying on benefits.

### Other initiatives

Formerly unemployed people who have been out of work for at least six months can keep their benefits for housing and council tax at the former level for four weeks after taking up a job.

Employers are exempted from paying National Insurance contributions for a period when a former long term unemployed person is hired.

#### The NETHERLANDS

#### **Taxation**

Personal taxation in the Netherlands were, generally speaking, lowered in 1996 compared to 1995.

#### Illness

The complete scheme for sickness benefits was privatized in 1996, implying that the employers took over the responsibility and financing of the scheme. It is now also up to the employers to control the scheme and reap possible savings from that.

# Unemployment benefits

The access to the scheme was tightened considerably in 1995. This was followed up in 1996 with more effective control of the availability for the labour market of the unemployed. Employer financing was enhanced (more weeks covered by employer financing), and differentiation of contributions according to the number of firings of each firm introduced. This can be seen as a move in direction of further privatization of the scheme.

### Disability pensions

Access to this scheme has been tightened considerably in recent years, the benefit levels and the duration of benefits have been cut for many, e.g. in form of benefit reductions after some time as a recipient. Employer contributions will be differentiated according to the entrants to the scheme from each company.

#### **CANADA**

### Employment insurance

A major reform of the former U.B. scheme was passed by the Canadian Parliament in 1995 and was gradually implemented in 1996 and 1997. Basis for the benefits has been weeks of work, it will now be hours, which will be beneficial especially for part time workers. The duration of the benefit period was reduced from a former maximum of 50 weeks to 45 weeks (this is an absolute max.). Measures to promote employment is included in the new scheme, e.g. by improved information on jobs available and subsidized employment also for self-employed.

# Comments on 'APW - calculations' for 1996 compared to 1995

#### **DENMARK**

The net replacement rates in most Danish cases decreased somewhat from 1995 to 1996. The main reason is that the relative increase in most benefits (mainly flat rates) was smaller than the relative wage increase from 1995 to 1996, this, again, is due to the regulation mechanism for most benefits being based upon former wage changes (partially) and adaptation to the tax reform from 1994, which will be fully implemented in 1998.

There are, however, exceptions. Family allowances increased more than wages and the supplementary pension increased significantly, implying constant net replacement rates

for pensioners with a former work record. The net replacement rates related to injuries from work increased slightly due to changes in the tax scheme and the gradual implementation of the Invalidity Pension reform from 1994 (in the case of full loss of the working capability).

#### **SWEDEN**

All net replacement rates, except in the cases with injuries from work, decreased in 1996 compared to 1995. The gross compensation during illness and unemployment was lowered to 75 per cent, the flat rate benefit in the alternative U.B. scheme (KAS) was lowered and the basic rate 'Basbeloppet', which is the base for e.g. pensions, increased relatively less than wages (it is price regulated). The family allowances decreased nominally from 1995 to 1996 and the supplement for more children was 'closed' for new entrants in 1996. Also the benefits for maternity leave were lowered in 1996. For a more comprehensive coverage of the changes in the Swedish tax/benefit schemes, cf. chapter 3.

#### **FINLAND**

The flat rate component of the unemployment compensation was nominally unchanged from 1995 to 1996 indicating falling net replacement rates in 1996 in case of unemployment. In the earnings related U.B. scheme some of the income was, for the first time, compensated with the lowest percentage, i.e. 20. This also contributes to lower net replacement rates in 1996.

Replacement rates for pensioners with a former work history have in general decreased because the basic amount is now also included in the 'integration' with the occupational pension, i.e. means-tested against the occupational pension.

The family allowances were significantly reduced in 1996 and the maternity leave benefit was not as generous as in 1995. For injuries from work there were only minor changes. For a more comprehensive coverage of the changes in the Finnish tax/benefit system, cf. chapter 4.

### **GERMANY**

The German taxation has increased in 1996 compared to 1995. It has the effect that the negative impact on disposable income is somewhat minor (the net replacement rates somewhat higher) in 1996 in cases where there are both wage income and net benefits. The net benefits are calculated on basis of the total wage income, but they reduce the income from the top, where the marginal taxation is highest (even when the 'Progressionsvorbehalt' is taken into consideration).

Net replacement rates for pensioners have decreased a little. The positive impact from family allowances increased significantly due to the new scheme based primarily on refundable tax credits.

#### **GREAT BRITAIN**

There are, generally speaking, only minor differences between the impact on disposable income from the selected 'events' in 1995 and 1996. The negative impact from most events were slightly up because the indexation (price based) of benefits is smaller than the wage development. The positive impact from family allowances was slightly lower for the same reason. Pensions (former work record) had the same net replacement rate for the single in the two years, but was a little lower for the couple in 1996, where the price index regulated national pension is most important. Taxation was lower in 1996 than in 1995.

#### The NETHERLANDS

Most negative impacts were a little larger in 1996 compared to 1995, also for the income related benefits. This is due to a reduced taxation of earned income which is then not so much 'reliefed' by lower benefits as when taxation is higher, cf. the comments on Germany. For pensions the net replacement rate increased marginally, mainly due to rate increases.

#### **CANADA**

No former calculations to refer to.

# Special studies, Sweden

This chapter focuses on two topics. The first is a kind of sensitivity calculation, where the impact of variations in the APW gross wage income on the changes in disposable income caused by the different 'events' is studied. The variation is generated by the difference between projected APW gross wage income and 'correct' APW gross wage income for the Swedish APW, cf. below for a definition.

The other topic is a short history of major changes in the Swedish tax/benefit system since the early 1990es. The calculations based upon 'correct' APW gross wage income are used to illustrate the impact of the changes in the Swedish tax and benefit schemes from 1991 to 1995. For 1996 the calculations contained in this edition of 'Elements' have been applied.

#### 3.1.

# APW-calculations based upon projected and 'correct' data

The calculations of impacts on disposable income of the APW from different 'events' are based upon projected data in each edition of 'Elements of Social Security'. If these projections are inaccurate it will have an impact on the calculated results i.e. replacement rates or changes in disposable income. How significant is this impact? In order to answer that question the calculations for 1991, 1992, 1993, 1994 and 1995 for the Swedish APW have been repeated, this time using 'correct' data, and the results of the repeated calculations have been compared with the original calculations in the respective editions of 'Elements'.

'Correct' data are defined as the November 1995 edition of 'The Tax/Benefit Position of Production Workers' from OECD for the years 1991-1994 and the official Swedish figure for 1995. The OECD publication covers the position of the fully employed production worker or employee. The calculation of the benefits has been carefully checked by the Swedish Ministry of Finance, so 'correct' data supplemented by checks from the Swedish experts constitute the best possible basis for the calculations. Even the rounding rules in the Swedish taxation scheme have been implemented in the calculations based upon 'correct' data.

Sweden was chosen because the Swedish system is a mix of 'income related' and 'flat rate' benefits and because there were both minor (1991, 1992 and 1995), 'medium' (1994) and rather substantial (1993) projection errors of the APW-income level. Finally

the Swedish Ministry of Finance was willing to participate in these very detailed calculations, which without this help would not have been possible.

The repeated calculations are primarily to evaluate the calculations based upon projected data, but they also tell about the impact of the changes in the Swedish social security system over the period 1991-95, cf. section 3.2.

The basic APW-calculations for the five years from 'Elements' and 'correct' data are contained in table 3.1.

Table 3.1. Sweden, single APW.

Used in:	SEK							
	1991	1992	1993	1994	1995			
'Elements'								
Gross wage	162,085	169,700	178,700	180,000	191,000			
Tax and soc.					, , , , ,			
contribution	45,204	47,467	52,890	55,143	62,315			
Disp. income	116,880	122,233	125,810	124,857	128,685			
'Correct' data		```	****					
Gross wage	162,400	171,000	173,900	183,100	190,260			
Tax and soc.	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,0,000	100,100	. 190,200			
contribution.	45,548	47,901 ¹⁾	51,246	56,198 ¹⁾	62,032			
Disp. income	116,852	123,099 ¹⁾	122,654	126,902 ¹⁾	128,228			

Source: Nov. 1995 edition of 'The Tax/Benefit Position of Production Workers' and official Swedish figure for 1995.

Note that disposable income ('correct' data) is lower in 1993 than in 1992, this will be of importance later, cf. section 3.2.

The calculations based upon 'Elements' and 'correct' data are presented in table 3.2. For illness it is only the 'insurance' case which is included in the table. For 1993 it is 'the new rules' for illness and unemployment benefits which are contained in the calculations. The new cases from the 1993 edition of 'Elements' have also been calculated for 1991 and 1992 but only based upon 'correct' data.

 ^{&#}x27;Correct' data deviates from the Nov. 95 OECD publication in which there are minor errors for Sweden for 1992 and 1994.

Table 3.2. Sweden. Relative change in disposable income, per cent.

	19	91	19	92		1993 New rules		
	Elements	'Correct' data	Elements	'Correct' data	Elements	'Correct' data		
III, 1 week	-0.5	-0.5	-0.3	-0.3	-0.6	-0.5		
Unemployed 3 months, insured	-2.9	-3.0	-3.1	-3.3	-5.9	-6.0		
Unemployed 12 months, insured	· -	-11.9		-13.0	-19.2	-19.9		
Unemployed 3 months, non-insured	-15.8	-15.9	-15.9	-16.0	-16.9	-16.8		
Unemployed 12 months, non-insured	• -	-67.0		-67.5	-69.7	-69.2		
Wife unemployed 12 months, insured		-3.5	· · · -	-3.5	-7.4	-7.6		
Injuries work, 100 per cent loss	0	0	0	0	0	0		
Injuries work, 1/3 loss	0	0	. 0	0	0	0		
Pensioner, full working history	-31.2	-31.3	-31.2	-31.7	-33.0	-31.3		
Pensioner, no working history	-58.7	-58.7	-58.6	-58.9	-59,4	-58.4		
Pensioner couple, full working history	· -	-30.0		-30.4	-31.6	-29.8		
Family 1 child 2 children 3 children	+5.0 +10.1 +17.6	+5.0 +10.1 +17.7	+4.8 +9.6 +16.9	+4.8 +9.6 +16.8	+4.7 +9.4 +16.4	+4.8 +9.6 +16.8		
Maternity Max. period Common period	-3.5 -0.8	-3.5 -0.9	-3.5 -0.9	-3.4 -0.8	-3.3 -0.8	-3.6 -0.9		

Continues

Table 3.2. Continued.

	19	94	19	1995 1996		
	Elements	'Correct' data	Elements	'Correct' data	Elements	'Correct' data
III, 1 week	-0.6	-0.6	-0.6	-0.6	-0.7	
Unemployed 3 months, insured	-6.1	-6.1	-6.8	-6.7	-7.5	
Unemployed 12 months, insured	-20.0	-20.1	-23.0	-22.7	-26.2	
Unemployed 3 months, non-insured	-15.7	-15.8	-16.1	-16.0	-16.9	
Unemployed 12 months, non-insured	-64.0	-64.6	-65.9	-65.8	-69.3	
Wife unemployed 12 months, insured	-7.7	-7.7	-7.7	-7.7	-9.5	
Injuries work, 100 per cent loss	0	0	0	0	0	
Injuries work, 1/3 loss	0	0	0	. 0	. 0	
Pensioner, full working history	-31.5	-32.6	-32.9	-32.6	-34.3	-
Pensioner, no working history	-58.1	-58.8	-58.8	-58.7	-59.5	
Pensioner couple, full working history	-29.7	-30.9	-31.2	-31.0	-32.7	
Family 1 child 2 children 3 children	+4.7 +9.5 +16.6	+4.7 +9.3 +16.3	+4.6 +9.2 +15.0	+4.6 +9.2 +15.0	+3.8 +7.6 +11.4	
Maternity Max. period Common period	-3.6 -0.8	-3.6 -0.9	-6.5 -1.5	-6.5 -1.5	-8.5 -2.0	

#### Comments on table 3.2.

#### 1991

The results of the two sets of calculations are almost identical. The small differences which can be observed are primarily due to a tax rate which was a little too low in 'Elements' combined with a slightly underestimated income level for the production worker. The effects of refined calculations of the benefits as well as application of correct roundings in the tax scheme are hardly visible.

#### 1992

The deviations are slightly larger in 1992 than in 1991, but the results of the two sets of calculations are still very close. The only reason for the differences is the somewhat underestimated income level for the production worker in 'Elements'. In 1992 unemployment benefits (both when insured and non-insured) and pensions⁹⁾ were not directly linked to income, resulting in slightly higher negative impacts under 'correct' data than in 'Elements'. A slight effect is also seen for family allowances. The refinements in the calculation of the benefits are hardly visible.

### 1993 (The rules from July 1st apply)

In 1993 there was a significant overestimation of the APW income level in 'Elements', cf. table 3.1, and an error in the calculation of the social security contributions. The error on the social contributions was that transfers (benefits for illness, maternity and unemployment) were not included in the basis for calculation of the contributions, which they should have been. The overestimated income level only has a minor effect on the income related benefits (illness, unemployment insurance) while it contributed to too large reductions in disposable income where flat rate benefits (or benefits not directly dependent on the current income) were involved (unemployment benefits for the non-insured, pensions¹⁾ and family allowances). For flat rate benefits (unemployment benefits for the non-insured) the error on social contributions counteracted the income level error. For income related benefits the social contribution error had the effect of underestimating the negative impact of the event (the social contributions became too small, the disposable income too large). This pattern is quite obvious from table 3.2. The deviations are larger in 1993 than in the previous two years, but still relatively small.

### 1994

The only reason for deviations in 1994 is the somewhat underestimated gross wage in 'Elements'. This results in differences for unemployment benefits (non-insured) and pensions¹⁾ which in 1994 were not directly linked to income. For these components the negative impact on disposable income is higher using 'correct' data than in 'Elements',

^{9.} The pension points for supplementary pension are fixed in the calculations, cf. the documentation.

as should be expected. For family allowances, which are also flat rate, a similar effect is seen.

#### 1995

The gross wage in 'Elements' is somewhat overestimated. That results in a little too high negative impact in 'Elements' for unemployment benefits where these have flat rate character (single persons all receive max. or min. U.B.). The same is, as should be expected, the case for pensions which are not directly linked to income. For family allowances the difference between projected and 'correct' data is too small to have any impact on the percentages.

The conclusion is that the results are quite reliable even when the projections are not all that accurate.

The calculations based upon 'correct' data are documented in appendix 2.

#### 3.2.

### Changes in the Swedish tax/benefit system. 1991-1996

#### Introduction

The Swedish tax/benefit system has been changed considerably in the 1990es. It started with the tax reform in 1991, where marginal tax rates were lowered significantly and the overall structure of the tax system was simplified.

The first benefit scheme to be reformed was sickness benefits, the reform started during 1991 and there have been regular changes since. Unemployment benefits, pensions, parental benefits and students allowances followed from 1993, and the process is expected to continue in coming years, although at a reduced pace.

The purpose of this section is to give an impression of the major changes and their implications. This can be done in many ways. Here it will be in a very simple fashion, by using the calculations for 1991-1995 from section 3.1 supplemented with 1996 calculations for Sweden from chapter 2.

### Personal taxation

In 1992, the year after the tax reform, there were no changes. In 1993 the 'default' deduction in income (related to work expenses, transportation etc.) of 4,000 SEK was abolished and only transportation costs above 4,000 SEK and other costs (membership of unemployment insurance etc.) over 1,000 SEK could be deducted in the annual income return. The first mandatory employee paid social contribution for sickness insurance was introduced, 0.95 per cent of the income (up to the usual ceiling, which is 7.5 times 'basbeloppet'). The contribution is deductible in taxable income.

In 1994 the personal allowance was diminished and another social contribution, this time for unemployment insurance, was introduced. It was 1 per cent of the income (up to the usual ceiling) and also deductible. The personal allowance was only applicable for local government taxation in 1994.

In 1995 it was only transportation costs above 6,000 SEK which were deductible. The state tax rate was increased from 20 to 25 per cent, and the personal allowance was reintroduced for central government taxation. The social contribution for sickness insurance was augmented to 2.95 per cent of the income and the contribution for unemployment insurance, cf. also the section on U.B. was 'replaced' by a contribution for pensions of 1 per cent.

In 1996 the employee paid social contribution for sickness insurance was increased to 3.95 per cent of the income and the personal allowance was decreased from 0.25 'basbelop' to 0.24 'basbelop' (basic cases).

What was the effect of these changes? The single 'production worker' does not experience them all, he or she does not pay central government tax (beyond a nominal 100 SEK), but table 3.3 contains the average tax for the 'production worker' (APW) over 6 years.

Table 3.3. Average tax for single APW, 1991–1996. Income at APW level.

	1991	1992	1993	1994	1995	1996¹
Gross wages	162,400	171,000	173,900	183,100	190,260	200,000
Tax + soc.contr.	45,548	47,901	51,246	56,198	62,032	67,318
Average tax, per cent	28.05	28.01	29.47	30.69	32.60	33.66
Tax rate, local gov.	31.15	31.04	31.04	31.05	31.50	31.65

¹⁾ Preliminary calculation ('Elements').

The average tax for the APW increased by more than 5.5 percentage points in the period. Simultaneously a significant reduction in the employer paid social contributions from approx. 38 per cent to approx. 33 per cent of the wage bill was implemented. This trend with a switch from employer to employee paid social contributions will continue, e.g. because of the new pension reform, cf. the section on pensions. The increased tax burden is of interest in its own, but it is also of importance when the impact of 'social events' is calculated, depending on how the benefits are taxed.

### Sickness benefits

As already mentioned, the Swedish *sickness benefit* scheme has been changed several times in recent years.

Before March 1st 1991 the sickness insurance covered 90 per cent of the former income (up to the usual ceiling in the Swedish system) and it was usual, that the employer covered the remaining 10 per cent.

From March 1st 1991 the coverage was changed to 65 per cent for the first 3 days, and 80 per cent of the lost income for the remaining days during the first 2 weeks of sickness. The employer usually 'topped up' with 10 per cent of the lost income. From the beginning of the 3rd week until day 90 the coverage was 80 per cent and the employer supplemented with another 10 per cent. After day 90 the coverage was 90 per cent from the insurance scheme, and there was no supplement from the employer.

In 1992 the employer became responsible for paying 'sick pay' during the first two weeks of illness. The coverage was 75 per cent in the first 3 days and 90 per cent in the remaining part of the first two weeks of illness. From the beginning of the 3rd week the insurance paid 90 per cent of the former income (no supplement from the employer). Compared to the March 1–December 31 period in 1991 there were no changes for the recipient but the financing was changed. The increased burden for the employer was compensated through a decrease in the employer paid social contributions.

From April 1st 1993 a waiting day (first day of sickness) was introduced and the coverage changed to 80 per cent from the start of the 3rd week until the end of the 52nd week, and thereafter 70 per cent. Both percentages could be augmented by 10 percentage points paid by the employer.

The only change in 1994 was a limitation in the possibility of the employer to augment the coverage. The restricted period was from the beginning of the 3rd week until the 90th day of sickness, and the supplement was 10 per cent of the lost income.

1995 saw no changes, but in 1996 a general coverage of 75 per cent was introduced. This will be changed to 80 per cent in 1998.

The many changes have had an impact on the compensation both for short and long spells of sickness. Table 3.4 shows the effect of 1 week of sickness on the annual disposable income of the APW.

Table 3.4. Impact on annual disposable income from 1 week of sickness. APW income level.

	1991	1992	1993	1994	1995	1996¹
Reduction in disposal income per cent	0.5	0.3	0.5	0.6	0.6	0.7

¹⁾ Preliminary calculations ('Elements').

The impact is calculated for the insurance coverage only. If the supplement from the employer is included, the impact in 1991 is identical to that in 1992. The change from 1992 to 1993 is due to the waiting day. From 1995 to 1996 the coverage was reduced from 90 to 75 per cent for the last 2 days of the week with illness, and this is just visible in the reduction percentage for the two years.

# Unemployment benefits

From July 1993 several significant changes were implemented. The gross compensation was lowered from 90 to 80 per cent of the former income and the max. benefit was reduced to the 1992 level, where it has been since! The combined effect of the two changes was to increase the income level where the max. benefit becomes effective. If the max. benefit had been unchanged or even increased this income level would have been even higher. Furthermore, a waiting period of 5 days (1 week) was introduced.

From July 1994 the unemployment insurance scheme changed status from voluntary to mandatory. Quite substantial administrative changes were involved. From January 1994 a social contribution of 1 per cent of the income was introduced, cf. the section on personal taxation. This contribution replaced the former voluntary member fee (which however in most cases was much lower). It was also planned, that (after some time) the 'job-offer' could only renew the rights to benefits once, next time required a 'real' job. The working condition in the voluntary scheme was replaced by a contribution condition (social contributions should have been paid for a certain period of time). The alternative system, KAS (Kontant ArbejdsmarkedsStøtte) was integrated in the insurance scheme, it had no role of its own in a mandatory scheme. The many changes had no impact on the benefit level, and the unchanged max. benefit had the implication that this became effective at the same nominal income in 1994 as in 1993.

From January 1995 the system was, generally speaking, turned back to the situation from before July 1994. The mandatory period had lasted ½ year. The max. benefit was as already mentioned nominally unchanged. The social contribution of 1 per cent was abolished (but one for pensions also of 1 per cent was introduced at the same time) and the 'old' member fee was reinstated. The 'old' working conditions 'replaced' the contribution condition but was changed from 75 days over 4 months within the last 12 months to 80 days over 5 months within the last 12 months. A membership period of 1 year of the insurance scheme was reintroduced as a co-condition (together with the working condition) for benefit eligibility. Only work after joining the scheme counts. In 1996 the coverage was lowered to 75 per cent. It will be changed back to 80 per cent i 1998.

Table 3.5 contains the impact on annual disposable income from unemplyment spells of differing duration.

Table 3.5. Impact on annual disposable income from unemployment (insured). APW-income level for single, 1.5 APW income level for couple.

	1991	1992	1993	1994	1995	1996¹
Single, 25 per cent unemployed. Reduction in			,			
disp. income per cent	3.0	3.3	6.0	6.1	6.7	7.5
Single, 100 per cent unemployed. Reduction in						
disp. income	·				-	
per cent Net replacement rate	11.9	13.0	19.9	20.1	22.7	26.2
per cent	88.1	87.0	80.1	79.9	77.3	73.8
Couple, spouse with 0.5 APW inc. 100 per cent unemployed.						
Reduction in disp. income						
per cent	3.5	3.5	7.6	7.7	7.7	9.5

¹⁾ Preliminary calculations ('Elements').

The single 'production worker' receives max. compensation in 1991, 1992, 1995 and 1996 (equivalent to a gross coverage of 87 per cent, 86 per cent, 76 per cent and 72 per cent in the respective years when 100 per cent unemployed), and 80 per cent of the lost gross income in 1993 and 1994. The spouse with 0.5 APW income receives the percentage share in all the years, i.e. 90 per cent in 1991 and 1992, 80 per cent from 1993 to 1995 and 75 per cent in 1996.

The change in impact for the single APW from 1991 to 1992 is due to a small relative increase in the max. benefit compared with a substantial relative increase in gross wages. From 1992 to 1993 the significant changes already mentioned made their impact (for 1993 it is the 'after July 1st rules' which have been applied for the whole year), especially for short spells of unemployment where the 5 days waiting period is most important. In 1995 the change for the single, compared with 1994, is due to the fact, that the unemployed single person 'again' receives the max. compensation, which is nominally unchanged since 1992. The implication is a gross coverage of 76 per cent in 1995 compared with 80 per cent in 1994. The same max. benefit is applied again in 1996 reducing the gross coverage to 72 per cent when 100 per cent unemployed.

For the single person the negative impact on disposable income from unemployment has more than doubled (most for short spells) over the 6 years studied.

The relatively strong change from 1992 to 1993 for the couple depends on changes in both the unemployment insurance scheme and in the taxation scheme. The increased relative impact in 1996 is due to the reduction of the coverage to 75 per cent.

KAS (Kontant ArbejdsmarkedsStøtte) is an alternative scheme to the voluntary unemployment insurance scheme. It is designed for unemployed who are not members of the insurance scheme or have not been members long enough (1 year) to obtain benefit rights. The benefit period is relatively short, and it is possible to receive social assistance as a supplement.

The scheme has not been changed significantly, except in the 2nd half year of 1994 when it was integrated with the mandatory unemployment insurance scheme.

The rates are low (they are identical to the minimum rates in the insurance scheme). From July 1993 the rate was reduced to 1992 level, but increased significantly in 1994 and then stayed nominally unchanged in 1995. From 1996 there was a decrease in the rate at the same time as the gross coverage in the insurance scheme was lowered to 75 per cent.

Table 3.6 contains the impact on disposable income of receiving KAS. The case where KAS is received for the whole year (longer than the benefit period) should be interpreted as the 'annual rate' of impact.

Table 3.6. Impact on annual disposable income from receiving KAS. APW income level.

	1991	1992	1993	1994	1995	1996¹
Single, 25 per cent unemployed. Reduction in disp. inc. per cent	15.9	16.0	16.8	15.8	16.0	16.9
Single, 100 per cent unemployed. Reduction in disp. inc. per cent Net replacement rate per cent	67.0 33.0	67.5 32.5	69.2 30.8	64.6 35.4	65.8 34.2	69.3 30.7

¹⁾ Preliminary calculation ('Elements').

The impact of the rate reduction from 1992 to 1993 and the increase in 1994 is quite obvious as well as the rate reduction in 1996. Net replacement rates in the 30-35 per cent bracket are highly unusual in the Swedish social security system and the KAS benefit (even with a relatively short benefit period) will hardly be the sole source of income. It will probably be supplemented by social assistance, where allowances for

housing costs is an important component. This aspect is not covered here, cf. 'Unemployment Benefits and Social Assistance in Seven European Countries' September 1995, Dutch Ministry for Social Affairs and Employment, for calculations including housing allowances.

### Compensation for injuries from work

The rules concerning eligibility for benefits from the *insurance for injuries from work scheme* are comprehensive and complicated as in most other countries. Compensation can be obtained during illness, permanent loss of working capability and in case of death. For illness a special 'coordination period' existed until July 1993 according to which sickness benefits under the insurance for injuries from work scheme were paid after special rules. From July 1993 these special rules were abolished and replaced with the ordinary rules for sickness benefits, cf. the section on sickness benefits.

If the loss of working capability is permanent the lost income is replaced completely (up to the usual ceiling in the Swedish system). There is consequently no reason to calculate the impact on disposable income from compensation for permanent loss of working capability, there is none.

### Old age pensions

The Swedish public pension system consists of disability pension, partial pension and old age pension. The old age pension scheme, the only one considered here, is very flexible. It is possible to receive this pension, also on a partial basis, from the age of 60 years. If the pension is received before the age of 65 years there will be a permanent reduction, if it is received (for the first time) after the age of 65 there will be a permanent bonus. The bonus increases by waiting to 'take up' the pension until the age of 70 years.

There have been relatively few changes in the rules for old age pension. From 1993 the pensions have been based upon 98 per cent of the 'basic rate' down from 100 per cent. The components of the public pensions are defined as shares of the 'basic rate'. As a partial compensation for the reduced base, one of the components, 'pensionstilskuddet', which is means tested against other pension income, was increased (its 'share' of the basic rate was increased).

The old age pension scheme will be reformed, and a new system will be gradually introduced from 2001. The contributions to the new scheme have already started, cf. the sections on personal taxation and unemployment benefits, when an employee paid social contribution of 1 per cent of the income (up to the usual ceiling) was introduced in

January 1995. This social contribution will be augmented in coming years (and the employer paid contributions will be decreased).

