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INCOME REPLACEMENT RATIO AT THE DATE OF RETIREMENT

(Ratio between pension and wage)

Comparison between six Member States
Belgium, Germany, France, Luxembourg, Netherlands, Portugal

SUMMARY

The drop in income on retirement varies considerably from one country to another: for a pensioner whose spouse has not worked and who has finished his working life with the average wage of a manual worker in manufacturing industry, the social security pension represents between four-fifths and less than half (1) of the gross wage. The differences are even greater in the case of pensioners without a spouse and especially for higher wage brackets.

The loss of income is, however, much smaller if social security contributions and taxes are taken into account: for the same pensioner with spouse, the net retirement income is between 100% and two-thirds of the net earned income.

These ratios are made higher by voluntary supplementary pensions, which are becoming increasingly common. Thus, a group insurance scheme or pension fund designed to provide a gross pension (compulsory + voluntary) of 70% of the gross wage ensures that the pensioner's standard of living is maintained to a large extent; for the same pensioner whose spouse has not worked, the net replacement ratio is over 90% in four of the six countries.

INTRODUCTION

The income replacement ratio in old age is the ratio between the amount of the retirement pension and the last earned income. It is an essential parameter of the cost of a pension scheme and an indicator of the level of social protection provided by that scheme.

This ratio can be calculated in gross terms or net, i.e. after deduction of compulsory social contributions and taxes. Although the objectives of social protection are generally expressed in terms of gross retirement income in relation to gross earned income (e.g. pension set at 75% of a reference wage), the net replacement ratio is a better reflection of the effectiveness of a pension scheme.

Both types of ratio (gross and net) are examined here for a private-sector employee retiring on 1 January 1990, with the following assumptions:

- three levels of earned income at the time of retirement: 2/3, 100% and 200% of the average wage of manual workers in manufacturing industry in the country in question (2);
- two situations: pensioner whose spouse has not worked, referred to here as pensioner "with spouse", and pensioner without a spouse;
- two types of working life: full working life (usual duration variable from country to country) and 20 years of contributions.

The results distinguish between the replacement ratio arising from compulsory schemes (social security and general compulsory supplementary schemes) and the overall ratio taking voluntary supplementary pension schemes into account (this overall ratio being calculated net in relation to an objective expressed in gross terms) (3).

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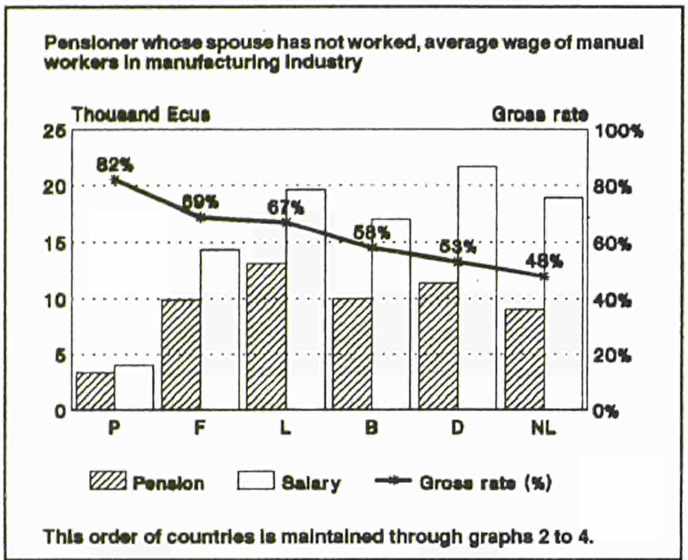
GROSS INCOME REPLACEMENT RATIO

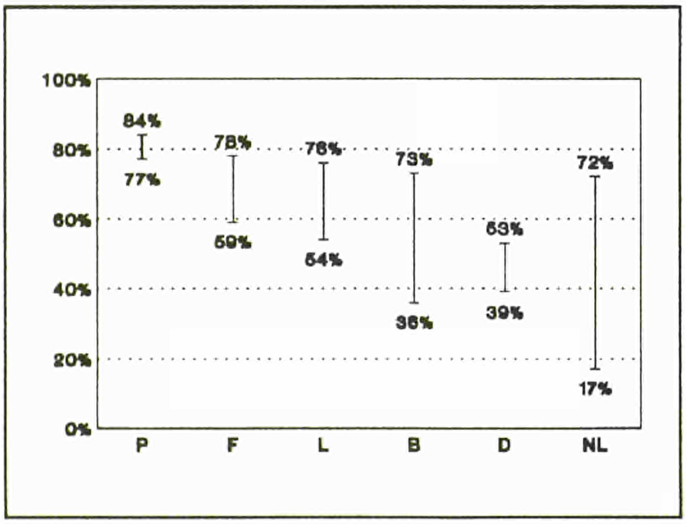
The income replacement ratio which is guaranteed by the compulsory pension schemes shows significant differences among the six countries. If the replacement ratio is calculated on the basis of a full working life of contributions for a pensioner with spouse who at the end of his working life was receiving the average wage of a manual worker in manufacturing industry, it ranges between 82% in Portugal and 48% in the Netherlands (1).

