

# Working Paper

**No 80**

**Replacement rates**  
A transatlantic view

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## **Preface**

This working paper gives a unique overview of the income position of unemployed workers. For the member states of the European Union and for three states of the United States the so-called replacement rate has been calculated.

This project has benefited greatly from the help of experts in all of these countries. In particular we like to mention: Mario Alexandre, K. Anagnostopoylos, Laura Bardone, Alfonso Barrada, Peter Barslund, Bernd Breier, Ulla Broen, S. Carcan, Valérie Champagne, Matthew Crispino, Kevin Dench, Jan Devey, Marcel Einerhand, Claude Ewen, Scott Fenwick, Peter Foxman, Anne Marie Fribourg, Mairead Gaffney, Carlos Hernández García, Silvana Gori, Laurence Gouy, Houtman, Karin Møhl Larsen, Gioia Mantero, Robert Mathieu, A. Meidani, Aideen Moroney, Diana Runner, Georges Schroeder, Bob Sharkey, Ole Smitt, Ms. Spittaels, Ivo van der Steen, Michael Stegman, Els Vogels and Paul Vorre.

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## I Introduction

International comparisons of institutional arrangements have gained importance with the economic integration in Europe. Of particular interest are the institutional arrangements affecting the labour market. This study provides new and more complete information on the income entitlements of unemployed. The generosity of the unemployment compensation partly determines the search behaviour of the unemployed and moreover it decides the fall-back position of employed persons. Through that mechanism the unemployment compensation influences wage formation and the flexibility of the labour market.

Publications of Eurostat, the Commission of the European Communities (MISSOC), IBFD (International Bureau of Fiscal Documentation) and the OECD have already provided an overview of social protection. However, these publications do not offer an integrated calculation of the income position of unemployed persons. Such a calculation must include all unemployment compensations (insurance as well as assistance benefits). Besides, family benefits, housing subsidies and the gross-net relationship must be taken into account. Hopefully, our overview helps to close the information gap.

For the member states of the European Union and for the United States the so-called replacement rate, the net unemployment compensation as a percentage of the net wage earnings, has been computed. For the European Union the calculation is restricted to the members of 1993, which means that the new member states Sweden, Finland and Austria are excluded. For the United States we have selected three states (New York, Texas and California). The benefit rules differ considerably among states and our selection offers an adequate picture of the American system.

Note that all calculations for the replacement rate are available on diskette. The benefit formula and the gross/net relations for wage earnings and benefits have been modelled in a Lotus spreadsheet. The survey has already produced the replacement rates for many different groups and with the diskette the replacement rate for nearly all situations can be calculated. The spreadsheet permits also the verification of the calculations.

The organization of the paper is as follows. The next chapter describes the assumptions and limitations of the study. The main results – the net replacement rates – are presented in chapter three. In that chapter a comparison with calculations of the European Commission and of the OECD is presented. Chapter IV focuses on the minimum benefits and the minimum wages in the reviewed countries. In chapter five average and marginal wedges are presented, which can also be computed with the spreadsheet. Finally, chapter six gives our ideas for further research.

Four appendices are added to this study. The first describes the benefit system (unemployment and general neediness functions), the family benefits, the housing subsidy system as well as the gross/net relation for each country. In many countries general neediness depends on the actual rent paid. In that case beneficiaries cannot apply for housing subsidy to which employees with low earnings are entitled. Because of that, a detailed treatment of the housing-subsidy system is needed for a realistic international comparison of the incomes of employed and unemployed persons. Furthermore the system of minimum wages is documented. Because legal

minimum wages are non-existent in some countries, we had to extend our research to minimum wages laid down in collective labour agreements.

The second annex investigates the relation between rent expenses, income and the household composition. As stated above, general neediness depends on actual rent expenses. Therefore we must clarify the relation between rent expenses and income.

The third annex gives an introduction to the spreadsheet.

The last annex gives a comparison with OECD-calculations. The tax/benefit position of production workers as published by the OECD documents the tax system for employed persons. These calculations can be performed with the spreadsheet, thus verifying our results.



## II Methodology

This chapter describes the methodology and limitations of the study. First of all, it must be stressed that our aim is to create a flexible system, which emerges by modelling the tax rules and the legal requirements for benefits in a spreadsheet. As a result of this approach the replacement rate can be calculated for every wage level. In addition there are no limitations regarding duration of the unemployment.

Although we have chosen a flexible approach, many assumptions had to be made. These assumptions refer to the benefit systems (especially the question of relevant programs), determination of earnings, characteristics of the households etc..

### *Unemployment compensation*

This review describes unemployment insurance for employees in the private sector, unemployment assistance as well as general neediness. Unemployment insurance differs from unemployment assistance in that it requires no means test. Unemployment compensation for civil servants is not covered.

We concentrate on schemes for laid-off workers who are involuntarily unemployed; redundancy due to seasonal factors or short-time measures is excluded. Moreover, the overview is restricted to legal arrangements. In some countries legal benefit rates are improved by supplements agreed upon between employers and employees in collective labour agreements. The cross-country evidence of these supplements is rather sketchy and it seems that they are particularly available to the older unemployed.

Persons are either in employment or completely dependent on the unemployment compensation. In some countries special regulations exist for those unemployed who accept a job, the aim being to increase the incentive for job-acceptance. Under these regimes unemployment compensation is partly reduced by work-earnings<sup>1</sup> but after some time full reduction of the unemployment benefit is applied. By neglecting such temporary measures we will focus on the long-term difference between unemployment compensation and work-earnings, which we consider more important.

### *Employment income*

In principle the focus is on the earnings of blue-collar workers. Their vacation payments have been taken into account, but sickness have not.<sup>2</sup> The impact of excluding the sickness scheme from the calculation is negligible for an employed person because in most countries these benefits correspond to normal wages.

The earnings are not restricted to a fixed level, but can be chosen freely. However, to compute the unemployment compensation we assume that the earnings

<sup>1</sup> In California the AFDC-benefit is increased after accepting a job.

<sup>2</sup> In addition we have assumed that the employee never uses the health-care provisions (see assumptions about the health insurance)

are obtained in normal working hours. In most countries overtime earnings are not covered by the unemployment scheme.

#### *Branch and regional differences*

Insurance conditions differ among branches of industries. For instance in agriculture and coalmining, sometimes higher benefits are provided. However, for the purpose of this study we have concentrated on the main regulations for industrial workers.

Benefit amounts can vary considerably among regions. We have coped with that by selecting one major region and described the benefit system of this region. Housing benefits also differ among regions and again such divergences from the legal system have been taken into account, but regional differences in rent expenses have been neglected.

#### *Characteristics of the households*

Several assumptions are required for the household composition. In general they are comparable to the assumptions made for the calculation of the tax/benefit position of production workers (OECD).<sup>3</sup> Three kinds of household are distinguished: single persons, married couples without children and married couples with two children. For the married couples we assume that only one spouse is in employment.

Single persons are aged between 18 and 50 years and sole earners between 25 and 50 years, while the age of the children is fixed at 7 and 11 years.

Finally, the survey is limited to households living in a rented house, since our purpose is to include housing benefits in the survey and to disregard the tax treatment of interest payments paid on mortgages. Actually, housing benefits are provided only to tenants. The tax reliefs for interest payments are regarded as non-standard reliefs and have therefore not been taken into account (see further on).

#### *Housing benefits and rents*

In several countries the general neediness benefit depends on the actual housing costs. As well as rent these costs may include expenses of heating, water and electricity. Beneficiaries in these countries cannot apply for housing benefits, but employees can.<sup>4</sup> On the other hand, we see that in some countries the general neediness amount is independent of the actual housing costs, in which case beneficiaries are usually entitled to housing benefits.

In this survey the housing costs are estimated from an equation relating rents to income, for which Dutch microdata have been used.<sup>5</sup> However, countries differ

<sup>3</sup> OECD: The Tax/Benefit Position of Production Workers, Annual Report 1990-1993, page 12.

<sup>4</sup> In Greece the actual rent is deductible for the income tax. In the OECD methodology the actual rent must be treated as a non-standard tax relief and should be disregarded. However, in the present study this phenomenon is seen as comparable with housing subsidy.

<sup>5</sup> A detailed description is given in annex B.

considerably in rent expenses because of institutional circumstances. OECD information on gross rent expenses has been used to adapt the Dutch equation.

In countries where general neediness depends on actual housing costs the computed rent forms part of the benefit. When employees receive a housing benefit the relation between rent and income is used to calculate the housing benefit; the latter is added to the disposable income.

Some countries operate a system of income-related rents instead of housing benefits. These systems prevail in Ireland and Belgium.<sup>6</sup> Note that these income-related rents are determined by local authorities and that this regulation is restricted to a part of the rented sector. As a result this subsidy is not immediately available for all eligible persons. The latter observation has resulted in disregarding this kind of government regulation in the overview. Furthermore we assume that the special conditions governing the eligibility for housing benefits are satisfied, for example floorspace or building year.

#### *Health insurance*

The system of health-care insurance differs considerably among the reviewed countries. In some countries (for instance Germany and the Netherlands) the compulsory scheme is restricted to employees below a certain income threshold. Above that threshold, employees have to rely on private insurances. The provisions of the compulsory schemes vary, which becomes apparent in the co-payments. In the Netherlands, patients need not contribute towards medical expenses, whereas in France and Belgium the contributions are considerable.

Our main purpose is to describe unemployment compensation and not to evaluate the health care provisions that are now in operation. Therefore, we have made several assumptions regarding health insurance:

- The premium of the private health-care insurance is assumed to be derived from the compulsory scheme. The compulsory premium paid by employees and employers is calculated for an insured person with an income on the threshold. The private health care insurance premium per adult is fixed at one third of that level. For children half the adult premium has to be paid. Furthermore, we assume that the estimated premium of the private scheme is shared equally between employees and employers<sup>7</sup>. In reality the premium of the private sector may divert from this estimated premium as a result of different insurance conditions for the compulsory and private insurances. Moreover in the compulsory scheme the premium is equalized between lower and higher income brackets, which means that employees with a higher income pay more to the compulsory scheme than is needed. If these employees could obtain a private insurance with a nominal premium instead of the income-related premium of the collective sector, they would pay less for health-care insurance.

<sup>6</sup> Peter Kemp: Income-related Assistance with Housing Costs: A cross-national comparison. Urban Studies, Vol 27, No 6 1990 page 795-808.

<sup>7</sup> For the United States we have relaxed this assumption.

- An employee or a beneficiary never appeals to the health-care sector, or stated otherwise: the co-payments are set at zero.

#### *Tax reliefs*

With respect to tax reliefs we distinguish standard and non-standard reliefs; the former are taken into account and the latter are ignored.

Standard tax reliefs are unrelated to the actual expenditures incurred by the taxpayer and are automatically available to all tax-payers. These reliefs include work related expenses and compulsory social contributions; neither of them is itemized.

Non-standard reliefs are determined by actual expenses. Special reliefs are granted for interest payments for owner-occupied dwellings, travel expenses, child-minding and contributions to occupational pensions. Ignoring the non-standard reliefs can have substantial impact. Contributions to occupational pensions for employees are high in some countries (the Netherlands and the United Kingdom). On becoming unemployed these premiums are terminated. Travel reliefs, often not itemized, also reduce tax-payment by employees. Since the unemployed are not entitled to these reliefs the calculation might be distorted.

#### *Period*

Starting-point of the survey is the benefit position (e.g. conditions for eligibility, benefit rate) on 1 July 1993. However, we have computed an average for the year 1993 for other variables such as the premium and tax rates and benefit amounts (with regard to the benefit regulation on July, 1993).

### III Replacement rates

This chapter presents the main results of our investigation. The first section compares replacement rates for many different cases. At the end of this section an average replacement rate is calculated, which can be seen as a summary measure of benefit entitlement. With this summary measure we investigate the relation between unemployment rates and unemployment benefits in the second section of this chapter.

#### *Replacement rates for selected typical cases*

In this section the focus is on replacement rates at different stages of unemployment. For three household types (single person, married couple without children and married couple with two children) and two income levels (APW<sup>8</sup> and minimum wage) these rates are compared. We assume that our person is 40 years of age at the beginning of unemployment and that he has a work record of ten years.

The unemployment insurance depends on the previous employment record. If the unemployed person satisfies the required employment record (mostly between 6 and 12 months) a wage-related benefit can be obtained. The United Kingdom is an exception with a fixed benefit amount. In most cases the duration of the wage related unemployment benefit is between six months and two years. Often the duration depends on employment history. Only in Belgium is the unemployment benefit unlimited.<sup>9</sup> For sole earners the benefit there even amounts to 60% of gross wage until retirement age without any restrictions concerning family income or capital.

Unemployment assistance and/or general-neediness can be obtained when unemployment insurance is exhausted. Those benefits are mostly unlimited in duration, the level is below the unemployment benefit and means and/or income tested, and - except in Germany - independent of previous earnings.

The gross benefit rate does not represent the real income loss from unemployment. Often unemployed persons pay less or no taxes and social security contributions. On the other hand, employees profit from work allowances. Housing benefits should also be taken into account. These benefits depend on household income, household situation and rent expenses. Especially low income groups profit from these benefits.

<sup>8</sup> Average Production Worker.

<sup>9</sup> However, in practice the duration of the unemployment benefit in Denmark is also unlimited, because when the unemployment benefit is exhausted the insurance organization must offer a temporary job in the public sector of seven to nine months. After this job the unemployed can apply for a new benefit.

*Table 1 Replacement rates, single person, minimum wage*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	77.0	77.0	77.0	64.6	64.6	64.6	64.6
Denmark	95.4	95.4	95.4	95.4	95.4	95.4	95.4
Germany	78.6	78.6	78.6	78.6	78.6	78.6	78.6
Greece	79.2	79.2	79.2	0.0	11.9	11.9	11.9
Spain	106.5	106.5	106.5	106.5	106.5	106.5	46.8
France	89.3	89.3	89.3	89.3	89.3	80.3	62.5
Ireland	72.5	72.5	72.5	72.5	72.5	72.5	72.5
Italy	79.4	79.4	79.4	69.3	69.3	42.5	42.5
Luxembourg	89.3	89.3	89.3	79.4	79.4	79.4	79.4
Netherlands	84.8	84.8	84.8	84.8	84.8	84.8	84.8
Portugal	112.4	112.4	112.4	112.4	112.4	78.7	0.0
United Kingdom	79.7	79.7	79.7	79.7	79.0	79.0	79.0
New York	50.4	50.4	50.4	68.8	68.8	68.8	68.8
Texas	50.2	50.2	50.2	16.9	16.9	16.9	16.9
California	47.8	47.8	47.8	47.8	60.9	60.9	60.9

*Table 2 Replacement rates, single person, APW*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	67.1	67.1	67.1	46.9	46.9	46.9	46.9
Denmark	79.6	79.6	79.6	79.6	79.6	79.6	79.6
Germany	61.1	61.1	61.1	54.8	54.8	54.8	54.8
Greece	47.6	47.6	47.6	0.0	7.1	7.1	7.1
Spain	83.7	83.7	71.7	71.7	71.7	71.7	23.2
France	80.4	80.4	80.4	80.4	80.4	73.0	46.7
Ireland	43.8	43.8	43.8	43.8	43.8	43.8	43.8
Italy	55.5	55.5	55.5	55.5	55.5	27.7	27.7
Luxembourg	85.2	85.2	85.2	45.2	45.2	45.2	45.2
Netherlands	74.2	74.2	74.2	74.2	74.2	56.8	56.8
Portugal	78.7	78.7	78.7	78.7	78.7	41.6	0.0
United Kingdom	41.4	41.4	41.4	41.4	41.1	41.1	41.1
New York	53.4	53.4	53.4	30.4	30.4	30.4	30.4
Texas	51.8	51.8	51.8	6.7	6.7	6.7	6.7
California	40.5	40.5	40.5	40.5	25.4	25.4	25.4

Tables 1 and 2 show replacement rates for a single person with the above stated qualifications at various stages of unemployment.<sup>10</sup> For an average production worker the initial net unemployment income varies from 85.2 (Luxembourg) to 40.5% (California) of previous earnings. Between the United States and the members of the European Union, however, the unemployment insurance varies widely. For an AP-worker the replacement rate is roughly 50% in the United States, whereas in the main industrial countries – like Germany, France, Belgium, the Netherlands – rates of 60% up to 80% prevail.

Those whose previous income was at the minimum-wage level, lose far less income when becoming unemployed, because of the minimum assistance levels set. In Denmark, Spain and Portugal the income loss due to unemployment is marginal. The income reduction is more substantial in Belgium, Germany, Greece, Ireland, Italy and the United Kingdom.

After five years of unemployment the net income has dropped to between 79.6 (Denmark) and 0% (Portugal) of previous APW income. Denmark and the UK are the only two with constant unemployment income during these five years. The income position of unemployed with a longer duration of the unemployment is remarkable in New York and California. After one year of unemployment the net income improves as a result of the treatment of health-care costs. During the first year of unemployment beneficiaries have to insure themselves for medical costs, whereas persons receiving a social assistance benefit can apply to Medicaid, which provide basic medical treatment without charging the applicant.

<sup>10</sup> For two cases (single person and one earner couple with two children with earnings on APW-level) the calculation of the replacement rate is shown in detail in the country-annex.

*Table 3 Replacement rates, one earner couple, minimum wage*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	81.2	81.2	81.2	81.2	81.2	81.2	81.2
Denmark	96.1	96.1	96.1	96.1	96.1	96.1	96.1
Germany	97.0	97.0	97.0	97.0	97.0	97.0	97.0
Greece	79.2	79.2	79.2	0.0	11.9	11.9	11.9
Spain	106.5	106.5	106.5	106.5	106.5	106.5	60.8
France	88.7	88.7	88.7	88.7	88.7	80.2	78.4
Ireland	92.8	92.8	92.8	92.8	92.8	92.8	92.8
Italy	82.9	82.9	82.9	73.8	73.8	63.2	63.2
Luxembourg	102.8	102.8	102.8	90.0	90.0	90.0	90.0
Netherlands	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Portugal	112.4	112.4	112.4	112.4	112.4	101.1	0.0
United Kingdom	88.5	88.5	88.5	88.5	85.8	85.8	85.8
New York	76.0	76.0	76.0	71.8	71.8	71.8	71.8
Texas	36.4	36.4	36.4	24.0	24.0	24.0	24.0
California	50.4	50.4	50.4	50.4	70.9	70.9	70.9

*Table 4 Replacement rates, one earner couple, APW*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	59.0	59.0	59.0	59.0	59.0	59.0	59.0
Denmark	88.3	88.3	88.3	81.8	81.8	81.8	81.8
Germany	63.2	63.2	63.2	58.5	58.5	58.5	58.5
Greece	49.8	49.8	49.8	0.0	7.5	7.5	7.5
Spain	79.3	79.3	68.0	68.0	68.0	68.0	28.6
France	77.7	77.7	77.7	77.7	77.7	69.2	56.2
Ireland	58.5	58.5	58.5	58.5	58.5	58.5	58.5
Italy	61.6	61.6	61.6	61.6	61.6	44.2	44.2
Luxembourg	84.0	84.0	84.0	62.3	62.3	62.3	62.3
Netherlands	78.5	78.5	78.5	78.5	78.5	73.0	73.0
Portugal	77.0	77.0	77.0	77.0	77.0	52.4	0.0
United Kingdom	53.6	53.6	53.6	53.6	52.1	52.1	52.1
New York	48.7	48.7	48.7	39.4	39.4	39.4	39.4
Texas	47.5	47.5	47.5	11.9	11.9	11.9	11.9
California	34.8	34.8	34.8	34.8	36.8	36.8	36.8



In general, having a dependent spouse does not change the amount of gross wage or unemployment benefit.<sup>11</sup> However, often special tax advantages (tax allowance, tax credit, income splitting system) and higher housing benefits are available for sole earners. In addition, the amount of general neediness is often higher for these households.

Table 3 and 4 present replacement rates for a sole earner. The initial rates for an average production worker are roughly comparable with those for a single person. At the minimum wage level the initial replacement rates for a one earner couple are significantly higher compared to those for a single person (+8% on average). Here the general neediness provides a safety net with minimum amounts that are higher for a sole earner than for a single person. For six of the 12 member states the general neediness results in a replacement rate of nearly 100% (or more). The same principle explains the higher replacement rates (for sole earner compared to single person) after five years of unemployment.

<sup>11</sup> Only in Greece is gross wage related to the household situation.