In 1995 and 1996 the 'basic rate' was only increased by 60 per cent of the relative price increase, the 'usual' is 100 per cent. The degree of price regulation depends on the public budget deficit, the smaller this is, the closer to 100 per cent the price regulation of the 'basic rate' will be. The 98 per cent of the 'basic rate' as basis for public pensions was continued. This 'basic rate' is also applied in the calculation of the personal allowance for pensioners in the taxation scheme.

Table 3.7 contains the net replacement rates (based upon disposable income) for a single pensioner and a pensioner couple in different situations. Only old age pension is considered.

Table 3.7. Net replacement rates for pensioners (starting at 65 years). The reference for singles is the APW income level, for the couple it is 1.5 times that level.

	1991	1992	1993	1994	1995	1996¹
Single, full working record	68.7	68.3	68.7	67.4	67.4	65.7
Single, no working record	41.3	41.1	41.6	41.2	41.3	40.5
Couple, full working record (1.5 APW income)	70.0	69.6	70.2	69.1	69.0	67.3

¹⁾ Preliminary calculation ('Elements').

The reduction of the base from 1992 to 1993 is not evident in the net replacement rates, on the contrary these are increasing from 1992 to 1993. This is caused by a nominal decrease in the disposable income for the 'Production Worker' from 1992 to 1993, cf. section 3.1 table 3.1, the denominator in the calculation of the net replacement rate decreases and the nominator increases, but not as fast as it would have done without the reduction from 100 to 98 per cent of the base. In 1994 and 1995 the changes make their impact, the net replacement rates are decreasing from 1993 to 1994 where disposable income from work increased much more than the base for pensions. This was again, and even stronger, the case from 1995 to 1996 implying further quite significant decreases in the net replacement rates for pensioners. In the calculations presented, the number of 'pension points' in the supplementary pension scheme have been held constant. In the real world these will increase slightly. The implication here is a slight overestimation of the decrease in the net replacement rates.

#### Child benefits

The basic Swedish *allowance for children* has been 9000 SEK annually for each child from 1991 to 1995. The supplement for more children was 0.5 basic allowance for child no. 3, 1.0 basic allowance for child no. 4 and 1.5 basic allowance for child no. 5 and higher numbers until 1994. From July 1994 the supplement for child no. 5 (and higher numbers) was reduced to 1.0 basic allowance, the other supplements were unchanged. In 1995 the supplements were changed again, for child no. 3 it became 2,400 SEK, for no. 4 it became 7,200 SEK and for no. 5 (and higher numbers) 9,000 SEK. From 1996 the basic allowance was lowered to 7,680 SEK and no 'new' supplements will be paid. Benefits 'attached' to the allowance for children (support for children and allowances for education) were also reduced. Table 3.8 contains the effect on the disposable incomes for a couple (1.5 APW income level) of receiving allowances for children from 1991-1996.

Table 3.8. Impact on disposable income from allowance for children. 1.5 APW income level, couple.

	1991	1992	1993	1994	1995	1996¹
1 child, increase in disp. inc. per cent	5.0	4.8	4.8	4.7	4.6	3.8
2 children, increase in disp. inc. per cent	10.1	9.6	9.6	9.3	9.2	7.6
3 children, increase in disp. inc. per cent	17.7	16.8	16.8	16.3	15.0	11.4

¹⁾ Preliminary calculation ('Elements').

The effect of the nominally unchanged allowances is quite evident. From 1992 to 1993 there is, however, no visible change. This is caused by a little lower nominal disposable income also for the couple in 1993 compared to 1992, but not so much lower that it makes an impact on the percentages. The reduction in the supplement (3 children) in 1995 is clear, and the reductions in 1996 are very substantial. It is assumed that child no. 3 is born in 1996, and that there is no supplement. If the relative increase in 1996 should be the same as it was in 1991 the allowance for 3 children (together) should be close to 13,000 SEK higher than it was in 1996.

#### Parental benefits

The parental insurance scheme is a remarkable component of the Swedish social security system. The scheme provides a high degree of flexibility for the parents considering care for children in connection with births, illness or 'leave' to contact day care institutions or schools. Only the maternity leave part of the scheme is considered here. In this scheme the parents have rights for income related benefits in 360 days and after that rights to a (low) flat rate benefit for 90 days more. In case of twins or even more children born at the same time the duration of the benefit periods are enhanced.

The scheme for parental leave in relation to births was changed in 1994, when a special benefit for child care was introduced from July 1994. This new benefit replaced the last 90 days of the benefit period. According to the new scheme the parents received a taxable benefit of 2,000 SEK per month per child in the age group from 1 to 3 years. The full benefit was received if the parents did not use public day care at all, a partial benefit was received if public day care was used on less than full time basis. Expenditures for private day care were deductible in taxable income. The scheme was only in operation for ½ year from July 1994 until January 1995. From January 1995 the 'lost' 90 days of the maternity leave were reintroduced.

The compensation for the 360 days with income related benefits was 90 per cent of the lost income (up to the usual ceiling). In 1995 this was changed to one month (30 days) for *each* of the parents with a benefit of 90 per cent of the former income and 300 days, which can be divided between the parents, with a gross coverage of 80 per cent of the former income.

From 1996 the gross compensation was changed to 85 per cent for two months (one for each of the parents) and 75 per cent for the remaining 10 months. From 1998 the 75 per cent will be changed back to 80 per cent.

The effect of the maternity leave benefit is shown for a couple (1.5 APW income) getting child no. 2 in relation to a couple (1.5 APW income) already having 2 children. Two cases are calculated. In the first all 360 days (but none of the 90 days) are used, and it is assumed that the father has 60 days and the mother 300 days. The system is very flexible so the benefit period can be divided between the parents in many ways. It is also possible to have ½ or ¼ of the benefit and work on part time basis, and the period of leave can be spread over time until the child is 7 years old. This is a quite remarkable scheme. In the other case the mother has 14 weeks of maternity leave. This is the 'standard' case from chapter 2. Table 3.9 contains the results.

Table 3.9. Impact on disposable income of maternity leave benefit. 1.5 APW income level plus child allowance for 2 children, couple.

	1991	1992	1993	1994	1995	1996²
Benefit in 360 days ¹⁾ . Reduction in disp. inc. per cent	3.5	3.4	3.6	3.6	6.5	8.5
Benefit in 98 days. Reduction in disp. inc. per cent	0.9	0.8	0.9	0.9	1.5	2.0

^{1) 300} days for the mother. 60 days for the father.

Preliminary calculation. Note that the assumption in 'Elements' is now 330 days for the mother and 30 days for the father. Table 3.9 is based on the assumptions from 1) for reasons of comparability.

Up to 1995 the parents (with the assumed income and distribution of the leave) could have parental leave for one year with a modest reduction on disposable income of 3.5 per cent. That was changed significantly in 1995 and again in 1996, when the relative reduction was more than 2 times what it was in 1991.

#### Summary

It is without any doubts that the changes in the Swedish tax/benefit system during the first part of the 1990's have had significant impacts. For the schemes covered in this section, with the exception of injuries from work, the situation for recipients of benefits is relatively worse in 1996 than it was in 1991 based upon the chosen reference family types. The 'impact' calculations do not tell about the development in real disposable income over time for the family types, but it is evident, that this has been inferior to that of the reference families.

## Special studies, Finland

## The approach for Sweden

A 'time series' of APW-calculations has been established for Sweden, based upon 'correct' data and covering the period since the start of 'Elements' in 1991, cf. chapter 3. The purposes were two. One was to assess the stability of the calculations when the projected APW income levels used in 'Elements' were more or less off the mark. Another purpose was to follow the impact of the changes in the Swedish tax/benefit system in that period as accurately as possible. Other errors than projection errors were also corrected for in this process. These errors were, however, not very significant.

## The parallel approach for Finland

A similar attempt has now been made for Finland, which was included in 'Elements' from 1994. The reasons for the 'time series' construction for Finland are the same as for Sweden, but the 'other errors' for Finland were more serious than for Sweden. A separate purpose is therefore also to get more correct basic calculations for Finland than was obtained in the first place. This is in particular important, when the development is followed over time.

### 4.1. APW-calculations based upon projected and 'correct' data

The APW-calculations for the single fully employed person based upon 'Elements' and 'correct' data are contained in table 4.1. 'Correct' data are defined as the published data in OECD's 'The Tax/Benefit Position of Production Workers' or official national APW estimates for years after 1994 (last published OECD data).

Finland, single APW. Table 4.1.

	FIM		
Used in:	1994	1995	1996
'Elements' Gross wage Tax and soc. contribution Disp. income	119,788	126,782	137,600
	44,171	47,364	51,823
	75,617	79,418	85,777
'Correct' data Gross wage Tax and soc. contribution. Disp. income	121,916	132,533	137,046
	45,338	50,419	51,533
	76,578	82,114	85,513

Table 4.2 contains the results of the repeated calculations based upon 'correct' data as well as the original calculations from 'Elements'. The deviations for each year are commented upon in the following.

Table 4.2. Finland. Relative change in disposable income, per cent.

		1994			1995		1996
	Element	s 'Corre data	í	Element	s 'Correc	t' Elemen	ts 'Corre
III, 1 week	-1.	4 -1	.4	-1.4	1 -1.	5 -1	
Unemployed 3 months, insured	-8.	1 -8	.4	-8.6	-8.		
Unemployed 12 months, insured	-34.7	-36.	3	-36.2			
Unemployed 3 months, non-insured	-14.3	-14.	3	-14.5	-14.6		
Unemployed 12 months, non-insured	-68.1	-68.5	5	-68.8	-69.8	14.0	
Wife unemployed 12 months, insured	-9.1	-9.8		-9.9	-10.3	71.0	1
Injuries work, 100 per cent oss	-8.2	-8.2		-7.3	-7.4	10.0	-10.0
njuries work, 1/3 loss	-9.6	-2.3	1	-9.4	-2.2	-7.6	-7.6
Pensioner, full working history	-33.4				from 1 from	-2.3	-2.3
ensioner, no working history	00.4	-31.2		-33.2	-30.4	-33.1	-33.1
	-62.3	-62.8		-63.5	-64.7	-66.1	-66.0
ensioner couple, full working story	-27.9	-26.5		-30.6	-26.8	-28.9	
mily child						20.9	-28.9
children children	+5.7 +12.9 +22.1	+5.6 +12.8 +21.8		+5.4 +12.3 +21.0	+5.2 +11.9 +20.3	+4.7 +10.5 +17.4	+4.7 +10.6 +17.4
ternity x. period nmon period	-5.5 -1.6	-6.1 -1.8	-	-6.2 -1.7	-6.2 -1.6	-7.4	-7.4

Comments on table 4.2 1994

The estimate of the APW gross income was almost 2 per cent too low in 'Elements' compared to 'correct' data. This alone implies a projection error which will have an impact in all cases where the benefit includes a flat rate element. This is the case in situations with unemployment benefits, pensions and family allowances. There were, however, also other errors in the original calculations which interact with the projection errors.

The cases where the projection error is the only one which has an impact is the unemployment cases where the recipient is not eligible for the earningsrelated component, the basic pension (no former work history) and the family allowances. Here 'correct' data results in a negative impact (unemployment and pensions) which is a little larger and a positive impact (family allowances) which is a little smaller than in 'Elements', just as should be expected.

In the earningsrelated U.B. cases the income base should have been reduced by 3.5 per cent before calculation of the benefit, this has been done in the 'correct' data cases. The result is a somewhat larger negative impact on disposable income in the 'correct' data calculation, both as a result of this correction and because the larger wage income in 'correct' data has an impact in the same direction on the flat rate component of the benefit.

The benefit related to injuries from work is income related. The significant difference in the case of 1/3 loss of working capability is because the benefit was incorrectly reduced in 'Elements' (by 1/3 where there should be no reduction).

Concerning pensions, the basic amount (437 FIM/month) was not allocated to the single pensioner with a full work record in 'Elements'. Correction for this error increases the net replacement rate by approximately 2 percentage points. This error was repeated for the pensioner couple, but was partly counteracted by too large a deduction in the tax calculation (local tax). The net result is an increase of approx. 1.5 percentage points in the net replacement rate when 'correct' data are applied.

In the cases with maternity leave the income base for calculation of the benefits should have been reduced by 3.5 per cent, just as in the cases with earningsrelated U.B. A counteracting error was made in 'Elements' in the tax calculation where the taxable income (for local taxation) of the mother was too high resulting in too high taxation. The overall effect of the corrections is a negative impact which is a little larger when based upon 'correct' data than upon projected data ('Elements').

#### 1995

In 1995 the APW estimate in 'Elements' was more than 4 per cent below the 'correct' gross wage estimate. This again implies a projection error impact on benefits with flat rate elements, i.e. unemployment benefits, pensions and family allowances. There were also other errors in the original calculations, although fewer than in 1994.

The projection error is 'alone' in all cases of unemployment benefits, the basic pension (no former work record) and family allowances. Here the negative impact (unemployment benefits and basic pension) is somewhat larger in the calculations based upon 'correct' data than in 'Elements' and the positive impact (family allowances) is somewhat lower, no surprises.

Concerning injuries from work, the benefits in the case with 1/3 loss of working capability were unduly reduced, just as in the 1994 calculations. The negative impact in this case is substantially less when based upon 'correct' data.

For pensioners with a full former work record, the error from 1994 was repeated, the basic amount of the national pension (445 FIM/month) should have been added, but was not. The net replacement rates based upon 'correct' data are 3-4 percentage points higher in these cases than in 'Elements'. There were no counteracting errors for the APW-couple in 1995.

For maternity leave benefits there were no errors, and the two sets of calculations are very close.

#### 1996

The 1996 APW gross wage estimate in 'Elements' was slighty above the 'correct' data estimate, so there is no projection error of any significance. No other errors have been discovered, so the two sets of calculations should be almost identical. This also turns out to be the case.

The calculations are documented in appendix 3

#### 4.2.

#### Changes in the Finnish tax/benefit system. 1994-1996

#### Introduction

In the time span covered, 1994 - 1996, there were few very substantial and 'visible' changes in the Finnish tax/benefit scheme, but there was a gradual development towards somewhat lower benefits (at least relative to the APW income level) and a change in the composition of the social contributions based upon wages and total income (including most transfer payments) in the tax scheme.

Compared to the changes in the Swedish tax/benefit system the Finnish changes seem to be more gradual and less 'visible'. Reducing the base for calculation of U.B. instead of the compensation percentage might be one example.

#### Personal taxation

Compared to 1994 the max. deduction for work related expenses was reduced in 1995. The social contributions based upon wages (for unemployment benefits and public occupational pensions) were increased in 1995, while those based upon 'all' income, including benefits (that is for illness and national pensions) were lowered. This 'twist' will be of some importance for the impact on disposable income of some of the 'events', cf. the following sections.

In 1996 the mentioned 'twist' concerning social contributions continued, those based upon 'all' income, including most benefits, were lowered again.

The results of the changes and of the progression in the Finnish tax scheme is contained in table 4.3.

Table 4.3.	Average tay for single APM	1994-1996. Income at APW level.
Tubic 4.0.	Average lax for single At VV,	1334-1330. IIICUITIE AL AF W IEVEL.

	FIM				
	1994	1995	1996		
Gross wage	121,916	132,533	137,046		
Tax and soc. contribution	45,338	50,419	51,533		
Average tax, per cent	37.2	38.0	37.6		
Tax rate loc.gov.	18.83	18.83	18.84		

The increase in the tax burden from 1994 to 1995 is primarily because of the progression in the state tax schedule, the nominal income increase from 1994 to 1995 is quite high, close to 9 per cent. The slight fall in the average tax burden in 1996 is primarily because of the continued 'twist' already mentioned. The overall effect of this was a lowering of the rates for social contributions compared to 1995.

#### Sickness benefits

Due to the long waiting period in the Finnish scheme (9 week days after the first day with illness) there are no benefits in the insurance scheme for illness in 1 week. There is therefore no reason to present any calculations, which only show the impact of losing wages for one week.

There have been changes in the 'stepwise' benefit formula, they will be mentioned under the maternity leave benefit scheme.

#### Unemployment benefits

A reduction in the base of 3.5 per cent was introduced in the earningsrelated part of the scheme in 1994, implying that only 96.5 per cent of the lost income was included when the benefits are calculated. This was a 'negative' compensation for the occupational pension contribution on earned income, introduced in 1994. This contribution is not levied upon unemployment benefits. The base reduction was increased to 4.5 per cent in 1995 and stayed at that level in 1996.

The flat rate part of the scheme was 116 FIM/day in 1994. This was increased to 118 FIM/day in 1995, which was also the rate in 1996. The thresholds in the stepwise benefit formula were increased relatively little with the result that the share of the lost income which is compensated with the high percentage (42) is declining. The results of the changes are contained in table 4.4.

Table 4.4. Impact on annual disposable income from unemployment (earnings related scheme). APW income level for single, 1.5 APW income level for couple.

	FIM				
	1994	1995	1996		
Single 25% unempl. Reduction in disp. income %	8.4	8.9	9.3		
Single 100% unempl. Reduction in disp. income %	36.3	36.6	37.7		
Couple, wife (0.5 APW income) 100% unempl. Reduction in disp. income %	9.8	10.3	10.6		

The result is, as should be expected, a gradually increasing negative impact over time. From 1995 to 1996 it is especially the lowest compensation percentage in the stepwise benefit formula (20 per cent), covering the last part of the lost income, which causes the decline for singles. It is the first time this low percentage is applied, due to the very modest increase in the threshold between step 2 and 3 in the formula. The wife (0.5 APW income when working) does not reach the 20 per cent.

If the unemployed is not a member of the earnings related U.B. scheme or the rights have expired he or she will receive a flat rate benefit (minimum U.B.), which was 116 FIM/day in 1994, 118 FIM/day in 1995 and 1996. The impact of this 'event' is shown in table 4.5.

Table 4.5. Impact on annual disposable income from unemployment (minimum U.B.)

		FIM			
	1994	1995	1996		
Single 25% unempl. Reduction in disp. income %	14.3	14.6	14.9		
Single 100% unempl. Reduction in disp. income %	68.5	69.8	70.9		

With an almost constant flat rate benefit and a relatively strong increase in nominal wages, the result is an increasing negative impact on disposable income from receiving the minimum U.B. The minimum U.B. is also a component of the earnings-related scheme presented in table 4.4.

#### Compensation for injuries from work

There have been no changes in this compensation scheme in the period considered. 85 per cent of the lost income is compensated. Table 4.6 contains the result of the calculations.

Table 4.6. Impact on annual disposable income from injuries from work.

		FIM		
	1994	1995	1996	
Single 100% unempl. Reduction in disp. income %	8.2	7.4	7.6	
Single 33.3% unempl. Reduction in disp. income %	2.3	2.2	2.3	

The change from 1994 to 1995 (100% injured) is due to the mentioned 'twist' (cf. Personal taxation) in the social contributions where the contribution percentage from wage was increased and that from 'all' income (including compensation for industrial injuries) was lowered. The slight increase in negative impact from 1995 to 1996 might be caused by the drop in tax burden from 1995 to 1996.

#### Old age pensions

The most significant change was in the 'integration' between the public occupational pension scheme and the basic national pension. From 1996 the complete basic national pension was included in the 'integration', not just the supplementary amount, as had

been the case before 1996. The implication is that there will be no national pension at all if the occupational pension is high enough. Before 1996 the pensioner always kept the basic amount of the national pension. The rates in the national pension scheme increased very slowly in the period 1994 to 1996. The result of the pension calculations for each of the years 1994, 1995 and 1996 is contained in table 4.7.

Table 4.7. Net replacement rates for pensioners (starting at 65 years). The reference for singles is the APW income level, for the couple it is 1.5 times that level.

	1994	1995	1996
Single, full work record	68.8	69.6	^ 66.9
Single, no work record	37.2	35.3	34.0
Couple, full work record (1.5 APW income)	73.5	73.2	71.1

The decreasing net replacement rate for the single pensioner with no former work record and then only receiving national pension is as should be expected.

The effect of the 'integration' change in 1996 is easily seen, the net replacement rates drop in the two cases (single and couple) where there is a full work record.

The increase in net replacement rate for the single pensioner (full work record) from 1994 to 1995 is due to the increased tax burden for the APW in full employment, cf. table 4.3, combined with a slight decrease in tax burden for the pensioner.

The just mentioned increase for the single (1994 to 1995) is not found for the couple which experienced a slight decrease in net replacement rate from 1994 to 1995. This immediately surprising development is mainly because substantially more of the supplementary national pension for the wife (former ½ APW) is tapered away in 1995 than in 1994. There was also a slight increase in the tax burden for the pensioner with former ½ APW income primarily due to a more reduced local tax allowance in 1995 than in 1994. The tax allowance, which was identical in the two years, is means tested. In the case of the husband (former 1 APW) this allowance was tapered to zero in both years.

#### Child benefits

The family allowances in Finland were nominally unchanged from 1994 to 1995. In 1996 they were reduced significantly, from 570 FIM/month to 535 for the first child, from 720 FIM/month to 657 for child no. 2 and from 910 FIM/month to 779 for child no. 3. The impact of this is contained in table 4.8.

Table 4.8. Impact on disposable income from allowance for children. 1.5 APW income level, couple.

	FIM				
	1994	1995	1996		
1 child increase in disp. income %	5.6	5.2	4.7		
2 children increase in disp. income %	12.8	11.9	10.6		
3 children increase in disp. income %	21.8	20.3	17.4		

The changes here are probably the most 'visible' in the Finnish tax/benefit scheme in the period and the impact is a clearly reduced positive effect on disposable income from family allowances. However, in 1996 Finland still had the most generous child allowances among the 7 countries included in 'Elements' if measured as in table 4.8.

#### Parental benefits

The base for calculation of parental benefits was reduced by 3.5 per cent in 1994 and by 4.5 per cent in 1995 and 1996, just as in the earnings-related U.B. scheme. In 1996 the stepwise scheme was changed in such a way that the benefits were reduced. The timeseries of impacts is contained in table 4.9.

The effect of the parental leave benefit is shown for a couple (1.5 APW income) getting child no. 2 in relation to a couple (1.5 APW income) already having 2 children. It is assumed that the father has 18 days of parental leave and the mother 263 days in the case with maximum duration. There are, however, many other possibilities for splitting the parental leave between the parents. The mentioned assumption reflects the minimum rights for the father. The second calculation reflects the common duration, 14 weeks, used in 'Elements', and in this case only the mother participates.

Table 4.6. Impact on disposable income of maternity leave benefit. 1.5 APW income level plus child allowance for 2 children, couple.

		FIM		
	1994	1995	1996	
Benefit in 281 days ¹⁾ Reduction in disp. income %	6.1	6.2	7.4	
Benefit in 14 weeks Reduction in disp. income %	1.8	1.6	1.9	

¹⁾ The father has 18 days and the mother has 263 days.

The change in 1996 is clearly seen. The change from 1994 to 1995 is hard to detect. In the 281 days case it is the situation for the husband which is slightly inferior in 1995 compared to 1994 (ratio of disposable income as benefit recipient to disposable income as fully employed) while that for the wife is unchanged (a relatively strong increase in benefits for the wife is contributing to this result). In the 14 weeks case the situation for the wife is slightly better in 1995 than in 1994 (measured by the same ratio as just mentioned) due to the benefit increase and taxation just at that income level.

#### **Summary**

There have in most cases been a deterioration in the situation of benefit recipients compared to persons with only earned income. Relatively strong declines have been experienced for pensions and child benefits, two areas where Finland has a high standard, and still has even after the reductions. It should be noted that taxation and social contributions often contribute significantly to the impact of the different 'events'.

#### APPENDIX 1

# Documentation of family type (APW) calculations for the 7 countries studied, 1996

The calculations of the effects of social security benefits and taxation are based upon OECD's 'The Tax/Benefit Position of Production Workers', an annual publication showing disposable income for 'The Average Production Worker', the APW, in the member countries. The latest publication is from November 1995, covering the years 1991-1994.

Two APWs are used, one is the single worker just as in the OECD publication, the other is a couple where both spouses have an income (the husband has the income of the single APW, the wife has 50 per cent of that). In OECD's couple only the husband has an income, but from 1996 OECD will include more family types implying considerably more income variation. 'Our' APW-couple has a varying number of children, OECD's has two. The APW is thus a simplified, stylized family type. The basis for the calculations is 1994 data for the APW from OECD's publication. These have been projected to 1996 level by national estimates because 1996 is the 'calculation year' for the study. The countries covered are Denmark, Sweden, Finland, Germany, Great Britain, the Netherlands and Canada.

#### 'Standard' events

The APWs in the 7 countries are exposed to a series of 'standard' events. The events selected are:

- 1. Ill for one week. Single APW
- 2. Unemployed for 3 months during the year, eligible for unemployment insurance benefits. Single APW
- 3. Unemployed for the whole year, eligible for unemployment insurance benefits. Single APW
- 4. Unemployed for 3 months during the year, not eligible for unemployment insurance benefits. Single APW

- 5. Unemployed for the whole year, not eligible for unemployment insurance benefits. Single APW
- 6. Wife unemployed for the whole year, eligible for unemployment insurance. APW-couple
- 7. Injured from work single APW, two cases:
  - 1. Working capability completely lost.
  - 2. Loss of 1/3 of the working capability.
- 8. Pensioner with maximum period of former occupation. Single APW.
- 9. Pensioner without former occupation. Single APW.
- 10. Pensioners with maximum period of former occupation. APW-couple.

#### 'Standard' events in connection with children

- 1-3. The couple has 1, 2 or 3 children, 1 to 6 years old.
  - 4. The couple gets the second child (at the beginning of the year).
    - 1. Calculation covering the maximum period of maternity leave in each country.
    - 2. Calculation covering a common period of maternity leave for all 7 countries.

#### Calculations

The calculations cover the *gross compensation percentage* for the transfers compensating the loss of working income (the *net compensation percentage* if the compensation is based on net income) and the *change* in disposable income caused by each 'standard' event. For pensioners it is the usual *net compensation percentages* or net replacement rates, which are calculated.

This is not relevant for all the events. E.g. the compensation percentage and the change in disposable income for the pensioner without former occupation have, strictly speaking, no meaning, since there is no loss of income at 'retirement'. The interpretation in this case is relative to the disposable income of the APW. The *compensation percentage* is also irrelevant where family allowances for children are concerned.

The 'maximum period of former occupation' is by itself not a well defined concept. In this study the maximum period is 45 years, unless the rules say otherwise (in Sweden the period is 30 years, and further years in occupation have no influence on the additional pensions in the present pension system). This has the implication, that in some cases, e.g. for the Danish additional pension scheme, it is not possible to have had 45 years of membership when retiring in 1996. The interpretation of the calculation in this case is the maximum possible amount the pensioner can get, when he or she retires in 1996 at the official retirement age.

There is another 'timing-problem' in the case where the couple gets the second child. It is assumed that it is possible to get the child and have it for a whole year, and also to receive maternity leave benefits from some time before the birth, all within the same year. This is hardly possible, but it is, anyhow, the assumption.

The impact of the 'events' are calculated based upon current income, i.e. 1996 income, disregarding that former income is the proper basis in many cases. Special rules concerning payment for vacation have also been disregarded, all income is used as basis for calculation of income related benefits.

#### Results

The results of the calculations are presented in a compressed form in the attached tables, cf. Chapter 2, section 2.3. There are only results for two points in the income distribution, those of the single APW and the APW-couple. It is the isolated effect of each event, which is shown. Many of the 'standard' events have the effect of reducing disposable income. Other means tested benefits, e.g. for housing, would then increase. These kinds of effects are not included in the results, which in this case can be interpreted as showing the maximum effects on disposable income.

#### Documentation

There is a short documentation of the calculations for each country, c.f. the following. The documentation is oriented towards the specific calculation of the effect of the 'standard' events selected, it is not a description of the rules in the social security and taxation systems of the 7 countries. The detailed calculations for each case are also documented and stored, but not printed in the publication.