Graph 1: Gross replacement ratio (pension/salary)



Any comparison of these ratios must take account of the length of a full working life in the various countries (45 years in Belgium and Germany, 40 years in Luxembourg, 37.5 years in France, 37 years in Portugal, while in the Netherlands the pension is not linked to the length of contributions). From a budget point of view, longer working lives, by altering the balance between those in activity and those who are inactive, make it possible to provide better replacement ratios. What is more, these ratios on their own cannot adequately show how effective compulsory social security schemes are, since they disregard any differences in the arrangements for adjusting pensions during retirement in line with changes in prices or wages (see box on "Follow-up" on the last page).

Graph 2: Range of gross income replacement ratios according to wage levels and family status



Furthermore, even within the same country there are fairly significant disparities depending on levels of income and the family circumstances of the insured person. In the six countries the gross to gross replacement ratio tends to go down as earned income goes up. There are various reasons for this reduction: a statutory pension which is unrelated to earned income (Netherlands), the existence of contribution ceilings (France, Germany, Belgium, Luxembourg) or flat-rate components which are not linked to levels of earned income (Belgium, Luxembourg, Portugal). In three countries (Belgium, Netherlands, Portugal) the replacement ratio is higher for pensioners with spouse than for those without, while in the three other countries there is no difference between the two categories.

Table 1: Gross to gross income replacement ratio (compulsory pension scheme)

		Category of pensioner					
		without spouse			with spouse		
		%					
Wage		2/3	1	2	2/3	1	2
B	(45 yrs)	59	47	36	73	58	43
D	(45 yrs)	53	53	39	53	53	39
F	(37.5 yrs)	78	69	59	78	69	59
L	(40 yrs)	76	67	54	76	67	54
NL	(-)	50	33	17	72	48	24
P	(37 yrs)	77	77	77	84	82	79

TAX AND OTHER COMPULSORY DEDUCTIONS

In all six countries those in receipt of a pension are subject to statutory deductions (social security contributions and income tax) on retirement income at rates well below those applied to earned income. There are two main reasons for these reduced rates:

- since retirement income is generally below earned income, progressive tax rates mean that deductions are reduced; it should also be noted that preferential tax treatment is sometimes accorded to pensioners.

- retirement income is subject to lower social security contributions than earned income.