*Table 5 Replacement rates, one earner couple + two children, minimum wage*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	80.8	80.8	85.3	85.3	85.3	85.3	85.3
Denmark	96.8	96.8	96.8	96.8	96.8	96.8	96.8
Germany	111.8	111.8	111.8	111.8	111.8	111.8	111.8
Greece	89.3	89.3	89.3	3.6	16.4	16.4	16.4
Spain	105.9	105.9	105.9	105.9	105.9	105.9	81.3
France	90.0	90.0	90.0	90.0	90.0	88.9	88.2
Ireland	115.4	115.4	115.4	115.4	115.4	115.4	115.4
Italy	86.8	86.8	86.8	86.8	86.8	86.8	86.8
Luxembourg	101.8	101.8	101.8	91.8	91.8	91.8	91.8
Netherlands	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Portugal	111.1	111.1	111.1	111.1	111.1	111.1	9.8
United Kingdom	86.1	86.1	86.1	86.1	86.1	86.1	86.1
New York	104.2	104.2	104.2	91.7	91.7	91.7	91.7
Texas	36.7	36.7	36.7	47.5	47.5	47.5	47.5
California	72.0	72.0	72.0	72.0	92.0	92.0	92.0

*Table 6 Replacement rates, one earner couple + two children, APW*

	Duration of unemployment in months						
	initial	3	6	12	18	24	60
	in %						
Belgium	62.5	62.5	65.6	65.6	65.6	65.6	65.6
Denmark	86.6	86.6	86.6	86.6	86.6	86.6	86.6
Germany	74.0	74.0	74.0	68.6	68.6	68.6	68.6
Greece	55.0	55.0	55.0	2.1	10.0	10.0	10.0
Spain	77.3	77.3	70.5	70.5	70.5	70.5	40.8
France	79.5	79.5	79.5	79.5	79.5	71.8	65.2
Ireland	74.2	74.2	74.2	74.2	74.2	74.2	74.2
Italy	65.6	65.6	65.6	65.6	65.6	63.2	63.2
Luxembourg	89.3	89.3	89.3	76.7	76.7	76.7	76.7
Netherlands	81.5	81.5	81.5	81.5	81.5	76.6	76.6
Portugal	75.9	75.9	75.9	75.9	75.9	58.6	5.2
United Kingdom	69.8	69.8	69.8	69.8	69.8	69.8	69.8
New York	48.6	48.6	48.6	57.3	57.3	57.3	57.3
Texas	46.5	46.5	46.5	27.3	27.3	27.3	27.3
California	36.6	36.6	36.6	36.6	53.5	53.5	53.5

For couples with children replacement rates are even higher. Tax advantages (child allowance, child credit), child benefits, additional assistance, etc. lead to higher disposable incomes. Especially low incomes profit by these instruments. Tables 5 and 6 give an overview.<sup>12</sup>

In the last part of this section the replacement-rate calculations will be compared to two other computations. The Report on Social protection in Europe presents replacement rates net of tax and social-security contributions for a single 40-year old industrial worker during the initial unemployment period, and the OECD Jobs Study shows an average replacement rate.

*Table 7 Comparison with EC-calculations*

	EC <sup>a</sup> (1992)	CPB <sup>b</sup> (1993)
	in %	
Belgium	79	67
Denmark	73	80
Germany	63	61
Greece	28	48
Spain	80	84
France	80	80
Ireland	41	44
Italy	26	56
Luxembourg	85	85
The Netherlands	74	74
Portugal	81	79
United Kingdom	23	41
The United States	n.a.	

<sup>a</sup> Commission of the European Communities: Social protection in Europe (1994)

<sup>b</sup> Single person, APW, first column of table 2

The replacement rates shown in table 7 differ remarkably from the EC-calculations. It seems that for five member states both calculations give different results. How to explain these differences?<sup>13</sup>

- For Belgium the treatment of the vacation payment, the ceiling to the unemployment benefit and the tax payment can explain the difference. The benefit is 60% for couples but as a result of the low ceiling an AP-worker receives less. Besides, a recipient of unemployment benefits does not pay income tax.

<sup>12</sup> In the annex a detailed computation is given for these cases.

<sup>13</sup> Remember that the points mentioned are speculative, because detailed information on the EC-computations is absent.

- In Denmark the unemployment insurance also has a low ceiling, but perhaps more important for explaining the difference is the fact that recipients qualify for housing benefits, which account for a 9%-point rise.
- The gross/net relationship can hardly explain the difference for Greece. An Average Production Worker receives a gross benefit of 39.4%. Unemployed persons are not assessed for income tax, neither have they to pay for the social security, which add 8.3%-points to the gross benefit rate.
- In Italy the difference can be explained by the availability of two unemployment insurances at the start of unemployment with different benefit rates (Mobility Benefit and Ordinary Benefit). For the EC calculations the Ordinary Benefit is used, in our calculations we have chosen the Mobility Benefit. Although the requirements for the higher benefit scheme (Mobility Benefit) are stronger it seems that many newly laid-off can fulfill the requirements of this scheme. The Mobility Benefit is a new provision, but in 1993 already 23% of the compensated unemployment days were financed by this scheme. In 1994 this share grew to 30%, while the share of Ordinary Benefit decreased to 35%.
- In the UK the gross benefit rate for an APW is 16%, which is comparable to the EC-calculations, but additional benefits are of the utmost importance in the UK. Unemployed persons may receive supplementary social assistance and housing benefits which add 25%-points to the gross benefit rate. Besides, unemployment benefits are not liable for income tax.

The replacement rates presented in tables 1 to 6 can be used to calculate an average replacement rate. For the calculations of this average rate we have weighted the benefits for different durations of unemployment. The benefits during the first year of unemployment are weighted by a third and the benefits for the next four years are valued at one-sixth. Furthermore a replacement rate for two earnings levels (average earnings and two-third of average earnings) has been calculated. With this weighting scheme the average is comparable with the OECD-calculations presented in the Jobs Study. However, the OECD also performs computations for couples where one partner is in employment and the other partner unemployed. That household situation is not described in our study, and the OECD average has been adapted to our limitations by recalculating the OECD-average: the replacement rate of the couple with one partner in employment and the other partner unemployed is skipped in this procedure.

*Table 8 Average replacement rate*

	OECD (1991)	CPB (1993)
	in %	
Belgium	47	66
Denmark	57	90
Germany	36	68
Greece	18	28
Spain	33	59
France	41	75
Ireland	37	67
Italy	3	61
Luxembourg	n.a.	77
The Netherlands	56	78
Portugal	35	44
United Kingdom	23	63
The United States	13	41

Compared with the OECD calculation the CPB-average (second column) is higher for all countries, and the differences are substantial. As stated by the OECD (page 175) several important factors had been omitted from their indicator:

- the influence of taxation. The OECD expects an increase of the replacement rate of a third (or 20 percentage points) by incorporating this factor.
- other benefits received by unemployed people (housing benefits and family allowances).

Diagram 1 shows these points again. For all countries the disposable income for an AP-worker when in employment and when dependent on unemployment insurance is shown. From this diagram the impression emerges that the influence of taxation (including social security contributions) and other benefits on the net replacement rate is important. The first bar displays the disposable income for AP-workers in employment. Tax payment and social-security contribution reduce the net income whereas child and housing benefits raise the disposable income. The second bar shows for all countries the wage-related benefit that can be obtained at the start of unemployment. Again the family benefits, housing subsidies and tax payments are shown.

*Diagram 1      Composition of net wage and net benefit*

### *Replacement rates and unemployment rate*

Our research is concentrated on describing the unemployment compensation of typical cases. With these typical cases an average indicator can be constructed. As pointed out by Atkinson and Micklewright unemployment compensation is not simple to describe and differences among countries are not easy to summarize.<sup>14</sup> However, an indicator of the unemployment compensation permits us to evaluate the different programmes. Keep in mind, moreover, that many different indicators can be constructed each based on a certain idea of the impact of unemployment compensation on unemployment. Our research makes it possible to construct these indicators and to illustrate this possibility three indicators are presented. Furthermore it is not our aim to test the relation between unemployment, the benefit system and other institutional structures that can influence the unemployment rate, such as an active labour-market policy, unions and the wage-bargaining process. All these other institutional structures may be relevant, but are beyond the scope of this study (see for instance Layard, Nickell and Jackman<sup>15</sup>).

The three indicators which will be evaluated are:

- the benefit position of a one earner couple with two children with APW-wage at the start of unemployment
- the average replacement rate constructed by the OECD
- the decrease of the replacement rate of a one earner couple with two children with APW-wage after 13 months

Charts 1 to 3 display these indicators and the unemployment rate. A regression line is drawn to give an indication of the relationship between the unemployment rate and the replacement rate. As can be seen there seems to be a positive relation between those two, but this relation is rather weak. When Spain and Ireland would have been omitted the positive regression almost turns into a negative one. More research is required to test this relationship.

From these charts the difference in unemployment compensation with relative high rates in countries like Denmark, the Netherlands, Germany and France, compared to the other European countries can be seen clearly. Furthermore the position of Texas and California is remarkable, with relatively low unemployment benefits at the start of unemployment and relatively high benefits when receiving general neediness. This is a result of the treatment of health-care costs (see p. 15 and Annex A).

<sup>14</sup> A. Atkinson and J. Micklewright: Unemployment Compensation and Labour Market Transitions: A critical review, *Journal of Economic Literature*, 1991, pp. 1679-1727.

<sup>15</sup> R. Layard, S. Nickell and R. Jackman: Unemployment; Macro-economic Performance and the Labour Market, Oxford University Press, Oxford, 1991.





#### **IV Minimum benefits and minimum wages**

In this section minimum benefits and minimum wages of the EC countries and the United States are compared. Two main minimum wage levels are distinguished: statutory minimum wage and collectively agreed minimum wage<sup>16</sup>.

In general, statutory minimum wages cover most employees. Only part-time workers, youngsters, apprentices and such tend not to be covered. While not all countries have statutory minima, in all countries there are arrangements which prescribe bottom wages for certain groups. Mostly such collectively agreed minimum wages are higher than the statutory minimum wage. Table 9 compares these minimum levels. On average the collectively agreed minimum wage exceeds the statutory minimum wage by almost 10%. The minimum wages are represented by way of index numbers relative to the EC-average.

Belgium, Denmark and the Netherlands have legal minimum wage levels between 40 and 80% above the average. Minimum levels in Greece and Portugal lay far below the average. Surprisingly, the federal minimum wages in the United States are in the range of the EC-average. But then, the EC-average is also determined by less industrialised countries such as Greece and Portugal.

<sup>16</sup> For information on minimum wage levels and methods see Annex A, part F for all countries

*Table 9 Gross Minimum Wages (index numbers; average EC=100) <sup>a</sup>*

	Statutory <sup>b</sup>	Collectively Agreed <sup>c</sup>
Belgium	157	138
Denmark	-	178
Germany	-	105
Greece	54	55
Spain	67	91
France	130	114
Ireland	98	84 <sup>d</sup>
Italy	-	106
Luxembourg	144	124
Netherlands	157	148
Portugal	37	27
United Kingdom	86	74 <sup>e</sup>
US <sup>f</sup>		
New York	93/(93)	-
Texas	93/(73)	-
California	93/(93)	-

<sup>a</sup> The EC average is weighted with population shares. Vacation payments are included.

<sup>b</sup> Not every country has a statutory minimum wage

<sup>c</sup> For the metal industry

<sup>d</sup> Constructed (see Annex A, Ireland, Minimum Wages)

<sup>e</sup> Made up textiles

<sup>f</sup> The first number shows the statutory federal minimum wage and the second number gives the state minimum wage. It seems that the federal minimum is more important. For some groups who are not covered by federal legislation state laws can provide protection. Workers employed in small companies (turnover less than \$ 500,000) are not protected by federal law, but often the state laws do protect them.

Although collectively agreed minimum wages are an important factor in determining wage levels, in this study statutory minimum wages are used. Only when no statutory arrangements exist, collective agreements take their place. The reason is that in many countries there is a relation between unemployment benefits and statutory minima. Besides, in this study the collective arrangements in the metal sector are presented. For a good comparison the overall minimum level of all agreements should be taken. It has not been possible to construct such a comparison.

In the United States there are no collective agreements comparable with European labour agreements. Employers and employees determine the wages on the company level. In view of that system we have abstracted from these arrangements.

*Table 10 Minimum Wage versus APW*

	Gross APW / Min Wage	Disposable APW / Min Wage	
		Single person	Sole Earner + 2 children
	in %		
Belgium	187	155	144
Denmark	169	139	129
Germany	263	209	176
Greece	171	168	170
Spain	226	201	199
France	160	136	138
Ireland	203	174	159
Italy	164	154	137
Luxembourg	200	176	120
Netherlands	174	157	134
Portugal	204	189	190
United Kingdom	259	213	130
New York	284	237	162
Texas	284	254	174
California	284	246	174

The gross wages of an average production worker in Europe and the US are between one and a half (France and Italy) and three times (US) the gross minimum wages (see table 10). However, when the gross/net ratio, family allowances, housing benefits and assistance benefits are taken into account, the difference between minimum wage and APW are much smaller. For a sole earner with two children the difference is pronounced. As the figures show, the maximum ratio is reduced by one third to 200% (Spain). Moreover, in Luxembourg disposable income at the minimum level is only 20% lower than disposable APW. A comparison of disposable income of minimum benefit with different wage levels is presented in tables 11 and 12. The minimum benefit in these tables represents the lowest income if a benefit is granted. In two countries, Greece and Portugal, entitlement to this benefit requires an employment record. Unemployed who do not qualify are without income.

For single persons disposable income at the minimum wage level is always above the minimum benefit. As can be seen from the table, minimum wage is between 9% (Portugal) and 900% (Greece) higher than minimum benefit.

However, for a sole earner with two children the difference between minimum wage and minimum benefit is much smaller. With extra family benefits and differences in taxability the minimum benefit may even exceed the minimum wage. The maximum difference between minimum wage and minimum benefit is reduced to 628% (Greece) for this category of household.

*Table 11 Minimum Benefit versus minimum wage and APW for a single person (disposable income; index numbers)*

Income	Minimum Benefit	Minimum Wage		APW
		Statutory	Collectively agreed	
Belgium	100	163	165	252
Denmark	100	n.a.	122	170
Germany	100	n.a.	127	266
Greece	100	842	1003	1411
Spain	100	214	323	430
France	100	177	179	241
Ireland	100	138	138	240
Italy	100	n.a.	235	361
Luxembourg	100	126	126	221
The Netherlands	100	117	126	184
Portugal	100	127	109	240
United Kingdom	100	127	127	270
New York	100	145	145	345
Texas	100	591	498	1503
California	100	164	164	405

*Table 12 Minimum Benefit versus Minimum Wage and APW for one earner with 2 children*

Income	Minimum Benefit	Minimum Wage		APW
		statutory	collectively agreed	
Belgium	100	126	127	181
Denmark	100	n.a.	126	163
Germany	100	n.a.	89	158
Greece	100	609	728	1035
Spain	100	123	179	245
France	100	115	116	159
Ireland	100	87	87	138
Italy	100	n.a.	115	158
Luxembourg	100	109	109	130
The Netherlands	100	100	105	134
Portugal	100	99	86	188
United Kingdom	100	116	116	151
New York	100	109	109	177
Texas	100	210	188	366
California	100	109	109	188

## V Average and Marginal wedges

Wage costs are defined as gross wages including employers' social security contributions. Because of taxation<sup>17</sup>, disposable income can be much less. In addition, family and housing benefits can have a great influence on disposable income (see earlier chapters). The difference between wage costs and disposable income is shown by way of average and marginal wedges at different wage levels (see table 13).<sup>18</sup>

*Table 13 Average and marginal wedge*

	Average wedge			Marginal wedge		
	Min Wage	APW	2*APW	Min Wage	APW	2*APW
Belgium	34.5	46.8	56.7	56.7	63.4	69.9
Denmark	26.9	41.4	54.3	62.3	60.3	69.7
Germany	20.1	41.4	41.7	49.9	52.6	35.6
Greece	33.9	34.8	37.9	34.9	37.2	44.5
Spain	26.4	33.5	40.6	28.6	44.2	48.6
France	26.0	38.2	46.6	50.9	54.5	55.6
Ireland	19.6	34.0	41.8	26.5	49.0	51.7
Italy	38.5	46.0	50.4	53.9	54.5	54.6
Luxembourg	-7.4	23.8	35.5	85.4	38.5	55.2
Netherlands	31.9	44.0	48.4	58.6	53.9	59.7
Portugal	26.5	31.3	37.8	29.1	41.5	50.5
United Kingdom	-15.8	28.8	32.8	74.3	40.2	43.9
New York	18.7	37.3	40.7	41.6	39.1	51.0
Texas	17.0	31.8	32.7	37.4	29.7	39.9
California	18.4	33.3	36.1	38.3	33.4	46.8

For low income groups the average wedge is relatively small. The maximum wedge at the minimum wage level is equal to 38.5% for Italy. High employers social security contributions account for this. In Luxembourg and the United Kingdom disposable income even exceeds wage costs. Minimum tax payments (due to high tax allowances) in combination with high family and housing benefits explain these results.

In all countries personal income taxes increase more than proportionally with income. Social-security contributions are often proportional with income and are paid only over a limited income (often close to APW wage). Housing benefits decrease with income in all countries. In some countries the same principle applies to family benefits, but in many others these benefits are fixed amounts. For higher income levels the combination of these relations gives higher average wedges. These

<sup>17</sup> personal income tax including employees' and employers' social security contributions

<sup>18</sup> Average of single person, sole earner without children and sole earner with two children.

wedges increase from about 20% on average at minimum wage level to about 40% on average at 2\*APW level.

Income related benefits and progressive income taxes also account for marginal wedges exceeding average wedges in most countries. Especially in Luxembourg and the United Kingdom, where the average wedge at the minimum wage level was even negative, the marginal wedge is much higher than the average wedge. Belgium and Denmark obviously have the highest wedges on average, as is in agreement with their relatively extensive collective sector.

*Table 14 Overall average and marginal wedges<sup>a</sup>*

	Average wedge			Marginal wedge		
	OECD (1993)	CPB (1)	CPB (2)	OECD (91/92)	CPB (1)	CPB (2)
Belgium	43.9	46.1	46.0	49.6	64.0	63.3
Denmark	n.a.	41.4	40.9	38.8	63.6	64.1
Germany	40.0	41.2	34.4	45.2	53.5	46.0
Greece	34.8	34.6	35.6	n.a.	37.2	38.9
Spain	35.5	33.8	33.5	40.1	45.4	40.5
France	n.a.	36.9	36.9	44.4	52.5	53.6
Ireland	34.7	34.7	31.8	n.a.	52.1	42.4
Italy	46.5	45.6	45.0	46.6	54.5	54.3
Luxembourg	23.7	21.6	17.3	n.a.	37.3	59.7
Netherlands	40.4	43.5	41.4	52.6	55.5	57.4
Portugal	29.9	30.5	31.9	n.a.	41.4	40.3
United Kingdom	28.2	28.2	15.3	33.3	40.2	52.8
New York	28.0	37.6	32.2	33.2	39.3	43.9
Texas	28.0	31.8	27.2	33.2	29.7	35.7
California	28.0	33.5	29.3	33.2	34.0	39.5

<sup>a</sup> All wedges include employees' and employers' contributions, personal income taxes, family and housing benefits. The OECD marginal wedge excludes cash family and housing benefits.

The underlying average and marginal wedges from table 13 have been used to construct overall average and marginal wedges (see table 14). For both the average and the marginal wedge we have constructed two different series. The first definition (CPB (1)) is an average of a single person and a sole earner with two children at the APW level. This definition is comparable with OECD-calculations. For the average wedge an identical definition is used. The marginal wedge of the OECD<sup>19</sup> does not take account of family and housing cash benefits. The difference between the average wedges of the OECD and CPB is small. The marginal wedges are harder to compare because the OECD-calculations do not include family and housing benefits. The difference between the OECD and the first CPB series should be explained by these benefits. Except for Belgium this seems to be the case.

<sup>19</sup> The OECD Jobs Study part II, p.241, corrected for consumption tax (p. 242)

In addition two extra CPB wedges have been constructed. These wedges are averages of three household types (single person, sole earner without children, sole earner with two children) and three income levels (minimum wage, APW, 2\*APW). Most remarkably, the difference between the CPB (1) and CPB (2) wedges is very small. Probably the higher wedges for single persons and sole earners without children outweigh the lower wedges for low incomes.

## **VI Further research**

This paper surveys the present benefit position of nearly all the employed and unemployed. Further research is necessary. In this chapter suggestions for future research are made.

The first thing needed is a historical overview of the benefit position. Our survey gives a description of the current state of the benefit position, but we cannot assess the impact of the welfare reforms in the 1980s on the benefit position. In the Netherlands, Spain, France, Belgium and Germany welfare-state arrangements were adapted in response to the labour market's failure to adjust. However, the impact of the adaptations on the replacement rate is very difficult to assess. In some countries the gross benefit rate was reduced, but the duration of the unemployment insurance extended. The two measures together may well have resulted in an increase of the replacement rate. With a historical overview to hand, the linkage of benefits and unemployment rate could be examined more thoroughly than by the cross-country analysis to which we are limited.

Next, the survey must be extended to all insured workers. Our survey does not describe, for example, the benefit position of the married unemployed with spouse at work. With female participation in the labour market increasing, an extension of the survey to these unemployed has to be undertaken. Besides, couples with both partners in employment have become normal in Europe and in the United States.

Another item for future research are the incentives for recipients of welfare benefits to accept work. The reform of the welfare state in some countries centres around such measures. The AFDC-benefit in California has decreased by 10%-point since 1990, but at the same time raised for recipients with a (part-time) job.



## **Annex A      The gross-net relation and the unemployment compensation.**

### **1.              Introduction**

The first aim of this annex is to provide readers with an overview of the unemployment compensation programs. But the description is far from complete. Only those arrangements are described that are relevant to the purpose of the study. For the limitations and assumptions we refer to the main text of the study, especially chapter 2 on methodology.

