

Survivors' Pension Rights and Wages

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Abstract

Wages are not only money wages. For an employee, the wage consists of all the benefits that he or she is entitled to as a result of employment. His or her total remuneration for work is composed of money wages plus non-wage benefits such as earnings-related or employment-related insurance rights. In Europe, earnings-related insurance mainly takes the form of public and negotiated collective systems. Hence the individual value is hard to observe. This article is an original attempt to determine the individual value of certain public and negotiated insurance rights. A money value for earnings-related survivors' pension rights is estimated and added to the money wage to create an extended wage measure. We use Swedish micro data to analyse what the inclusion of different insurance rights might mean for wage differentials and wage dispersion. The study indicates that wage inequality is understated when non-wage benefits in the form of survivors' pension rights are excluded from the compensation measure and that a more complete picture of wage differentials is obtained when these rights are accounted for.

Key words: non-wage benefits, wage inequality, earnings-related insurance rights, survivors' pension rights

JEL classification: J32

I. Introduction

Traditionally, studies of wage differentials do not provide us with the complete picture of differences in remuneration for work. One reason is that compensation other than money wages is not included. This can result in misjudged wage differences, since wages are not only money wages. For an employee, the wage consists of all the benefits that he or she is entitled to as a result of employment, including earnings-related insurance rights. There are very few European studies of earnings-related or employment-related insurance rights. Most studies have been made in the U.S. (see for example Granqvist 1998 for an overview). The main reason for this is that in the U.S. earnings-related or employment-related insurance is mainly private insurance taken out by the employer for his or her employees. In this case, the individual value of the non-wage benefit is considered to be equal to the insurance premium paid. In Europe, however, earnings-related insurance is mainly public and negotiated. Insurance rights in politically determined social insurance and negotiated insurance determined by labour market organizations are collective and not actuarially fair to the individual. We cannot simply observe the individual value of these insurance rights. But we know from the design of the schemes that the relation between these rights and money wage is seldom the same for different categories of wage earners. The uniform premium or contribution to the social insurance scheme - and to a certain extent also to negotiated insurance schemes - is partly a tax for individuals whose risk is lower than the average risk and partly a subsidy to individuals whose risk is higher than average. For example, sickness absence is higher among women than among men but nevertheless the percentage contribution to the sickness benefit earnings-related social insurance system is the same for women as for men. In the perfect labour market these differences in actuarial premiums should have an effect on money wages and money wage differentials should be larger. Further, the negotiated insurance scheme is organized differently in different sectors and even if the rules are formally equal for everybody, the consequences of the rules can be different owing to different labour market behaviour (see for example Ståhlberg 1990, 1995).

This article is a unique attempt to determine the individual value of certain public and negotiated insurance rights and include these in the wage concept. We use Swedish money wages and insurance rules from 1995. The insurance rights we focus on are survivors' pension rights stipulated by law and by negotiated agreements. We analyse what the inclusion of individual insurance rights in the wage concept might mean for wage differentials and wage dispersion.

The political process determines social insurance, while agreements in the labour market determine the negotiated insurance. Section II describes possible reasons why negotiated insurance is attractive as a non-wage benefit. With the insurance rules as the point of departure, we generate a hypothesis of how insurance rights could differ between different wage earners. Section III gives a short overview of the rules in the different insurance schemes. Section IV discusses previous studies. Section V describes how we estimate individual insurance rights. In section VI we present the estimated insurance rights for different categories and analyse what the inclusion of public and negotiated insurance rights in the wage concept might mean for wage differentials and wage dispersion. A summary and conclusions are given in the final section VII.

II. Theoretical Background

In economic theory there are many explanations of the incidence of non-wage benefits. In her overview, Granqvist (1998) highlights (1) their role in maintaining inequality between blue-collar and white-collar workers, indicating that non-wage benefits are more unequally distributed than money wages, (2) their potential as a tool for counteracting the effects of the solidarity wage policy,¹ (3) that they may enable employers to engage in wage discrimination against certain employee groups, and (4) that they can counteract the equalising effect of progressive income tax. These explanations could also hold for the Swedish negotiated insurance schemes.

Negotiated insurance in Sweden has favourable tax-rules both for the employer and for the employees. The insurance premium is tax-free for the employee and free from social

¹ See Edin and Holmlund (1995) for a discussion of the solidarity wage policy in Sweden.

insurance contributions for the employer. Certain disbursements are free from income tax. With high marginal taxes on money wages, the tax advantage is larger for high-income earners than for low-income earners.