Ministries and organisations in Sweden, Finland, Germany, Great Britain, the Netherlands and Canada have been very helpful in updating the information from 1995 to 1996 and in providing new information for 1996 for their respective countries. This effort is essential for the correctness of the results presented in the report.

#### Outline of the APW

As already mentioned, the APW is contained in 'The Tax/Benefit Position of Production Workers'. An annual publication from OECD.

Characteristics of the APW:

- 1. The APW is a worker in the manufacturing industry.
- 2. The wage income of the APW is the average (based on hourly wage and hours worked) in manufacturing industry.

- 3. Personal characteristics such as being single or married, with or without children, which decide the tax/benefit position of the person or family.
- Cf.1. The share of employees in manufacturing (out of total employment) is approx. the same in DK, S, FIN, GB and NL, close to 1/5, while it is higher in D, almost 1/3 and lower in CAN, between 1/6 and 1/7. The distribution below is based on 1993 figures (1994 for Canada). Over recent years the trend has been slightly decreasing for all the countries.

	DK	S	FIN	D	GB	NL	CAN
	Per cent						
Share of employees							
in manufacturing	21	19	22	31	20	19 .	15

- Cf.2. The average production worker is adult, working full time within manufacturing (ISIC division 3), is 'uni-sex', and is neither ill nor unemployed. Overtime payment and payment for vacation are included in the income. This is calculated as the average hourly wages per month or quarter (weighted after hours worked in these periods), multiplied by the average amount of hours worked during the year. Fringe benefits are not included in the income. The procedure described is followed by most countries, but there is some variation.
- Cf.3. The tax calculation includes personal taxes of wage income and standard deductions. Using only standard deductions is a simplification and 'non-standard' deductions (e.g. for interest payments in the Danish case) would change the results considerably.

Standard social contributions paid by the employee are also included in the calculation of disposable income. This concept is calculated in the following way:

#### Gross wage of APW

- Personal tax
- Social Security contributions (deductions made before calculation of personal tax)
- + Family allowances (cash)
- = Disposable income

This concept of disposable income is 'simple' and does not catch all the variation of the real world.

The couple with children receives standard family allowances. Subsidies for housing or day care payments are not considered.

#### Limitations

Some of the limitations are evident from the procedures already described.

The calculation of disposable income is rather crude.

The calculations are for two points in the income distribution, those of the single APW and the APW-couple. These points are hardly the same in all the countries, which is, in itself, a problem'.

It would be preferable also to calculate for incomes below and above that of the APW (and the ½ APW), which would improve the foundation for the comparisons.

Even if some of the limitations concern the APW as such, it should not be forgotten that OECD's APW is the only existing operational framework for this kind of international comparisons. Calculations based upon representative data would be better, but comparisons on this basis are not quite possible at the present time. Efforts in OECD and Eurostat could change that within a few years.

^{1.} The 1994-edition of the OECD publication contains a study of the position of the APW in the income distribution in Canada, Denmark, Iceland, Sweden, Great Britain and the United States.



### Documentation of APW calculations for Denmark, 1996

Single APW: The gross wage of the APW in 1995 has been projected to 1996 by the average rate of increase for wage income. DKK.

		1996 Insured ¹⁾	1996 Non-insured ¹⁾
-	Gross wage	244,000 DKK	244,000 DKK
	Tax and social security	108,958 DKK ²⁾	106,832 DKK
	Disposable income	135,042 DKK	137,168 DKK

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. The couple has no children.

	1996 Insured ¹⁾	
Gross wage	366,000 DKK	
Tax and social security	153,950 DKK	
Disposable income	212,050 DKK	

¹⁾ The terms insured and non-insured refer to unemployment insurance.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage of the insured APW is reduced by 1/52 that is by 4,692 DKK. Compensation for illness in 1 week is 2,617 DKK (Rate for maximum compensation in 1996 for illness). Max. benefit is reached at an income of 146,260 DKK. The gross compensation percentage is 2,617 / 4,692 x 100 = 56. The disposable income of the APW is 134,134 DKK, when he or she is ill for one week during 1996.

The *decrease* in disposable income compared to the case with no illness is 135,042 - 134,134 = 908 DKK or 0.7 per cent.

From 1994 nearly all employees have received the usual wage during short spells of illness according to labour market agreements.

#### 2. Unemployed for 3 months during the year, insured. Single APW

The gross wage of the insured APW is reduced by 1/4 that is by 61,000 DKK. 3 months' compensation (13 weeks of 5 days each) is  $13 \times 5 \times 523 = 33,995$  DKK.

²⁾ Cf. the annex for a documentation.

The maximum compensation for unemployment in 1996 was 523 DKK a day. Max. benefit is reached at an income of 162,394 DKK. Minimum benefit (429 DKK/day) is reached at an income of 133,194 DKK and below.

The gross compensation percentage is  $33,995 / 61,000 \times 100 = 56$ . The disposable income of the APW is 123,234 DKK, when he or she is unemployed for 3 months during 1996.

The *decrease* in disposable income compared to the case with no unemployment is 135,042 - 123,234 = 11,808 DKK or 8.7 per cent.

#### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $52 \times 5 \times 523 = 135,980$  DKK. The maximum compensation for unemployment in 1996 was 523 DKK a day. Max. benefit is reached at an income of 162,394 DKK. Minimum benefit (429 DKK/day) is reached at an income of 133,194 DKK and below.

The gross compensation percentage is  $135,980 / 244,000 \times 100 = 56$ . The disposable income of the APW is 87,812 DKK, when he or she is unemployed for the whole of 1996.

The *decrease* in disposable income compared to the case with no unemployment is 135,042-87,812 = 47,230 DKK or 35.0 per cent.

#### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction in gross wage is 61,000 DKK as in case 2 (unemployed for 3 months). It is assumed that the non-insured APW receives social assistance during the unemployment period.

The rate is 6,803 DKK per month (equivalent to 60 per cent of the maximum unemployment benefit). This benefit is taxable. Just as in the 1995-calculation housing allowances are not included. This is done to make the Danish cases more comparable with those of the other countries. The housing allowance part of the social assistance is not taxable.

The total social assistance for 3 months is 20,409 DKK.

The gross compensation percentage is  $20,409/61,000 \times 100 = 33$ . Disposable income for an APW with 3 months of unemployment receiving social assistance is 118,424 DKK.

The *decrease* in disposable income compared to the case with no unemployment is 137,168 - 118,424 = 18,744 DKK or 13.7 per cent.

#### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is social assistance and the rate is 6,803 DKK a month, just as in case 4. The total assistance for 12 months is 81,636 DKK (taxable).

The gross compensation percentage is  $81,636 / 244,000 \times 100 = 33$ . Social assistance is as already mentioned taxable in 1996. Disposable income in this case is 59,554 DKK.

The *decrease* in disposable income compared to the case without unemployment is 137,168 - 59,554 = 77,614 DKK or 56.6 per cent.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is  $52 \times 5 \times 349 = 90,740$  DKK. The maximum compensation for unemployed (working part time and being insured accordingly) in 1996 was 349 DKK a day. Max. benefit (part time) is reached at an income of 108,366 DKK.

The gross compensation percentage is 90,740/ 122,000 = 74. The disposable income of the APW-couple is 200,237 DKK, when the wife is unemployed for the whole year in 1996 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 212,050 - 200,237 = 11,813 DKK or 5.6 per cent.

#### 7. Injured from work. Single APW

Transfer payments caused by injuries from work are studied in two cases, one where the working capability is completely lost and one where ½ of the working capability is lost. Due to the 7 per cent social contribution from January 1996 the compensation (on which no contribution is paid) is based upon gross wages minus the 7 per cent social contribution.

#### 1. Working capability completely lost

There is no gross wage. The compensation is 80 per cent of the lost gross wage of the insured APW, corrected for the 7 per cent social contribution, i.e. 181,500 DKK (rounded downwards to an amount which can be divided by 500). Max. benefit is 242,000 DKK which is reached at an income of 325,739 DKK. There is no compensation for an annual income below 121,438 DKK. On top of that there are three components from the ordinary invalidity pension scheme that is an 'invalidity supplement' of 22,176 DKK ('invaliditetsbeløb') and a 'disability supplement' 30,612 DKK ('erhvervsudygtighedsbeløb') and the 'special supplement' of 17,964 DKK for a single pensioner, cf. case 8 below, all in 1996 level. The remaining components of the ordinary invalidity pension scheme are reduced to 16,956 DKK by means testing. The total compensation amounts to 269,208 DKK. All components except the 'invalidity supplement' are taxable.

The gross compensation percentage is  $269,208 / 244,000 \times 100 = 110$ . The disposable income for an APW losing the working capability is 169,638 DKK. The *increase* in disposable income compared to the situation without injuries is 169,638 - 135,042 = 34,596 DKK or 25.6 per cent.

#### 2. Loss of 1/3 of the working capability

The gross wage is reduced by  $\frac{1}{3}$ , i.e. 81,333 DKK. The compensation is 80 per cent of the wage reduction corrected for the 7 per cent social contribution, that is 60,500 DKK. Loss of  $\frac{1}{3}$  of the working capability does not make the APW eligible for invalidity pension.

The gross compensation percentage is  $60,500 / 81,333 \times 100 = 74$ . The disposable income for an APW with  $\frac{2}{3}$  of the former gross wage and compensation for loss of  $\frac{1}{3}$  of his or her working capability is 128,037 DKK.

The *decrease* in disposable income compared to the situation with no injuries is 135,042 - 128,037 = 7,005 DKK or 5.2 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 67 years

The public pension for the single former APW consists of the following components in 1996 level. A basic amount ('grundbeløb') of 45,576 DKK, a 'supplement' ('pensionstillæg') of 27,216 DKK, a 'special supplement' for primarily single pensioners of 17,964 DKK because public pensions became 'ordinarily' taxable from 1994 and a 'personal supplement' ('personligt tillæg') of 2,150 DKK, in total 92,906 DKK. The 'personal supplement' varies according to economic needs, it is non-taxable and means tested.

On top of the public pension there is an additional pension scheme. The benefit from that is 15,038 DKK in 1996 on the assumption of full membership since April 1964.

The *disposable income* for the APW-pensioner is 92,631 DKK in public pension (the 'personal supplement' is reduced by 275 DKK, due to means testing), plus 15,038 DKK in additional pension minus 32,495 DKK in personal tax, in total 75,174 DKK.

The net compensation percentage is  $75,174 / 135,042 \times 100 = 55.7$ .

The decrease in disposable income compared to the APW is 44.3 per cent.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 67 years

The public pension is the same as in the former case, i.e. 92,906 DKK. This pension (including the 'personal supplement' of 2,150 DKK) results in a disposable income of 66,892 DKK.

The 'net compensation percentage' is  $66,892 / 135,042 \times 100 = 49.5$  relative to the APW.

The 'decrease' in disposable income (relative to the APW) is 50.5 per cent.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 67 years old

The public pension for the APW-couple is twice the basic amount for the single pensioner and twice the 'supplement' for married pensioners that is  $2 \times 45,576 + 2 \times 20,016 = 131,184$  DKK. The 'personal supplement' is received according to economic needs. Here it is assumed that this is the double amount of what the single pensioner receives, in total 4,300 DKK. There is no 'special supplement' for the couple.

It is assumed that the couple has been members of the additional pension scheme as long as possible (since april 1964), the husband on full time working basis, the wife on part time working basis. The combined pension from this source is 25,963 DKK in 1995, 15,038 DKK for the husband and 10,025 DKK for the wife. The disposable income for the APW-couple as pensioners is 135,299 DKK in public pensions (the 'personal supplement' is reduced by 185 DKK, due to means testing) plus 25,063 DKK in additional pension minus 41,138 DKK in personal tax, in total 119,224 DKK.

The net compensation percentage is  $119,224 / 212,050 \times 100 = 56.2$ .

The decrease in disposable income compared to the APW-couple is 43.8 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The APW-couple has 1, 2 or 3 children

Child no. 1 (6 years old). The family allowance is 9,100 DKK in 1996. Compared to the situation without children the *increase* in disposable income is  $9,100 / 212,050 \times 100 = 4.3$  per cent with 1 child (6 years old).

Child no. 2 (3 years old). The family allowance is 9,100 DKK in 1996. Compared to the situation without children the *increase* in disposable income is  $(9,100 + 9,100) / 212,050 \times 100 = 8.6$  per cent with 2 children (6 and 3 years old).

Child no. 3 (1 year old). The family allowance is 10,200 DKK for infants (0-2 years) in 1996. Compared to the situation without children the *increase* in disposable income is  $(9,100 + 9,100 + 10,200) / 212,050 \times 100 = 13.4$  per cent with 3 children (6, 3 and 1 year old).

#### 4. The couple gets child no. 2 and has 2 children

Even if it is not possible to get 1 child and have 2 children for a whole year and within the same year receive benefits from 4 weeks prior to delivery, this is assumed to be the case in the following.

1. The couple has 30 weeks of maternity leave, 28 weeks for the wife and 2 weeks for the husband. The *husband* has a loss of income of 2/52 of the gross wage that is 9,385 DKK. He receives 2 x 2,617 = 5,234 DKK in compensation (the rate is the maximum compensation for illness, weekly basis, in 1996). Max. benefit is reached at an income of 146,260 DKK. The *wife* has a gross

wage reduction of 28/52 that is 65,692 DKK. She receives  $28 \times 2,617 / 2 = 36,638$  DKK in compensation (the rate is 50 per cent of the maximum compensation for illness in 1996).

Together the couple loses 75,077 DKK in gross wages and receives 41,872 DKK in compensation.

The gross compensation percentage is  $41,872 / 75,077 \times 100 = 56$ . 30 weeks of maternity leave results in a disposable income of 216,831 DKK including allowance for 2 children for the couple (1 child 3 years of age and 1 born in 1996).

The *decrease* in disposable income compared to the situation with 2 children (3 and 1 year) is 231,350 - 216,831 = 14,519 DKK or 6.3 per cent.

This calculation reflects the effect of using the maximum maternity leave.

2. In the alternative calculation the length of the maternity leave is 14 weeks for the wife alone, this period is used for all countries in the alternative calculation.

The gross wage of the *wife* is reduced by 14/52 that is 32,846 DKK. She receives  $(14 \times 2,617) / 2 = 18,319$  DKK in compensation.

The gross compensation percentage is  $18,319 / 32,846 \times 100 = 56$ . The disposable income is 224,999 DKK for the couple with 2 children where the wife has 14 weeks of maternity leave.

The *decrease* in disposable income compared to the situation, where the couple has 2 children is 231,350 - 224,999 = 6,351 DKK or 2.7 per cent.

#### Annex

## Tax and social contribution calculation for single APW, 1996. DKK.

Gross wage income	244,000 894
Base for 7 per cent contribution	243,106
Social contributions:	
7 per cent social contribution 0.07 x 243,106 =	17,017
Other social contributions:  Contribution for supplementary pension	894 3,736
All social contributions	21,647
Taxable income:	
Gross wage – Social contributions	244,000 21,647
Taxable income	222,353
Personal income:	
Gross wage  - 7 per cent social contribution	244,000 17,017 894
Personal income	226,089
State tax:	
Bottom tax: 0.12 (222,353 - 30,400) =	23,034 4,579
Total state tax:	27,614
Local tax: 0.311 (222,353 - 30,400) =	59,697
Tax and social contributions:	
State tax Local tax Social contributions	27,614 59,697 21,647
Tax and social contributions	108,958



## Documentation of APW calculations for Sweden, 1996

Single APW: The gross wage of the APW in 1995 has been projected to 1996 by the average rate of increase for wage income in the Swedish manufacturing industry.

		1996 Non-insured ¹⁾
Gross wa	age	200,000 SEK
Tax and social security ²⁾ Disposable income		67,318 SEK
		132,682 SEK

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

		1996 Non-insured ¹⁾
Gross wage		300,000 SEK
Tax and social securi	itv	97,099 SEK
Disposable income		202,901 SEK

- After half a year with a mandatory unemployment insurance system, the scheme was changed back to a voluntary basis from January 1995. The social contribution for unemployment insurance of 1 per cent of income (up to a ceiling) was cancelled, and another social contribution for pensions was introduced, this was also 1 per cent of income (also in 1996). The membership fee for unemployment insurance was reintroduced. It should be deducted from the gross wage income but has not been so, and neither has it in the calculations for the Swedish APW in OECD's 'The Tax/Benefit Position of Production Workers'. The fee is approximately 500 SEK a year and is deductible in taxable income, if a threshold together with other deductions of 1,000 SEK is passed. Social contributions paid by the employers (approximately 33 per cent of the wage bill) is the major financing source for Swedish social security. The employee paid contribution for health insurance was increased to 3.95 per cent in 1996. The total employee paid contributions have increased to 4.95 per cent of income (up to a ceiling) in 1996, and will increase further in the coming years.
- 2) Cf. the annex for documentation.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,846 SEK. Compensation for illness in one week is nothing for the first day (waiting period) and 75 per cent of the gross income on a daily basis (0.75 * 200,000 = 150,000 / 260 = 576,92, rounded up: 577 SEK) for the next 4 days. The compensation is 4 * 577 = 2,308 SEK. The

first 2 weeks of illness are covered by the employer and there are no central rules for how the 75 per cent in compensation should be calculated. The rules applied here are from before 1992, when the insurance also covered the first two weeks. Other methods may give slightly different results. There is no maximum benefit level for the first two weeks, but when the insurance takes over from the 3rd week of illness, max benefit is reached at an income level of 7.5 * 36,200 = 271,500 SEK.

The gross compensation percentage is 2,308 / 3,846 * 100 = 60. When the APW is ill for one week his or her disposable income is 131,751 SEK.

The *decrease* in disposable income compared to the situation without illness is 132,682 - 131,751 = 931 SEK or 0.7 per cent.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 50,000 SEK. Unemployment compensation is 75 per cent of the lost income with a maximum of 564 SEK a day. 75 per cent of the lost income on a daily basis is 0.75 * 200,000 = 150,000 / 260 = 576,92, rounded up: 577 SEK which is above the maximum of 564 SEK a day which is reached at an income level of 260 * 564 / 0.75 = 195,520 SEK. There is a minimum, 230 SEK a day, which is reached at an income level below  $260 \times 230$  / 0.75 = 79,733 SEK.

For 13 weeks (5 days each) with a waiting period of 5 days the compensation is 60 * 564 = 33,840 SEK.

The gross compensation per centage is 33,840 / 50,000 * 100 = 68. The disposable income of the APW with 25 per cent unemployment is 122,703 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 132,682 - 122,703 = 9,979 SEK or 7.5 per cent.

## 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 255 * 564 = 143,820 SEK in the 'standard' year used here. Max. benefit (564 SEK/day) is reached at an income level of 195,520 SEK, min. benefit (230 SEK/day) is reached below 79,733 SEK. The gross compensation per centage is 143,820 / 200,000 * 100 = 72. The disposable income of the APW is 97,976 SEK, when he or she is unemployed for the whole of 1996.

The *decrease* in disposable income compared to the situation with no unemployment is 132,682 - 97,976 = 34,706 SEK or 26.2 per cent.

## 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 50,000 SEK as in case 2. The compensation for the non-insured APW is 60 * 230 = 13,800 SEK. There is a waiting period of 5 days also in this scheme. The 230 SEK/day is a 'pure' flat rate benefit.

The gross compensation per centage is 13,800 / 50,000 * 100 = 28. The disposable income is 110,309 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 132,682 - 110,309 = 22,373 SEK or 16.9 per cent.

This scheme was 'reintroduced' in January 1995 after having been 'out of operation' in the 2nd half of 1994, when the unemployment insurance scheme was mandatory. The rate (230 SEK/day) is also the minimum rate in the voluntary insurance scheme.

### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is 255 * 230 = 58,650 SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks.) The 230 SEK/day is a 'pure' flat rate benefit.

The gross compensation per centage is 58,650 / 200,000 * 100 = 29. The disposable income is 40,743 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 132,682 - 40,743 = 91,939 SEK or 69.3 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1996 is 1.16 times the basic rate ('basbeloppet') in the Swedish Social Security System, i.e. 41,992 SEK excluding housing costs.

Recipients of the benefit from this scheme would, in many cases also be eligible for social assistance to supplement the income.

As already mentioned, this scheme was 'reintroduced' in January 1995.

### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 255 * 288 = 73,440 SEK. The daily compensation of 288 SEK is calculated as 0.75 * 100,000 = 75,000 / 260 = 288.46 SEK, rounded down: 288 SEK. The maximum benefit, 564 SEK a day, is not reached, that happens at an income level of 195,520 SEK. The minimum benefit in 1996 is 230 SEK/day, it is reached when the income falls below 79,733 SEK.

The gross compensation per centage is 73,440 / 100,000 * 100 = 73. The disposable income of the APW-couple is 183,559 SEK, when the wife is unemployed for the whole year in 1996 and usually is working part time (½ APW income). The decrease in disposable income compared to the situation with no unemployment is 202,901 - 183,559 = 19,342 SEK or 9.5 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost.

In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 * 36,200 = 271,500 SEK in 1996, the income level where the max. benefit is reached).

There is no change in the disposable income of the APW in this situation.

#### 2. Loss of 1/3 of the working capability.

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income.

There is no change in disposable income.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the present Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time.

On these assumptions the additional pension (ATP) will be 85,781 SEK in 1996. The max. number of 'pension-points' which can be earned is 6.5, resulting in a max. additional pension of 138,356 SEK in 1996.

The basic pension in the Swedish system is based on the basic rate ('basbelopet') which in 1996 was 36,200 SEK. The basic pension consists of two components, a basic amount which equals 36,200 * .96 * .98 = 34,057 SEK (single pensioner) and a supplementary amount, 36,200 * .555 * .98 = 19,689 SEK. The basic pension is then 53,746 SEK for a single pensioner. If the pensioner has no additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension.

The disposable income for the 'APW-pensioner' is 34,057 SEK in basic pension plus 85,781 SEK in 'ATP' minus 32,636 SEK in personal tax, in total 87,202 SEK.

The net compensation per centage is 87,202 / 132,682 * 100 = 65.7.

The decrease in disposable income by retirement is 34.3 per cent in this situation.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 53,746 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax). The basic pension consists of flat rate components.

The 'net compensation per centage' relative to the APW is 53,746 / 132,682 * 100 = 40.5.

The 'decrease' in disposable income, relative to that of the APW, is 59.5 per cent by this kind of 'retirement'.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old

It is assumed, that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, that will result in 1.515 'pension points' when the husband has 4.03 according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 85,781 SEK for the husband and 32,248 SEK for the wife, in total 118,029 SEK in 1996. The max. additional pension is 138,356 SEK for each spouse in 1996.

The basic pension is equal to the basic amount, i.e. 36,200 * .785 * .98 = 27,849 SEK for each of the pensioners, in total 55,698 SEK. The couple will not receive any supplementary amount. The disposable income for the APW-couple as pensioners is 55,698 SEK in public pensions plus 118,029 SEK in additional pension minus 37,103 SEK in personal tax, in total 136,624 SEK.

The net compensation per centage is 136,624 / 202,901 * 100 = 67.3.

The decrease in disposable income compared to the APW-couple is 32.7 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 7,680 SEK in 1996. Compared to the situation without children the *increase* in disposable income is (7,680 / 202,901) * 100 = 3.8 per cent with 1 child (6 years old). The family allowance is a flat rate benefit.

For *child no.* 2 (3 years old) the allowance is also 7,680 SEK. Compared to the situation without children the *increase* is (15,360 / 202,901) * 100 = 7.6 per cent with 2 children (6 and 3 years old).

For *child no.* 3 (1 year old, assumed born in 1996) the allowance is also 7,680 SEK. Compared to the situation without children the *increase* is (23,040 / 202,901) * 100 = 11.4 per cent with 3 children (6, 3 and 1 year old).

### 4. The couple gets their second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity leave for 360 days during the year, with 330 days for the wife and 30 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which

the compensation is based upon income (85 per cent for 60 days (30 days for each spouse), 75 per cent for 300 days).

The *husband* has a wage reduction of (200,000 / 365) * 30 = 16,438 SEK. He receives 200,000 * .85 / 365 = 466 SEK per day for 30 days, resulting in a 'parents allowance' of 30 * 466 = 13,980 SEK. Max. daily benefit is reached at an income level of 7.5 * 36,200 = 271,500 SEK.

The wife has a wage reduction of (100,000 / 365) * 330 = 90,411 SEK. She receives 100,000 * .85 / 365 = 233 SEK per day for 30 days, resulting in a 'parents allowance' of 30 * 233 = 6,990 SEK. For the remaining 300 days she receives 100,000 * .75 / 365 = 205 SEK per day, resulting in a 'parents allowance' of 61,500 SEK. In total she receives 68,490 SEK. Max. daily benefit is reached at an income level of 7.5 * 36,200 = 271,500 SEK.

Combined the wage reduction is 106,849 SEK and the received compensation is 82,470 SEK.

The gross compensation per centage is 82,470/106,849 * 100 = 77. 360 days of maternity leave results in a disposable income of 200,710 SEK for the couple including allowance for 2 children (1 child 3 years of age and 1 born i 1996).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 218,261 - 200,710 = 17,551 SEK or 8.0 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is (100,000 / 365) * 98 = 26,849 SEK. She receives 100,000 * .85 / 365 = 233 SEK per day in 30 days, that is 6,990 SEK plus 205 SEK per day in 68 days, that is 13,940 SEK, in total 20,930 SEK in compensation. Max. benefit is reached at an income level of 7.5 * 36,200 = 271,500 SEK.

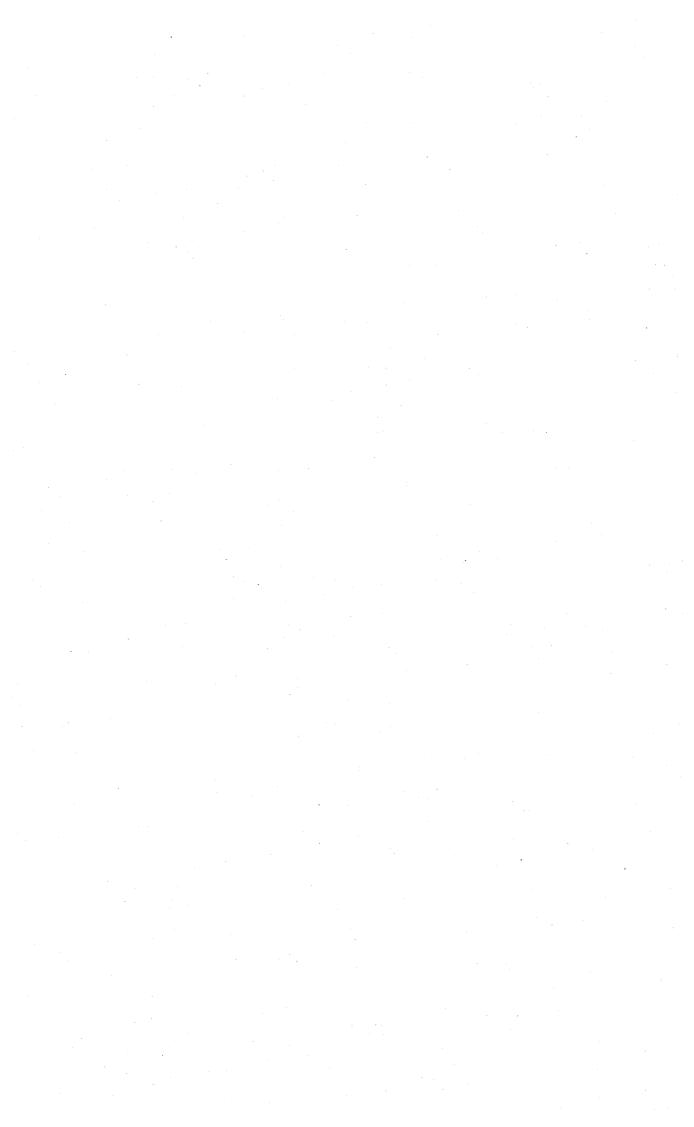
The gross compensation per centage is 20,930 / 26,849 * 100 = 78.14 weeks of maternity leave results in a disposable income of 213,971 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 218,261 - 213,971 = 4,290 SEK or 2.0 per cent.