The second purpose of this annex is to explain the spreadsheet. Although, the design of the spreadsheet is logical and the spreadsheet is easy to read, additional information of the annex can contribute to the understanding and use of the spreadsheet.<sup>20</sup>

The last aim of the annex is to permit verification of the described benefit regimes and the gross/net relation. A complete verification is possible with the spreadsheet, but the annex provides already a good insight into the different regimes and the gross/net relation. To support verification the description of the arrangements corresponds with national customs. This means that sometimes the benefit rate is defined in net terms (for instance for Germany), while for other countries a gross rate is used. The benefit amounts are in national currency. With the spreadsheet the net benefit rate as well as different kinds of benefit overviews in ECUs<sup>21</sup> can be calculated.

The country information is divided into seven parts. First the tax system is reviewed in part A, where we chart the tax treatment of employment income and unemployment insurance benefits. In the chart the step-by-step determination of the income tax on gross earnings is displayed as well as the relation between gross and net earnings. The second part (B) describes the unemployment compensation, which is divided into two subparts: unemployment insurance and unemployment assistance. The social assistance (or general assistance) is described separately in part C. The family and housing benefits are presented in sections D and E. In section F we focus on the legal minimum wage (if there is any relevant legislation) and the collectively agreed minimum wages. The calculation of the net income of a person receiving a minimum income and of an Average Production Worker and their benefit position conclude every country description.

In this annex the unemployment compensations are divided into two classes: unemployment insurance and unemployment assistance, while general neediness is described separately. That breakdown is according to the Eurostat classification of social protection. Newly laid-off workers can for a limited period claim an insurance benefit. In most countries the insurance payments are subject to a maximum period. When unemployment benefits are exhausted, unemployed persons can apply for

<sup>20</sup> The technical details concerning the spreadsheet are described in Annex D.

<sup>21</sup> By purchasing power parities or exchange rate.

assistance benefits. In many countries a two-tier system for assistance exists: one scheme specifically designed for unemployed persons with an employment record and another for the whole population. New entrants on the labour market have to apply to the latter scheme. The former scheme is named unemployment assistance and the second scheme is called general neediness.

Besides the difference in insured population the unemployment assistance often has a benefit linked to the previous earnings, whereas the general neediness has no such link. Mostly, either benefit is means tested.

To construct replacement rates many cross-country comparisons have been used. In the annex the sources are not mentioned,<sup>22</sup> but in the spreadsheet we have documented references for every tax rule, benefit formula, premium rate or benefit amount.

<sup>22</sup> The main sources are:

- Social Protection in the Memberstates of the Community, Situation on July 1st 1993 and evolution, MISSOC, 1994
- Digest of statistics on social protection in Europe, volume 4 family, volume 7 unemployment, volume 8 general neediness, Eurostat, 1994, Luxembourg
- The tax/benefit position of production workers, annual report 1990-1993, OECD, 1994
- Taxation of individuals in Europe, IBFD, Amsterdam
- Social Security Programs Throughout the World - 1993, US Department of Health and Human Services, Washington, 1994
- De onderkant van de arbeidsmarkt, Working Paper No. 1, Ministry of Social Affairs and Employment, Els Vogels, The Hague, 1994
- Housing systems in Europe: part II. A comparative study of housing finance, Oscar Papa, Delft University Press 1992

## 2. Belgium

### A. The income tax system

The main features of the Belgian tax system are shown in table 1. As can be seen from this table, employment income is treated differently from unemployment benefits in that the unemployed receive a net benefit. For employees income tax is levied on total gross earnings, after deduction of social-security contributions and the work allowance. Tax credits are obtained dependent on the household situation and number of children.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+		+
Employee insurance				
- sickness	-	-		
- health care	-	-		
- old age	-	-		
- unemployment	-	-		
Work allowance	-			
Tax base	=			
Taxable income	=			
Income tax		-		
Tax Credits		+		
Net earnings		=		=
Family benefits		+		+
Disposable income		=		=

The employee insurance scheme covers among other things, sickness, health care, old age, unemployment, family allowances and vacation pay (Table 2). Separate premiums are levied for these programmes. The contributions paid by employers depend on type of industry, number of employees, special circumstances, etc. We have chosen premiums for blue collar workers in large industries, which are levied from all employers fulfilling these conditions.

Special attention must be given to the Belgian system of vacation payment. In most countries vacation payment is integrated in the normal wages paid by employers. The Belgian system diverts from that description. First of all, wages of blue-collar workers are not paid during holidays. Instead, a vacation fund takes care of these payments for which employers pay a contribution of 15.5 percent. Besides wage-compensation payments during holidays amounting to 8% of gross wage (single vacation pay), these funds provide an additional compensation of 6.8%

(double vacation pay). In most countries this additional compensation is regarded as the vacation payment.

Social-security contributions (for employer and employee) are calculated on 108% of gross wage exclusive of vacation payments. In that way these contributions are indirectly levied on single vacation pay. In addition, employees pay contributions on the double vacation pay. For 1993 the employee contribution rate on double vacation pay and on gross wage were equal. In this study vacation payments are included in gross wage.<sup>23</sup>

*Table 2 Contribution rates and ceilings*

	Employer	Employee
	in %	
Sickness	2.35	1.15
Health care	3.80	3.55
Disability	1.40	0.00
Old age	8.86	7.50
Unemployment	3.09	.87
Family allowances	7.00	0.00
Vacation pay	15.50	0.00
Other	8.32	0.00

The tax system consists of seven slices. Table 3 gives an overview of the tax rates. The employment income of married couples is taxed separately. For one-earner households, 30% of the income of the wage-earner is allocated to the spouse. A single person is entitled to a 'minimum tax-free amount' of BFR 186,000. This tax deduction is treated as a tax credit of BFR 46,500. Married couples are entitled to a lower 'minimum tax-free amount' of BFR 146,000 each, corresponding to a tax credit of BFR 36,500 for both. Married couples with two children are entitled to an extra 'tax-free amount' of BFR 101,000 (comparable to a tax credit of BFR 25,250) which is assigned to the sole earner himself. Unused credits of one spouse may be transferred to the other.

Based on the total tax amount - including tax credits - a complementary crisis tax of 3% and a local tax of 7% (average) are raised.

<sup>23</sup> In contrast, for the white collar worker single vacation pay is included in gross wage. For this group social-security contributions are paid on 100% of gross wage.

*Table 3 Rate structure*

Income Interval		Tax rate	
in BFR		in %	
0	-	253,000	25
253,001	-	335,000	30
335,001	-	478,000	40
478,001	-	1,100,000	45
1,100,001	-	1,650,000	50
1,650,001	-	2,420,000	52.5
2,420,001	-		55

## B. Unemployment Compensation

### B1. Unemployment Insurance

Tables 4a and 4b give an overview of the unemployment insurances in Belgium. To qualify for the 'Werkloosheidsuitkering' a laid-off worker must have been employed for a period varying between 78 working days in the last 10 months at age 18 and 624 working days in the last 36 months from age 50. The benefit depends on the amount of earnings lost, the household situation and the duration of unemployment.

*Table 4a Unemployment insurance (Werkloosheidsuitkering)*

	in months
Required employment record	3-24
Waiting period	0
Maximum duration	Unlimited
	in %
Benefit rate <sup>a</sup>	60/42
Earnings ceiling <sup>b</sup>	67.8
Means test	No
Supplements for dependents	entitled to family allowances

<sup>a</sup> 60% for single persons in first year and for sole earners

42% for single persons after first year.

<sup>b</sup> As a percentage of Average Production Worker.

For young persons, under 30 years of age at the time the claim for unemployment allowance is made, and looking for a job for the first time, there is a special allowance (Wachttuitkering). After a waiting period of between 77 and 310 days, depending on age, a daily flat-rate benefit can be obtained. The benefit depends on age and household situation. The duration of the benefit is unlimited. In general, unemployment benefits are net benefits.

*Table 4b Unemployment insurance (Wachttuitkering)*

	in months
Special requirements concerning household (or age)	under 30 years of age when claim is made
Required employment record	No
Waiting period	3-12
Maximum duration	Unlimited
	in BFR
Benefit amount <sup>a</sup>	
Single person aged 18-20	12,410
Single person aged 21 and over	16,190
Married couple	28,600
Means test	No
Supplements for dependents	entitled to family allowances

<sup>a</sup> Flat rate amount per month.

## **B2. Unemployment Assistance**

None

## **C. General Neediness**

General neediness (Minimum de Moyen d'Existence) plays an insignificant role in Belgium. Because both unemployment insurance programmes have unlimited duration, most unemployed persons receive benefits from these programmes. However, laid-off workers who do not qualify for the unemployment insurances (e.g. insufficient employment record) are dependent on the general neediness. The 'Minimex' is a net benefit.

**Table 6** *General Neediness (Minimum de Moyens d'Existence)*

Special requirements concerning households (or age)	No
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested? <sup>a</sup>	M and IS
	in BFR
Benefit amount <sup>b</sup>	
Single person	19,485
Married couple	25,980

<sup>a</sup> M = Means tested, IS = Income tested.

<sup>b</sup> Monthly payment.

#### **D. Family Benefits**

In Belgium the amount of family allowances increases progressively with the number of children in a family and their age. For two children aged 7 and 11 the average annual amount for 1993 was BFR 108,480. For people unemployed for more than six months an amount of BFR 133,716 is available. This higher rate is means tested and only available when the spouse is not working. The assumption is that persons receiving 'Minimum de Moyens d'Existence' are also entitled to the family benefits for the unemployed. The family benefits are net transfers: social premiums and income tax are not levied on them.

#### **E. Housing Benefits**

Housing benefits are not provided in Belgium. Instead, local authorities fix the rent according to the household situation (number of persons in the household) and the household income. This kind of government regulation is left out of consideration in this survey.

#### **F. Minimum Wages**

Belgium does not have a statutory minimum wage system. However, it has a guaranteed minimum wage which has been agreed nationally by the social partners. The minimum wage (Revenu Minimum Mensuel Moyen Garanti) amounts to 521,000 Bfr per annum<sup>24</sup> for workers at least 21 years of age without work experience. Higher rates apply to workers aged over 21.5 with at least six months'

<sup>24</sup> Including all vacation payments.

experience and for workers aged over 22 with 12 months' work experience (with the same employer). Young workers below the age of 21 are subject to lower rates. The minimum wage level is adjusted automatically to the consumer-price index and is renegotiated every two years.

In addition, around 80% of the private sector is covered by collective agreements. For the metal industry the minimum rate amounted to 533,833 Bfr per annum for 1993.



**G. Detailed description of the replacement rate**

### 3. Denmark

#### A. The income tax system

Table 1 reveals the main features of the Danish tax system. The social-security contributions are deductible for taxes. Unemployment beneficiaries pay part of the social security contributions and full taxes on the benefit they receive.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+	+	+
Employee insurance				
- old age (supplementary)	-	-		
- unemployment	-	-	-	-
- education	-	-		
General expense allowance	-		-	
Tax base	=		=	
Taxable income	=		=	
Government income tax		-		-
Tax credit		+		+
State and local income taxes		-		-
Tax credit		+		+
Net earnings		=		=
Family benefits		+		+
Housing benefits		+		+
Disposable income		=		=

Note that the Danish system shows differences with the other European Union members. In Denmark many of the social-security schemes are tax-financed. In addition, most of the other schemes are financed by flat-rate contributions. Furthermore, employers contribute according to risk for industrial injuries. The unemployment insurance contribution is based on the value added of the company. According to our calculations, employers pay an average 3.25% of value added to the unemployment insurance. This percentage is applied to gross wage to estimate the employers' burden of this insurance. Pensions are also tax-financed, but the supplementary scheme (ATP) is treated as a social contribution. The education and training mentioned in the table actually consists of two schemes: the apprentice fund (AER) paid for by the employers and the Educational Fund (AUD) financed by the employees.

*Table 2 Contribution rates and ceilings*

	Employer	Employee
	DKr/month	DKr/month
Old age (supplementary)	129.60	64.80
Unemployment <sup>a</sup>	3.25%	288.42
Education and training	125.00	111.09
Employment injuries and occupational diseases	324 <sup>b</sup>	-

<sup>a</sup> Calculated average premium for value added base. In our calculation this average premium is levied on gross earnings.

<sup>b</sup> Average premium (CPB estimation).

Unlike in most other countries, the income taxes are not determined by a set of brackets with different tax rates, but there are different taxes for different kinds of income. This results in our case, as we assume all income to derive from employment, in three national taxes and three additional local taxes on total income. Because the taxes have different allowances, rates and tax credits, in our situation the relation between income and tax burden looks similar to the relation that would result in a bracket system.

Table 3 presents the Danish system as a bracket scheme for employment income.<sup>25</sup> The rate includes all national and local taxes as well as the church tax (0.7%). With respect to the local taxes we have used a country average. The marginal rate of the government taxes and the local taxes exclusive of church taxes is limited to 68%. In the highest income interval the central government tax rate is reduced to prevent the marginal tax rate exceeding 68%. A similar table constructed for a household with an unemployment benefit, would show slightly lower intervals, in accordance with the lower contributions to social security.

*Table 3 Rate Structure*

Income Interval Single person			Tax Rate	Income Interval Married couples			Tax Rate
in DKr			in %	in DKr			in %
0	-	32,033	0.0	0	-	58,322	0.0
32,033	-	39,353	29.3	58,322	-	72,960	29.3
39,353	-	130,000	50.6	72,960	-	130,000	50.6
130,000	-	170,111	52.2	130,000	-	242,111	52.2
170,111	-	242,111	58.2	242,111	-	338,111	64.2
242,111	-		68.7	338,111	-		68.7

<sup>25</sup> In the spreadsheet we have modelled the Danish system exactly.

## **B. Unemployment Compensation**

### **B1. Unemployment Insurance**

In many countries unemployment insurances were originally run on a voluntary basis, but insurance-technical problems (moral hazard and dependent risk for instance cyclical unemployment) required government involvement. In Denmark the unemployment insurance is still voluntary, but for union members it is obligatory. In fact, one year of membership is required for entitlement to benefits, and membership can be obtained after 300 hours of employment. This unemployment insurance offers a benefit rate of 90% of previous earnings up to a certain limit. The ceiling is set at approximately 70% of the wage of the Average Production Worker.

The duration of the benefit is limited to two and a half years. After this period, the unemployed have a right to be offered a job for nine months in the private sector or seven months in the public sector. For unemployed persons younger than 25 the job offer will come after 12 months of unemployment. On completion of this job the unemployment benefits will again be payable. We assume that accepting this job has no effect on the level of earnings. For that reason the duration of the benefit is set to 'unlimited' in the spreadsheet for those qualified.

As mentioned before, the unemployed pay only unemployment insurance contributions. The benefit is fully liable to taxation.

*Table 4 Unemployment Insurance*

	in months
Required employment record	13.9
Waiting period	No
Maximum duration	30.0 + job offer
	in %
Benefit rate	90
Earnings ceiling	70 <sup>a</sup>
Means test	No
Supplements for dependants	No

<sup>a</sup> As a percentage of Average Production Worker

### **B2. Unemployment Assistance**

None.

### C. General Neediness

The main characteristics of the General Neediness in Denmark are shown in table 6. The conditions that must be fulfilled to qualify for the assistance include a change in living conditions (for instance losing one's job), having exhausted one's own employment opportunities (if married the same applies to the spouse), and not being in possession of capital which may cover the demand for financial assistance.

The basic amount is related to the basic amount of the old-age pension. A married couple receives twice the amount for a single person. After nine months the basic amount drops to 88% of the original amount. Persons under 23 years without dependants receive a lower amount and a fixed housing supplement, but if they have earned more than the two amounts together (DKr 3310) for a continuous period of at least three months, they will be treated like a person aged 23 years.

For each dependent child a supplement is granted, which amounts to DKr 1158 a month. In addition to this supplement normal family allowances are received.

The housing supplement is granted to cover expenses on rent (or, in case of an occupied house, payments of instalments and interests), water, heating, gas, and electricity. If the housing expenses are deemed too high and if a reasonable and less expensive dwelling may be provided, the housing supplement is based on the costs of the latter dwelling.

The total cash assistance cannot exceed 90% of the previous net income or Dkr 5723 if 90% of the previous income is less than this amount.

*Table 6 General Neediness (Social Bistand)*

Specific requirements concerning household (or age)	No	
Waiting period (months)	No	
Maximum duration	unlimited	
Benefit formula		
- regional differences?	No	
- dependent on actual dwelling costs?	Yes	
- deduction of housing benefits?	Yes	
- deduction of family benefits?	No	
- lower benefit for young people?	Yes	
- means or income tested? <sup>a</sup>	M and IS	
Benefit amount <sup>b</sup>	first 9 months in DKr	after 9 months in DKr
Single person	3,002	2,641
Married couple without children	6,004	5,282
Married couple with two children	8,320	7,598

<sup>a</sup> M = Means tested, IS = Income tested.

<sup>b</sup> Monthly payment without family allowances or housing benefits.

#### **D. Family Benefits**

In Denmark an allowance is granted for dependent children at a fixed rate of DKr 2,075 per quarter for every child aged 0 to 6 years and DKr 1,600 for every child aged 7 to 18. The allowance is not liable for taxes.

#### **E. Housing Benefits**

In Denmark two housing benefits schemes exist: 'Bologiskring' for all renters (including unemployed ones) and 'Bologydelse' for pensioners. In both schemes the subsidy drops if the income grows. The subsidy can be calculated by the following equation:

$$S = (R - a * (Y - B)) * D$$

where:

- R = the rent
- Y = gross household income
- B = a deduction for every child in the household. In 1993 this amount was 23,900 DKr
- a = the normative rent quota. The two schemes have different normative quotas. For 'Bologiskring' the quota is 0.16 for the income (reduced according to the number of children) up to DKr 135,300 and 0.267 for the income above this threshold.
- D = discount factor, D = 0.75 for 'Bologiskring'.

#### **F. Minimum Wages**

A legal national minimum wage is absent in Denmark.

Collective agreements determine the minimum-wage rates. Around 80/90% of the work force is covered by these agreements. There are two types of collective agreement, 'Minimallon' and 'Normallon'. Collective agreements with the 'Minimallon' system determine one minimum level. In the 'Normallon' system minimum rates are fixed for all function levels. For the metal industry the minimum level amounts to 128,908 DKr a year. In general the collective agreements are renegotiated every two years.

**G. Detailed description of the replacement rate**

## 4. Germany

### A. The income tax system

The most eye-catching phenomenon of the German system is that unemployment benefits are not liable to income tax or social premiums. Besides that, a two-stage approach is followed to calculate the unemployment benefit. All this will be set out below.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+		+
Employee insurance				
- sickness	-	-		
- unemployment	-	-		
- old age/disability	-	-		
Work allowance	-			
Special expenses (incl. church tax)	-			
Children deduction	-			
Tax base	=			
Taxable income	=			
Income tax		-		
Church tax		-		
Net earnings		=		=
Family benefits		+		+
Housing benefits		+		+
Disposable income		=		=

First of all we will describe how the social-premium amount and the tax payment are derived. Social-security contributions are deductible to a maximum depending on income and household characteristics. For a standard one-earner household the maxima will usually allow full deduction of social premiums. The social-insurance scheme covers sickness, health care, injuries, disability, old-age and unemployment. The contribution rates are shown in table 2.

The health-care insurance is integrated with the sickness benefits. For employees with earnings below the income threshold the sickness/health scheme is compulsory. Usually the insurance is available on a voluntary basis for employees with an income higher than the interval maximum. Besides, these employees can obtain an insurance on the private market. As stated in the methodology, the premium of the private health care insurance is derived from the premium of the compulsory scheme.



*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	in %		in DM	
Sickness / health	6.70	6.70	0	64,800
Unemployment	3.25	3.25	0	86,400
Old age / disability	8.75	8.75	0	86,400
Employment injuries	1.39	0	0	-
	in DM			
Private health insurance <sup>a</sup>				
- Single person	1,447	1,447	64,800	-
- Sole earner without children	2,894	2,894	64,800	-
- Sole earner with two children	4,342	4,342	64,800	-

<sup>a</sup> Yearly amount.

The work allowance is DM 2,000 in Germany. Households with dependent children are entitled to deduct 4104 DM per child.

The tax rates and intervals are shown in table 3. In Germany an income splitting system exists for the income tax. Married couples are granted twice the tax rate bands applicable to single taxpayers; furthermore the amounts used to calculate the maximum deduction of social premiums and the lump sum deduction for special expenses are doubled.

Income tax is not levied on taxable income below 11,069 DM a year. Above this limit a sharp jump of the marginal tax rate can occur, since the tax-free amount is skipped. However, a maximum is set to the marginal rate of 50% in this income band. For all taxpayers the first 5,616 DM are not taxed. In the range 8,154 DM up to 120,041 the marginal tax rate gradually rises from 19% to 53%.

Church members pay a special church tax. Since nearly 80% of the German population are church members, this tax is treated as a standard. Generally, rates are 8% or 9% of income tax with a deduction of 300 DM for each dependent child.

*Table 3 Rate structure*

Income Interval		Tax Rate	
in DM		in %	
0	-	5,616	0
5,617	-	8,153	19
8,154	-	120,041	19-53
120,042	-		53

## B. Unemployment Compensation

The German unemployment scheme offers two income-related benefits. The Arbeitslosengeld is of limited duration and offers the higher benefit rate. This benefit is classified as an insurance. The other benefit is not limited in duration and offers a lower benefit rate. The benefit is means-tested and can therefore be seen as an unemployment assistance.