Negotiated insurance in Sweden may counteract and neutralize the effects of the solidarity *social policy*. The rate of compensation in the negotiated insurance schemes can be much higher for those who have incomes above the social insurance ceiling than for those who have lower incomes. (The social insurance ceiling is approximately equivalent to 150 per cent of an average industrial worker's annual wage before taxes.) This may compensate high-income earners for the fact that the compensation rate in the Swedish social insurance scheme is the opposite: it is lower for those who have incomes above the social insurance ceiling than for those who have lower incomes. For example, a private white-collar worker whose annual wage income is below the social insurance ceiling has a right to a survivors' pension from the social insurance system, but one whose income is above the ceiling has a right to a survivors' pension from both the social insurance and the negotiated insurance schemes. When he or she dies, the surviving spouse receives an annual pension from the negotiated scheme for the rest of his or her life and from the uniform social insurance system for six months. The pension amount from social insurance is based on portions of wages up to the ceiling, the pension amount from negotiated insurance on portions of wages above the ceiling. The wage income redistribution effect of the social insurance rights, emanating from the rule that benefits are not paid on incomes above the ceiling, is thus counteracted by the rules of the negotiated insurance.

MW = money wage

SB = social insurance benefits

NB = negotiated insurance benefits

H = high income earners

L = low income earners

$$(SB/MW)_H < (SB/MW)_L$$

$$(NB/MW)_H > (NB/MW)_L$$

Negotiated insurance schemes in Sweden may attract a desired type of worker. Mostly they give special benefits to married people (sometimes also to cohabitants and registered partners) and to those who have young children. This might attract stable

workers, who are assumed to be married persons and families with children to a greater extent than unmarried and childless persons. Survivors' pensions may be used as a tool to circumvent non-discrimination laws and agreements. It may also be taken as a non-wage marriage premium in the labour market.²

III. The Survivors' Pension. 1995 Rules.

1. Social insurance

In this study the focus is on the survivors' pension.

The earnings-related survivors' pension in the social insurance system from 1990 – the year the widow's pension was abolished in social insurance – consists of a survivors' pension to men, women and children. Those who were middle aged or older in 1990, when the rules changed, receive a widow's pension under special transitional rules. Others receive an adaptation pension, which lasts for six months or until the youngest child is twelve years old. Cohabitants who do not have children in common are not entitled to an adaptation pension. The pension amount is based on the deceased person's old age pension from the earnings-related ATP system and comes to 40 per cent of his or her actual or hypothetical ATP. If there are infant children who receive a child pension, the parent's compensation from the ATP will shrink to 20 per cent. This means that the widow/widower has to "give up" a certain share of his or her pension to the children, which is advantageous from point of view of taxation.

Children receive a child pension from the social insurance system if the father, mother or both have died. It is paid until the child is 18, or, if he or she is studying, until the age of 20. The child pension from the ATP system is 30 per cent of the deceased parent's old age pension from the ATP (actual or hypothetical) for the first child. Each additional child receives 20 per cent of the parent's ATP. However, the total percentage cannot exceed 100.

² For a discussion of the Swedish marriage premium see Richardson (1997, 2000).

2. The negotiated insurance schemes

Negotiated insurance schemes are based on collective agreements, and cover almost all employees in Sweden. There are four large negotiated insurance schemes in Sweden, covering private white-collar workers, private blue-collar workers, state employees, and local authority and county council employees. The four systems are similar in principle, but are constructed according to the special conditions in each sector.

The survivors' pension from the negotiated schemes has several components. Pensions are paid to widows, widowers and children of private white-collar workers, state employees, and local authority and county council employees who work for more than 40 per cent of full time. Only blue-collar workers in the private sector lack a survivors' pension. The definition of children eligible to pensions varies. The widow's and widower's pensions cease if they remarry. The pension amount is determined in different ways for widows/widowers and children in the different schemes, but they all have the common feature that the widow or widower has to give up a certain share of her or his pension to the children, which results in tax advantages.