#### Annex

## Tax and social contribution calculation for single APW, 1996. SEK.

Gross wage income:	200,000
'Taxerad' income:	200,000
(Rounded gross wage income) 'Taxerad' income is the basis for calculation of taxes and social contributions.	
Standard deduction:	
'Taxerad' income is in the bracket 3.04 * B - 5.615 * B (B = 36,200 SEK), the standard deduction is then calculated in this way:	• •
0.4975 * B	18,010 8,995
Standard deduction	9,015 9,000
Social contributions:	
Health insurance contribution:  0.0395 * 200,000 = 7,900 - rounded to	7,900
Pension insurance contribution:  0.01 * 200,000 = 2,000 - rounded to	2,000
All social contributions:	9,900
Taxable income:	
'Taxerad' income  - Standard deduction  - Health insurance	200,000 9,000 7,900
- Pension insurance	2,000
Taxable income	181,100
Tax and social contributions:	
State	100 57,318
Total tax	57,418
Social contributions:	
Health insurance	7,900 2,000
Tax and social contributions	67,318



### Documentation of APW calculations for Finland, 1996

Single APW: The information on the gross wage of the APW in 1996 has been provided by the 'Government Institute for Economic Research' in Finland.

	1996 Non-insured ¹⁾
Gross wage	137,600 FIM
Tax and social security ²⁾	51,823 FIM
Disposable income	85,777 FIM

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

-insured ¹⁾
,400 FIM
,431 FIM
,969 FIM
)

Unemployment insurance (the earningsrelated component) is voluntary in Finland. In the official APW calculation for Finland in 'The Tax/Benefit Position of Production Workers' there is no deduction in the disposable income for membership fees. This is also the case for the Swedish APW. This procedure has been continued in this study even if it is not strictly correct. The error is, however, marginal.

2) Cf. the annex for a documentation.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 2,646 FIM. In Finland there is a waiting period of 9 weekdays (after the first day of illness), so there is no compensation at all from the insurance scheme for the first week of illness. The benefit has no maximum, the minimum is 0.

The gross compensation percentage is 0. When the APW is ill for one week his or her disposable income is 84,512 FIM.

The *decrease* in disposable income compared to the situation without illness is 85,777 - 84,512 = 1,265 FIM or 1.5 per cent.

In Finland labour market agreements are covering the relatively long waiting period. In the usual situation the employee therefore receives wages during short term illness. In some agreements wages will be paid during illness for 1 to 2 months.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 34,400 FIM. The compensation for a 3 month period is  $13 \times 5 \times 118 = 7,670$  FIM plus 42 per cent of the difference between 31,860 and 7,670, i.e. 10,160 FIM, plus 20 per cent of the difference between  $0,955 \times 34,400 = 32,852$  and 31,860, i.e. 198 FIM, in total 18,028 7,162 FIM. There is a waiting period of 5 days (1 week), so the compensation is 12/13 of the calculated total, i.e. 16,641 FIM. There is no maximum benefit, the minimum is 118 FIM/day.

The gross compensation percentage is  $16,641 / 34,400 \times 100 = 48$ . The disposable income of the APW is 77,786 FIM when he or she is unemployed 25 per cent of the year.

The *decrease* in disposable income compared to the situation without unemployment is 85,777 - 77,786 = 7,991 FIM or 9.3 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 4 times the total in case 2 (4  $\times$  18,028) times 51/52, i.e. 70,725 FIM. There is no maximum benefit, the minimum is 118 FIM/day.

The gross compensation percentage is  $70,725 / 137,600 \times 100 = 51$ . The disposable income of the APW is 53,308 FIM when he or she is unemployed for the whole year.

The *decrease* in disposable income compared to the situation without unemployment is 85,777 - 53,308 = 32,469 FIM or 37.9 per cent.

### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 34,400FIM as in case 2. The compensation for an APW, who is not a member of the voluntary unemployment insurance scheme, is  $12 \times 5 \times 118 = 7,080$  FIM, there is also a waiting period of 5 days in this scheme. The benefit is flat-rate.

The gross compensation percentage is  $7,080 / 34,400 \times 100 = 21$ . The disposable income is 72,961 FIM in this situation.

The *decrease* in disposable income compared to the situation without unemployment is 85,777 - 72,961 = 12,816 FIM or 14.9 per cent.

### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $51 \times 5 \times 118 = 30,090$  FIM for a whole year when the unemployed APW is not insured. The benefit is flat-rate. The gross compensation percentage is  $30,090 / 137,600 \times 100 = 22$ . The disposable income is 24,917 FIM in this situation.

The *decrease* in disposable income compared to the situation without unemployment is 85,777 - 24,7917= 60,860 FIM or 71.0 per cent.

The recipient is eligible to receive additional support for housing costs, either from the housing benefit scheme or from social assistance.

### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 51/52 times 45,390 FIM (12 months compensation calculated in the same way as in case 3), i.e. 44,517 FIM. There is no maximum benefit, the minimum is 118 FIM/day. The gross compensation percentage is  $44,517 / 68,800 \times 100 = 65$ . The disposable income of the APW-couple is 121,554 FIM, when the wife is unemployed for the whole year in 1996 and usually is working part time ( $\frac{1}{2}$  APW income). The decrease in disposable income compared to the situation without unemployment is 135,969 - 121,554 = 14,415 FIM or 10.6 per cent.

### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

### 1. Working capability completely lost

There is no gross wage. In Finland the compensation ('full pension') is 85 per cent of the lost income (70 per cent if the recipient is 65 or older), i.e. 116,960 FIM.

The gross compensation percentage is thus 85. The disposable income in this case is 79,218 FIM.

The *decrease* in disposable income compared to the situation without injuries is 85,777 - 79,218 = 6,559 FIM or 7.6 per cent.

#### 2. Loss of $\sqrt{3}$ of the working capability

The loss of income is 45,867 FIM. The compensation is 1/3 of the 'full pension', i.e. equivalent to 85 per cent of the lost income assuming 2/3 of the wage is maintained. The compensation is  $0.85 \times 45,867 = 38,987$  FIM.

The gross compensation percentage is thus 85. The disposable income is 83,823 FIM, when the APW has lost 1/3 of the working capability.

The *decrease* in disposable income compared to the situation without injuries is 85,777 - 83,823 = 1,954 FIM or 2.3 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The old age pension scheme in Finland consists of a basic part and an income related part. In the case where the APW has been working 'all the time' the income related pension will be 60 per cent of the gross income at retirement. The basic pension will in 1996 be means tested down to 0, cf. case 10 for a factual calculation for the spouse in the APW-couple. On these assumptions an APW

with a full working record from the age of 23 years to 65 years will have a pension equal to  $0.6 \times 137,600 = 82,560$  FIM.

The disposable income of the pensioner is 82,560 FIM in income related pension minus 25,157 FIM in personal tax, in total 57,403 FIM.

The net compensation percentage is  $57,403 / 85,777 \times 100 = 66.9$ .

The decrease in disposable income by retirement is 33.1 per cent.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The 'basic' pension in the Finnish old age pension system consists of a 'basic amount' of 446 FIM/month and a 'supplementary amount' of 1,978 FIM/month (for a single pensioner in the 'low' cost part of the country), in total 29,088 FIM a year. There is no taxation of any kind of this minimum pension.

The 'net compensation percentage' is  $29,088 / 85,777 \times 100 = 33.9$ .

The 'decrease' in disposable income, relative to that of the APW, is 66.1 by this kind of 'retirement'.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old.

It is assumed, that both had a 'full' working record. In this case the income related pension is 60 per cent of the gross wage income at retirement, i.e.  $0.6 \times 137,600 = 82,560$  FIM plus  $0.6 \times 68,800 = 41,280$  FIM, in total 123,840 FIM. For the former part time working spouse, there will be an additional 6,344 FIM left from the means testing of the basic pension  $(25,524 - 0.5 \times (41,280 - 2,920) = 6,344)$ . The total pension is 123,840 + 6,344 = 130,184 FIM. 25,524 FIM is the annual basic pension for a spouse in the 'low' cost part of the country.

The disposable income of the pensioner couple is 123,840 FIM in income related pension plus 6,344 FIM basic pension minus 33,572 FIM in personal tax, in total 96,612 FIM.

The net compensation percentage is  $96,612 / 135,969 \times 100 = 71.1$ 

The decrease in disposable income is 28.9 per cent compared to the APW-couple.

### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 535 FIM/month in 1996, i.e. 6,420 FIM on an annual basis. Compared to the situation without children the *increase* in disposable income is  $(6,420 / 135,969) \times 100 = 4.7$  per cent when there is one child (6 years old).

For *child no.* 2 (3 years old) the allowance is 657 FIM/ month, i.e. 7,884 FIM on an annual basis. Compared to the situation without children the *increase* is (6,420

+ 7,884) / 135,969 x 100 = 10.5 per cent when there are two children (6 and 3 years).

For *child no.* 3 (1 year old) the allowance is 779 FIM/month, i.e. 9,348 FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,420 + 7,884 + 9,348) / 135,969 \times 100 = 17.4$  per cent when there are 3 children (6, 3) and 1 year).

### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity and paternity leave of 281 weekdays. There are 105 days for the mother and 18 days for the father and 158 days which can be shared or taken by either the mother or the father. In this case it is assumed that the mother has 263 days and the father 18 days.

The *husband* has a wage reduction of  $(137,600 / 312) \times 18 = 7,938$  FIM. He receives 5,494 FIM²⁾ in compensation. The benefit has no maximum. There is a minimum of 60 FIM/day.

The wife has a wage reduction of  $(68,800 / 312) \times 263 = 57,995$  FIM. The benefit for this period is 40,320 FIM³.

Combined the wage reduction is 65,933 FIM and the compensation received is 45,814 FIM.

The gross compensation percentage is  $45,814 / 65,933 \times 100 = 69.5$ . The disposable income of the couple with a combined leave of 281 days is 139,105 FIM including family allowance for 2 children (1 child 3 years of age and 1 born in 1996).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 150,273 - 139,105 = 11,168 FIM or 7.4 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is (68,800 / 312) x 84 = 18,523 FIM. She receives 12,878 FIM in compensation. The benefit has no maximum. There is a minimum of 60 FIM/day.

The gross compensation percentage is  $12,878 / 18,523 \times 100 = 69.5$ . 14 weeks of maternity leave results in a disposable income of 147,400 FIM.

²⁾ In the husband's income bracket the daily allowance is calculated in this way: 303.33 + 0.4 (0.955 x 137,600 - 130,000) / 300 = 303.33 + 1.88 = 305.21 FIM. For 18 days the compensation is 18 x 305.21 = 5,494 FIM.

³⁾ In the wife's income bracket the daily allowance is calculated in this way:  $0.7 \times (0.955 \times 68,800) / 300 = 153.31$  FIM. For 263 days the compensation is 263 x 153.31 = 40,320 FIM.

The *decrease* in disposable income compared to the situation, where the couple has two children is 150,273 - 147,400 = 2,873 FIM or 1.9 per cent.

### Annex

### Tax and social contribution calculation for single APW, 1996. FIM

Gross wage income:	137,600
Standard deduction:	
	1,500
Work related expenses, 3.0 per cent max.         Social contr. unemployment, 1.5 per cent	2,064
Social contr. occupational pension, 4.3 per cent	5,917
Total	9,481
State taxable income:	
	137,600
Gross wage income Total standard deductions	9,481
State taxable income	128,119
State tax:	
State taxable income is in the bracket 104,000 - 163,000 FIM.	
Then the state tax is calculated this way:	10.000
Fixed amount:	10,060 6,512
State tax	16,572
Local Government taxable income:	
1. Calculation of 'low income deduction'	
Gross wage income	137,600
Work related expenses	1,500
Basis for calculation of deduction	136,100
Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The deduction is reduced with 5 per cent of the income above 80,000 FIM.	
The reduction is $0.05 \times (136,100 - 80,000) = 2,805$ FIM.	
The deduction is:	
Full deduction	2,000
- reduction	2,805
· · · · · · · · · · · · · · · · · · ·	

### 2. Calculation of Local Government taxable income:

State taxable income	128,119 0
Local Government taxable income	128,119
Local tax:	
Average Local Government plus church tax rate: 18.84	
Local tax: 0.1884 x (128,119)	24,138
Social contributions:	-
Contributions for illness: 1.9 per cent (+ 1.45 per cent for income above 80,000 FIM).	
0.019 x (80,000) = 0.0335 x (128,119 - 80,000) = + Soc. contr. unemployment	1,520 1,612 2,064
+ Soc. contr. occupational pension	5,917
All social contributions	11,113
Tax and social contributions:	
State tax	16,572
Local tax	24,138
Social contributions	11,113
Tax and social contributions	51,823

### Documentation of APW calculations for Germany, 1996

Single APW: The German Ministry of Finance has provided the information on the 1996 gross wage level.

	1996 Insured ¹⁾
 Gross wage	57,579 DEM
Tax and social security ²⁾	24,087 DEM
Disposable income	33,492 DEM

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

	1996 Insured ¹⁾
Gross wage	86,369 DEM
Tax and social security	32,626 DEM
Disposable income	53,743 DEM

1) Unemployment insurance is mandatory in Germany.

2) Cf. the annex for a documentation. The standard deduction has been applied instead of church tax paid.

#### 'Standard' income events

### 1. Ill for one week. Single APW

Nearly all employees in Germany receive their usual wages for the first 6 weeks of illness in 1996.

For those (few) not eligible for wages, the compensation from the insurance scheme is 80 per cent of the gross wage, with a maximum limit equal to the net wage (disposable income). At APW level, there is *no change* in disp. income in 1996.

### 2. Unemployed for 3 months during the year, insured. Single APW

The gross wage is reduced by 1/4, i.e. 14,395 DEM. 3 months compensation equals 60 per cent of the lost net wage for the single APW with no children. The compensation is 4,890.60 DEM.

The net compensation percentage is, as mentioned, 60, cf. also case 3. It should be noted, that the compensation is non-taxable income, but it has the effect, that

the remaining income is taxed harder via the 'Progressionsvorbehalt'. With 3 months of unemployment the disposable income of the APW is 31,223 DEM. The *decrease* in disposable income compared to the situation with no unemployment is 33,492 - 31,223 = 2,269 DEM or 6.8 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 60 per cent of the lost net income for the single APW with no children, in this case 4 times the level from case 2, i.e.  $4 \times 4,890.60 = 19,562.40$  DEM.

The *net compensation percentage* is, as mentioned, 60. The compensation is non-taxable income. The disposable income is 19,562.40 DEM, when the APW is unemployed for the whole year.

The *decrease* in disposable income compared to the situation with no unemployment is 33,492 - 19,562 = 13,930 DEM or 41.6 per cent.

## 4. Unemployed for 3 months during the year, not eligible for insurance. Single APW

The gross wage is reduced by 14,395 DEM as in case 2. Compensation for 3 months unemployment is 53 per cent of the lost net wages for the APW without children. The compensation is 4,321.20 DEM.

The *net compensation percentage* is, as mentioned, 53, cf. also case 5. The compensation is non-taxable income, but the remaining income is taxed harder via the 'Progressionsvorbehalt'. With 3 months of this kind of compensation the disposable income of the APW is 30,707 DEM.

The *decrease* in disposable income compared to the situation with no unemployment is 33,492 - 30,707 = 2,785 DEM or 8.3 per cent.

The usual sequence will be the following: When the APW becomes unemployed he or she will first receive the insurance compensation and then (after e.g. one year) the lower compensation. Finally the APW again enters occupation.

The case covered here is then the last part of the sequence and will not be an alternative to the insurance compensation from the first part. There will, however, also be situations where employees are not eligible for insurance in the first place, and they will then receive the lower compensation in stead.

### 5. Unemployed for the whole year, not eligible for insurance. Single APW

There is no gross wage. The compensation is 53 per cent of the lost net income for the single APW with no children, in this case 4 times the level from case 4, i.e.  $4 \times 4{,}321.20$  DEM =  $17{,}284.80$  DEM.

The *net compensation percentage* is, as mentioned, 53. The compensation is non-taxable income. The disposable income is 17,284.80 DEM, when the APW is unemployed for the whole year on these conditions.

The *decrease* in disposable income compared to the situation with no unemployment is 33,492 - 17,285 = 16,207 DEM or 48.4 per cent.

### 6. Wife unemployed for the whole year, insured. APW-couple, no children.

There is no gross wage for the wife. The compensation is 60 per cent of the lost net income for the employee, when there are no children in the family. The compensation is 8,486 DEM.

The *net compensation percentage* is, as mentioned 60, cf. also case 3. The compensation is non-taxable income. The disposable income is 47,056 DEM for the couple, when the wife is unemployed for the whole year.

The *decrease* in disposable income compared to the situation with no unemployment is 53,743 - 47,056 = 6,687 DEM or 12.4 per cent.

### 7. Injured from work. Single APW

Compensation for injuries from work is investigated in two cases, one where the working capability is completely lost, and one where 1/3 of the working capability is lost.

### 1. Working capability completely lost

There is no gross wage. The compensation is 2/3 of the former gross wage, that is 38,386 DEM in this case.

The gross compensation percentage is then 66.67. The compensation is non-taxable income. The disposable income is then 38,386 DEM.

The *increase* in disposable income compared to the situation without injuries is 38,386 - 33,492 = 4,894 DEM or 14.6 per cent.

#### 2. Loss of 1/3 of the working capability

The gross wage is reduced by 1/3, i.e. 19,193 DEM. The compensation in this case is 1/3 of that in the former case, that is 12,795 DEM.

The gross compensation percentage is again 66.67. The disposable income of the APW losing 1/3 of his or her working capability is 37,380 DEM.

The *increase* in disposable income compared to the situation with no injuries is 37,380 - 33,492 = 3,888 DEM or 11.6 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

In Germany, there is no pension based upon age alone, neither is there any number of years giving right to a 'full' pension (in Sweden e.g. 30 years give that right). Some assumptions have to be made. It is assumed, that the former occupation (including education) has lasted for 45 years, and that the 'personal income factor' is 107.95 (and has been that for all the years). On these assumptions the

pension in 1996 is 27,077 DEM. The German pensioner has to pay for health and care insurance, half premium, i.e. 7.325 per cent of the pension, that is 1,983 DEM.

The pension is only 'partly' taxed. Retiring at the age of 65 years, 27 per cent of the pension is taxable, after deduction of health and care insurance payment. In this case the taxable pension is lower than the minimum pension for which taxes are paid, and no tax has to be paid.

Disposable income for the pensioner is 27,077 - 1,983 = 25,094 DEM.

The net compensation percentage is  $25,094 / 33,492 \times 100 = 74.9$ .

The *decrease* in disposable income for the APW retiring at the age of 65 years is 25.1 per cent.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

As already mentioned, there is no pension alone based upon age in Germany. For persons without former occupation there is no pension. This is, of course, an extreme situation, but it reflects the substantial factual difference between pensions for men and women in Germany.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old

It is assumed, that the wife and husband have gained pension rights for 45 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time. That has the implication, that she will receive half the pension of her husband, i.e. 13,539 DEM. On these assumptions the combined pension for the couple will be 40,616 DEM in 1996. The contribution to health and care insurance will be 7.15 per cent of the pension, i.e. 2,975 DEM.

The pension is only 'partly' taxed. Retiring at the age af 65 years, 27 per cent of the pension is taxable, after deduction of health and care insurance payment. In this case the taxable pension is lower than the minimum pension for which taxes are paid, and no tax has to be paid.

Disposable income for the pensioner couple is 40,616 - 2,975 = 37,641 DEM. The *net compensation percentage* is  $37,641/53,743 \times 100 = 70.0$ .

The *decrease* in disposable income for the APW-couple retiring when both are 65 years is 30.0 per cent.

#### 'Standard' income events in connection with children

### 1-3. The couple has 1, 2 or 3 children

In Germany there is a tax credit (refundable) for each child, or a tax deduction (deduction in taxable income).

For the 1st child (6 years old) the tax credit is 2,400 DEM and the deduction in taxable income is 6,264 DEM (for each child). The family gets what is most advantageous.

Taxes for the couple without children are 14,100 DEM (before sol. tax). For the couple with one child they are 12,222 DEM (before sol. tax) when the deduction is applied. The difference is 1,878 DEM, which is less than the tax credit.

The *increase* in disposable income compared to the situation without children, where the disposable income is 53,743 DEM, is 2,400 + 141 = 2,541 DEM (141 is a reduction in the sol.tax) or 4.7 per cent, when there is 1 child (6 years old). For *the 2nd child* (3 years old) the tax credit is also 2,400 DEM.

Taxes for the couple without children are 14,100 DEM (before sol.tax). For the couple with two children they are 10,378 (before sol. tax) when the deduction is applied. The difference is 3,722 DEM, which is less than the tax credit of 4,800 DEM.

The *increase* in disposable income compared to the situation without children, where the disposable income is 53,743 DEM, is 4,800 + 280 = 5,080 DEM (280 is a reduction in the sol. tax) or 9.5 per cent, when there are 2 children (6 and 3 years old).

For the 3rd child (1 year old) the tax credit is 3,600 DEM.

Taxes for the couple without children are 14,100 DEM (before sol. tax). For the couple with three children they are 8,568 (before sol. tax) when the deduction is applied. The difference is 5,532 DEM, which is less than the tax credit of 8,400 DEM.

The *increase* in disposable income compared to the situation with no children, where the disposable income is 53,743 DEM, is 8,400 + 415 = 8,915 DEM (415 is a reduction in the sol. tax) or 16.6 per cent, when there are 3 children (6, 3 and 1 year old).

### 4. The couple gets the second child and has 2 children

The 'timing' problems are the same as mentioned in the documentation for Denmark.

Germany has the shortest *ordinary* maternity leave, 14 weeks for the wife, of the 7 countries studied.

This period has been used as the *common* period of maternity leave, for Germany it is also the *maximum duration*.

The wife loses 14/52 of her gross wage, i.e. 7,751 DEM.

The net compensation percentage is 100 and the disposable income is approx. unchanged compared to the situation with no maternity leave.

In Germany it is possible to receive 'erziehungsgeld' for up to 2 years for children born in 1996. The benefit is 600 DEM per month to the mother or the father. The benefit is means tested after six months according to former income, for high income earners the means testing will start immediately. This new rule was imple-

mented from January 1994. It is a condition, that the recipient does not work, or as a maximum has part time work.

### Annex

### Tax and social contribution calculation for single APW, 1996. DEM

Gross wage income	57,579
Social contributions: 20.225 per cent of gross wage income	11,645
Deductions: Social contributions	
1ST STEP:  Default	6,800
Deduction 1st step	9,213
Deduction 1st step	. 0
2ND STEP: Social contributions	11,645
- Deduction 1st step	0
Basis for deduction 2nd step	11,645
Deduction 2nd step: basis	11,645
Max. deduction 2nd step	2,610
3RD STEP: Social contributions	11,645
- Deduction 1st and 2nd step	2,610
Basis for deduction 3rd step	9,035
Deduction 3rd step: 50 per cent of basis	4,518 1,305
Deduction for social contributions: 2,610 + 1,305	3,915
Workrelated deduction (standard)	2,000
Total deductions	108
Total deductions	6,023
Taxable income:	
Gross wage	57,579 6,023
Taxable income (unrounded)	51,556
Taxable income (rounded)	51,516
Taxes:	
(Application of the formula)	
x - 12,042	
$x = Taxable income, y = {10,000} = 3.9474$	
Tax: (86.63 * y + 2,590) * y	11,574
Tax and social contributions:	
Tax	11,574
Solidarity tax (7.5 per cent of tax)	868
Social contributions	11,645
Tax, solidarity tax and social contributions	24,087



### Documentation of APW calculations for Great Britain, 1996

Single APW: The wage income is the provisional figure for 1996 from Inland Revenue.

	1996 Insured ¹⁾
Gross wage	15,960 GBP
Tax and social security ²⁾	4,113 GBP
Disposable income	11,847 GBP

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

	1996 Insured ¹⁾
Gross wage	23,940 GBP
Tax and social security	5,245 GBP
Disposable income	18,695 GBP

¹⁾ Unemployment insurance is mandatory in Great Britain.

The benefit rates are usually changed around April 1st in Great Britain. That means, that weighted average rates should be used for calculations covering the calendar year. An alternative interpretation is that the year for Britain runs from the second quarter this year to the second quarter next year. It is this alternative interpretation which has been applied in the calculations presented in the following, and this is also how the APW calculations for Britain are made in OECD's publication 'The Tax/Benefit Position of Production Workers'. When the wage level projection is performed it is the development in the average wage level for the second quarter 1995 until the second quarter 1996 to the estimated average wage level for the second quarter 1996 until the second quarter 1997 which is used.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, that is by 307 GBP. The maximum rate for compensation for illness in one week is 54.55 GBP (the rate for Statuary Sick Pay, SSP, in 1996 for weekly gross wages above 61 GBP. SSP can be paid for

²⁾ Cf. the annex for a documentation.

max. 28 weeks). The working week is 5 days and there is a waiting period of 3 days during the first week of illness. The compensation for the first week of illness will then be 21.82 GBP (2/5 x 54.55).

The employer can pay Occupational Sick Pay (OSP) as a supplement, cf. later. The gross compensation percentage is  $21.82 / 307 \times 100 = 7.1$ . The disposable income of the APW is 11,657 GBP, when he or she is ill for one week during 1996.

The *decrease* in disposable income compared to the situation without illness is 11,847 - 11,657 = 190 GBP or 1.6 per cent.

Many British workers receive a supplement (OSP) to the SSP-benefit, when they are ill. The variation in OSP-payments is considerable (it is a labour market agreement). A *net compensation percentage* of 80 is quite usual. For that coverage the *decrease* in disposable income is appr. 0.4 per cent.

### 2. Unemployed for 3 months during the year, insured. Single APW

The gross wage is reduced by 1/4, that is by 3,990 GBP. The compensation is 48.25 GBP a week and is paid for 6 days a week. There is a waiting period of 3 days during the first week. Compensation for 13 weeks (3 months) is 13 x 48.25 - 0.5 x 48.25 = 603.12 GBP.

The gross compensation percentage is  $603.12 / 3,990 \times 100 = 15.1$ . The disposable income of the APW is 9,608 GBP, when he or she is unemployed for 3 months during 1996.

The *decrease* in disposable income compared to the situation without unemployment is 11,847 - 9,608 = 2,239 GBP or 18.9 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $52 \times 48.25 - 0.5 \times 48.25 = 2,484.87$  GBP (eligibility for U.B. for the whole of 1996 is assumed).

The gross compensation percentage is  $2,484.87 / 15,960 \times 100 = 15.6$ . The disposable income of the APW is 2,485 GBP, when he or she is unemployed for the whole of 1996.

The *decrease* in disposable income compared to the situation with no unemployment is 11,847 - 2,485 = 9,362 GBP or 79.0 per cent. The insurance benefit can be supplemented with other benefits, e.g. compensation for housing expenditures.

## 4. Unemployed for 3 months during the year, not eligible for unemployment insurance. Single APW.

The reduction in gross wage is 3,990 GBP as in case 2. The compensation is calculated for a person 25 (or more) years old. The rate is 47.90 GBP a week (waiting period of 3 days during the first week). Compensation for 13 weeks (3 months) is  $13 \times 47.90 - 0.5 \times 47.90 = 598.75$  GBP.