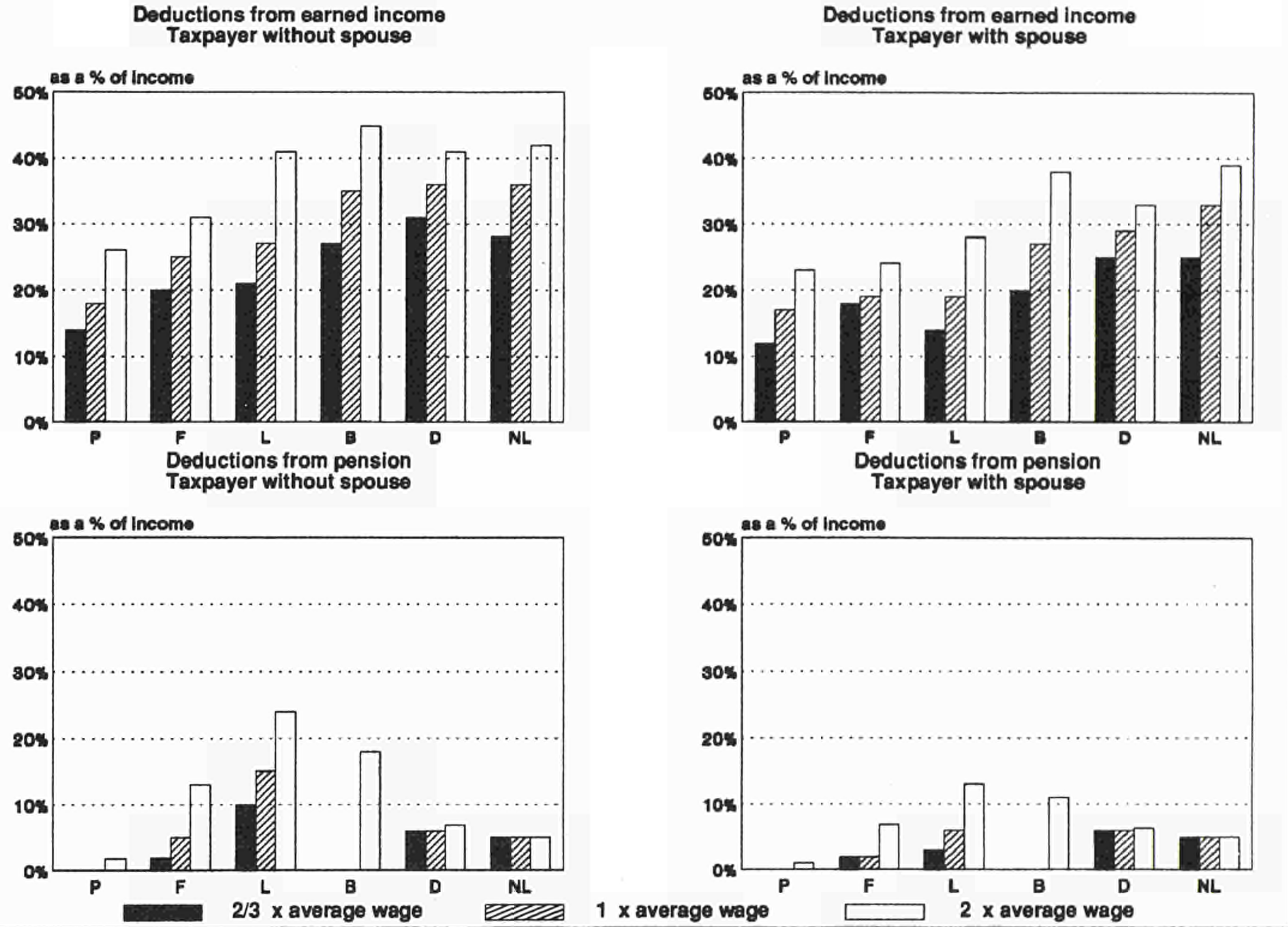
Retirement brings a substantial cut in deduction rates in all six countries. The range of statutory deductions drops from 14-45% to 0-24% for pensioners without spouse and from 12-38% to 0-13% for pensioners with spouse. The smallest difference in the rate of deductions is 11% (Luxembourg) and the largest is 37% (Netherlands). The 0% rate of deduction applies to pensions in Belgium and in Portugal at 2/3 and 1 times average salary levels

While deductions on earned income are always lower for married workers than for those who are single, this is not necessarily the case with regard to retirement income (Netherlands, Germany).

NET INCOME REPLACEMENT RATIO

The difference between the rates of deductions on earned income and retirement income means that the income replacement ratio guaranteed by compulsory pension schemes is considerably higher in net terms. For the various situations analysed, the increase in the replacement ratio lay between the following minimum and

Graph 3: Compulsory deduction rates



maximum values (expressed in percentage points):

	min.	max.
B	17	26
D	13	24
F	14	19
L	9	15
N	10	19
P	11	25

Discounting the Netherlands, the replacement ratios in net terms are more often than not above 70%, with a few exceptions for the highest salary levels; in many cases, they exceed 80% or even 90%, whereas in gross terms the ratios are rarely above 80% and cover a very wide range of values.

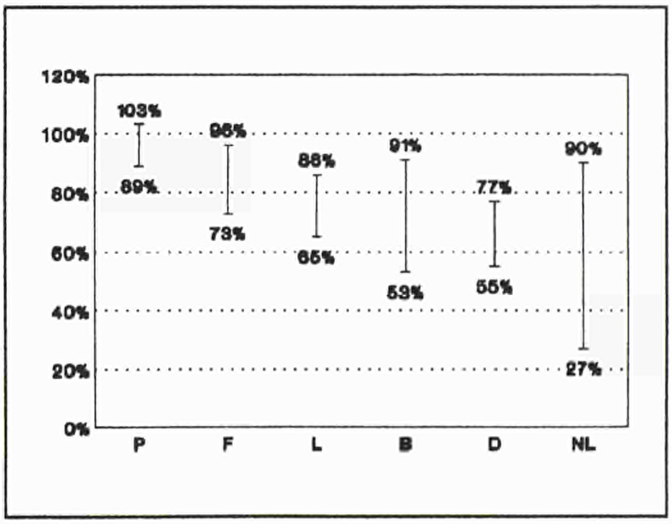
Table 2: Net-to-net income replacement ratios (compulsory pension schemes)

	Category of pensioner					
	without spouse			with spouse		
Wage	2/3	1	2	2/3	1	2
	%					
B	81	73	53	91	80	62
D	72	77	63	66	69	55
F	96	88	75	94	83	73
L	86	78	69	85	77	65
NL	66	49	27	90	67	37
P	89	94	102	95	98	103

Compulsory pension schemes are therefore seen to be much more effective if analysed from the point of view of net income rather than simply in terms of gross income.