Negotiated life insurance

Every employee who works for more than 40 per cent of full time is covered by negotiated life insurance (TGL) from the age of 18. This life insurance is the same for all sectors and categories. The basic amount is 6 base amounts if the employee is between 18 and 54 years old when he or she dies. The base amount is an artificial amount constructed in order to make benefits inflation-indexed. One base amount is about 20 per cent of an average industrial worker's wage before taxes. Over 55 years, benefits decrease (see Table 1). If there are children under 17 years old the highest amount will be paid irrespective of the age of the deceased person. The maximum for the child's amount is set at two base amounts. All TGL compensation is exempt from taxes.

Table 1
Negotiated life insurance (TGL)

The age of the deceased	Basic amount (net, in base amounts)	Age of children	Child's amount (net, in base amounts)
Below 55	6	below 17	2
55	5.5	17-18	1.5
56	5	19-20	1
57	4.5	21 and older	0
58	4		
59	3.5		
60	3		
61	2.5		
62	2		
63	1.5		
64	1		
If children below 17	6		

Source: <http://www.amf.se>

Private white-collar workers

Further, private white-collar workers, state employees, and local authority and county council employees 28 years old and older are eligible to family pensions. The compensation varies between sectors. Among privately employed white-collar workers, only survivors of employees whose annual earnings exceed 7.5 base amounts are eligible. Widows and widowers are compensated for the rest of their lives provided that they do not remarry. Cohabitants receive no compensation. Children receive compensation until they are 20 years old. The family pension amount is based on the final wage of the deceased (Y), (see Table 2).

Table 2*Family pension of private white-collar workers (ITP family pension)*

Final wage of the deceased (Y)	Family pension	
	widow/widower (gross, in base amounts)	children ≤ 20 (net, in base amounts)
$0 < Y \leq 7.5$	0	0
$7.5 < Y \leq 20$	$A_j \times [0.325 \times (Y - 7.5)]$	$A_k \times [0.325 \times (Y - 7.5)]$
$20 < Y \leq 30$	$A_j \times [0.325 \times (20 - 7.5) + 0.1625 \times (Y - 20)]$	$A_k \times [0.325 \times (20 - 7.5) + 0.1625 \times (Y - 20)]$
$30 < Y$	$A_j \times [0.325 \times (20 - 7.5) + 0.1625 \times (30 - 20)]$	$A_k \times [0.325 \times (20 - 7.5) + 0.1625 \times (30 - 20)]$
Category (j)	A_j	A_k
Married, no children ≤ 20	1.00	0
Married, one child ≤ 20	0.75	0.55
Married, two children ≤ 20	0.75	0.75
Married, three children (≤ 20)	0.75	0.85
Married, four children (≤ 20)	0.75	0.95
Married, five children (≤ 20)	0.75	1.05
Married, six children (≤ 20)	0.75	1.15
Unmarried, one child ≤ 20	0	0.75
Unmarried, two children ≤ 20	0	1.10
Unmarried, three children ≤ 20	0	1.35
Unmarried, four children ≤ 20	0	1.50
Unmarried, five children ≤ 20	0	1.60
Unmarried, six children (≤ 20)	0	1.70

Source: <http://www.spp.se>

State employees

The family pension to survivors of state employees is paid during five years provided that the widow or widower does not remarry. Cohabitants who do not have children in common receive no compensation. The annual pension is 1.2 base amounts. Children receive compensation as long as they are below the age of 20. They receive half a base amount annually. See Table 3.

If the deceased's annual earnings exceed 7.5 base amounts a supplemented family pension is added. The rules are the same as for the family pension of private white-collar

workers, but the pension is now based on the average wage of the final five years (G). See Table 4.

Table 3
Family pension of state employees (Family pension PA-91)

Number of children	Family pension widow/widower (gross, in base amounts)	children < 20 (net, in base amounts)
0	1.2	0
1	1	0.7
2	1	1.2
3	1	1.7
4	1	2.2
5	1	2.7
6	1	3.2
If children only	0	$1.2+0.5 \times \text{number of children}$

Source: <http://www.spv.se>

Table 4
The supplemented family pension of state employees (PA-91)

The average wage (G) of the final five years in base amounts	Supplemented family pension widow/widower (gross, in base amounts)	children < 20 (net, in base amounts)
G > 7.5	the same construction as for the family pension of private white-collar workers	the same construction as for the family pension of private white-collar workers

Source: <http://www.spv.se>

Local authority and county council employees

The family pension of local authority and county council employees is paid to widows and widowers for five years provided that they do not remarry. Cohabitants who do not have children in common receive no compensation. The pension is based on the deceased's wages during her or his final seven years (from the year before death). The best five years

are selected and the pension is calculated on the basis of the average wage (K) during these five years. The family pension is 15 per cent of the average wage up to 20 base amounts and 7.5 per cent on portions of wages between 20 and 30 base amounts.