The gross compensation percentage is  $598.75 / 3,990 \times 100 = 15.0$ . The disposable income of the APW is 9,605 GBP, when he or she is unemployed for 3 months during 1996.

The *decrease* in disposable income compared to the case with no unemployment is 11,847 - 9,605 = 2,242 GBP or 18.9 per cent.

## 5. Unemployed for the whole year, not eligible for unemployment insurance. Single APW

There is no gross wage. The compensation is  $52 \times 47.90 - 0.5 \times 47.90 = 2,466.85$  GBP.

The gross compensation percentage is  $2,466.85 / 15,960 \times 100 = 15.5$ . The disposable income is 2,467 GBP in this situation.

The *decrease* in disposable income compared to the situation without unemployment is 11,847 - 2,467 = 9,380 GBP or 79.2 per cent. It is possible to supplement e.g. with compensation for housing expenditures.

### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is  $52 \times 48.25 - 0.5 \times 48.25 = 2,484.88 \text{ GBP}$ .

The gross compensation percentage is  $2,484.88 / 7,980 \times 100 = 31.1$ . The disposable income of the APW-couple is 14,600 GBP, when the wife is unemployed for the whole year in 1996 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 18,695 - 14,600 = 4,095 GBP or 21.9 per cent.

#### 7. Injured from work. Single APW

Transfer payments caused by injuries from work are investigated in two cases, one where the working capability is completely lost and one where 1/3 of the working capability is lost.

### 1. Working capability completely lost

There is no gross wage. The compensation is 99.00 GBP a week or 5,148 GBP a year.

The gross compensation percentage is  $5,148 / 15,960 \times 100 = 32.3$ . The disposable income for an APW losing the working capability completely is 5,148 GBP, the benefit is tax free.

The *decrease* in disposable income compared to the initial position is 11,847 - 5,148 = 6,699 GBP or 56.5 per cent.

#### 2. Loss of 1/3 of the working capability

The gross wage is reduced by 1/3, i.e. 5,320 GBP. The compensation is 29.70 GBP a week or  $52 \times 29.70 = 1,544.40$  GBP a year, tax free

The gross compensation percentage is 1,544.40 / 5,320 x 100 = 29.0. The disposable income for an APW losing 1/3 of the working capability is 9,880 GBP.

The *decrease* in disposable income compared to the initial position is 11,847 - 9,880 = 1,967 GBP or 16.6 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The public pension consists of 3 components:

- a) A 'flat rate' pension of 61.15 GBP a week.
- b) A 'graduated pension', based upon a savings arrangement in existence from 1961 to 1975. The pension for a typical worker in manufacturing was 5.40 GBP a week in April 1996. (Information from the Department of Social Security).
- c) A SERPS pension introduced in 1978. According to estimates from the Department of Social Security, SERPS for the APW was 60.42 GBP a week, in 1996.

The pension after the maximum period of former occupation is:

	Week	Yea	
	GBP	GBP	
Flat rate	61.15	3,179.80	
Graduated pension	5.40	280.80	
Serps pension	60.42	3,141.84	
Total	126.97	6,602.44	

The disposable income for the APW-pensioner is 6,264 GBP.

The net compensation percentage is  $6,264 / 11,847 \times 100 = 52.9$ .

The decrease in disposable income is 47.1 per cent by retirement.

## 9. Pensioner without former occupation. Single APW 'Retirement' at 'usual' age, here 60 years

A pensioner without former occupation can receive either a survivor's pension, which e.g. the wife can obtain via her deceased husband's contribution to SERPS and graduated pension or a basic pension of 36.60 GBP a week. In this calculation the basic pension is used, it is 1,903.20 GBP a year.

The 'net compensation percentage' relative to the APW is  $1,903 / 11,847 \times 100 = 16.1$ .

The 'decrease' in disposable income, relative to the APW, is 83.9 per cent by 'retirement'. It is possible to supplement with 'income support'.

10. Pensioners with maximum period of former occupation. APW-couple

The two pensioners have the same age, the wife retired in 1991 at the age of 60 years, the husband in 1996 at the age of 65 years.

The husband is 'identical' to the single pensioner in case 8. Based upon information and estimates from the Department of Social Security the wife (and the couple) has the following pensions in 1996.

	Wife Liveband		Counto	Counts
	Wife Week GBP	Husband Week GBP	Couple Week GBP	Couple Year GBP
Flat rate	61.15	61.15	122.30	6,359.60
Graduated pension	1.35	5.40	6.75	351.00
Serps pension	15.78	60.42	76.20	3,962.40
Total	78.28	126.97	205.25	10,673.00

The disposable income for the APW-couple is 10,673 GBP.

The net compensation percentage is  $10,673 / 18.695 \times 100 = 57.1$ .

The decrease in disposable income compared to the APW-couple is 42.9 per cent.

#### 'Standard' income events in connection with children

### 1-3. The couple has 1, 2 or 3 children

The family allowance is 10.80 GBP a week for the first child and 8.80 GBP for each of the following children.

Child no 1 (6 years old). The family allowance is 10.80 GBP a week or 10.80 x 52 = 561.60 GBP a year. Compared to the situation without children the *increase* in disposable income is  $561.60 / 18,695 \times 100 = 3.0$  per cent, when the family has 1 child (6 years old).

Child no 2 (3 years old). The family allowance is  $8.80 \times 52 = 457.60 \text{ GBP}$  a year for this child. Compared to the situation without children the *increase* in disposable income is  $(561.60 + 457.60) / 18,695 \times 100 = 5.5$  per cent, when the family has 2 children (6 and 3 years old).

Child no 3 (1 year old). The family allowance is the same as for child no. 2, i.e. 457.60 GBP a year. Compared to the situation without children the *increase* in disposable income is  $(561.60 + 457.60 + 457.60) / 18,695 \times 100 = 7.9$  per cent, when the family has 3 children (6, 3 and 1 year old).

### 4. The couple gets the second child and has 2 children

The 'timing-problem' is the same as mentioned in the documentation for Denmark.

1. In Great Britain the husband has no maternity leave. Women have a possibility of 18 weeks of maternity leave. The compensation during maternity leave is 90 per cent of the weekly wage for the first 6 weeks and after this a Maternity Allowance the following 12 weeks.

The wife has a gross wage reduction of 18/52, that is 2,762 GBP. In compensation she receives:

The first 6 weeks: 6/52 of the gross wage x .9 = 829 GBP.

The last 12 weeks:

In this period the compensation is 54.55 GBP a week, in total 655 GBP.

The compensation for the whole period is 1,484 GBP.

The gross compensation percentage is  $1,484 / 2,762 \times 100 = 53.7$ . Eighteen weeks of maternity leave during 1996 results in a disposable income of 18,894 GBP for the couple including allowance for 2 children (1 child 3 years of age and 1 born in 1996).

The *decrease* in disposable income compared to the situation where the couple has 2 children (3 and 1 year) is 19,714 - 18,894 = 820 GBP or 4.2 per cent. The calculation reflects the maximum duration of the compensation.

2. In the alternative calculation the length of the maternity leave is 14 weeks for the wife alone, this period is used for all countries in the alternative calculation.

The gross wage of the *wife* is reduced by 14/52, that is 2,148 GBP. She receives (829 + 436) = 1,265 GBP in compensation.

The gross compensation percentage is  $1,265 / 2,148 \times 100 = 58.9$ . The disposable income is 19,168 GBP for the couple when the wife has 14 weeks of maternity leave.

The *decrease* in disposable income compared to the situation, where the couple has 2 children is 19,714 - 19,168 = 546 GBP or 2.8 per cent.

### Annex

### Tax and social contribution calculation for single APW, 1996. GBP

Taxable income:	
Gross wage income	15,960
- Standard allowance	3,765
Taxable income	12,195
Тах:	
20 per cent of 3,900 GBP	780
24 per cent of (12,195 - 3,900)	1,991
Total tax	2,771
Social contributions:	
2 per cent of 61 GBP/week in 52 weeks	63
10 per cent of (15,960 / 52 - 61) GBP/week in 52 weeks	1,279
Total social contributions	1,342
Tax and social contributions:	
Tax	2,771
Social contributions	1,342
Tax and social contributions	4,113



# Documentation of APW calculations for the Netherlands, 1996

Single APW: In concontrib

In connection with the Dutch tax reform in 1990 some of the social contributions for general social security, which until then had been paid by the employer, were 'transferred' to the wage earner. As compensation the employer pays a 'Compensation Allowance' or 'Transfer Allowance' to the employees. This 'Allowance' is taxable income for the wage earner. The basis for the calculation of this 'Allowance' is the gross wage plus the employers contribution to health insurance, minus the wage earners deductible social contribution and expenditures connected to the acquisition of income. The 'compensation' rate was 10.4 per cent in 1990, 11 per cent in 1991, 11.5 per cent in 1992, 11.4 per cent in 1993, 11.6 per cent in 1994, 11.75 per cent in 1995, and 10 per cent in 1996. The system is briefly described in OECD's 'The Tax/Benefit Position of Production Workers 1987-90', section IV, on the Netherlands.

The Dutch Ministry of Social Affairs and Employment has provided information on the 1996 wage level.

		1996 Insured ¹⁾
Gross wage incl. com	pensation allowance	57,215 NLG
Of this:	•	
Compensation allowa	nce abbreviated C.A.	4,853 NLG
Gross wage excl. of 0	C.A.	52,362 NLG
Tax and social securi	ty ²⁾	22,769 NLG
Disposable income		34,446 NLG

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

	1996 Insured ¹⁾
 Gross wage incl. C.A.	85,843 NLG
C.A.	7,300 NLG
Gross wage excl. of C.A.	78,543 NLG
Tax and social security	32,000 NLG
Disposable income	53,843 NLG

¹⁾ Unemployment insurance is mandatory in the Netherlands.

²⁾ Cf. the annex for a documentation.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage excl. of C.A. is reduced by 1/52, that is by 1006.96 NLG. Calculated per day (5 days in a week) the reduction is 201.39 NLG. Compensation for illness is 70 per cent of the daily gross wage. There is a waiting period of 2 days. Compensation for 1 week of illness is  $201.39 \times 3 \times 0.7 = 422.92$  NLG.

The gross compensation percentage is  $422.92 / 1006.96 \times 100 = 42$ . The disposable income of the APW is 34,164 NLG, when he or she is ill for one week during 1996.

The *decrease* in disposable income compared to the case with no illness is 34,446 - 34,164 = 282 NLG or 0.8 per cent.

In the Netherlands it is usual that the employer pays full wage during up to 1 year of illness, also covering the waiting period of 2 days.

### 2. Unemployed for 3 months during the year, insured. Single APW

The gross wage excl. of C.A. is reduced by 1/4, that is by 13,090.50 NLG. The compensation is 70 per cent of the gross wage, that is 9.163,35 NLG.

The gross compensation percentage is therefore 70. The disposable income of the APW is 32,332 NLG when he or she is unemployed for 3 months during 1996. The decrease in disposable income compared to the case with no unemployment is 34,446 - 32,332 = 2,114 NLG or 6.1 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 70 per cent of the lost income, i.e. 36,653 NLG.

The gross compensation percentage is therefore 70. The disposable income is 25,123 NLG, when he or she is unemployed for the whole of 1996.

The *decrease* in disposable income compared to the situation without unemployment is 34,446 - 25,123 = 9,323 NLG or 27.1 per cent.

## 4. Unemployed for 3 months during the year, not eligible for insurance. Single APW

The reduction in gross wage is 13,090.50 NLG as in case 2. The compensation used here is in the form of social assistance. The rate used is that for a single person (over 23 years old) living alone, that is 16,337.54 NLG per year incl. holiday pay and after tax has been paid (the received amount can be looked upon as non-taxable). Social assistance for 3 months is 4,084.39 NLG.

The gross compensation percentage is  $4,084.39 / 13,090.50 \times 100 = 31$ . The disposable income of the APW is 31,111 NLG when he or she is unemployed for 3 months and the compensation is social assistance.

The *decrease* in disposable income compared to the case with no unemployment is 34,446 - 31,111 = 3,335 NLG or 9.7 per cent.

If the compensation alternatively had been that from the 3rd step of the unemployment insurance system, the rate would have been 70 per cent of the minimum wage (annual gross rate).

### 5. Unemployed for the whole year, not eligible for insurance. Single APW

There is no gross wage. The compensation used here is in the form of social assistance, the same rate as in case 4, i.e. 16,337.54 NLG per year, after tax.

The gross compensation percentage is  $16,337.54 / 52,362 \times 100 = 31$ . The disposable income of the APW is 16,337.54 NLG when he or she is unemployed for the whole of 1996 and the compensation is social assistance.

The *decrease* in disposable income compared to the situation with no unemployment is 34,446 - 16,338 = 18,108 NLG or 52.6 per cent.

If the compensation alternatively had been that from the 3rd step of the unemployment insurance system, the rate would have been 70 per cent of the minimum wage (annual gross rate).

### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 70 per cent of the lost income, i.e. 18,327.55 NLG.

The gross compensation percentage is therefore 70. The disposable income of the APW-couple is 48,529 NLG, when the wife is unemployed for the whole year in 1996 and usually is working part time.

The *decrease* in disposable income compared to the situation without unemployment is 53,843 - 48,529 = 5,314 NLG or 9.9 per cent.

### 7. Injured from work. Single APW

Transfer payments caused by injuries from work are investigated in two cases, one where the working capability is completely lost and one where 1/3 of the working capability is lost.

#### 1. Working capability completely lost

There is no gross wage. The compensation is 70 per cent of the lost gross wage excl. of C.A., that is  $52,362 \times 0.7 = 36,653$  NLG.

The gross compensation percentage is therefore 70. The disposable income for an APW losing the working capability is 25,123 NLG.

The *decrease* in disposable income compared to the initial position is 34,446 - 25,123 = 9,323 NLG or 27.1 per cent, exactly as in case 3.

### 2. Loss of 1/3 of the working capability

The gross wage excl. of C.A. is reduced by 1/3, that is by 17,454 NLG. The compensation in this case is 21 per cent of the total gross wage (excl. of C.A.), it is 10,996 NLG.

The gross compensation percentage is  $10,996 / 17,454 \times 100 = 63$ . The disposable income with compensation for loss of  $\frac{1}{3}$  of his or her working capability is 30,890 NLG.

The *decrease* in disposable income compared to the initial position is 34,446 - 30,890 = 3,556 NLG or 10.3 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

In the Netherlands public pension is not conditional on preceding occupation, as it is in Germany and partly in Great Britain, Sweden, Finland, Canada and Denmark. The pension in 1996 is 18,766 NLG. The disposable income is 16,295 NLG.

The net compensation percentage is  $16,295 / 34,446 \times 100 = 47.3$ .

The decrease in disposable income is 52.7 per cent by retirement.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here at 65 years

As mentioned, the public pension is not conditional on preceding occupation, so there is not any difference between this case and the former one.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old

The pension to a pensioner living alone, cf. case 8 and 9, is 18,766 NLG in 1996. For a couple (both pensioners) each pensioner will receive 13,049 NLG. The combined gross pension for the couple is 26,098 NLG. The disposable income is 23,376 NLG.

The net compensation percentage is 23,376 / 53,843 = 43.4.

The decrease in disposable income is 56.6 per cent when the APW-couple retires.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

1 child. (6 years old). The family allowance is 1,419 NLG.

Compared to the initial position the *increase* in disposable income is  $1,419 / 53,843 \times 100 = 2.6$  per cent, when the family has 1 child (6 years old).

2 children. (6 and 3 years old). The family allowance for 2 children is 3,010 NLG. Compared to the initial position the *increase* is  $3,010 / 53,843 \times 100 = 5.6$  per cent, when the family has 2 children (6 and 3 years old).

3 children. (6. 3 and 1 year old). The family allowance for 3 children is 4,320 NLG. Compared to the initial position the *increase* is  $4,320 / 53,843 \times 100 = 8.0$  per cent, when the family has 3 children (6, 3 and 1 year old).

### 4. The couple gets child no. 2 and has 2 children

In the Netherlands the wife receives compensation for lost wages for 16 weeks in connection with birth. In the Netherlands the compensation is 100 per cent, so there is not any change in disposable income - whether it is *max. duration* or *common* duration for the maternity leave.

### Annex

### Tax and social contribution calculation for single APW, 1996. NLG

1.	Gross wage income:	52,362
Soc	cial contributions and compensation allowance:	
2.	ZFW, 1.65 per cent of 51,090	843
3.	ZW/WW, 3.78 per cent of 52,362	1,979
4.	WAO, 7.95 per cent of (52,362 - 26,200)	2,080
5.	ZFW (employer) 5.35 per cent of 51,090	2,733
6.	1 – 3 – 4 + 5	51,036
7.	Standard deduction, work related. Max	2,507
8.	6 – 7, basis for compensation allowance	48,529
9.	Compensation allowance, 10 per cent of 8	4,853
Тах	able income:	***************************************
10.	6 + 9	55,889
11.	Standard deduction, work related. Max	2,507
12.	Basic allowance	7,003
13.	10 – 11 – 12, taxable income	46,379
Тах	es and social contributions:	
14.	1st slice, 37.50 per cent of 45,325	16,997
	2nd slice, 50 per cent of (46,379 - 45,325)	527
	Nominal ZFW	343
	2 + 3 + 4, other social contributions	4,902
18.	14 + 15 + 16 + 17, tax and social contributions	22,769

### Documentation of APW calculations for Canada, 1996

Single APW: The gross wage of the APW (or AE) in 1996 is estimated to 35,000 CAD.

		1996 Insured ⁱ⁾
<u> </u>	Gross wage	35,000 CAD
	Tax and social security contribution ²⁾	9,886 CAD
	Disposable income	25,114 CAD

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that income. The couple has no children.

		1996 Insured ¹⁾
·	Gross wage	52,500 CAD 13,534 CAD
	Tax and social security contribution  Disposable income	38,966 CAD

¹⁾ Unemployment insurance is mandatory in Canada.

### 'Standard' income events

### 1. Ill for one week during the year. Single APW

The gross wage is reduced by 1/52, i.e. 673 CAD. The compensation is 55 per cent of the lost income, but with a waiting period of 2 weeks in the scheme there is no compensation. The rules are the same as in the 'Employment Insurance' scheme. Maximum insurable earnings are 39,000 CAD in 1996.

The gross compensation percentage is 0. The disposable income of the APW who is ill for one week is 24,748 CAD in 1996.

The *decrease* in disposable income compared to the situation with no illness is 25,114 - 24,748 = 366 CAD or 1.5 per cent.

There are no general labour market agreements to cover in case of illness, but there are supplementary benefits from some large corporations.

²⁾ Cf. the annex for a documentation.

### 2. Unemployed for 3 months during the year, insured. Single APW

The gross wage of the insured APW is reduced by 1/4, i.e. 8,750 CAD. The compensation is 55 per cent of the lost income according to the 'Employment Insurance' scheme. For 13 weeks with a waiting period of 2 weeks the compensation is 11/13 * 0.55 * 8,750 = 4,072 CAD. Maximum insurable earnings are 39,000 CAD in 1996.

The gross compensation percentage is 4,072/8,750 = 46.5. The disposable income of the APW with 25 per cent unemployment is 22,739 CAD in 1996.

The *decrease* in disposable income compared to the situation with no unemployment is 25,114 - 22,739 = 2,375 CAD or 9.5 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The maximum benefit period is 45 weeks (varies across the provinces according to the unemployment level). The compensation is 55 per cent of the lost income in 45 weeks, i.e. 45/52 * 0.55 * 35,000 = 16,659 CAD. There are first 2 weeks (waiting period) with no compensation, then 45 weeks with compensation from the 'Employment Insurance' scheme, and in the end 5 weeks with social assistance. Social assistance is 195 CAD/month (rate for the province of Ontario) for a single person (not including housing coverage), i.e. 225 CAD for 5 weeks. Social assistance (S.A.) is not taxable (this is the case in all provinces except Quebec). The total compensation is 16,659 CAD from the employment insurance and 225 CAD from S.A., in total 16,884 CAD.

The gross compensation percentage is 16,884/35,000 = 48. The disposable income of the APW who is unemployed for the whole year is 14,127 CAD in 1996.

The *decrease* in disposable income compared to the situation with no unemployment is 25,114 - 14,127 = 10,987 CAD or 43.7 per cent.

# 4. Unemployed for 3 months during the year, not eligible for insurance. Single APW

The reduction of the gross wage is 8,750 CAD just as in case 2 (3 months of unemployment). It is assumed that the unemployed receives social assistance during the unemployment period.

The monthly rate for a single person is 195 CAD (cf. also case 3), i.e. 585 CAD in compensation for three months (housing allowances are not included).

The gross compensation percentage is 585/8,750 = 7. Disposable for an APW with 3 months of unemployment receiving social assistance is 20,455 CAD.

The *decrease* in disposable income compared to the situation with no unemployment is 25,114 - 20,455 = 4,659 CAD or 18.6 per cent.

### 5. Unemployed for the whole year, not eligible for insurance. Single APW

There is no gross wage. The compensation is 12 * 195 = 2,340 CAD on the assumption that the unemployed single person receives social assistance during the unemployment period.

The gross compensation percentage is 2,340/35,000 = 7. Social assistance is not taxable so the disposable income is 2,340 CAD (excluding housing allowances). The decrease in disposable income compared to the situation with no unemployment is 25,114 - 2,340 = 22,744 or 90.7 per cent.

The single unemployed recipient of social assistance would also be eligible for a (non taxable) housing allowance of 325 CAD/month. The personal as well as the housing allowance increase with family size. A couple (no children) receives 390 CAD/month in personal allowances and 511 CAD/month in housing allowance.

### 6. Wife unemployed for the whole year, insured. APW couple

There is no gross wage for the wife. The maximum benefit period for a person working part time (here 50 per cent) is 39 weeks (varies across the provinces according to the unemployment level). The compensation is 55 per cent of the lost income in 39 weeks, i.e. 39/52 * 0.55 * 17,500 = 7,219 CAD. There are first 2 weeks (waiting period) with no compensation, then 39 weeks with compensation from the 'Employment Insurance'. There is no compensation from social assistance for the remaining time (11 weeks), because it is means tested to 0 against the husband's income from work. Total compensation is 7,219 CAD.

The gross compensation percentage is 7,219/17,500 = 41. The disposable income for the APW-couple is 32,128 CAD, when the wife is unemployed for the whole year in 1996 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 38,966 - 32,128 = 6,838 CAD or 17.5 per cent.

### 7. Injured from work. Single APW

The effects of injuries from work are studied in two cases. In the first there is a complete loss of working capability. In the second the working capability is reduced by 33.3 per cent. Only current benefits are concidered. The Canadian cases are based on the legislation for the Ontario Province.

### 1. Working capability completely lost

There is no gross wage. The compensation is 90 per cent of the lost income after tax and social contributions up to a ceiling, which in 1996 corresponds to a gross wage of 55,600 CAD. The compensation (in Ontario) is .9*25,114 = 22,603 CAD which is also the disposable income.

The net compensation percentage is thus 90.

The *decrease* in disposable income is 25,114-22,603 = 2,511 CAD or 10.0 per cent compared to the situation with no injuries.

### 2. Loss of 1/3 of the working capability

The gross wage is reduced by 1/3, i.e. 11,667 CAD. The compensation would be approx. 1/3 of that in case 7.1, i.e. 7,534 CAD.

The *net compensation percentage* is thus 90. The disposable income is 25,398 CAD in case of loss of 1/3 of the working capability (disregarding lump sum payments).

The *increase* in disposable income is 25,398-25,114 = 284 CAD or 1.1 per cent compared to the situation with no injuries. The positive effect is because of the progression in the Canadian tax scheme.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The public pension for the former APW consists of 3 components, the Old Age Security Pension (OAS), which in 1996 was 4,764 CAD (annual basis), the Guaranteed Income Supplement (GIS), which in 1996 was 5,662 CAD and the Canadian Pension Plan (CPP), where the maximum pension was 8,725 CAD in 1996. The CPP aims for a gross replacement rate of 25 per cent up to the Maximum Pensionable Earnings (YMPE). This is close to, but not identical to the APW income level, which, however, is used as a proxy for YMPE, implying that the former APW receives maximum CPP pension.

OAS and CPP pensions are taxable, GIS is not, but this component is means tested against other income (here CPP) with a taper of 50 per cent. There might in addition be a provincial 'top-up', not included here.

The disposable income for the APW pensioner is 4,764 CAD (OAS) plus 1,299 (GIS) plus 8,725 CAD (CPP) minus 959 CAD in personal tax, in total 13,829 CAD.

The net compensation percentage is 13,829/25,114 = 55.1.

The decrease in disposable income compared to the APW is 44.9 per cent.

# 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

In this case the public pension consists of 2 components, OAS of 4,764 CAD and GIS of 5,662 CAD, in total 10,426 CAD in 1996. OAS is taxable but the non refundable tax credits are larger than the tax liability, so there is no personal taxation in this case. The disposable income is 10,426 CAD.

The 'net compensation percentage' in relation to the APW is 10,426/25,114 = 41.5.

The 'decrease' in disposable income is 58.5 per cent by this kind of 'retirement'.

### 10. Pensioners with maximum period of former occupation. APW couple The two pensioners have the same age, and both retire 65 years old

The OAS rate is the same for singles and spouses, 4,764 CAD, but the GIS rate is 3,688 CAD for each spouse in the pensioner couple. The max. CPP rate, 8,725 CAD, is used for the husband, and the wife having a long working record earning ½ APW income receives half of that, i.e. 4,363 CAD in CPP pension. The combined GIS, 7,376 CAD, is means tested against the combined CPP pension for the couple, 13,088 CAD, leaving 832 CAD in GIS for the couple.

The disposable income for the pensioner couple is 9,529 (OAS) plus 832 (GIS) plus 13,088 (CPP) minus 739 in personal tax in total 22,710 CAD. The reason for a lower personal tax for the couple than for the single is a transferable old age tax credit for each of the spouses.

The net compensation percentage is 22,710/38,966 = 58.3.

The *decrease* in disposable income at retirement is 41.7 per cent for the APW couple.

#### 'Standard' income events in connection with children

### 1-3. The APW-couple has 1, 2 or 3 children

Child no. 1 (6 years old). The basic child tax benefit is 1,020 CAD plus 213 CAD if there are no tax deductions for child care and the child is in the age bracket 0-7 years. The benefit is 'taxed back' at a rate of 2.5 per cent of net income above 25,921 CAD (net income here is equivalent to the gross wage income of the couple).

'Tax back': 0.025 * (52,500 - 25,921) = 664 CAD, child benefit: 1,020 + 213 - 664 = 569 CAD. Compared to the situation without children the increase in disposable income is 569/38,966 = 1.5 per cent with 1 child (6 years old).

Child no. 2 (3 years old). The basic child tax benefit is 1,020 CAD plus 213 CAD just as for child no. 1. The benefit is 'taxed back' at a rate of 5 per cent of net income when there are 2 or more children.

'Tax back': 0.05 * (52,500 - 25,921) = 1,329 CAD, child benefits: 2,040 + 426 - 1,329 = 1,137 CAD. Compared to the situation without children the increase in disp. income is 1,137/38,966 = 2.9 per cent with 2 children (6 and 3 years old).

Child no. 3 (1 year old). The basic child tax benefit is 1,020 CAD plus 213 CAD just as for child no. 1 and 2, but there is a supplement of 75 CAD for child no. 3 and more. The 'tax back' rate is 5 per cent of net income, that is 1,329 CAD just as in the case with 2 children. Child benefits: 3,060 + 639 + 75 - 1,329 = 2,445 CAD. Compared to the situation without children the increase in disp. income is 2,445/38,966 = 6.3 per cent with 3 children (6, 3 and 1 year old).