### B1. Unemployment insurance

The Arbeitslosengeld is granted when an applicant has worked at least one year in the last three years. The benefit is provided for an initial period of six months and can be extended if certain employment record criteria are fulfilled.

The benefit rate is 68% for unemployed persons with dependent children and 63% for other applicants. Note, that this benefit rate is not applied to the net earnings of the applicant. Instead the net benefit is taken from a reference table, where child deductions are ignored. As a result, replacement rates can differ slightly from the net benefit rate.

*Table 4 Unemployment insurance (Arbeitslosengeld)*

			in months
Required employment record			12 <sup>a</sup>
Waiting period			No
Maximum duration			
- initial period			6
- extended period	employment record in months	age in years	
	16		2
	20		4
	24		6
	28	42	8
	32	42	10
	36	42	12
	40	44	14
	44	44	16
	48	49	18
	52	49	20
	56	54	22
	60	54	24
	64	54	26
			in %
Benefit rate			63 <sup>b</sup>
Earnings ceiling <sup>d</sup>			168
Means test			No
Supplements for dependants			5%-points <sup>c</sup>

<sup>a</sup> In the three years preceding unemployment

<sup>b</sup> Net benefit rate

<sup>c</sup> If there are dependent children in the household

<sup>d</sup> As a percentage of Average Production Worker

## B2. Unemployment Assistance

Unemployed individuals whose Arbeitslosengeld is exhausted or who do not qualify for the benefit because their employment record is insufficient, but who worked for at least 150 days within the preceding year, can apply for the unemployment assistance, the Arbeitslosenhilfe. This means-tested benefit is granted for one year at the time, the total duration being unlimited. The benefit is calculated like the insurance benefit as a percentage of the net reference earnings at a rate of 58% for households with dependent children and 56% for others. The means test does not include family benefits.

*Table 5 Unemployment Assistance (Arbeitslosenhilfe)*

Specific requirements concerning households (or age)	No
Required employment record	5 <sup>a</sup>
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefits for young people?	No <sup>b</sup>
- means or income tested? <sup>c</sup>	M and IS
	in %
Benefit amount <sup>d</sup>	
Household with dependent children	58
Household without dependent children	56

<sup>a</sup> Months. For applicants not qualifying for unemployment insurance

<sup>b</sup> But for unmarried minors the parents' means and income are taken into account

<sup>c</sup> M = Means tested, IS = Income tested

<sup>d</sup> Of previous net earnings

## C. General neediness

Table 6 recapitulates the German General Neediness. A remarkable feature of the German system is the treatment of the income of relatives. General neediness can be claimed only if relatives in straight line are unable to provide maintenance. As a result parents must support their unemployed children irrespectively of their age. Even the financial resources of grandparents may be taken into account. The German means test is, compared with other European countries, very stringent. In our study, however, we will assume that the means test is passed.

The assistance is regulated in a national law, but the basic benefit amount varies from region to region. For each member of the household a percentage of this amount is paid. In such circumstances as one-parent households with young children an additional percentage for the household is granted. The benefit for each household member is supposed to be sufficient to cover the current cost of living. Dwelling costs are paid separately. These include heating expenses which are assumed to be 15% additional to the rent. For many high incidental expenses additional benefits are provided. Furthermore in non-standard situations many costs may be eligible for compensation.

*Table 6 General Neediness (Sozialhilfe)*

Specific requirements concerning households (or age)	No
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	Yes
- dependent on actual dwelling costs?	Yes
- deduction of housing benefits?	Yes
- deduction of family benefits?	Yes
- lower benefit for young people?	No
- means or income tested? <sup>a</sup>	M and IS
	in DM
Benefit amount <sup>b</sup>	
Single person	509
Married couple without children	916
Married couple with two children <sup>c</sup>	1,578

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Monthly payment, in Nordrhein Westfalen (Ruhr-area).

<sup>c</sup> Depends on children's ages (the amount refers to household with children aged 7-13)

#### **D. Family Benefits**

According to the German constitution, marriage and family are under special government protection. The German system includes two important means to support families with children: family benefits and special tax reliefs. The Kindergeld is a family benefit system with benefits for every dependent child in the family. Benefits increase for every next child (until the fourth) in the family, but decline when the household income grows. The second part of the German system consists of the child relief of the income tax. If the income is too low to make full use of this deduction, the difference is made up by the family benefits.

For a family with two children the Kindergeld benefit amounts to 200 DM a month. When the income exceeds 45000 DM, the benefit gradually drops to 140 DM a month.

#### **E. Housing Benefits**

Dependent on the number of household members, the household income and the level of the house rent, a housing benefit can be claimed. For owner-occupied dwellings the ownership costs are taken into consideration according to specified rules. To calculate the household income, each family member's individual income is calculated by deducting several amounts including the work allowance from total income including child benefits. The remainder is reduced by 6%, 12½%, 20% or 30%. Starting from the basic rate of 6% the household member qualifies for the 12½% reduction if he either pays income taxes or participates in the health insurance or in the old-age/disability insurance. With two out of three the reduction is 20% and with all three 30%. In our study those unemployed enjoy a 6% reduction, those employed a 30% reduction.

Dwelling costs are only eligible for housing benefits up to a certain limit, determined by the number of household members, the quality of the dwelling and the municipal rent level. The municipal rent level is rated in one of six categories. We used the maximum rent level for the highest dwelling quality of the fourth category. The town of Essen is rated in this category.

The benefit that is granted can be read from an extensive set of tables. The tables are based on formulas, in which 12 coefficients reflect the different progression rates and thresholds of income and rent. The formulas result in a required household contribution to the rent that decreases with rent and rises with income. The remainder is paid as Wohngeld. For families with a low income the benefit can be up to 87% of the rent. A one-earner couple with two children and income at the APW-level is granted housing benefits if the rent exceeds 420 DM a month. At this rent level 15 DM will be granted. With higher rents the benefit gradually rises to 244 DM per month if the rent exceeds 985 DM.

Employed as well as unemployed persons can apply for a housing benefit. Recipients of general neediness however, are granted usually a fixed amount of housing benefit, but their assistance benefit, which includes full compensation for housing cost, is reduced by the same amount.

## **F. Minimum Wages**

Germany has no national minimum wage.

Collective agreements cover an estimated nine tenths of the workforce in West Germany. These agreements are renegotiated every year. The minimum rate (Tariflohn) in the metal industry for 'Angestellten' amounts to 19524 DM per year, whereas for 'Arbeiter' it amounts to 27369 DM per year. Because the minimum wage for 'Angestellten' refers to people with low education, in contrast with the minimum wage for 'Arbeiter', we use the former in our calculation, although 'Angestellten' are in fact white-collar workers. Sectoral agreements can be declared generally binding (extended to cover all employees in the relevant sector). About 15% of the workforce were employed in sectors subject to these agreements. Although most workers are covered by collective agreements it is still possible in Germany to pay very low wages in sectors which are not covered.

**G. Detailed description of the replacement rate**

## 5. Greece

### A. The income tax system

The main features of the Greek tax system are shown in table 1. In principle unemployment benefits are liable to income tax, but in practice income tax is not paid by recipients of unemployment benefit. This is a result of low benefits and a high basic allowance.

Usually Greek employees are granted a family allowance by their employers consisting of five per cent of their salaries for each of the first three children and ten per cent for the spouse independently of spouse's income status. Households that are not granted family allowances by their employer can claim a family allowance from the government. Family allowances are treated as taxable employment income.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+	+	+
Family allowance <sup>a</sup>	+	+		
Employee insurance				
- sickness	-	-		
- unemployment	-	-		
- old age/disability	-	-		
- family allowances	-	-		
Personal expenses allowance (house rent)	-		-	
Tax base	=		=	
Taxable income	=		=	
Income tax		-		-
Employment tax credit		+		
Net earnings		=		=
Disposable income		=		=

<sup>a</sup> Granted either by employer or by the state (see Section D)

Social-security contributions are fully deductible for taxes. The social-insurance scheme covers sickness, health care, old-age, disability, unemployment and family allowances. The contribution rates are shown in table 2.

No standard allowances are granted, but the house rent may (up to a limit) be deducted as part of the personal expenses allowance. Note that by the OECD classification the house rent should be regarded as a non-standard tax relief. However, in our study housing benefits are fully included. As a result tax expenditures such as deductible house rent are no longer treated by us as a non-standard relief.

An employment tax credit is granted to persons with employment income and dependent children, the amount depending on the number of children. The tax system consists of five tax slices. The tax rates and brackets are shown in table 3.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%		in DR	
Sickness	5.10	2.55	0	4,991,000
Unemployment	2.67	1.33	0	4,991,000
Old age / disability	13.33	6.67	0	4,991,000
Family allowances	1.00	1.00	0	4,991,000
Other	5.35	4.25	0	4,991,000

*Table 3 Rate structure*

Income Interval		Tax Rate	
in DR		in %	
0	- 1,000,000		0
1,000,000	- 2,500,000		5
2,500,000	- 4,000,000		15
4,000,000	- 7,000,000		30
7,000,000	-		40

## **B. Unemployment Compensation**

### **B1. Unemployment Insurance**

Table 4 gives an overview of the unemployment insurance in Greece. For laid-off workers who claim unemployment insurance benefit for the first time, the required employment record is much higher than for others. To get an unemployment insurance benefit, a first-time job-loser needs an employment record of 17 months. Otherwise the requirement is five months. In the calculation we have used the latter option.

The Greece benefit system is complicated with regard to the computation of the benefit rate. The Greece system has 22 insurance classes, with presumed earnings and benefit rate depending on the insurance classes. But for employees with an employment income above the minimum wage the benefit is a fixed payment in the range of 66% to 70% of the minimum wage. A supplement of 10% of the basic



benefit is paid for each dependant. For employees with earnings below the minimum wage<sup>26</sup> the benefit is 70% of previous earnings without supplements for dependants.

**Table 4** *Unemployment Insurance*

	in months
Required employment record	5 <sup>a b</sup>
Waiting period	0.24
Maximum duration	
	employment
	- 0.4 years <sup>a</sup>
	0.4 - 0.5 years <sup>a</sup>
	0.5 - 0.6 years <sup>a</sup>
	0.6 - 0.7 years <sup>a</sup>
	0.7 - 0.8 years <sup>a</sup>
	in %
Benefit rate	67-70% of min wage
Earnings ceiling <sup>c</sup>	70
Means test	No
Supplement for dependants	10% for each

<sup>a</sup> In the 12 months preceding the last 2 months of employment

<sup>b</sup> For laid-off workers who claim for the first time the employment record qualification is 8 months in the last two years and 3 months in each of the last two years

<sup>c</sup> As a percentage of Average Production Worker

## **B2. Unemployment Assistance**

In Greece a number of unemployment allowances apply, but only two schemes are relevant for the study. These schemes are displayed in table 5. Unemployed persons who have exhausted their insurance can apply once to the scheme in the first column. After that, the scheme in the second column provides income support. Besides, this scheme gives benefits to the unemployed who were disqualified for the insurance. The scheme pays three times a year, which leads to a very low benefit. In table 5 the yearly benefit amount is shown.

<sup>26</sup> For instance part-time employees.

*Table 5 Unemployment Assistance*

	After exhausting maximum duration unemployment insurance	After exhausting not qualifying for unemployment insurance
Specific requirements concerning households (or age)	No	No
	in months	in months
Required employment record	no additional	2.4
Waiting period	2 <sup>a</sup>	3 <sup>b</sup>
Maximum duration	once	unlimited
Benefit formula		
- regional differences?	No	No
- dependent on actual dwelling costs?	No	No
- deduction of housing benefits?	No	No
- deduction of family benefits?	No	No
- lower benefits for young people?	No	No
- means or income tested? <sup>c</sup>	IS	IS
	in %	
Benefit amount	17 <sup>d</sup>	15 <sup>e f</sup>

<sup>a</sup> Additional waiting period after exhausting unemployment insurance

<sup>b</sup> 0 if unemployment is due to the interruption of activity of the enterprise

<sup>c</sup> M = Means tested, IS = Income tested

<sup>d</sup> Of previous unemployment benefit (table 4)

<sup>e</sup> Of unemployment benefit that would have been paid if employment record would satisfy required employment record

<sup>f</sup> 20 if unemployment is due to the interruption of activity of the enterprise

### C. General Neediness

For individuals and families who lack the basic necessities a benefit is available from the Ministry of Health, Welfare and Social Security. There is a standard amount. A number of other assistance payments are available, most of them offering assistance in non-standard situations generally with a means-test. First-time job-seekers aged between 20 and 29 can claim an assistance benefit. The characteristics of this benefit are shown in table 6.

*Table 6 General neediness*

Specific requirements concerning households (or age)	job seekers aged 20-29 years
Waiting period <sup>a</sup>	12
Maximum duration <sup>a</sup>	5
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	-
- means or income tested? <sup>b</sup>	M and IS
	in DR
Benefit amount <sup>c</sup>	
Single person	25,000
Married couple without children	27,000
Married couple with two children	31,000

<sup>a</sup> In months if applicant has never worked

<sup>b</sup> M = Means tested, IS = Income tested

<sup>c</sup> Monthly payment

#### **D. Family Benefits**

In Greece wage earnings depend on family circumstances (see introduction to tax system).

#### **E. Housing Benefits**

Housing benefits are not provided in Greece, but house rent is deductible from the income tax (see standard tax reliefs).

#### **F. Minimum Wages**

Greece does not have a statutory minimum wage system. However, it has a guaranteed minimum wage which has been agreed nationally by the social partners. This wage is usually updated every year and amounts to 1,182,804 DR a year. In addition these are collective agreements. For the metal industry the lowest wage level amounts to 1,414,200 DR a year.

**G. Detailed description of the replacement rate**

## 6. Spain

### A. The income tax system

All social-security contributions are deductible in the Spanish tax system. The main features of the system are displayed in table 1. Family benefits are taxable, but because of the means-test that must be passed to qualify for the benefit, there will usually be no increase in taxes due (see D. Family Benefits). The deduction for work-related expenses is a standard five per cent with a maximum of 250,000 Ptas and is not related to real expenses.

Unemployment benefits are non-taxable, while for unemployment insurance recipients social security contributions are paid in addition to the benefit.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+		+
Family benefits	+	+		+
Social security contributions				
- old age / sickness / disability	-	-		
- unemployment / employment injuries	-	-		
- professional education and training	-	-		
Work allowance	-			
Tax base	=			
Taxable income	=			
Income tax		-		
Employment tax credit		+		
Family tax credit		+		
House rent tax credit		+		
Net earnings		=		=
Disposable income		=		=

Table 2 shows the contribution rates for the social-security system. The contribution ceiling presented in the table applies to the occupational category comprising the largest number of employees. There are 11 other occupational categories, four of them with a different ceiling: 3,024,000 Ptas. However, for a certain category the same ceiling is applied to all social security schemes.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%		in Ptas	
Old age / sickness / disability	24.40	4.90	0	4,057,560
Unemployment / employment injuries	6.20	1.10	0	4,057,560
Professional education and training	0.60	0.10	0	4,057,560
Wage guarantee fund	0.40	0.00	0	4,057,560

Once the tax base has been computed, the income tax can be derived by using one of the two tax tables presented in table 3. A family unit consisting of husband and wife and their minor children can choose to file a joint tax return, thus benefiting from higher amounts for certain deductions and credits. If both spouses derive income, they are generally better off filing separate returns.

The calculated tax can be reduced by tax credits depending on the characteristics of the family. For a single taxpayer an amount of 68,000 Ptas is granted, which declines with income to 25,200 Ptas if the income is more than 1,800,000 Ptas. A married couple is entitled to a credit of 25,200 Ptas plus 20,000 Ptas for each dependent child. The non-standard tax credits include a rent credit (which is included in our spreadsheet) amounting to 15% of the rent with a maximum of 75,000 Ptas. The rent credit is granted only if the rent exceeds one tenth of income and income does not exceed 2,000,000 Ptas (3,000,000 for a married couple).

*Table 3 Rate structure*

Single person		Tax Rate	Married couples		Tax Rate
Income Interval			Income Interval		
in Ptas		in %	in Ptas		in %
0 - 400,000		0.0	0 - 800,000		0.0
400,000 - 1,000,000		20.0	800,000 - 2,000,000		20.0
1,000,000 - 1,570,000		22.0	2,000,000 - 2,625,000		24.5
1,570,000 - 2,140,000		24.0	2,625,000 - 3,250,000		27.0
2,140,000 - 2,710,000		27.0	3,250,000 - 3,875,000		30.0
2,710,000 - 3,280,000		30.0	3,875,000 - 4,500,000		32.0
3,280,000 - 3,850,000		32.0	4,500,000 - 5,125,000		34.0
3,850,000 - 4,420,000		34.0	5,125,000 - 5,750,000		36.0
4,420,000 - 4,990,000		36.0	5,750,000 - 6,375,000		38.0
4,990,000 - 5,560,000		38.0	6,375,000 - 7,000,000		40.0
5,560,000 - 6,130,000		40.0	7,000,000 - 7,625,000		42.5
6,130,000 - 6,700,000		42.5	7,625,000 - 8,250,000		45.0
6,700,000 - 7,270,000		45.0	8,250,000 - 8,875,000		47.0
7,270,000 - 7,840,000		47.0	8,875,000 - 9,500,000		49.0
7,840,000 - 8,410,000		49.0	9,500,000 - 10,125,000		51.0
8,410,000 - 8,980,000		51.0	10,125,000 - 11,000,000		53.5
8,980,000 - 9,550,000		53.5	11,000,000 -		56.0
9,550,000 -		56.0			

## B. Unemployment Compensation

### B1. Unemployment Insurance

The National Employment Institute (INEM) provides an unemployment benefit for employees who have become involuntarily unemployed and who have paid at least 12 months' social-security contributions in the six years preceding unemployment. The characteristics of this benefit are presented in table 4. After six months the benefit rate drops from 70% to 60% of the contribution basis.

Apart from the benefit by INEM, employees are entitled to a termination indemnity from their employer. For each year of service 45 day's wages are granted up to a ceiling of 42 monthly wages. For lack of information this indemnity has not been incorporated in our spreadsheet.

*Table 4 Unemployment Insurance*

		in months
Required employment record		12 <sup>a</sup>
Waiting period		0.03
Maximum duration	employment (months)	
	12 - 18	4
	18 - 24	6
	24 - 30	8
	30 - 36	10
	36 - 42	12
	42 - 48	14
	48 - 54	16
	48 - 54	18
	54 - 60	20
	60 - 66	22
	72 -	24
		in %
Benefit rate	first 6 months	70
	subsequent months	60
Earnings ceiling <sup>b</sup>		
	min	max
Single person	44	75
Married couple	44	75
Married couple with two children	44	97
Means test		No
Supplement for dependants		No

<sup>a</sup> In the six years preceding unemployment

<sup>b</sup> As a percentage of Average Production Worker

## **B2. Unemployment Assistance**

Unemployed persons who do not qualify for the unemployment insurance benefit or who have exhausted the maximum duration of the benefit can apply for unemployment assistance. The requirements, duration and waiting period all depend on the household situation and the age of the unemployed, as can be seen from table 5. The assistance amounts to a non-taxable three quarters of the statutory minimum wage and includes payment of the social security contributions by INEM. Unemployed over 45 with sufficient employment record can apply for a six months subsidy preceding the actual assistance. This special regime is displayed in the first column of table 5 and the regime for all unemployed in the second column. Note that persons over 45 years can first apply to the regime of the first column and after that to the regime of the second column. A household situation dependent supplement is granted with this subsidy.



*Table 5 Unemployment Assistance*

	After exhaustion of unemployment benefit		Not qualifying for unemployment benefit
	age $\geq$ 45	-	-
Specific requirements concerning households (or age)	Yes	Yes <sup>b</sup>	No
Required employment record (months)	72 <sup>a</sup>	-	3 <sup>d</sup>
Waiting period (months)	0.5	1.5	1.5
Maximum duration (months)	6	18-30 <sup>c</sup>	21 <sup>e</sup>
Benefit formula	No	No	No
- regional differences?	No	No	No
- dependent on actual dwelling costs?	No	No	No
- deduction of housing benefits?	No	No	No
- deduction of family benefits?	No	No	No
- lower benefits for young people?	No	No	No
- means or income tested?	No	No	No
Benefit amount	75% of min. wage <sup>f</sup>		

<sup>a</sup> In fact the requirement is stated as a minimum insurance benefit duration of 24 months.

<sup>b</sup> Without dependants an employment record of 36 months is required.

<sup>c</sup> Age in combination with employment record determines the maximum duration. For single persons the maximum duration is six months.

<sup>d</sup> For single persons six months.

<sup>e</sup> For single persons 21 months. With less than 6 months employment record for others the maximum duration is 3, 4 or 5 months with 3, 4 or 5 months employment record.

<sup>f</sup> Minimum wage excluding extraordinary payments which amount to two months payment. The subsidy for people over 45 is raised to 100% with two dependants and 125% with 3 or more dependants.