The child pension is 10 per cent up to 7.5 base amounts, 28 per cent on portions of wages between 7.5 and 20 base amounts, and 14 per cent on portions of wages between 20 and 30 base amounts. See Table 5.

Table 5
Family pension of local authority and county council employees (PA-KL)

The average wage (K) of the five best years out of the final seven in base amounts	Family pension	
	widow/widower (gross, in base amounts)	children < 20 (net, in base amounts)
$0 < K \leq 7.5$	$0.15 \times K$	$Aq \times 0.10 \times K$
$7.5 < K \leq 20$	$0.15 \times K$	$Aq \times [0.10 \times 7.5 + 0.28 \times (K - 7.5)]$
$20 < K \leq 30$	$0.15 \times 20 + 0.075 \times (K - 20)$	$Aq \times [0.10 \times 7.5 + 0.28 \times (20 - 7.5) + 0.14 \times (K - 20)]$
$30 < K$	$0.15 \times 20 + 0.075 \times (30 - 20)$	$Aq \times [0.10 \times 7.5 + 0.28 \times (20 - 7.5) + 0.14 \times (30 - 20)]$
		Number of children
		1
		2
		3
		4
		5 or more
		Aq
		1
		1.4
		1.6
		1.8
		2.0

Source: <http://www.spv.se>

Table 6 summarizes the negotiated survivors' pensions. Table 7 shows the survivors' pension from the earnings-related social insurance scheme.

Table 6*Summary of the negotiated survivors' pensions*

Private white-collar workers	Private blue-collar workers	State employees	Local authority and county council employees
Life insurance	Life insurance	Life insurance	Life insurance
Family pension if the annual wage > 7.5 base amounts		Family pension Supplemented family pension if the annual wage > 7.5 base amounts	Family pension
Child pension if the annual wage > 7.5 base amounts		Child pension Supplemented child pension if the annual wage > 7.5 base amounts	Child pension

Table 7*The survivors' pension from the earnings-related social insurance*

All employees	
Adaptation pension	on portions of annual wage \leq 7.5 base amounts
Child pension	on portions of annual wage \leq 7.5 base amounts

IV. Previous Studies

In the perfect insurance market each individual pays a premium which depends on the risk and the benefit amount. A perfect market is characterised by well-informed actors and an absence of transaction costs. Everybody knows everything about risks, etc. The perfect market is a fiction for several reasons, such as asymmetric information (see for example Barr 1992). However, the premiums of an actuarial insurance scheme will imitate the premiums of the perfect market. Certain characteristics are easy to observe, such as sex, age, marital status and number of children. For example, the actuarial value of the survivors' pension is

higher for the worker who has many young children than for the worker who has one child only or no children at all.

Since the earnings-related insurance schemes are mandatory and not marketable there is a problem of valuation, which should be kept in mind when we compare money wages with the actuarial values of the individual insurance rights. In previous studies using Swedish data, Selén and Ståhlberg (1996, 1998) calculate the actuarial value of the individual's insurance rights in the public earnings-related old-age pension scheme and the negotiated old-age pension schemes. The 1998 study finds that, according to the coefficient of variation, relative variability increases when public and negotiated old-age earnings-related pension rights are included in the wage measure. The 1996 study found that the work experience effect on wage growth was larger when old-age pension rights were included in the wage measure. Ståhlberg and Tegle (1998) find using Swedish data that the proportion of negotiated old-age pension rights to money wages is not equal for men and women. It is lower for women, which means that women as a group receive less remuneration for work relative to men than is indicated by wage statistics.