### 4. The couple gets their second child and has two children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined parental leave of 27 weeks, 17 for the wife (including a waiting period of 2 weeks) and 10 weeks which can be shared. If the husband participates there will also be a waiting period of 2 weeks for him. It is assumed in the following that the wife has the entire leave period. The compensation is 55 per cent of the lost income up to a ceiling, which is 39,000 CAD in 1996. The scheme is a part of the 'Employment Insurance' scheme.

The wife has a wage reduction of 27/52, i.e. 9,087 CAD. The compensation is 25/27 * 9,087 * 0.55 = 4,628 CAD. This compensation leaves the couple with a gross income (disregarding the family allowance) of 48,041 CAD which is the basis for calculation of the 'tax back' of the family allowance. The 'tax back' here is 0.05 * (48,041-25,921) = 1,106 CAD, where it in the full employment case was 1,329 CAD, a difference of 223 CAD which is added to the benefit of 4,628 CAD, in total 4,851 CAD.

The gross compensation percentage is 4,851/9,087 * 100 = 53. 27 weeks of maternity leave (for the wife alone) results in a disposable income of 37,454 CAD for the couple including allowance for 2 children (1 child 3 years old and 1 born in 1996).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 40,103-37,454 = 2,649 CAD or 6.6 per cent.

2. In this calculation the common period of 14 weeks is used. Her wage reduction is 14/52, i.e. 4,712 CAD. The compensation is 12/14 * 4,712 * 0.55 = 2,221 CAD. The difference in 'tax back' of the family allowance is 125 CAD in this case. The result is a total benefit of 2,346 CAD.

The gross compensation percentage is 2,346/4,712 * 100 = 50. 14 weeks of maternity leave results in a disposable income of 38,608 CAD.

The *decrease* in disposable income compared to the situation, where the couple has two children is 40,103-38,608 = 1,495 CAD or 3.7 per cent.

#### Annex

Tax and social contribution calculation for single APW, 1996. CAD.

Gross wage income:	35,000
Taxable income:	35,000
Basic federal tax liability:	
17 per cent of 29,590 CAD	5,030 1,407
Total basic liability	6,437
Social contributions:	
Pensions (CPP): 0,028 * (35,000 - 3,500)	882 1,032
Total social contributions	1,914
Associated tax credit: 0.17 * 1,914	325
Federal taxes:	
Basic tax liability	6,437 1,098 325
Basic federal tax	5,014 150
Total federal taxes	5,164
Local taxes ¹⁾ :	
56 per cent of 5,014, total local taxes	2,808
Tax and social contributions:	
Federal taxes	5,164 2,808 1,914
Total tax and social contributions	9,886

¹⁾ The tax rate of Ontario has been selected.



#### APPENDIX 2

# Documentation of family type (APW) calculations for Sweden 1991–1995, 'correct' data

General note: From 1992 the employers cover the illness benefit for the first two weeks of an illness spell. There are no specific rules for precisely how the compensation is calculated. Here it is assumed that the procedure is the same as before 1992, when the insurance covered for this period of illness. Other procedures might result in slightly different results.



# Documentation of APW calculations for Sweden 1991, 'correct' data

Single APW: The gross wage of the APW in 1991 is directly from 'The Tax/ Benefit Position of Production Workers' OECD, November 1995.

	1991 Non-insured ¹⁾
Crees was	 162,400 SEK
Gross wage Tax and social security  Disp. income	45,548 SEK
	116,852 SEK

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

	1991 Non-insured ¹⁾
Gross wage	243,600 SEK
Tax and social security	65,148 SEK
Disp. income	178,452 SEK

Non-insured refers to unemployment insurance. This is voluntary in Sweden (in 1991) as it is in Denmark. A case for the insured should therefore also be included. The direct contribution for membership is, however, relatively low in Sweden, about 300 SEK on an annual basis in 1991, and it is deductible in taxable income. It was therefore decided, that the case for the 'non-insured' was sufficient. It is also identical then to the APW for Sweden in OECD's publication 'The Tax/Benefit Position of Production Workers'. In Sweden the contributions for social security are primarily paid by the employer, they amounted to about 38 per cent of the gross wage in 1991.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,123 SEK. Compensation for illness in one week is 65 per cent of the gross income (on a daily basis that is 162,400 x .65 = 105,560 / 260 = 406 SEK) for the first 3 days and 80 per cent for the remaining 2 (on a daily basis that is 162,400 x .80 = 129,920 / 260 = 499.69 SEK, rounded 500 SEK). The compensation is (3 x 406) + (2 x 500) = 2,218 SEK.

The gross compensation percentage is  $2,218 / 3,123 \times 100 = 71$ . When the APW is ill for one week his or her disposable income is 116,290 SEK.

The *decrease* in disposable income compared to the situation without illness is 116,852 - 116,290 = 562 SEK or 0.5 per cent.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 40,600 SEK. Unemployment compensation is 90 per cent of the lost income with a maximum of 543 SEK a day, which for 13 weeks (5 days each) is  $13 \times 5 \times 543 = 35,295$  SEK.

The gross compensation percentage is  $35,295 / 40,600 \times 100 = 87$ . The disposable income of the APW with 25 per cent unemployment is 113,385 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 116,852 - 113,385 = 3,467 SEK or 3.0 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $52 \times 5 \times 543 = 141,180$  SEK. The gross compensation percentage is  $141,180 / 162,400 \times 100 = 87$ . The disposable income of the APW is 102,921 SEK, when he or she is unemployed for the whole of 1991.

The *decrease* in disposable income compared to the situation with no unemployment is 116,852 - 102,921 = 13,931 SEK or 11.9 per cent.

### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 40,600 SEK as in case 2. The compensation for the non-insured APW is  $13 \times 5 \times 191 = 12,415$  SEK.

The gross compensation percentage is  $12,415 / 40,600 \times 100 = 31$ . The disposable income is 98,324 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 116,852 - 98,324 = 18,528 SEK or 15.9 per cent.

# 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $52 \times 5 \times 191 = 49,660$  SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks).

The gross compensation percentage is  $49,660 / 162,400 \times 100 = 31$ . The disposable income is 38,564 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 116,852 - 38,564 = 78,288 SEK or 67.0 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1991 is 1.007 times the basic rate ('basbeloppet') in the Swedish Social Security System i.e. 32,425 SEK excluding housing costs. Recipients of the benefit from this scheme will, in many cases, be eligible for social assistance to supplement the income.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 90 per cent of the lost income, i.e.  $81,200 \times 0.9 = 73,080 / 260 = 281.08$  SEK, rounded 281 SEK on a daily basis. Total compensation is 73,060 SEK.

The gross compensation percentage is then 90. The disposable income of the APW-couple is 172,212 SEK, when the wife is unemployed for the whole year of 1991 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 178,452 - 172,212 = 6,240 SEK or 3.5 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 x 'basbeloppet', that is 241,500 SEK in 1991).

There is no change in the disposable income of the APW in this situation.

#### 2. Loss of 1/3 of the working capability

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income.

There is no change in disposable income.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time. On these assumptions the additional pension (ATP) will be 77,860 SEK in 1991.

The basic pension in the Swedish system is based upon the basic rate ('basbeloppet') which in 1991 was 32,200 SEK The basic pension consists of two components, a basic amount which equals  $32,200 \times .96 = 30,912$  SEK (single pensioner) and a supplementary amount,  $32,200 \times .54 = 17,388$  SEK. The basic pension is then 48,300 SEK for a single pensioner. If the pensioner has no additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension. The disposable in-

come for the 'APW-pensioner' is 30,912 SEK in basic pension plus 77,860 SEK in 'ATP' minus 28,509 SEK in personal tax, in total 80,263 SEK.

The net compensation percentage is  $80,263 / 116,852 \times 100 = 68.7$ .

The decrease in disposable income by retirement is 31.3 per cent in this situation.

# 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 48,300 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax).

The 'net compensation percentage' relative to the APW is  $48,300 / 116,852 \times 100 = 41.3$ .

The 'decrease' in disposable income, relative to that of the APW, is 58.7 per cent by this kind of 'retirement'.

# 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old

It is assumed that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, it will result in 1.515 'pension points' according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 77,860 SEK for the husband and 29,270 SEK for the wife, in total 107,130 SEK in 1991.

The basic pension is equal to the basic amount, i.e. 32,200 x .785 = 25,277 SEK for each of the pensioners, in total 50,554 SEK. The couple will not receive any supplementary amount. The disposable income for the APW-couple as pensioners is 50,554 SEK in public pensions plus 107,130 SEK in additional pension minus 32,814 SEK in personal tax, in total 124,870 SEK.

The net compensation percentage is  $124,870 / 178,452 \times 100 = 70.0$ .

The decrease in disposable income compared to the APW-couple is 30.0 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 9,000 SEK in 1991. Compared to the situation without children the *increase* in disposable income is  $(9,000 / 178,452) \times 100 = 5.0$  per cent with one child (6 years old).

For *child no.* 2 (3 years old) the allowance is also 9,000 SEK. Compared to the situation without children the *increase* is  $(18,000 / 178,452) \times 100 = 10.1$  per cent with two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is  $1.5 \times 9,000 = 13,500$  SEK. Compared to the situation without children the *increase* is  $(31,500 / 178,452) \times 100 = 17.7$  per cent with three children (6, 3 and 1 year old).

#### 4. The couple gets the second child and has 2 children.

There are the same 'timing-problems' as mentioned in the documentation for Denmark, cf. III Appendix, in 'Elements'.

1. The couple has a combined maternity leave for 360 days during the year, with 300 days for the wife and 60 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which the compensation is based upon income (90 per cent). The compensation for the remaining 90 days of the leave period is considerably lower.

The *husband* has a wage reduction of  $(162,400 / 365) \times 60 = 26,696$  SEK. He receives  $162,400 \times .9 / 365 = 400$  SEK per day. For 60 days the 'parents allowance' is  $60 \times 400 = 24,000$  SEK.

The wife has a wage reduction of  $(81,200 / 365) \times 300 = 66,740$  SEK. She receives  $81,200 \times .9 / 365 = 200$  SEK per day. For 300 days the 'parents allowance' is  $300 \times 200 = 60,000$  SEK.

Combined the wage reduction is 93,436 SEK and the received compensation is 84,000 SEK.

The gross compensation percentage is 90 (some variation due to rounding). 360 days of maternity leave results in a disposable income of 189,540 SEK for the couple including allowance for 2 children (1 child 3 years of age and 1 born in 1991).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 196,452 - 189,540 = 6,912 SEK or 3.5 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(81,200 / 365) \times 98 = 21,802$  SEK. She receives  $98 \times 200 = 19,600$  SEK in compensation.

The gross compensation percentage is again 90. 14 weeks maternity leave results in a disposable income of 194,780 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 196,452 - 194,780 = 1,672 SEK or 0.9 per cent.



# Documentation of APW calculations for Sweden 1992, 'correct data'

Single APW: The gross wage of the APW in 1992 is directly from 'The Tax/ Benefit Position of Production Workers' OECD, November 1995.

	1992 Non-insured ¹⁾
Gross wage	171,000 SEK 47,901 SEK
Tax and social security  Disp. income	123,099 SEK

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

	1992 Non-insured ¹⁾
Gross wage Tax and social security Disp. income	256,500 SEK 68,518 SEK <i>187,982 SEK</i>

Non-insured refers to unemployment insurance. This is voluntary in Sweden (in 1992) as it is in Denmark. A case for the insured should therefore also be included. The direct contribution for membership is, however, relatively low in Sweden, about 500 SEK on an annual basis in 1992, and it is deductible in taxable income. It was therefore decided, that the case for the 'non-insured' was sufficient. It is also identical then to the APW for Sweden in OECD's publication 'The Tax/Benefit Position of Production Workers'. In Sweden the contributions for social security are primarily paid by the employer, they amounted to about 35 per cent of the gross wage in 1992.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,288 SEK. Compensation for illness in one week is 75 per cent of the gross income (on a daily basis that is 171,000 x .75 = 128,250 / 260 = 493.27 SEK, rounded 493 SEK) for the first 3 days and 90 per cent for the remaining 2 (on a daily basis that is  $171,000 \times .90 = 153,900 / 260 = 591.92$  SEK, rounded 592 SEK). The compensation is  $(3 \times 493) + (2 \times 592) = 2,663$  SEK.

The gross compensation percentage is 2,663 / 3,288 x 100 = 81. When the APW is ill for one week his or her disposable income is 122,691 SEK.

The *decrease* in disposable income compared to the situation without illness is 123,099 - 122,691 = 408 SEK or 0.3 per cent.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 42,750 SEK. Unemployment compensation is 90 per cent of the lost income with a maximum of 564 SEK a day, which for 13 weeks (5 days each) is  $13 \times 5 \times 564 = 36,660$  SEK.

The gross compensation percentage is  $36,660 / 42,750 \times 100 = 86$ . The disposable income of the APW with 25 per cent unemployment is 119,089 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 123,099 - 119,089 = 4,010 SEK or 3.3 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $52 \times 5 \times 564 = 146,640$  SEK. The gross compensation percentage is  $146,640 / 171,000 \times 100 = 86$ . The disposable income of the APW is 107,058 SEK, when he or she is unemployed for the whole of 1992.

The *decrease* in disposable income compared to the situation with no unemployment is 123,099 - 107,058 = 16,041 SEK or 13.0 per cent.

### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 42,750 SEK as in case 2. The compensation for the non-insured APW is  $13 \times 5 \times 198 = 12,870$  SEK.

The gross compensation percentage is  $12,870 / 42,750 \times 100 = 30$ . The disposable income is 103,400 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 123,099 - 103,400 = 19,699 SEK or 16.0 per cent.

### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $52 \times 5 \times 198 = 51,480$  SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks).

The gross compensation percentage is  $51,480 / 171,000 \times 100 = 30$ . The disposable income is 39,989 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 123,099 - 39,989 = 83,110 SEK or 67.5 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1992 is 1.16 times the basic rate ('basbeloppet') in the Swedish Social Security System i.e. 39,092 SEK excluding housing costs. Recipients of the benefit from this scheme will, in many cases, be eligible for social assistance to supplement the income.

# 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 90 per cent of the lost income, i.e.  $85,500 \times 0.9 = 76,950 / 260 = 295.96$  SEK, rounded = 296 SEK on a daily basis. Total compensation is 76,960 SEK.

The gross compensation percentage is then 90. The disposable income of the APW-couple is 181,460 SEK, when the wife is unemployed for the whole year in 1992 and usually is working part time.

The decrease in disposable income is 187,982 - 181,460 = 6,522 SEK or 3.5 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

- 1. Working capability completely lost
  - In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 x 'basbeloppet', that is 252,750 SEK in 1992).

There is no change in the disposable income of the APW in this situation.

2. Loss of 1/3 of the working capability

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income.

There is no change in disposable income.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time. On these assumptions the additional pension (ATP) will be 81,487 SEK in 1992.

The basic pension in the Swedish system is based upon the basic rate ('basbeloppet') which in 1992 was 33,700 SEK The basic pension consists of two components, a basic amount which equals  $33,700 \times .96 = 32,352$  SEK (single pensioner) and a supplementary amount,  $33,700 \times .54 = 18,198$  SEK. The basic pension is then 50,550 SEK for a single pensioner. If the pensioner has no additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension. The disposable in-

come for the 'APW-pensioner' is 32,352 SEK in basic pension plus 81,487 SEK in 'ATP' minus 29,743 SEK in personal tax, in total 84,096 SEK.

The net compensation percentage is  $84,096 / 123,099 \times 100 = 68.3$ .

The decrease in disposable income by retirement is 31.7 per cent in this situation.

# 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 50,550 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax).

The 'net compensation percentage' relative to the APW is  $50,550 / 123,099 \times 100 = 41.1$ .

The 'decrease' in disposable income, relative to that of the APW, is 58.9 per cent by this kind of 'retirement'.

### 10. Pensioners with maximum period of former occupation. APW-couple

The two pensioners have the same age, and both retire 65 years old.

It is assumed, that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, that will result in 1.515 'pension points' according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 81,487 SEK for the husband and 30,633 SEK for the wife, in total 112,120 SEK in 1992.

The basic pension is equal to the basic amount, i.e.  $33,700 \times .785 = 26,454.5 \text{ SEK}$  for each of the pensioners, in total 52,909 SEK. The couple will not receive any supplementary amount. The disposable income for the APW-couple as pensioners is 52,909 SEK in public pensions plus 112,120 SEK in additional pension minus 34,157 SEK in personal tax, in total 130,872 SEK.

The net compensation percentage is  $130,872 / 187,982 \times 100 = 69.6$ .

The decrease in disposable income compared to the APW-couple is 30.4 per cent.

### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 9,000 SEK in 1992. Compared to the situation without children the *increase* in disposable income is  $(9,000 / 187,982) \times 100 = 4.8$  per cent with one child (6 years old).

For *child no.* 2 (3 years old) the allowance is also 9,000 SEK. Compared to the situation without children the *increase* is  $(18,000 / 187,982) \times 100 = 9.6$  per cent with two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is  $1.5 \times 9,000 = 13,500$  SEK. Compared to the situation without children the *increase* is  $(31,500 / 187,982) \times 100 = 16.8$  per cent with three children (6, 3 and 1 year old).

#### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark, cf. III Appendix, in 'Elements'.

1. The couple has a combined maternity leave for 360 days during the year, with 300 days for the wife and 60 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which the compensation is based upon income (90 per cent). The compensation for the remaining 90 days of the leave period is considerably lower.

The *husband* has a wage reduction of  $(171,000 / 365) \times 60 = 28,110$  SEK. He receives  $171,000 \times .9 / 365 = 422$  SEK per day. For 60 days the 'parents allowance' is  $60 \times 422 = 25,320$  SEK.

The wife has a wage reduction of  $(85,500 / 365) \times 300 = 70,274$  SEK. She receives  $85,500 \times .9 / 365 = 211$  SEK per day. For 300 days the 'parents allowance' is  $300 \times 211 = 63,300$  SEK.

Combined the wage reduction is 98,384 SEK and the received compensation is 88,620 SEK.

The gross compensation percentage is 90 (some variation due to rounding). 360 days of maternity leave results in a disposable income of 198,894 SEK for the couple including allowance for 2 children (1 child 3 years of age and 1 born in 1992).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 205,982 - 198,894 = 7,088 SEK or 3.4 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(85,500 / 365) \times 98 = 22,956$  SEK. She receives  $98 \times 211 = 20,678$  SEK in compensation.

The gross compensation percentage is again 90. 14 weeks maternity leave results in a disposable income of 204,363 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 205,982 - 204,363 = 1,619 SEK or 0.8 per cent.



# Documentation of APW calculations for Sweden 1993, 'correct data'

Single APW: The gross wage of the APW in 1993 is directly from 'The Tax/ Benefit Position of Production Workers' OECD, November 1995.

	1993 Non-insured ¹⁾
Gross wage	173,900 SEK
Tax and social security	51,246 SEK
Disp. income	122,654 SEK

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

	*	1993 Non-insured ¹⁾
Gross wage		260,850 SEK
Tax and social security		73,687 SEK
Disp. income		187,163 SEK

Non-insured refers to unemployment insurance. This is voluntary in Sweden (in 1993) as it is in Denmark. A case for the insured should therefore also be included. The direct contribution for membership is, however, relatively low in Sweden, about 500 SEK on an annual basis in 1993, and it is deductible in taxable income if a threshold together with other deductions of 1,000 SEK is passed. It was therefore decided, that the case for the 'non-insured' was sufficient. It is also identical then to the APW for Sweden in OECD's publication 'The Tax/Benefit Position of Production Workers'. In Sweden the contributions for social security are primarily paid by the employer, they amounted to about 31 per cent of the gross wage in 1993. Only a contribution to health insurance was paid directly by the employees (0.95 per cent of gross income) in 1993.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,344 SEK. Compensation for illness in one week is nothing for the first day (waiting period), 75 per cent of the gross income (on a daily basis that is  $173,900 \times .75 = 130,425 / 260 = 501.63$  SEK, rounded 502 SEK) for the next 2 days and 90 per cent for the remaining 2 (on a daily basis that is  $173,900 \times .90 = 156,510 / 260 = 601.96$  SEK, rounded 602 SEK). The compensation is  $(2 \times 502) + (2 \times 602) = 2,208$  SEK.

The gross compensation percentage is  $2,208 / 3,344 \times 100 = 66$ . When the APW is ill for one week his or her disposable income is 121,990 SEK.

The *decrease* in disposable income compared to the situation without illness is 122,654 - 121,990 = 664 SEK or 0.5 per cent.

#### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 43,475 SEK. Unemployment compensation is 80 per cent of the lost income with a maximum of 564 SEK a day. 80 per cent of the lost income on a daily basis is  $0.8 \times 173,900 = 139,120 / 260 = 535.08$ , rounded 535 SEK. For 13 weeks (5 days each) with a waiting period of 5 days the compensation is  $12 \times 5 \times 535 = 32,100$  SEK.

The gross compensation percentage is  $32,100 / 43,475 \times 100 = 74$ . The disposable income of the APW with 25 per cent unemployment is 115,297 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 122,654 - 115,297 = 7,357 SEK or 6.0 per cent.

#### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $255 \times 535 = 136,425$  SEK.

The gross compensation percentage is  $136,425 / 173,900 \times 100 = 78.5$ . The disposable income of the APW is 98,243 SEK, when he or she is unemployed for the whole of 1993.

The *decrease* in disposable income compared to the situation with no unemployment is 122,654 - 98,243 = 24,411 SEK or 19.9 per cent.

#### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 43,475 SEK as in case 2. The compensation for the non-insured APW is  $12 \times 5 \times 198 = 11,880$  SEK. There is a waiting period of 5 days also in this scheme.

The gross compensation percentage is  $11,880 / 43,475 \times 100 = 27$ . The disposable income is 102,037 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 122,654 - 102,037 = 20,617 SEK or 16.8 per cent.

#### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $255 \times 198 = 50,490$  SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks).

The gross compensation percentage is  $50,490 / 173,900 \times 100 = 29$ . The disposable income is 37,816 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 122,654 - 37,816 = 84,838 SEK or 69.2 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1993 is 1.16 times the basic rate ('basbeloppet') in the Swedish Social Security System i.e. 39,904 SEK excluding housing costs. Recipients of the benefit from this scheme will, in many cases, be eligible for social assistance to supplement the income.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 80 per cent of the lost income, i.e.  $86,950 \times 0.8 = 69,565 / 260 = 267.54$  SEK, rounded = 268 SEK on a daily basis. Total compensation is 68,340 SEK.

The gross compensation percentage is then 80. The disposable income of the APW-couple is 173,005 SEK, when the wife is unemployed for the whole year in 1993 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 187,163 - 173,005 = 14,158 SEK or 7.6 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 x 'basbeloppet', that is 258,000 SEK in 1993).

There is no change in the disposable income of the APW in this situation.

#### 2. Loss of 1/3 of the working capability

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income.

There is no change in disposable income.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time. On these assumptions the additional pension (ATP) will be 81,516 SEK in 1993.

The basic pension in the Swedish system is based upon the basic rate ('basbeloppet') which in 1993 was 34,400 SEK The basic pension consists of two components, a basic amount which equals  $34,400 \times .96 \times .98 = 32,364$  SEK (single pensioner) and a supplementary amount,  $34,400 \times .555 \times .98 = 18,710$  SEK. The basic pension is then 51,074 SEK for a single pensioner. If the pensioner has no additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension. The

disposable income for the 'APW-pensioner' is 32,364 SEK in basic pension plus 81,516 SEK in 'ATP' minus 29,556 SEK in personal tax, in total 84,324 SEK.

The net compensation percentage is  $84,324 / 122,654 \times 100 = 68.7$ .

The decrease in disposable income by retirement is 31.3 per cent in this situation.

# 9. Pensioner without former occupation. 'Single APW'

#### 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 51,074 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax).

The 'net compensation percentage' relative to the APW is 51,074 / 122,654 x 100 = 41.6.

The 'decrease' in disposable income, relative to that of the APW, is 58.4 per cent by this kind of 'retirement'.

#### 10. Pensioners with maximum period of former occupation. APW-couple

The two pensioners have the same age, and both retire 65 years old.

It is assumed, that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, that will result in 1.515 'pension points' according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 81,516 SEK for the husband and 30,644 SEK for the wife, in total 112,160 SEK in 1993.

The basic pension is equal to the basic amount, i.e.  $34,400 \times .785 \times .98 = 26,464$  SEK for each of the pensioners, in total 52,928 SEK. The couple will not receive any supplementary amount. The disposable income for the APW-couple as pensioners is 52,928 SEK in public pensions plus 112,160 SEK in additional pension minus 33,753 SEK in personal tax, in total 131,335 SEK.

The net compensation percentage is  $131,335 / 187,163 \times 100 = 70.2$ .

The decrease in disposable income compared to the APW-couple is 29.8 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 9,000 SEK in 1993. Compared to the situation without children the *increase* in disposable income is  $(9,000 / 187,163) \times 100 = 4.8$  per cent with one child (6years old).

For *child no.* 2 (3 years old) the allowance is also 9,000 SEK. Compared to the situation without children the *increase* is  $(18,000 / 187,163) \times 100 = 9.6$  per cent with two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is  $1.5 \times 9,000 = 13,500$  SEK. Compared to the situation without children the *increase* is  $(31,500 / 187,163) \times 100 = 16.8$  per cent with three children (6, 3) and (1 ) year old).

#### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark, cf. III Appendix, in 'Elements'.

1. The couple has a combined maternity leave for 360 days during the year, with 300 days for the wife and 60 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which the compensation is based upon income (90 per cent). The compensation for the remaining 90 days of the leave period is considerably lower.

The *husband* has a wage reduction of  $(173,900 / 365) \times 60 = 28,586$  SEK. He receives  $173,900 \times .9 / 365 = 429$  SEK per day. For 60 days the 'parents allowance' is  $60 \times 429 = 25,740$  SEK.

The wife has a wage reduction of  $(86,950 / 365) \times 300 = 71,466$  SEK. She receives  $86,950 \times .9 / 365 = 214$  SEK per day. For 300 days the 'parents allowance' is  $300 \times 214 = 64,200$  SEK.

Combined the wage reduction is 100,052 SEK and the received compensation is 89,940 SEK.

The gross compensation percentage is 90 (some variation due to rounding). 360 days of maternity leave results in a disposable income of 197,820 SEK for the couple including allowance for 2 children (1 child 3 years of age and 1 born in 1993).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 205,163 - 197,820 = 7,343 SEK or 3.6 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(86,950 / 365) \times 98 = 23,345$  SEK. She receives  $98 \times 214 = 20,972$  SEK in compensation.

The gross compensation percentage is again 90. 14 weeks maternity leave results in a disposable income of 203,348 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 205,163 - 203,348 = 1,815 SEK or 0.9 per cent.



# Documentation of APW calculations for Sweden 1994, 'correct' data

Single APW: The gross wage of the APW in 1994 is directly from 'The Tax/ Benefit Position of Production Workers' OECD, November 1995.

	1994 Non-insured ¹⁾	
Gross wage	183,100 SEK	
Tax and social security	56,198 SEK	
Disp. income	126,902 SEK	

APW-couple: The husband has the same wage as the single APW, the wife has 50 per cent of that. The couple has no children.