### C. General Neediness

Every autonomous region in Spain has its own laws in which the general neediness is regulated but the general rules are the same. All state laws mention a standard income that is regarded as minimum level. Family income is under some conditions complemented to this amount. Differences become apparent in the minimum age (25 in most regions, 18 in some), the time the household has been independent, the period the household is resident in the region and the income. For reasons of representativeness and access to information we have chosen Aragón, located in the north-east of Spain, with capital Zaragoza.

In Aragón a claimant must be between 18 and 65 years old. The guaranteed minimum level amounts to 30,000 pesetas a month for the first member of the household, an additional 30% for the second, 20% for the third and fourth and 10% for every next member. The benefit is effectuated from the first day of the month following the granting by the Department of Health, Social Welfare and Labour.

*Table 6 General neediness (Renta mínima de inserción)*

Specific requirements concerning households (or age)	Yes
Waiting period (months)	0.5
Maximum duration	unlimited
Benefit formula	
- regional differences?	Yes
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	in some regions
- lower benefit for young people?	No
- means or income tested? <sup>a</sup>	M
Benefit amount <sup>b</sup>	
Single person	30,000
Married couple without children	39,000
Married couple with two children	51,000

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Monthly payment in Aragon (in Ptas)

#### **D. Family Benefits**

Since January 1991 a new family benefit system has been in force that replaced the old system, in which family allowances were granted only to the employed. The new scheme grants a monthly benefit of 3,000 Ptas for each dependent child if a means-test is passed. To qualify, income must not exceed 1,000,000 Ptas. This amount increases by 15% per dependent child from the second child upwards. In principle the benefit is taxable, but as a result of tax credits no tax is paid.

#### **E. Housing Benefits**

Housing benefits are absent in Spain, but a tax credit is available for tenants whose annual tax base does not exceed 2,000,000 Ptas and whose rent is more than one tenth of the tax base. The tax credit is either 75,000 Ptas or 15% of the annual rent. The lower of these two amounts is chosen.

**F. Minimum Wages**

Spain has a statutory national minimum wage system (Salario Mínimo Interprofesional). For 1993 it amounted to 819,420 Ptas per annum<sup>27</sup>. Young workers below the age of 18 are subject to lower rates. The minimum wage rate is established annually by decree-law. Besides, half year adjustments to inflation are possible.

For the majority of the labour force the minimum wage is determined through collective bargaining. In 1990 around 56% of the labour force was covered by collective agreements. For 1993 the average minimum level in the metal industry amounted to 1,302,000 Ptas per annum.

<sup>27</sup> Including extraordinary payments.

**G. Detailed description of the replacement rate**

## 7. France

### A. The income tax system

Nearly all social security contributions are deductible for the tax basis in France with the exception of the 'Contribution Sociale Généralisée'. Table 1 reveals the relation between gross earnings and the income tax. As can be seen from this table unemployed persons pay only for the old-age pensions and the health insurance. A reduced rate for health insurance is levied on unemployment benefits.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+	+	+
Social security contributions				
- old age	-	-	-	-
- supplementary old age	-	-	-	-
- survivors	-	-	-	-
- health	-	-	-	-
- unemployment	-	-	-	-
- additional unemployment	-	-	-	-
- CSG	-	-	-	-
Work allowance	-		-	
Tax base	=		=	
Taxable income	=		=	
Income tax		-		-
Net earnings		=		=
Family benefits		+		+
Housing benefits		+		+
Disposable income		=		=

Table 2 presents the contribution rates for the social security. Mark that in France credits for the social contribution are granted. These credits are not presented in the table, but in the calculation we have taken them into account.

A remarkable feature of the French system is the existence of income brackets for the social security contributions. Employers pay 9.8% for the old-age scheme up to an income of 149,820 FF; the rate decreases to 8.2% for income above this level. Besides these brackets a contribution ceiling obtains. The Contribution Sociale Généralisée is levied on gross earnings after a deduction of 5%. Employers are exempted from the 5.4% family benefit contribution for employees with gross wage up to 10% above the minimum level. For wages between 110% and 130% of the minimum they pay only 2.7%.

*Table 2 Contribution rates and ceilings (non-executives)*

	Employer	Employee	Income Interval	
	in %		in FF	
Old age <sup>a</sup>	9.80	6.55	0	149,820
	1.60	6.55	149,820	-
Supplementary old age	3.00	2.00	0	149,820
	10.47	5.79	149,820	599,280
Survivors	0.00	0.10	0	-
Health <sup>b</sup>	12.80	6.80	0	-
Unemployment	5.34	3.22	0	149,820
	5.47	3.86	149,820	599,280
Family	2.70	0.00	77,700	91,830
	5.40	0.00	91,830	-
Employment injuries	2.18	0.00	0	-
Other <sup>d</sup>	5.40	0.00	0	-
Sociale Généralisée	-	1.75	0	-

<sup>a</sup> Including disability

<sup>b</sup> Sickness benefits and medical expenses

<sup>c</sup> For unemployed the contribution is 2% of guaranteed minimum income. Above this income a premium of 1% is levied

<sup>d</sup> Compulsory, including housing aid, transport, training (FNGS)

For the calculation of the tax base a work allowance has to be determined. The employee has a work allowance of 28% of his salary. This work allowance consists of a first deduction of 10% and a second deduction of 20% to be applied after the first deduction. This makes a total allowable deduction of 28% (10% + 90% \* 20%). Unemployment benefits are subjected to the work allowance for the calculation of the tax base.

Once the tax base has been determined (gross earnings less social contribution and work allowances) the income tax can be computed. The complex tax rules are set out below.

In France an income splitting system exists for the income tax. For this system a family coefficient has to be computed. The tax base is divided by this coefficient to obtain an amount of income by family share. Adults count for full, while children add half a point to the family coefficient.<sup>28</sup> The family share is used for the calculation of the tax amount. Multiplying this tax amount by the family coefficient

<sup>28</sup> The third child accounts for one point.

gives the total tax amount for the whole family. The rate structure is shown in table 3.

For low-income groups tax credits apply: 'Décote'. Taxpayers whose tax is less than 4,180 FF may credit the difference against the computed amount. As a result taxpayers with a computed tax of 2,090 FF pay no tax at all and between 2,090 FF and 4,180 FF the tax mounts up to the computed tax.

*Table 3* *Rate structure*

Income Interval		Tax Rate
in FF		in %
0	- 21,900	0
21,900	- 47,900	12
47,900	- 84,300	25
84,300	- 136,500	35
136,500	- 222,100	45
222,100	- 273,900	50
273,900	-	56.8

### **B1. Unemployment Insurance**

In 1993 a new unemployment insurance scheme was introduced in France: 'Allocation Unique Dégressive'. The main features of this compensation programme for unemployed persons under 50 are displayed in table 4. As can be seen from this table a distinction is made between an initial and a follow-up period. The duration of the initial period (fourth column of table 4) varies according to the employment history. A longer employment record results in a longer maximum duration. After this initial period the benefit rate is decreased every four months by 15-17%. However, a minimum allowance is guaranteed.

**Table 4** *Unemployment Insurance (Allocation Unique Dégressive)*

Required employment record in .. months during .. months prior to lay-off	Maximum duration	Initial Benefit Rate	Duration Initial Benefit Period	Reduction rate
in months	in months	in % of basic benefit <sup>a</sup>	in months	in % previous benefit rate
4 in last 8	4	75	4	-
6 in last 12	7	100	4	15
8 in last 12	15	100	5	17
14 in last 24	30	100	9 <sup>b</sup>	17
			13 <sup>c</sup>	17
27 in last 36	45	100	20	15

<sup>a</sup> The formula for the basic benefit = min (max (40.4% Y + 1652 in FF, 57.4%), 75% Y), where Y= previous earnings

<sup>b</sup> If age under 25

<sup>c</sup> If age 25 to 50

This new compensation programme has a waiting period of seven days before payments start. Furthermore it sets an earnings ceiling of three times the income of the average production worker. There is no means test.

## B2. Unemployment Assistance

The unemployment assistance is shown in table 5.

**Table 5** *Unemployment Assistance (Allocation de solidarité spécifique)*

Specific requirements concerning household (or age)	No
Required employment record	60 <sup>a</sup>
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	Yes
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested <sup>b</sup>	M
	in FF
Benefit amount <sup>c</sup>	2,218

<sup>a</sup> During 120 months prior to lay-off

<sup>b</sup> M = Means tested, IS = Income tested

<sup>c</sup> Monthly payment

## C. General Neediness



For the unemployed under 25 income support is not provided by State Authorities, unless there is a dependent child. Recipients of 'Allocation de revenu minimum d'insertion' receive housing benefits at the expense of a partial reduction of the general neediness. Family benefits are not provided.

**Table 6** *General Neediness (Allocation de revenu minimum d'insertion)*

Specific requirements concerning household (or age)	age $\geq$ 25 or having children
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	Yes
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested <sup>a</sup>	M
	in FF
Benefit amount <sup>b</sup>	
Single person	2,163
Married couple without children	3,245
Married couple with two children	4,543

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Monthly payment

#### **D. Family Benefits**

According to Eurostat information, 23 different family-benefits programmes are now in operation in France. The provisions provided by these programmes range from cash benefits to subsidies for holiday camps and child-care facility at home. However, only one regime provides benefits for children in the 7-11 age bracket. This regime is called 'Allocations familiales'. The 'Allocations familiales' give benefits to families with at least two children. The benefit increases substantially when there are more children in the family. Besides, older children receive a higher benefit. The married couple in our survey is entitled to a yearly benefit of FF 7,728.

#### **E. Housing Benefits**

Since 1993, every tenant<sup>29</sup> has been entitled to a housing benefit provided that certain conditions related mainly to households income and the level of the rent are met. Depending on the dwelling this allowance is either an 'Allocation de logement' (AL) or an 'Aide personnalisée au logement' (APL).<sup>30</sup> The monthly amount of AL or APL is calculated by the same formula:

<sup>29</sup> Houseowners too, may receive housing benefits.

<sup>30</sup> We assume that persons only receive subsidy from AL. For the APL program additional requirements concerning the house must be fulfilled.

$$S = K (R + C - Rm)$$

where:

S	=	subsidy
R	=	rent
C	=	standard amount for service charges not included in R.
Rm	=	minimum rent

The calculation of the rent is described in detail in annex B. However, a maximum is set to the rent which depends on the size of the household and the geographical area (see table 7). The maximum of the Paris area is used here.

K is calculated by the following formula:

$$K = 0.9 - \frac{Y}{101,184 * N}$$

where:

Y	=	taxable income of the household for the previous year
N	=	family coefficient

The calculation of the taxable income depends on the earnings of the previous year. However, when a recipient of AL or APL has been unemployed for at least two months, a 30% reduction of the taxable income is applied. As a result the housing benefit increases.

The minimum rent is determined by the taxable household income and the family coefficient. The minimum increases with taxable income. In table 7 the marginal rate is displayed. A minimum yearly level of 450 FF is required.

*Table 7 Housing Benefit Structure*

	Family coefficient (N)	Maximum rent Paris area <sup>a</sup>	Main urban areas <sup>a</sup>	Other areas <sup>a</sup>	Service charge (C) <sup>a</sup>
in FF					
Single person	1.2	1,443	1,266	1,187	282
Married couple	1.5	1,739	1,551	1,440	282
Married couple with two children	3.0	1,921	1,738	1,634	404
<i>Minimum rent</i> <sup>b</sup>					
	Income interval in FF	in %			
	0 - 6,722	0			
	6,722 - 9,671	3			
	9,671 - 12,423	26			
	12,423 - 19,344	29			
	19,344 -	41			

<sup>a</sup> Monthly payment<sup>b</sup> Yearly payment

Recipients of 'Allocation de revenu minimum d'insertion' receive housing benefits, but this general neediness is reduced slightly. The reduction rate is 12% for a single person, 16% for a married couple without children and 16,5% for a married couple with one child or more.

## F. Minimum Wages

France has a statutory minimum-wage system (Salaire Minimum Interprofessionnelle de Croissance). For 1993 the minimum rate amounted to 70,635 FF per annum. The national minimum wage applies to almost everybody, except home workers and commercial travellers. Young workers receive a reduced rate. The minimum wage is adjusted automatically whenever the consumer price index increases by 2% or more.

Besides, collective agreements determine minimum wage levels. In France many collective agreements have minimum rates below the national minimum. In those cases the national minimum overrules the minimum in the collective agreement. Those low levels persist because of the weak negotiation position of the unions. For the metal industry the average rate of the minimum levels which exceed the national minimum wage is 71,976 FF per annum.

**G. Detailed description of the replacement rate**

## 8. Ireland

### A. The income tax system

The main features of the Irish tax system are shown in table 1. As can be seen from this table unemployment benefits are non-taxable.

Employees who are liable to the full rate of social security contributions and levies (collectively termed PRSI) are entitled to a fixed relief. This relief is far below the actually paid contributions, even at the minimum income level.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross Earnings	+	+		+
PRSI				
- social insurance	-	-		
- health care	-	-		
- employment and training levy	-	-		
- temporary income levy	-	-		
Work allowance	-			
Tax base	=			
Basic allowance	-			
Taxable income	=			
Income tax		-		
Net earnings		=		=
Family benefits		+		+
Disposable income		=		=

The PRSI scheme covers a number of insurances and levies. Table 2 shows the rates of contribution in 1993. The PRSI tax-allowance was IRL 286 for 1993. The PRSI contributions are calculated by reference to earnings net of pension premiums. For employers the earnings up to IRL 21,300 are taken into account, while employees pay social insurance contributions on their earnings up to IRL 20,000.

In Ireland a distinction is made in the health care insurance between full and limited eligibility. Full eligibility (a medical card) can be granted by the health board. Generally threshold-income guidelines are used to determine whether persons are completely covered for all health expenditure. The threshold depends on household composition and housing expenses. The costs of travelling to work are also included in the guidelines but will be ignored in our study. Below the threshold, persons are fully eligible for health care, while the remainder of the population has limited eligibility. In the case of full eligibility the health-care contribution is paid by the employer and the burden is switched to the employee of limited eligibility. Besides, to these employees co-payments are charged for health-care provisions. As stated in the methodology, co-payments are neglected in this survey.

The temporary income levy does not apply to those with incomes below IRL 9000.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%		in IRL	
Occupational injuries	0.50	0.00	0	21,300
Redundancy	0.40	0.00	0	21,300
Pension and social insurance	11.30	-	0	21,300
	-	5.50	0	20,000
Health care (full eligibility)	1.25	0.00	0	var <sup>a</sup>
Health care (limited eligibility)	0.00	1.25	var <sup>a</sup>	-
Youth employment levy	0.00	1.00	0	-
Temporary income levy	0.00	1.00	9,000	-

<sup>a</sup> Depending on household characteristics and housing expenses

Employees are entitled to an additional work allowance of IRL 800 and a basic allowance of IRL 2,175.

The tax rate and brackets for single persons are shown in table 3. In Ireland an income splitting system obtains for the income tax. As a result married couples are granted twice the tax bracket displayed in table 3 for single taxpayers; furthermore the basic allowance and certain other reliefs are doubled.<sup>31</sup> However, the work and PRSI allowances are provided for each spouse who receives earnings from employment.

*Table 3 Rate structure*

Income Interval		Tax Rate
in IRL		in %
0	- 7,675	27
7,675	-	48

<sup>31</sup> Our employees and unemployed can not apply to these other reliefs.

## B. Unemployment compensation

### B1. Unemployment insurance

Table 4 reviews the unemployment insurance in Ireland. There are two compensation programmes and a newly laid-off worker can receive payments from both programs at the time. The first programme provides a flat-rate benefit, while the second is income-related. This income-related programme can be seen as a supplement to the basic scheme. The supplementary scheme provides benefits to unemployed persons with previous earnings in the range 32-88% of the income of an AP-Worker. To qualify for either benefit an employment record of nine months is required in a period of one year that ended between 9 and 21 months before unemployment. In accordance with our assumption of continuous employment the required employment record is 24 months on average.

Besides these two schemes, laid-off workers receive a lump-sum payment at the beginning of the unemployment. This lump-sum payment depends on age and previous earnings and is generally paid by the employer.

Recipients of a basic unemployment benefit with dependants are entitled to the normal family benefits and to family supplements for an adult dependant (IRL 35.50 per week) and child dependants (IRL 12.80 each per week).

*Table 4 Unemployment Insurance*

	Basic Unemployment Benefit	Pay-related Unemployment Benefit
	in months	
Required employment record <sup>a</sup>	24	24
Waiting period	0.12	0.69
Maximum duration	15	14.4
	in %	
Benefit rate	22 <sup>b,c</sup>	12
Earnings ceiling	-	32-88 <sup>c</sup>
Means test	No	No
Supplements for dependants		No
- for spouse		14 <sup>c</sup>
- for spouse and two children		25 <sup>c</sup>

<sup>a</sup> Average

<sup>b</sup> A flat-rate benefit

<sup>c</sup> As a percentage of Average Production Worker



## B2. Unemployment Assistance

See General Neediness.

## C. General Neediness

*Table 6 General Neediness (Social Welfare Consolidation)*

Specific requirements concerning household (or age)	No
Required employment record	No
Waiting period	0.1 <sup>a</sup>
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested <sup>b</sup>	M
	in IRL
Benefit amount <sup>c</sup>	
Single person	241 / 257 <sup>d</sup>
Married couple without children	395 / 421
Married couple with two children	506 / 532

<sup>a</sup> In months

<sup>b</sup> M = Means tested, IS = Income tested

<sup>c</sup> Monthly payment

<sup>d</sup> After 39 weeks the benefit amount is raised

If an unemployed person does not qualify for the basic unemployment benefit or has exhausted its maximum duration, unemployment assistance is granted without any employment-record requirement. The amount of the assistance benefit depends on the assessed means of the unemployed. Dependent adults and children receive a supplement as well as the normal family benefits. The benefit and supplement add up to an income at the minimum level. After 15 months the amounts for adults are slightly raised. A household receiving assistance is automatically entitled to Butter Vouchers and may also qualify for a fuel allowance. Neither of these is modelled, for lack of information.

## D. Family Benefits

The family benefits give a standard benefit for all families with children (IRL 438). For residents in full-time employment with low income a family income supplement is available from the Department of Social Welfare. For unemployed with dependants a supplement is available.

### **E. Housing Benefits**

There is no specific housing benefit scheme in operation in Ireland. However, rent (and mortgage) supplements are provided to people who have difficulties in paying their rent. The amount to be paid is determined by the Health Board, taking into account all household circumstances. The maximum amount is the amount of the rent less a minimum contribution of IRL 3.10 a week for people on the lowest social welfare incomes. People with higher incomes must make a greater contribution. We assumed that any extra income raises the contribution by the same amount. Normally full-time working people will not qualify for a supplement.

In addition, around 100,000 tenants of local authorities pay income related rents. Given the low-income profile of the majority of these tenants, these rents are heavily subsidised. Supplements to the general neediness such as the implicitly subsidised local authority rents are treated as non-standard and therefore neither is included in our spreadsheet.

### **F. Minimum Wages**

In Ireland statutory minimum wages are set only for certain sectors and industries where unions are traditionally weak and wages tend to be low. The Irish system is broadly similar to the system in the United Kingdom. There are 16 Joint Labour Committees (JLCs) covering about 150,000 workers. The specific function of a JLC is to submit to the Labour Court proposals for fixing minimum rates of remuneration or work conditions. When such proposals are confirmed by the Labour Court, they become statutory minima. For made-up textiles the minimum wage amounts to £ 6,418 per annum.<sup>32</sup>

<sup>32</sup> Due to lack of information on the Irish wages and the similarity of the Irish and UK-systems, we have tried to construct a minimum wage amount which is comparable to the United Kingdom minimum wage. To that end we have taken the minimum wage in made-up textiles in the United Kingdom and raised it by the difference between the minimum wages in the aerated-waters industry in Ireland and the UK.

**G. Detailed description of the replacement rate**

## 9. Italy

### A. The income tax system

The main features of the Italian tax system are shown in table 1. As can be seen from this table, employment income is treated differently from unemployment benefits in that the unemployed do not pay social-security contributions. For employees as well as for unemployed persons, income tax is levied on total gross earnings, after deduction of social-security contributions for employees.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+	+	+
Employee insurance				
- sickness	-	-		
- old age	-	-		
- unemployment	-	-		
Tax base	=		=	
Taxable income	=		=	
Income tax		-		-
Tax credits				
- dependent spouse/children		+		+
- employee		+		
Net earnings		=		=
Family benefits		+		+
Christmas bonus				+
Disposable income		=		=

The employee insurance scheme covers sickness (including medical care), old age, employment injuries, unemployment and family allowances. Separate premiums are levied for these programmes (table 2). The social-security system is financed primarily through contributions levied from employers and employees. However, by legislation originally intended as temporary, but which continues to be renewed, the contributions to be paid by the employers are partly paid by the State as a means to alleviate the burden on business.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%		in LIT	
Sickness	15.46	1.00	0	40,000,000
Old age	18.93	8.34	0	-
Employment injuries <sup>c</sup>	3.10	0.00	0	-
Unemployment <sup>b</sup>	4.71	0.30	0	-
Family allowance	6.20	0.00	0	-
State contribution <sup>a</sup>	-5.46	0.00		

<sup>a</sup> Contributions to be paid by the employer are partly paid by the State

<sup>b</sup> Employer premium for sector industry

<sup>c</sup> Average

The tax system consists of seven slices. Table 3 gives an overview of the tax rates. If a spouse has no income, a tax credit of LIT 757,500 is granted. For two children a tax credit of LIT 175,000 is granted. If a taxpayer is also entitled to dependent-spouse reduction this last amount is doubled. Furthermore, employees obtain a tax reduction varying from LIT 994,000 for an income up to LIT 13,900,000 to LIT 727,000 for an income over LIT 60,120,000. In total there are seven brackets. The seven brackets must not be confused with the income tax slices of table 3. We assume that this credit is only available to employed people.