V. Calculations of the Survivors' Pension Rights

We study the individual non-wage benefits from the negotiated insurance schemes and the earnings-related social insurance system by calculating the actuarial value of the insurance provision for different categories of Swedish wage earners.

$$P_{i,j}^N = p_i \cdot B_{i,j}^N + A_j^N$$

$$P_i^S = p_i \cdot B_i^S + A^S$$

$P_{i,j}^N$ is the actuarial value of the negotiated survivors' pension for individual i who belongs to the negotiated insurance scheme j . $i = 1 \dots n, j = 1 \dots 4$. P_i^S is the actuarial value of the survivors' pension from the earnings-related social insurance system for individual i . p_i is the probability of the insurance situation occurring, that is, the mortality risk. $B_{i,j}^N$ and B_i^S are the discounted values of the benefit amounts from negotiated insurance and social insurance respectively, and are determined by the rules of construction. $B_{i,j}^N = B_{i,j}^N$ (age, married/cohabitant, annual wages, marginal tax, age of husband/wife/cohabitant, mean life

expectation, number of children, children's age, rate of discount). $B_i^S = B_i^S$ (married/cohabitant, pension points in the national supplementary old age pension scheme, number of years with pension points, marginal tax, number of children, children's age, rate of discount). A_j^N and A^S are transaction costs. In the following we assume that $A_j^N = A^S = 0$

The calculations of different individuals' survivors' pension rights, $P_{i,j}^N$ and P_i^S , have been made on the basis of a representative sample of the Swedish adult population 18-64 years old. We have used data from household income survey of Statistics Sweden for 1995. This yearly survey is based on about 10.000 households in all. The non-response rate is below 20 percent. Our estimation utilises data for the interviews in each household; interview data and register data from the tax authority and the Swedish Social Insurance board. All income from employment reported in the income statements are available to us and utilised. Wages for the latest seven years are required for the calculation of the family pensions of local authority and county council employees, table 5. For about 10 per cent of the individuals we know appropriate income variables. For the remaining 90 per cent, income approximations are calculated for 1994 and 1995; some minor components are missing especially for 1994.³

The survival probabilities and mortality rates (p_i) are calculated by age and sex from official statistics for 1993-1997. Two per cent is chosen as the real rate of discount. The marginal tax is approximately 30 percent when the annual wage income is below the social insurance ceiling, otherwise approximately 60 percent. We assume that the widow/widower does not remarry. This is not a strong assumption since the economic incentives to remain unmarried are strong.

³ We know the yearly base for the pensions in the social insurance system for all years, but income above the ceiling of 7.5 base amounts is censored. The 1994 and 1995 approximations are used to estimate whether an individual is below this ceiling for all years or not. When the 1994 and 1995 income sum is below 7.5 base amounts the social insurance base for each year is used. For the remaining individuals the largest real income 1994 or 1995 is imputed to all years. It turned out that the corresponding two groups were almost identical in size in our sample. A change of the cut-off point from 7.5 to 14 base amounts had only minor effects on the final results.

VI. Results

We compare the annual wage of private blue-collar workers, private white-collar workers, state employees and local authority and county council employees (local) using the extended wage measure. By wage we mean

- (1) money wage (MW)
- (2) money wage (MW)
 - + the actuarial value of the negotiated survivors' pension ($P^N = NW$)
 - + the actuarial value of the public survivors' pension ($P^S = SW$)
 - = $MW + NW + SW$
- (3) money wage (MW)
 - + the actuarial value of the negotiated survivors' pension (NW)
 - = $MW + NW$
- (4) money wage (MW)
 - + the actuarial value of the public survivors' pension (SW)
 - = $MW + SW$

In Tables 8-12 means, medians and coefficients of variation are given. The results for different categories and sectors are found in Tables 8-11. The results for men and women, different ages, and different households are found in Tables 12a-12b.

Table 8

Money wage (annual) compared with money wage plus negotiated and public survivors' pension rights (annual), thousands

	MW				$MW + NW + SW$		
	N	Median	Mean	CV	Median	Mean	CV
Blue-collar workers							
State	57	196	195	31.3	203	198	31.9
Local	890	145	143	29.9	146	144	29.9
Private	1921	176	173	31.8	178	175	32.0
All	2868	164	164	32.7	166	166	32.8

<u>White-collar workers</u>							
State	364	216	230	40.0	220	235	40.8
Local	1100	175	188	38.2	177	190	38.4
Private	2208	217	233	58.2	220	245	58.8
All	3672	201	233	54.1	204	227	54.8
<u>All</u>	6540	182	196	51.2	184	199	51.8

Table 9

Money wage plus negotiated survivors' pension rights (annual) compared with money wage plus public survivors' pension rights (annual), thousands