		1994 Non-insured ¹⁾
Gross wage		274,650 SEK
Tax and social security	•	81,199 SEK
Disp. income		193,451 SEK

From July 1994 the Swedish unemployment insurance scheme became mandatory. The first step was taken in January 1994 when a special social contribution of 1 per cent of the income of the employees was implemented. This social contribution replaced most of the former 'membership fee' to the voluntary insurance scheme. The major part of the unemployment insurance is still financed by social contributions paid by the employer and by 'deficit' financing. Social contributions paid by the employer (approx. 31 per cent of the wage bill) is the major financing source for Swedish social security, but social contributions from the employees are increasing, a contribution of 0.95 per cent of the income was introduced in 1993 for health insurance, the mentioned 1 per cent contribution in 1994 and when the new pension reform is introduced from 1995 the contributions from employees will be further increased, and the employer paid contributions lowered.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,521 SEK. Compensation for illness in one week is nothing for the first day (waiting period), 75 per cent of the gross income (on a daily basis that is  $183,100 \times .75 = 137,325 / 260 = 528.17$  SEK, rounded 528 SEK) for the next 2 days and 90 per cent for the remaining 2 (on a daily basis that is  $183,100 \times .90 = 164,790 / 260 = 633.81$  SEK, rounded 634 SEK). The compensation is  $(2 \times 528) + (2 \times 634) = 2,324$  SEK.

The gross compensation percentage is  $2,324 / 3,521 \times 100 = 66$ . When the APW is ill for one week his or her disposable income is 126,108 SEK.

The *decrease* in disposable income compared to the situation without illness is 126,902 - 126,108 = 794 SEK or 0.6 per cent.

#### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 45,775 SEK. Unemployment compensation is 80 per cent of the lost income with a maximum of 564 SEK a day. 80 per cent of the lost income on a daily basis is  $0.8 \times 183,100 = 146,480 / 62260 = 563.38$ , rounded 563 SEK. For 13 weeks (5 days each) with a waiting period of 5 days the compensation is  $12 \times 5 \times 563 = 33,780$  SEK.

The gross compensation percentage is  $33,780 / 45,775 \times 100 = 74$ . The disposable income of the APW with 25 per cent unemployment is 119,143 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 126,902 - 119,143 = 7,759 SEK or 6.1 per cent.

#### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $255 \times 563 = 143,565$  SEK.

The gross compensation percentage is  $143,565 / 183,100 \times 100 = 78$ . The disposable income of the APW is 101,387 SEK, when he or she is unemployed for the whole of 1994.

The *decrease* in disposable income compared to the situation with no unemployment is 126,902 - 101,387 = 25,515 SEK or 20.1 per cent.

#### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 45,775 SEK as in case 2. The compensation for the non-insured APW is  $12 \times 5 \times 245 = 14,700$  SEK. There is a waiting period of 5 days also in this scheme.

The gross compensation percentage is  $14,700 / 45,775 \times 100 = 32$ . The disposable income is 106,860 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 126,902 - 106,860 = 20,042 SEK or 15.8 per cent.

#### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $255 \times 245 = 62,475$  SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks).

The gross compensation percentage is  $62,475 / 183,100 \times 100 = 34$ . The disposable income is 44,905 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 126,902 - 44,905 = 81,997 SEK or 64.6 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1994 is 1.16 times the basic rate ('basbeloppet') in the Swedish Social Security System i.e. 40,832 SEK excluding housing costs. Recipients of the

benefit from this scheme will, in many cases, be eligible for social assistance to supplement the income.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 80 per cent of the lost income, i.e.  $91,550 \times 0.8 = 73,240 / 260 = 281.69$  SEK, rounded = 282 SEK on a daily basis. Total compensation is 71,910 SEK.

The gross compensation percentage is then 80. The disposable income of the APW-couple is 178,651 SEK, when the wife is unemployed for the whole year in 1994 and usually is working part time.

The *decrease* in disposable income compared to the situation with no unemployment is 193,451 - 178,651 = 14,800 SEK or 7.7 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost.

In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 x 'basbeloppet', that is 264,000 SEK in 1994).

There is no change in the disposable income of the APW in this situation.

#### 2. Loss of 1/3 of the working capability.

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income.

There is *no change* in disposable income.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time. On these assumptions the additional pension (ATP) will be 83,411 SEK in 1994.

The basic pension in the Swedish system is based upon the basic rate ('basbeloppet') which in 1994 was 35,200 SEK The basic pension consists of two components, a basic amount which equals  $35,200 \times .96 \times .98 = 33,116$  SEK (single pensioner) and a supplementary amount,  $35,200 \times .555 \times .98 = 19,145$  SEK. The basic pension is then 52,261 SEK for a single pensioner. If the pensioner has no

additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension. The disposable income for the 'APW-pensioner' is 33,116 SEK in basic pension plus 83,411 SEK in 'ATP' minus 31,025 SEK in personal tax, in total 85,502 SEK.

The net compensation percentage is  $85,502 / 126,902 \times 100 = 67.4$ .

The decrease in disposable income by retirement is 32.6 per cent in this situation.

# 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 52,261 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax).

The 'net compensation percentage' relative to the APW is  $52,261 / 126,902 \times 100 = 41.2$ .

The 'decrease' in disposable income, relative to that of the APW, is 58.8 per cent by this kind of 'retirement'.

#### 10. Pensioners with maximum period of former occupation. APW-couple

The two pensioners have the same age, and both retire 65 years old.

It is assumed, that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, that will result in 1.515 'pension points' according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 83,411 SEK for the husband and 31,357 SEK for the wife, in total 114,768 SEK in 1994.

The basic pension is equal to the basic amount, i.e.  $35,200 \times .785 \times .98 = 27,079$  SEK for each of the pensioners, in total 54,158 SEK. The couple will not receive any supplementary amount. The disposable income for the APW-couple as pensioners is 54,158 SEK in public pensions plus 114,768 SEK in additional pension minus 35,286 SEK in personal tax, in total 133,640 SEK.

The net compensation percentage is  $133,640 / 193,451 \times 100 = 69.1$ .

The decrease in disposable income compared to the APW-couple is 30.9 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 9,000 SEK in 1994. Compared to the situation without children the *increase* in disposable income is  $(9,000 / 193,451) \times 100 = 4.7$  per cent with one child (6 years old).

For *child no.* 2 (3 years old) the allowance is also 9,000 SEK. Compared to the situation without children the *increase* is  $(18,000 / 193,451) \times 100 = 9.3$  per cent with two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is  $1.5 \times 9,000 = 13,500$  SEK. Compared to the situation without children the *increase* is  $(31,500 / 193,451) \times 100 = 16.3$  per cent with three children (6, 3 and 1 year old).

### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark, cf. III Appendix in 'Elements'.

1. The couple has a combined maternity leave for 360 days during the year, with 300 days for the wife and 60 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which the compensation is based upon income (90 per cent). The compensation for the remaining 90 days of the leave period is considerably lower.

The *husband* has a wage reduction of  $(183,100 / 365) \times 60 = 30,099$  SEK. He receives  $183,100 \times .9 / 365 = 451$  SEK per day. For 60 days the 'parents allowance' is  $60 \times 451 = 27,060$  SEK.

The wife has a wage reduction of  $(91,550 / 365) \times 300 = 75,247$  SEK. She receives  $91,550 \times .9 / 365 = 226$  SEK per day. For 300 days the 'parents allowance' is  $300 \times 226 = 67,800$  SEK.

Combined the wage reduction is 105,346 SEK and the received compensation is 94,860 SEK.

The gross compensation percentage is 90 (some variation due to rounding). 360 days of maternity leave results in a disposable income of 203,866 SEK for the couple including allowance for 2 children (1 child 3 years of age and 1 born in 1994).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 211,451 - 203,866 = 7,585 SEK or 3.6 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(91,550 / 365) \times 98 = 24,581$  SEK. She receives  $98 \times 226 = 22,148$  SEK in compensation.

The gross compensation percentage is again 90. 14 weeks maternity leave results in a disposable income of 209,646 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 211,451 - 209,646 = 1,805 SEK or 0.9 per cent.



# Documentation of APW calculations for Sweden 1995, 'correct' data

Single APW: The gross wage of the APW in 1995 is the official entry for Sweden in 'The Tax/Benefit Position of Employees', OECD, December 1997.

	1995 Non-insured ¹⁾
Gross wage	190,260 SEK
Tax and social security	62,032 SEK
Disposable income	128,228 SEK

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

		1995 Non-insured ¹⁾
	Gross wage	285,390 SEK
Tax and social security  Disposable income	•	89,620 SEK
		195,770 SEK

After half a year with a mandatory unemployment insurance system, the scheme was changed back to a voluntary basis from January 1995. The social contribution for unemployment insurance of 1 per cent of income (up to a ceiling) was cancelled, and another social contribution for pensions was introduced, this was also 1 per cent of income. The membership fee for unemployment insurance was reintroduced. It should be deducted from the gross wage income but has not been so, and neither has it in the calculations for the Swedish APW in OECD's 'The Tax/Benefit Position of Production Workers'. The fee is appr. 500 SEK a year and is deductible in taxable income if a threshold together with other deductions of 1000 SEK is passed. Social contributions paid by the employers (appr. 33 per cent of the wage bill) is the major financing source for Swedish social security. The employee paid contribution of 0.95 per cent of income for health insurance was increased to 2.95 per cent in 1995. The total employee paid contributions have increased to 3.95 per cent of income (up to a ceiling) in 1995, and will increase further in the coming years.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 3,659 SEK. Compensation for illness in one week is nothing for the first day (waiting period), 75 per cent of the gross income on a daily basis  $(0.75 \times 190,260 = 142,695 / 260 = 548.83$ , rounded 549 SEK) for the next 2 days and 90 per cent for the remaining 2 days  $(0.90 \times 190,260 = 171,234 / 260 = 658.59)$ , rounded 659 SEK). The compensation is  $(2 \times 549) + (2 \times 659) = 2,416$  SEK.

The gross compensation percentage is  $2,416 / 3,659 \times 100 = 66$ . When the APW is ill for one week his or her disposable income is 127,395 SEK.

The *decrease* in disposable income compared to the situation without illness is 128,228 - 127,395 = 833 SEK or 0.6 per cent.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 47,565 SEK. Unemployment compensation is 80 per cent of the lost income with a maximum of 564 SEK a day. 80 per cent of the lost income on a daily basis is  $0.80 \times 190,260 = 152,208$  / 260 = 585.42, rounded 585 SEK which is above the maximum of 564 SEK a day. For 13 weeks (5 days each) with a waiting period of 5 days the compensation is  $60 \times 564 = 33,840$  SEK.

The gross compensation percentage is  $33,840 / 47,565 \times 100 = 71$ . The disposable income of the APW with 25 per cent unemployment is 119,602 SEK.

The *decrease* in disposable income compared to the situation with no unemployment is 128,228 - 119,602 = 8,626 SEK or 6.7 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is  $255 \times 564 = 143,820$  SEK in the 'standard' year used here.

The gross compensation percentage is  $143,820 / 190,260 \times 100 = 76$ . The disposable income of the APW is 99,155 SEK, when he or she is unemployed for the whole of 1995.

The *decrease* in disposable income compared to the situation with no unemployment is 128,228 - 99,155 = 29,073 SEK or 22.7 per cent.

# 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 47,565 SEK as in case 2. The compensation for the non-insured APW is  $60 \times 245 = 14,700$  SEK. There is a waiting period of 5 days also in this scheme.

The gross compensation percentage is  $14,700 / 47,565 \times 100 = 31$ . The disposable income is 107,657 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 128,228 - 107,657 = 20,571 SEK or 16.0 per cent.

This scheme was 'reintroduced' in January 1995 after having been 'out of operation' in the 2nd half of 1994, when the unemployment insurance scheme was mandatory. The rate (245 SEK/day) is also the minimum rate in the voluntary insurance scheme.

## 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $255 \times 245 = 62,475$  SEK interpreted as an annual rate. (The maximum period for which this compensation can be received is in general not more than 30 weeks).

The gross compensation percentage is  $62,475 / 190,260 \times 100 = 33$ . The disposable income is 43,879 SEK in this situation.

The *decrease* in disposable income compared to the situation with no unemployment is 128,228 - 43,879 = 84,349 SEK or 65.8 per cent.

It should be mentioned, that the recommended minimum standard for a single person in 1995 is 1.16 times the basic rate ('basbeloppet') in the Swedish Social Security System, i.e. 41,412 SEK excluding housing costs. Recipients of the benefit from this scheme would, in many cases also be eligible for social assistance to supplement the income.

As already mentioned, this scheme was 'reintroduced' in January 1995.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is  $255 \times 293 = 74,715$  SEK. The daily compensation of 293 SEK is calculated as  $0.8 \times 95,130 = 76,104$  / 260 = 292.71 SEK, rounded 293 SEK. The maximum benefit, 564 SEK a day, is not reached. The minimum benefit in 1995 is 245 SEK/day.

The gross compensation percentage is  $74,715 / 95,130 \times 100 = 78.5$ . The disposable income of the APW-couple is 180,854 SEK, when the wife is unemployed for the whole year in 1995 and usually is working part time (½ APW income). The decrease in disposable income compared to the situation with no unemployment is 195,770 - 180,791 = 14,979 SEK or 7.7 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are studied in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

In Sweden there is full compensation for the loss of income caused by injuries from work (if the income is within 7.5 x 'basbeloppet', that is 267,750 SEK in 1995).

There is no change in the disposable income of the APW in this situation.

#### 2. Loss of 1/3 of the working capability

There is, also in this situation with partial loss of the working capability, full compensation for the lost wage income within the usual income limit of 7.5 x 'basbeloppet'.

There is no change in disposable income.

# 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

It is assumed, that the APW has gained pension rights for 30 years (that is a 'full' period in the present Swedish additional pension scheme). This is also feasible, since the system started in 1960. It is further assumed, that the average number of 'pension-points' is 4.03 (the actual number in 1989). This average is slightly increasing over time. On these assumptions the additional pension (ATP) will be 84,596 SEK in 1995.

The basic pension in the Swedish system is based upon the basic rate ('basbeloppet') which in 1995 was 35,700 SEK. The basic pension consists of two components, a basic amount which equals 35,700 x .96 x .98 = 33,587 SEK (single pensioner) and a supplementary amount, 35,700 x .555 x .98 = 19,417 SEK. The basic pension is then 53,004 SEK for a single pensioner. If the pensioner has no additional income he or she pays no taxes. When the pensioner has income from the additional pension scheme the supplementary amount in the basic pension is means tested and reduced by 1 SEK for each SEK in additional pension. The disposable income for the 'APW-pensioner' is 33,587 SEK in basic pension plus 84,596 SEK in 'ATP' minus 31,820 SEK in personal tax, in total 86,363 SEK.

The net compensation percentage is  $86,363 / 128,228 \times 100 = 67.4$ . The decrease in disposable income by retirement is 32.6 per cent in this situation.

# 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The pensioner receives basic pension, i.e. 53,004 SEK, cf. the former case. The basic pension is not taxed (there is a standard deduction designed in such a way, that single and married pensioners, only receiving the basic pension do not pay personal tax).

The 'net compensation percentage' relative to the APW is  $53,004 / 128,228 \times 100 = 41.3$ .

The 'decrease' in disposable income, relative to that of the APW, is 58.7 per cent by this kind of 'retirement'.

#### 10. Pensioners with maximum period of former occupation. APW-couple

The two pensioners have the same age, and both retire 65 years old.

It is assumed, that the wife and husband have gained pension rights for 30 years each. The husband is 'identical' to the single pensioner in case 8. The wife is assumed to have had half the income of her husband all the time, that will result in 1.515 'pension points' according to the Swedish 'ATP' scheme. On these assumptions the additional pension (ATP) will be 84,596 SEK for the husband and 31,802 SEK for the wife, in total 116,398 SEK in 1995.

The basic pension is equal to the basic amount, i.e. 35,700 x .785 x .98 = 27,464 SEK for each of the pensioners, in total 54,928 SEK. The couple will not receive

any supplementary amount. The disposable income for the APW-couple as pensioners is 54,928 SEK in public pensions plus 116,398 SEK in additional pension minus 36,236 SEK in personal tax, in total 135,090 SEK.

The net compensation percentage is  $135,090 / 195,770 \times 100 = 69.0$ .

The decrease in disposable income compared to the APW-couple is 31.0 per cent.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 9,000 SEK in 1995. Compared to the situation without children the *increase* in disposable income is  $(9,000 / 195,770) \times 100 = 4.6$  per cent with one child (6 years old).

For *child no.* 2 (3 years old) the allowance is also 9,000 SEK. Compared to the situation without children the *increase* is  $(18,000 / 195,770) \times 100 = 9.2$  per cent with two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is 2,400 + 9,000 = 11,400 SEK. Compared to the situation without children the *increase* is  $(29,400 / 195,770) \times 100 = 15.0$  per cent with three children (6, 3 and 1 year old).

#### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity leave for 360 days during the year, with 300 days for the wife and 60 days for the husband. The distribution between the two can be changed. The 360 days cover the maximum period for which the compensation is based upon income (90 per cent for 60 days (30 days for each spouse), 80 per cent for 300 days).

The *husband* has a wage reduction of  $(190,260 / 365) \times 60 = 31,276$  SEK. He receives  $190,260 \times .9 / 365 = 469$  SEK per day for 30 days, resulting in a 'parents allowance' of  $30 \times 469 = 14,070$  SEK. For the remaining 30 days he receives  $190,260 \times .8 / 365 = 417$  SEK per day, resulting in a 'parents allowance' of 12,510 SEK. In total he receives 26,580 SEK.

The wife has a wage reduction of  $(95,130 / 365) \times 300 = 78,189$  SEK. She receives  $95,130 \times .9 / 365 = 235$  SEK per day for 30 days, resulting in a 'parents allowance' of 30 * 235 = 7,050 SEK. For the remaining 270 days she receives  $95,130 \times .8 / 365 = 209$  SEK per day, resulting in a 'parents allowance' of 56,430 SEK. In total she receives 63,480 SEK.

Combined the wage reduction is 109,465 SEK and the received compensation is 90,060 SEK.

The gross compensation percentage is  $90,060/109,465 \times 100 = 82.360$  days of maternity leave results in a disposable income of 199,948 SEK for the

couple including allowance for 2 children (1 child 3 years of age and 1 born in 1995).

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 213,770 - 199,948 = 13,822 SEK or 6.5 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(95,130 / 365) \times 98 = 25,542$  SEK. She receives  $95,130 \times .9 / 365 = 235$  SEK per day in 30 days, that is 7,050 SEK plus 209 SEK per day in 68 days, that is 14,212 SEK, in total 21,262 SEK in compensation.

The gross compensation percentage is  $21,262 / 25,542 \times 100 = 83$ . 14 weeks maternity leave results in a disposable income of 210,698 SEK.

The *decrease* in disposable income compared to the situation, where the couple has two children is 213,770 - 210,635 = 3,135 SEK or 1.5 per cent.

### **APPENDIX 3**

Documentation of family type (APW) calculations for Finland 1994–1996, 'correct' data

## Documentation of APW calculations for Finland 1994, 'correct' data

Single APW: The information on the gross wage of the APW in 1994 is from 'The Tax/Benefit Position of Production Workers', OECD, November 1995.

	•	1994 Non-insured ¹⁾
Gross wage		121,916 FIM
Tax and social security ²⁾		45,338 FIM
Disposable income		76,578 FIM

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

	1994 Non-insured ¹⁾
Gross wage	 182,874 FIM
Tax and social security	61,495 FIM
Disposable income	121,379 FIM

¹⁾ Unemployment insurance (the earningsrelated component) is voluntary in Finland. In the official APW calculation for Finland in 'The Tax/Benefit Position of Production Workers' there is no deduction in the disposable income for membership fees. This was also the case for the Swedish APW, when unemployment insurance was voluntary in Sweden. This procedure has been continued in this study even if it is not strictly correct. The error is, however, marginal.

2) Cf. the annex for a documentation.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 2,345 FIM. In Finland there is a waiting period of 9 weekdays, so there is no compensation at all from the insurance scheme for the first week of illness.

The gross compensation percentage is 0. When the APW is ill for one week his or her disposable income is 75,517 FIM.

The *decrease* in disposable income compared to the situation without illness is 76,578 - 75,517 = 1,061 FIM or 1.4 per cent.

In Finland labour market agreements are covering the relatively long waiting period. In the usual situation the employee therefore receives wages during short term illness. In some agreements wages will be paid during illness for 1 to 2 months.

#### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 30,479 FIM. The compensation for a 3 month period is  $13 \times 5 \times 116 = 7,540$  FIM plus 42 per cent of the difference between  $0.965 \times 30,479$  and 7,540, i.e. 9,186 FIM, in total 16,726 FIM. There is a waiting period of 5 days (1 week), so the compensation is 12/13 of the calculated total, i.e. 15,439 FIM.

The gross compensation percentage is  $15,439 / 30,479 \times 100 = 51$ . The disposable income of the APW is 70,141 FIM when he or she is unemployed 25 per cent of the year.

The decrease in disposable income is 76,578 - 70,141 = 6,437 FIM or 8.4 per cent.

#### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 4 times the total in case  $2 (4 \times 16,726)$  times 51/52, i.e. 65,617 FIM.

The gross compensation percentage is  $65,617 / 121,916 \times 100 = 54$ . The disposable income of the APW is 48,808 FIM when he or she is unemployed for the whole year. The decrease in disposable income is 76,578 - 48,808 = 27,770 FIM or 36.3 per cent.

#### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 30,479 FIM as in case 2. The compensation for an APW, who is not a member of the voluntary unemployment insurance scheme, is  $12 \times 5 \times 116 = 6,960$  FIM, there is also a waiting period of 5 days in this scheme.

The gross compensation percentage is  $6,960 / 30,479 \times 100 = 23$ . The disposable income is 65,615 FIM in this situation.

The *decrease* in disposable income is 76,578 - 65,615 = 10,963 FIM or 14.3 per cent.

#### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $51 \times 5 \times 116 = 29,580$  FIM for a whole year when the unemployed APW is not insured.

The gross compensation percentage is  $29,580 / 121,916 \times 100 = 24$ . The disposable income is 24,153 FIM in this situation.

The *decrease* in disposable income is 76,578 - 24,153 = 52,425 FIM or 68.5 per cent.

The recipient is eligible to receive additional support for housing costs, either from the housing benefit scheme or from social assistance.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 51/52 times 42,199 FIM (12 months compensation calculated in the same way as in case 3), i.e. 41,387 FIM.

The gross compensation percentage is  $41,387 / 60,958 \times 100 = 68$ . The disposable income of the APW-couple is 109,461 FIM, when the wife is unemployed for the whole year in 1994 and usually is working part time (½ APW income).

The decrease in disposable is 121,379 - 109,461 = 11,918 FIM or 9.8 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

There is no gross wage. In Finland the compensation ('full pension') is 85 per cent of the lost income (70 per cent if the recipient is 65 or older), i.e. 103,629 FIM.

The gross compensation percentage is thus 85. The disposable income in this case is 70,298 FIM.

The *decrease* in disposable income is 76,578 - 70,298 = 6,280 FIM or 8.2 per cent.

#### 2. Loss of 1/3 of the working capability

The loss of income is 40,639 FIM. The compensation is 1/3 of the 'full pension', i.e. equivalent to 85 per cent of the lost income assuming 2/3 of the wage is maintained. The compensation is  $0.85 \times 40,639 = 34,543$  FIM.

The gross compensation percentage is thus 85. The disposable income is 74,849 FIM, when the APW has lost 1/3 of the working capability.

The *decrease* in disposable income is 76,578 - 74,849 = 1,729 FIM or 2.3 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The old age pension scheme in Finland consists of a basic part and an income related part. The basic pension consists of a basic amount which for a single in the 'low' cost part of the country is 437 FIM / month and a supplementary amount which is 1,936 FIM / month in 1994. The supplementary amount is means tested (taper of 50 per cent) against the income related pension. In the case where the APW has been working 'all the time' the income related pension will be 60 per cent of the gross income at retirement. On these assumptions an APW with a full working record from the age of 23 years to 65 years will have a pension equal to  $12 \times 437 = 5,244$  FIM plus 0.6  $\times 121,916 = 73,150$ , in total 78,394 FIM (the supplementary amount is means tested to zero).

The gross compensation percentage is  $78,394 / 121,916 \times 100 = 64$ . The disposable income of the pensioner is 52,689 FIM.

The net compensation percentage is  $52,689 / 76,578 \times 100 = 68.8$ .

The decrease in disposable income by retirement is 31.2 per cent.

### 9. Pensioner without former occupation. 'Single APW'

#### 'Retirement' at 'usual' age, here 65 years

The basic pension in the Finnish old age pension system consists, cf. case 8, of a basic amount of 437 FIM/month and a supplementary amount of 1,936 FIM/month (for a single pensioner in the 'low' cost part of the country in 1994), in total 28,476 FIM a year. There is no taxation of any kind of this minimum pension.

The 'net compensation percentage' is  $28,476 / 76,578 \times 100 = 37.2$ .

The 'decrease' in disposable income, relative to that of the APW, is 62.8 by this kind of 'retirement'.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old.

It is assumed, that both had a 'full' working record. In this case the income related pension is 60 per cent of the gross wage income at retirement, i.e.  $0.6 \times 121,916 = 73,150$  FIM for the husband plus  $0.6 \times 60,958 = 36,575$  FIM for the wife as well as the basic amount in the basic pension scheme, i.e. 5,244 FIM for each of the spouses. For the former part time working spouse, there will be an additional 2,894 FIM left from the means testing of the pension supplement, which in 1994 is 1,646 FIM per month for each spouse. The total pension is 73,150 + 5,244 + 36,575 + 5,244 + 2,894 = 123,107 FIM.

The gross compensation percentage is  $123,107 / 182,874 \times 100 = 67$ . The disposable income of the pensioner couple is 89,179 FIM.

The net compensation percentage is  $89,179 / 121,379 \times 100 = 73.5$ .

The decrease in disposable income is 26.5 per cent compared to the APW-couple.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 570 FIM/month in 1994, i.e. 6,840 FIM on an annual basis. Compared to the situation without children the *increase* in disposable income is  $(6,840 / 121,379) \times 100 = 5.6$  per cent when the family has one child (6 years old).

For *child no.* 2 (3 years old) the allowance is 720 FIM/ month, i.e. 8,640FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,840 + 8,640) / 121,379 \times 100 = 12.8$  per cent when the family has two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is 910 FIM/month, i.e. 10,920 FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,840 + 8,640 + 10,920) / 121,379 \times 100 = 21.8$  per cent when the family has 3 children (6, 3 and 1 year old).

4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity and paternity leave of 281 weekdays. There are 105 days for the mother and 18 days for the father and 158 days which can be shared or taken by either the mother or the father. In this case it is assumed that the mother has 263 days and the father 18 days.

The *husband* has a wage reduction of  $(121,916 / 312) \times 18 = 7,034$  FIM. He receives 4,925 FIM¹⁾ in compensation.

The wife has a wage reduction of  $(60,958 / 312) \times 263 = 51,384$  FIM. The benefit for this period is 38,687 FIM².

Combined the wage reduction is 58,418 FIM and the compensation received is 43,612 FIM.

The gross compensation percentage is  $43,612 / 58,418 \times 100 = 75$ . The disposable income of the couple with two children (1 child 3 years of age and 1 born in 1994) and a combined leave of 281 days is 128,535 FIM.

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 136,859 - 128,535 = 8,324 FIM or 6.1 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(60,958 / 312) \times 84 = 16,412$  FIM. She receives  $14 \times 6 \times 147.10 = 12,356$  FIM in compensation.

The gross compensation percentage is  $12,356 / 16,412 \times 100 = 75$ . 14 weeks of maternity leave results in a disposable income of 134,425 FIM.

The *decrease* in disposable income compared to the situation, where the couple has two children is 136,859 - 134,425 = 2,434 FIM or 1.8 per cent.

¹⁾ In the husband's income bracket the daily allowance is calculated in this way: 269.13 + 0.4 (0.965 x 121,916 - 114,290) / 300 = 269.13 + 4.48 = 273.61 FIM. For 18 days the compensation is  $18 \times 273.61 = 4,925$  FIM.