In three countries (Germany, France and Luxembourg), the net to net income replacement ratio is higher for pensioners without spouse than for those with a spouse whereas in gross terms the ratios are identical for the two categories.

Graph 4: Range of net income replacement ratios according to wage levels and family status



THE IMPACT OF VOLUNTARY SUPPLEMENTARY PENSION SCHEMES

A pensioner's resources, apart from the proceeds of savings, comprise mainly social security pensions (together, in some countries, with compulsory supplementary pensions) and, increasingly, voluntary supplementary pensions (4).

It is not possible at present to calculate an overall income replacement ratio which would take account of voluntary supplementary pension schemes, since these are so diverse (definitions, objectives and scope) and are far from being fully catalogued (5).

However, since information is available on the structure of compulsory deductions in each country, an analysis can be made of the net replacement ratio obtained on the basis of a given replacement ratio in gross terms (set objective).

Two significant results are worth noting as illustrations:

- For a gross replacement ratio of 70%, the net ratios are above 80%, and even exceed 100% in some cases, which means that to a large extent standards of living can be maintained.

Table 3: Net replacement ratios equivalent to a gross replacement ratio of 70%.

	Category of pensioner					
	without spouse			with spouse		
Wage	2/3	1	2	2/3	1	2
			%			
B	96	90	82	91*	92	83
D	95	103	104	88	92	94
F	96*	89	85	94*	85	84
L	86	81	84	85*	80	81
NL	87	90	88	90*	92	91
P	89*	94*	102*	95*	98*	103*

*) Compulsory pension schemes are already above the 70% gross replacement ratio.

- If, on the other hand, the objective is a net replacement ratio, what needs to be determined is the gross replacement ratio to be attained by the voluntary supplementary scheme. Table 4 provides the answer to this question for a net ratio of 80%.

Table 4: Gross replacement ratio required to guarantee a net replacement ratio of 80% (in brackets the portion provided by supplementary schemes)

	Category of pensioner					
	without spouse			with spouse		
Wage	2/3	1	2	2/3	1	2
			%			
B	*	58(11)	68(32)	*	*	66(23)
D	58(5)	*	51(12)	63(10)	61(8)	58(19)
F	*	*	65(6)	*	*	66(7)
L	*	69(2)	66(12)	*	70(3)	69(15)
NL	64(14)	60(33)	61(44)	*	59(11)	59(35)
P	*	*	*	*	*	*

*) Compulsory pension schemes already guarantee a net replacement ratio of 80%.

INCOMPLETE INSURANCE CONTRIBUTIONS

The conclusions reached above for full working lives also hold good for incomplete contribution periods. For working lives of 20 years, the study shows that net replacement ratios are much higher than gross ratios and that in over half of the cases the net replacement ratios guaranteed by the compulsory schemes are 40% or even more. The improvement in the relative position of the Netherlands should be noted, due to the fact that pensions in the compulsory scheme there are not calculated as a function of the length of contributions.

Follow-up

This study is restricted to six countries. It is to be extended to include the other six Member States of the Community (publication early 1992), and then updated and improved as the results require. Particular areas for development include calculations for voluntary schemes and studies into trends in pensions during the years of retirement, through the examination of national systems for re-assessing pensions by means of price-indexing and adjustments linked to wage increases.

(1)The minimum ratio is in the Netherlands, which has a flat-rate pension scheme, topped up to a large extent by the widespread supplementary pension schemes for employees. It should be noted that spouses who have not worked are also entitled to a flat-rate pension.

(2)Source for wages and salaries: harmonized statistics on earnings; survey on labour costs. In countries where the amount of the pension is determined by the amounts earned by an employee over the whole working life, earnings have been reconstituted on the basis of an estimated progression.

(3)This method has been chosen on account of the lack of complete and reliable data on voluntary pension schemes. In the study behind this note, the objectives were 80%, 70%, 60%, and 50% of gross income at the time of retirement, since these hypotheses are the most common in practice. The 70% objective is the only one presented here.

(4)Either established under an agreement at sectoral or company level, or by a voluntary decision of the employer, as long as the scheme is not made obligatory by the public authorities; or established through a collective decision by the beneficiaries themselves, as long as the scheme is not made obligatory by the public authorities.

(5)The digest of statistics on the social protection of old age in Europe, which will be published by Eurostat at the end of 1991, should help to complete this inventory.

Further information:

. Income replacement ratio in old age at the date of retirement: Part A: 6 Member States (publication late 1991); Part B: the other Member States (publication early 1992).

. Digest of statistics on social protection in Europe Volume 1: Old age (publication late 1991).

. Social Protection Expenditure and Receipts (1980-1989) (publication in November 1991).

. A methodology for the statistical analysis of the old-age, invalidity and survivors functions within the framework of the ESSPROS system.