	<i>MW+NW</i>			<i>MW+SW</i>			
	N	Median	Mean	CV	Median	Mean	CV
<u>Blue-collar workers</u>							
State	57	201	197	31.7	198	196	31.4
Local	890	146	144	29.8	145	143	29.9
Private	1921	177	175	31.8	177	174	31.9
All	2868	165	166	32.8	165	165	32.8
<u>White-collar workers</u>							
State	364	219	234	40.7	218	231	40.1
Local	1100	176	190	38.3	175	188	38.3
Private	2208	219	244	58.9	218	242	58.2
All	3672	203	226	54.7	204	224	54.1
<u>All</u>	6540	183	198	51.7	183	197	51.2

Table 10

Negotiated and public survivors' pension rights' share of the money wage.

	<i>(NW+SW)/MW</i>			
	N	Median	Mean	CV
<u>Blue-collar workers</u>				
State	57	0.0141	0.0156	85.5
Local	890	0.0104	0.0124	112.4
Private	1921	0.0079	0.0113	116.1
All	2868	0.0088	0.0117	114.2
<u>White-collar workers</u>				
State	364	0.0160	0.0202	104.4
Local	1100	0.0121	0.0141	95.4
Private	2208	0.0123	0.0160	127.3
All	3672	0.0125	0.0158	118.0
<u>All</u>	6540	0.0109	0.0139	119.0

Table 11*The extended wage measure to the money wage. Average ratios.*

	$(MW+NW+SW)/MW$	$(MW+NW)/MW$	$(MW+SW)/MW$
<u>Blue-collar workers</u>			
State	1.015	1.011	1.004
Local	1.012	1.009	1.003
Private	1.011	1.007	1.004
All	1.011	1.008	1.004
<u>White-collar workers</u>			
State	1.020	1.015	1.005
Local	1.014	1.010	1.004
Private	1.015	1.011	1.005
All	1.015	1.011	1.005
All	1.014	1.009	1.004

Table 12a*Negotiated and public survivors' pension rights' share of the money wage. Average ratios in percent*

Category	$(NW+SW)/MW$								
	Men	Women	Age 18-27	Age 28-40	Age 41-50	Age 51-64	No child	One child	Two or more children
<u>Blue-collar workers</u>									
State	1.76	(0.79)	(0.17)	1.47	(2.35)	(1.68)	0.93	(1.24)	(3.14)
Local	1.93	1.07	0.31	1.27	1.33	1.56	0.79	1.08	1.94
Private	1.27	0.71	0.29	1.14	1.54	1.58	0.60	1.32	2.38
<u>White-collar workers</u>									
State	2.67	1.21	0.17	1.48	2.41	2.43	1.12	1.88	3.86
Local	2.13	1.14	0.20	1.22	1.59	1.53	0.86	1.18	2.43
Private	1.97	0.85	0.24	1.34	1.95	2.00	0.87	1.71	2.75

Note: () means that number of observations is less than 20.

Table 12b*Negotiated and public survivors' pension rights' share of the money wage. Average ratios in percent*

Category	$(NW+SW)/MW$			
	Annual money wage > 7.5 base amounts ⁴	Annual money wage ≤ 7.5 base amounts	Married with children and money wage > 7.5 base amounts	Unmarried without children and money wage ≤ 7.5 base amounts
<u>Blue-collar workers</u>				
State	(3.66)	1.33	(3.81)	(0.37)
Local	(1.28)	1.21	(1.35)	0.40
Private	1.94	1.07	3.05	0.39
<u>White-collar workers</u>				
State	3.29	1.55	4.73	0.40
Local	2.19	1.29	3.65	0.46
Private	2.33	1.22	3.41	0.38

Note: () means that number of observations is less than 20.

The negotiated and public survivors' pension rights (NW+SW) make up only a small part of "total" compensation (MW+NW+SW), between one and two percent of the money wage on the average. However, differences are found between occupational groups, between men and women, and between people married with families and unmarried, childless people. The survivors' pension right's share of the money wage is higher for white-collar workers than for blue-collar workers, higher for state employees than for employees in the private sector and local authority and county council employees. It is higher for men than for women. It