Furthermore, these tax credits are either non-wastable or refundable.<sup>33</sup> We assume the latter option.

*Table 3 Rate structure*

Income Interval		Tax rate	
	in LIT		in %
0	-	7,200,000	10
7,200,001	-	14,400,000	22
14,400,001	-	30,000,000	27
30,000,001	-	60,000,000	34
60,000,001	-	150,000,000	41
150,000,001	-	300,000,000	46
300,000,001	-		51

The family benefits are net transfers: social premiums and income tax are not levied on them.

<sup>33</sup> Non-wastable credits can be carried forward, which means that the excess can be used in the next period. Refundable credits are paid out, or stated otherwise are equal to a negative income tax.

## **B. Unemployment Compensation**

In Italy a distinction is made between full and partial unemployment benefits. About half of the unemployment benefits (in LIT) refer to partial unemployment. The partially unemployed can obtain a benefit of four fifths of gross remuneration for up to three months. Full-employment benefits are lower or have a maximum payable amount. In this study only full unemployment is taken into account.

In Italy social-security contributions are not included in the computation of gross wage. We have assumed that unemployment benefits are derived from employment income exclusive of these contributions.

### **B1. Unemployment Insurance**

In Italy there are two main unemployment insurances, the 'Trattamento ordinario di disoccupazione' and the 'Mobility Benefit'.

To qualify for the 'Trattamento ordinario di disoccupazione' a laid-off worker must have been employed for at least two years, of which one year during the two-year period immediately preceding unemployment. After a waiting period of one week a benefit of one fifth of average remuneration during the three months preceding unemployment can be obtained for a maximum of 180 days, including Sundays and holidays.

For the 'Mobility Benefit' an employment record of 12 months is required. Besides, only under special circumstances can a benefit be obtained. The most important conditions are:

- lay-off due to restructuring, reorganising, conversing of a company, or crisis situation in a region/sector/company, or bankruptcy of a company.
- to have been employed in industrial companies with more than 15 employees, or in commercial companies with more than 200 employees.

The benefit of four fifths of gross remuneration during the first year of unemployment seems high, but the maximum amount payable (LIT 1,248,021 a month) is about half of the APW-wage, so the effective benefit is much lower.

**Table 4** *Unemployment Insurance (Mobility Benefit)*

		in months
Required employment record		12
Waiting period		No
Maximum duration	< 40 years	12
	40-49 years	24
	> 50 years	36
		in %
Benefit rate <sup>a</sup>	first 12 months	74.16
	subsequent months	64
Earnings ceiling <sup>b</sup>		66
Means test		No
Supplements for dependants		No

<sup>a</sup> Gross benefit rate

<sup>b</sup> As a percentage of Average Production Worker

In this investigation we concentrate on laid-off workers who are involuntarily unemployed. Moreover, we assume that unemployment has arisen from lay-off due to restructuring, reorganising, conversing of a company etc. and that the company size fulfils the condition of the 'Mobility Benefit'. This means that when laid-off workers qualify for the 'Trattamento ordinario di disoccupazione', they also qualify for the 'Mobility Benefit', because the required employment record of the latter is less strict. Besides, except for very high incomes, the 'Mobility Benefit' is more generous. On the assumption that it is not possible to get both benefits at the same time, the 'Mobility Benefit' will in practice overrule the 'Trattamento ordinario di disoccupazione'. Therefore, the latter has been left out of consideration.

Statistical information of the 'Mobility Benefit' and the 'Trattamento ordinario di disoccupazione' supports our choice of the 'Mobility Benefit'. In 1993 23.3% of the compensated unemployment days consisted of 'Mobility Benefit', which has increased in 1994 to 30%. Since the 'Mobility Benefit' is a new scheme it seems that most newly laid-off workers can qualify for this scheme.

## **B2. Unemployment Assistance**

None

## **C. General Neediness**

In Italy general neediness (Minimo Vitale) is provided by local authorities. The benefits vary enormously by region. In some regions there are even no regulations at all. Besides, the duration of the benefit differs by region. For reasons of representativity and access to information we have chosen the region Liguria as basis for our calculations. Note that the Minimo Vitale in Liguria is relatively generous. We assume that the amount of Minimo Vitale is reduced by all other income, including family benefits. The Minimo Vitale is a net benefit.

**Table 6** *General neediness (Minimo Vitale)*

Special requirements concerning household (or age)	No
Waiting period	No
Maximum duration	unlimited <sup>d</sup>
Benefit formula	
- regional differences?	Yes
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested? <sup>a</sup>	M and IS
Benefit amount <sup>bc</sup>	in LIT
Single person	520,000
Married couple without children	858,000
Married couple with two children	1,315,600

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> The amounts vary only according to the number of family members and not according to family composition

<sup>c</sup> Monthly payment in Liguria

<sup>d</sup> Differs per region. In Liguria unlimited

#### D. Family Benefits

Family benefits are available dependent on the number of family members and the family income. Cash transfers are reduced when family income increases. For 1993 the average amount of cash transfers is presented in table 7.

**Table 7** *Family Benefits*

Income Interval	Family Benefit <sup>a</sup>			
	1 person	2 persons	4 persons	
in LIT				
0 -	15,574,500	0	1,080,000	2,760,000
15,575,500 -	19,468,000	0	840,000	2,400,000
19,469,000 -	23,361,500	0	600,000	2,040,000
23,362,500 -	27,253,500	0	240,000	1,680,000
27,254,500 -	31,147,000	0	0	1,320,000
31,148,000 -	35,040,500	0	0	960,000
35,041,500 -	38,933,000	0	0	600,000
38,934,000 -	42,826,000	0	0	240,000
42,827,000 -		0	0	0

<sup>a</sup> Per year

The family allowances are not liable to income tax. There are no special arrangements for the unemployed.



**E. Housing Benefits**

Recipients of general neediness and other social security benefits are in some regions entitled to housing benefits, although these benefits are primarily intended for aged persons. In the region Liguria no special housing benefits apply.

**F. Minimum Wages**

Italy has no national minimum wage.

Collective agreements determine the minima. Every three or four years these rates are renegotiated. Collectively agreed minima apply to those employees who are members of the employers' organisations. In practice, case law has established that sectoral agreements cover all workers in the same sector. Besides, the Constitution lays down that all workers are entitled to remuneration proportional to the quantity and quality of their work. The Constitution thus establishes, although indirectly, a level below which pay would be unconstitutional. For the metal industry the minimum wage amounts to 18,652,380 lire<sup>34</sup> per annum. No special rules apply to young workers.

<sup>34</sup> This minimum wage includes social-security contributions.

**G. Detailed description of the replacement rate**

## 10. Luxembourg

### A. The income tax system

The main features of the Luxembourg tax system are shown in table 1. As can be seen from this table, employment income and unemployment benefits are treated equally for the social-security premiums and income tax; only unemployed people do not pay sickness contributions. Furthermore, social premiums are deductible for the tax basis. Remarkably, employment-related allowances are deductible for the income tax for employment income as well as for unemployment benefits.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+	+	+
Employee insurance				
- health care	-	-	-	-
- sickness	-	-	-	-
- old age	-	-	-	-
Work allowances	-		-	
Personal allowance	-		-	
Compensatory abatement	-		-	
Tax base	=		=	
Taxable income	=		=	
Income tax		-		-
Solidarity tax		-		-
Net earnings		=		=
Family benefits		+		+
School allowance		+		+
Disposable income		=		=

The employee insurance scheme covers sickness, health care, old age, employment injuries, unemployment and family allowances. Separate rates are levied for these programmes. Table 2 shows the contribution rates for 1993.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	in %		in LFR	
Health care	2.50	2.50	0	- 2,342,377
Sickness <sup>a</sup>	2.00	2.00	0	- 2,342,377
Old age	8.00	8.00	0	- 2,342,377
Employment injuries	1.68	0.00	0	- 2,342,377
Unemployment <sup>b</sup>	0.00	0.00	-	-
Family allowance	1.70	0.00	0	- 2,342,377

<sup>a</sup> In Luxembourg different rates for blue and white collar workers exist. For blue collar workers the rate is 4% and for white collar workers 0.15% in total. This difference can be explained by the fact that white collar workers continue to receive pay (imposed on the employer) for the month in which the sickness occurs and for the following three months. After this period a benefit is received from the sickness fund. In contrast for blue collar workers the sickness fund pays a benefit from the first day of illness. In this study the focus is on the blue collar worker

<sup>b</sup> Financed by taxation

The unemployment insurance is financed by the solidarity tax (discussed later).

The tax system consists of eighteen slices. Table 3 gives an overview of the tax rates. To obtain the tax base, a number of work allowances have to be deducted. Standard allowances are:

- LFR 21,000 minimum deduction for employment expenses
- LFR 15,600 minimum deduction for travel expenses
- LFR 18,000 minimum personal allowance
- LFR 24,000 non-itemised private expenses arising out of the employment (compensatory abatement)

The first two allowances are added together to form one work allowance in the spreadsheet.

For taxpayers who are single or live alone, the income tax is computed by way of the general tax scale (tax class 1) in table 3. For married couples the split tariff is used, that is to say, the tax rates in this class (tax class 2) are the same as those on half the income in tax class 1. Besides, for married couples with children a child relief can be obtained which can be seen as a tax reduction resulting from a tax allowance of LFR 229,200 for the first child. The maximum net tax reduction due to child relief is equal to LFR 57,200 a child a year. Child relief cannot result in a negative net income tax. The income tax will then become zero. On the total income tax a solidarity tax of 2.5% is levied.

*Table 3*      *Rate structure*

Income Interval	Tax rate <sup>a</sup>
in LFR	in %
0 - 229,200	0
229,200 - 334,200	10
334,200 - 339,600	20
339,600 - 464,400	22
464,400 - 529,200	24
529,200 - 594,600	26
594,600 - 659,400	28
659,400 - 724,200	30
724,200 - 789,600	32
789,600 - 854,400	34
854,400 - 919,800	36
919,800 - 984,600	38
984,600 - 1,049,400	40
1,049,400 - 1,114,800	42
1,114,800 - 1,179,600	44
1,179,600 - 1,244,400	46
1,244,400 - 1,309,800	48
1,309,800 -	50

<sup>a</sup> All the rates on the scale have to be increased by 2,5% to finance the contributions to the unemployment fund (solidarity tax)

## **B. Unemployment Compensation**

### **B1. Unemployment Insurance**

Tables 4a and 4b review the unemployment insurances in Luxembourg. Mark that, a means test is performed in the unemployment insurance, but the benefit is not reduced as long as total income does not exceed 153% APW and wage earnings do not exceed 75% APW. Because this means test only applies to substantial extra earnings this benefit is still classified as an unemployment insurance.

To qualify for the 'Total employment benefit' a laid-off worker has to have been employed for 26 weeks in the last 12 months preceding unemployment. A benefit of four fifths of average remuneration during the three months preceding unemployment can be obtained for a maximum of 365 calendar days. The benefit is increased to 85% if there is at least one dependent child.

For young job-seekers under 21 who have completed education, or who have worked less than 26 weeks in the last 12 months, a minimum-wage-related allowance can be obtained.

*Table 4a Unemployment Insurance*

	in months
Required employment record	6
Waiting period	No
Maximum duration	12
	in %
Benefit rate	80
Earnings ceiling <sup>a b</sup>	153/123
Means test	Yes
Supplements for dependants	5%-points

<sup>a</sup> As a percentage of Average Production Worker

<sup>b</sup> 153% during the first 6 months, 123% thereafter

*Table 4b Unemployment Insurance (for young job-seekers)*

	in months
Required employment record	No
Waiting period	9
Maximum duration	12
	in %
Benefit rate <sup>a</sup>	70
Earnings ceiling	No
Means test	No
Supplements for dependants	family charges

<sup>a</sup> Social minimum wage depends on age, working qualification and household situation

## **B2. Unemployment Assistance**

None

## **C. General Neediness**

The general neediness in Luxembourg is shown in table 6. The 'Revenu Minimum Garanti' applies from the age of 30, unless there is a child to look after. People receiving RMG pay health care contributions. Moreover, people receiving RMG pay taxes. The system is the same as for everybody, including work allowances.

**Table 6** *General Neediness (Revenu Minimum Garanti)*

Special requirements concerning household (or age) <sup>a</sup>	≥ 30 years or having a child
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested? <sup>b</sup>	M and IS
Benefit amount <sup>c</sup>	in LFR
Single person	28,483
Married couple without children	42,722
Married couple with two children	51,111

<sup>a</sup> No age limit when child to look after

<sup>b</sup> M = Means tested, IS = Income tested

<sup>c</sup> Monthly payment, without family allowances

#### **D. Family Benefits**

In Luxembourg the amount of family allowances increases progressively with the number of children in a family. There are age supplements for children over 6 and over 12. For two children aged 7 and 11 the amount for 1993 was LFR 112,772. Besides, an allowance at the beginning of school, for children over 6 is granted. For two children aged 7 and 11 an amount of LFR 72,772 is available. The family allowances are not liable to income tax. There are no special arrangements for the unemployed.

#### **E. Housing Benefits**

In Luxembourg there is no system of housing benefits. The only compensation available is the heating allowance. According to Eurostat<sup>35</sup> fewer than 5% of people under 'Revenu Minimum Garanti' actually receive the heating allowance. Therefore it has been left out of this review.

#### **F. Minimum Wages**

In Luxembourg a statutory minimum wage system obtains. Separate wage rates apply to skilled and unskilled workers and to workers with and without dependants. For an unskilled worker without dependants the minimum rate amounts to 478,170 LFR per annum. The minimum wage (Salaire Sociale Minimum) is linked to

<sup>35</sup> General Neediness Function.

increases in the consumer price index. Besides, every two years the Government may propose a special increase over and above indexation rises to Parliament.

In Luxembourg wage negotiations take place mostly at the company level. Because of the enormous variety of these contracts no minimum level for the metal industry could be established.



**G. Detailed description of the replacement rate**

## 11. The Netherlands

### A. The Income tax system

The main features of the Dutch tax system are shown in table 1. As can be seen from this table, employment income and unemployment benefits are treated equally for the social security premiums and income tax. Besides, social premiums are deductible for the tax basis.

Occupational pensions are regarded as non-standard tax reliefs. As a result these premiums have been omitted from our calculation. Mark, however, that in the Netherlands these premiums are on a high level. In principle these premiums can be deducted from the gross earnings for the social and tax base.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+	+	+
Employee insurance				
- sickness	-	-	-	-
- unemployment	-	-	-	-
- disability	-	-	-	-
- health care (employer)	+		+	
- health care (employee)		-		-
Transfer to employees	+	+	+	+
Work allowance	-			
Allowance for non-employed			-	
Tax base	=		=	
Basic allowance	-		-	
Taxable income	=		=	
Income tax		-		-
Net earnings		=		=
Family benefits		+		+
Housing benefits		+		+
Disposable income		=		=

In the Netherlands the social security system can be divided into two parts: employee insurances and national social-security insurances. The employee-insurance scheme covers sickness, unemployment, permanent disability and the costs of medical care. Separate premiums are levied for these programmes (table 2). The national insurance scheme covers old age, survivors, permanent disability and special health care. The benefits are minimum wage related. The national premiums are incorporated in the tax rates.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%		in guilders	
Sickness Benefit Act	4.90	1.20	0	74,646
Unemployment Insurance Act				
- Branch premium	0.40	0.40	0	74,646
- National premium	1.45	1.45	0	74,646
Disablement Insurance Act	0.00	11.75	25,839	74,646
Health Insurance Act				
- Income related premium	5.05	1.30	0	48,285
- Nominal premium (in guilders)	-	198	-	-
Private health insurance	in guilders			
- single person	610	610	56,650	-
- sole earner without children	1,220	1,220	56,650	-
- sole earner with 2 children	1,830	1,830	56,650	-

For employees the WAO benefit (Disablement Insurance Act) is a wage-related supplement to the basic AAW amount (General Disablement Benefit Act). On account of the supplementary character the premium is not levied on income below Dfl. 25,839. Above this amount the contribution rate is 11.75%.

Health-care insurance is provided to employees with earnings below Dfl. 56,650. For employees above that threshold no compulsory scheme applies; they have to insure themselves on the private market. In the methodology we have set out the approach for the calculation of the private insurance premium. According to this approach the private insurance premium is determined by the compulsory premium at the premium ceiling. At this threshold compulsorily insured workers (with dependent spouse and two children) pay Dfl 3,660 yearly for the health insurance scheme. We have assumed that privately insured persons in the same family circumstances pay this amount too. However, this amount does no longer depend on the earned income. From table 2 it might seem that this contribution is mostly paid by employers, but together with the premium of the national health scheme, employers pay in practice half of the health care. As a result the premium of the private scheme is divided equally between employers and employees.

Furthermore the compulsory health-care scheme has a premium ceiling of Dfl. 48,285. The premium rate for employees is 1.3% up to this ceiling and above it the contribution is fixed at Dfl. 628. For employers the same system is applied, but at a rate of 5.05%. Besides this income related premium, all insured persons (also dependent spouse and children) have to pay a nominal premium of Dfl. 198. (Children pay half the nominal premium.)

For the calculation of the taxable income the employee health-insurance premium paid by the employee must be subtracted from gross earnings with the exception of the health-insurance premium. Instead, the employer's contribution has to be added to the base amount for the income tax. In the Netherlands employers' health contributions to both the compulsory and the private scheme are regarded as normal earnings.

A special phenomenon in the Dutch system is a transfer from employers to employees (in Dutch: overhevelingsvergoeding). Since the 1990 tax reform employees have been compensated for a shift in the distribution of the national insurance premiums. Before this reform, two national insurance premiums (Disablement and Exceptional Medical Expenses) were paid by employers. Since the revision all national premiums have been levied from the employees. For 1993 the compensation was fixed at 11.4%. This transfer raises the tax base.

To obtain the tax base a work allowance of Dfl. 1578 has to be subtracted. For non-employed persons an allowance of Dfl. 554 is available. As can be seen from table 1, these allowances are the only differences in tax treatment between employees and beneficiaries receiving unemployment compensation.

In principle all tax-payers can deduct from their tax base a basic allowance of Dfl. 5,769. If a spouse has no income the entire allowance is moved to the partner. This shift is allowed as well when the income of the spouse is less than the basic allowance. In addition to this basic allowance, single parents receive a supplement of Dfl. 4,616.

The tax system consists of three tax slices. Since the 1990 tax reform the contribution for the national insurance has been joined to the tax rate for the first slice. The rate for this slice is 38.4% consisting of 25.4%-points premiums for the national insurance and 13%-points income tax. Table 3 gives an overview of the tax rates. As can be seen from this table aged persons have a lower combined rate in the first slice, as a result of a difference in the national premiums. Only the contribution of the Exceptional Medical Expenses is levied on them.

*Table 3 Rate Structure*

Income Interval	Persons aged 65			Persons aged 65+		
	National Insurance	Income tax	Combined rate	National Insurance	Income tax	Combined rate
in guilders	in %					
- 43,267	25.4	13.0	38.4	7.5	13.0	20.5
43,267 - 86,532	-	50.0	50.0	-	50.0	50.0
86,532 -	-	60.0	60.0	-	60.0	60.0

For the calculations of the net earnings the income tax and national insurance premiums have to be deducted from the tax base.

## **B. Unemployment compensation**

In the Netherlands a distinction between unemployment assistance and general neediness can be made. In that case the RWW must be classified under the unemployment assistance, whereas the ABW falls into the second category. However the qualifications for these two schemes are equal. We have therefore classified the RWW under the general neediness.

## B1. Unemployment Insurance

Table 4 gives an overview of the unemployment insurance (werkloosheidswet) in the Netherlands.

The unemployment benefit can be divided into three parts: an initial benefit, an extended benefit and a follow-up benefit. To qualify for the initial period a laid-off worker has to have been employed for six months in the last year. For the extended benefit a longer employment record is required. A laid-off worker must have been employed for 36 months out of the last 60 months. After the extended period, the unemployed can receive a follow-up benefit. During those periods the benefit amounts 70% of gross earnings. The employment record for the follow-up benefit is equal to the extended benefit but the benefit rate of the follow-up period drops strongly; the benefits are no longer related to the previous income. Instead a lump-sum benefit is provided.

*Table 4 Unemployment Insurance (WW)*

	in months
Required employment record	
- for initial period	6 <sup>a</sup>
- for extended period	36 <sup>b</sup>
Waiting period	-
Maximum duration	
- for initial period	6
- for extended period	
	employment history
	5 - 10 years
	10 - 15 years
	15 - 20 years
	20 - 25 years
	25 - 30 years
	30 - 35 years
	35 - 40 years
	> 40 years
- for follow-up period	12
	in %
Benefit rate <sup>c</sup>	
- for initial period	70
- for extended period	70
- for follow-up period	70% of min. wage
Earnings ceiling <sup>d</sup>	153
Means test	No
Supplements for dependants	spouse or children

<sup>a</sup> During the year prior to lay-off

<sup>b</sup> During the 60 months prior to lay-off

<sup>c</sup> Gross benefit rate; if the amount drops below the legal minimum wage, married couples can apply for a supplement.