²⁾ In the wife's income bracket the daily allowance is calculated in this way:  $101.13 + 0.66 (0.965 \times 60.958 - 37.930) / 300 = 101.13 + 45.97 = 147.10$  FIM. For 263 days the compensation is 263 x 147.10 = 38.687 FIM.

#### Annex

## Tax and social contribution calculation for single APW, 1994. FIM

Gross wage income:	101.010
	121,916
Standard deduction:	
Work related expenses, 3.0 per cent max.  Social contr. unemployment, 1.87 per cent  Social contr. occupational pension, 3.0 per cent	2,100 2,280 3,657
Total	8,037
State taxable income:	
Gross wage income Total standard deductions	121,916 8,037
State taxable income	113,879
State tax:	
State taxable income is in the bracket 100,000 - 157,000 FIM. Then the state tax is calculated this way:	
Fixed amount: + .27 x (113,879 - 100,000)	9,640 3,747
State tax	13,387
Local Government taxable income:	
1. Calculation of 'low income deduction'	
Gross wage income	121,916
Work related expenses	2,100
Work related expenses	
	2,100
Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.	2,100
Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (119,816 - 80,000) = 1,991 FIM.  The deduction is:  Full deduction	2,100
Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (119,816 - 80,000) = 1,991 FIM.  The deduction is:	2,100

### 2. Calculation of Local Government taxable income:

State taxable income	113,879 9
Local Government taxable income	113,870
Local tax:	
Average Local Government plus church tax rate: 18.83  Local tax: 0.1883 x (113,870)	21,442
Social contributions:	
Contributions for illness: 1.9 per cent (+ 1.9 per cent for income above 80,000 FIM). National pension: 1.55 per cent.	
1.9 + 1.55 per cent = 3.45 per cent, 0.0345 x (80,000) =	2,760 1,812 2,280 3,657
All social contributions	10,509
Tax and social contributions:	
State tax Local tax Social contributions	13,387 21,442 10,507
Tax and social contributions	45,338



## Documentation of APW calculations for Finland 1995, 'correct' data

Single APW: The gross wage of the APW in 1995 is the official Finnish estimate reported to OECD.

	199 Non-insure	
Gross wage	132,533 F	IM
Tax and social security	50,419 F	IM
Disposable income	82,114 F	^{IM}

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

	1995 Non-insured ¹⁾
Gross wage	198,800 FIM
Tax and social security	68,495 FIM
Disposable income	130,305 FIM

¹⁾ Unemployment insurance (the earningsrelated component) is voluntary in Finland. In the official APW calculation for Finland in 'The Tax/Benefit Position of Production Workers' there is no deduction in the disposable income for membership fees. This was also the case for the Swedish APW, when unemployment insurance was voluntary in Sweden. This procedure has been continued in this study even if it is not strictly correct. The error is, however, marginal.

2) Cf. the annex for a documentation.

#### 'Standard' income events

#### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 2,549 FIM. In Finland there is a waiting period of 9 weekdays, so there is no compensation at all from the insurance scheme for the first week of illness.

The *gross compensation percentage* is 0. When the APW is ill for one week his or her disposable income is 80,919 FIM.

The *decrease* in disposable income compared to the situation without illness is 82,114 - 80,919 = 1,195 FIM or 1.5 per cent.

In Finland labour market agreements are covering the relatively long waiting period. In the usual situation the employee therefore receives wages during short term illness. In some agreements wages will be paid during illness for 1 to 2 months.

#### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 33,133 FIM. The compensation for a 3 month period is  $13 \times 5 \times 118 = 7,670$  FIM plus 42 per cent of the difference between  $0.955 \times 33,133$  and 7,670, i.e. 10,068 FIM, in total 17,738 FIM. There is a waiting period of 5 days (1 week), so the compensation is 12/13 of the calculated total, i.e. 16,374 FIM.

The gross compensation percentage is  $16,374 / 33,133 \times 100 = 49$ . The disposable income of the APW is 74,800 FIM when he or she is unemployed 25 per cent of the year.

The *decrease* in disposable income is 82,114 - 74,800 = 7,314 FIM or 8.9 per cent.

#### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 4 times the total in case 2  $(4 \times 17,738)$  times 51/52, i.e. 69,588 FIM.

The gross compensation percentage is  $69,588 / 132,533 \times 100 = 52.5$ . The disposable income of the APW is 52,065 FIM when he or she is unemployed for the whole year.

The *decrease* in disposable income is 82,114 - 52,065 = 30,049 FIM or 36.6 per cent.

#### 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 33,133 FIM as in case 2. The compensation for an APW, who is not a member of the voluntary unemployment insurance scheme, is  $12 \times 5 \times 118 = 7,080$  FIM, there is also a waiting period of 5 days in this scheme.

The gross compensation percentage is  $7,080 / 33,133 \times 100 = 21$ . The disposable income is 70,107 FIM in this situation.

The *decrease* in disposable income is 82,114 - 70,107 = 12,007 FIM or 14.6 per cent.

#### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $51 \times 5 \times 118 = 30,090$  FIM for a whole year when the unemployed APW is not insured.

The gross compensation percentage is  $30,090 / 132,533 \times 100 = 23$ . The disposable income is 24,782 FIM in this situation.

The *decrease* in disposable income is 82,114 - 24,782 = 57,332 FIM or 69.8 per cent.

The recipient is eligible to receive additional support for housing costs, either from the housing benefit scheme or from social assistance.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 51/52 times 44,374 FIM (12 months compensation calculated in the same way as in case 3), i.e. 43,521 FIM.

The gross compensation percentage is  $43,521 / 66,267 \times 100 = 66$ . The disposable income of the APW-couple is 116,913 FIM, when the wife is unemployed for the whole year in 1995 and usually is working part time (½ APW income).

The *decrease* in disposable is 130,305-116,913 = 13,392 FIM or 10.3 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

There is no gross wage. In Finland the compensation ('full pension') is 85 per cent of the lost income (70 per cent if the recipient is 65 or older), i.e. 112,653 FIM.

The gross compensation percentage is thus 85. The disposable income in this case is 76,022 FIM.

The *decrease* in disposable income is 82,114 - 76,022 = 6,092 FIM or 7.4 per cent.

#### 2. Loss of 1/3 of the working capability

The loss of income is 44,178 FIM. The compensation is 1/3 of the 'full pension', i.e. equivalent to 85 per cent of the lost income assuming 2/3 of the wage is maintained. The compensation is  $0.85 \times 44,178 = 37,551$  FIM.

The gross compensation percentage is thus 85. The disposable income is 80,304 FIM, when the APW has lost 1/3 of the working capability.

The *decrease* in disposable income is 82,114 - 80,304 = 1,810 FIM or 2.2 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The old age pension scheme in Finland consists of a basic part and an income related part. The basic pension consists of a basic amount which for a single in the 'low' cost part of the country is 445 FIM / month and a supplementary amount which is 1,973 FIM / month in 1995. The supplementary amount is means tested (taper of 50 per cent) against the income related pension. In the case where the APW has been working 'all the time' the income related pension will be 60 per cent of the gross income at retirement. On these assumptions an APW with a full working record from the age of 23 years to 65 years will have a pension equal to  $12 \times 445 = 5,340$  FIM plus  $0.6 \times 132,533 = 79,520$ , in total 84,860 FIM (the supplementary amount is means tested to zero).

The gross compensation percentage is  $84,860 / 132,533 \times 100 = 64$ . The disposable income of the pensioner is 57,157 FIM.

The net compensation percentage is  $57,157 / 82,114 \times 100 = 69.6$ .

The decrease in disposable income by retirement is 30.4 per cent.

### 9. Pensioner without former occupation. 'Single APW'

#### 'Retirement' at 'usual' age, here 65 years

The basic pension in the Finnish old age pension system consists, cf. case 8, of a basic amount of 445 FIM/month and a supplementary amount of 1,973 FIM/month (for a single pensioner in the 'low' cost part of the country in 1995), in total 29,016 FIM a year. There is no taxation of any kind of this minimum pension.

The 'net compensation percentage' is  $29,016 / 82,114 \times 100 = 35.3$ .

The 'decrease' in disposable income, relative to that of the APW, is 64.7 by this kind of 'retirement'.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old.

It is assumed, that both had a 'full' working record. In this case the income related pension is 60 per cent of the gross wage income at retirement, i.e.  $0.6 \times 132,533 = 79,520$  FIM for the husband plus  $0.6 \times 66,267 = 39,760$  FIM for the wife as well as the basic amount in the basic pension scheme, i.e. 5,340 FIM for each of the spouses. For the former part time working spouse, there will be an additional 1,699FIM left from the means testing of the pension supplement, which in 1995 is 1,677 FIM per month for each spouse. The total pension is 79,520 + 5,340 + 39,760 + 5,340 + 1,699 = 131,659 FIM.

The gross compensation percentage is  $131,659 / 198,800 \times 100 = 66$ . The disposable income of the pensioner couple is 95,319 FIM.

The net compensation percentage is  $95,319 / 130,305 \times 100 = 73.2$ .

The decrease in disposable income is 26.8 per cent compared to the APW-couple.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no. 1* (6 years old) there is a family allowance of 570 FIM/month in 1995, i.e. 6,840 FIM on an annual basis. Compared to the situation without children the *increase* in disposable income is  $(6,840 / 130,305) \times 100 = 5.2$  per cent when the family has one child (6 years old).

For *child no.* 2 (3 years old) the allowance is 720 FIM/ month, i.e. 8,640FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,840 + 8,640) / 130,305 \times 100 = 11.9$  per cent when the family has two children (6 and 3 years old).

For *child no.* 3 (1 year old) the allowance is 910 FIM/month, i.e. 10,920 FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,840 + 8,640 + 10,920) / 130,305 \times 100 = 20.3$  per cent when the family has 3 children (6, 3 and 1 year old).

#### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity and paternity leave of 281 weekdays. There are 105 days for the mother and 18 days for the father and 158 days which can be shared or taken by either the mother or the father. In this case it is assumed that the mother has 263 days and the father 18 days.

The *husband* has a wage reduction of  $(132,533 / 312) \times 18 = 7,646$  FIM. He receives 5,169 FIM³⁾ in compensation.

The wife has a wage reduction of  $(66,267 / 312) \times 263 = 55,860$  FIM. The benefit for this period is 41,333 FIM⁴.

*Combined* the wage reduction is 63,506 FIM and the compensation received is 46,502 FIM.

The gross compensation percentage is  $46,502 / 63,506 \times 100 = 73$ . The disposable income of the couple with two children (1 child 3 years of age and 1 born in 1995) and a combined leave of 281 days is 136,719 FIM.

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 145,785 - 136,719 = 9,066 FIM or 6.2 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(66,267 / 312) \times 84 = 17,841$  FIM. She receives  $14 \times 6 \times 157,16 = 13,201$  FIM in compensation.

The gross compensation percentage is  $13,201 / 17,841 \times 100 = 74$ . 14 weeks of maternity leave results in a disposable income of 143,525 FIM.

The *decrease* in disposable income compared to the situation, where the couple has two children is 145,785 - 143,525 = 2,260 FIM or 1.6 per cent.

³⁾ In the husband's income bracket the daily allowance is calculated in this way: 272.96 + 0.4 (0.955 x 132,533 - 115,920) / 300 = 272,96 + 14,20 = 287.16 FIM. For 18 days the compensation is 18 x 287.16 = 5,169 FIM.

⁴⁾ In the wife's income bracket the daily allowance is calculated in this way:  $102.57 + 0.66 (0.955 \times 66,267 - 38,470) / 300 = 102.57 + 54.59 = 157.16$  FIM. For 263 days the compensation is 263 x 157.16 = 41,333 FIM.

#### Annex

## Tax and social contribution calculation for single APW, 1995. FIM

	132,533
	-
Standard deduction:	
Work related expenses, 3.0 per cent max	1,500
Social contr. unemployment, 1.87 per cent	2,478
Social contr. occupational pension, 4.0 per cent	5,301
Total	9,279
State taxable income:	
Gross wage income	132,533
Total standard deductions	9,279
State taxable income	123,254
State tax:	
State taxable income is in the bracket 102,000 - 160,000 FIM. Then the state tax is calculated this way:	
Fixed amount:	9,850
+ .27 x (123,254 - 102,000)	5,739
State tax	15,589
Local Government taxable income:	
Local Government taxable income:  1. Calculation of 'low income deduction'	
Calculation of 'low income deduction'	132.533
	132,533 1,500
1. Calculation of 'low income deduction'  Gross wage income	
1. Calculation of 'low income deduction'  Gross wage income	1,500
1. Calculation of 'low income deduction'  Gross wage income  Nork related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.	1,500
1. Calculation of 'low income deduction' Gross wage income Nork related expenses Basis for calculation of deduction	1,500
1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (131,033 - 80,000) = 2,552 FIM.	1,500
1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (131,033 - 80,000) = 2,552 FIM.	1,500
1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (131,033 - 80,000) = 2,552 FIM.  The deduction is:  Full deduction	1,500 131,033 2,000
1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (131,033 - 80,000) = 2,552 FIM.	1,500

## 2. Calculation of Local Government taxable income:

2. Calculation of Local Government taxable most income.	
State taxable income	123,254 0
	100.054
Local Government taxable income	123,254
Local Government taxable	
Local tax:	
Average Local Government plus church tax rate: 18.83 Local tax: 0.1883 x (123,254)	23,209
Social contributions:	
Contributions for illness: 1.9 per cent (+ 1.9 per cent for income above 80,000 FIM). National pension: 0.55 per cent.	
	1,960
1.9 + 0.55 per cent = 2.45 per cent, 0.0245 x (80,000) =	1,882
0.00000000000000000000000000000000000	2,478
+ Soc. contr. unemployment	5,301
All social contributions	11,621
All Social Contributions	
Tax and social contributions:	4E E00
State tax	15,589 23,209
	11,621
Local tax Social contributions	11,021
Tax and social contributions	50,419
Tax and social contributions	

# Documentation of APW calculations for Finland 1996, 'correct' data

Single APW: The gross wage of the APW in 1996 is the official Finnish estimate reported to OECD.

	1996 Non-insured ¹⁾
Gross wage	137,046 FIM
Tax and social security ²⁾	51,533 FIM <i>85,513 FIM</i>
Disposable income	65,515 FIIVI

APW-couple: The husband has the same gross wage as the single APW, the wife has 50 per cent of that income. There are no children.

	1996 Non-insured ¹⁾
Gross wage Tax and social security Disposable income	205,569 FIM 70,027 FIM 1 <i>35,542 FIM</i>

Unemployment insurance (the earningsrelated component) is voluntary in Finland. In the official APW calculation for Finland in 'The Tax/Benefit Position of Production Workers' there is no deduction in the disposable income for membership fees. This was also the case for the Swedish APW, when unemployment insurance was voluntary in Sweden. This procedure has been continued in this study even if it is not strictly correct. The error is, however, marginal.

2) Cf. the annex for a documentation.

#### 'Standard' income events

### 1. Ill for one week. Single APW

The gross wage is reduced by 1/52, i.e. 2,636 FIM. In Finland there is a waiting period of 9 weekdays, so there is no compensation at all from the insurance scheme for the first week of illness.

The gross compensation percentage is 0. When the APW is ill for one week his or her disposable income is 84,251 FIM.

The *decrease* in disposable income compared to the situation without illness is 85,513 - 84,251 = 1,262 FIM or 1.5 per cent.

In Finland labour market agreements are covering the relatively long waiting period. In the usual situation the employee therefore receives wages during short term illness. In some agreements wages will be paid during illness for 1 to 2 months.

### 2. Unemployed for 3 months during the year, insured. Single APW

The loss of income is 1/4 of the gross wage, i.e. 34, 262 FIM. The compensation for a 3 month period is  $13 \times 5 \times 118 = 7,670$  FIM plus 42 per cent of the difference between 31,860 and 7,670, i.e. 10,160 FIM plus 20 per cent of the difference between  $0.955 \times 34,262 = 32,720$  and 31,860, i.e. 172 FIM, in total 18,002 FIM. There is a waiting period of 5 days (1 week), so the compensation is 12/13 of the calculated total, i.e. 16,617 FIM.

The gross compensation percentage is  $16,617 / 34,262 \times 100 = 48.5$ . The disposable income of the APW is 77,579 FIM when he or she is unemployed 25 per cent of the year.

The *decrease* in disposable income is 85,513 - 77,579 = 7,934 FIM or 9.3 per cent.

### 3. Unemployed for the whole year, insured. Single APW

There is no gross wage. The compensation is 4 times the total in case  $2 (4 \times 18,002)$  times 51/52, i.e. 70,623 FIM.

The gross compensation percentage is  $70,623 / 137,046 \times 100 = 51.5$ . The disposable income of the APW is 53,244 FIM when he or she is unemployed for the whole year.

The *decrease* in disposable income is 85,513 - 53,244 = 32,269 FIM or 37.7 per cent.

## 4. Unemployed for 3 months during the year, non-insured. Single APW

The reduction of the gross wage is 34,262 FIM as in case 2. The compensation for an APW, who is not a member of the voluntary unemployment insurance scheme, is  $12 \times 5 \times 118 = 7,080$  FIM, there is also a waiting period of 5 days in this scheme.

The gross compensation percentage is  $7,080 / 34,262 \times 100 = 21$ . The disposable income is 72,744 FIM in this situation.

The *decrease* in disposable income is 85,513 - 72,744 = 12,769 FIM or 14.9 per cent.

### 5. Unemployed for the whole year, non-insured. Single APW

There is no gross wage. The compensation is  $51 \times 5 \times 118 = 30,090$  FIM for a whole year when the unemployed APW is not insured.

The gross compensation percentage is  $30,090 / 137,046 \times 100 = 22$ . The disposable income is 24,917 FIM in this situation.

The *decrease* in disposable income is 85,513 - 24,917 = 60,596 FIM or 70.9 per cent.

The recipient is eligible to receive additional support for housing costs, either from the housing benefit scheme or from social assistance.

#### 6. Wife unemployed for the whole year, insured. APW-couple

There is no gross wage for the wife. The compensation is 51/52 times 45,279 FIM (12 months compensation calculated in the same way as in case 3), i.e. 44,408 FIM. The gross compensation percentage is  $44,408 / 68,523 \times 100 = 65$ . The disposable income of the APW-couple is 121,213 FIM, when the wife is unemployed for the whole year in 1996 and usually is working part time ( $\frac{1}{2}$  APW income).

The *decrease* in disposable is 135,542 - 121,213 = 14,329 FIM or 10.6 per cent.

#### 7. Injured from work. Single APW

The effects of injuries from work are investigated in two cases. In the first there is a complete loss of working capability. In the second, the working capability is reduced by 33.3 per cent.

#### 1. Working capability completely lost

There is no gross wage. In Finland the compensation ('full pension') is 85 per cent of the lost income (70 per cent if the recipient is 65 or older), i.e. 116,489 FIM.

The gross compensation percentage is thus 85. The disposable income in this case is 78,984 FIM.

The *decrease* in disposable income is 85,513 - 78,984 = 6,529 FIM or 7.6 per cent.

#### 2. Loss of 1/3 of the working capability

The loss of income is 45,682FIM. The compensation is 1/3 of the 'full pension', i.e. equivalent to 85 per cent of the lost income assuming 2/3 of the wage is maintained. The compensation is  $0.85 \times 45,682 = 38,830$  FIM.

The gross compensation percentage is thus 85. The disposable income is 83,567 FIM, when the APW has lost 1/3 of the working capability.

The *decrease* in disposable income is 85,513 - 83,567 = 1,946 FIM or 2.3 per cent.

## 8. Pensioner with maximum period of former occupation. Single APW Retirement at 'usual' age, here 65 years

The old age pension scheme in Finland consists of a basic part and an income related part. The basic pension consists of a basic amount, which for a single in the 'low' cost part of the country is  $446 \, \text{FIM}$  / month and a supplementary amount, which is  $1,978 \, \text{FIM}$  / month in 1996. The whole basic pension (1996) is means tested (taper of 50 per cent) against the income related pension. In the case where the APW has been working 'all the time' the income related pension will be 60 per cent of the gross income at retirement. On these assumptions an APW with a full working record from the age of 23 years to 65 years will have a pension equal to  $0.6 \, \text{x}$   $137,046 = 82,228 \, \text{FIM}$  (the basic pension is means tested to zero).

The gross compensation percentage is  $82,228 / 137,046 \times 100 = 60$ . The disposable income of the pensioner is 57,219 FIM.

The net compensation percentage is  $57,219 / 85,513 \times 100 = 66.9$ .

The decrease in disposable income by retirement is 33.1 per cent.

## 9. Pensioner without former occupation. 'Single APW' 'Retirement' at 'usual' age, here 65 years

The basic pension in the Finnish old age pension system consists, cf. case 8, of a basic amount of 446 FIM/month and a supplementary amount of 1,978 FIM/month (for a single pensioner in the 'low' cost part of the country in 1994), in total 29,088 FIM a year. There is no taxation of any kind of this minimum pension.

The 'net compensation percentage' is  $29,088 / 85,513 \times 100 = 34.0$ .

The 'decrease' in disposable income, relative to that of the APW, is 66.0 by this kind of 'retirement'.

## 10. Pensioners with maximum period of former occupation. APW-couple The two pensioners have the same age, and both retire 65 years old.

It is assumed, that both had a 'full' working record. In this case the income related pension is 60 per cent of the gross wage income at retirement, i.e.  $0.6 \times 137,046 = 82,228$  FIM for the husband plus  $0.6 \times 68,523 = 41,114$  FIM for the wife. There will be no national pension for the husband. The national pension for the wife,  $12 \times 446 = 5,352$  FIM and  $12 \times 1,681 = 20,172$  FIM, in total 25,524 FIM, will be means tested to 6,427 FIM. The total pension is 82,228 + 41,114 + 6,427 = 129,769 FIM.

The gross compensation percentage is  $129,769 / 205,569 \times 100 = 63$ . The disposable income of the pensioner couple is 96,384 FIM.

The net compensation percentage is  $96,384 / 135,542 \times 100 = 71.1$ .

The decrease in disposable income is 28.9 per cent compared to the APW-couple.

#### 'Standard' income events in connection with children

#### 1-3. The couple has 1, 2 or 3 children

For *child no.* 1 (6 years old) there is a family allowance of 535 FIM/month in 1996, i.e. 6,420 FIM on an annual basis. Compared to the situation without children the *increase* in disposable income is  $(6,420 / 135,542) \times 100 = 4.7$  per cent when the family has one child (6 years old).

For *child no.* 2 (3 years old) the allowance is 657 FIM/ month, i.e. 7,884 FIM on an annual basis. Compared to the situation without children the *increase* is  $(6,420 + 7,884) / 135,542 \times 100 = 10.6$  per cent when the family has two children (6 and 3 years old).

For *child no. 3* (1 year old) the allowance is 779 FIM/month, i.e. 9,348 FIM on an annual basis. Compared to the situation without children the *increase* is (6,420 +

7,884 + 9,348) /  $135,542 \times 100 = 17.4$  per cent when the family has 3 children (6, 3 and 1 year old).

#### 4. The couple gets the second child and has 2 children

There are the same 'timing-problems' as mentioned in the documentation for Denmark.

1. The couple has a combined maternity and paternity leave of 281 weekdays. There are 105 days for the mother and 18 days for the father and 158 days which can be shared or taken by either the mother or the father. In this case it is assumed that the mother has 263 days and the father 18 days.

The *husband* has a wage reduction of  $(137,046 / 312) \times 18 = 7,907$  FIM. He receives 5,481 FIM⁵⁾ in compensation.

The wife has a wage reduction of  $(68,523 / 312) \times 263 = 57,761$  FIM. The benefit for this period is 40,157 FIM⁶.

Combined the wage reduction is 65,668FIM and the compensation received is 45,638 FIM.

The gross compensation percentage is  $45,638 / 65,668 \times 100 = 69.5$ . The disposable income of the couple with two children (1 child 3 years of age and 1 born in 1996) and a combined leave of 281 days is 138,707 FIM.

The *decrease* in disposable income compared to the situation where the couple has two children (3 and 1 year) is 149,846 - 138,707 = 11,139 FIM or 7.4 per cent.

2. In this calculation the *common period* of 14 weeks maternity leave for the wife is used. Her wage reduction is  $(68,523 / 312) \times 84 = 18,449$  FIM. She receives  $14 \times 6 \times 152.69 = 12,826$  FIM in compensation.

The gross compensation percentage is  $12,826 / 18,449 \times 100 = 69.5$ . 14 weeks of maternity leave results in a disposable income of 146,961 FIM.

The *decrease* in disposable income compared to the situation, where the couple has two children is 149,846 - 146,961 = 2,885 FIM or 1.9 per cent.

⁵⁾ In the husband's income bracket the daily allowance is calculated in this way: 303.33 + 0.4 (0.955 x 137,046 - 130,000) / 300 = 303.33 + 1.17 = 304.50FIM. For 18 days the compensation is 18 x 304.50 = 5,481 FIM.

⁶⁾ In the wife's income bracket the daily allowance is calculated in this way:  $0.7 \times (0.955 \times 68,523) / 300 = 152.69$  FIM. For 263 days the compensation is  $263 \times 152.69 = 40,157$  FIM.

#### Annex

### Tax and social contribution calculation for single APW, 1996. FIM

Gross wage income:	137,046
Standard deduction:	
Work related expenses, 3.0 per cent max	1,500
Social contr. unemployment, 1.5 per cent	2,056
Social contr. occupational pension, 4.3 per cent	5,893
Total	9,449
State taxable income:	
Gross wage income	137,046
Total standard deductions	9,449
State taxable income	127,597
State tax:	
State taxable income is in the bracket 104,000 - 163,000 FIM.	
The continuous state that is a major data of their record	
Then the state tax is calculated this way:	10.000
Fixed amount:	10,060 6 371
	10,060 6,371
Fixed amount:	
Fixed amount:	6,371
Fixed amount: + .27 x (127,597 - 104,000)  State tax	6,371
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:	6,371
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'	6,371
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income	6,371 16,431 137,046
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income	6,371 16,431
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses	6,371 16,431 137,046
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income	137,046 1,500
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction	137,046 1,500
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses	137,046 1,500
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.	137,046 1,500
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (135,546 - 80,000) = 2,777 FIM.	137,046 1,500
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (135,546 - 80,000) = 2,777 FIM.	137,046 1,500 135,546
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (135,546 - 80,000) = 2,777 FIM.  The deduction is: Full deduction	137,046 1,500 135,546
Fixed amount: + .27 x (127,597 - 104,000)  State tax  Local Government taxable income:  1. Calculation of 'low income deduction'  Gross wage income  Work related expenses  Basis for calculation of deduction  Full deduction is 5 per cent of income above 20,000 FIM, max. 2,000 FIM.  The full deduction is reduced with 5 per cent of the income above 80,000 FIM.  The reduction is 0.05 x (135,546 - 80,000) = 2,777 FIM.	137,046 1,500

#### 2. Calculation of Local Government taxable income:

State taxable income	127,597 0
Local Government taxable income	127,597
Local tax:	
Average Local Government plus church tax rate: 18.84 Local tax: 0.1884 x (127,597)	24,039
Social contributions:	
Contributions for illness: 1.9 per cent (+ 1.45 per cent for income above 80,000 FIM).	
0.019 x (80,000) =	1,520
0.0335 x (127,597 - 80,000) =	1,594
+ Soc. contr. unemployment	2,056
+ Soc. contr. occupational pension	5,893
All social contributions	11,063
Tax and social contributions:	
State tax	16,431
Local tax	24,039
Social contributions	11,063
Tax and social contributions	51,533



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