⁴ 23.02 per cent of all men and 4.78 per cent of all women in the study has an annual wage above 7.5 base amounts. 23.11 per cent of the white-collar workers and 2.37 per cent of the blue-collar workers has an annual wage above 7.5 base amounts. 25.18 per cent of employees in the state, 4.38 per cent of those in local authorities and 17.52 per cent of those in the private sector has an annual wage above 7.5 base amounts. Among blue-collar workers 5.26 per cent of those employed by the state, 0.68 per cent of those employed by local authorities and 3.07 of those employed in the private sector has an annual wage above 7.5 base amounts. Among white-collar workers 28.30 per cent of those employed by the state, 7.36 per cent of those employed by local authorities and 30.10 per cent of those employed in the private sector has an annual wage above 7.5 base amounts.

increases with age. It increases with the number of children. It is highest for those who are married, have many children and have an annual wage above the social insurance ceiling. The lowest value is found for those who are younger than 28. They do not qualify for a family pension or child pension in the negotiated schemes.

The public survivors' pension right is of about the same value for all employees. Its share of the money wage is about 0.4 per cent.

In the Tables 13 and 14, we show the results of multivariate descriptions of wages and wage ratios. For the factors used earlier, class, sector, number of children, sex, age and marital status, the coefficients show the differences between the categories within each factor on the average, holding the other factors constant. The reference category is the last within each factor and the coefficients show the differences to that category. Thinking in terms of regression analysis with dummy variables, then the reference group is unmarried women aged 51-65, who are white-collar workers in the private sector and have more than one child. The intercepts are estimating their average wage or wage ratio and by adding the estimates for a selection of the other factors, estimates for other groups are obtained. The estimates are calculated by least squares and observations are weighted according to the different sampling probabilities. The fit is about 0.27 for wages and about 0.48 for the wage ratios according to R-squared.

Table 13 shows the descriptions of money wages and the extended wage measures. We find that the wages of the blue-collar workers are over 50.000 SEK less than the wages of the white collars on the average for all wage concepts, and likewise a difference between men and women of over 60.000 SEK. There are also large differences between the age classes. The differences for the four wage measures are minor, however.

Table 13

A regression description of wage differentials for different wage concepts (money wage without and with negotiated and public survivors' pension rights, respectively, in thousands SEK). Regression coefficients and R-squared.

		<i>Wage</i>			
		<i>MW</i>	<i>MW+NW</i>	<i>MW+SW</i>	<i>MW+NW+SW</i>
Intercept		221.7	226.5	223.9	228.8
Class	Blue-collar	-53.3	-54.3	-53.6	-54.6
	White-collar	0	0	0	0
Sector	State	-3.7	-2.8	-3.6	-2.7
	Local	-20.4	-20.6	-20.6	-20.6
	Private	0	0	0	0
No of children	0	-9.2	-12.8	-10.3	-13.9
	1	-0.4	-2.3	-1.1	-3.0
	2-	0	0	0	0
Sex	Men	61.6	63.8	62.5	64.7
	Women	0	0	0	0
Age	18-27	-66.4	-68.3	-67.8	-69.7
	28-40	-32.9	-35.4	-34.3	-36.8
	41-50	-9.2	-10.4	-10.1	-11.3
	51-65	0	0	0	0
Married/cohab	Yes	6.4	7.1	6.4	7.2
	No	0	0	0	0
R-squared		0.263	0.268	0.267	0.271

Table 14 describes the ratios of the extended wage measures to the money wage. All factors are significant except sector and marital status for the public component (SW), in the public system these factors are not accounted for. Why there is a large difference between men and women at the advantage of men is partly explained by the differences in age between the insured man and his wife and the insured woman and her husband and by differences in death risks, men's risks are between 43 to 153 percent higher than for women at the different ages. In the table we can see that the negotiated rights are at the advantage of those employed by the state and that married individuals are favoured as well as those with children and in the older age classes. White-collars have larger rights than blue-collars. All this is in agreement with the principles for the construction of the systems.

Table 14

A regression description of the ratios of the extended wages (including the negotiated or the public survivors' pension rights) to the money wage in per cent. Regression coefficients and R-squared. Insignificant factors in italics ($p > .01$).