<sup>d</sup> As a percentage of Average Production Worker.

## B2. Unemployment Assistance

None.

## C. General Neediness

The Dutch general neediness is shown in table 6. The Dutch system seems rather simple as the benefit depends only on age and family circumstances. Young persons have a waiting period of six to nine months before general neediness is paid. During the wait, the parents of these youngsters receive family benefits. Furthermore the benefit rate after this wait is lower for this group. For a person aged 20 the family benefit is nearly equal to the general neediness payment.

*Table 6 General Neediness (RWW/ABW)*

Specific requirements concerning household (or age)	No
Waiting period <sup>a</sup>	6-9 if age < 21
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	Yes
- means or income tested <sup>b</sup> ?	M and IS
Benefit amount <sup>c</sup>	in guilders
Single person	1,300
Married couple without children	1,857
Married couple with two children	1,857

<sup>a</sup> In months if applicant has never worked.

<sup>b</sup> M = Means tested, IS = Income tested.

<sup>c</sup> Monthly payment, without supplements for dwelling costs.

## D. Family Benefits

Family allowances are provided by the General Family Allowance Act (AKW). For a family with two children aged 7 and 11 years the amount for 1993 was Dfl 3944. The family allowances are not liable to income tax. There are no special arrangements for the unemployed.

## E. Housing Benefits

Recipients of general neediness and other social security benefits are entitled to housing benefits (IHS) on the same basis as other households. The scheme is based on the precept that tenants should not have to pay more than a certain proportion of their income in rent. A higher income leads to a smaller proportion. The equation for

housing benefit is rather complicated. For more detailed information we refer to the spreadsheet.

#### **F. Minimum Wages**

The Netherlands have a statutory minimum wage system (Wettelijk Minimum Loon). The minimum wage applies to full-time workers and pro rata to part-time workers. Only the cottage worker is not covered. Workers below the age of 23 are subject to a lower percentage of the statutory minimum wage. The minimum wage stands at *f* 28,035 per annum (including vacation pay of 8% of gross wage). In principle it is raised every year by the average wage rises, but it is possible to deviate from this principle. Since 1983 the minimum wages have been frozen in most years. Although the Netherlands have one of the highest minimum wage levels in the EC, only 2.6% (ultimo 1992) of all employees earn the minimum wage.

Collective agreements cover 71% of the private-sector workforce. Generally, these agreements are declared generally binding, to cover all employees in the relevant sector. For the metal industry the lowest scale amounts to *f* 30,833 per annum.

**G. Detailed description of the replacement rate**



## 12. Portugal

### A. The income tax system

The income tax system is shown in table 1. The unemployment benefits in Portugal are non-taxable.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+		+
Employee insurance				
- general benefits fund	-	-		
Unsubstantiated expenses	-			
Tax base	=			
Taxable income	=			
Income tax		-		
Tax credit		+		
Net earnings		=		=
Family benefits		+		+
Disposable income		=		=

Table 2 shows the social-security contribution rates. Most of the schemes are covered by an overall rate of 35%, of which 11% is paid by the employee and the rest by the employer. For occupational diseases and employment injuries the employer pays additional contributions. The occupational-injuries contribution is 0,5% of gross wage and the employment-injuries contribution varies according to the risks involved.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	%	%	Esc	
General benefits fund	24.00	11.00	0	-
Occupational diseases	0.50	-	0	-
Employment injuries	risk-based	-	0	-

To obtain the tax base, gross earnings deductions have to be applied. One is (implicitly) related to the social-security contributions and the other is for unsubstantiated expenses. In principle the social-security allowance is a fixed amount of 400,000 Escudos. However, this fixed amount is not applied to employees with a low or a high income. For the lower incomes the fixed amount is limited to 65% of gross earnings, while for the higher incomes the fixed amount is raised if the

employee's contribution to the social security is more than the fixed amount. Furthermore, expenses of different kinds can be deducted up to certain maxima. Half of the standard maximum amount can be deducted without substantiating the expenses. We will assume that this deduction is limited to the amounts for unsubstantiated expenses, which are Esc. 280,000 for couples and 140,000 Esc. for singles.

The tax-rate structure, as presented in table 3, is based on a splitting system. Two spouses in a single household can divide their combined income by two. If one of the spouses derives 95% or more of the total income, the splitting factor is 1.9. The tax liability resulting after splitting is doubled to obtain the final tax liability. However, if the spouse earns more than 95% of the couple's joint income, the couple will not pay more taxes than if treated separately

After applying the income tax rate the taxpayer may credit against his income-tax liability an amount of 29,000 Esc. if he is single, or 22,000 Esc. for each spouse living in the same household, and 16,000 Esc. for each dependent child.

*Table 3*      *Rate structure*

Income Interval		Tax rate
in Esc		in %
0	- 860,000	15.0
860,000	- 2,010,000	25.0
2,010,000	- 5,160,000	35.0
5,160,000	-	40.0

## **B. Unemployment Compensation**

### **B1. Unemployment Insurance**

To qualify for the unemployment insurance benefit a 540 days employment record in the last 24 months before unemployment is required. Once this condition is met, the duration is independent of the employment record, but increases with age. The relation between age and maximum duration together with other characteristics is shown in table 4. The benefit rate of 65% is limited to a maximum amount of three times the national minimum wage, which can be compared to a ceiling of 227% of Average Production Workers' earnings. The minimum amount equals the national minimum wage.

*Table 4 Unemployment Insurance*

		in months
Required employment record		17.8
Waiting period		No
Maximum duration	Age	
	18 - 25	10
	25 - 30	12
	30 - 35	15
	35 - 40	18
	40 - 45	21
	45 - 50	24
	50 - 55	27
	55 and over	30
		in %
Benefit rate		65
Earnings ceiling		227 <sup>a</sup>
Means test		No
Supplements for dependants		No

<sup>a</sup> Of Average Production Worker

## **B2. Unemployment Assistance**

Unemployment assistance is payable in two situations, with different maximum duration and different benefit rates. The shorter duration and the higher rates apply to unemployed persons who have exhausted the insurance benefits. The longer duration and the lower rates apply to those unemployed who disqualify for the insurance benefit. However, for that scheme an employment requirement must still be fulfilled. Besides, first-time job-seekers with dependants can apply for a benefit. The main features of the unemployment assistance are shown in table 5.

*Table 5 Unemployment Assistance (Regime Geral de Segurança Social, IGFSS)*

		in months	
Specific requirements concerning household (or age)		No	
Required employment record if not qualified for insurance benefit		5.9 <sup>a</sup>	
Waiting period		No	
Maximum duration	Age	after exhaustion of insurance benefit	otherwise
		in months	
	18 - 25	5	10
	25 - 30	6	12
	30 - 35	7½	15
	35 - 40	9	18
	40 - 45	10½	21
	45 - 50	12	24
	50 - 55	13½	27
	55 and over	15	30
Benefit formula			
-	for each member of the household a separate amount?	No	
-	regional differences?	No	
-	dependent on actual dwelling costs?	No	
-	deduction of housing benefits?	No	
-	deduction of family benefits?	No	
-	lower benefit for young people?	No	
-	means or income tested? <sup>b</sup>	IS	
		after exhaustion of insurance benefit	otherwise
		in Esc	
Benefit amount <sup>c</sup>			
	Single person	398,160	398,160
	Married couple without children	511,920	455,040
	Married couple with two children	568,800	511,920

<sup>a</sup> In the 360 days preceding unemployment; no conditions for first-time job-seekers with dependants

<sup>b</sup> M = Means tested, IS = Income tested

<sup>c</sup> Monthly payment; in the last 90 days the benefit is reduced by 20%

### C. General Neediness

There is no general neediness scheme in Portugal. For first-time job-seekers however, a job-search subsidy is available, the main characteristics of which are shown in table 6. To qualify for this subsidy, specific requirements of age (18 - 25) and schooling or training (a minimum of nine) must be met. Moreover, a maximum employment record is set at 180 days in the last year. Note that a higher record would entitle the job-seeker to an unemployment assistance benefit. If there are dependants in the household, unemployment assistance benefit would be payable even without

an employment record. After receiving the job-search subsidy for the maximum duration one can qualify again for the benefit after a 360 days waiting period if the conditions are still met. As a result of all these specific requirements only a limited number of beneficiaries receive this benefit. In the calculations we have neglected this scheme.

**Table 6** *General Neediness (Regime não Contributivo de Protecção Social)*

Specific requirements concerning household (or age)	Yes
Waiting period (months)	24 <sup>a</sup>
Maximum duration (months)	15
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	No
- means or income tested? <sup>b</sup>	No
Benefit amount	16,600 <sup>c</sup>

<sup>a</sup> After finishing school or training; after end of benefit 12 months to qualify again.

<sup>b</sup> M = Means tested, IS = Income tested.

<sup>c</sup> Monthly payment.

#### **D. Family Benefits**

Households with dependent children can apply for family benefits. For the first two children the benefit is not related to income (2,300 Escudos a child a month). Furthermore, employees are entitled to a tax credit for each dependent child.

#### **E. Housing Benefits**

Housing Benefits are lacking in Portugal.

#### **F. Minimum Wages**

As many other countries, Portugal has a statutory minimum-wage system (Remuneração Mínima Mensal Garantida). For 1993 it amounted to 568,800 esc per annum. The level of the minimum wage is established annually by decree-law. It is not adjusted automatically. The minimum wage applies to full-time workers and pro rata to part time workers. A reduction applies to young workers under 18 years of age and to some very special groups (trainees, workers with disabilities). In addition, the majority of the workforce (78%) is covered by collective agreements. In the metal industry the minimum wage is 486,000 esc per annum. Surprisingly this is below the statutory minimum wage?

**G. Detailed description of the replacement rate**

### 13. United Kingdom

#### A. The income tax system

The main features of the tax system in the United Kingdom are shown in table 1. As can be seen from this table, employment income is treated differently from unemployment benefits in that the unemployed do not pay social-security contributions and taxes. In principle people receiving 'Unemployment Benefit' are liable to income tax. However, when no earned income has been obtained during the tax year, the height of the basic tax allowance makes the effective income tax zero. For employees, income tax is levied on total gross earnings.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+		+
Employee insurance				
- national insurance		-		
Tax base	=			
Basic allowance	-			
Taxable income	=			
Income tax		-		
Net earnings		=		=
Family benefits		+		+
Housing benefits		+		+
Disposable income		=		=

In the United Kingdom the 'National Insurance' scheme covers sickness, industrial injury, old age, unemployment, etc. All employees earning less than £56 a week need not pay National Insurance contribution. In other cases 2% of the first £56 plus 9% of earnings between £56 and £420 contributions are due. As with employees' contributions, employers' contributions are not payable for employees earning less than £56 per week. In other cases 4.6%, 6.6%, 8.6% or 10.4% (depending on the level of earnings) of *total* gross earnings have to be paid. If the employee is a member of an approved occupational pension scheme, reduced rates apply for employees as well as for employers. In this survey no account is taken of reduced contribution rates.

*Table 2 Contribution rates and ceilings*

	Rate	Income interval		
	in %	in £ per week		
Employee <sup>a</sup>	2	0	-	56
	9	56	-	420
	0	420	-	
Employer <sup>b</sup>	0	0	-	55.99
	4.6	56	-	94.99
	6.6	95	-	139.99
	8.6	140	-	194.99
	10.4	195	-	

<sup>a</sup> Rate per income bracket

<sup>b</sup> Rate over total income

The tax system consists of three slices. Table 3 recapitulates the tax rates. The amount for which an individual is liable to income tax for any tax year is his total income for that year less allowable deductons. The basic allowance is £3,445. For married couples an additional allowance of £1,720 is available. These allowances only apply to the tax system, not to the national insurance scheme.

*Table 3 Rate structure*

Income interval			Tax rate
in £			in %
0	-	2,500	20
2,501	-	23,700	25
23,701	-		40

## **B. Unemployment Compensation**

### **B1. Unemployment Insurance**

Table 4 gives an overview of the unemployment insurance in the United Kingdom. To qualify for the 'Unemployment Benefit' a laid-off worker has to have paid contributions in one of the two tax years prior to the calendar year of claim amounting to at least 25 times the Lower Earnings Limit for that year (£56 in 1993) and in both tax years, to have paid or be credited with contributions amounting to a total of at least 50 times the Lower Earnings Limit for that year. This quite dazzling criterion results for an unemployed person with an employment income in the relevant tax years of at least the AP-Worker to a required employment record of on



average 17 months. For someone earning the lowest earnings limit the employment record is 21 months on average.<sup>36</sup>

The unemployment benefit is a flat rate amount and differs only for those having a dependent spouse.

If unemployment benefit is below general neediness, an 'Income Support' supplement can be obtained. For married couples with children the income support gives a higher benefit.

*Table 4 Unemployment Insurance (Unemployment Benefit)*

	in months
Required employment record	6
Waiting period	.1
Maximum duration	12
	in £
Benefit amount <sup>a</sup>	
Single person	194
Married couple	314
Earnings ceiling	No
Means test	No
Supplements for dependants	entitled to family allowances

<sup>a</sup> Flat-rate amount, per month

## **B2. Unemployment Assistance**

None

## **C. General Neediness**

The General Neediness in the United Kingdom is shown in table 6. Benefit rates depend on age, household situation and having children. Beneficiaries receiving Income Support can apply for housing benefits. For these persons the rent is completely covered by the housing benefits. If they accept a job the Income Support will terminate, but the housing benefit continues. However, a reduction rate of 65% is applied to the housing benefit (see further on). In addition for employees with low incomes receiving family credits a reduction rate of 70% is applied to these credits. This can result in an extremely high marginal wedge for low income groups.

<sup>36</sup> We assume that if the first criterion (to have paid 25 times £ 56) is fulfilled, the second one is fulfilled automatically. For persons without interruptions in their employment record this is a logical assumption.

**Table 6** *General Neediness (Income Support)*

Specific requirements concerning household (or age)	No
Waiting period	No
Maximum duration	unlimited
Benefit formula	
- regional differences?	No
- dependent on actual dwelling costs?	No
- deduction of housing benefits?	No
- deduction of family benefits?	No
- lower benefit for young people?	Yes
- means or income tested? <sup>a</sup>	M and IS
Benefit amount <sup>b</sup>	in £
Single person	191
Married couple without children	300
Married couple with two children	503

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Per month, including child benefit

#### **D. Family Benefits**

Child Benefit of £10 per week is paid for the eldest child in the family up to age 16. For every other child an extra £8.10 is available.

Income Support contains a family supplement. For two children aged 7 and 11 years of age an amount of £30.10 per week is available. Effective Income Support is reduced by the amount of Child Benefit received.

For employees with low earnings family credit can be obtained providing they have dependent children. For a sole earner with two children aged 7 and 11 years of age the maximum benefit amounts to £71.1 per week. The maximum amount can be obtained whenever average weekly net income does not exceed £69. For higher incomes the maximum amount is reduced by seven tenths of the amount by which the net income exceeds the £69.

#### **E. Housing Benefits**

In the United Kingdom rent payments are fully compensated when net income does not exceed the amounts available by income support. When income is higher than this 'applicable amount' the maximum housing benefit is reduced by 65% of the amount by which the net income exceeds the applicable amount. For every adult the first £5 of the net income is not taken into account.

#### **F. Minimum Wages**

In the United Kingdom statutory minimum wages have been set only for certain sectors and industries where unions and collective bargaining are traditionally weak. This is done through the Wage Councils. These are independent tripartite bodies, made up of equal numbers of employer and union representatives together with

independent members. The orders of wage councils have the force of law. At July 1st, 1993 there were 26 Wage Councils, covering one tenth of total workforce. The Wage Councils cover only employees of 21 years of age and older. For 1993 the lowest level in made up textiles was £ 5,475 per annum. From the 1980s the power of the Wage Councils has deteriorated. Since the end of August 1993 the Wage Councils have not existed anymore. In this overview this has not been taken into account.

**G. Detailed description of the replacement rate**

## 14. The United States

This last part of the annex describes the American system. As stated in the introduction the United States are not treated as one country in this paper. The unemployment insurance as well as the general neediness differ among states. In addition, states have the possibility to levy an income tax. Mark that this possibility is not restricted to states, because cities can surcharge the income tax.

In principle a wide diversity of unemployment compensation and tax systems could emerge, but the state systems are comparable. For the unemployment compensation this similarity is a result of federal incentives (see further on, federal insurance premium can be reduced by state insurance premiums, but the reduction is limited to approved programmes). The linkage of the income tax between the federal and the state system is convenient for the tax payer who has to fill out both tax returns. Although federal legislation covers the general neediness, the benefit amounts and eligibility differ widely across the Union.

### A. The income tax system

Table 1 shows the tax treatment of employment income and unemployment benefits. Social security contributions are not deductible for the income tax.

*Table 1 Derivation of income tax base and disposable income*

	Employment Income		Unemployment Benefit	
	Income tax	Net earnings Disposable income	Income tax	Net earnings Disposable income
Gross earnings	+	+	+	+
Social security		-		
Tax base	=			
Basic allowance	-			
Taxable income	=		=	
Income tax		-		
Tax credits		+		
Net earnings		=		
Disposable income		=		=

The contribution rates for the social security are displayed in table 2. The OASDI-programme (Old-Age, Survivors and Disability Insurance) requires a premium of 15,3% paid equally by employer and employees. The premium structure of the other social security programmes are more complicated.

The unemployment insurance is a state concern, but federal legislation tries to stimulate state insurance programmes by means of a credit. All employers have to pay a uniform national unemployment premium of 6.2%, but 90% of the state insurance premium is deductible from the national premium.

Besides that phenomenon, premiums are determined by experience rating. Under experience rating the employer's state-contribution rate varies according to the

amount of benefits paid to his laid-off workers. Table 2 shows average premiums after deduction of state premiums for 1992.

The work-injury premium (or workers' compensation programme) is also determined by experience rating. The average for 1991 is 2.4%. In most states employers are permitted to insure themselves against work accidents with commercial insurance companies or to qualify themselves as self-insurers. In the average premium the cost of such private carriers are included.

A compulsory health insurance for employers and unemployed persons is lacking in the United States. To make the wage costs of the reviewed countries comparable, we have calculated an average premium for the private sector. Furthermore we have assumed that this premium is mostly paid by employers. As stated in The Economic Report of the President 1993, that assumption seems plausible for the majority of employees.<sup>37</sup> However, employees with low wages mostly work for employers who do not provide health insurance. In the study the assumption has been made that all employers provide private health insurance to their employees.

*Table 2 Contribution rates and ceilings*

	Employer	Employee	Income Interval	
	in %		in dollars	
Pensions (OASDI)	7.65	7.65	0	57,600
Unemployment				
- New York	3.3	-	0	7,000
- Texas	1.4	-	0	7,000
- California	2.5	-	0	9,000
Work Injury	2.4	-	0	-
	in dollars			
Private health insurance <sup>a</sup>				
- single person	1,040	360		
- sole earner without children	2,080	720		
- sole earner with two children	3,120	1,080		

<sup>a</sup> Yearly payment

With regard to the newly laid-off workers we have assumed that they obtain an insurance of their own, which can be quite difficult for them to achieve. For those receiving unemployment benefit the premium for the private health insurance is extremely high. Besides, many insurance companies will use unemployment as an indicator of a high risk and therefore raise the health premium further.

The unemployed pay both the employers' contribution and the employees' part. On that assumption the replacement rate will display the real deterioration of being laid-off. When the unemployment benefit ends, the unemployed can apply for

<sup>37</sup> The Economic Report of the President to the Congress, 1994, page 142.

medicaid (covering basic medical treatment) if they are entitled to AFDC-up. Unemployed with low unemployment benefits can also receive AFDC-supplements. For these unemployed (mostly with lower wage income and without assets) the medical costs are covered through the AFDC-system. Therefore beneficiaries with an unemployment benefit and an AFDC-supplement are not likely to arrange for private health insurance.

The tax reliefs, the rate structure and the tax credits for the federal as well as for the state income tax are shown in tables 3A, 3B and 3C. In addition to the federal and state income tax, residents of New York city have to pay a city income tax.

The tax base is equal for federal and local income tax, but the rate structure (reliefs, brackets and credits) divert. In the United States standard reliefs (table 3A) exist in combination with tax credits (table 3C). Additional reliefs are granted for each child. In comparison with the European countries, family benefits are not available in the United States, but this is partly compensated by the child reliefs for the income tax.

*Table 3A Standard reliefs<sup>a</sup>*

	Single person	Married couple without children	Married couple with two children
	in dollars		
<b>A Federal Income Tax</b>	6,050	10,900	15,600
<b>B State Income Tax</b>			
New York	6,000	9,500	11,500
California	2,402	4,804	4,804
<b>C City Income Tax</b>			
New York	-	-	-

<sup>a</sup> Yearly amounts.

The rate structure of the federal income tax is rather simple compared with the European systems (see table 3B). But the transparency of the rate structure disappears when local taxes are taken into account. The brackets of the local taxes divert from the federal ones. As a result the total number of brackets jumps for instance from 5 to 16 for inhabitants of New York (city).