		<i>Share of money wage for</i>		
		<i>MW+NW</i>	<i>MW+SW</i>	<i>MW+NW+SW</i>
Intercept		102.08	101.01	103.10
Class	Blue-collar	-0.11	-0.04	-0.15
	White-collar	0	0	0
Sector	State	0.40	<i>0.00</i>	0.41
	Local	0.14	<i>-0.00</i>	0.13
	Private	0	<i>0</i>	0
No of children	0	-1.65	-0.47	-2.12
	1	-0.91	-0.31	-1.23
	2-	0	0	0
Sex	Men	0.59	0.29	0.89
	Women	0	0	0
Age	18-27	-0.73	-0.64	-1.37
	28-40	-0.86	-0.61	-1.47
	41-50	-0.42	-0.40	-0.82
	51-65	0	0	0
Married/cohab	Yes	0.26	<i>0.00</i>	0.26
	No	0	<i>0</i>	0
R-squared		0.484	0.465	0.517

For the public scheme (SW), those with children and of older ages fare better off, relatively. Differences in death risks are of course behind all age effects. There is a smaller difference between blue-collar and white-collar. We do not account for differences in death risks between classes here, these are at the disadvantage for blue-collar workers according to studies made, and would increase their rights if included (see Vägerö & Lundberg 1995).

VII. Summary and Conclusions

Earnings-related survivors' pension rights are a form of labour compensation. The average money value of the survivors' pension rights from the negotiated insurance schemes in

Sweden is estimated at 1-1.5 per cent of the money wage, and the average money value of the survivors' pension rights from earnings-related social insurance system at 0.5 per cent of the money wage. The percentage differs between occupational groups, it is lowest for private blue-collar workers and highest for state employed white-collar workers, higher for men than for women, higher for married persons with children than for unmarried without children. The lowest value is found for the average blue-collar worker 18-27 years old. His or her survivors' pension right is 0.3 per cent of the money wage. The highest value is found for the average civil servant who is married, has two or more children and a money wage above the social insurance ceiling. His or her survivors' pension right is estimated at 4.7 per cent of the money wage. The coefficient of variance is about two per cent higher for state employed white-collar workers when the pension rights are included, the increase for all is about one per cent as compared to the CV for the money wage.

The study indicates that wage inequality is understated when non-wage benefits in the form of survivors' pension rights are excluded from the compensation measure and that a more complete picture of wage differentials is obtained when these rights are accounted for.

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References

Barr, Nicholas. 1992. "Economic theory and the welfare state: A survey and interpretation." *Journal of Economic Literature* XXX (June 1992): 741-803.

Edin, Per A. and Holmlund, Bertil. 1995. "The Swedish wage structure: The rise and fall of solidarity wage policy?" In *Differences and changes in wage structures*, ed. Richard B. Freeman and Lawrence F. Katz. Chicago: University of Chicago Press.

Granqvist, Lena. 1998. *A study of fringe benefits*. Swedish Institute for Social Research – Dissertation Series 33, Stockholm University.

Richardson, Katarina. 1997. *Essays on family and labor economics*. Swedish Institute for Social Research - Dissertation Series 28, Stockholm University.

Richardson, Katarina. 2000. "The evolution of the marriage premium in the Swedish labor market 1968-1991". IFAU Working paper Series 2000:5.

Selén, Jan and Ståhlberg, Ann-Charlotte. 1996. "Non-wage benefits in Sweden". Working paper 1996:2, Swedish Institute for Social Research, Stockholm University.

Selén, Jan and Ståhlberg, Ann-Charlotte. 1998. "Pension rights and wages." *Labour* 12 (spring): 191-209.

Ståhlberg, Ann-Charlotte. 1990. "Life cycle income redistribution of the public sector: inter- and intragenerational effects." In *Generating equality in the welfare state*, ed. Inga Persson, 97-121. Oslo: Norwegian University Press.

Ståhlberg, Ann-Charlotte. 1995. "Women's pensions in Sweden." *Scandinavian Journal of Social Welfare* 1995:4, 19-27.

Ståhlberg, Ann-Charlotte and Tegle, Stig. 1998. "Kvinnors och mäns avtalspensioner", In *Välfärdens genusansikte*, SOU 1998:3, ed. Inga Persson and Eskil Wadensjö, 161-179. Stockholm.

Vågerö, Dennis and Lundberg, Olle. 1995. "Socio-economic Mortality Differentials among Adults in Sweden." In: *Adult Mortality in Developed Countries: From Description to Explanation*, ed. A. Lopez, G. Caselli and T. Valkonen. Oxford: Clarendon Press, pp 222-242.

<http://www.amf.se>

<http://www.scb.se>

<http://www.spp.se>

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