Table 3C displays the tax credits. The most important credit is the earned-income credit (EIC). The EIC - a federal credit - is awarded only to workers and not to persons receiving unemployment compensation. The credit depends on earned income and on the household situation. Single persons can receive a maximum credit of \$465 when their yearly income is below \$7,750. This credit is refundable, which means that persons with low wages receive a payment from the income tax, or stated otherwise it is negative income tax for workers. The credit phases down as this income increases and no credit is granted at \$12,200. As can be seen from table 3C,

credits jump for tax payers with more dependants. In addition the phase down of the credit is delayed to an income of \$12,200 for a couple with two children.

*Table 3B Rate Structure*

Income Interval Single person			Income Interval Married Couple			
in dollars						in %
<b>A Federal Income Tax</b>						
0	-	22,100	0	-	36,900	15
22,100	-	53,500	36,900	-	89,150	28
53,500	-	115,000	89,150	-	140,000	31
115,000	-	250,000	140,000	-	250,000	36
250,000	-		250,000	-		39.6
<b>B State Income Tax (New York)</b>						
0	-	5,500	0	-	11,000	4
5,500	-	8,000	11,000	-	16,000	5
8,000	-	11,000	16,000	-	22,000	6
11,000	-	13,000	22,000	-	26,000	7
13,000	-		26,000	-		7.9
<b>B State Income Tax (California)</b>						
0	-	4,666	0	-	9,332	1
4,666	-	11,059	9,212	-	22,118	2
11,059	-	17,453	22,118	-	34,906	4
17,453	-	24,228	34,906	-	48,456	6
24,228	-	30,620	48,456	-	61,240	8
30,620	-	106,190	61,240	-	212,380	9.3
106,190	-	212,380	212,380	-	424,760	10.0
212,380	-		424,760	-		11.0
<b>C City Income Tax (New York)</b>						
0	-	8,000	0	-	14,400	2.51
8,000	-	9,000	14,400	-	15,500	3.08
9,000	-	15,000	15,500	-	27,000	3.66
15,000	-	25,000	27,000	-	45,000	4.28
25,000	-	60,000	45,000	-	108,000	4.40
60,000	-		108,000	-		4.46



*Table 3C Tax Credits*

	Single Person	Married Couple without children	Married Couple with two children
in dollars			
<b>A Federal Income Tax</b>			
Max credit	465	1,899	1,976
Obtained up to <sup>a</sup>	7,750	12,200	12,200
No credit at	12,200	23,055	23,059
The phaseout (in %)	6.00	17.50	18.20
<b>B State Income Tax (New York)</b>			
Max credit	75	105	135
Obtained up to	5,000	5,000	5,000
No credit at	28,000	32,000	32,000
The phaseout (in%)	0.3	0.5	0.5
<b>B State Income Tax (California)</b>			
Max credit	64	128	256
Obtained up to	106,190	212,380	212,380
No credit at	118,690	237,380	237,380
The phaseout (in%)	0.5	0.5	1.0
<b>C1 City Income Tax (New York)</b>			
Max credit	15	100	200
Obtained up to	7,500	15,000	15,000
No credit at	10,000	20,000	20,000
The phaseout (in%)	0.6	2.0	4.0

<sup>a</sup> Gross earnings

**B. Unemployment Compensation****B1. Unemployment Insurance***Table 4a Unemployment Insurance*

	New York	Texas	California
	in months		
Required employment record	4.5	9	5.5 <sup>b</sup>
Waiting period	0.25	0.25 <sup>a</sup>	0.25
Maximum duration	6	6	6
Extended benefit period <sup>c</sup>	4.5	4.5	6
	in %		
Benefit rate	50	52	53-39
Earnings ceiling <sup>d</sup>			
Min	15.9	15.9	15.7
Max	123.9	97.3	121.8
Means test	No	No	No
Supplements for dependants	Yes	Yes	Yes

<sup>a</sup> Compensated after 4 weeks of unemployment (in the calculations the waiting period is neglected).

<sup>b</sup> Additional income test is applied (can be translated in an increase of the required employment record with 1.5 month).

<sup>c</sup> Situation on July 1st 1993.

<sup>d</sup> As a percentage of Average Production Worker.

Although unemployment insurance is enacted by the State authorities, the differences are limited. As pointed out in the description of the unemployment premium, federal incentives stimulate the convergence of state programmes. From table 4a the impression might be that these differences are limited for the reviewed states. However, wider differences would emerge if all states were covered.<sup>38</sup> The employment requirements are stringent in Texas, whereas the benefit rate is relatively low in California for higher incomes. In California the benefit rate drops as income rises.

During periods of high unemployment the maximum duration of the unemployment insurance can be extended in the United States. The extension is regulated by the EUC (Emergency Unemployment Compensation). This is a new nation-wide programme fully financed by federal resources. The extension is determined by the state unemployment rate. Different systems prevail to calculate the extension, but the economic slowdown of 1990/1992 resulted in a nation-wide extension. At the beginning of 1993 the extension amounted to 26 weeks in California and 20 weeks in New York and Texas. In 1993 the extension phased down

<sup>38</sup> The minimum benefit rate is 41% (Tennessee) and the maximum mounts up to 65% (Oregon).

in all states and by the end of 1993 the extension was 13 weeks in California and 7 weeks in New York and Texas.

The economic recovery has resulted in a further reduction of the extensions. At the end of 1994 all the extensions were terminated and newly laid-off workers could count only on an insurance benefit for six months.

Supplements to the insurance benefits are provided by the AFDC/UP. This benefit is described in the next section.

## **B2. Unemployment Assistance**

Three general neediness regimes obtain in the United States: AFDC, AFDC/UP and General Assistance. Both AFDC-programmes<sup>39</sup> are enacted by federal legislation. This legislation establishes some kind of minimum provision, but state arrangements may provide higher benefits. The General Assistance is a state concern and a third of the States do not grant General Assistance.

To be eligible for the AFDC there has to be a dependent child in the family. As a needy child are defined children under the age of 18 years with a single parent. The AFDC/UP programme, has been operative in all states since October 1990, has extended the eligibility to all families with dependent children. However, these programmes still vary widely: AFDC has an unlimited duration whereas the AFDC/UP-benefit can be restricted to six months' benefit. After seven months without a benefit a request can be repeated.

In this section we describe the AFDC/UP-programme. Texas provides the minimum programme: benefit duration is limited to six months and the benefit amount is at the minimum level. By contrast, the programmes of New York and California provide for benefits even to persons without children.

As can be seen from table 5 an employment record qualification must be fulfilled in Texas and California equal to the unemployment insurance. As stated above the AFDC also supplements the unemployment insurance benefits.

In New York and California the benefit consists of a basic grant and a shelter allowance. The shelter allowance is comparable to the housing benefit (described in paragraph 14E), but AFDC-recipients can receive in addition to the shelter allowance a support from the housing benefit programme. However, in practice AFDC-recipients will have the same difficulties as other applicants to receive a housing benefit. As a result we have disregarded the case that AFDC-recipients have an additional housing benefit.

In addition to the AFDC-benefit, Food Stamps can be obtained in all states. The Food-Stamp benefit depends on family size and income, but across the United States it gives a uniform benefit. In combination with the housing benefits it serves to smooth away the differences between states in the AFDC-benefits.

<sup>39</sup> AFDC stands for Aid to Families with Dependent Children; UP = Unemployed Parent.

*Table 5 Unemployment Assistance (AFDC/UP)*

	New York	Texas	California
Specific requirements concerning household (or age)	No	having a child $\leq$ 18 years	No
Required employment record	No	equal to unemployment insurance	equal to unemployment insurance
Waiting period	No	No	No
Maximum duration	unlimited	6 out of 13 months	unlimited
Benefit formula			
- dependent on actual dwelling costs?	Yes	No	No
- deduction of housing benefits?	No	No	No
- deduction of family benefits?	No	No	No
- lower benefit for young people?	No	No	No
- means or income tested? <sup>a</sup>	M	M	M
	in dollars		
Benefit amount <sup>b</sup>			
Single person	- <sup>c</sup>	-	- <sup>c</sup>
Married couple without children	- <sup>c</sup>	-	- <sup>c</sup>
Married couple with two children	687 <sup>c</sup>	206 <sup>b,d</sup>	723 <sup>c</sup>

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Monthly payment, without Food Stamps

<sup>c</sup> Shelter Allowance included

<sup>d</sup> Housing Benefits excluded

### C. General neediness <sup>40</sup>

The general neediness is shown in table 6. General Assistance (GA) is the generic term used to describe state and local programmes of ongoing or emergency income assistance to low-income persons. These programmes are legislated, designed, and funded at the state and local level. In most states GA-programmes complement existing Federal programmes such as AFDC or AFDC-UP. Beyond the common generic term GA-programmes have few common characteristics.

For the review it is relevant that GA-benefits are provided in New York and in California to persons who do not qualify for the AFDC-UP: single persons and married couples without children. It seems that welfare recipients in these states

<sup>40</sup> This section is based on two reports by Levin/ICF and James Bell Associates: State and Local General Assistance Programs, Issues and Changes (1990) and Characteristics of General Assistance Programs (1989).

might be not aware on which programme they are: General Assistance or AFDC/UP. However, for the funding of these programmes the difference is still important. GA-programmes are funded solely by the state, while AFDC/UP is subsidised by the federal government.

According to the report of Levin/ICF, Texas has no General Assistance programme at the state level or in the two most populous counties. There may be programmes in other counties in Texas.

*Table 6 General neediness (General Assistance)*

	New York	Texas	California
Specific requirements concerning household (or age)	No	-	No
Required employment record	No	-	equal to unemployment insurance
Waiting period	No	-	No
Maximum duration	unlimited	-	unlimited
Benefit formula			
- dependent on actual dwelling costs?	Yes	-	No
- deduction of housing benefits?	No	-	No
- deduction of family benefits?	No	-	No
- lower benefit for young people?	No	-	No
- means or income tested? <sup>a</sup>	M	-	M
	in dollars		
Benefit amount <sup>b</sup>			
Single person	352 <sup>c</sup>	-	299 <sup>c</sup>
Married couple without children	468 <sup>c</sup>	-	490 <sup>c</sup>
Married couple with two children	- <sup>c</sup>	-	- <sup>c</sup>

<sup>a</sup> M = Means tested, IS = Income tested

<sup>b</sup> Monthly payment, without Food Stamps

<sup>c</sup> Shelter Allowance included

<sup>d</sup> Housing Benefits excluded

#### **D. Family Benefits**

Child allowances are not provided in the United States. Instead a child deduction is allowed in the income tax.

#### **E. Housing Benefits and Food Stamps**

In contrast with the European systems the housing benefits in the U.S. are not determined solely by legal requirements. Households fulfilling the legal requirements are still refused the benefit, because the total amount of benefits is restricted. As a result roughly 30% of those eligible for assistance receive it. Eligible households go on waiting lists with priority for households whose needs fall into special categories.

In general a family is initially eligible for assistance if its income is less than 50% of the medium income for the area in which it lives. Although housing benefits may give a substantial income support to the unemployed, we have disregarded them. That decision is based on the fact that the majority of eligible applications are not rewarded.

The benefit formula for the Food Stamp programme is rather complicated. In table 7 the maximum benefits and the income limits are displayed. Food stamps depend on household size. Besides, the income of the recipients must not exceed a gross and a net income limit. The maximum amount of food stamps is provided to persons without an income. An increase of resources reduces the benefit. Social-Security benefits are completely taken into account and earned income reduces food stamps by 30%.

*Table 7 Food Stamps<sup>a</sup>*

Household Size	Max Benefit	Gross Income limit	Net Income Limit
	in dollars		
1	111	738	568
2	203	996	766
3	292	1,254	965
4	370	1,512	1,163

<sup>a</sup> Monthly amounts.

## **F. Minimum Wages**

The United States have a statutory minimum wage system. For 1993 the federal minimum wage amounted to \$ 8,864 per annum. The federal minimum wage does not cover all employees. The most important exception are employees working for companies who handle less than \$ 500,000 per annum. As of 1995, 43 states have their own minimum-wage laws which not only have their own wage floors but also incorporated a wide range of exemptions for subgroups of workers.

The state minimum wage ranges from \$ 3,337 (Wyoming) to \$ 10,950 per annum (Hawaii) in 1995. In principle, the state minima are intended to fill gaps in federal coverage or supersede federal law with higher wage floors.

As far as the three states in this overview are concerned, the state minimum wage matches the federal minimum wage for California and New York. In Texas the state minimum wage is \$ 6,987 per annum. This means that the state minimum wage can be used only for those not covered by the federal minimum wage. In our three states about 2% of the employees working on an hourly base earn less than the federal minimum wage. Our impression is that most people are covered by a minimum wage law.

**G. Detailed description of the replacement rate**







## Annex B Rent expenses

Benefits for housing and general neediness depend on the rent expenditure in some countries. To incorporate these functions in our calculations, a rent expenditure level is needed for every combination of variables. We have chosen a function that describes the relation between rent expenditure and gross income, number of persons in the household and age of the head of the household.

Furthermore, differences between countries resulting from subsidisation of house construction (especially for the rental sector), government regulation, the demand and supply on the housing market and many other causes can bring about considerable differences in rent levels between countries. To be able to account for this, a country factor has been introduced.

The relation between rent and the listed variables was estimated using Dutch microeconomic data. We found a rather low elasticity between rent and gross income (.15 for the average household), which might be a result of the Dutch housing-subsidy system. In the Netherlands housing subsidy is not restricted to lower-income groups, but is also provided to higher incomes. For this reason, gross rent expenditure can be relatively high for most incomes without resulting in high net expenses. In other words, only part of the extra rent is reflected in real expenditure. Estimating the relation between net rent and income results in a much higher elasticity (.55).

This highlights the principle problem in our specification of the rent function. We assume that households will select a dwelling with a net rent that suits their budget. On the other hand it is the gross rent we need for the calculation of the housing benefit. The elasticity can therefore be expected to be lower in countries with higher housing benefits. To obtain a function that gives us a reasonably plausible gross rent level we have set the income coefficient at .05, which for our average situation reflects an elasticity of .35.

The effect of age on rent seems to be negligible. The other coefficients have been slightly adjusted in order to obtain average rents at average income levels. The resulting equation is:

$$R = a (3600 + 0.05 Y + 225P)$$

where

$R$  = rent expenses

$Y$  = gross income

$P$  = number of persons in the household

$a$  = country factor

The country factor is derived from gross rent expenditure as a percentage of private consumption from OECD National Accounts. Rent expenditure in the National Accounts includes rent values of owner-occupied dwellings. However, rent values are constructed figures. The quality of these figures determines the quality of the computed rent share in private consumption. Especially in countries where most dwellings are owner-occupied the deviation can be more serious.

In table 1 the resulting rent expenditure shares for an APW (average of the three households) are compared with the national private consumption expenditure share

of rent. In general the computed APW share is higher than the national share. The differences are however not alarmingly big. In Greece the difference is the largest. It should be noted that this country has the smallest percentage of rented dwellings.

*Table 1 Rent expenses and income*

	National rent expenses as a percentage of private consumption (1990)	Housing subsidy to individuals	General Neediness dependent on actual housing costs	Gross rent as a percentage of disposable income (APW)
	in %			in %
Belgium	12.2	No	No	15.2
Denmark	22.1	Yes	Yes	28.7
Germany	16.5	Yes	Yes	19.5
Greece	9.1	Yes <sup>a</sup>	No	20.6
Spain	10.5	Yes <sup>a</sup>	No	16.7
France	15.2	Yes	No	19.5
Ireland	7.9	No	No	12.2
Italy	11.5	No	No	16.7
Luxembourg	13.9	No	No	14.0
The Netherlands	14.6	Yes	No	19.4
Portugal	2.1	No	No	-
United Kingdom	14.3	Yes	No	19.2
United States	15.3	Yes	No	19.4

<sup>a</sup> Tax Allowance

Source: OECD 1994 National Accounts 1980-1992, detailed tables Vol II.

## **Annex C      Introduction to the spreadsheet**

To perform this study we not only had to collect a wide variety of detailed information, but we also had to model the gross/net/benefit relation for wage earnings and benefits. We used Lotus 1-2-3 release 4 on DOS to build a spreadsheet containing all the information and the relations between the variables. We made extensive use of macros in order to speed up complicated operations on the data and to make the spreadsheet easy to use. Therefore we also used variable names to give better insight in the components of the formulas. Therefore, loading the spreadsheet into another spreadsheet program or an older release of Lotus will result in malfunctioning of the macros, and problems with the formulas can occur. For these reasons we recommend using the proper Lotus release. Due to the size of the sheets and the memory handling of Lotus we recommend at least a 80486 computer with 8 Mb RAM installed. Full installation of the spreadsheet requires just over 800 kb disk space.

The spreadsheet can be used for calculation purposes, but it also serves as a record of inputs, sources, formulas and tables used in our study. The menus are available after starting the macro, which is done automatically when the spreadsheet is loaded. Interrupt macro execution by pressing the Escape-key. This stops the macro sequence and allows the user to browse in the sheets. Restart the macro by pressing the key combination Alt-q.

### **Calculations**

To perform calculations and to show results, the menus offer an easy way to select the required values and to generate and print new results for any combination of values.

Two kinds of input variables can be set according to the user's wishes. The first describes the household and employment situation with a limited number of choices for the household type variable and a limited range for the other variables. We can only guarantee the validity of the calculations for the ranges given in table 1.

*Table 1*

Variables	Range
Household type	1: single person 2: married couple without children 3: married couple with two children
Age of the head of the household	18 - 50 for single persons; 25 - 50 for others
Employment record	$\geq 0$
Unemployment duration	$> 0$
Gross income	$\geq$ minimum wage

The second group of variables is used to make choices for the overall calculations. It determines the way the wages of the countries are compared. Wages can be expressed in national currency, ECU, or as a percentage of minimum wage or APW wage and can be converted by exchange rates, purchasing power parities, minimum wage or APW wage ratio. In a similar way the conversion method of other amounts (exchange rates or purchasing power parities) and the currency for the presentation (the same currency for every country or each country its own currency) can be selected.

The parameter set in the housing cost formula (see Annex B) is also part of this second kind of variables. To omit the housing subsidies, all the parameters can be set at zero.

## Results

Once the inputs are set according to the user's wishes, a number of output possibilities are available by using the menus. These include comparisons of replacement rates, average and marginal wedge tables and a user-defined selection of country gross/net/benefit calculation sheets as shown in section G of Annex A. If a printer is correctly installed, the results can be printed automatically.

## Record of inputs, sources and formulas

We made use of the Lotus 1-2-3 capability of working with 3-D sheets, which allows us to use a separate sheet for each kind of information. Thus, the menus, the macros, the general input and the general output are grouped in the first five sheets. Next, for every country four sheets are given. The first two contain all the country-specific input that is used in the gross/net/benefit calculation. In the first the basic information is stored, together with some new figures constructed from this. All the data that are referred to in the calculation sheet by a variable name are shown in the column before the figures. The sources are shown in the column on the right of the description of the figures. Whereas the first sheet lists the variables, the second contains information in table form. The third sheet is the heart of the calculation for each country. This is the gross/net/benefit calculation sheet, which contains all the relevant formulas, referring to the country information in the first two country sheets and the general information in the first part of the spreadsheet. The sheet presents two types of calculations: one for the employed and one for the unemployed. Two

variants are presented for both situations, each referring to user-defined household and employment characteristics.

The calculation for the employed situation starts with the gross wage at the top and ends with disposable income. Along the way social security contributions, taxes, family benefits and housing benefits are calculated and, according to the +/- signs in the columns on the right of the variants, added or subtracted to the tax base (B) or the net income (N). The rent level is presented as a note below the disposable income and at the bottom the wage cost calculation is given. The calculation for the unemployed starts with the duration of the successive benefits. Next, the level of each benefit that is applicable during the unemployment is calculated. The actual benefit shows the amount that is granted for the given unemployment duration. The way this benefit is transferred to disposable income is shown in a way similar to the wage calculation. Finally, the replacement rate is shown, which is the ratio of disposable unemployment income and disposable employment income.

A number of additional variables are defined in this sheet, mainly for reference in the general output sheet. The names are kept in hidden columns. Sometimes complicated algorithms require more than a single formula (e.g. the German tax system and the German housing benefit system). In this case intermediate results are stored in hidden columns.

The fourth and last country sheet shows the comparison with the OECD tax/benefit position of production workers. In this sheet the OECD figures are fixed. The CPB figures refer to the calculations made in the third sheet. Note that a comparison can only be made with the right choice of variables.

Information applicable to all three US states is presented in two additional USA sheets. These two sheets are followed by four sheets for each state with state-specific information.

The countries are sorted in alphabetical name order according to their own language. When browsing in the sheets the tabs shown on top of the sheets can be of help. The country sheets are easily recognized by the two-letter abbreviation of the country's name in English and the number of the sheet (1-4) in the extension. The general sheets are named according to their contents. A range name is attributed to the upper left cell of every country table that equals the two-letter country abbreviation, which makes it possible to use the GOTO-key to jump to the first sheet of a country's information.

**Annex D      Comparison with OECD Tax/Benefit Position of Production Workers**